

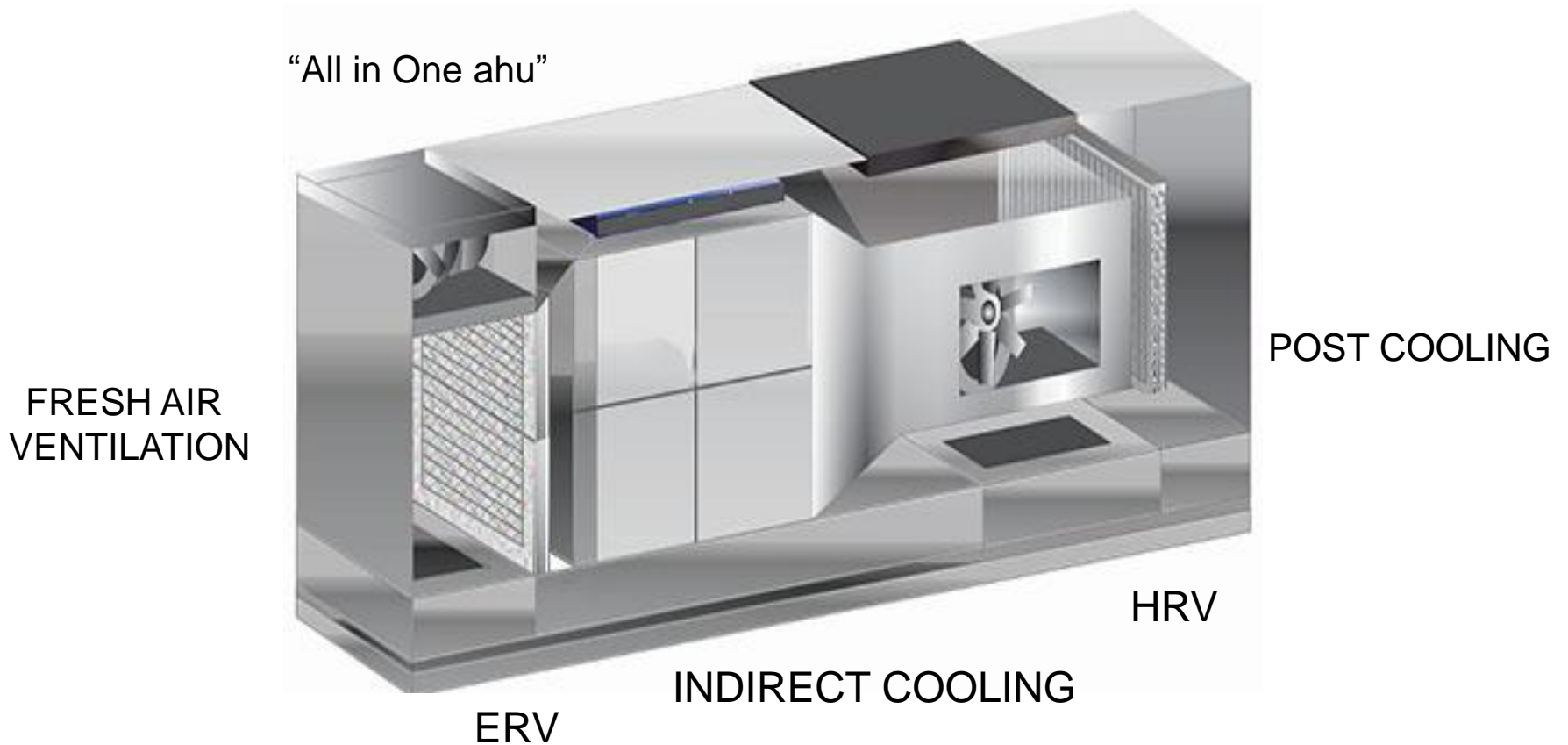
Evolve to the next generation of air conditioning



