

 Universidad Francisco de Paula Santander Ocaña - Colombia Virgilio Mondragón	UNIVERSIDAD FRANCISCO DE PAULA SANTANDER OCAÑA			
	Documento	Código	Fecha	Revisión
	FORMATO HOJA DE RESUMEN PARA TRABAJO DE GRADO	F-AC-DBL-007	30-09-2024	C
	Dependencia	Aprobado	Pág.	
	DIVISIÓN DE BIBLIOTECA	SUBDIRECTOR ACADEMICO	1(1)	

RESUMEN – TRABAJO DE GRADO

AUTORES	Angge Aime Serna Torrado		
FACULTAD	Facultad de ingenierías		
PLAN DE ESTUDIOS	Especialización en Automatización Industrial		
DIRECTOR	Jorge Humberto Trujillo Santiago		
CODIRECTOR (si aplica)	N/A		
TÍTULO DE LA TESIS	Propuesta de modelo de control automatizado para sistemas de climatización de bajo consumo en espacios cerrados		
TITULO EN INGLES	Proposal for an automated control model for low-energy air conditioning systems in enclosed spaces		
RESUMEN (70 palabras)			
Este proyecto propone un sistema HVAC automatizado que equilibra confort y eficiencia energética, integrando sensores, control adaptativo y normas ASHRAE. Su enfoque replicable y análisis financiero detallado aseguran viabilidad económica y ambiental. Aplicable en diversos recintos, destaca por su innovación frente a soluciones convencionales, promoviendo la transformación operativa mediante ingeniería aplicada, análisis de datos y automatización inteligente.			
RESUMEN EN INGLES			
This project proposes an automated HVAC system that balances indoor comfort and energy efficiency. It integrates sensors, adaptive control logic, and ASHRAE standards to optimize energy use and improve indoor environmental quality. With a replicable design and financial analysis ensuring ROI, it offers scalable smart solutions for educational, commercial, and industrial spaces—merging engineering, data analysis, and automation to drive sustainable operational transformation.			
PALABRAS CLAVES	Eficiencia Energética, Ingeniería Aplicada, Lógica de control adaptativa, Climatización.		
PALABRAS CLAVES EN INGLES	Energy efficiency, Applied engineering, Adaptive control logic, HVAC (Heating, Ventilation, and Air Conditioning)		
CARACTERÍSTICAS			
PÁGINAS: 58	PLANOS: 0	ILUSTRACIONES: 5	CD-ROM: 0



Vía Acolsure, Sede el Algodonal, Ocaña, Colombia - Código postal: 546552
 Línea gratuita nacional: 01 8000 121 022 - PBX: (+57) (7) 569 00 88
 atencionalciudadano@ufpso.edu.co - www.ufpso.edu.co

**Propuesta de modelo de control automatizado para sistemas de climatización de bajo
consumo en espacios cerrados**

Angge Aime Serna Torrado

Facultad de ingenierías, Universidad Francisco de Paula Santander Ocaña

Especialización en automatización industrial

ESP. Jorge Humberto Trujillo Santiago

28 de octubre 2025

Tabla de contenido

Capítulo 1. Propuesta de modelo de control automatizado para sistemas de climatización de bajo consumo en espacios cerrados.....	8
1.1 Planteamiento del problema.....	8
1.2 Formulación del Problema.....	9
1.3 Justificación.....	9
1.3.1 Justificación técnica.....	9
1.3.2 Justificación a nivel económico.....	10
1.3.3 Justificación a nivel social y ambiental.....	10
1.3 Objetivos.....	10
1.3 Objetivo general.....	10
1.2 Objetivos Específicos.....	11
1.4 Justificación.....	11
1.4.1 Justificación técnica.....	11
1.4.2 Justificación a nivel económico.....	12
1.4.3 Justificación a nivel social y ambiental.....	12
1.5 Delimitaciones.....	13
1.5.1 Alcances.....	13

1.5.2	Limitaciones.....	13
1.5.3	Delimitación espacial.....	13
1.5.4	Delimitación temporal.	14
Capítulo 2. Marco referencial.....		15
2.1	Antecedentes en la solución del problema.....	15
2.2.	Marco Teórico.....	17
2.2.1.	Definición de sistemas HVAC.....	17
2.2.2.	Partes de los sistemas HVAC.	18
2.2.3.	Sistemas BMS.....	19
2.2.4.	Tipos de sensores Usados en la automatización de recintos.....	20
2.2.5	Sensores de ocupación.	20
2.2.6	Sensores de humedad.....	20
2.2.7.	Sensores de temperatura.	21
2.3.	Marco Legal.....	21
Capítulo 3. Diseño metodológico.		24
3.1.	Tipo de investigación.....	24
3.2.	Instrumentos en la recolección de la información.....	24
3.3.	Diseño metodológico.....	24
Capítulo 4. Desarrollo del proyecto.....		26
4..1.	Cálculo de las condiciones de confort.	26

4.1.1	Calculo de las cargas térmicas en los espacios.	28
4.1.2	Condiciones de diseño.	29
4.1.3	Componentes de la carga térmica.	32
4.1.4	Recomendaciones en la selección de los equipos.	33
4.1.5	Ejemplo de aplicación de cálculo de carga térmica.	34
4.2.	Diseño de la lógica de control y funcionamiento.	40
4.2.1	Selección de componentes.	40
4.2.2	Funcionamiento (lógico – cadena funcional).	42
4.3	Análisis financiero.	47
5.	CONCLUSIONES.	51
6.	RECOMENDACIONES.	52
	REFERENCIAS.	54

Lista de figuras

Figura 1 Partes de un sistema HVAC	18
Figura 2 Partes de un sistema de aire acondicionado Split.....	19
Figura 3 Diferentes funciones de los sistemas BMS.	20
Figura 4 Condiciones de diseño en las principales ciudades de Colombia.	29
Figura 5 Resumen carga térmica ejemplo de aplicación.	35

Lista de tablas

Tabla 1 Relación normativa con los objetivos del proyecto.	22
Tabla 2 Desarrollo metodológico del proyecto.	24
Tabla 3 comparativa de modelos de confort térmico	28
Tabla 4 Componentes de la carga Térmica.	32
Tabla 5 Recomendaciones en la selección de los equipos HVAC.....	33
Tabla 6 Problema de aplicación.	34
Tabla 7 Lista de sensores y microcontrolador requeridos.....	41
Tabla 8: Relés y actuadores	41
Tabla 9 Lista de componentes para el sistema.	42
Tabla 10 Inversión inicial	47
Tabla 11: Comparación de costos mensuales	49

INTRODUCCION.

El aumento de la demanda de dispositivos HVAC en hogares, oficinas, salones, recintos, etc, han generado una preocupación debido a que el incremento de la demanda eléctrica ira en aumento. Esto combinado al aumento de emisiones de gases de efecto invernadero hacen mucho más preocupante esta situación.

Esta propuesta busca implementar un modelo de automatización de estos sistemas de climatización buscando el equilibrio entre el confort de los recintos anteriormente nombrados y la eficiencia energética; buscando tener un impacto a nivel económico y ambiental positivo.

Se buscará combinar metodologías que ayuden a que el modelo pueda ser replicado a todo tipo de recintos y que el factor inversión no sea un impedimento para la aplicación debido a que se desarrollará un análisis financiero detallado para que se conozca cual será el ROI a la hora de implementar la propuesta y que los beneficios obtenidos sean mayores que la inversión.

Capítulo 1. Propuesta de modelo de control automatizado para sistemas de climatización de bajo consumo en espacios cerrados

1.1 Planteamiento del problema.

En un contexto internacional se ha podido identificar que los sistemas de calefacción, ventilación y aire acondicionado (HVAC) usados comúnmente para la climatización de diversos espacios; desde un punto de vista ambiental y energético tienen un impacto significativo, según los sustentado por (Jurado , 2024) (Radka, 2023) estos sistemas contribuyen un poco más del 20% del consumo de energía en los espacios anteriormente mencionados; por otra parte se proyecta al 2050 que el 7 % de gases de efecto invernadero (GEI) provengan de estos equipos.

Organismos internacionales como la Agencia Internacional de Energía (IEA), proponen con urgencia reducir con eficacia el consumo de energía a nivel mundial, puesto que es el primer paso para combatir el cambio climático, estos sistemas representan un poco más del 65 % del consumo energético en los sectores comercial y residencial. De este total, un 10 % corresponde a los aparatos de aire acondicionado, y su demanda va en aumento puesto que la venta de estos equipos se ve reflejada en el mercado. Las ventas de aires acondicionados registran una tasa de crecimiento anual que supera el 4 % en los países desarrollados y el 9 % en los países en desarrollo (El Green Climate Fund (GCF), 2023) (International Energy Agency, 2017).

Colombia no es la excepción puesto que durante el año 2023 se registró un aumento del 47% en la venta de estos equipos, esto ligado al fenómeno del niño y en búsqueda de que más familias quieren confort para sus hogares. (El Pereirano, 2024).

De esta manera se puede identificar que la problemática a resolver tiene muchos aspectos técnico ambientales por tratar, siendo la eficiencia energética y la disminución de gases de efecto invernadero el principal motivo para dar solución a esta necesidad que con el paso de los días va creciendo a un paso acelerado.

1.2 Formulación del Problema.

¿Qué ahorros energéticos se logran al implementar un modelo de control automatizado para los sistemas HVAC?

1.3 Justificación.

1.3.1 Justificación técnica.

Los sistemas HVAC son los principales equipos de absorción de energía en los edificios. La construcción de un sistema HVAC con una técnica de control eficaz puede reducir en gran medida el consumo de energía en conjunto con el diseño adecuado de las edificaciones puesto que no se tienen en cuenta los recintos para que la carga térmica sea la mínima posible (Bharath Sai, et al , 2022) (Macaya Vitaly, et al, 2024)

Cómo se mencionaba anteriormente los sistemas HVAC representan un poco más del 60% del consumo energético, esto sumado a que no se usan estrategias de control eficientes. Dentro de la propuesta se propondrán alternativas que permitan implementar sistemas lógicos de control, apoyados en datos, estudios y análisis referentes al tema que apoyen estas alternativas buscando la eficiencia energética y reducir el impacto ambiental que puedan producir estos equipos.

1.3.2 Justificación a nivel económico.

Para el año 2024, se estima que encender el aire acondicionado equivale a un poco más de 2,5 kWh. Eso se traduce en un gasto de \$2.210 por hora de uso, por ejemplo, si una oficina empresarial decidiera apagar este aire en una jornada laboral (8 horas), se ahorraría \$17.680, unos \$530.000 si lo hace todo el mes, este ejemplo sería un escenario en Colombia y basándose en datos que brinda EPM en Medellín; para otras zonas del país este valor puede variar mucho más. (Villamizar, 2024). Desde un punto de vista económico la implementación de esta propuesta, incluso a pequeña escala, permitirá optimizar el uso de los sistemas HVAC y reducir el consumo eléctrico asociado a estos equipos, traduciéndose directamente en ahorros económicos sostenibles.

1.3.3 Justificación a nivel social y ambiental.

Desde el punto de vista social, la automatización de los sistemas HVAC contribuye a mejorar el ambiente en oficinas, salones, hospitales, etc., garantizando confort térmico y condiciones sanas de aire, lo cual repercute en el bienestar y productividad de los usuarios de estos recintos. En términos ambientales, la reducción del consumo energético lleva a una disminución proporcional de los GEI, puesto que a menos energía consumida por estos equipos menos emisiones presentes en el ambiente habrá. Esto apoya los compromisos internacionales de mitigación del cambio climático y la transición hacia un modelo energético sostenible. Asimismo, la adopción de este tipo de tecnologías fomenta la conciencia energética entre usuarios y poder replicar el modelo varios escenarios industriales.

1.3 Objetivos

1.3 Objetivo general.

Desarrollar una propuesta de automatización para sistemas HVAC de bajo consumo aplicado a espacios cerrados.

1.2 Objetivos Específicos.

- Diseñar una herramienta para el cálculo de las condiciones de confort en función del área y cantidad de personas que ocupen el recinto.
- Diseñar la lógica de control y funcionamiento de los equipos HVAC enfocado a la eficiencia energética.
- Realizar un análisis financiero de la propuesta proyectando el ahorro energético y económico que se pueda obtener mediante la aplicación del sistema de automatización.

1.4 Justificación.

1.4.1 Justificación técnica.

Los sistemas HVAC son los principales equipos de absorción de energía en los edificios. La construcción de un sistema HVAC con una técnica de control eficaz puede reducir en gran medida el consumo de energía en conjunto con el diseño adecuado de las edificaciones puesto que no se tienen en cuenta los recintos para que la carga térmica sea la mínima posible (Bharath Sai, et al , 2022) (Macaya Vitaly, et al, 2024)

Cómo se mencionaba anteriormente los sistemas HVAC representan un poco más del 60% del consumo energético, esto sumado a que no se usan estrategias de control eficientes. Dentro de la propuesta se propondrán alternativas que permitan implementar sistemas lógicos de control, apoyados en datos, estudios y análisis referentes al tema que apoyen estas alternativas

buscando la eficiencia energética y reducir el impacto ambiental que puedan producir estos equipos.

1.4.2 Justificación a nivel económico.

Para el año 2024, se estima que encender el aire acondicionado equivale a un poco más de 2,5 kWh. Eso se traduce en un gasto de \$2.210 por hora de uso, por ejemplo, si una oficina empresarial decidiera apagar este aire en una jornada laboral (8 horas), se ahorraría \$17.680, unos \$530.000 si lo hace todo el mes, este ejemplo sería un escenario en Colombia y basándose en datos que brinda EPM en Medellín; para otras zonas del país este valor puede variar mucho más. (Villamizar, 2024). Desde un punto de vista económico la implementación de esta propuesta, incluso a pequeña escala, permitirá optimizar el uso de los sistemas HVAC y reducir el consumo eléctrico asociado a estos equipos, traduciéndose directamente en ahorros económicos sostenibles.

1.4.3 Justificación a nivel social y ambiental.

Desde el punto de vista social, la automatización de los sistemas HVAC contribuye a mejorar el ambiente en oficinas, salones, hospitales, etc., garantizando confort térmico y condiciones sanas de aire, lo cual repercute en el bienestar y productividad de los usuarios de estos recintos. En términos ambientales, la reducción del consumo energético lleva a una disminución proporcional de los GEI, puesto que a menos energía consumida por estos equipos menos emisiones presentes en el ambiente habrá. Esto apoya los compromisos internacionales de mitigación del cambio climático y la transición hacia un modelo energético sostenible.

Asimismo, la adopción de este tipo de tecnologías fomenta la conciencia energética entre usuarios y poder replicar el modelo varios escenarios industriales.

1.5 Delimitaciones

1.5.1 Alcances.

Aplicar los conocimientos adquiridos durante el programa académico, buscando una propuesta eficiente y económica que pueda realizar un aporte a la eficiencia energética y a la reducción del impacto ambiental. Se proyecta la búsqueda de un impacto significativo a nivel económico brindando una propuesta que permita a las empresas reducir costos asociados al consumo de electricidad en sus instalaciones y oficinas, sin dejar a un lado el confort y comodidades de las mismas.

