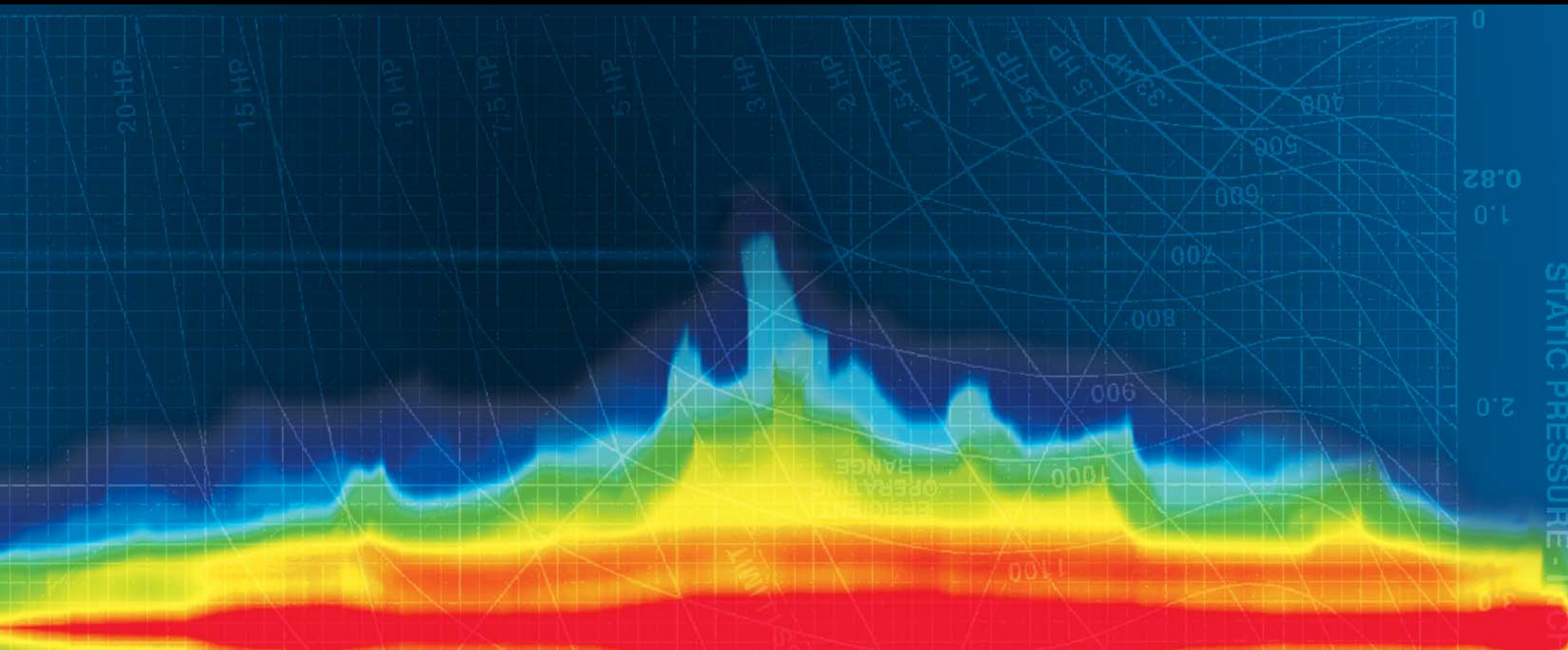
ClimateWorx International

SALES PRESENTATION

MISSION CRITICAL COOLING SOLUTIONS



Corporate Structure

BEMPRO GLOBAL GROUP

Family owned and operated, the Bempro Group of Global Companies are recognized and respected for their passion to a challenge. Built on a strong tradition of innovation with talented and dedicated people, the Bempro family of companies will continue to grow by creating innovative solutions for our customers world-wide

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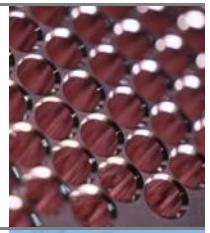
BMP® METALS INC. ISO 9001:2000	**Precision Metal Fabrication**	
Systèmes CableTalk® Systems Inc.	Physical IT Infrastructure	
CLIMATEWORX INTERNATIONAL	Mission Critical Cooling Solutions	

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Systèmes CableTalk® Systems Inc.	**Physical IT Infrastructure**
CLIMATEWORX INTERNATIONAL	Mission Critical Cooling Solutions

Lima- Perú.-

Referencia : Cotizacion de Equipos Inrow CANATAL serie IR (Proyecto Banco de Crédito)

Estimados señores:

o- que no nos ha sido posible cotizarles tales equipos debido a que nuestra fábrica ha suspendido temporalmente su fabricación con el fin de efectuar un conjunto de mejoras tecnol

Sin otro particular de momento, nos suscribimos de Uds.