INDICE

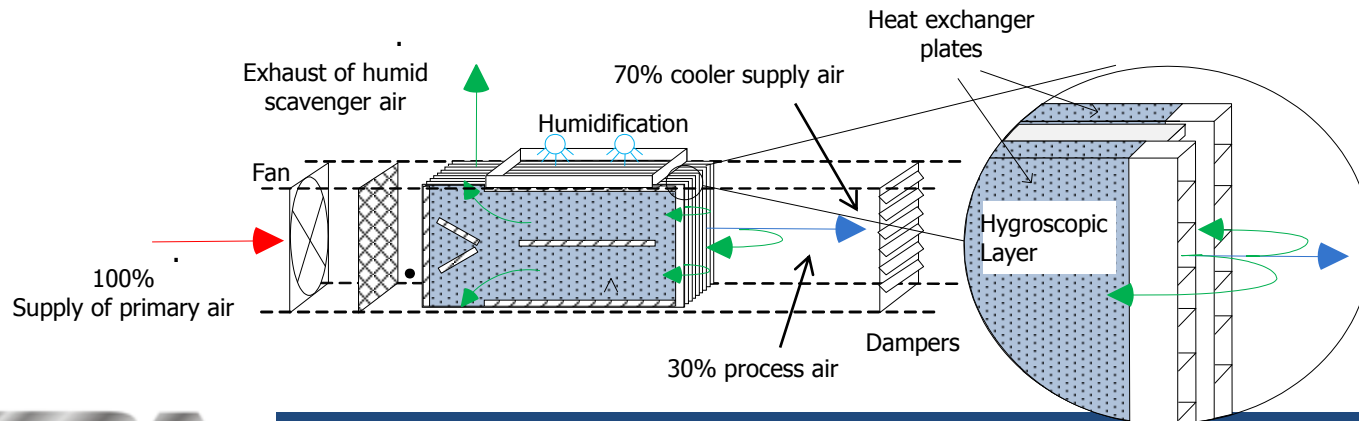
1. PROPUESTA TECNOLOGIA MANEJADORA TODO EN UNO
2. COMO TRABAJA EL CORAZON DE NUESTRA TECNOLOGIA EL INTERCAMBIADOR DE CALOR
3. APLICACIONES
4. CETIFICACIONES
5. BENEFICIOS VALORES AGREGADOS
6. OPERACION DE MANEJADORA DE AIRE
7. MANEJADORA MODULADA EXPANDIBLE
8. COMO NUESTRA TECNOLOGIA PUEDE REMPLAZAR A LAS TECNOLOGIAS CONVECCIONALES
9. EFICIENCIA
10. COP
11. CONTROL, MONITOREO, ACCESO REMOTO