1.5.2 Limitaciones.

La limitación presente en este proyecto es que solo se presentará una propuesta mas no una aplicación en un entorno real, puesto que las condiciones pueden variar de acuerdo al área de aplicación donde se desee aplicar; se busca que la propuesta presentada sea de fácil aplicación y que varias empresas a nivel nacional o internacional puedan replicarla y conseguir los resultados conforme a sus necesidades.

1.5.3 Delimitación espacial.

Este diseño tendrá solo aplicación directa a recintos como oficinas, salones u otro espacio cerrado que use sistemas HVAC, por lo que el diseño se centrará en satisfacer las necesidades de acuerdo a las condiciones estándar que se contemplen a nivel internacional

1.5.4 Delimitación temporal.

El presente trabajo socializará los resultados obtenidos de la propuesta 3 meses después de aprobado este anteproyecto por parte del comité evaluador.

Capítulo 2. Marco referencial.

2.1 Antecedentes en la solución del problema.

A nivel internacional son varias las propuestas presentes, dichos trabajos realizados ha buscado un enfoque hacía la eficiencia energética, combinando la automatización de los sistemas HVAC, como es el caso de (Vivanco Collaguazo, 2024) quien su trabajo diseño un sistema lógico de control para un sistema HVAC de un edificio administrativo, en este trabajo , se logró comparar el consumo energético y los costos de operación entre los sistemas propuestos contra un diseño típico HVAC, donde notoriamente se identifica la ineficiencia y elevados costos de operación al no plantear una estrategia de integración de dispositivos mecánicos eficientes junto a un sistema de control que ajuste el funcionamiento según la programación establecida, para este caso en específico se logró identificar que sin el dispositivo diseñado el consumo osciló los 115MWh de consumo vs 75.09 MWh de consumo para una reducción del 34.7%. Por otra parte (Orts Cascant, 2024) presentó una propuesta para un edificio de tres plantas, en este escenario se ha digitalizado el sistema de control del sistema de climatización, con el objetivo de alcanzar un uso más eficiente y sostenible. Esta propuesta implementada se realizó mediante la utilización de una unidad central de potencia adecuada, junto con el diseño e implementación de un sistema de control basado en Raspberry Pi, que digitalizó el funcionamiento del sistema de climatización en función de las necesidades reales del edificio.

Por otra parte (Correia , 2023) en su trabajo concluye que la implementación de tecnologías IoT en los sistemas de climatización brindan una puerta al ahorro energético importante al combinar tecnología con automatización, debido a que se pueden adaptar a los equipos con los que cuente la edificación sin necesidad de hacer una inversión en cambios que lleven a costos más grandes. También deben de considerarse que no todas las edificaciones son

energéticamente sostenibles y no se tienen en cuenta materiales ideales en sus paredes o aislamientos para una correcta eficiencia térmica y energética. (Milani de Quadros & Ordenes Mizgier, 2020)

(Sayed Kusha, 2022) Su estudio describe un modelo de red neuronal constructiva para evaluar el confort térmico, aplicado a nuevos datos recopilados de múltiples sujetos en diferentes condiciones ambientales. El enfoque de red neuronal constructiva empleado genera una arquitectura compacta para un análisis más profundo de los resultados y permite su implementación en dispositivos de hardware de bajo coste que pueden integrarse en sistemas de calefacción, ventilación y aire acondicionado (HVAC) para su control automatizado.

A nivel nacional (Amaya Rondón, 2024) concluye que, la integración de soluciones tecnológicas avanzadas que complementen una eficiente gestión de energética, en complemento con programas de educación y sensibilización, presenta una estrategia atractiva e integral para promover la eficiencia energética y la sostenibilidad ambiental en los edificios educativos de la Universidad de la Costa. La implementación de sistemas de automatización para este caso demostró ser una alternativa muy eficiente, puesto que se logró un ahorro energético significativo, lo cual resalta la importancia de la inversión en tecnologías inteligentes y prácticas educativas para maximizar los beneficios en términos de eficiencia energética y sostenibilidad. Por otra parte un trabajo realizado por (Franco Restrepo, 2024) En un caso de estudio desarrollado en un edificio de la Universidad Autónoma de Occidente (UAO), en la ciudad de Cali, se presentó una arquitectura de control distribuido para las Unidades Manejadoras de Aire (UMA). La propuesta contempló una estrategia de control tipo ON/OFF destinada a regular la electroválvula del serpentín de cada unidad. En cuanto a la sección de equipos nuevos, el sistema se integró por seis UMA de última generación, equipadas con termostatos capaces de modular,

mediante control PID, las válvulas independientes de presión, permitiendo así una gestión más precisa y eficiente de la climatización.

A nivel local un trabajo aplicado en una institución educativa de la ciudad de Pamplona departamento de Norte de Santander, se pudo concluir que gracias a la implementación de tecnologías IoT (Internet de las cosas) permitió la instalación de una red de sensores distribuida en diferentes locaciones estratégicas en el recinto donde se realizó la propuesta, este modelo permitió de manera más fácil la recolección y análisis de datos en tiempo real de los parámetros ambientales y eléctricos de los equipos y elementos que consumen energía. Los resultados obtenidos evidenciaron una disminución del consumo energético y contribuyendo a la sostenibilidad ambiental de la institución. (Moreno Arrieta, et al, 2025).

2.2. Marco Teórico.

2.2.1. Definición de sistemas HVAC.

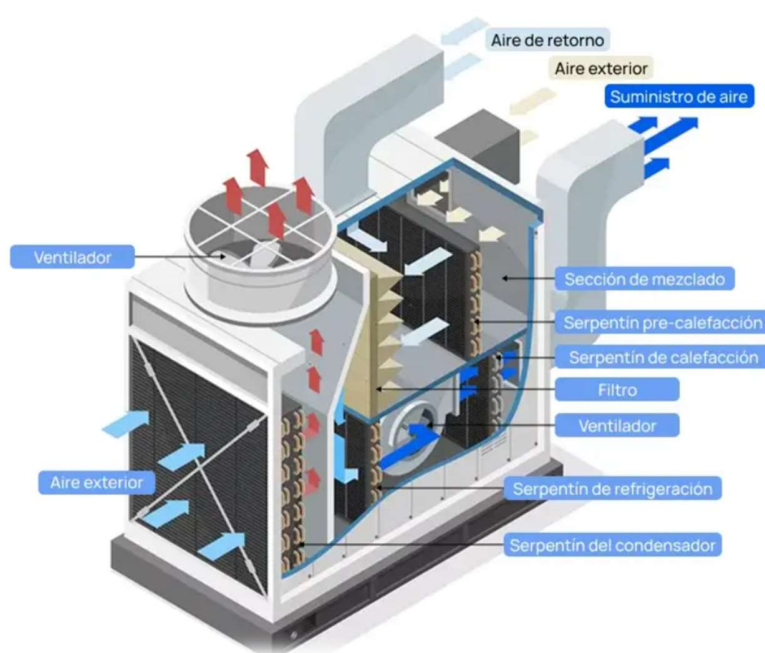
El HVAC es un sistema mecánico utilizado para el control de humedad y circulación de aire, comúnmente utilizado en edificios o recintos cerrados. Existen otras aplicaciones a nivel industrial que son utilizados para la protección de equipos sensibles frente a algunos daños derivados de temperatura o humedad. (Rosales, HVAC explicado: qué es y por qué es importante, 2025)

Estos sistemas son fundamentales en edificaciones residenciales, comerciales e industriales pues aseguran un ambiente de confort. Entre las ventajas de estos sistemas se encuentran el confort térmico, pues mantienen una temperatura ambiente constante sin importar las condiciones exteriores. Por otra parte, ayudan a la calidad de aire al filtrar agentes patógenos y alérgenos, estos casos se ven presentes en hospitales y clínicas. (S&P, 2024).

2.2.2. Partes de los sistemas HVAC.

Cómo se observa en la figura 1, las partes que comúnmente componen un sistema HVAC, suelen ser las mismas para todos los sistemas, aunque los sistemas utilizados a nivel residencial suelen ser más pequeños como los denominados Split, observados en la figura 2.

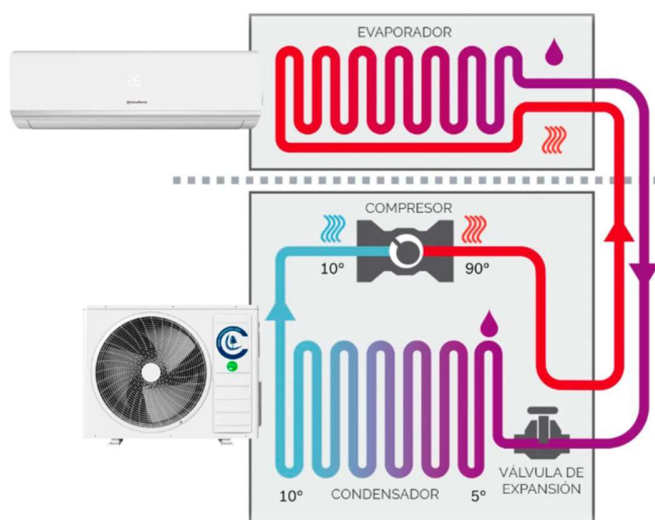
Figura 1
Partes de un sistema HVAC



Nota imagen tomada de: (Rosales, HVAC explicado: qué es y por qué es importante, 2025)

Figura 2

Partes de un sistema de aire acondicionado Split.



Nota: Figura tomada de (Albert, 2023)

2.2.3. Sistemas BMS.

Los sistemas BMS también denominados Sistema de Gestión de Edificios (BMS, por sus siglas en inglés) es una plataforma tecnológica que permite monitorear, controlar y gestionar de manera centralizada las instalaciones y servicios técnicos de un edificio, tales como climatización (HVAC), iluminación, energía eléctrica, seguridad y otros sistemas relacionados. Las implementaciones de estos sistemas influyen en una reducción de entre 30 al 50% en costes energéticos. (Rosales, 2025) (Merida, 2024). En la figura 3 se puede observar como los sistemas BMS correctamente integrados pueden ser de una ayuda multifuncional para diversas áreas de una edificación.

Figura 3

Diferentes funciones de los sistemas BMS.



Nota: figura tomada de: Fuente: (Rosales,2025)

2.2.4. Tipos de sensores Usados en la automatización de recintos.

2.2.5 Sensores de ocupación.

Utilizan tecnologías como infrarrojo pasivo (PIR), o ultrasonido para detectar si un espacio está ocupado. En habitaciones de hotel, estos sensores, a menudo integrados en termostatos inteligentes o sistemas de gestión, permiten saber si hay huéspedes presentes. (Rosales,2025)

2.2.6 Sensores de humedad.

Permiten al sistema HVAC controlar la sensación térmica y evitar ambientes demasiado secos o húmedos, ajustando el funcionamiento de equipos como humidificadores o deshumidificadores cuando corresponde, Su función principal es detectar la presencia de vapor

de agua en el aire o en un determinado material, proporcionando información valiosa sobre las condiciones ambientales. (Rosales,2025)

2.2.7. Sensores de temperatura.

Son componentes eléctricos y electrónicos que permiten medir la temperatura mediante una señal eléctrica determinada. Dicha señal puede enviarse directamente o mediante el cambio de la resistencia. También se denominan sensores de calor o termo sensores. (Rosales,2025).

2.3. Marco Legal.

Para el desarrollo de este proyecto se fundamentarán bajo las normativas internacionales y nacional descritas a continuación.

- **ASHRAE 55** – Condiciones térmicas aceptables en espacios ocupados.
- **ASHRAE 90.1** – Requisitos mínimos de eficiencia energética en edificios.
- **ASHRAE 62.1** – Ventilación y calidad del aire interior.
- **ISO 50001** – Sistemas de gestión de energía.
- **ISO 7730** – Ergonomía del ambiente térmico (PMV y PPD).
- **RETIE** – Reglamento Técnico de Instalaciones Eléctricas.
- **RETILAP** – Reglamento Técnico de Iluminación y Alumbrado Público (aplicable a eficiencia).
- Ley 1715 de 2014 – Fomento de energías renovables y uso racional de energía.
- Resoluciones o guías del **Ministerio de Minas y Energía** sobre eficiencia energética.
- **ISO 16484** – Sistemas de automatización y control de edificios.
- **IEC 61131** – Programación de controladores industriales.

- **BACnet (ISO 16484-5)** – Protocolo de comunicación para control de edificios.
- **Modbus** – Estándar para intercambio de datos industriales.

En la tabla 1, a continuación, se muestra la relación de cada una de estas normas asociadas a los objetivos de este proyecto.

Tabla 1

Relación normativa con los objetivos del proyecto.

NORMA / REGULACIÓN	DESCRIPCIÓN / ALCANCE	RELACIÓN CON OBJETIVO PRINCIPAL	RELACIÓN CON OBJETIVOS ESPECÍFICOS
ASHRAE 55 – CONDICIONES TÉRMICAS ACEPTABLES EN ESPACIOS OCUPADOS	Establece parámetros de confort térmico (temperatura, humedad, velocidad del aire) y métodos de cálculo (incluyendo PMV y PPD).	Garantiza que el sistema HVAC propuesto mantenga el confort térmico sin sacrificar eficiencia.	OE1: Define los criterios y fórmulas para calcular condiciones de confort en función de ocupación y área.
ASHRAE 90.1 – REQUISITOS MÍNIMOS DE EFICIENCIA ENERGÉTICA EN EDIFICIOS	Define estándares para diseño de sistemas HVAC, iluminación y envolventes con criterios de eficiencia energética.	Asegura que la propuesta de automatización cumpla con mínimos internacionales de eficiencia.	OE2: Sirve de referencia para diseñar la lógica de control optimizada en cuanto a consumo energético.
ASHRAE 62.1 – VENTILACIÓN Y CALIDAD DEL AIRE INTERIOR	Determina caudales mínimos de ventilación y niveles de calidad de aire aceptables en espacios ocupados.	Integra la calidad del aire como requisito del sistema propuesto.	OE1: Apoya el cálculo de ventilación necesaria según número de personas y actividad.
ISO 50001 – SISTEMAS DE GESTIÓN DE ENERGÍA	Establece directrices para implementar políticas de uso racional y mejora continua de la eficiencia energética.	Enmarca la propuesta dentro de un sistema de gestión energética sostenible.	OE2 y OE3: Brinda metodologías para el seguimiento, medición y evaluación de mejoras energéticas y ahorro.
ISO 7730 – ERGONOMÍA DEL AMBIENTE TÉRMICO	Define parámetros y métodos para evaluar confort térmico (PMV y PPD).	Complementa el diseño para cumplir estándares de confort aceptables.	OE1: Es base metodológica para estimar el confort en escenarios simulados.
RETIE – REGLAMENTO TÉCNICO DE INSTALACIONES ELÉCTRICAS (COLOMBIA)	Regula la instalación segura de equipos eléctricos y de control.	Garantiza que el sistema propuesto sea seguro y cumpla normativa nacional.	OE2: Define requisitos eléctricos para controladores, sensores y actuadores en HVAC.
LEY 1715 DE 2014 (COLOMBIA)	Promueve el uso eficiente de energía y la integración de fuentes renovables.	Posibilita que la propuesta considere energías renovables como apoyo al HVAC.	OE3: Justifica el análisis financiero si se evalúa integrar energías renovables al sistema propuesto.

