



# CLIMATEWORX INTERNATIONAL

## MISSION CRITICAL AIR CONDITIONING SYSTEMS



VERTICAL  
FLOOR MOUNT

Series P

**3-50 Ton Units**

Designed for Precision  
Built for Efficient  
Performance

# Series P

3-50 Tons

## Designed for Precise Efficient Performance

The Series P mission critical air conditioner is ClimateWorx's flagship CRAC/CRAH unit. It has been designed from the ground up to be both cutting edge energy efficient and user friendly from a network and programming perspective. While redesigning this unit ClimateWorx also created the most serviceable unit on the market by making it **100% front serviceable**.

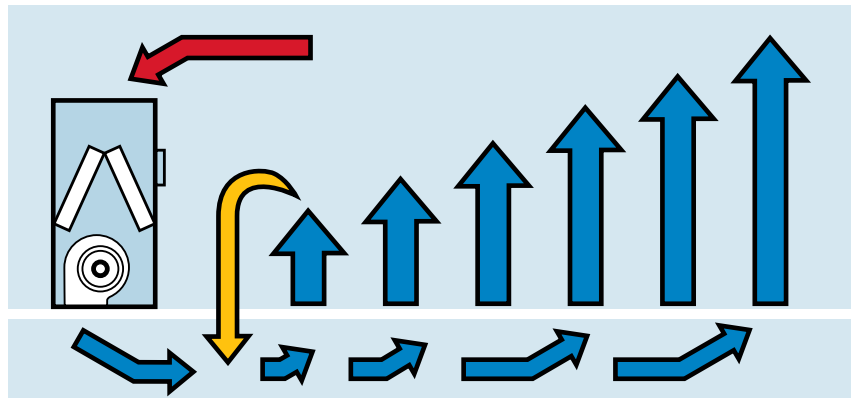
### ENERGY EFFICIENT

ClimateWorx has created a more energy efficient air conditioner by optimizing the coil design, the fan motor and fan type. Together these features can reduced energy consumption by 10-40%.

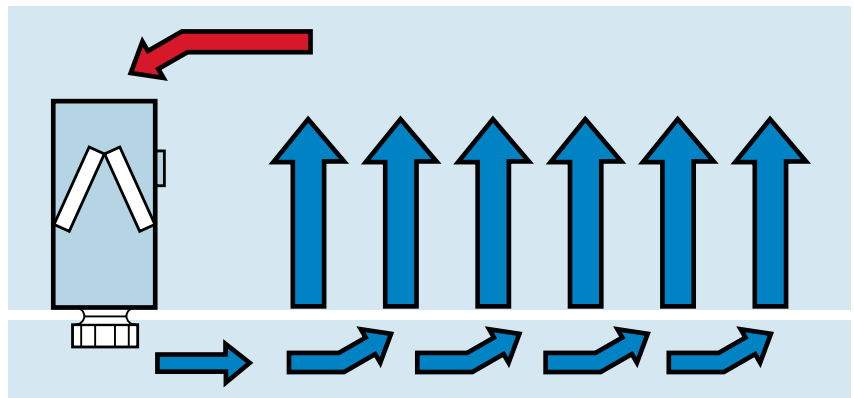
- EC direct drive fans are more energy efficient than belt driven fans.
- Variable speed EC fans run only as fast as necessary.
- V & A-coil designs increase coil surface by 20%.
- ClimateWorx's coil design nets a high sensible heat ratio.
- Interlaced dual chilled water coils yield a 10% increase in capacity.
- Plenum fans develop static pressure which delivers air evenly to where perforated tiles are placed, reducing hot spots and energy requirements.



These direct drive EC motor driven plenum fans come in 3 different sizes to optimize efficiency in our Series P units.



A scroll fan's high velocity pressure distributes air unevenly, and can lead to recirculated air near the air conditioning unit.



A plenum fan's high static pressure distributes air evenly. With proper positioning of perforated tiles, hot spots can be better controlled.