“All in One VIEW” Multifunctional Solo Air Handler Unit – AHU

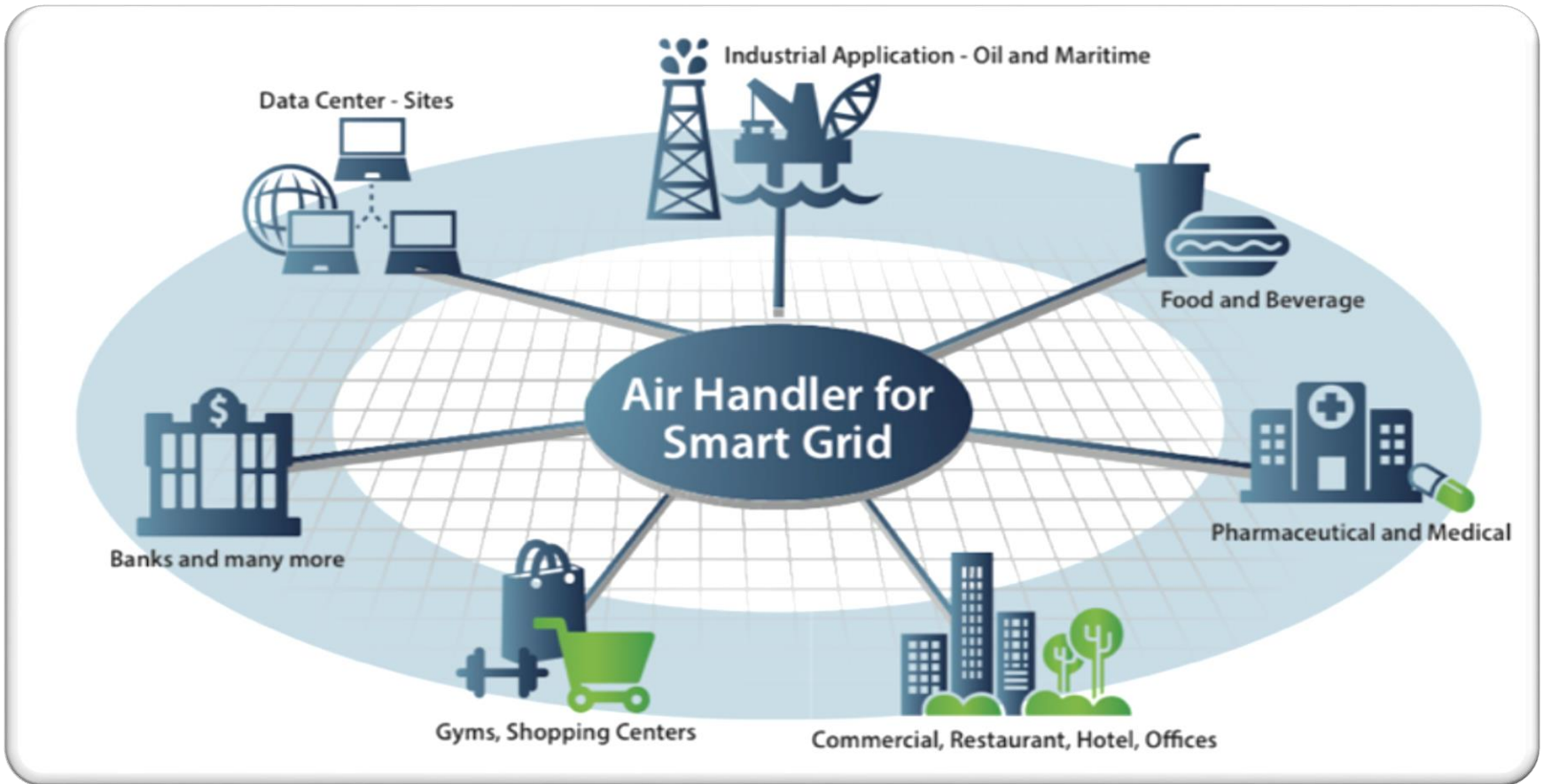


How it works

- XCA is a heat exchanger that forms the core of an air cooling system.
- The heat exchanger consists of proprietary plates made of polypropylene. Inside these plates there are air channels, through which primary air is blown, usually fresh ambient air.
- The outside of the heat exchanger plates are covered with a hygroscopic layer, which is externally moisturized by water. Due to forced evaporation of the water on the surface of the plates energy is extracted and this indirectly cools the air inside the channels.
- 100% primary air is cooled in the heat exchanger, 70% of the cooled air is supplied to the space which needs to be conditioned and a 30% of the cooled air is derived as scavenger air in a counter flow along the hygroscopic layer on the outside of air channels in the heat exchanger.



XCA APPLICATIONS



XTREME COOLING AIR HIGH STANDARDS

- **Friendly to the environment.**
- **Compliance with the most demanding international quality standards**
- **XCA exceeds** the air ventilation rates required by building codes, based on ASHRAE Standard 62.1, while drastically reducing energy consumption and demand.

CERTIFICATIONS



— VDI GERMAN HYGIENIC CERTIFICATION



— FOOD AND DRUG ADMINISTRATION



— Netherlands Organization for Applied Scientific Research



— UL 900 CLASS 2, SMOKE – FIRE RATING



| Multifunctional Air Handler Unit – AHU

HIGHLY EFFICIENT BENEFITS

✓ Energy
Super low energy consumption 95% in energy savings
Super low energy demand KVA's on 15 amps per unit