Atentamente,

CLIMATEWORX INTERNATIONAL

1 CORPORATE

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Systèmes CableTalk® Systems Inc.	Physical IT Infrastructure
CLIMATEWORX INTERNATIONAL	**Mission Critical Cooling Solutions**

Customers

Markets Served by ClimateWorx

North & South American Markets
- Canada
- USA
- United Kingdom
- Central America
- South America
- Caribbean Islands

European Markets
- Sweden
- Spain/Portugal United Kingdom
- Ireland

Asia Pacific & Middle East Markets
- United Arab Emirates
- Hong Kong
- Philipines

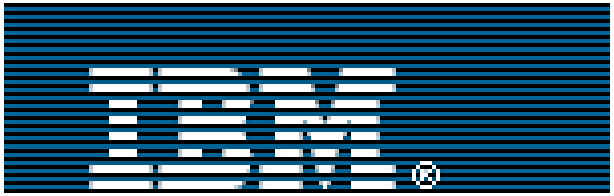
Customers

North American Telecom

North American Other

Health Canada Santé Canada

Wipro GE Medical Systems



Asia Pacific

HSBC

Remedy Corporation
Accelerating Your Advantage™

China Online

Esso

PCCW

Thai

NEC

hutchison-whampoa

Our Vision

We will be globally recognized as a leader in the design and manufacture of innovative, quality solutions that satisfy the requirements of 'mission-critical' environments.

Our Mission

To offer superior service and state of the art quality standards for the mutual benefit of our customers and employees

ClimateWorx International Inc.

Mission Critical Air Conditioning Systems

Providing Datacenter cooling solutions since 1987

- Ownership change from Hong Kong to Canada in 2008
- Brand name changed from Canatal to Climateworx in 2013
- ClimateWorx is a global supplier of cooling solutions to mission critical heat loads
- ClimateWorx is manufactured in Brampton, Ontario.
- ClimateWorx was initially established to serve the International market
- ClimateWorx supplies mission critical air conditioning systems for Datacenter service
- Focused on the North American market beginning in 1998

ClimateWorx International Inc.

Mission Critical Air Conditioning Systems

Providing Datacenter cooling solutions since 1987

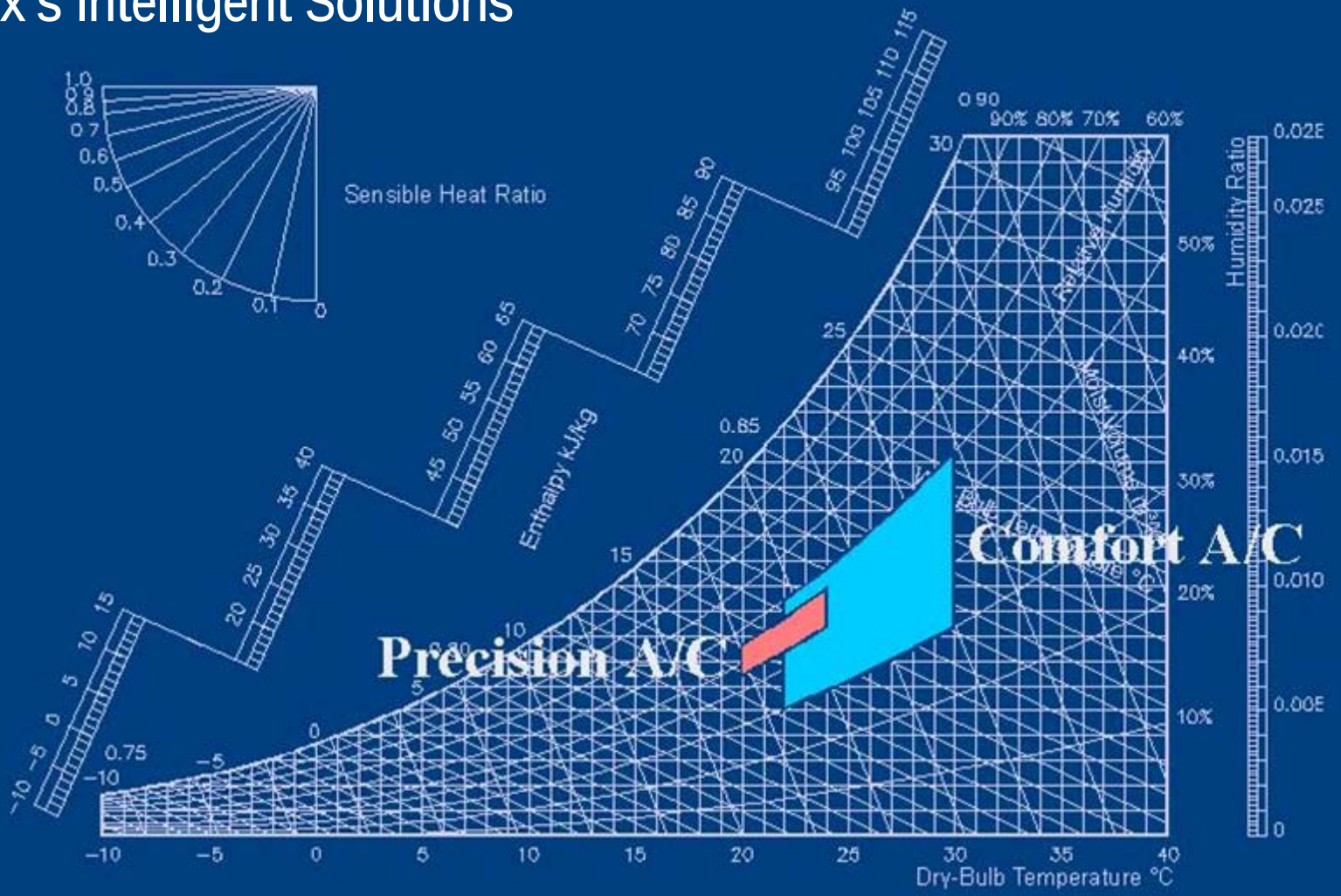
Multiple Strengths:

