SY-G®

DIGITAL SYNERGY

OUR COMPANY

*We are the catalyst for local technology integrators, helping them to reach for **NEW FRONTIERS** and free themselves from the tyranny of conventional business relationships.*
*We value and appreciate the effort put forth by each company, no matter the size of the market they serve. We strive to develop win-win, long-lasting, **TRUE PARTNERSHIPS** with all Stakeholders, helping them to diversify and grow their business while achieving financial health and **PEACE OF MIND**.*
*We foster a "Business Partner-centric culture" that will change the business dynamics between the Vendor and the Business Partner, spearheaded by a **THINK GLOBALLY–ACT LOCALLY** philosophy.*

NEW FRONTIERS

Sy-G brings a ground-breaking, enthusiastic and energized attitude into a mature industry. Our products and solutions are envisioned to empower and inspire all Stakeholders to step out of conventional business relationships and transform their businesses. We build our company around a "Business Partner-centric culture" designed to generate competitive advantages across the entire value chain.

TRUE PARTNERSHIP

Sy-G is committed to cultivating win-win relationships with our Stakeholders. We prioritize the development of long-term integral relationships sharing a common purpose and striving for shared goals. We innovate together with our Business Partners by developing products and solutions that help build and grow their businesses while securing them a thriving financial future.

PEACE OF MIND

Sy-G is a world-class vendor providing reliable and cutting-edge products and solutions supporting business continuity. Guaranteeing the highest availability for mission-critical applications is our priority. Our product portfolio complies with international standards and is designed to meet and even exceed the industry's best practices. Our raison d'être is to allow customers to concentrate on their business and not have to worry about ours.

THINK GLOBALLY – ACT LOCALLY

Sy-G strives to develop and support the most professional, knowledgeable, and service-focused Business Partner network in order to guarantee customers the reliability of the solutions deployed. We understand that each market is unique with its own individual requirements and technical specifications. We respect and appreciate the local idiosyncrasies because it is our priority to design and supply customized solutions specific to the needs of each territory.

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INDEX

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PRODUCTS & SOLUTIONS PORTFOLIO

POWER SOLUTIONS

- UNINTERRUPTIBLE POWER SYSTEMS (UPS)
- BATTERIES

COOLING SOLUTIONS

- PERIMETRAL PRECISION AIR CONDITIONERS
- WALL-FIT PRECISION AIR CONDITIONERS
- PACKAGED AIR CONDITIONERS

TECHNICAL FLOORING SOLUTIONS

- RAISED ACCESS FLOOR
- VYNIL TILES

CABINET SOLUTIONS

- SERVER CABINETS
- TELECOM CABINETS

INTEGRATED SOLUTIONS

- COMPACT DATACENTER

COOLING SOLUTIONS

High-efficiency cooling solutions engineered for continuous 24/7/365 operation, keeping sensitive equipment at an appropriate temperature and humidity range. These innovative solutions are designed to satisfy the changing expectations and requirements of different industries.

MISSION-CRITICAL AIR CONDITIONER SYSTEMS

Air conditioners designed for mission-critical applications, providing temperature and humidity control, high reliability, high stability, and better energy saving performance. All units are built for 24/7/365 continuous operation.

Our Portfolio includes three different air-conditioners series:

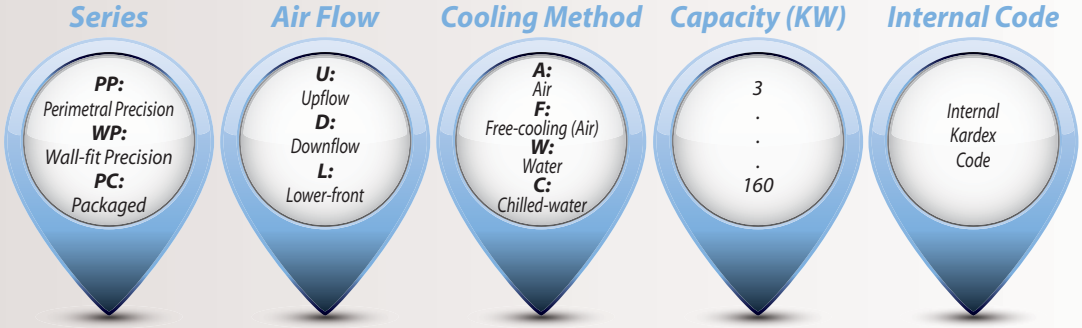
PERIMETRAL PRECISION AIR CONDITIONERS PP SERIES 10 – 100 KW

WALL-FIT PRECISION AIR CONDITIONERS WP SERIES 10 – 13 KW

PACKAGED AIR CONDITIONERS PC SERIES 3 - 18 KW

DESCRIPTION OF FEATURES

1. Nomenclature



Model	PP	D	A	18	AD

2. AC directly coupled fan

- *Backwards curved, directly coupled, carbon-filter fan*
- *Lifespan of 10 to 15 years*
- *35% more efficient because of its inclination and direct coupling*
- *Maintenance-free ball bearings*
- *No belts and pulleys*
- *Does not require belt changes and/or pulley adjustments*
- *High efficiency*
- *Quiet operation*
- *High strength, corrosion-resistant aluminum alloy carrier with special, fiber-reinforced plastic jacket*
- *Thermal overload motor protection*