Mission Critical Climate Control

# VERTICAL FLOOR MOUNT PRECISION AIR CONDITIONER

## COOLING MODES

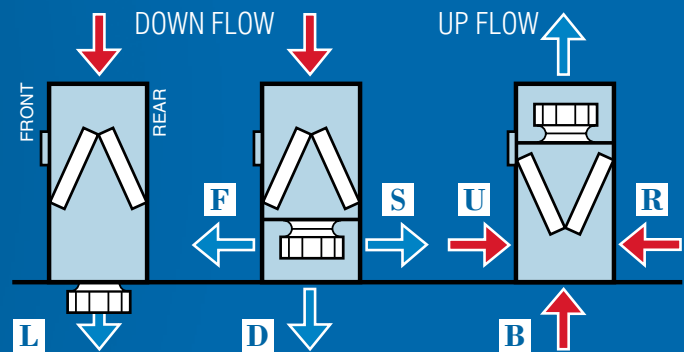
- Chilled water
- Dual chilled water

## CONFIGURATIONS

- Down flow
- Up flow

## AIR FLOW

- Available air flow configurations



## SUPERIOR CONTROL

ClimateWorx's control system not only maximizes performance, reliability and manageability of the air conditioning system, but also makes controlling the system easy through the graphically intuitive touch screen display.

### M52 Network Controller

- P-I-D control logic, microprocessor based controller.
- Touch-screen graphic interface.
- Alarm & event logging for accurate trouble-shooting.
- Continuous on-screen graphing of temperature and humidity.
- Self diagnostics of all systems operations.
- Three levels of security, password protected.
- Network ready.



### Co-Work Networking

- Co-Work enables a maximum of 6 master or slave circuits to form a local area network.
- Any master unit can control any slave unit.
- Duty sharing.
- Sequential load activation.
- Data synchronization.
- Control value averaging.
- Expansion of control steps.
- Controller redundancy.



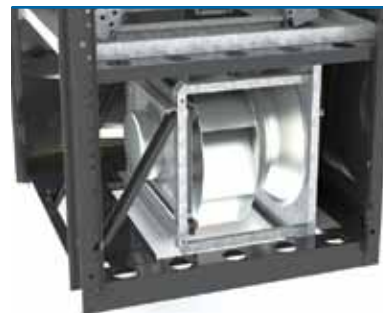
### ATS (Auto Transfer Switch) optional

- Control the source of power at the flick of a switch.

## INSTALLATION AND MAINTENANCE FRIENDLY

When it comes time to service the unit, ClimateWorx's Series P air conditioner is both extremely reliable and very easy to live with. By paying close attention to component layout, and aided by access doors, the Series P air conditioner is designed to be **100% front serviceable**.

- Minimum raised floor height is 18" for dropped fan configuration.
- Plenum fan ships inside unit and drops easily requiring only one technician and a screw driver.
- Where floor is less than 18" high, plenum fans mount inside the unit.
- Direct drive fans don't require belts.
- Maintenance-free brushless EC motors.
- Electrode boiler humidifier serviceable without disturbing air stream (optional).
- Inlet/discharge air plenums have hinged front doors for maximum access.
- 100% front serviceable.



Shipped in this position, simply remove the braces and drop the fan for under floor applications.