- Fast delivery
- Customization of products
- Technology in plenum fans, in-line cooling, intelligent communication systems.

Other Services:

- Sale of Spare Parts
- Warranty Service
- On-line Tech Support
- Extended Warranties Available

ClimateWorx's Intelligent Solutions



Product Standards

Product Standards:

- CSA B-52 Refrigeration Standard.
- CSA/UL certified product offerings
- ASHRAE 62.1 2007
- ASHRAE 127-2007

Quality Assurance

Quality Standard:

Our commitment quality is evident by our compliance to ISO 9001:2008

Quality Policy:

ClimateWorx International Inc. is committed to practice the principles and methods described in our Quality System in order to achieve our objective to be the premier global supplier of Precision Air Conditioning system by achieving the highest levels of satisfaction in our industry

ISO 9001:2008 Quality System

Continuous improvement initiatives in the areas of:

- Design
- Production
- Administration
- Sales Support
- Services

Quality Control & Assurance Test Stations

100% Pressure Test of Cooling Coils
100% Functionality Testing
100% Final, Pre-shipping Inspection

Electro-Mechanical Test Stations:

- Dielectric Testing
  - Proper wiring/grounding
- Electro-Mechanical Functionality Testing
  - Fans, compressor, humidifier, heaters, valves, etc.
- M52 Controller Testing
  - Outputs/Inputs/Alarms
  - Sensor Calibration

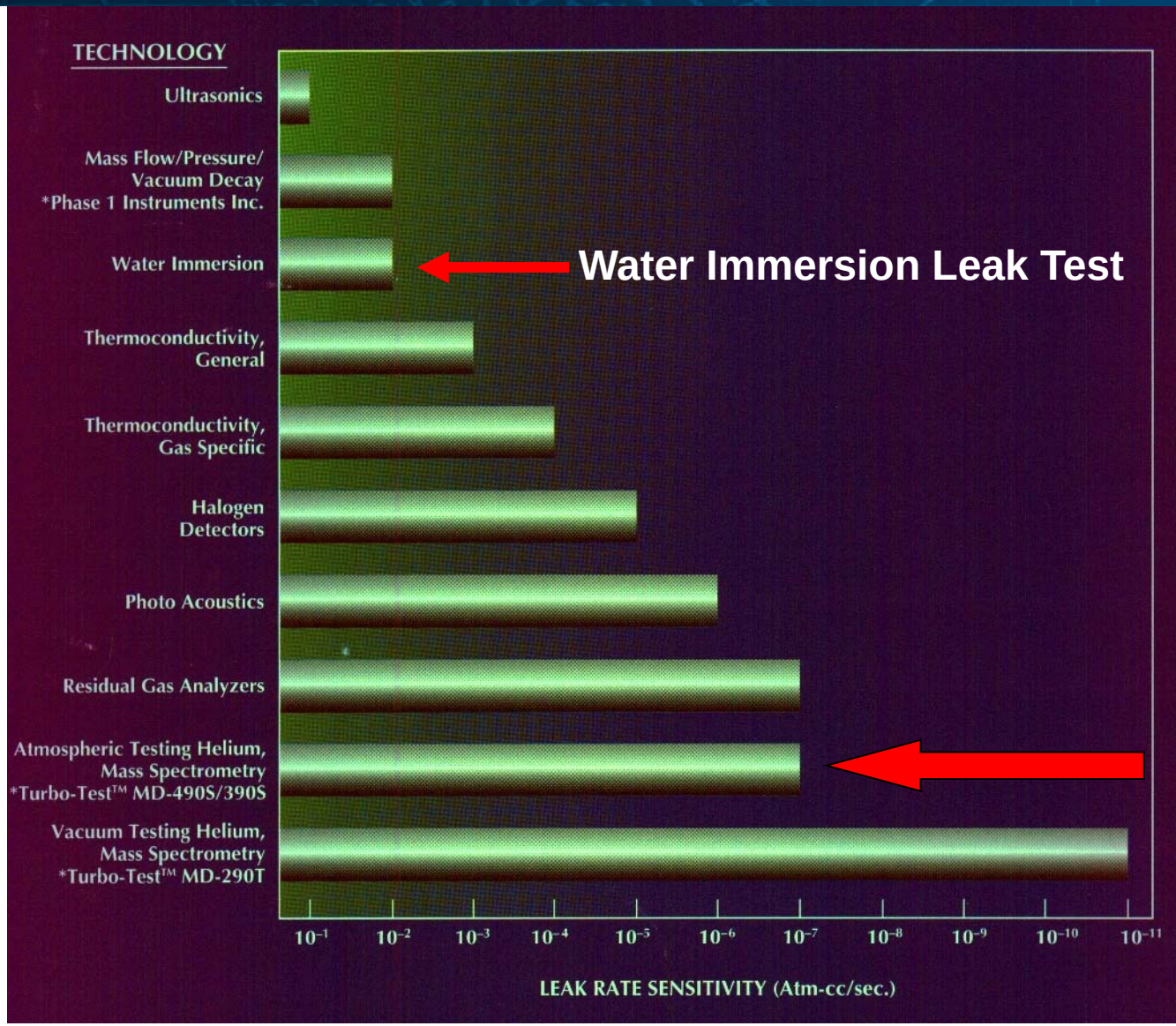
Quality Control & Assurance Test Stations