✓ **ECO FRIENDLY OZONE FRIENDLY , NO REFRIGERANTS**

✓ SMALL FOOT PRINT

✓ **EXPANDABLE, FLEXIBLE, ROBUST**

✓ ADAPTABLE CONFIGURABLE DESIGN

✓ **MINIMUM MAINTENANCE**

✓ MOST EFFICIENT ALL IN ONE AHU INCLUDES
ECONOMIZER, ENERGY RECOVERY, HEAT RECOVERY

✓ **SMART BUILT IN BUILDING AND ENERGY MANAGEMENT SYSTEM INTEGRATED**

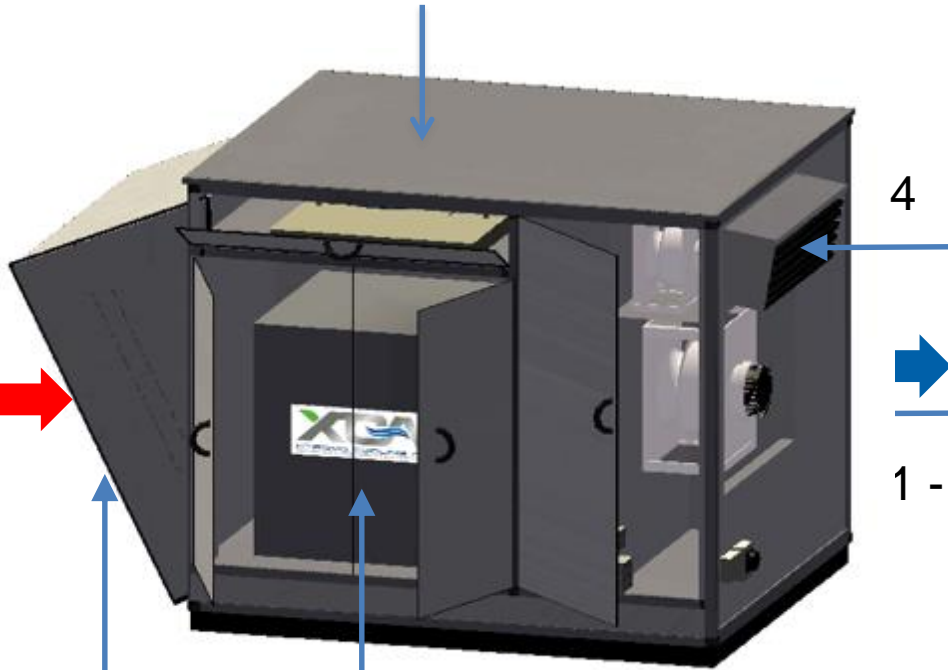
✓ VARIABLE- MULTIFUNCTIONAL - SMART

Proven Technology

HOW IT WORKS

MULTIFUNCTIONAL SOLO COOLING SYSTEM

4 - Water section



1 - Fresh Air

2 - Filter section

3 - One heat exchanger

1. Fresh Air – Outside hot air is drawn into the heat exchanger

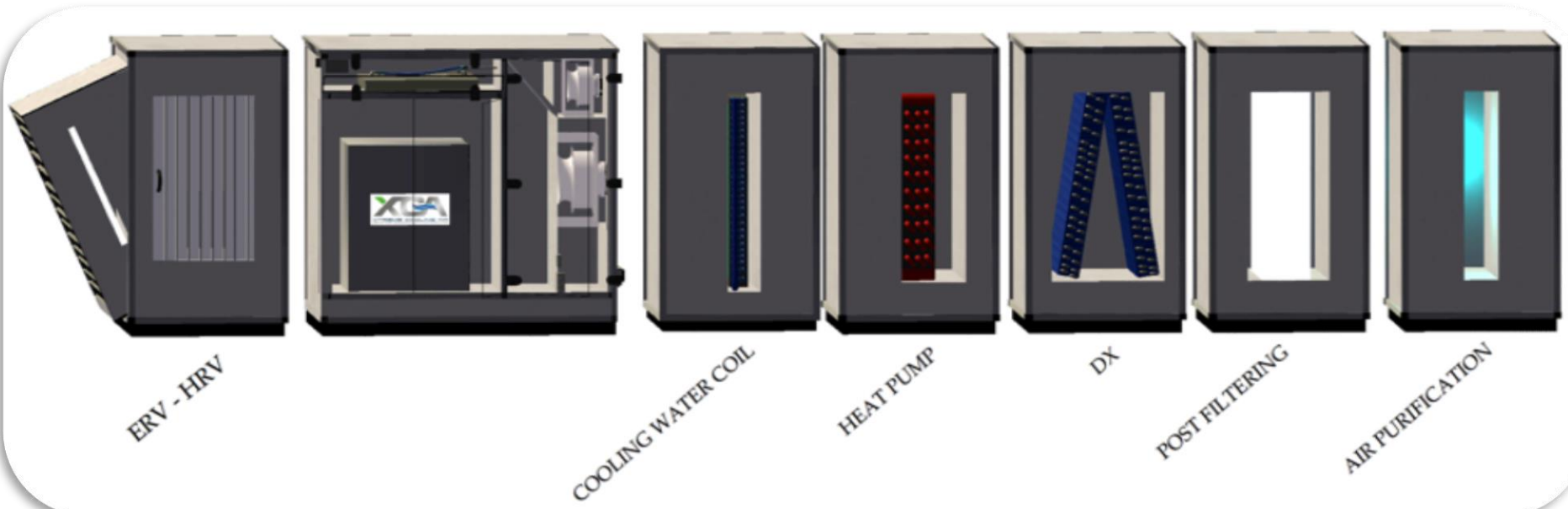
2. Filter Section – Air is filter and particles are remove

3. Heat Exchanger – Forms the core of our air cooling system process. By replacing the compressors in a convectional air conditioning system

4. Process Air & Water – 30% of the cooled air is derived as scavenger air in a counter flow along the hygroscopic layer on the outside of air channels in the heat exchanger

5. Conditioned Air – 100% primary air is cooled in the heat exchanger without adding humidity to it

“All in One” Air Handler Size & OPTIONS



MODULAR AHU DPC SIZES

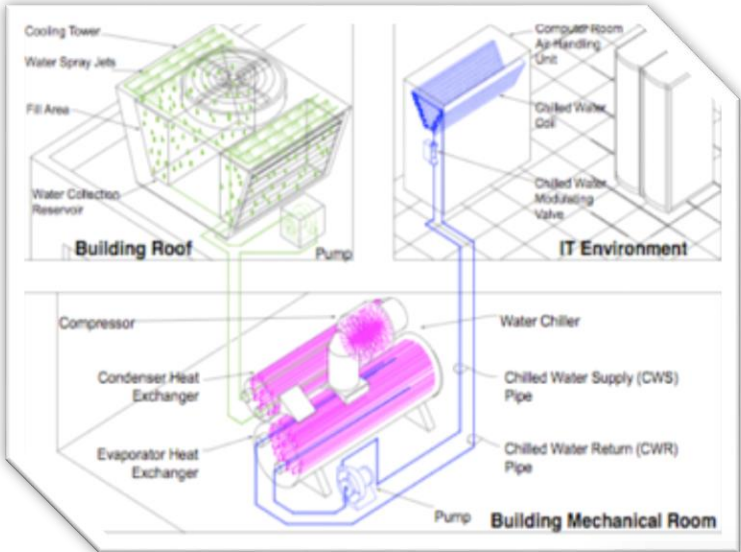
Model	Tons	Air Volume
Model 4000	6 Tons	2400 CFM
Model 8000	15 Tons	5000 CFM
Model 12000	20 Tons	7500 CFM