3. Microprocessor

- *All components are connected to the microprocessor and are continuously monitored and controlled, and to avoid malfunction, the unit is shut down and the failure alarm is shown on the display.*
- *All units are built with Carel's most recent pCO microprocessor with automatic control and monitoring capabilities.*
- *All the pCO series controllers feature a 16-bit microprocessor, 2 MB flash memory, and a large LCD display.*
- *The control system has an adjustable tolerance temperature of +/- 0.1°C and a relative tolerance humidity control of +/- 0.1% RH.*
- *The pCO series controllers can interface with various communication protocols like ModBus, BacNet, Johnson, Metasys, DLL for Windows, TCP/IP, SNMP, LonWorks and Trend.*
- *The pCO series control system allows for configuration and display in several languages, including: English, Spanish, Chinese, Japanese, etc.*
- *Multiple levels of password protection for parameter configuration.*
- *Up to sixteen (16) units can be installed to function synchronously in parallel or in a redundant configuration.*
- *Lead-lag control so that when two or more units are installed, and in case of a unit failure, the standby unit will activate automatically.*
- *Allows setting daily starts and stops of the unit according to weekly program.*
- *Dry contacts inputs and outputs.*

DESCRIPTION OF FEATURES

4. Refrigeration system + independent charging system

Refrigeration system includes external thermostatic expansion valve, liquid and humidity indicator, dry filter, high/low pressure switch set on suction pipe, high-pressure sensor set on exhaust pipe, and designed to operate with environmentally-friendly refrigerant.

5. Indoor/ outdoor service valve

A valve installed in the indoor and outdoor units to trap the refrigerant in order to perform maintenance or repairs in the copper piping network.

6. High Sensible Heat Ratio (SHR)

The Sensible Heat Ratio (SHR) is the relation between sensible heat load (dry heat produced primarily by electronic equipment) and total heat load, which in turn, is the sum of sensible heat load and latent heat load (humid heat produced primarily by living beings). Mission-critical environments require a precision cooling system that provides a high SHR specification that removes primarily the sensible heat generated, and consequently guarantees a precise humidity control to avoiding electrostatic discharges.

7. Energy Efficiency Ratio (EER)

Is the ratio between the net cooling capacity in BTU per hour to the total input rate of electric power applied in Watts.

8. Operational altitude above sea level

For PP Series, all systems are designed and manufactured to operate at 3,000 meters above sea level without suffering any degradation. This is an optional feature for WP Series and PC Series.

9. Aluminum-built outdoor unit

For PP Series, all Outdoor units are manufactured in aluminum in order to prevent corrosion from humidity and salinity, and their lightness allows for versatile installation, either horizontally or vertically. Aluminum construction of Outdoor units is optional for WP Series.

10. Parallel, redundant and alternating operation

Up to sixteen units can be connected in parallel for capacity growth and/or for redundancy.

- *Capacity Growth: The units can be connected in parallel to increase total capacity of the system.*
- *Redundancy: All units in this system share the cooling load. If one fails, or is under maintenance, the remaining units continue supporting the cooling load without interruption.*
- *Alternation: The units can be configured to operate in shifts so as to assure that all units have similar operating hours.*

PERIMETRAL PRECISION AIR CONDITIONERS

PP SERIES

10 - 30 KW

STANDARD FEATURES

- Constructed with a steel frame and painted with epoxy powder to ensure proper adhesion to the surface
- Microprocessor control system with LCD display
- Equipped with AC directly-coupled centrifugal fan (no belts and pulleys)
- Aluminum water pan with drainpipe, liquid receiver complete with accessories, leak detection sensor, and coolant tank
- R407C environmentally-friendly refrigerant
- Electric resistance heaters with temperature control, built with low density heating components and non-corrosive metal sheath tubular finned
- Self-contained immersed electrode boiler type humidifier with water level control and auto-drain functions
- Independent electrical protections for: compressor, fan, motor, heater, and humidifier
- Hermetic scroll compressor equipped with: electrical protector, phase protector, exhaust muffler, and oil tank heater
- Thermodynamic expansion valve (TXV)
- Washable G4 fiber-pad folded filter, built with an exterior aluminum mount structure
- Hot gas bypass
- Liquid detection sensor
- Independent refrigerant charging system for high and low pressure lines
- Indoor service valves

OPTIONAL FEATURES

- Dual Input (optional).
- Electronically Commuted (EC) fan
- Electronic expansion valve (EXV)
- Touch screen display for controller
- Multiple communication protocols for remote monitoring, such as: SNMP (web interface), Modbus and BACnet.