Helium Mass Spectrometry Leak Detection System

Quality Control & Assurance Test Stations

Helium Mass Spectrometry Leak Detection System:

100,000 x More Sensitive than Immersion



Production

- 10,000+ systems installed worldwide
- Responsive, ‘automotive-style’ Design/Assembly Plant

Product Support

ClimateWorx offers the following product support

Service

- Start up supervision/demonstration
- Technical support calls
- Service technician training

Parts

- Warranty parts
- After warranty parts sales

Product Line

VERTICAL FLOOR MOUNT

Plenum Fan Units

P-Series

3 to 50 Tons

In-Row Units

Series IR

3 Tons

Centrifugal Fan Units

Series 6

2 to 5 Tons

Series 8

6 to 10 Tons

Series 9

6 to 30 Tons

CEILING & WALL MOUNT

Series 7

1.5 to 2.5 Tons

Series 11

1 to 5.0 Tons

Product Range

MODEL	CONFIGURATION	TONS																		
		1	1.5	2	2.5	3	4	5	6	7	8	9	10	11	12	14	15	16	17-22	26-30	30-50
Series 11	Ceiling Mount																				
Series 7	Wall Mount																				
Series 6	Vertical Floormount																				
Series 8	Vertical Floormount																				
Series 9 (2+1)	Vertical Floormount																				
Series 9 (3+1)	Vertical Floormount																				
Series 9 (4+1)	Vertical Floormount																				
P-Series	Vertical Floormount																				
Series IR 12"	Vertical Floormount																				

Vertical Floor Mount Family

CLIMATEWORX INTERNATIONAL

Series 6

Series 8

Series 9

Vertical Floor Mount Family

P-Series

Upflow

Downflow

PS6

Downflow

Wall Mount Products

Ceiling Products

CLIMATEWORX INTERNATIONAL

In Row Products

Series 6

2-5 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX
- Water Cooled DX
- Glycol Cooled DX
- Chilled Water

CONFIGURATIONS

- Up Flow
- Down Flow

OPTIONS

- Hot gas by pass
- 3-way valves
- BMS Interface
- Pump Packages
- Fluid Coolers

Single Circuit for Cost Effective Cooling

- Small foot print 36” wide x 25” deep
- Double inlet blower, double width, belt driven forward curve
- Fan motor - totally enclosed air cooled (TEAO)
- Coil - 3/8” OD copper tubes expanded into aluminum fins
- Stainless steel corrosion free condensate drain pan
- MERV 8 filters – 2” pleated type having 25-30% efficiency
- SCR reheat
- Single stage Scroll compressor
- Humidifier - self contained electrode boiler
- M52 Controller - Touch screen display with Co-Work® network capabilities
- 100% Front Serviceable
- R407C
- Optional Fan Speed control with VFD on Chilled Water units
- ETL Listed
- NEW Packaged Air Cooled System

Series 8

6-10 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX
- Water Cooled DX
- Glycol Cooled DX
- Chilled Water

CONFIGURATIONS

- Up Flow
- Down Flow

OPTIONS

- Hot gas by pass
- 3-way valves
- BMS Interface
- Pump Packages
- Fluid Coolers

Single Circuit for Cost Effective Cooling

- Double inlet blower, double width, belt driven forward curve
- Fan motor - totally enclosed air cooled type (TEAO)
- Coil - 3/8” OD copper tubes expanded into aluminum fins
- Stainless steel corrosion free condensate drain pan
- MERV 8 filters – 4” pleated type having 25-30% efficiency
- SCR reheat
- Single stage Scroll compressor
- Humidifier - self contained electrode boiler
- M52 Controller - Touch screen display withCo-Work® network capabilities
- Optional Fan Speed control with VFD on Chilled Water units
- R407C
- ETL Listed

Series 9

6-30 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX
- Water Cooled DX
- Glycol Cooled DX
- Chilled Water
- Dual and Free Cool