# SERIES P Chilled Water System

MODEL		PCD/U 012	PCD/U 015	PCD/U 028	PCD/ 034	PCD/U 042	PCD/U 051
<b>Cooling Capacity: (80°F DB, 50%RH) - Rated at Standard Air Volume, 45°F Entering Water Temperature and 12°F rise</b>							
NET Total Cap	Btu/hr (kW)	459337 (17.4)	90305 (26.5)	139561 (40.9)	192520 (56.4)	220762 (64.7)	301120 (88.2)
NET Sensible Cap	Btu/hr (kW)	52588 (15.4)	66240 (19.4)	109025 (31.9)	132895 (38.9)	171156 (50.1)	207767 (60.9)
Flow Rate	usGPM	10.5	15.7	24.5	33.5	38.6	52.2
Unit PD	feet - H <sub>2</sub> O	3.4	8.7	15.3	31.2	9.5	26.1
<b>Cooling Capacity: (75°F DB, 50%RH) - Rated at Standard Air Volume, 45°F Entering Water Temperature and 12°F rise</b>							
NET Total Cap	Btu/hr (kW)	38700 (11.3)	61696 (18.1)	94433 (27.7)	134111 (39.3)	151220 (44.3)	211252 (61.9)
NET Sensible Cap	Btu/hr (kW)	38700 (11.3)	55431 (16.2)	92061 (27.0)	110882 (32.5)	145055 (42.5)	173929 (51.0)
Flow Rate	usGPM	7.0	11.0	17.0	23.8	27.0	37.2
Unit PD	feet - H <sub>2</sub> O	1.6	4.4	7.5	16.1	4.8	14.2
<b>Cooling Capacity: (72°F DB, 50%RH) - Rated at Standard Air Volume, 45°F Entering Water Temperature and 12°F rise</b>							
NET Total Cap	BTU/hr (kW)	29185 (8.6)	48211 (14.1)	73149 (21.4)	105752 (31.0)	118409 (34.7)	167458 (49.1)
NET Sensible Cap	BTU/hr (kW)	29185 (8.6)	48211 (14.1)	73149 (21.4)	99172 (29.1)	118409 (34.7)	155856 (45.7)
Flow Rate	usGPM	5.5	8.7	13.4	19.0	21.5	29.9
Unit PD	feet - H <sub>2</sub> O	1.0	2.9	4.7	10.5	3.2	9.6
<b>Fan Section: EC Plenum Fan</b>							
Air Flow	CFM/(m <sup>3</sup> /h)	3000 (5094)	3000 (5094)	5600 (9510)	5600 (9510)	8700 (14774)	8700 (14774)
ESP	in-H <sub>2</sub> O (Pa)	0.2 (50)	0.2 (50)	0.2 (50)	0.2 (50)	0.2 (50)	0.2 (50)
Qty of Fans	each	1	1	1	1	2	2
Individual Fan Motor Power	HP (kW)	4.6 (3.4)	4.6 (3.4)	4.0 (3.0)	4.0 (3.0)	4.0 (3.0)	4.0 (3.0)
<b>Evaporator Coil: 'A' Frame, Copper Tube / Aluminium Fins, Stainless Steel Drain Pan</b>							
Face Area	ft <sup>2</sup>	6.3	6.3	13.1	13.1	19.0	19.0
Rows Deep	each	4	6	4	6	4	6
Fin Thickness	fin/inch	13	13	13	13	13	13
Face Velocity	FPM	480	480	427	427	459	459
<b>Chilled Water Valve - 2 Way Modulating Maximum Design Water Pressure 150 PSI</b>							
Valve Size	inches / (Cv)	1" (11.7)	1" (11.7)	1" (11.7)	1" (11.7)	1-1/2" (29.2)	1-1/2" (29.2)
<b>Optional Reheat Section - Electrical reheat - Single Stage, Finned Tubular Heaters, SCR Controlled</b>							
Capacity	kW	6	6	6	6	12	12
<b>Optional Humidifier Section - Electrode Steam Boiler Type*</b>							
Steam Generation Capacity	lb/h (kg/h)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)	20 (9.1)	20 (9.1)
Humidifier Power	kW	3.4	3.4	3.4	3.4	6.8	6.8
<b>Filter Section - Rated at ASHRAE Standard 52.2-2007 MERV 10</b>							
Efficiency	%	25% to 30%	25% to 30%	25% to 30%	25% to 30%	25% to 30%	25% to 30%
Arrestance	%	>90%	>90%	>90%	>90%	>90%	>90%
<b>Electrical Data - Base Unit without Re-Heat or Humidification</b>							
<b>208 V</b>							
Full Load Amps (FLA)	A	10.5	10.5	9.4	9.4	18.1	18.1
Minimum Circuit Ampacity (MCA)	A	12.3	12.3	10.9	10.9	19.7	19.7
Maximum Fuse Size (MFS)	A	15	15	15	15	25	25
<b>460 V</b>							
Full Load Amps (FLA)	A	5.6	5.6	5.2	5.2	10.1	10.1
Minimum Circuit Ampacity (MCA)	A	6.6	6.6	6.1	6.1	11.0	11.0
Maximum Fuse Size (MFS)	A	15	15	15	15	15	15
<b>575 V**</b>							
Full Load Amps (FLA)	A	3.7	3.7	3.4	3.4	6.6	6.6
Minimum Circuit Ampacity (MCA)	A	4.4	4.4	4.0	4.0	7.2	7.2
Maximum Fuse Size (MFS)	A	15.0	15.0	15.0	15.0	15.0	15.0
<b>Pipe Connection</b>							
Chilled Water - O.D.	inches	1-1/8	1-1/8	1-1/8	1-1/8	1-5/8	1-5/8
Steam Humidifier Supply - O.D.	inches	1/4	1/4	1/4	1/4	1/4	1/4
Drain - O.D.	inches	3/4	3/4	3/4	3/4	3/4	3/4
<b>Overall Dimension***</b>							
L x W x H	inches	37x35x78	37x35x78	49.8x35x78	49.8x35x78	60x35x78	60x35x78
L x W x H	mm	940x889x1981	940x889x1981	1265x889x1981	1265x889x1981	1524x889x1981	1524x889x1981