BACNET (ISO 16484-5)	Protocolo de comunicación estándar para automatización de edificios.	Permite que el sistema propuesto sea interoperable con otros equipos.	OE2: Facilita el diseño de la lógica de control para integrarse en un BMS.
MODBUS	Protocolo de comunicación industrial para transmisión de datos entre controladores y equipos.	Asegura compatibilidad técnica de los elementos del sistema.	OE2: Apoya la integración de sensores y actuadores en el diseño del control.

Fuente: Autor.

Capítulo 3. Diseño metodológico.

3.1. Tipo de investigación.

El proyecto “Propuesta de modelo de control automatizado para sistemas de climatización de bajo consumo en espacios cerrados”, lo más adecuado es enmarcarlo dentro de una metodología de investigación de tipo aplicada y de carácter proyectivo, con un enfoque cuantitativo y no experimental, debido a que no se realizará un prototipo físico, pero sí habrá el desarrollo de un diseño conceptual aplicable a cualquier entorno. El tipo de investigación como lo define (Sampieri, et al, 2022) el tipo de investigación es aplicada porque busca resolver un problema concreto mediante la implementación de conocimientos científicos y técnicos. Y su enfoque metodológico Cuantitativo debido a que los resultados esperados mostraran proyecciones de indicadores medibles: kWh ahorrados, porcentaje de eficiencia, reducción de CO₂, retorno de inversión, etc.

3.2. Instrumentos en la recolección de la información.

La recolección de la información se hará de manera de revisión bibliográfica, haciendo uso de las bases de datos dispuestas por la universidad; de esa manera poder revisar antecedentes que se hayan hecho en la solución del problema y poder tener una referencia a la hora de iniciar a desarrollar el proyecto.

3.3. Diseño metodológico.

Para el desarrollo y cumplimiento de los objetivos propuestos para este proyecto se ha diseñado la siguiente metodología descrita en la tabla 2 a continuación.

Tabla 2

Desarrollo metodológico del proyecto.

Objetivo	Metodología propuesta	Normas / Referencias asociadas
Objetivo Principal: Proponer un sistema de automatización para sistemas HVAC de bajo consumo aplicado a espacios cerrados.	- Revisión bibliográfica y normativa internacional y nacional.- Definición del alcance funcional del sistema HVAC.- Diseño conceptual con diagramas funcionales y selección teórica de componentes.- Validación teórica del diseño frente a criterios de confort y eficiencia.	ASHRAE 90.1, ASHRAE 55, ISO 50001, RETIE, BACnet, Modbus.
OE1: Establecer una metodología para el cálculo de las condiciones de confort en función del área y cantidad de personas que ocupen el recinto.	- Identificación de variables clave: temperatura, humedad, velocidad del aire, CO ₂ , área y ocupación.- Aplicación de normas para definir rangos de confort y caudales de ventilación.- Desarrollo de ecuaciones de cálculo de carga térmica.	ASHRAE 55, ASHRAE 62.1, ISO 7730.
OE2: Diseñar la lógica de control y funcionamiento de los equipos HVAC con un enfoque hacia la eficiencia energética.	- Comparativa teórica de estrategias de control (ON/OFF, PID, adaptativo/fuzzy).- Diseño de la arquitectura de control (sensores, actuadores, protocolos).- Elaboración de diagramas de flujo y pseudocódigo.- Simulación y ajuste teórico en MATLAB/Simulink u otro software.	ASHRAE 90.1, ISO 50001, BACnet, Modbus.
OE3: Desarrollar un análisis financiero de la propuesta comparando la inversión vs el ahorro estimado al implementar la propuesta en diversos escenarios propuestos.	- Estimación de costos de inversión (componentes, instalación, programación).- Cálculo de ahorros energéticos a partir de resultados de simulación.- Conversión de ahorros energéticos a ahorros económicos.- Evaluación de indicadores financieros: Payback, TIR, VPN.- Comparativa de escenarios con y sin integración de energías renovables.	ISO 50001, Ley 1715 de 2014 (Colombia).

Capítulo 4. Desarrollo del proyecto.

4.1. Cálculo de las condiciones de confort.

El confort térmico en los espacios climatizados es un parámetro esencial en el diseño eficiente de sistemas HVAC, especialmente cuando se busca optimizar el consumo energético sin comprometer la calidad ambiental interior (Giraldo Castañeda, Czajkowski, & Gómez, 2021). Este concepto se refiere al estado en el cual una persona expresa satisfacción con el ambiente térmico, influenciado por variables como temperatura del aire, humedad relativa, velocidad del aire, temperatura radiante, actividad metabólica y tipo de vestimenta. (Callejas Ochoa, et al, 2023)

Para sistemas automatizados de climatización de bajo consumo, el cálculo de las condiciones de confort permite establecer rangos operativos óptimos que garanticen bienestar térmico para la mayoría de los ocupantes, minimizando el uso de energía. Las metodologías más utilizadas incluyen el modelo PMV-PPD (Predicted Mean Vote – Predicted Percentage of Dissatisfied) y el modelo adaptativo, ambos respaldados por normas internacionales como ASHRAE 55 y NTC 5316.

Antes de iniciar a realizar cualquier calculo correspondiente a la selección del equipo o sistema HVAC, se debe tener en cuenta una serie de recomendaciones como lo indica (Romero Restrepo, 2021), se requiere caracterizar el entorno físico teniendo en cuenta las siguientes características:

- 1 Ubicación geográfica y clima local, se requiere conocer con un grado de exactitud la temperatura media, humedad relativa, radiación solar, porque no es lo mismo seleccionar un sistema en zonas costeras, como en zonas tropicales o en climas fríos.

- 2 Tipo de espacio (residencial, oficina, laboratorio, etc.).
- 3 Número de ocupantes y actividad metabólica, es importante saber la actividad que ejercerá el recinto donde se desarrollará el proyecto a climatizar, puesto que no es lo mismo un salón de juntas de unos 10 m² con un máximo de 10 personas a un recinto de más de 800 m² y un público que pueda superar los 100 ocupantes
- 4 Materiales de construcción y aislamiento térmico.
- 5 Ventilación natural y fuentes internas de calor.

Haciendo uso del modelo PMV – PPD, se requiere calcular las siguientes 6 variables basadas en el balance térmico del cuerpo humano, como lo describe (Marchante Gonzáles & Gonzáles Santos, 2021) en su trabajo; estas variables son.

1. Temperatura del aire (T_a)
2. Temperatura radiante media (T_r)
3. Humedad relativa (HR)
4. Velocidad del aire (V_a)
5. Actividad metabólica (Met)
6. Aislamiento de la ropa (C_{lo})

De esa manera se puede hacer uso de este modelo mediante el siguiente calculo descrito en la ecuación 1, a continuación.

$$PMV = [0.0303 \times e^{-0.036 M} + 0.028] \times H. \text{ (Ecuación 1)}$$

Donde M se define como la tasa metabólica y H es el equilibrio térmico entre producción y pérdida de calor.

Por otra parte (Toala Zambrano, et al, 2021) propone el modelo adaptativo debido a que este modelo se basa en la percepción térmica de los ocupantes en función del clima exterior, es ideal en espacios naturalmente ventilados y hace una relación entre la temperatura operativa en el interior y la temperatura media del ambiente o externa.

4.1.1 Calculo de las cargas térmicas en los espacios.

Para poder calcular las cargas térmicas en los espacios donde se requiera hacer el estudio, se debe calcular lo que se denomina la carga termina total, descrita en la ecuación 2 a continuación.

$$Q_{\text{Total}} = Q_{\text{Sensible}} + Q_{\text{Latente}} \text{ (Ecuación 2)}$$

$$\text{Donde } Q_{\text{Sensible}} = 1.1. \text{ CFM} \times \Delta T, \text{ (Ecuación 3)}$$

donde C.F.M, hace referencia al flujo de aire e Pies³ / Minuto y ΔT es la diferencia de temperatura deseada.

$$Q_{\text{Latente}} = 4840 \times \text{CFM} \times \Delta W. \text{ (Ecuación 4)}$$

Donde, ΔW diferencia de humedad específica (lb agua/lb aire seco).

Ambos modelos son viables de aplicar al proyecto, por lo tanto, en la tabla 3 se describe unas diferencias entre un modelo y poder diferenciar sus ventajas y desventajas.

Tabla 3

comparativa de modelos de confort térmico

ASPECTO	MODELO PMV–PPD	MODELO ADAPTATIVO
FUNDAMENTO TEÓRICO	Balance térmico del cuerpo humano (Fanger, 1970)	Respuesta adaptativa de los ocupantes al clima exterior
VARIABLES REQUERIDAS	6: Temperatura aire, temperatura radiante, humedad, velocidad aire, Met, Clo	Temperatura operativa interior y temperatura media exterior
NORMAS QUE LO RESPALDAN	ASHRAE 55, ISO 7730, NTC 5316	ASHRAE 55, NTC 5316 (en espacios naturalmente ventilados)
VENTAJAS	- Alta precisión en ambientes controlado - Útil para simulaciones HVAC - Permite calcular PPD	- Simplicidad de aplicación - Ideal para climas cálidos y ventilación natural - Refleja percepción real del usuario
DESVENTAJAS	- Requiere medición o estimación de múltiples variables - Menos preciso en climas cálidos húmedos	- No aplica en espacios con climatización activa - No calcula PPD ni PMV
APLICACIÓN RECOMENDADA	Espacios con climatización mecánica, oficinas, laboratorios	Viviendas, aulas, espacios con ventilación natural
RANGO DE CONFORT TÉRMICO TÍPICO	PMV entre -0.5 y +0.5 (PPD < 10%)	Temperatura operativa entre 22 °C y 28 °C (según clima)

4.1.2 Condiciones de diseño.

Los diseños deben de adaptarse de acuerdo a las condiciones de locación, es decir, longitud, altura, latitud, entre otros. A continuación, en la figura 4 se presentan algunas de las condiciones de diseño estándar en las ciudades principales de Colombia.

Figura 4

Condiciones de diseño en las principales ciudades de Colombia.

Ciudad	Latitud	Longitud	Altitud	T.de diseño °F _{db}			T.de diseño °F _{wb}			ΔT
	°	°	pies	1%	2.5%	5%	1%	2.5%	5%	°F
B/lla	10 59N	74 48W	44	95	94	93	83	82	82	17
Bogotá	4 36N	74 05W	8406	72	70	69	60	59	58	19
Cali	3 25N	76 30W	3189	84	82	79	70	69	68	15
Medellín	6 13N	75 36W	4650	87	85	84	73	72	72	25

Nota: figura tomada de (Granados Granados, 2011)

Cómo bien lo menciona (Granados Granados, 2011) Antes de emprender un cálculo de la carga térmica, es necesario un estudio detallado del espacio a ser acondicionado. Para las cargas externas la información deberá incluir:

- Orientación, dimensiones y destino del local.
- Efectos del sol y presencia de vientos.
- Estructuras permanentes próximas: efectos de sombra.
- Superficies reflectantes: agua, arena, lugares de estacionamiento.
- Elementos y detalles de construcción: materiales, ubicación y espesor de los muros, techos y pisos.
- Ventanas y puertas: ubicación, dimensiones, tipo, espesor del cristal, marcos, salientes o aleros.
- Iluminación natural: claraboyas o tragaluces.
- Para las cargas internas se recopilará información sobre:
 - Escaleras normales, ascensores y escaleras mecánicas: ubicación, potencia.
 - Ocupantes: número, tiempo de ocupación, actividad, circulación.
 - Iluminación eléctrica: consumo en horas pico; tipo fluorescente, incandescente, luz directa o indirecta; consumo de energía. Si se carece de información exacta sobre la carga eléctrica, se hace una estimación en vatios/ft² de área de piso, por ejemplo 3 vatios/ft².
- Motores: ubicación, tipo, potencia nominal, frecuencia de operación; además, potencia consumida para observar si trabaja en sobrecarga.

- Almacenamiento térmico: comprende el horario de funcionamiento del sistema, aislamientos, fugas, tipo de objetos o elementos dentro del recinto.
- Horas de operación: funcionamiento continuo o intermitente.
- Las cargas de infiltración y ventilación requieren del conocimiento de: Extractores y ventiladores: tamaños, consumos, velocidad y caudal de aire suministrado o extraído.
- Caudal mínimo requerido de aire, CFM por persona o por ft² de acuerdo con los códigos vigentes.
- Puertas y ventanas: localización, tipo, dimensiones y frecuencia de apertura.
- Es necesario hacer un estudio sobre la posible localización de equipos y disponibilidad de servicios.
- Se deberá obtener información adicional acerca de: Estado del tiempo y condiciones de diseño interior y exterior. Las condiciones climáticas del lugar deberán ser obtenidas de registros de estaciones locales.
- Las condiciones de diseño interior comprenden temperatura de bulbo seco Tdb, temperatura de bulbo húmedo Twb, humedad, y niveles de ventilación recomendados. Es conveniente incluir variaciones permisibles y límites de control.
- Áreas, espacios disponibles: escaleras, elevadores, tuberías, posible localización de equipos, torres, bombas etc., de ser posible sobre planos. Es buena práctica realizar una visita de inspección a la obra.
- Posibles obstrucciones, vigas y columnas.
- Localización de tomas de aire exterior.
- Energía disponible.

- Servicio de acueducto: ubicación de líneas, capacidad, presión, drenajes. • Vapor: localización, capacidad, presión, temperatura.

- Características de la arquitectura interior: posible ubicación de rejillas. • Facilidades de control: electricidad, aire comprimido.

- Resistencias de placas y fundaciones.
- Requerimientos de ruido y vibración.
- Facilidad de acceso para ubicación, traslado de equipos, y mantenimiento.

4.1.3 Componentes de la carga térmica.

En la tabla 4 se presenta se muestran los principales componentes que conforman la carga térmica en espacios comerciales, se puede observar la diferencia entre las cargas sensibles y latentes y como se calculan en base a parámetros físicos y operativos del entorno.

Tabla 4

Componentes de la carga Térmica.