CONFIGURATIONS

- Up Flow
- Down Flow
- Up Flow Rear Return

OPTIONS

- Hot Water/ Steam/ Hot Gas Reheat Coil
- Hot gas by pass
- 3-way valves
- BMS Interface
- Pump Packages
- Fluid Coolers

Dual Circuit Reliability for the Ultimate Protection

- Double inlet blower, double width, belt driven forward curve
- Fan motor - totally enclosed air cooled type (TEAO)
- Coil - 3/8” or 1/2” OD copper tubes expanded into aluminum fins
- Stainless steel corrosion free condensate drain pan
- MERV 8 filters – 4” pleated type having 25-30% efficiency
- SCR electric reheat
- Dual scroll compressor
- Humidifier - self contained electrode boiler
- M52 controller - Touch screen display with Co-Work® network capabilities
- Bolted panel & frame
- Optional Fan Speed control with VFD on Chilled Water units
- EC Plenum Fans available as on some models
- R407C
- ETL Listed

P-Series

3-50 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Chilled Water
- Dual Chilled Water

CONFIGURATIONS

- Up Flow
- Down Flow
- Up Flow Rear Return

OPTIONS

- Hot Water/ Steam Reheat Coil
- SCR Electric Reheat
- Humidifier self contained electrode boiler
- BMS Interface
- 3-way valves
- Auto Transfer Switch

<u>EC Plenum Fans for Increased Reliability</u>

- Chilled Water and Dual Chilled Water
- Coil copper tubes expanded into aluminum fins
- EC direct drive plenum fan with variable speed operation
- Fan speed control by temperature or pressure via M52 controller + BMS
- Coil - 3/8” or 1/2” OD copper tubes expanded into aluminum fins
- Stainless steel corrosion free condensate drain pan
- MERV 8 filters – 4” pleated type having 25-30% efficiency
- M52 controller - Touch screen display with Co-Work® network capabilities
- 100% Front Serviceable
- ModBus RTU compatible
- Drop down fans with only a 18” raised floor, the lowest in the industry

Mission Critical Climate Control

P-Series

2-5 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX
- Water Cooled DX
- Glycol Cooled DX
- Chilled Water
- Dual and Free Cool

CONFIGURATIONS

- Down Flow
- Down Flow Front Supply
- Down Flow Rear Supply

OPTIONS

- Hot Water/ Steam/ Hot Gas Reheat Coil
- Hot gas by pass
- 3-way valves
- BMS Interface
- Pump Packages
- Fluid Coolers

Single Circuit for Cost Effective Cooling

- Small foot print 37” wide x 35” deep
- EC Plenum Fan
- Single stage scroll compressor
- Fan in the box or below the floor
- Coil - 3/8” OD copper tubes expanded into aluminum fins
- Stainless steel corrosion free condensate drain pan
- MERV 8 filters – 2” pleated type having 25-30% efficiency
- SCR reheat
- Single stage Scroll compressor
- Humidifier - self contained electrode boiler
- M52 Controller - Touch screen display with Co-Work® network capabilities
- 100% Front Serviceable
- R407C

Mission Critical Climate Control

P-Series

CLIMATEWORX INTERNATIONAL

Series IR12

3 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX
- Water Cooled DX
- Glycol Cooled DX
- Chilled Water

CONFIGURATIONS

- Front Supply Rear Return

OPTIONS

- Liquid Detection
- BMS Interface
- Pump Packages
- Fluid Coolers

Hot spot specialist incorporated into cabinet row

- 12" wide x 42" deep
- Variable capacity operation
- Microprocessor controlled
- Network compatible controllers
- Single stage scroll compressor
- Aluminum washable mesh filter
- Energy efficient axial fans (up to 8 fans)
- Hot swappable fans for zero down time replacement
- 2 remote temperature sensors

Series 7

1.5 - 2.5 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX
- Water Cooled DX
- Glycol Cooled DX
- Chilled Water

CONFIGURATIONS

- Front Supply Front Return
- Split Systems with Remote Condensing units

OPTIONS

- Liquid Detection
- BMS Interface
- Pump Packages
- Fluid Coolers
- 1kW or 2kW Electric reheat
- 5lb/hr Humidifier

<u>Wall Mounted Unit</u>

- Single stage scroll compressor
- Enhanced aluminum fin and copper tube evaporator coil produces 90-95% sensible cooling
- Single stage scroll compressor
- Compact size with hinged door easy access
- Tangential fan with robust continuous-duty motor
- Stainless steel drain pan
- Thermostatic expansion valve DX or 2-way CW valve
- Isolated electrical panel conforms to UL/CSA and IEC requirements
- R407C

<u>Controller</u>

- Digital programmable remote mounted heat/cool thermostat
- Optional M52 Controller

Series 11

1-5 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX
- Water Cooled DX
- Glycol Cooled DX
- Chilled Water
- Dual & Free Cooling on 4/5 ton