Microprocessor (LCD Display
Web Interface

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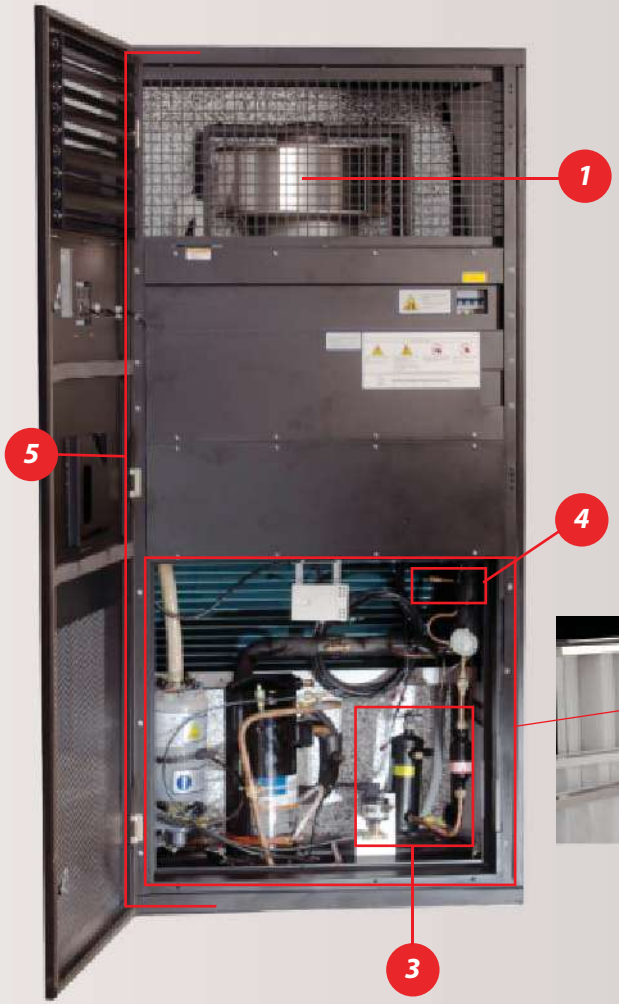
PP SERIES INDOOR UNIT

BENEFITS:

- *Capability for cooling, heating, de-humidifying, and humidifying, as well as filtering air in the room*
- *Provides high Sensible Heat Ratio (SHR) and world-class Energy Efficiency Ratio (EER)*
- *Designed and manufactured to operate at 3,000 meters above sea level without suffering any degradation*
- *Random multiple units insertion after a power failure, with a time delay from 2 to 60 seconds, avoiding simultaneous starting of the units*
- *The control system allows customized programming of temperature, relative humidity, and manual start-up of components. In addition, up to sixteen (16) units can be installed to function synchronously in parallel, alternating, and/or in redundant configurations*
- *Optional energy saving working mode*
- *AC directly-coupled centrifugal fans are 35% more efficient, have an average lifespan of 10 to 15 years, and for ease of maintenance, there are no belts to change or pulleys to adjust*
- *Compressor positive start to avoid short-cycling alarms and low-pressure lockout*
- *Highly accurate temperature and humidity control that extends the service interval and life-cycle, designed to operate with ordinary tap water and equipped with automatic water supply and flushing system to reduce mineral precipitation*
- *All units are 100% front serviceable with all major components located away from the airflow stream, providing important space savings*
- *Electric board, protection switches and control devices are installed in a separated compartment, making the unit serviceable without requiring shut down*



1.- Centrifugal Fan

2.- Washable G4 Filter

3.- Hot Gas Bypass

4.- Maintenance Valve

5.- Frontal Maintenance

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DIGITAL SYNERGY

TECHNICAL SPECIFICATIONS: INDOOR UNIT FOR PP SERIES DXA 10 KW TO 30 KW

UNIT MODEL		PPUA10AD / PPDA10AD / PPLA10AD	PPUA15AD / PPDA15AD / PPLA15AD	PPUA18AD / PPDA18AD / PPLA18AD	PPUA22AD / PPDA22AD / PPLA22AD	PPUA25AD / PPDA25AD / PPLA25AD	PPUA30AD / PPDA30AD / PPLA30AD
Supply air scheme		U: Upflow		D: Downflow	L: Lower front discharge		
COOLING CAPACITY							
Total capacity	KW [Btu/h]	10.7 [36,510]	15.4 [52,547]	18.3 [62,442]	22.2 [75,750]	25.4 [86,668]	30.2 [103,047]
Sensible capacity	KW [Btu/h]	9.8 [33,439]	14.2 [48,452]	16.8 [57,324]	20.4 [69,608]	23.4 [79,844]	27.8 [94,858]
SUPPLY FAN							
Type		Plug - in AC centrifugal fan					
Qty of fan	n	1					
Air Volume	m3/h [CFM]	2,450 [1,442]	3,450 [2,031]	3,450 [2,031]	5,100 [3,002]	6,500 [3,826]	6,500 [3,826]
COMPRESSOR							
Type		Hermetic scroll compressor					
Qty of Compressor		1					
REFRIGERANT							
Type		R407C					
Control		Thermal expansion valve					
Charge weight	Kg	4.2	5.0	6.4	8.0	10.0	11.0
FILTERS							
Type		G4					
Qty of filters	n	1			2		
POWER SUPPLY							
Power source		208 - 230V, 1Ph, 60Hz	208 - 230V, 3Ph, 60Hz				
ELECTRIC HEATER							
Type		Stainless steel					
Working class	n.	1	2				
Heating capacity	KW	4.5	6.0		9.0		
HUMIDIFIER							
Type		Electrode					
Capacity	Kg/h	3			5	8	
DIMENSIONS AND WEIGHT							
Width	mm	650	900		1,300		
Depth	mm	650	750		750		
Height	mm	1,910	1,910		1,910		
Weight	Kg	165	255	290	370	460	490
OUTDOOR UNIT							
Model		OPCMD4A	OPCME5A	OPCME8A		OPCME10A	
Qty	n.	1					
CERTIFICATIONS & STANDARDS							
Quality		ISO 9001:2008 ; ISO 14001:2004 ; ISO 13485:2003 ; OHSAS 18001:2007					
Compliance		CE, CQC31-439125-2010					

(1) — All specifications apply for Upflow, Downflow and Lower front discharge.

(2) — U: Upflow D: Downflow L: Lower front discharge

(3) — Return air dry bulb temperature 24 , RH 50 %, Outdoor dry bulb temperature 35

(4) — The supply fan of PP series units are equipped with AC fan.