**Notes:**

- Upflow configurations adds 18-3/4" to the unit size.
- All cooling capacities shown are "net" as per ASHRAE 127.
- All published data is within ± 5%.

- \* Addition of the humidifier option adds 18-3/4" to the unit size and changes electrical characteristics.
- \*\* Voltage requires a transformer and the use of a +A section.
- \*\*\* Dimensions do not include 30" high return air plenum, shipped separate and field installed.

# ems Technical Data - 60 Hz

PCD/U 057	PCD/U 065	PCD/U 076	PCD/U 087	PCD/U 095	PCD/U 106	PCD/U 111
295396 (86.6) 223827 (65.6) 51.6 17.6	390735 (114.5) 268388 (78.6) 67.8 45.8	366065 (107.3) 283512 (83.1) 64.6 10.8	500170 (146.5) 344971 (101.1) 87.4 24.0	517056 (151.5) 382681 (112.1) 90.3 25.1	577704 (169.3) 410661 (120.3) 100.8 24.7	625287 (183.2) 431278 (126.4) 109.0 24.8
206823 (60.6) 190917 (55.9) 36.7 9.3	279481 (81.9) 226669 (66.4) 49.2 25.9	251143 (73.6) 240413 (70.4) 45.4 5.6	350833 (102.8) 288808 (84.6) 62.5 12.9	377392 (110.6) 330877 (96.9) 67.0 14.4	418806 (122.7)) 351535 (103.0) 74.2 13.9	448261 (131.3) 364994 (106.9) 79.4 13.6
164835 (48.3) 164835 (48.3) 29.7 6.3	223303 (65.4) 203520 (59.6) 39.8 17.6	196886 (57.7) 196886 (57.7) 36.3 3.7	278053 (81.5) 258773 (75.8) 50.3 8.7	307146 (90.0) 301672 (88.4) 55.2 10.1	336359 (98.6) 317457 (93.0) 60.4 9.5	357987 (104.9) 327765 (96.0) 64.3 9.1
11200 (19019) 0.2 (50) 2 3.9 (2.9)	11200 (19019) 0.2 (50) 2 3.9 (2.9)	14700 (24962) 0.2 (50) 3 4.0 (3.0)	14700 (24962) 0.2 (50) 3 4.0 (3.0)	18000 (30566) 0.2 (50) 3 3.9 (2.9)	18000 (30566) 0.2 (50) 3 3.9 (2.9)	18000 (30566) 0.2 (50) 3 3.9 (2.9)
22.5 4 13 498	22.5 6 13 498	29.6 4 13 497	29.6 6 13 497	37.1 4 13 485	37.1 5 13 485	37.1 6 13 485
1-1/2" (29.2)	1-1/2" (29.2)	2" (46.8)	2" (46.8)	2" (46.8)	2" (46.8)	2" (46.8)
12	12	12	12	15	15	15
20 (9.1) 6.8	20 (9.1) 6.8	20 (9.1) 6.8	20 (9.1) 6.8	20 (9.1) 6.8	20 (9.1) 6.8	20 (9.1) 6.8
25% to 30% >90%	25% to 30% >90%	25% to 30% >90%	25% to 30% >90%	25% to 30% >90%	25% to 30% >90%	25% to 30% >90%
17.2 18.7 20	17.2 18.7 20	27.6 28.4 35	27.6 28.4 35	25.5 27 30	25.5 27 30	25.5 27 30
9.6 10.5 15	9.6 10.5 15	15.0 16.0 20	15.0 16.0 20	14.2 15.1 20	14.2 15.1 20	14.2 15.1 20
6.4 7.0 15.0	6.4 7.0 15.0	10.0 10.5 15.0	10.0 10.5 15.0	9.5 10.1 15.0	9.5 10.1 15.0	9.5 10.1 15.0
1-5/8 1/4 3/4	1-5/8 1/4 3/4	2-1/8 1/4 3/4	2-1/8 1/4 3/4	2-1/8 1/4 3/4	2-1/8 1/4 3/4	2-1/8 1/4 3/4
72x35x78 1829x889x1981	72x35x78 1829x889x1981	89x35x78 2261x889x1981	89x35x78 2261x889x1981	107x35x78 2719x889x1981	107x35x78 2719x889x1981	107x35x78 2719x889x1981