CONFIGURATIONS

- Packaged(1-2.5 ton) Air, Water Or Glycol Cooled
- Split Systems with remote Air Cooled Condenser
- Remote Condensing Units 1-2.5 ton only
- Grille Supply and Return 1-3 ton
- Ducted

OPTIONS

- 5 kW Single Stage Reheat
- 6 or 9 kW SCR Controlled Reheat
- 5 or 10 lb/hr Humidifier

Ceiling Mounted Unit

- Reliable direct-drive plenum fan (EC Fan 4/5 tons units)
- Enhanced aluminum fin and copper tube slab coil produces 90-95% sensible cooling
- Single stage scroll compressor (except 1 ton)
- Double slope stainless steel condensate pan
- Float switch overflow protection
- Removable panels for easy service access
- Isolated electrical panel conforms to UL/CSA and IEC requirements
- Internally mounted rotary disconnect switch
- Available with hot gas bypass
- R407C

DX Packaged Indoor Unit

Controller

- Digital programmable remote mounted heat/cool thermostat
- Optional M52 Controller

Series 7 & 11

1-2.5 Tons

CLIMATEWORX INTERNATIONAL

COOLING MODES

- Air Cooled DX

CONFIGURATIONS

- Condenser
- Condensing Unit
- Horizontal Air Discharge

OPTIONS

- Heated Receiver

Condensing Unit

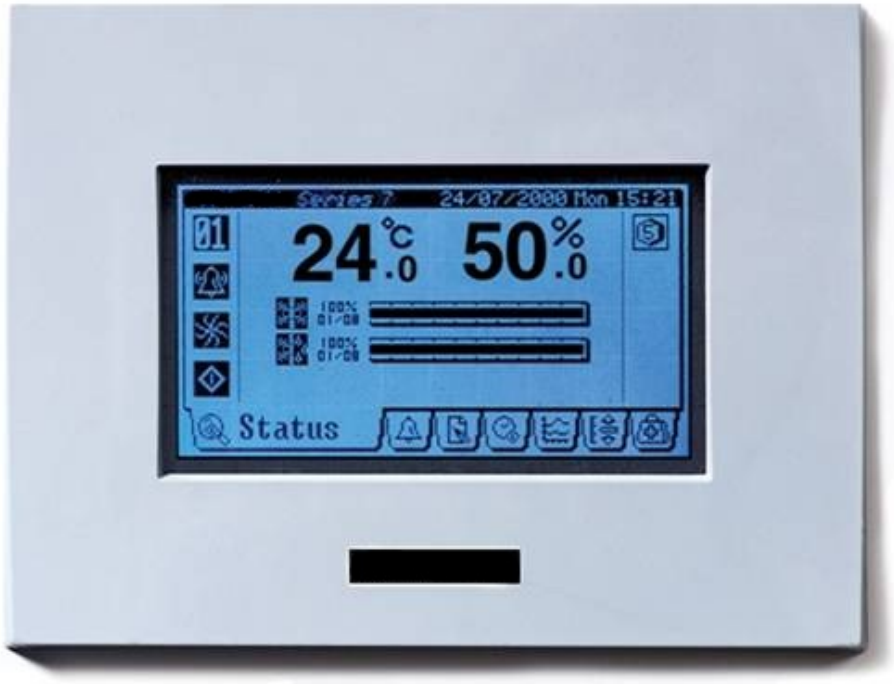
- High and low pressure cut-out protection
- Sight glass
- Filter drier
- Single stage scroll compressor
- R407C

Air Cooled Condensing Unit
c/w Heated Insulated Receiver

M52 Controller

Network Controller

- P-I-D Control logic
- Touch-screen interface
- Alarm & Event log
- Continuous graphing
- Self diagnostics
- Three levels of security
- Network ready



CO-WORK© Connectivity

- Duty Sharing
- Sequential Load Activation
- Data Synchronization
- Control Value Averaging
- Expansion of Control Steps
- Controller Redundancy

Common Accessories

Remote Monitoring

- Remote monitoring capabilities
- Network ready for direct network connection
- Popular protocol standards:

1. SatchNet
2. N2, Johnson Controls
3. MODBUS, Schneider
4. BACnet, ASHRAE
5. BatiBuss
6. Data Highway Plus, Allen Bradley
7. Fieldbus
8. LonTalk, Echelon, SIEMENS
9. And many other protocols

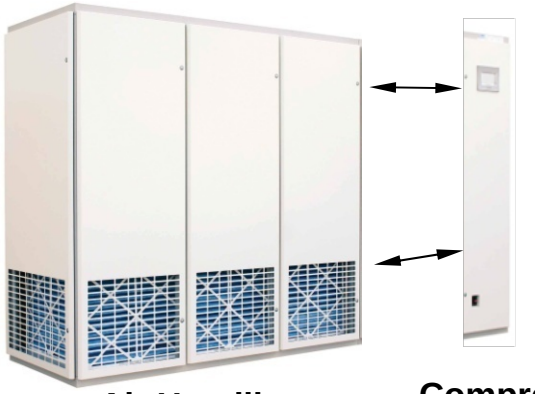
Standard Gateway

Web Enabled Gateway

Common Options

Factory Split – Series 9

Compressor Compartment is split from Air Handling (Fan/Coil) Section into two (2) separate pieces for transport through confined spaces. Compressor Section refrigeration piping and electrical wiring are field connected on site – **BY OTHERS**.