Fuente de carga	Tipo de carga	Fórmula / Método de cálculo
Radiación solar (ventanas)	Sensible	$Q=A \cdot SHGF \cdot SC \cdot CLF$
Muros y techos	Sensible	$Q=U \cdot A \cdot \Delta T$
Iluminación	Sensible	$Q=W \cdot 3.41 \cdot CLF$
Personas	Sensible / Latente	$Q_{Latente} = 4840 \times CFM \times \Delta W$ $Q_{Sensible} = 1.1 \cdot CFM \times \Delta T$
Equipos eléctricos	Sensible	$Q=W \cdot 3.41 \cdot CLF$
Infiltración de aire	Sensible / Latente	$Q=1.08 \cdot CFM \cdot \Delta T$
Ventilación mecánica	Sensible / Latente	Igual que infiltración, pero con CFM controlado

**Otros (cocinas,
hornos, etc.)**

Sensible /
Latente

Según especificaciones técnicas
del equipo

Nota: tabla tomada de (Granados Granados, 2011)

Donde:

- SHGF: Solar Heat Gain Factor
- SC: Shading Coefficient
- CLF: Cooling Load Factor
- U: Coeficiente de transferencia térmica
- A: Área
- ΔT : Diferencia de temperatura
- N: Número de personas
- Qs Ql : carga sensible y latente por persona
- W: potencia eléctrica en watts
- CFM: flujo de aire en pies³/min
- Δh : diferencia de humedad específica

4.1.4 Recomendaciones en la selección de los equipos.

Con base en el total de carga térmica calculada, se presentan algunas recomendaciones técnicas para la selección del equipo HVAC más adecuado. Considerando aspectos como capacidad, tipo de sistema, control de humedad y zonificación, orientados a optimizar el confort y la eficiencia energética. En la tabla 5 a continuación se observa los parámetros clave a tener en cuenta y los valores sugeridos buscando siempre la eficiencia energética.

Tabla 5

Recomendaciones en la selección de los equipos HVAC

<i>Parámetro clave</i>	<i>Valor sugerido</i>
<i>Capacidad mínima HVAC</i>	66,838 BTUH $\approx$ 5.57 TR
<i>Margen de seguridad</i>	+10% $\rightarrow$ 6.1 TR
<i>Tipo de equipo sugerido</i>	Split comercial, rooftop o VRF
<i>Control de humedad</i>	Alta prioridad ($\approx$ 20% carga latente)
<i>Zonas independientes</i>	Recomendado si hay variabilidad de ocupación

Nota: tabla tomada de (Granados Granados, 2011).

4.1.5 Ejemplo de aplicación de cálculo de carga térmica.

Con ayuda de una hoja de cálculo diseñada bajo las recomendaciones dadas por (Granados Granados, 2011), se procede a realizar una herramienta que permita calcular la carga térmica óptima para la selección adecuada del equipo. Para este ejemplo se usó un salón de clase, con las siguientes características, observadas en la tabla 6.

Tabla 6

Problema de aplicación.

<i>Categoría</i>	<i>Detalle técnico</i>
<i>Ubicación</i>	Cúcuta, Colombia
<i>Condiciones interiores</i>	74 °F db, 50% HR
<i>Condiciones exteriores</i>	95 °F db, 85 °F wb
<i>ΔT (diferencial térmico)</i>	16 °F
<i>Dimensiones del aula</i>	15 ft $\times$ 15 ft $\times$ 9 ft (altura hasta cielo falso)
<i>Techo</i>	Terraza con placa de bloque hueco en arcilla (12"), mortero cemento (2"), viguetas 20%, acabado superficial
<i>Espacio entre cielo falso y placa</i>	24"
<i>Cielo falso</i>	Superboard de 1/4" de espesor
<i>Muros externos</i>	Este y Norte: ladrillo hueco 4", pañete interno 3/4", dimensiones 15 ft $\times$ 9 ft
<i>Puerta Norte</i>	Vidrio sencillo, 3 ft $\times$ 9 ft, 50% marco metálico
<i>Ventanas</i>	Norte: 54 ft ² vidrio sencillo Este: 48 ft ² vidrio sencillo
<i>Muros internos</i>	Sur y Oeste: bloque de arcilla 5", pañetes internos y externos de 3/4"
<i>Conexiones internas</i>	Sur: comunica con pasillo Oeste: colinda con salón DM202
<i>Puerta pasillo</i>	Vidrio sencillo, 3 ft $\times$ 9 ft, 50% marco metálico
<i>Piso</i>	Bloque de arcilla 12", viguetas de concreto, mortero 2", cerámica. Nivel inferior no acondicionado

Iluminación	6 lámparas fluorescentes de doble tubo de 40 W por tubo. Encendidas de 6 a.m. a 8 p.m.
Ocupación máxima	40 personas
Carga eléctrica	Computadores y videobeam, total 1000 W
Otros equipos	No
Cargas misceláneas	No
Factor de seguridad	10% sobre carga térmica total calculada

Nota: elaboración propia

Con estas condiciones y siguiendo los parámetros de recomendaciones, se ha calculado la carga térmica del salón de clase, dando como resultado lo siguiente.

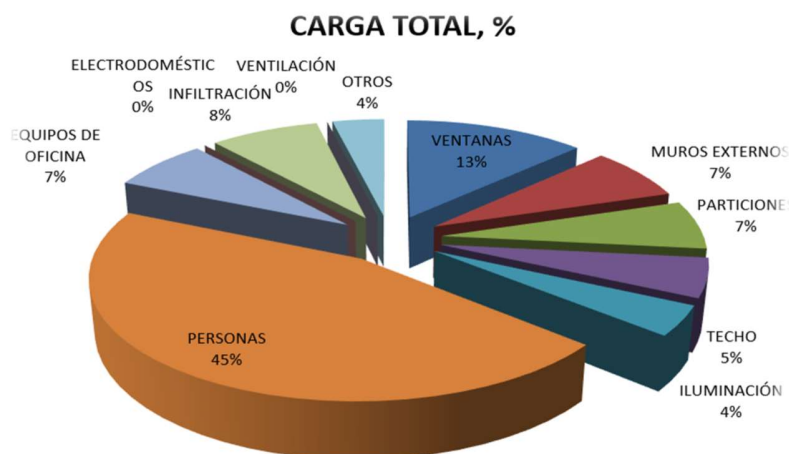
Figura 5

Resumen carga térmica ejemplo de aplicación.

RESUMEN CARGA TÉRMICA, BTUH			
	HS	HL	HT
VENTANAS	5951		5951
MUROS EXTERNOS	3332		3332
PARTICIONES	3057		3057
TECHO	2449		2449
ILUMINACIÓN	1876		1876
PERSONAS	9743	11220	20963
EQUIPOS DE OFICINA	3257		3257
ELECTRODOMÉSTICOS	0	0	0
INFILTRACIÓN	807	2790	3596
VENTILACIÓN	0	0	0
OTROS	1709	0	1709
TOTAL	32181	14010	46191

Nota: Elaboración propia

Figura 1
Distribución de la carga térmica.



Nota: Elaboración propia

De las figuras 5 y 6 se concluyó que, para este estudio, ubicado en Cúcuta, Colombia, revela una demanda significativa en carga térmica distribuida tanto por fuentes internas como externas. A partir del resumen de cargas térmicas en BTUH y la distribución porcentual de los componentes, se identifican los siguientes aspectos clave:

La carga total calculada asciende a 46,191 BTUH, compuesta por 32,181 BTUH de carga sensible (temperatura) y 14,010 BTUH de carga latente (humedad). Esto indica que aproximadamente el 30% de la carga corresponde al control de humedad, lo cual es relevante en climas cálidos y húmedos como el de Cúcuta.

El gráfico de distribución porcentual muestra que el 45% de la carga proviene de la ocupación humana, seguido por las ventanas (13%), particiones (7%), muros externos (7%) y equipos de oficina (7%). Esto confirma que las fuentes internas (personas, iluminación, equipos) tienen un peso predominante en la demanda térmica del espacio.

Las ventanas de vidrio sencillo, sin protección solar adicional, contribuyen de forma significativa a la carga sensible, lo que sugiere oportunidades de mejora mediante películas reflectivas, cortinas térmicas o vidrios de control solar.

La infiltración y ventilación aportan carga latente relevante, aunque en menor proporción, lo que refuerza la necesidad de un sistema HVAC con capacidad de deshumidificación efectiva y control de aire exterior.

Para garantizar un diseño confiable, se aplica un factor de seguridad del 10%, elevando la carga total ajustada a aproximadamente 50,800 BTUH, equivalente a 4.2 toneladas de refrigeración (TR).

Con base en los resultados obtenidos, se recomienda seleccionar un equipo HVAC con las siguientes características:

Capacidad nominal mínima: 4.2 TR ($\approx$ 50,800 BTUH)

Tipo de sistema sugerido: Split comercial, cassette o sistema VRF modular

Control de humedad: Indispensable, preferiblemente con sensor de HR y modo de deshumidificación

Eficiencia energética: Equipos con $SEER \geq 16$ o $EER \geq 11$

Zonificación: Recomendable si se espera variabilidad en la ocupación o uso del espacio

Ventilación mecánica: Integración con recuperación de energía si se maneja aire exterior

Este diagnóstico permite dimensionar adecuadamente el sistema de climatización, optimizando el confort térmico y la eficiencia energética del espacio.

Esta herramienta de cálculo se adjuntará en los anexos, del presente informe, este corresponde al cumplimiento del primer objetivo trazado en la propuesta, con esta herramienta se garantizará la selección correcta del equipo HVAC, sin incurrir en sobredimensionamientos o una selección por debajo de las capacidades lo que a futuro llevaría a gastos energéticos elevados.

El funcionamiento y recomendaciones se adjuntarán igualmente en los anexos del documento, con el fin de poder dar un uso libre a este archivo y modificaciones de ser necesarias, esta herramienta se creó siguiendo las recomendaciones del Manual de Ventilación, refrigeración y aire Acondicionado de (Granados Granados, 2011)