(5) — The capacity of heater and humiditifier is optional.

(6) — Technical specification of outdoor unit please refer to the next table: Outdoor Unit Technical Specifications for: PP Series DXA 10 KW to 30 KW

(7) — The Maximun operation power input and current means the unit works under dehumidification and heating modes, the ambient temperature is 45

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OUTDOOR UNIT FEATURES

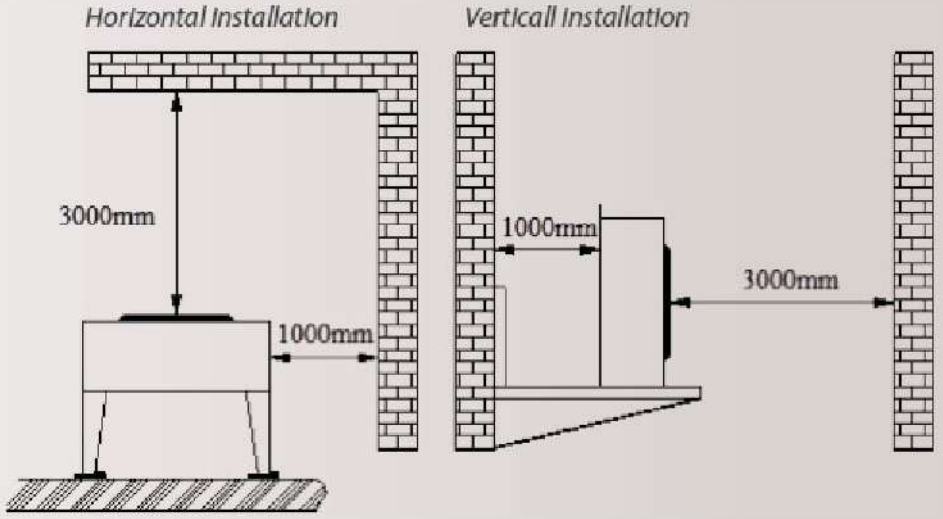
- *Remote aluminum built air-cooled condenser with axial fan (DXA)*
- *Built entirely in heavy gauge corrosion resistant aluminum*
- *Aluminum fins and copper tubes staggered in direction of the airflow*
- *Fan speed is step-less controlled by microprocessor according to compressor discharge pressure*
- *Outdoor service valves*

BENEFITS:

- *Designed and manufactured to operate at 3,000 meters above sea level without suffering any degradation*
- *Can be installed in either vertical or horizontal air discharge, for footprint considerations*
- *Fan motor provides steady operation, lower noise level, energy savings and low temperature start-up*

TECHNICAL SPECIFICATIONS: OUTDOOR UNIT FOR PP SERIES DXA 10 KW TO 30 KW

MODEL		OPCMD4A	OPCME5A	OPCME8A	OPCME10A
Qty of fan		1			
Power input	Kw	0.28	0.37	0.71	0.63
Current	A	1.65	1.7	3	
Gas pipe	Ø	5/8"	3/4"	7/8"	
Liquid pipe	Ø	1/2"		5/8"	
Length	mm	808	1,140	1,340	
Width	mm	509	475	620	
Height	mm	789	770	1,070	
Weight	Kg	57	47	95	110



PERIMETRAL PRECISION AIR CONDITIONERS

PP SERIES

35 - 160 KW

STANDARD FEATURES

- *Constructed with a steel frame and painted with epoxy powder to ensure proper adhesion to the surface*
- *Microprocessor control system with LCD display*
- *Equipped with AC directly-coupled centrifugal fan (no belts and pulleys)*
- *Aluminum water pan with drainpipe, liquid receiver complete with accessories, leak detection sensor, and coolant tank*
- *R407C environmentally-friendly refrigerant*
- *Electric resistance heaters with temperature control, built with low density heating components and non-corrosive metal sheath tubular finned*
- *Self-contained immersed electrode boiler type humidifier with water level control and auto-drain functions*
- *Independent electrical protections for: compressor, fan, motor, heater, and humidifier*
- *Hermetic scroll compressor equipped with: electrical protector, phase protector, exhaust muffler, and oil tank heater*
- *Thermodynamic expansion valve (TXV)*
- *Washable G4 fiber-pad folded filter, built with an exterior aluminum mount structure*
- *Hot gas bypass*
- *Liquid detection sensor*
- *Independent refrigerant charging system for high and low pressure lines*
- *Indoor service valves*

OPTIONAL FEATURES

- *Dual Input (optional).*
- *Electronically Commuted (EC) fan*
- *Electronic expansion valve (EXV)*
- *Touch screen display for controller*
- *Multiple communication protocols for remote monitoring, such as: SNMP (web interface), Modbus and BACnet.*