CUSTOM AHU DPC SIZES

Model	Tons	Air Volume
Model 8000	15 Tons	5000 CFM
Model 12000	20 Tons	10000 CFM

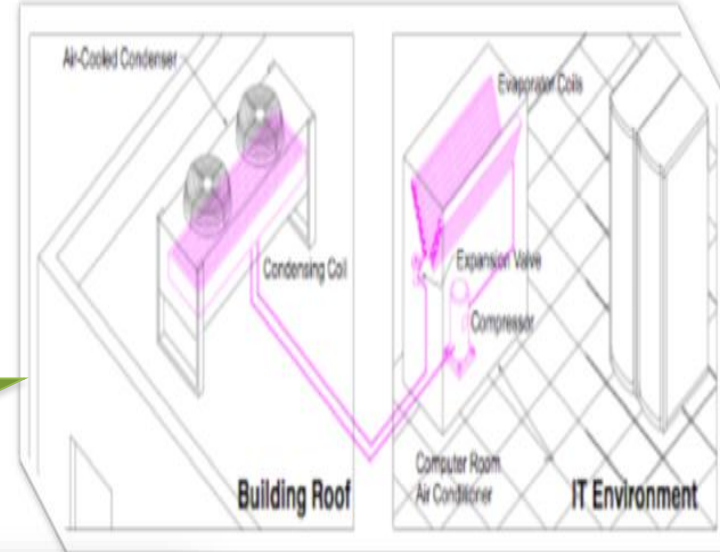


XTREME COOLING AIR CAN REPLACED ALL CONVENTIONAL TECHNOLOGIES



**COMPLETE CONVENTIONAL
WATER CHILLER SYSTEM**

REPLACE A COMPLETE
CONVENTIONAL WATER
CHILLER SYSTEM
OR
AIR COOL DX SYSTEM FOR
**ONLY ONE HIGH EFFICIENT
MULTIFUNCTIONAL SOLO
AIR HANDLER UNIT**