# SERIES P Chilled Water Systems Technical Data - 60 Hz

MODEL		PCD/U 119	PCD/U 127	PCD/U 136	PCD/U 147	PCD/U 153	PCD180
<b>Cooling Capacity: (80°F DB, 50%RH) - Rated at Standard Air Volume, 45°F Entering Water Temperature and 12°F rise</b>							
NET Total Cap	Btu/hr (kW)	628502 (184.1)	702157 (205.7)	759141 (222.4)	824190 (241.5)	888239 (260.3)	1059048 (310.3)
NET Sensible Cap	Btu/hr (kW)	458866 (134.4)	492829 (144.4)	517224 (151.5)	571000 (167.3)	598991 (175.5)	704784 (206.5)
Flow Rate	usGPM	110.8	123.5	133.5	143.2	154.2	182.7
Unit PD	feet - H <sub>2</sub> O	40.4	39.4	39.0	56.7	55.2	56.3
<b>Cooling Capacity: (75°F DB, 50%RH) - Rated at Standard Air Volume, 45°F Entering Water Temperature and 12°F rise</b>							
NET Total Cap	Btu/hr (kW)	458039 (134.2)	509829 (149.4)	549981 (161.1)	600829 (176.0)	646842 (189.5)	773521 (226.6)
NET Sensible Cap	Btu/hr (kW)	395116 (115.8)	420722 (123.3)	438514 (128.5)	487119 (142.7)	507938 (148.8)	597678 (175.1)
Flow Rate	usGPM	82.3	91.4	98.6	105.9	113.9	135.1
Unit PD	feet - H <sub>2</sub> O	23.4	22.5	22.0	32.3	31.2	32.4
<b>Cooling Capacity: (72°F DB, 50%RH) - Rated at Standard Air Volume, 45°F Entering Water Temperature and 12°F rise</b>							
NET Total Cap	BTU/hr (kW)	374308 (109.7)	414396 (121.4)	441787 (129.4)	489811 (143.5)	525112 (153.9)	628060 (184.0)
NET Sensible Cap	BTU/hr (kW)	360390 (105.6)	381369 (111.7)	393982 (115.4)	441678 (129.4)	457923 (134.2)	538712 (157.8)
Flow Rate	usGPM	68.3	75.5	80.5	87.3	93.6	110.8
Unit PD	feet - H <sub>2</sub> O	16.6	15.7	15.0	22.6	21.6	22.6
<b>Fan Section: EC Plenum Fan</b>							
Air Flow	CFM/(m <sup>3</sup> /h)	21600 (36680)	21600 (36680)	21600 (36680)	24000 (40755)	24000 (40755)	27460 (46631)
ESP	in-H <sub>2</sub> O (Pa)	0.2 (50)	0.2 (50)	0.2 (50)	0.2 (50)	0.2 (50)	0.2 (50)
Qty of Fans	each	4	4	4	4	4	4
Individual Fan Motor Power	HP (kW)	4.0 (3.0)	4.0 (3.0)	4.0 (3.0)	3.9 (2.9)	3.9 (2.9)	3.9 (2.9)
<b>Evaporator Coil: 'A' Frame, Copper Tube / Aluminium Fins, Stainless Steel Drain Pan</b>							
Face Area	ft <sup>2</sup>	44.2	44.2	44.2	52.5	52.5	66.7