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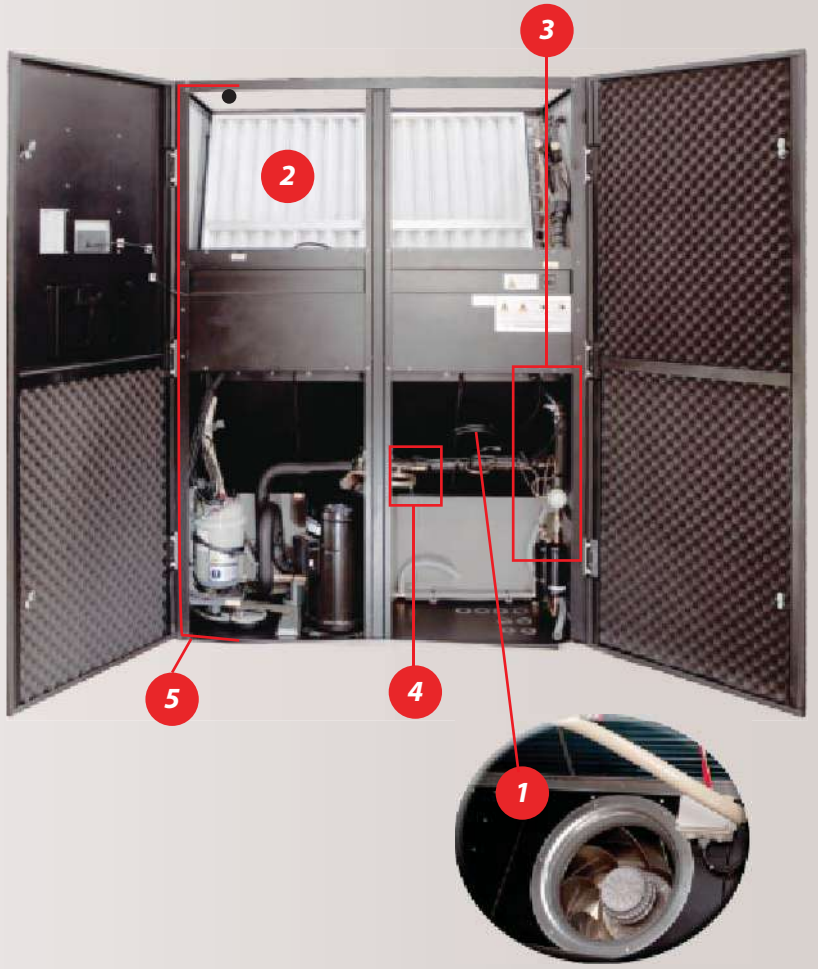
STANDARD FEATURES (PP) SERIES 35-160 KW

BENEFITS:

- *Capability for cooling, heating, de-humidifying, and humidifying, as well as filtering air in the room*
- *Provides high Sensible Heat Ratio (SHR) and world-class Energy Efficiency Ratio (EER)*
- *Designed and manufactured to operate at 3,000 meters above sea level without suffering any degradation*
- *Random multiple units insertion after a power failure, with a time delay from 2 to 60 seconds, avoiding simultaneous starting of the units*
- *The control system allows customized programming of temperature, relative humidity, and manual start-up of components. In addition, up to sixteen (16) units can be installed to function synchronously in parallel, alternating, and/or in redundant configurations*
- *Optional energy saving working mode*
- *AC directly-coupled centrifugal fans are 35% more efficient, have an average lifespan of 10 to 15 years, and for ease of maintenance, there are no belts to change or pulleys to adjust*
- *Compressor positive start to avoid short-cycling alarms and low-pressure lockout*
- *Highly accurate temperature and humidity control that extends the service interval and life-cycle, designed to operate with ordinary tap water and equipped with automatic water supply and flushing system to reduce mineral precipitation*
- *All units are 100% front serviceable with all major components located away from the airflow stream, providing important space savings*
- *Electric board, protection switches and control devices are installed in a separated compartment, making the unit serviceable without requiring shut down*



1.- Centrifugal Fans

2.- Washable G4 Filter

3.- Hot Gas Bypass

4.-Maintenance Valves

5.- Frontal Maintenance

TECHNICAL SPECIFICATIONS: INDOOR UNIT FOR PP SERIES DXA 35 KW TO 100 KW

UNIT MODEL		PPUA35AO / PPDA35AO	PPUA40AO / PPDA40AO	PPUA50AO / PPDA50AO	PPUA60AO / PPDA60AO	PPUA70AO / PPDA70AO	PPUA80AO / PPDA80AO	PPUA90AO / PPDA90AO	PPUA100AO / PPDA100AO
Supply air scheme		U: Upflow D: Downflow							
COOLING CAPACITY									
Total	KW [Btu/h]	35.3 [120,448]	41.8 [142,627]	50.5 [172,313]	60.2 [205,410]	70.6 [240,897]	80.2 [273,653]	85.3 [291,055]	97.6 [333,025]
Sensible	KW [Btu/h]	33.5 [114,307]	38.9 [132,732]	47.0 [160,371]	57.8 [197,222]	66.2 [225,884]	74.0 [252,498]	79.6 [271,606]	90.3 [308,116]
SUPPLY FAN									
Type		Plug - in AC centrifugal fan							
Qty of fan	n	1	2		3				
Air volume	m3/h [CFM]	9,600 [5,650]	12,750 [7,504]	12,300 [7,240]	19,200 [11,301]	19,100 [11,242]		28,960 [17,045]	
COMPRESSOR									
Type		Hermetic scroll compressor							
Qty of Compressor	n	1		2					
REFRIGERANT									
Type		R407C							
Control		Thermal expansion valve							
Charge weight	Kg	12	15	2×10	2×11	2×12	2×15	2×17	2×18
FILTERS									
Type		G4							
Qty of filters - U: Upflow	n	2			3			4	
Qty of filters - D: Downflow	n	4	6					8	
POWER SUPPLY									
Power source		208 - 230V, 3Ph, 60Hz							
ELECTRIC HEATER									
Type		Stainless steel							
Working class	n	2							
Heating capacity	KW	9	13.5		18				
HUMIDIFIER									
Type		Electrode							
Capacity	Kg/h	5	8						
DIMENSIONS AND WEIGHT									
Length	mm	1,480	1,750		2,490			3,095	
Depth	mm	890	890		890			890	
Height	mm	1,960	1,960		1,960			2,050	
Weight	Kg	420	630	680	940	980	1,040	1,230	1,270
OUTDOOR UNIT									
Model		OPCME15A		OPCME10A		OPCME15A		OPCME20A	
Qty condenser	n	1		2					
CERTIFICATIONS & STANDARDS									
Quality		ISO 9001:2008 ; ISO 14001:2004 ; ISO 13485:2003 ; OHSAS 18001:2007							
Compliance		CE ; CQC31-439125-2010							