Figura 2

Herramienta para el cálculo de condiciones de confort para sistemas HVAC

| PROYECTO: Salón de clases
 | | | | LOCALIZACIÓN: CÚCUTA - COLOMBIA | | | | LATITUD: 8° N | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|---
---|---------------------------------|--------------|--------------|---------------------------------|--------------|-------------|----------------------|---------------------|-------------------------|----------------------|-------------------------|--|------------------------|---------|-------------------|-------------|--------------|-------------|------|------------|-----------|-------------------|-------------------|------------------------------------|----------|--------------|-----|--------------|------|------|-------|--------|---------|-------|-------------------|-------|---
--|-------------------|---|-----|----|------|--|---------|-----------|----------|-------
---|--|---------|--|-------------|--------------|--------------------|--|-------|-----------|------|----------|---------------------------------|---------------------------------|------|-----|--------------|---------------|-----|----|-------|--------|------|-------|-------|-----|------------------------|---|--
--|-------|-------|--|--|-------------------|--|-------------------
--|--
---|--|---|--|--------------------|-------------|--------------------------------------|-----|--|-------------|---|----------
---|------------|-------------------|---------------|-------------|--------------|------------|----|----|-----------|------------------|-----|---------------------------------|-------|---------------------|------------------------|------|-------------------|--------|--|--------|--|--
---|-------------
---|--|--
--|----|---|-------------|------|------------------------------|--------------------------------------|-------------------|--------------|--------------|--|--
---|-------------|---------------------------------|------------|-----|-----|-----------|--------------|------|-----|--------------------------|--------------|-------------------|------|----|----|-------|--------|-------|--|------|-------------------|--------|-------|--|--|--|-------------------
---|------|--|--|--|-------|-------------
--|--|------------------------------|--|------|---------------------------------|-----|------------|--------------------------------------|-------------------------|---|-------|--------------------------
---|---------------|-------------------------------------|-------|--------|--|--|--|--|--|--|------|---------------------------------|------------------------|-----|--|--------|------|--|-------|---|--|-------------------
---|-----|------|------|--|------|-------------------|--|-----|--|-------------|--|-------------------|-------------
---|--------------|--|---|------------|-----------|-----|-----------|-----|-------------------------|---|---|---------------------------------|-------|-------|-------------------|-------|--------|--|------|------------------------|--|-------------------
--|-------|-------------------|-------|--|--|----------|--|-----|-------|---|--|-------------------
--|-----|-----|--|---
--|--|----|----|---------------------------------|-------------|--|--------------------------|-------------|-------------|--------------|-------------------|-------------------------------------|-------|-----------|------|-----|------------------------|---|-------------------|--|------|-------|------------------------|--|-------------------|--|--|------|-----|--|-------
--|--|-----|------|--------------------------------------|--|--|-------------------|--------|-----|---|-------
--|---|--|--|--|-------------------------------------|--|--|--|--|---------------------------------|------|-------------------------|---------------------------------|---|-------------------|--------|------------------------|-------|--|--|------|-----|------|--|---
--|-------------------|------|-----|------------------------|------------------------------|--|-------------------|------|-------|--|--|--|---|---
---|--|--|-------|--------|------|-----|-----|-------------------------|------------|-----|-------------|-------------------|--------------|----------|------
--|-----------|-------------------|--------|------|-----|--|--|-------------------|--------|-------|-------|--|--|-----|--------------|-------
--|------------------------------|--|-----|-----|--|-----|-------|--------------------------------------|---|----|----|---|----|--|-------------|-------------|-------------------------------------|----------|----|----|-----------|-----|-----|---------------------------------|-------|---
--|-----|------|--|-------|-------|------------------------|----|-------------------|--------|------|------|--|--|-------------------|--|-----|-------------------|--------|--|-------------------|------|--|---|-------|--|--|--|--|--|--|--------------------------------------|--|--|---------------------------------|-------|-------|------------|---|---|--|--
--|--|--|--|--|-------|-------|------|--|---|------------------------------|--|--------------------------|-----|------------------------|-------------------|-------------------|--|-----|---
--|--|--|--|--|--|--|--|--|-------------|--|-----|-------------|--|--------------|----------|----|---|-----------|-----|-----|--|---|-------|-------|-----|------|------|--|-------------|--------|---------|------|------|-------------|-----|------|-------
--|-----|------------------------------|--|-----|-----|-----|--|---|--|--|--|--|----|-----|--|---|-----|--|--------------------------------------|---------------------------------|--|--|------------------|---------|-------|-------|-----|-------------|--|--|--|--|--|--------------------|------|------|------------------------|------|-------------------|--|-----|------|-------------------|--|---------------|-------------------|--------|--|---|---
--|------------------------------|--|--|--|--------------------------------------|-----|--|--|------------|--|--|--|--|--|--|---|--|--|--|--|--|--|--|-------|-------|--|--|--------------|-----|------------------------|-----------|-------------------|--------------|------------|--|----|--|------|--|--|---|--|-----|------|----|----|--|--------|--|--|-------|--|--|--|--|--|--|--|--|--|--|--|------|-----|------
--|--|--|--|------|-----|------------------------|---|-------------------|--------|-----|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------------------|--|--|--|--|--|--|--|--|--|-------|-------|--|--|--|--|--|--|--|--|--|-------|-------|--|-------
---|---|-------------------|--------|-----|---|---|--|--|------|------------------------------|--|---------------------------------|--|--|--|--|--|--|--|--|--|--|-------|--|--|--|--|--|--|--|--|--|-------|-------|-------------------|---|-----|---|---|---|--|---|---|-----|---|-------|--|--|--|--|--|-------------------|--|--|--|--|--|--|--|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|---|---
--|--|--|--|---|-------|--|--|--|--|--|--|-------------------------------------|--|--|--|--|--|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------|-----|------------------------|---|-------------------|--------|-------|-------|------|--|--|--|--|--|--|--|--|--|--|------|------|--|--|--|--|--|--|--|--|--|--|--|--|-------|--|--|--|--|--|--|--|--|--|--|-------|-------|--|--|--|--|--|--|--|--|--|--|-------|-------|-------------|--|-----|-------------|-------------|--------------|----------|----|----|-----------|-----|-----|--|---|---|--|-----|------|-----|----|-------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---
---|--|--|--|--|--|--|--|--|--|--|--|---------------------------------|-------------------|------|-----|---|---|--|--|--|--|--|--|--|--|--|--|--|--|------------|-----|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|------|-----|------------------------|---|-------------------|--------|-----|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------------------|------|-----|------------------------|---|-------------------|--------|-----|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|-----|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---
--|--|--|--|--|--|--|--|--|--|--|--|------------------------------|-------|-------|--|--|--|--|--|--|--|--|--|--|--|------|------|--|--|--|--|--|--|--|--|--|--|--|--|-------|-------|-------|
| MES Y HORA DISEÑO: Septiembre 10 - 2:00 pm
 | | | | FECHA: Septiembre 10 - 2025 | | | | DISEÑO: Angge Serna | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| CONDICIONES DE DISEÑO
 | | Exterior | 95 | 85 | HR, % | 177,1394 | Altitud, ft | | Fr altitud | PB, °Hg | ΔT, °F | Hr Diseño | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | Interior | 74 | | 50 | 65,70 | 1050 | | 0,963 | 28,803 | 16 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | Sum. Equipo | 55 | | 97 | 65,58 | Factor _{db} | | T _{db} hr pico | Factor _{wb} | T _{wb} hr pico | W _{hr} pico | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
|
 | | | 3 | 95 | 0 | 85 | | | | | 180,49 | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">CONDUCCIÓN</th> <th>Db, °F</th> <th>Wb, °F</th> <th>HR, %</th> <th>W, gr/lb</th> <th colspan="2">Altitud, ft</th> <th>Fr altitud</th> <th>PB, °Hg</th> <th>ΔT, °F</th> <th>Hr Diseño</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Ventanas y Puertas vidrio externas</td> <td>Dir</td> <td>Sombread Int</td> <td>U</td> <td>ÁREA</td> <td>ft²</td> <td>CLTD</td> <td colspan="2"></td> <td>Correc.</td> <td>CLTDc</td> <td>F_{corr}</td> <td>SHG</td> </tr> <tr> <td>N</td> <td>No</td> <td>1,04</td> <td>54</td> <td>54</td> <td>13</td> <td colspan="2"></td> <td>inf&ext</td> <td>Corregido</td> <td>Sensible</td> <td>LHG</td> </tr> <tr> <td>W</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td colspan="2"></td> <td>5,52</td> <td>18,52</td> <td>0,87</td> <td>903</td> </tr> <tr> <td>E</td> <td>No</td> <td>1,04</td> <td>48</td> <td>48</td> <td>13</td> <td colspan="2"></td> <td>0</td> <td>0</td> <td>0,00</td> <td>0</td> </tr> <tr> <td>S</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td colspan="2"></td> <td>5,52</td> <td>18,52</td> <td>0,87</td> <td>803</td> </tr> <tr> <td>Domos Claraboyas</td> <td>HORIZ</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td colspan="2"></td> <td>0</td> <td>0</td> <td>0,00</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">Muros Exteriores</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table></td> <td>ÁREA</td> <td>ft²</td> <td>CLTD</td> <td>LM</td> <td>K</td> <td>CLTDc</td> <td>F_{corr}</td> <td>SHG</td> <td>LHG</td> </tr> <tbody> <tr> <td rowspan="5">Altura, ft:</td> <td>N</td> <td>Ladrillo</td> <td>0,722</td> <td>135</td> <td>54</td> <td>13</td> <td>2</td> <td>0,82</td> <td>5,52</td> <td>17,82</td> <td>0,87</td> <td>603</td> <td></td> </tr> <tr> <td>W</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0,00</td> <td>0</td> </tr> <tr> <td>E</td> <td>Ladrillo</td> <td>0,722</td> <td>135</td> <td>87</td> <td>37</td> <td>-1</td> <td>0,82</td> <td>5,52</td> <td>35,04</td> <td>0,87</td> <td>1911</td> <td></td> </tr> <tr> <td>S</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0,00</td> <td>0</td> </tr> <tr> <td>Tipo:</td> <td>F</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">Puerta exterior metal</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table></td> <td>ÁREA</td> <td>ft²</td> <td>CLTD</td> <td>LM</td> <td>K</td> <td>CLTDc</td> <td>F_{corr}</td> <td>SHG</td> <td>LHG</td> </tr> <tbody> <tr> <td>N</td> <td>VIDRIO</td> <td>1,07</td> <td>27</td> <td>27</td> <td>21</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">Particiones</th> <th>Tipo</th> <th>U</th></tr></thead></table></td> <td>ÁREA</td> <td>ft²</td> <td>CLTD</td> <td>LM</td> <td>K</td> <td>CLTDc</td> <td>F_{corr}</td> <td>SHG</td> <td>LHG</td> </tr> <tbody> <tr> <td rowspan="5">Altura de muros, ft:</td> <td>Corredor</td> <td>0,361</td> <td>165</td> <td>138</td> <td>16</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Puerta Corred 3x19 Vidrio&Metal</td> <td>1,17</td> <td>27</td> <td>27</td> <td>16</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Muros espac no acond.</td> <td>0,361</td> <td>165</td> <td>165</td> <td>16</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TECHO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PISO</td> <td>0,29</td> <td>225</td> <td>225</td> <td>16</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">Techo</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table></td> <td>ÁREA</td> <td>ft²</td> <td>CLTD</td> <td>LM</td> <td>K</td> <td>CLTDc</td> <td>F_{corr}</td> <td>SHG</td> <td>LHG</td> </tr> <tbody> <tr> <td rowspan="2">Cielo falso</td> <td>SI</td> <td>X</td> <td>NO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>HOR</td> <td>Oscuro</td> <td>0,34</td> <td>225</td> <td>225</td> <td>29</td> <td>-1</td> <td>1</td> <td>5,52</td> <td>1</td> <td>33,52</td> <td>0,87</td> <td>2227</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">RADIACIÓN</th> <th>Dir</th> <th>Sombread Ext</th> <th>SHGF</th> <td>ÁREA</td> <td>ft²</td> <td>Sc</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> </tr> </thead> <tbody> <tr> <td rowspan="5">Ventanas</td> <td>N</td> <td>NO</td> <td>44</td> <td>54</td> <td>54</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>W</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>E</td> <td>NO</td> <td>225</td> <td>48</td> <td>48</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>S</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS EXTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>13445</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td>
<td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></tbody></tbody></tbody></tbody></table> | | | | | | | | | | | | CONDUCCIÓN | | Db, °F | Wb, °F | HR, % | W, gr/lb | Altitud, ft | | Fr altitud | PB, °Hg | ΔT, °F | Hr Diseño | Ventanas y Puertas vidrio externas | Dir | Sombread Int | U | ÁREA | ft² | CLTD | | | Correc. | CLTDc | F _{corr} | SHG | N | No
 | 1,04 | 54 | 54 | 13 | | | inf&ext | Corregido | Sensible | LHG | W | N/A
 | | | | | | | 5,52 | 18,52 | 0,87 | 903 | E | No | 1,04 | 48 | 48 | 13 | | | 0 | 0 | 0,00 | 0 | S | N/A | | | | | | | 5,52 | 18,52
 | 0,87 | 803 | Domos Claraboyas | HORIZ | N/A |
 | | | | | | 0 | 0 | 0,00 | 0 | <table border="1"> <thead> <tr> <th colspan="2">Muros Exteriores</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table> | |
 | | | | | | | | | | Muros Exteriores | | Dir | Color | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr} | SHG | LHG
 | Altura, ft: | N | Ladrillo
 | 0,722 | 135 | 54 | 13 | 2 | 0,82 | 5,52 | 17,82 | 0,87 | 603 | | W
 | N/A | | | | | | | 0 | 0 | 0,00 | 0 | E | Ladrillo | 0,722 | 135 | 87 | 37 | -1 | 0,82 | 5,52 | 35,04 | 0,87 | 1911 | | S | N/A
 | | | | | | | 0 | 0 | 0,00 | 0 | Tipo:
 | F | | | | | | | | | | | | <table border="1"> <thead> <tr> <th colspan="2">Puerta exterior metal</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table>
 | | | | | | | | | | | | Puerta exterior metal | | Dir | Color | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr}
 | SHG | LHG | N | VIDRIO | 1,07 | 27 | 27 | 21 | | | | | | | | | <table border="1"> <thead> <tr> <th colspan="2">Particiones</th> <th>Tipo</th> <th>U</th></tr></thead></table>
 | | | | | | | | | | | | Particiones | | Tipo | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr} | SHG | LHG | Altura de muros, ft: | Corredor | 0,361 | 165 | 138 | 16
 | | | | | | | |
 | Puerta Corred 3x19 Vidrio&Metal | 1,17 | 27 | 27 | 16 | | | | | | | | Muros espac no acond. | 0,361 | 165 | 165 | 16 | | | | | | | | TECHO | | | | | | | |
 | | | | PISO | 0,29 | 225 | 225 | 16 | | | | |
 | | | <table border="1"> <thead> <tr> <th colspan="2">Techo</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table> | | | | | | | | | | | | Techo | | Dir | Color | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr} | SHG | LHG | Cielo falso | SI | X | NO | | | |
 | | | | | | | HOR | Oscuro | 0,34 | 225 | 225 | 29 | -1 | 1 | 5,52 | 1 | 33,52 | 0,87 | 2227 | <table border="1"> <thead> <tr> <th colspan="2">RADIACIÓN</th> <th>Dir</th> <th>Sombread Ext</th> <th>SHGF</th> <td>ÁREA</td> <td>ft²</td> <td>Sc</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> </tr> </thead> <tbody> <tr> <td rowspan="5">Ventanas</td> <td>N</td> <td>NO</td> <td>44</td> <td>54</td> <td>54</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>W</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>E</td> <td>NO</td> <td>225</td> <td>48</td> <td>48</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>S</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS EXTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>13445</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr>
</thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | RADIACIÓN | | Dir | Sombread Ext | SHGF | ÁREA | ft² | Sc
 | CLF | CLF | CLF | CLF | CLF | Ventanas | N | NO | 44 | 54 | 54 | 1 | | | | | | | W | N/A | | | | | | | | | | | E | NO | 225 | 48 | 48 | 1 | | | | | | | S | N/A | | |
 | | | | | | | | | | | | | | | | | | | | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS EXTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>13445</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr>
<th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS EXTERNAS | | | | | | | | | | | | | | | | | | | | | | | 13445 | 0 | <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table
border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | ILUMINACIÓN | | W/ Pie² | Watt | Cte. | Fu (perfil) | BF | CLF | %zona | CLF | CLF | PERSONAS | Pers/100Pie² | No. | SHG | CLF | Perfil/Diver | LHG | | | | | 40 | 255 | 1 | 1 | 255 | | | | | | EQUIPOS,
MOTORES | W/ Pie² | Watt | Cte. | CLF | FU (perfil) | | | | | | TV, PC, impresoras | 1000 | 3,41 | 1 | 1 | | | | | | | ELECTRODOMEST | SHG | | | | | | | | | | Cafeteras, planchas | LHG | | | | | | | | | | <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | INFILTRACIÓN | | S/N | Cambios/h | Cte. Sensib | Cte. Latente | CFM Infil. | ΔT
 | AF | ΔW, gr/lb | CLF | CLF | | 1 | | 1,1 | 0,68 | 34 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | | 0,87 | 733 | 2536 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS INTERNAS | | | | | | | | | | | | | | | | | | | | | | | 14257 | 12736 | | | | | | | | | | | | 27702 | 12736 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12">
<table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO DE SUM. | | | | | | | | | | | | | | | | | | | | | | | ΔT _{s,d} | 1 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | FUGAS DE AIRE, 5% | | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td>
</tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td
colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | ΔT _{r,d} | 0,25 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | PLENUM, 8% | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | 32181 | 14010 |
| CONDUCCIÓN
 | | Db, °F | Wb, °F | HR, % | W, gr/lb | Altitud, ft | | Fr altitud | PB, °Hg | ΔT, °F | Hr Diseño | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Ventanas y Puertas vidrio externas
 | Dir | Sombread Int | U | ÁREA | ft² | CLTD | | | Correc. | CLTDc | F _{corr} | SHG | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | N | No | 1,04 | 54 | 54 | 13 | | | inf&ext | Corregido | Sensible | LHG | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | W | N/A | | | | | | | 5,52 | 18,52 | 0,87 | 903 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | E | No | 1,04 | 48 | 48 | 13 | | | 0 | 0 | 0,00 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | S | N/A | | | | | | | 5,52 | 18,52 | 0,87 | 803 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Domos Claraboyas
 | HORIZ | N/A | | | | | | | 0 | 0 | 0,00 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Muros Exteriores</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table>
 | | | | | | | | | | | | Muros Exteriores | | Dir | Color | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr} | SHG | LHG | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Muros Exteriores
 | | Dir | Color | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Altura, ft:
 | N | Ladrillo | 0,722 | 135 | 54 | 13 | 2 | 0,82 | 5,52 | 17,82 | 0,87 | 603 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | W | N/A | | | | | | | 0 | 0 | 0,00 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | E | Ladrillo | 0,722 | 135 | 87 | 37 | -1 | 0,82 | 5,52 | 35,04 | 0,87 | 1911 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | S | N/A | | | | | | | 0 | 0 | 0,00 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | Tipo: | F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Puerta exterior metal</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table>
 | | | | | | | | | | | | Puerta exterior metal | | Dir | Color | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr} | SHG | LHG | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Puerta exterior metal
 | | Dir | Color | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| N
 | VIDRIO | 1,07 | 27 | 27 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Particiones</th> <th>Tipo</th> <th>U</th></tr></thead></table>
 | | | | | | | | | | | | Particiones | | Tipo | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr} | SHG | LHG | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Particiones
 | | Tipo | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Altura de muros, ft:
 | Corredor | 0,361 | 165 | 138 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | Puerta Corred 3x19 Vidrio&Metal | 1,17 | 27 | 27 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | Muros espac no acond. | 0,361 | 165 | 165 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | TECHO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | PISO | 0,29 | 225 | 225 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Techo</th> <th>Dir</th> <th>Color</th> <th>U</th></tr></thead></table>
 | | | | | | | | | | | | Techo | | Dir | Color | U | ÁREA | ft² | CLTD | LM | K | CLTDc | F _{corr} | SHG | LHG | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Techo
 | | Dir | Color | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Cielo falso
 | SI | X | NO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | HOR | Oscuro | 0,34 | 225 | 225 | 29 | -1 | 1 | 5,52 | 1 | 33,52 | 0,87 | 2227 | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">RADIACIÓN</th> <th>Dir</th> <th>Sombread Ext</th> <th>SHGF</th> <td>ÁREA</td> <td>ft²</td> <td>Sc</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> <td>CLF</td> </tr> </thead> <tbody> <tr> <td rowspan="5">Ventanas</td> <td>N</td> <td>NO</td> <td>44</td> <td>54</td> <td>54</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>W</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>E</td> <td>NO</td> <td>225</td> <td>48</td> <td>48</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>S</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS EXTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>13445</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | RADIACIÓN | | Dir | Sombread Ext | SHGF | ÁREA | ft² | Sc | CLF | CLF | CLF | CLF | CLF | Ventanas | N | NO | 44 | 54 | 54 | 1 | | | | | | | W
 | N/A | | | | | | | | | | | E
 | NO | 225 | 48 | 48 | 1 | | | | | | | S | N/A | | | | | | | | | | | | | | | | | | |
 | | | | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS EXTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>13445</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | |
 | | | | | | | | | | SUBTOTAL CARGAS EXTERNAS | |
 | | | | | | | | | | | | | | | | | | | | | 13445 | 0 | <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC,
impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | ILUMINACIÓN | | W/ Pie² | Watt
 | Cte. | Fu (perfil) | BF | CLF | %zona | CLF | CLF | PERSONAS | Pers/100Pie² | No. | SHG | CLF | Perfil/Diver | LHG | | | | | 40 | 255 | 1 | 1 | 255 | | |
 | | | EQUIPOS, MOTORES | W/ Pie² | Watt | Cte. | CLF | FU (perfil) | | |
 | | | TV, PC, impresoras | 1000 | 3,41 | 1 | 1 | | | | | |
 | ELECTRODOMEST | SHG | | | | | | | | | | Cafeteras, planchas | LHG | | | | | | | | | | <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr>
</thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | INFILTRACIÓN | | S/N | Cambios/h | Cte. Sensib | Cte. Latente
 | CFM Infil. | ΔT | AF | ΔW, gr/lb | CLF | CLF | | 1 | | 1,1 | 0,68 | 34 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | | 0,87
 | 733 | 2536 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | |
 | | | | | | | | SUBTOTAL CARGAS INTERNAS | | | | | | | | | | | | | | | | | | | | | | | 14257 | 12736 |
 | | | | | | | | | | | 27702 | 12736 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th>
<th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO DE SUM. | | | | | | | | | | | | | | | | | | | | | | | ΔT _{s,d} | 1
 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | FUGAS DE AIRE, 5% | | | |
 | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT.
(DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td>
<td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | |
 | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF
 | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | | | | | | | | | | | | | |
 | | | ΔT _{r,d} | 0,25 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | PLENUM, 8% | | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td
colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O=
 | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | |
 | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RADIACIÓN