Rows Deep	each	4	5	6	5	6	6
Fin Thickness	fin/inch	13	13	13	13	13	11
Face Velocity	FPM	489	489	489	457	457	412
<b>Chilled Water Valve - 2 Way Modulating Maximum Design Water Pressure 150 PSI</b>							
Valve Size	inches / (Cv)	2" (46.8)	2" (46.8)	2" (46.8)	2" (46.8)	2" (46.8)	3" (74)
<b>Optional Reheat Section - Electrical reheat - Single Stage, Finned Tubular Heaters, SCR Controlled</b>							
Capacity	kW	24	24	24	30	30	30
<b>Optional Humidifier Section - Electrode Steam Boiler Type*</b>							
Steam Generation Capacity	lb/h (kg/h)	20 (9.1)	20 (9.1)	20 (9.1)	20 (9.1)	20 (9.1)	20 (9.1)
Humidifier Power	kW	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section - Rated at ASHRAE Standard 52.2-2007 MERV 10</b>							
Efficiency	%	25% to 30%	25% to 30%	25% to 30%	25% to 30%	25% to 30%	25% to 30%
Arrestance	%	>90%	>90%	>90%	>90%	>90%	>90%
<b>Electrical Data - Base Unit without Re-Heat or Humidification</b>							
<b>208 V</b>							
Full Load Amps (FLA)	A	35.6	35.6	35.6	33.8	33.8	33.8
Minimum Circuit Ampacity (MCA)	A	37.1	37.1	37.1	35.2	35.2	35.2
Maximum Fuse Size (MFS)	A	45	45	45	40	40	40
<b>460 V</b>							
Full Load Amps (FLA)	A	19.9	19.9	19.9	18.9	18.9	18.9
Minimum Circuit Ampacity (MCA)	A	20.9	20.9	20.9	19.8	19.8	19.8
Maximum Fuse Size (MFS)	A	25	25	25	25	25	25
<b>575 V**</b>							
Full Load Amps (FLA)	A	13.2	13.2	13.2	12.6	12.6	12.5
Minimum Circuit Ampacity (MCA)	A	13.8	13.8	13.8	13.2	13.2	13.1
Maximum Fuse Size (MFS)	A	15.0	15.0	15.0	15.0	15.0	15.0
<b>Pipe Connection</b>							
Chilled Water - O.D.	inches	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8	3-1/8
Steam Humidifier Supply - O.D.	inches	1/4	1/4	1/4	1/4	1/4	1/4
Drain - O.D.	inches	3/4	3/4	3/4	3/4	3/4	3/4
<b>Overall Dimension***</b>							
L x W x H	inches	124x35x78	124x35x78	124x35x78	142x35x78	142x35x78	120x48x78
L x W x H	mm	3150x889x1981	3150x889x1981	3150x889x1981	3607x889x1981	3607x889x1981	3048x1219x1981

**Notes:**

- Upflow configurations adds 18-3/4" to the unit size.
- All cooling capacities shown are "net" as per ASHRAE 127.
- All published data is within ± 5%.