(1) — All specifications apply to Upflow and Downflow models.
(2) — U: Upflow D: Downflow
(3) — DXA: Direct expansion air with air cooled outdoor units
(4) — Return air dry bulb temperature 24 ℃, RH 50 %, Outdoor dry bulb temperature 35 ℃
(5) — The maximum operation power input and current data makes reference to a unit working under dehumidification and heating modes.
(6) — For technical specifications of Outdoor Units, please refer to the table: Outdoor Unit Technical Specifications for: PP Series DXA & FC 35 KW to 100 KW
(7) — CQC31-439125-2010 Energy saving standard apply only to 40, 60, 70, 80 KW models

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TECHNICAL SPECIFICATIONS: INDOOR UNIT FOR PP SERIES FC DXA 35 KW TO 100 KW

UNIT MODEL		PPUF35AO / PPDF35AO	PPUF40AO / PPDF40AO	PPUF50AO / PPDF50AO	PPUF60AO / PPDF60AO	PPUF70AO / PPDF70AO	PPUF80AO / PPDF80AO	PPUF90AO / PPDF90AO	PPUF100AO / PPDF100AO
Supply air scheme		U: Upflow D: Downflow							
COMPR. COOLING CAPACITY									
Total (1)	KW [Btu/h]	35.9 [122,495]	43.5 [148,428]	51.2 [174,701]	61.3 [209,164]	71.1 [242,603]	81.2 [277,065]	86.1 [293,785]	101.3 [345,649]
Sensible (1)	KW [Btu/h]	33.7 [114,989]	41.3 [140,921]	47.5 [162,076]	56.2 [191,762]	68.2 [232,708]	76.2 [260,005]	81.7 [278,772]	95.8 [326,883]
FREE COOLING CAPACITY									
Total (2)	KW [Btu/h]	32.3 [110,212]	39.2 [133,755]	46.1 [157,299]	55.2 [188,350]	64.0 [218,377]	73.1 [249,427]	77.5 [264,427]	91.2 [311,187]
Sensible (2)	KW [Btu/h]	30.3 [103,387]	37.2 [126,931]	42.7 [145,698]	50.6 [172,654]	61.4 [209,505]	68.6 [234,072]	73,6 [251,133]	86.2 [294,126]
FAN									
Qty of fan	n	1	2						
Air volume	m3/h [CFM]	9,600 [5,650]	12,600 [7,416]	13,600 [8,005]	17,800 [10,477]	19,200 [11,301]	21,000 [12,360]	24,600 [14,479]	27,900 [16,421]
COMPRESSOR									
Qty of compressor	n	1	2						
ELECTRIC HEATER									
Capacity	KW	9.0	13.5		18.0				
HUMIDIFIER									
Capacity	Kg/h	5.0	8.0					15.0	
FREE COOLING									
Water flow	m3/h	5.6	6.7	7.9	9.5	11	12.6	13.3	15.7
DRY COOLER									
Model	Kg/h	OPCME20A	OPCME25A	OPCME25A	OPCME30A	OPCME30A	OPCME35A	OPCME25A	OPCME25A
Qty	n	1						2	
POWER SUPPLY									
Power source									
Max. power	KW	24.0	27.2	27.8	37.7	39.4	40.8	48.9	53.5
Max. current	A	49.1	55.2	59.9	74.7	78.8	83.1	94.4	103.6
DIMENSIONS AND WEIGHT									
Length	mm	1,480	1,750		2,490			3,095	
Depth	mm	890	890		890			890	
Height	mm	1,960	1,960		1,960			2,050	
Weight	Kg	415	620	670	770	780	900	1,210	1,250
AIR COOLED CONDENSER (OUTDOOR UNIT)									
Qty	n	1	2						
CERTIFICATIONS & STANDARDS									
Quality & Compliance		ISO 9001:2008 ; ISO 14001:2004 ; ISO 13485:2003 ; OHSAS 18001:2007 ; CE							

(1) — All specifications apply to Upflow and Downflow models.

(2) — U: Up flow D: Downflow

(3) — DXA: Direct expansion air with air cooled outdoor units

(4) — Return air dry bulb temperature 24 , RH 50 %, Outdoor dry bulb temperature 35 .

(5) — The maximum operation power input and current data makes reference to a unit working under dehumidification and heating modes.