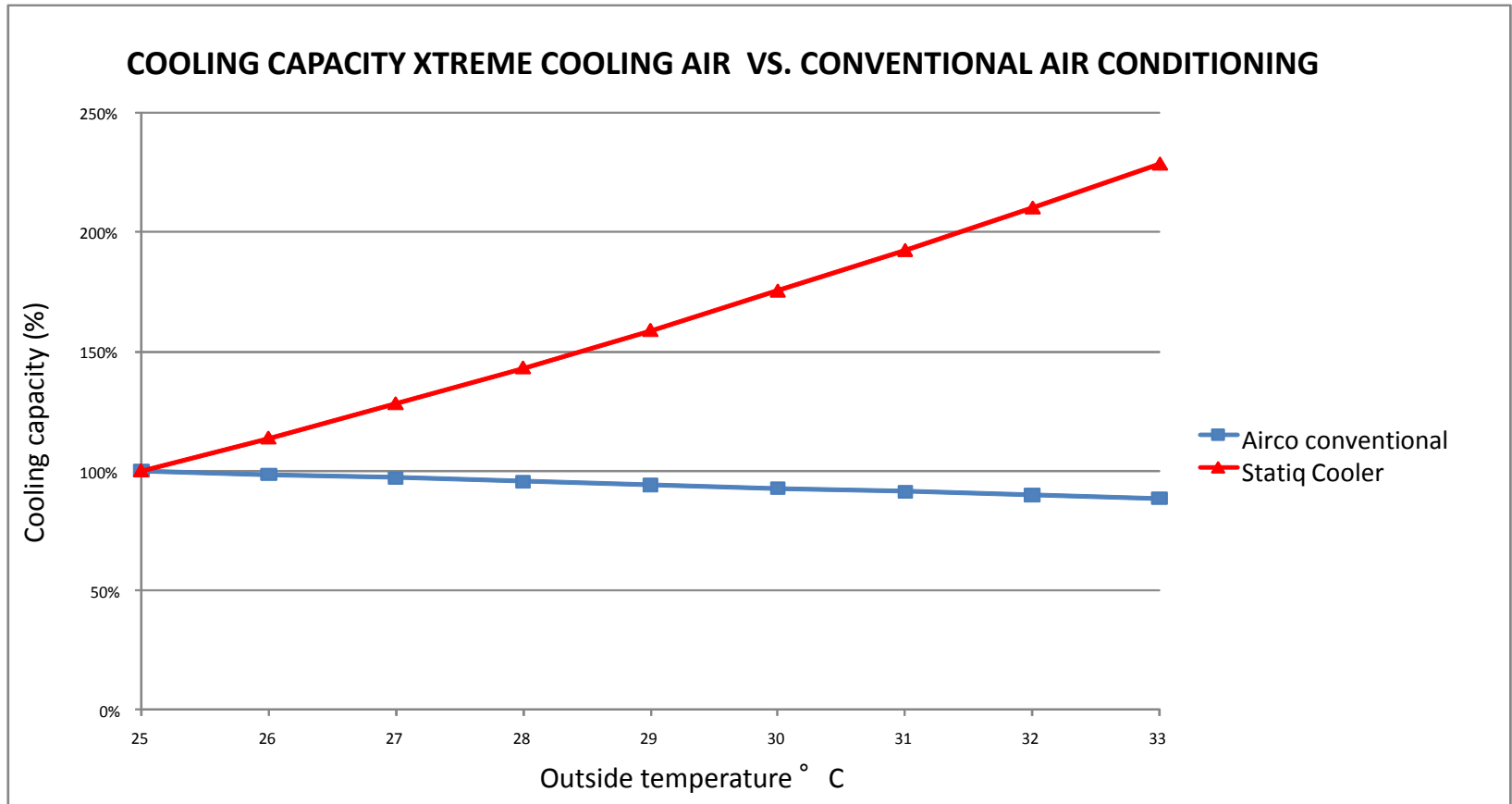


**COMPLETE CONVENTIONAL
AIR COOL DX SYSTEM**



**HIGH EFFICIENT ALL IN ONE
AIR HANDLER UNIT
MULTIFUNCTIONAL SOLO SYSTEM**

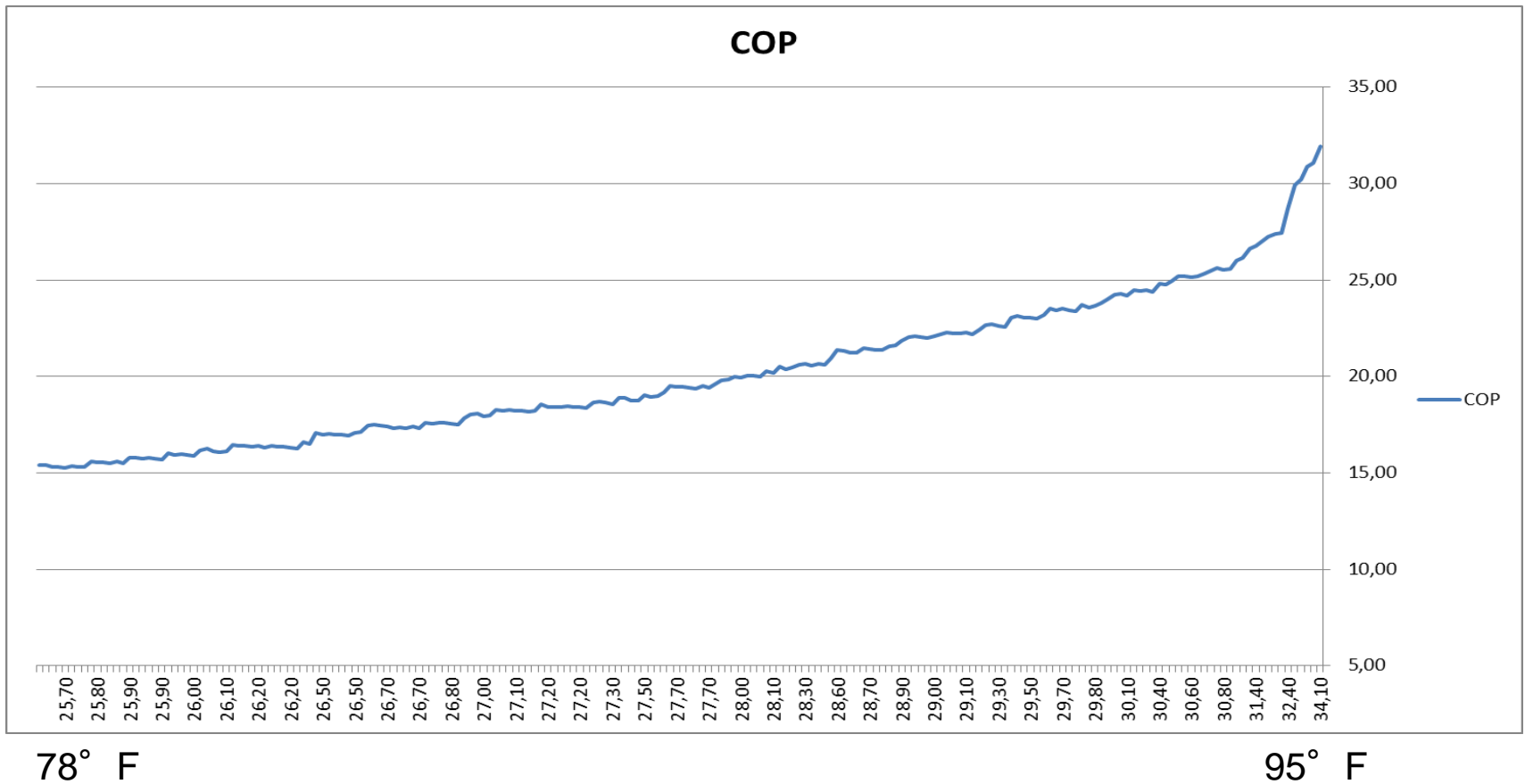
XTREME COOLING AIR MORE COOLING CAPACITY AND EFFICIENCY



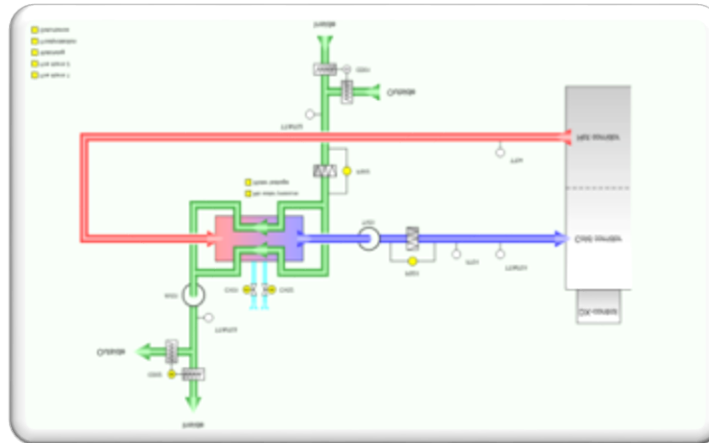
XTREME COOLING AIR

COP increases as the cooling capacity rises

Coefficient of Performance



DYNAMIC CONTROL & MONITORING SYSTEM



Controller, main functions

- Pre-programmed module based on a compact platform per air handling unit
- Working stand alone per AHU, connection to DC information system is possible
- Adjustable set point for cold **and** hot corridor
- Automatic switch from ventilation, cooling, post cooling
- Automatic water supply management
- Pre-programmed additional humidification of air function
- Pre-programmed additional DX or cold water cooling function