Air Handling (Fan / Coil) Section

Compressor Compartment

3-Way Valves

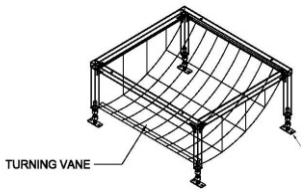
Chilled Water or Condenser Water Regulating Valve c/w Bypass balancing valve (150 psi).

Chilled Water

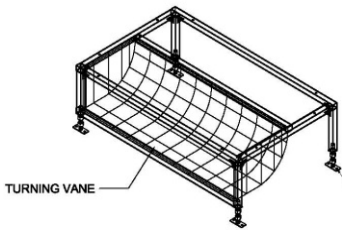
Condenser Water

Floor Stands

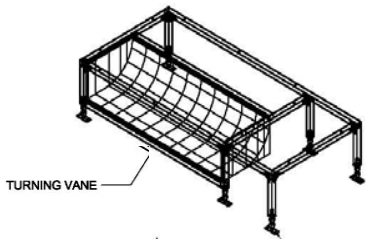
Floor stand shall be a welded steel frame with corrosion resistant finish in heights from 8 to 24 inches. The stands shall have adjustable legs for leveling with ± 1 inch of adjustment. Turning vanes are available for down discharge units. (**Minimum height for a floor stand c/w Turning Vane is 12 inches) For floor stands greater than 24 inches please consult factory.**



Series 6



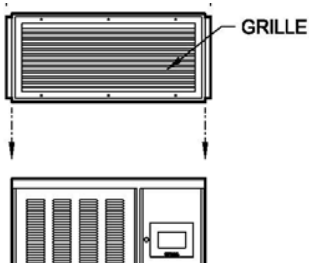
Series 8

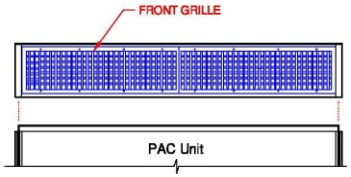


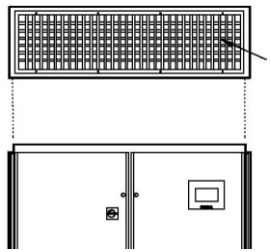
Series 9

Discharge Plenums

Factory plenums match unit and allows up flow units to supply air directly to space. Plenum has front double deflection grilles and is internally insulated.







Common Accessories

Condensate Pump

Condensate pump shall remove condensate from evaporator and humidifier when a drain is not available near by. Pump is **shipped loose for field installation. Optional factory mounted** and wired pumps are available for **Series 9 ONLY**. Pump shall be capable of 180 GPH at 24' of head.

Single Point Liquid Detection

Liquid detection shall consist of a single point liquid sensor. Sensor wires directly into the microprocessor and includes 10 feet of wire for field placement.

Cable Liquid Detection

Liquid detection shall consist of liquid cable sensor. Cable wires directly into the microprocessor and includes 10 feet of wire to extend to the bottom of the unit and 15 feet of sensing cable shall be supplied with the unit for field placement.

Single Zone Liquid Detection

Remote liquid detection shall consist of Single Zone Liquid Detection with discrete alarm. Single Zone Liquid Detection shall detect and report the presence of water or any other conductive liquids. Unit shall be supplied with 15 feet of sensing cable.

Fire Stat

Factory mounted and wired fire stat will shut the unit down in the event of high heat detection.

Firestat /Smoke Detector Combination

Smoke Detector

Smoke detector is factory mounted and wired to shut unit down in the event of the presence of smoke.

Spring Open/Close Chilled Water Valve Actuator

Chilled Water Valve (CW) actuator to position CW valve in Open or Close upon loss of power.

HMS

Up to 20kW
Built for Efficient Performance

Systèmes CableTalk® Systems Inc.

Bempro's commitment to innovation has led to the creation of:

HMS

(Heat Management System)

- Innovative
- Scalable
- Efficient

Capabilities Highlights

The HMS contains and directs the heat exhaust from your IT equipment to the top rear of the cabinet where it is ducted to your precision air conditioners through plenum ceilings or high air returns preventing bypass airflow for optimal performance

Accessories

- Removable fan enclosures with variable speed EC fans by temperature or pressure
- Bottom panel kit
- Air dam kit
- Cable management systems
- Airflow deflector
- Caster kit
- Passive systems available for mid to low density

Aisle Containment

Hot or Cold Containment
Built for improved efficiency

Systèmes CableTalk® Systems Inc.