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SY-G® DIGITAL SYNERGY

OUTDOOR UNIT FEATURES

- Remote aluminum built air-cooled condenser with axial fan (DXA)
- Built entirely in heavy gauge corrosion resistant aluminum
- Aluminum fins and copper tubes staggered in direction of the airflow
- Fan speed is step-less controlled by microprocessor according to compressor discharge pressure
- Outdoor service valves

BENEFITS:

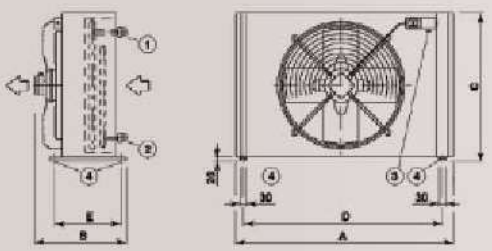
- Designed and manufactured to operate at 3,000 meters above sea level without suffering any degradation
- Can be installed in either vertical or horizontal air discharge, for footprint considerations
- Fan motor provides steady operation, lower noise level, energy savings and low temperature start-up

TECHNICAL SPECIFICATIONS: OUTDOOR UNIT FOR PP SERIES DXA & FC 35 KW TO 100 KW

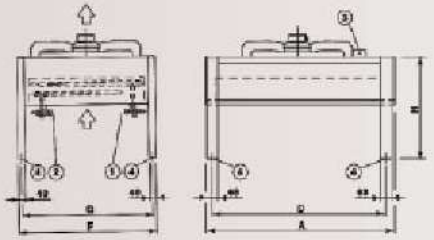
UNIT MODEL		OPCME10A	OPCME15A	OPCME20A
Cooling capacity (1)	Kw	37.3	50.1	70.9
Qty of fan	n	1	2	
Air flow rate	m3/h	9,700	13,800	20,100
Input power	Kw	0.63	0.66	1.26
Input current	A	3.0	3.4	6.0
Noise	db(A)	67.0	66.2	69.2
CONNECTION TUBE SIZE				
Gas pipe	ODF	22.0		28.0
Liquid pipe	ODF	16.0	19.0	
DIMENSIONS				
Length	mm	1,340	1,540	2,400
Width	mm	620	620	630
Height	mm	1,070	1,070	1,135
Weight	Kg	110	130	155

(1) The capacity is rated at entering air temperature 35 oC and condensing temperature 50 condition.

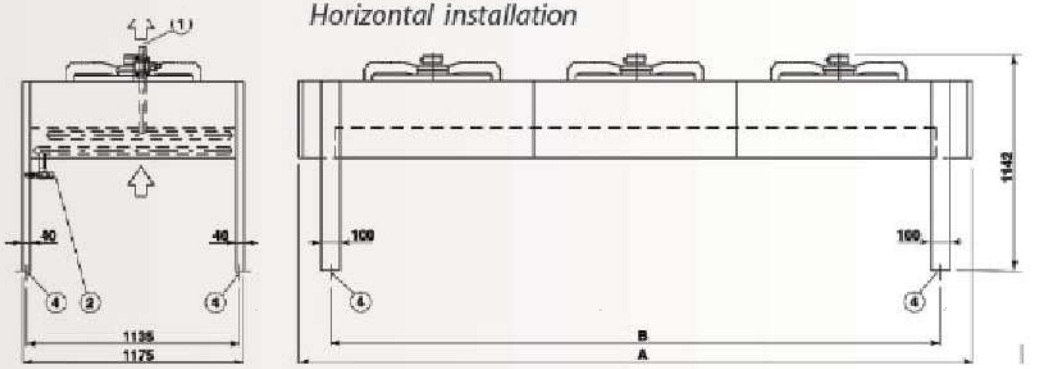
Vertical installation



Horizontal installation



Horizontal installation



SY-G® DIGITAL SYNERGY

TECHNICAL SPECIFICATIONS INDOOR UNIT FOR: PP SERIES DXW 35 KW TO 100 KW

UNIT MODEL		PPUW35AO / PPDW35AO	PPUW40AO / PPDW40AO	PPUW50AO / PPDW50AO	PPUW60AO / PPDW60AO	PPUW70A0 / PPDW70A0	PPUW80AO / PPDW80AO	PPUW90AO / PPDW90AO	PPUW100AO / PPDW100AO
Supply air scheme		U: Upflow D: Downflow							
COOLING CAPACITY									
Total	KW [Btu/h]	36.8 [125,566]	42.9 [146,380]	53.8 [183,573]	62.8 [214,282]	72.6 [247,721]	82.6 [281,842]	90.6 [309,140]	103.8 [354,180]
Sensible	KW [Btu/h]	33.9 [115,671]	39.9 [136,144]	49.6 [169,242]	58.5 [199,610]	67.2 [229,295]	78.1 [266,488]	83.1 [283,549]	97.2 [331,660]
SUPPLY FANS									
Qty of fan	n	1	2		3				
Air volume	m3/h [CFM]	9,600 [5,650]	12,750 [7,504]	12,300 [7,240]	19,200 [11,301]	19,100 [11,242]		28,960 [17,045]	
COMPRESSOR									
Type		Hermetic scroll compressor							
Qty of Compressor		1	2						
POWER SUPPLY									
Power source		208 - 230V, 3Ph, 60Hz							
ELECTRIC HEATER									
Capacity	KW	9	13.5		18				
HUMIDIFIER									
Capacity	Kg/h	5	8					15	
Power	KW	3.8	5.9					11.3	
DIMENSIONS AND WEIGHT									
Length	mm	1,480	1,750		2,490			3,095	
Depth	mm	890	890		890			890	
Height	mm	1,960	1,960		1,960			2,050	
Weight	Kg	420	630	680	940	980	1,040	1,230	1,270
WATER CONDENSER									
Water flow	m3/h	7.3	11	12.4	14.1	16	18.1	20.3	23.7
Pressure drop	KPa	26	46.4	44.3	44.8	46.3	48.4	34.3	36.7
Pressure drop (with valves)	KPa	47.5	63.4	62.8	58.3	61.3	69.9	51.8	55.2
Volume	KPa	2.2	4	4.5	5.2	5.8	6.4	7.3	8.1
CERTIFICATIONS & STANDARDS									
Quality & Compliance		ISO 9001:2008 ; ISO 14001:2004 ; ISO 13485:2003 ; OHSAS 18001:2007 ; CE							

(1) — All specifications apply to Upflow and Downflow models.