 | | Dir | Sombread Ext | SHGF | ÁREA | ft² | Sc | CLF | CLF | CLF | CLF | CLF | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Ventanas
 | N | NO | 44 | 54 | 54 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | W | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | E | NO | 225 | 48 | 48 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | S | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS EXTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>13445</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | SUBTOTAL CARGAS EXTERNAS | | | | | | | | | | | | | | | | | | | | | | | 13445 | 0 | <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | | | | | | | | | | ILUMINACIÓN |
 | W/ Pie² | Watt | Cte. | Fu (perfil) | BF | CLF | %zona | CLF | CLF | PERSONAS | Pers/100Pie² | No. | SHG | CLF | Perfil/Diver | LHG | | | | | 40 | 255 | 1 | 1 | 255 | | | | | | EQUIPOS, MOTORES | W/ Pie²
 | Watt | Cte. | CLF | FU (perfil) | | |
 | | | | TV, PC, impresoras | 1000 | 3,41 | 1 | 1 | | | |
 | | | ELECTRODOMEST | SHG | | | | | | | | | | Cafeteras, planchas | LHG | | | | | | | |
 | | <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | | | | | | | | | | INFILTRACIÓN |
 | S/N | Cambios/h | Cte. Sensib | Cte. Latente | CFM Infil. | ΔT | AF | ΔW, gr/lb | CLF | CLF | | 1 | | 1,1 | 0,68 | 34 | 21 | 0,963 | 114,79 | | | | | | |
 | | | | | | | | 0,87 | 733 | 2536 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead>
<tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS INTERNAS |
 | | | | | | | | | | | | | | | | | | | | | | 14257 | 12736
 | | | | | | | | | | | | 27702 | 12736 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | GANANCIA SENSIBLE DUCTO DE SUM. | | | | | | | | | | | | | | | | | | | | |
 | | ΔT _{s,d} | 1 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr>
<tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | FUGAS DE AIRE, 5% | | | | | | | | | | | | | | | | | | | | |
 | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | |
 | | | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr>
</thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | |
 | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | |
 | | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td>
<td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | |
 | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | PLENUM, 8% | | | | |
 | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075
 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | |
 | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | |
 | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBTOTAL CARGAS EXTERNAS
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 13445 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">ILUMINACIÓN</th> <th>W/ Pie²</th> <th>Watt</th> <th>Cte.</th> <th>Fu (perfil)</th> <th>BF</th> <th>CLF</th> <th>%zona</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td rowspan="2">PERSONAS</td> <td>Pers/100Pie²</td> <td>No.</td> <td>SHG</td> <td>CLF</td> <td>Perfil/Diver</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td>255</td> <td>1</td> <td>1</td> <td>255</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EQUIPOS, MOTORES</td> <td>W/ Pie²</td> <th>Watt</th> <th>Cte.</th> <th>CLF</th> <th>FU (perfil)</th> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TV, PC, impresoras</td> <td>1000</td> <td>3,41</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRODOMEST</td> <td>SHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cafeteras, planchas</td> <td>LHG</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | ILUMINACIÓN | | W/ Pie² | Watt | Cte. | Fu (perfil) | BF | CLF | %zona | CLF | CLF | PERSONAS | Pers/100Pie² | No. | SHG | CLF | Perfil/Diver | LHG | | | | | 40 | 255 | 1 | 1 | 255
 | | | | | | EQUIPOS, MOTORES | W/ Pie² | Watt | Cte. | CLF | FU (perfil) |
 | | | | | TV, PC, impresoras | 1000 | 3,41 | 1 | 1 | | | | | | | ELECTRODOMEST | SHG | | | | | | | | | | Cafeteras, planchas | LHG | | | |
 | | | | | | <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td>
<td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | INFILTRACIÓN
 | | S/N | Cambios/h | Cte. Sensib | Cte. Latente | CFM Infil. | ΔT | AF | ΔW, gr/lb | CLF | CLF | | 1 | | 1,1 | 0,68 | 34 | 21 | 0,963 | 114,79 | | |
 | | |
 | | | | | | | | | 0,87 | 733 | 2536 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th
colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS INTERNAS | | | | | | | | | | | | | |
 | | | | | | | | | 14257 | 12736 |
 | | | | | | | | | | | 27702 | 12736 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td>
<td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO DE SUM. | | | | | | | | | | |
 | | | | | | | | | | | | ΔT _{s,d} | 1 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr>
<th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | FUGAS DE AIRE, 5% | | | | | | | | | | | | | | | | | |
 | | | | | S/N | N | 0
 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | | | | | | | | | | | |
 | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | | | | | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table>
</td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF
 | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | |
 | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | | | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N
 | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | PLENUM, 8% | | | | |
 | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | |
 | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | | | | | | | | | | | | | |
 | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | | | | | | | | | | | | | | | | | | | | | 1
 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | |
 | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ILUMINACIÓN
 | | W/ Pie² | Watt | Cte. | Fu (perfil) | BF | CLF | %zona | CLF | CLF | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| PERSONAS
 | Pers/100Pie² | No. | SHG | CLF | Perfil/Diver | LHG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | 40 | 255 | 1 | 1 | 255 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| EQUIPOS, MOTORES
 | W/ Pie² | Watt | Cte. | CLF | FU (perfil) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| TV, PC, impresoras
 | 1000 | 3,41 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| ELECTRODOMEST
 | SHG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| Cafeteras, planchas
 | LHG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">INFILTRACIÓN</th> <th>S/N</th> <th>Cambios/h</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM Infil.</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td></td> <td>1,1</td> <td>0,68</td> <td>34</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0,87</td> <td>733</td> <td>2536</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | INFILTRACIÓN | | S/N | Cambios/h | Cte. Sensib | Cte. Latente | CFM Infil. | ΔT | AF | ΔW, gr/lb | CLF | CLF | | 1 | | 1,1 | 0,68 | 34 | 21 | 0,963 | 114,79 | | | | | |
 | | | | | | | | | 0,87 | 733 | 2536 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td>
<td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS INTERNAS | | | | | | | | | | | | | | | | | | | |
 | | | 14257 | 12736 | |
 | | | | | | | | | | 27702 | 12736 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td
colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO DE SUM. | | | | | | | | | | |
 | | |
 | | | | | | | | | ΔT _{s,d} | 1 | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | FUGAS DE AIRE, 5% | | | | | | | | | | | |
 | | | | | | | | | | | S/N
 | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | | | | | | | | |
 | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | | | | | | | | | | | | |
 | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736
 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | |
 | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | |
 | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | | | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N | N | 0
 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | PLENUM, 8% | | | | | | |
 | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | | | |
 | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | |
 | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td>
<td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | |
 | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| INFILTRACIÓN
 | | S/N | Cambios/h | Cte. Sensib | Cte. Latente | CFM Infil. | ΔT | AF | ΔW, gr/lb | CLF | CLF | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | 1 | | 1,1 | 0,68 | 34 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 0,87 | 733 | 2536 | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS INTERNAS</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>14257</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>27702</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | SUBTOTAL CARGAS INTERNAS | | | | | | | | | | | | | | | | | | | | | | | 14257 | 12736 | |
 | | | | | | | | | | 27702 | 12736 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td>
<td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO DE SUM. | | | | | | | | | | | | | | | | | | | |
 | | | ΔT _{s,d} | 1 | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | |
 | | FUGAS DE AIRE, 5% | | | | | | | | | | | | | | | | | | | | |
 | | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | |
 | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8
 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | | | |
 | | | | | | | | | SUBTOTAL CARGAS DE ZONA | | | |
 | | | | | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | |
 | | | | | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT
 | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead>
<tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | |
 | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | | | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td>
<td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | PLENUM, 8% |
 | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | | | | | | | |
 | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | | | | | | | | | | |
 | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | |
 | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | |
 | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | | | | | | | | | | | | | | |
 | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | |
 | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th
colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBTOTAL CARGAS INTERNAS
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 14257 | 12736 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 27702 | 12736 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO DE SUM.</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{s,d}</td> <td>1</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO DE SUM. | | | | | | | | | | | | | | | | | | | | | | | ΔT _{s,d} | 1 | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | |
 | | FUGAS DE AIRE, 5% | | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | |
 | | | | | |
 | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | |
 | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | |
 | | | | | | | | SUBTOTAL CARGAS DE ZONA | | | |
 | | | | | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | |
 | | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib
 | Cte. Latente | CFM vent | ΔT | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68
 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | |
 | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | |
 | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | |
 | | PLENUM, 8% | | | | |
 | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH)
 | | | | | | | | | | | | |
 | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | |
 | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O=
 | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | |
 | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | |
 | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | |
 | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | |
 | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GANANCIA SENSIBLE DUCTO DE SUM.
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | ΔT _{s,d} | 1 | S/N | N | 0 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">FUGAS DE AIRE, 5%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | FUGAS DE AIRE, 5% | | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td>
<td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. (DRAW THROUGH)
 | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th>
</tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | |
 | | |
 | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT
 | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | |
 | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | |
 | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | |
 | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | PLENUM, 8% | | | | | | | |
 | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH)
 | | | | | | | |
 | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | |
 | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | |
 | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) |
 | | | | | | | | | | | | | | | | | | | |
 | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | |
 | | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | |
 | | | | | | | | | | | | | 29256 | 12736 | | | | | |
 | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | |
 | | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FUGAS DE AIRE, 5%
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | S/N | N | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. (DRAW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>S</td> <td>1553</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | GANANCIA SENS. VENT. (DRAW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2
 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | | | | |
 | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT
 | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | |
 | | |
 | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | |
 | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | | | | | | | | | | | | | | | |
 | ΔT _{r,d} | 0,25 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | |
 | | | | | | | PLENUM, 8% | | | | | |
 | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | |
 | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO |
 | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | |
 | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | |
 | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | | |
 | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | |
 | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO |
 | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | |
 | | TOTAL | | | | | | | | | | | | | | | | | |
 | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GANANCIA SENS. VENT. (DRAW THROUGH)
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | S | 1553 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ZONA</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | SUBTOTAL CARGAS DE ZONA | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | | | | | | | | | | VENTILACIÓN |
 | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | |
 | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | |
 | | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | |
 | | | | | | | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N
 | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td
colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | PLENUM, 8%
 | | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr>
</tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | |
 | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | | | |
 | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | |
 | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | |
 | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) |
 | | | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | |
 | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | |
 | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | |
 | | | | | | | | | | | | | | | | | 29256 | 12736 | |
 | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | |
 | | | | | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBTOTAL CARGAS DE ZONA
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">VENTILACIÓN</th> <th>S/N</th> <th>CFM/Persona</th> <th>Cte. Sensib</th> <th>Cte. Latente</th> <th>CFM vent</th> <th>ΔT</th> <th>AF</th> <th>ΔW, gr/lb</th> <th>CLF</th> <th>CLF</th> </tr> </thead> <tbody> <tr> <td></td> <td>N</td> <td>5</td> <td></td> <td>1,1</td> <td>0,68</td> <td>200</td> <td>21</td> <td>0,963</td> <td>114,79</td> <td></td> <td></td> </tr> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | VENTILACIÓN | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF | ΔW, gr/lb | CLF | CLF | | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | |
 | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | | | | | | | | | | | | | | |
 | | ΔT _{r,d} | 0,25 | S/N | N | 0
 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | |
 | PLENUM, 8% | | | | | | | | | | | | | | | | | | | | | |
 | S/N | N | 0
 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | |
 | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O=
 | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | |
 | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | |
 | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538
 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) |
 | | | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | |
 | | | | | | |
 | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | |
 | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | |
 | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | |
 | | | | | | | TOTAL | | | | | | | | | | | | |
 | | | | | | | | | | 32181 | 14010 | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VENTILACIÓN
 | | S/N | CFM/Persona | Cte. Sensib | Cte. Latente | CFM vent | ΔT | AF | ΔW, gr/lb | CLF | CLF | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | N | 5 | | 1,1 | 0,68 | 200 | 21 | 0,963 | 114,79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE DUCTO RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>ΔT_{r,d}</td> <td>0,25</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | GANANCIA SENSIBLE DUCTO RETORNO | | | | | | | | | | | | | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | |
 | | PLENUM, 8% | | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | |
 | | | | | |
 | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | |
 | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> |
 | | |
 | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | |
 | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | |
 | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | | | | | | | |
 | | | | | | | | | | | | | 1 | % | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | |
 | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | |
 | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | |
 | | | | | | |
 | | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | |
 | | | | | | | TOTAL | | | | | |
 | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GANANCIA SENSIBLE DUCTO RETORNO
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | ΔT _{r,d} | 0,25 | S/N | N | 0 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">PLENUM, 8%</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | PLENUM, 8% | | | | | | | | | | | | | | | | | | | | | | | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH)
 | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th
colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | |
 | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N
 | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td>
<td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)
 | | | | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | |
 | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | |
 | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | |
 | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | |
 | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | |
 | | | | | | | TOTAL
 | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | |
| PLENUM, 8%
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | S/N | N | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENS. VENT. SUM. (BLOW THROUGH)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>2</td> <td>ΔT_{r,d}</td> <td>0,9075</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | GANANCIA SENS. VENT. SUM. (BLOW THROUGH) | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2
 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1
 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th
colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)
 | | | | | | | | | | | | | | | | | | | | | | | 1
 | % | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | |
 | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | | | | | | 0 | 0
 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | | | | | | | |
 | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | |
 | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | |
 | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | | | TOTAL |
 | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| GANANCIA SENS. VENT. SUM. (BLOW THROUGH)
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 2 | ΔT _{r,d} | 0,9075 | S/N | N | 0 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE VENTILADOR RETORNO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>Eff=</td> <td>0,8</td> <td>ΔP, °H₂O=</td> <td>1</td> <td>ΔT_{r,d}</td> <td>0,4538</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | GANANCIA SENSIBLE VENTILADOR RETORNO | | | | | | | | | | | | | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1
 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table> | | | | | |
 | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | | | | | | | | | | | | | | | | | | | | | 1 | % | S/N
 | N | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | |
 | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | |
 | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | |
 | | |
 | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | |
 | | | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | |
 | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | |
 | | | | | | | | TOTAL | | | | |
 | | | | | | | | | | | | | | | | | | 32181 | 14010 | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | |
| GANANCIA SENSIBLE VENTILADOR RETORNO
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | Eff= | 0,8 | ΔP, °H ₂ O= | 1 | ΔT _{r,d} | 0,4538 | S/N | N | 0 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>1</td> <td>%</td> <td>S/N</td> <td>N</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table></td></tr></tbody></table>
 | | | | | | | | | | | | GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%) | | | | | | | | | | | | | | | | | | | | | | | 1 | % | S/N | N
 | 0 | <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table> | | | | | | | | | |
 | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> | | | |
 | | | | | | |
 | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | |
 | | | | | | | | | | | | 29256 | 12736 | | | | | | | | | |
 | | 2926 | 1274
 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> | | | | | | | | | | |
 | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| GANANCIA SENSIBLE BOMBAS DE AGUA CHILLERS, (1% - 2%)
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 1 | % | S/N | N | 0 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> </td></tr></tbody></table>
 | | | | | | | | | | | | SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table> |
 | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO |
 | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | | | | | | | |
 | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> |
 | | | | | | | | | | | TOTAL |
 | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| SUBTOTAL CARGAS DE ENFRIAMIENTO DEL EQUIPO
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">TOTAL CARGAS DE ENFRIAMIENTO</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>29256</td> <td>12736</td> </tr> <tr> <td colspan="11"></td> <td>2926</td> <td>1274</td> </tr> <tr> <td colspan="12"> <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table> </td> </tr> </tbody></table>
 | | | | | | | | | | | | TOTAL CARGAS DE ENFRIAMIENTO | | | | | | | | | | | | | | | | | | | | | | | 29256 | 12736 | |
 | | | | | | | | | | 2926 | 1274 | <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table>
 | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | | |
 | | | | 32181 | 14010 | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| TOTAL CARGAS DE ENFRIAMIENTO
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 29256 | 12736 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 2926 | 1274 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="12">TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="11"></td> <td>32181</td> <td>14010</td> </tr> </tbody> </table>
 | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | | | | | | | | | 32181 | 14010 | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
| TOTAL
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |
|
 | | | | | | | | | | | 32181 | 14010 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | |
 | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | | | | | | | | | |

Nota: Elaboración propia

4.2. Diseño de la lógica de control y funcionamiento.

Cómo parte de la propuesta se realiza el diseño de una lógica de control de funcionamiento que permita combinar la selección optima del equipo HVAC calculado en la sección anterior con una lógica de control y funcionamiento que permita garantizar las condiciones óptimas de funcionamiento, aportando un ahorro energético e impactando ambientalmente con su eficiencia.

Siguiendo el ejemplo de aplicación estudiado en la sección anterior, se tomará como muestra el salón de clases analizados, según los cálculos se recomienda un equipo Split o Casete con capacidad de 50.800 KBTUH esto garantizando un factor de seguridad del 10% aunque comercialmente se encuentran equipos desde los 48KBTU hasta los 54KBTU.

Para este ejemplo en particular se ha seleccionado un equipo de 52000 BTUh tipo casete. Se diseñará el sistema de control enfocado en eficiencia energética, confort térmico y control inteligente. Se observa el paso a paso para la selección de componentes, diseño de planos, programación lógica, funcionamiento, y recomendaciones de instalación.

4.2.1 Selección de componentes

Para los sensores de funcionamiento se requieren sensores de temperatura, humedad y sensores de presencia de personal, esto permitirá que el salón se adapte a las condiciones de confort conforme a la cantidad de personas que ocupen el recinto, para este caso el salón de clases.

Para ellos se han seleccionado los siguientes componentes descritos en la tabla 7.

Tabla 7

Lista de sensores y microcontrolador requeridos.

<i>Tipo de sensor</i>	<i>Función principal</i>	<i>Modelo sugerido / estándar</i>
<i>Temperatura interior</i>	Medir temperatura ambiente	DHT22, SHT31, PT100
<i>Humedad relativa interior</i>	Medir humedad del aire	DHT22, SHT31
<i>Temperatura exterior</i>	Activar ventilación natural si es viable	DS18B20, PT100
<i>Sensor de presencia</i>	Detectar ocupación	PIR HC-SR501, radar Doppler
<i>Microcontrolador</i>	Ejecutar lógica de control	ESP32

Nota: Elaboración propia

Tabla 8:

Relés y actuadores

<i>Tipo</i>	<i>Función principal</i>	<i>Modelo sugerido</i>
<i>Relé de estado sólido</i>	Encender/apagar compresor o ventilador	SSR-40DA, Omron G3MB
<i>Válvula de expansión electrónica</i>	Modulación de refrigerante	Danfoss ETS series
<i>Ventiladores zonales</i>	Distribución de aire	Controlados por PWM

Nota: Elaboración propia

Tabla 9

Lista de componentes para el sistema.

<i>Componente</i>	<i>Modelo recomendado</i>
<i>Sensor temp. y humedad interior</i>	SHT31-D
<i>Sensor CO₂ + temp + humedad</i>	Honeywell C7364A1008
<i>Sensor de presencia PIR</i>	Panasonic EKMB1101111
<i>Sensor de temperatura exterior</i>	DS18B20
<i>Microcontrolador</i>	ESP32-WROOM-32
<i>Relé de estado sólido</i>	Omron G3MB-202P
<i>Válvula de expansión electrónica</i>	Danfoss ETS 6
<i>Pantalla táctil HMI</i>	Nextion NX8048T050
<i>App móvil para control remoto</i>	Blynk IoT Platform

Nota: Elaboración propia

4.2.2 Funcionamiento (lógico – cadena funcional).

Lectura de entradas (cada ciclo):

- Sensor temperatura interior (Ta)
- Sensor humedad relativa interior (RH)
- Sensor temperatura exterior (Te)
- Sensor presencia (PIR o sensor por puerta/IR)
- Sensor CO₂ (SCD30 ó MH-Z19B)
- Señales de seguridad del cassette: presostato alta presión, presostato baja

presión, flotador drenaje, alarma compresora

Cálculo de PMV / decisión

- Calcular PMV real o PMV_proxy (según sensores disponibles)
- Evaluar rangos: $PMV > +0.5 \rightarrow$ enfriar fuerte; $PMV < -0.5 \rightarrow$ reducir enfriamiento; $-0.5..+0.5 \rightarrow$ mantener.

Lógica presencia

- Si presencia == 1 $\rightarrow$ aplicar lógica PMV.
- Si presencia == 0 $\rightarrow$ apagar compresor y ventilador; si $T_e < 28^\circ\text{C}$ y CO_2 OK $\rightarrow$ activar ventilación natural (extractor / vent).

Interlocks & seguridad

- Si presostato alta presión disparado $\rightarrow$ apagar compresor, señal de fallo.
- Si falta agua drenaje $\rightarrow$ alarma y parar compresor.
- Anti-short-cycle: mínimo 180–300 s entre corte/arranque compresor.
- Histeresis PMV: aplicar banda para evitar oscilaciones (ej.: activar en +0.5, apagar en +0.2).

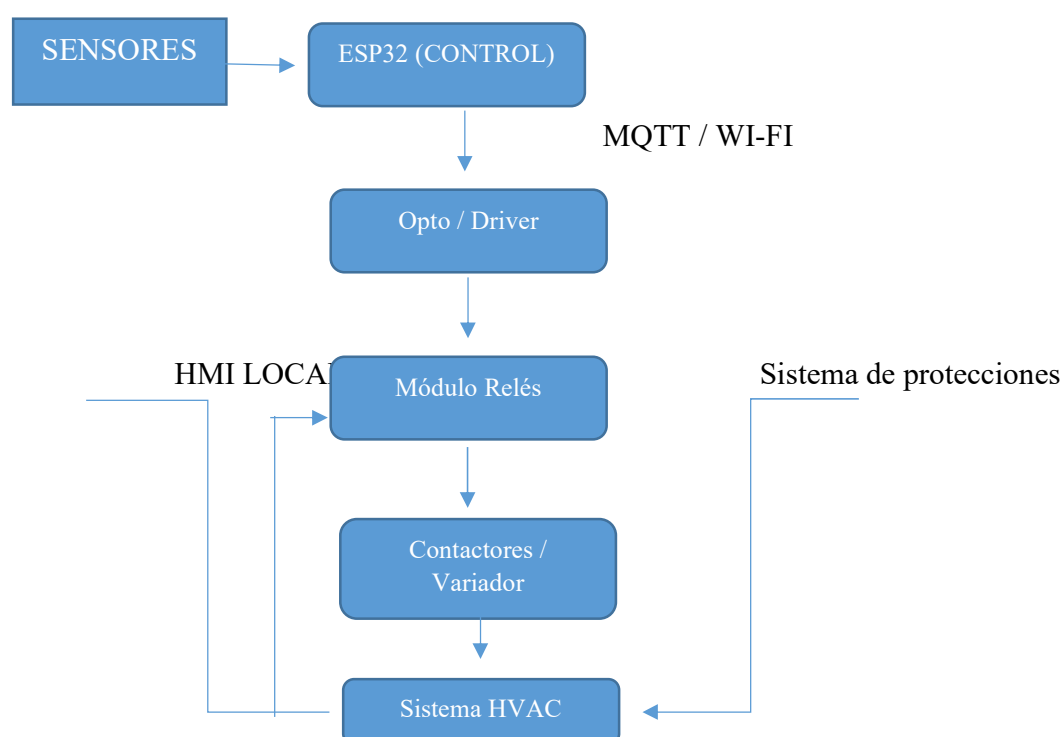
Accionamiento

- Orden ESP32 $\rightarrow$ optoacoplador / driver $\rightarrow$ relé / contactor $\rightarrow$ bobina contactor (24VAC o 230VAC según instal.) $\rightarrow$ compresor.
- Ventilador: relés por pasos (LOW / MED / HIGH) o salida PWM a variador (VFD) si el motor lo admite.
- Ventilación natural: relé para extractor exterior o comando apertura de compuerta.

Telemetría & HMI

- Publicar datos por MQTT / WebServer y permitir control manual remoto con tópicos de control y overrides.

Diagrama eléctrico funcional. (Bloques)



El diagrama representa la arquitectura funcional del sistema de automatización propuesto para los sistemas HVAC, este diseño orienta su funcionamiento hacia la eficiencia energética sin impactar el confort térmico y seguridad de los sistemas, se ha optado por un microcontrolador

ESP32 caracterizado por su eficiencia energética e integran perfectamente conectividad Wi – Fi y Bluetooth.

4.2.1. Algoritmo de control simplificado.

El siguiente algoritmo representa el funcionamiento lógico del sistema de control y se resume de la siguiente manera:

```

if presencia == 1:
    if PMV > +0.5:
        activar_compresor()
        ajustar_ventilador_alta()
    elif PMV < -0.5:
        reducir_enfriamiento()
    else:
        mantener_estado()
else:
    apagar_HVAC()
    activar_ventilación_natural_si_Te < 28°C

```

El cual puede interpretarse de la siguiente manera:

presencia:

Indica si hay personas en el lugar (1 = hay personas, 0 = no hay).

PMV (Predicted Mean Vote):

Es un índice usado en climatización para medir el confort térmico de los ocupantes.

- **PMV > 0.5:** la gente siente calor → se requiere más enfriamiento.
- **PMV < -0.5:** la gente siente frío → se requiere menos enfriamiento.
- **-0.5 ≤ PMV ≤ 0.5:** la gente está comfortable → no se hacen cambios.

Te: temperatura exterior

Si hay personas en el lugar (presencia == 1):

- Si **PMV > 0.5** → significa calor
 - **Se activa el compresor** del aire acondicionado.
 - **Se ajusta el ventilador a velocidad alta** para enfriar más rápido.
- Si **PMV < -0.5** → significa frío →
 - **Se reduce el enfriamiento** para evitar que la gente pase frío.
- Si **-0.5 ≤ PMV ≤ 0.5** → temperatura comfortable →
 - **Se mantiene el estado actual** sin hacer cambios.

Si NO hay personas (presencia ≠ 1):

- **Se apaga el sistema HVAC** para ahorrar energía.
- Si la temperatura exterior es menor a 28 °C →
 - **Se activa la ventilación natural**, aprovechando aire fresco del exterior en lugar de usar aire acondicionado.

4.3 Análisis financiero.

Para realizar un análisis financiero en materia de inversión y retorno de la inversión se procede con conocer un estimado de la inversión del recurso necesario para la instalación de los componentes que hacen parte del sistema de automatización del sistema.

Tabla 10

Inversión inicial

COMPONENTE	COSTO ESTIMADO (USD)
SHT31-D	14
DS18B20	6
SSR OMRON	3.5
NEXTION NX8048T050	83
ESP32 MÓDULO	12
HONEYWELL CO₂ SENSOR	120
PIR EKMB	12
DANFOSS ETS6	200
BLYNK (PLAN MÍNIMO)	25 (promedio)
TOTAL INVERSIÓN ESTIMADA	US\$ 475.5

Nota: Elaboración propia

Se tiene una inversión de Usd 475.05, lo que traduce a la fecha de 2025 en más o menos unos C.O.P 2.000.000 aproximadamente.

Consumo eléctrico estimado del sistema HVAC

Sin automatización

- **Carga térmica estimada:** 9.5 kW ($\approx 32,000$ BTU/h)
- **Funcionamiento promedio diario:** 10 horas
- **Consumo mensual:** $9.5 \text{ kW} \times 10 \text{ h/día} \times 30 \text{ días} = 2,850 \text{ kWh/mes}$

Con automatización

- **Reducción estimada por control inteligente:** 25–35% (por modulación de carga, apagado por ausencia, ventilación natural, etc.)