Contain hot/cold aisle air flow to increase cooling efficiencies

Capabilities Highlights

- No on site modifications required
- Fully gasketed containment
- Sliding door or hinged door
- Standard side cabinet access
- Modular top construction accommodates varying width and depth of cabinets
- Light weight panels and frames for ease of installation
- Top panels are clear lexan for maximum light penetration
- Top panels come with or without access holes for fire suppression

Key Suppliers

SKF

Nortec

Invensys
Brook Crompton

Lau Industries, Inc.

ALCO CONTROLS

KeepRite

Copeland

Standard Refrigeration Company

JOHNSON

Major Components

Reliability

•EC Direct Drive Plenum Fan

1. More power efficient
2. DC motors
3. Built in electronics allow operation on AC power
4. Brushless (maintenance free)

•TEAO industrial duty blower motors

1. Extremely reliable

•Electrode boiler humidifier

1. Particle-free steam

Scroll Compressors

Benefits

- Fewest moving parts
- Most reliable
- Less vibration
- Quiet Operation
- Highest EER's

Size Range

- 15,000 to 400,000 BTU/h

Summit

Heating Elements

Benefits

- High efficiency
- Space saving

Size Range

- 2, 3, 4, 8 & 10 kW/element

Humidifier

Benefits

- Serviceable outside of airstream
- Relatively inexpensive to infra red
- Life expectancy – 2000-20000 hrs (depends on water conditions)
- High efficiency

Size Range

- 5, 10 & 20 lb/hr

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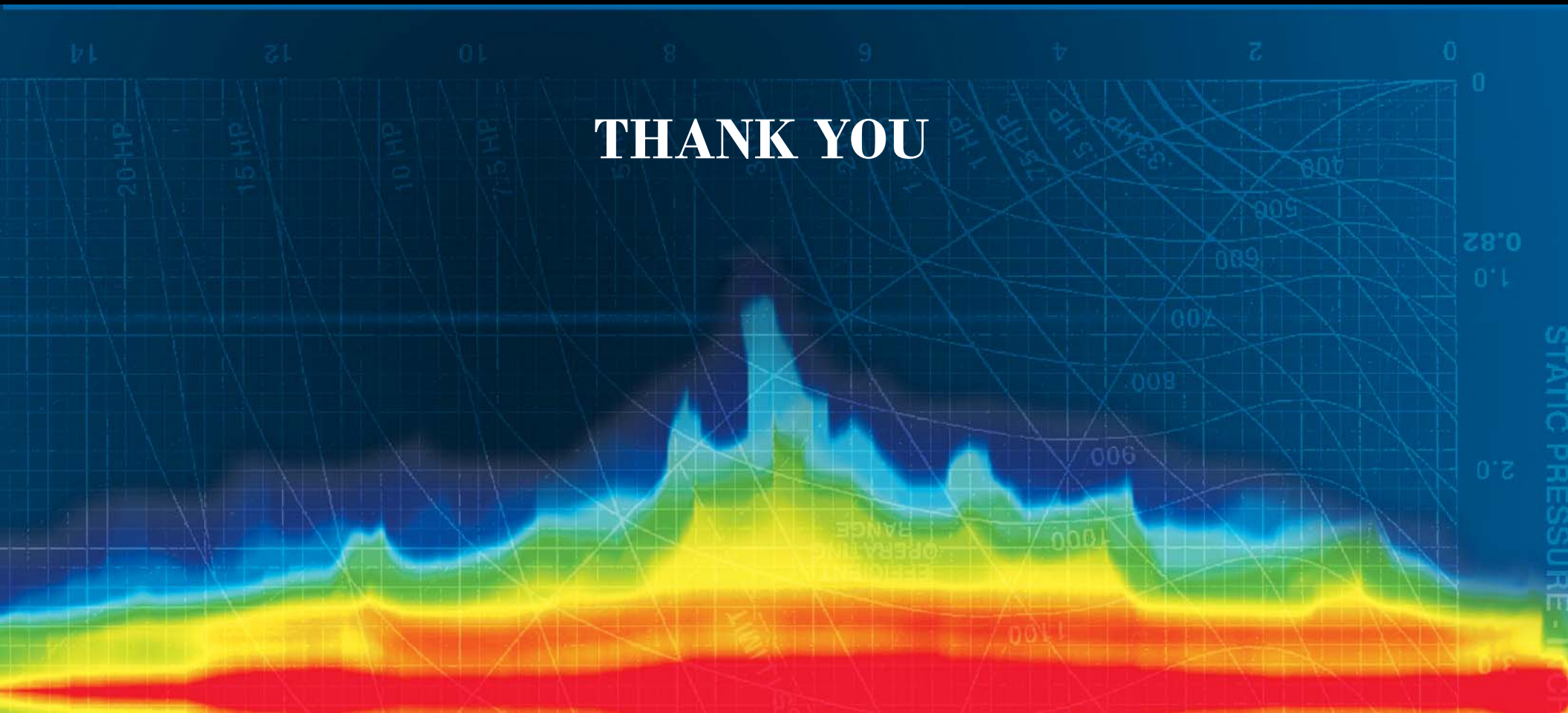
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