CASOS DE ESTUDIO VELIDADOS

•Extremadamente Rentable

- Nuestra solución te ofrece un ahorro del 90% en consumo de energía
- Un consumo por de 0.2 kw/ton
- Un costo operativo muy rentable \$80 usd por hora por 500 toneladas

•Atractivo - Recupera tu Inversión:

- Un retorno de inversión menor a los 3 años
- Ofrece un IRR mayor al 20%
- Representa una inversión inicial menor en comparación a un sistema chiller de agua helada
- Lo cual representa 7 millones de dólares en ahorros operaciones

•Certificaciones –Altamente ECO amigable"

- Certificación Alemana VDI 6022 altamente higiénica y altamente eficiente
- Fabricada con materiales aprobados por la FDA
- No usa refrigerantes, ni compresores, elimina las emisiones gases refrigerantes
- Reduce drásticamente los contaminantes de CO2

Smart DC, cooling of a datacenter



Data centers deliver their services day and night, which means that the cooling technology used must be available at all times. However, as a provider that attaches great importance to sustainability, SmartDC wanted to achieve more.

The XCA air conditioning system, was a perfect fit with that objective, says Richard Boogaard, SmartDC's managing director. "We are very happy with the performance of this cooling concept. Not only because the cooling system is always available, but also because the solution is both very energy efficient and environmental friendly.

This solution offer us substantial advantages, our experiences with this cooling concept are positive. So good in fact, that we will apply it to the all areas and expansions of our Datacenters"

SmartDC improved its reliability and profits by the installation of air cooling based on the StatiqCooler:

- Very high reliability due to the simplicity of the design
- Low operational cost for energy and maintenance
- Very low impact on the environment



Hotraco Horst | Modern office space



Hotraco is market leader in the development and production of measuring and controlling equipment. The company built a new office with the latest technologies. XCA fitting to optimized the working environment at all weather conditions.

Hotraco optimize the climate in the office with the installation of XCA:

- Optimized ventilation and exhaust of warm air
- A comfortable working climate inside on warm days



Community Deventer | Gyms



In Deventer, The Netherlands in the multi functions building "De Vijfhoek" containing a school, a day-care and two gyms was realized. Three out of the four walls of the gyms are made of glass and the temperature on warm days rose up to 45°C / 115 °F. Free cooling alone not bring the required cooling capacity and conventional air conditioning was not an option due to the limited power available. XCA offered the solution, with the supply cooled air at a ventilation rate of 5, without significant increase of energy consumption.



The government of Deventer provided a solution by the installation of XCA for the gyms which were too warm:

- Control of the temperature on warm days
- Acceptable energy consumption and burden on the environment
- Increase of the usable hours of the gyms



SWB Hengelo, Production plants



SWB Hengelo wanted to improve the ventilation in its workplaces with the additionally desire to keep the temperature comfortable during the year.

XCA offers an option with heat recovery provides a comfortable climate the whole year round.



With XCA - SWB Hengelo fulfilled the desires of the management and personnel:

- Optimal ventilation in het whole building
- Comfortable climate to work on warm en cold days
- Saving on costs for heating and cooling



Re-Gent Helmond - Laboratory



Re/GenT is a Research & Development centre specialized in refrigeration, air conditioning and heat pumps in Helmond, The Netherlands. The laboratory has a flat roof and lots of heat is produced by their test equipment inside the building, which resulted in high temperatures on sunny days. The installation of XCA in the laboratory turned out to be the solution to improve ventilation and to optimize the working conditions in all circumstances. An unexpected by-effect was the limitation of dust in the lab that could harm the sensitive test equipment, due to the constant overpressure and exhaust of air.



Re/genT improved the working environment in its laboratory by implementing the installation of the XCA:

- Optimal ventilation and exhaust of warm process air
- A comfortable working climate inside on warm days
- Limitation of dust due to permanent overpressure





XCA – Xtreme Cooling Air enters the North American market with a breakthrough technology never seen before which is revolutionizing the air conditioning industry, due to its outstanding performance above those of the leading trademarks in the market.

XCA – Xtreme Cooling Air just delivered the biggest sustainable HVAC project in the food industry at Lala Torreon Mexico. Group Lala, is one of the world's largest dairy food companies, selects XCA as the most efficient and sustainable air conditioning system in the world today by offering the biggest energy savings option in the market



ADVANTAGES

- 1. HIGHLY EFFICIENT**
You may save up to 95% in energy consumption.
- 2. FLEXIBLE**
Designed according to your requirements.
- 3. ECO-FRIENDLY**
Reduces CO2 emissions.
- 4. RELIABLE**
Dynamic and intelligent control that maximizes the capacity for monitoring and troubleshooting. Rugged construction validated and certified by international standards and institutions.