- **Consumo mensual optimizado:**

$$2,850 \text{ kWh} \times (1 - 0.30) = 1,995 \text{ kWh/}$$

Tarifa eléctrica comercial en Cúcuta (2025)

Según CENS, el costo unitario (CU) para usuarios comerciales es de aproximadamente:

- **Tarifa promedio:** \$980 COP/kWh
- **Contribución comercial (estrato 5–6):** +20%
- **Tarifa final estimada:** $980 \times 1.2 = 1,176 \text{ COP/kWh}$

Tabla 11:*Comparación de costos mensuales*

<i>Sistema</i>	<i>Consumo mensual</i>	<i>Costo mensual (COP)</i>
<i>Sin automatización</i>	2,850 kWh	≈ \$3,351,000
<i>Con automatización</i>	1,995 kWh	≈ \$2,344,620
<i>Ahorro mensual estimado</i>	—	≈ \$1,006,380

Nota: Elaboración propia**Retorno de la inversión (ROI)**

- **Inversión total:** US\$ 475.5 ≈ \$1,900,000 COP
- **Ahorro mensual:** ≈ \$1,006,380 COP
- **Periodo de recuperación (Payback):** $1,900,000 / 1,006,380 \approx 1.89$ meses

Retorno de inversión en menos de 2 meses**Beneficios adicionales**

- Reducción de emisiones indirectas por menor consumo eléctrico.
- Mejora del confort térmico y calidad del aire interior.
- Menor desgaste de equipos HVAC por operación optimizada.

- Posibilidad de integración con energías renovables y monitoreo remoto.

La implementación del sistema de automatización para el equipo HVAC tipo cassette de 52,000 BTU/h representa una inversión estratégica de aproximadamente US\$475, orientada a mejorar la eficiencia energética y el confort térmico en espacios institucionales. El análisis comparativo entre el sistema convencional y el automatizado, aplicado al contexto climático y tarifario de la ciudad de Cúcuta, evidencia un ahorro mensual estimado superior a \$1.000.000 COP, gracias a la modulación inteligente de carga, la gestión por demanda y la integración de sensores ambientales.

Este ahorro permite alcanzar el retorno de la inversión (ROI) en menos de dos meses, lo que convierte la propuesta en una solución altamente rentable y sostenible. Además del beneficio económico directo, el sistema contribuye a la reducción del consumo energético, la prolongación de la vida útil de los equipos HVAC y la mejora de la calidad ambiental interior, alineándose con los principios de eficiencia operativa y responsabilidad energética institucional.

5. CONCLUSIONES.

Este proyecto permitió integrar conocimientos avanzados en climatización, automatización, eficiencia energética y confort térmico, aplicados al diseño de un sistema HVAC inteligente para diversos recintos como salones, auditorios, etc. A lo largo del desarrollo, se consolidó una visión técnica que articula sensores ambientales, lógica de control adaptativa y estrategias de modulación energética, demostrando cómo la ingeniería puede responder de forma precisa y sostenible a las necesidades reales de los usuarios.

La propuesta se distingue por su enfoque innovador frente a soluciones convencionales, al incorporar algoritmos de control basados en demanda, monitoreo en tiempo real, y criterios normativos internacionales como ASHRAE. Esta integración no solo optimiza el consumo energético, sino que también mejora la calidad ambiental interior y la capacidad de gestión técnica del sistema.

Más allá del diseño funcional, el proyecto representa una oportunidad para escalar soluciones inteligentes en climatización, con potencial de aplicación en sectores educativos, comerciales e industriales. El aprendizaje obtenido refuerza la importancia de combinar ingeniería aplicada, análisis de datos y automatización como pilares para la transformación energética y operativa en contextos reales.

6. RECOMENDACIONES.

Para garantizar una continuidad en futuros proyectos manteniendo la línea de la eficiencia energética. Se proponen las siguientes recomendaciones.

1. Validación experimental en campo

Realizar pruebas piloto en ambientes reales (aulas, oficinas, laboratorios) para comparar el desempeño del sistema automatizado frente a configuraciones convencionales. Esto permitirá recopilar datos de consumo, confort térmico y comportamiento del usuario.

2. Integración con energías renovables

Explorar la conexión del sistema HVAC automatizado con fuentes solares fotovoltaicas o bancos de baterías, optimizando el uso de energía limpia y reduciendo la dependencia de la red eléctrica.

3. Desarrollo de algoritmos adaptativos

Implementar modelos de control más avanzados como lógica difusa, redes neuronales o aprendizaje automático para mejorar la respuesta del sistema ante variaciones climáticas y patrones de uso.

4. Escalabilidad a sistemas multisala o multizona

Diseñar versiones del sistema que permitan controlar múltiples zonas térmicas de forma independiente, con sensores distribuidos y lógica de zonificación inteligente.

5. Evaluación del impacto ambiental

Incluir métricas de huella de carbono, reducción de emisiones indirectas y análisis de ciclo de vida para fortalecer el enfoque sostenible del proyecto.

6. Interoperabilidad con sistemas BMS

Estudiar la integración del sistema con plataformas de gestión de edificios (Building Management Systems) mediante protocolos como BACnet, Modbus o KNX.

7. Publicación científica y benchmarking internacional

Comparar tu propuesta con soluciones similares en otros países, publicar resultados en revistas indexadas y participar en congresos de automatización, climatización y eficiencia energética.

8. Diseño de tablero de control industrial

Desarrollar un prototipo físico con distribución de componentes, protecciones eléctricas, etiquetado técnico y manual de instalación para facilitar su implementación en proyectos reales.

REFERENCIAS

- Bharath Sai, S., Srinaath, H., & Sanjunath, S. (2022). A review and analysis of control techniques in HVAC systems. *Sustainability, Agri, Food and Environmental Research*.
Obtenido de https://d1wqtxts1xzle7.cloudfront.net/86807646/2087-libre.pdf?1654060847=&response-content-disposition=inline%3B+filename%3DA_review_and_analysis_of_control_techniq.pdf&Expires=1756828641&Signature=QnlIJwsOBNVzmnx79VL7Jhh1-w2Eyulo-NdXa5GOpVdn5OvgeoeupDV9A
- Albert, J. (25 de Enero de 2023). *Partes de un aire acondicionado*. Obtenido de Clima Mania: https://www.climamania.com/blog/partes-aire-acondicionado/?srsltid=AfmBOoor6owX2eSBWHuNut400Wgt7sp_pPm-8zOpjPQOAeAohZhFAyD9
- Amaya Rondón, C. J. (2024). *Evaluación de la automatización para el ahorro energético en edificios educativos Caso de estudio de la Universidad de La Costa*. Barranquilla: Universidad de la Costa. Obtenido de <https://hdl.handle.net/11323/13292>
- Callejas Ochoa, L. F., Marín Echeverri, M., Puerta Sepúlveda, M. S., Arroyave Molina, V., & Silva Neves, M. (2023). CAMBIO CLIMÁTICO Y CONFORT TÉRMICO EN LA VIVIENDA DE INTERÉS SOCIAL COLOMBIANA. *Revista Hábitat Sustentable*, 13(1). doi:<http://dx.doi.org/10.22320/07190700.2023.13.01.06>

- Correia , P. (2023). Controllo baseado em tecnologias da internet das coisas: melhoria da eficiência energética e conforto em edifícios. *Engenharias, tecnologia, gestão e turismo*, 1-10. doi:<https://doi.org/10.29352/mill0213e.31404>
- El Green Climate Fund (GCF). (2023). *SAP Technical Guidelines: Energy efficiency for industry and appliances*. El Green Climate Fund (GCF). Obtenido de <https://finanzasdelclima.dnp.gov.co/movilizacionrecursos/fondo-verde/oportunidades/Documentos%20compartidos/SAP-EficienciaEnergetica.pdf>
- El Pereirano. (23 de Enero de 2024). Aumento del 47% en ventas de aires acondicionados, impulsado por el fenómeno del Niño. *El Pereirano*. Obtenido de <https://elpereirano.com/2024/01/23/aumento-del-47-en-ventas-de-aire-acondicionados-impulsado-por-el-fenomeno-del-nino/>
- Franco Restrepo, M. A. (2024). *DISEÑO DE UNA ARQUITECTURA DE CONTROL DISTRIBUIDO PARA EL SISTEMA DE AIRE ACONDICIONADO DEL EDIFICIO CENTRAL DE LA UAO*. Cali: Universidad Autonoma de Occidente. Obtenido de <https://red.uao.edu.co/server/api/core/bitstreams/bfe699de-5b68-41d7-a7f2-62b8fc638313/content>
- Giraldo Castañeda, W., Czajkowski, J. D., & Gómez, A. F. (2021). Confort térmico en vivienda social multifamiliar de clima cálido en Colombia. *Revista de Arquitectura (Bogotá)*, 23(1). doi:<https://doi.org/10.14718/revarq.2021.2938>
- Granados Granados, J. E. (2011). *MANUAL DE VENTILACIÓN, REFRIGERACIÓN Y AIRE ACONDICIONADO*. Cúcuta: Universidad Francisco de Paula Santander .

International Energy Agency. (2017). *energy efficiency 2017*. International Energy Agency.

Obtenido de https://iea.blob.core.windows.net/assets/2eed56ff-591a-412a-82f8-5f7eb61831a1/EEMR2017_web.pdf

Jurado , A. (16 de Julio de 2024). *Clima Mania*. Obtenido de ¿Qué efecto tienen los aires acondicionados sobre el medio ambiente?: https://www.climamania.com/blog/que-efecto-tienen-los-aires-acondicionados-sobre-el-medio-ambiente/?srsltid=AfmBOoq8DIaok_0-WQrAqJl2w4z5j7uJCZzRX9p3lmCKfQYhYQ0K6j8w

Macaya Vitaly, P., Guzman Burgos, K., Martinez Soto, A., Polanco Levican, K., & Reyes Riveros, A. (2024). Revisión Sistemática de la integración de modelos BIM-BEM: Análisis Exhaustivo de avances y desafíos para la creación eficiente de modelos energéticos. *IX Congreso Iberoamericano de Gestión y tecnología de la Construcción*. Obtenido de https://eic.pucv.cl/wp-content/uploads/2024/11/ELAGEC_2024_FinalPaper_66.pdf

Marchante Gonzáles, G., & Gonzáles Santos, I. (2021). Evaluación del confort y discomfort térmico. *RIELAC*, 41(3), 21-40. Obtenido de <http://scielo.sld.cu/pdf/eac/v41n3/1815-5928-eac-41-03-21.pdf>

Merida, D. (25 de Enero de 2024). *BMS: qué es y para qué sirve un sistema de gestión de edificios*. Obtenido de CUERVA: <https://cuervaenergia.com/es/comunidad/innovacion/bms-que-es/>

Milani de Quadros, B., & Ordenes Mizgier, M. (2020). Conforto térmico em ambientes de intenação hospitalar naturalmente ventilados. *Associação Nacional de Tecnologia do*

- Ambiente Construido*. Obtenido de
<https://www.scielo.br/j/ac/a/rMByqxcdvQvhJPKpzXgw4Q/?format=pdf&lang=pt>
- Moreno Arrieta, F. J., Vides Herrera, C. A., Ropero Castillo, C. C., Ramón Valencia, J. D., & Ruiz Ayala, D. C. (2025). Sistema para la eficiencia energética en edificaciones educativas utilizando tecnologías IoT. *Prospectiva*, 23(1). Obtenido de
<http://ojs.uac.edu.co/index.php/prospectiva/article/view/3768/2831>
- Orts Cascant, A. (2024). *DISEÑO E IMPLEMENTACIÓN DE UN SISTEMA DE CONTROL DE CLIMATIZACIÓN PARA UN EDIFICIO DE TRES PLANTAS*. Valencia.: Universitat Politècnica de Valencia. Obtenido de
<https://riunet.upv.es/server/api/core/bitstreams/6d0aaa34-0a4b-415e-8b14-1be158945a4d/content>
- Radka, M. (30 de Junio de 2023). Los aires acondicionados exacerban la crisis climática. ¿Cómo la naturaleza puede ayudar? (U. -U. Programme, Entrevistador) Obtenido de
<https://www.unep.org/es/noticias-y-reportajes/reportajes/los-aires-acondicionados-exacerban-la-crisis-climatica-como-la>
- Romero Restrepo, W. A. (2021). *Diseño de un controlador difuso para sistemas de aire acondicionado operando zonas experimentales de confort termico en climas tropicales húmedos*. Barranquilla: Universidad del Norte. Obtenido de
<https://manglar.uninorte.edu.co/bitstream/handle/10584/9181/109632.pdf>
- Rosales, J. (16 de Abril de 2025). *Cómo reducir en un 25% el consumo energético de un hotel sin sacrificar la experiencia*. Obtenido de Fractal:

<https://www.fracttal.com/es/blog/hvac-hotelero-tecnologias-inteligentes-confort-eficiencia-energetica>

Rosales, J. (14 de Abril de 2025). *HVAC explicado: qué es y por qué es importante*. Obtenido de FRACTTAL: <https://www.fracttal.com/es/mantenipedia/hvac-conceptos-tecnicos>

S&P. (5 de Septiembre de 2024). *Sistema HVAC, ¿qué es?* Obtenido de S&P BLOG: <https://www.solerpalau.com/blog/es-es/hvac-que-es/>

Sampieri, H., Collado, F., & Baptista, L. (2022). *Metodología de la investigación*. Mexico D.F: McGraw Hills.

Sayed Kusha, G. (2022). *Biodomótica: optimización de la arquitectura pasiva mediante el uso de las tecnologías de control inteligente y automatización*. Malaga: Universidad de Malaga. Obtenido de <https://hdl.handle.net/10630/26031>

Toala Zambrano, L. A., Vanga Arevalo, M. G., Muñoz Molina, J. G., & Zambrano Quiroz, F. N. (2021). Percepción del Confort Térmico en Conjuntos Residenciales y su Incidencia en la Calidad de Vida. *Revista Lasallista de Investigación*, 18(1), 34-47.
doi:<https://doi.org/10.22507/rli.v18n1a3>

Villamizar, A. (8 de Abril de 2024). Esto le cuesta prender el ventilador y el aire acondicionado, ¿cuánto podría ahorrarse si reduce el uso? *EL COLOMBIANO*. Obtenido de https://www.google.com/search?sca_esv=0e0f0e34ec054157&rlz=1C1ONGR_enCO1093CO1093&sxsrf=AE3TifPxVdhOOeNBcKSOPZoQXqmcyQ1XGw:1754686632911&q=VENTA+DE+AIRE+ACONDICIONADOS+EN+COLOMBIA&tbm=nws&source=lnms&fbs=AIJpHx4nJfGjPVHhEACUHPiMQKBUqzTkgNGGtr-5xqnF46m

Vivanco Collaguazo, J. (2024). *DISEÑO MECÁNICO Y LÓGICA DE CONTROL DE SISTEMAS HVAC PARA EDIFICIO ADMINISTRATIVO CON ENFOQUE EN EFICIENCIA ENERGÉTICA*. Quito: Universidad tecnologica Israel. Obtenido de <http://repositorio.uisrael.edu.ec/bitstream/47000/4078/1/UISRAEL-EC-MASTER-ELEC-AUTOM-PRO-378.242-2024-017.pdf>