- \* Addition of the humidifier option adds 18-3/4" to the unit size and changes electrical characteristics.
- \*\* Voltage requires a transformer and the use of a +A section.
- \*\*\* Dimensions do not include 30" high return air plenum, shipped separate and field installed.

# Series P

## Options

Configure the Series P

### OPTIONS

ClimateWorx offers a wide range of accessories to meet the most demanding requirements of any precision datacenter application. In addition, ClimateWorx can offer custom solutions that our competitors can only dream of. Listed here are our most common options. Please consult your sales representative for any options that you don't see listed.

**Inlet/discharge Air Plenums** – Available in a variety of standard heights. Please consult our factory for a size to fit your needs.

**Floor Stands** – Come in variable heights and are available with or without OSHA guards.

**Piping Connections** – Top, bottom or custom. Left or right hand.

**Color** – Standard unit color is Warm Grey as shown below. Custom colors are available, contact the factory for details.



Up flow Configuration (Warm Grey)      Down flow Configuration

### UP FLOW CONFIGURATION *(Option)*

All ClimateWorx units are available as an up flow option. These units are also 100% front serviceable, and do not require top access for general maintenance.

### SCR REHEAT

Silicon Controlled Rectifier controlled, with an extruded aluminium heat sink. Heating element low watt-density, tubular finned construction with a noncorrosive metal sheath electrically & thermally protected.



SCR Reheat

### HUMIDIFIER

The humidifier is a self-contained electrode boiler type complete with water level control and auto-drain functions. Mounted in a separate compartment (add 18 3/4") the humidifier is front serviceable without disturbing the air flow.



Humidifier

### CONDENSATE PUMP

Remove condensate from drain pan and humidifier when a drain is not available nearby. Pump is shipped loose for field installation.



Condensate Pump

### AUTO TRANSFER

**SWITCH (ATS)** – monitors the availability of power from either source to the unit, using phase monitor devices and automatically switches to the secondary source of power when the primary source fails, using mechanically and electrically interlocked contractors. The ATS has primary selector switch for easy change over from one source or other as primary.



Auto Transfer Switch (ATS)

Mission Critical Climate Control

 CLIMATEWORX  
INTERNATIONAL



ClimateWorx International Inc. is focused on research, design, manufacture and application of Precision Air Conditioning Equipment providing reliable mission critical climate control. ClimateWorx's offering and design capabilities can meet your specifications with product lines of vertical floor mount, wall mount, ceiling mount, plenum fan and in-row units.

ClimateWorx, a family and employee owned and operated business is fully committed to offering superior service and state of the art quality standards to satisfy our customers' needs. Our dedicated research and development team works continuously to improve the current product line as well as focusing on the development of new products that are needed to compete in the Data Center Cooling arena.

With the support of solid market leaders, including **BMP Metals Inc.** ([www.bmpmetals.com](http://www.bmpmetals.com)) and **CableTalk Systems Inc.** ([www.cabletalk.com](http://www.cabletalk.com)) which have been providing quality integrated solutions for nearly three decades, ClimateWorx can offer comprehensive solutions for all your Data Centre needs.

**Robert R. Bédard**  
Director

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1-800-648-2584



## OUR MISSION

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

## 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.



### ClimateWorx International Inc.

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[www.climateworxinternational.com](http://www.climateworxinternational.com)

### ISO 9001:2008

All rights reserved.  
In the interest of continuous improvement, ClimateWorx reserves the right to change specifications without notice.

All ClimateWorx equipment is evaluated and accepted by a Nationally Recognized Testing Laboratory, NRTL accredited organization to UL 1995 standard.

### BEMPRO GLOBAL GROUP

ClimateWorx International Inc. is part of the Bempro Global Group of companies.