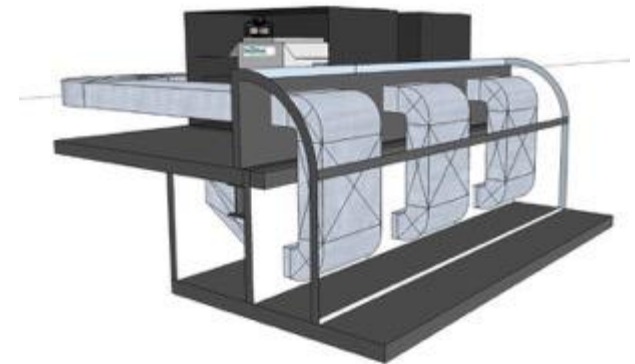


Working on: Datacenter retrofit project replacing 1.2 MW



Switch Datacenters, a European datacenter operator providing colocation services and build-to-suit corporate datacenters, headquartered in Amsterdam, the Netherlands, has announced a significant energy efficiency upgrade to its data centers located in the Amsterdam area. Switch Datacenters implemented XCA indirect adiabatic cooling technology, yielding improved energy, water and maintenance savings. This now results in a calculated, ultra-low Power Usage Effectiveness (PUE) of 1.07.

With two large Tier3+ colocation data centers located in the Amsterdam region, Switch Datacenters saw the need for a significant infrastructural upgrade to its Switch AMS1 and Switch WRD1 facilities – from Tier 3+ to an ultimate Tier 4 data center standard meeting full Uptime Institute specifications. As part of this efficiency-upgrade and Tier 4 upgrade, the indirect adiabatic cooling units from data center cooling infrastructure manufacturer by XCA were key to achieving this level of reliability and ultra-low thus highly energy efficient PUE figure.



-
- INSTALATIONS

**“All in One”
Multifunctional Solo Air Handler Unit – AHU**



ACTUAL INSTALATIONS

CAFETERIA
NO INTERNAL DUCTS



ACTUAL INSTALATION

INDUSTRIAL COOLING HEAT RECOVERY





THE BIGGEST
TURN KEY PROJECT
INDUSTRIAL COOLING
IN THE WORLD



AIR DISTRIBUTION



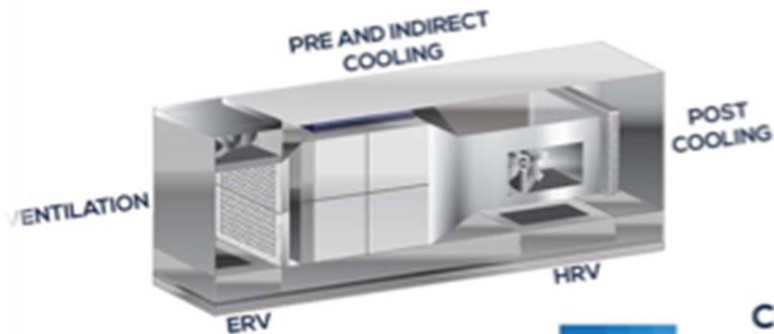
- NOISELESS VENTILATION
- LIGHTWEIGHT SOLUTION
- IMPROVED INDOOR AIR QUALITY
- NO CONDENSATION PROBLEMS
- DRAUGHT FREE AIR DISTRIBUTION
- LOWER INSTALLATION COST
- EASY TO CLEAN & MAINTENANCE

A COMPLETE SOLUTION

- HIGHLY EFFICIENT**
 You may save up to 95% in energy consumption.
- FLEXIBLE**
 Designed according to your requirements.
- ECO-FRIENDLY**
 Reduces CO2 emissions
- RELIABLE**
 Dynamic and intelligent control.



ALL IN ONE AIR HANDLER



Food and Drug Administration



CERTIFIED BY:

Association of German Engineers



The Netherlands Organisation for Applied Scientific Research



IMPORTANT BENEFITS AT GLANCE

XTREME COOLING AIR ADVANTAGES



Efficiency

Maximum Efficiency

- 95% energy savings
- Less power demand
- Variable EC technology
- Energy management integrated



Reliability

Maximum Reliability

- Rugged
- Built to last
- 5-year warranty



Flexibility

Maximum Flexibility

- Complete control
- Intelligent - Automated
- Manual override
- All in one AHU - Custom



Savings

Maximum Savings

- Manage ALL cost drivers
- Low TCO
- Rapid Payback
- Strong ROI



Eco Friendly

Environmental

- Reduces CO2 Emissions
- Constant Fresh Air

CONTACT INFORMATION



Our HVAC scope includes turkey projects, design, selection, procurement, commissioning, project management, development and execution of multiple applications:

- ✓ Heating
- ✓ Ventilation and Air Conditioning
- ✓ Energy and Heat Recovery
- ✓ Duct Fabrication (Sheet metal – Fabric)
- ✓ Diffusers
- ✓ Chiller Plants

Xtreme Cooling Air

Spring, Texas

USA T: 832-308-3400

MEX T: 442-209-5063

E sales@xtremecoolinginc.com

W www.xtremecoolinginc.com