(2) — U: Up flow D: Downflow

(3) — DXW: Direct expansion with water cooled indoor units

(4) — Return air dry bulb temperature 24 ℃, RH 50 %, Outdoor dry bulb temperature 35 ℃.

(5) — The maximum operation power input and current data makes reference to a unit working under dehumidification and heating modes.

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TECHNICAL SPECIFICATIONS INDOOR UNIT FOR PP SERIES CW 43 KW TO 160 KW

UNIT MODEL		PPUC43AO / PPDC43AO	PPUC65AO / PPDC65AO	PPUC84AO / PPDC84AO	PPUC105AO / PPDC105AO	PPUC127AO / PPDC127AO	PPUC160AO / PPDC160AO
Supply air scheme		U: Upflow D: Downflow					
COOLING CAPACITY							
Total	KW [Btu/h]	43.0 [146,722]	55.6 [189,715]	84.3 [287,643]	105.4 [359,639]	126.9 [433,000]	160.3 [546,966]
Sensible	KW [Btu/h]	40.4 [137,850]	51.9 [177,090]	78.9 [269,218]	98.1 [334,731]	119.3 [407,068]	148.6 [507,044]
FANS							
Qty of fan	n	1		2		3	
Air volume	m3/h [CFM]	10,500 [6,180]	13,000 [7,652]	21,000 [12,360]	24,800 [14,597]	31,500 [18,540]	37,200 [21,895]
COOLING COIL							
Water flow	m3/h	7.4	9.6	14.5	18.2	21.6	27.5
Pressure drop	kPa	44.7	48.1	69.8	72	58.1	74.7
POWER SUPPLY							
Power source		208 - 230V, 3Ph, 60Hz					
HUMIDIFIER							
Capacity	Kg/h	8		15			
DIMENSIONS AND WEIGHT							
Length	mm	1,235		1,980		2,490	2,905
Depth	mm	900		900		900	900
Height	mm	2,320		2,320		2,320	2,320
Weight	Kg	375	405	525	560	750	890
CERTIFICATIONS & STANDARDS							
Quality & Compliance		ISO 9001:2008 ; ISO 14001:2004 ; ISO 13485:2003 ; OHSAS 18001:2007 ; CE					

(1) — All specifications apply to Upflow and Downflow models.

(2) — U: Up flow D: Downflow

(3) — CW: Direct expansion with water chillers outdoor units

(4) — Return air dry bulb temperature 24 , RH 50 %, Outdoor dry bulb temperature 35 .

(5) — The maximum operation power input and current data makes reference to a unit working under dehumidification and heating modes.

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WALL-FIT PRECISION AIR CONDITIONERS

WP SERIES

10 - 13 KW

INDOOR UNIT STANDARD FEATURES

- Constructed with a steel frame and painted with epoxy powder to ensure proper adhesion to the surface
- Microprocessor control system with LCD display
- R410A environmentally-friendly refrigerant
- Equipped with double inlet, three speed adjustable, directly-coupled centrifugal fan (no belts and pulleys)
- Independent electrical protections for compressor, fan, motor, heater, and humidifier
- Electric resistance heaters with temperature control, built with low density heating components and non-corrosive metal sheath tubular finned
- Self-contained immersed electrode boiler type humidifier with water level control and auto-drain functions (separate chassis)
- Thermodynamic expansion valve (TXV)
- Liquid detection sensor
- Independent refrigerant charging system for high and low pressure lines
- Indoor service valves

Outdoor unit

Indoor unit

Humidifier chassis

OPTIONAL FEATURES

- Electronic expansion valve (EXV)
- Touch-screen display for the controller
- Multiple communication protocols for remote monitoring, such as: SNMP (web interface), Modbus and BACnet.
- Can be designed and manufactured to operate at 3,000 meters above sea level without suffering any degradation

BENEFITS:

- Capability for cooling, heating, de-humidifying, and humidifying, as well as filtering air in the room
- Provide high Sensible Heat Ratio (SHR) and world-class Energy Efficiency Ratio (EER)
- Versatile wall-mount installation
- Directly-coupled centrifugal fans are 35% more efficient, have an average lifespan of 10 to 15 years, and for ease of maintenance, there are no belts to change or pulleys to adjust
- The control system allows customized programming of temperature, relative humidity, and manual start-up of components, etc.
- Compressor positive start to avoid short-cycling alarms and low-pressure lockout
- Highly accurate temperature and humidity control that extends the service interval and life-cycle, designed to operate with ordinary tap water and equipped with automatic water supply and flushing system to reduce mineral precipitation

SY-G®
DIGITAL SYNERGY

TECHNICAL SPECIFICATIONS: INDOOR UNIT FOR WP SERIES 10 KW TO 13 KW

Indoor unit

Humidifier chassis

UNIT MODEL		WPUA10AS	WPUA13AS
Supply air scheme		U: Upflow	
COOLING CAPACITY			
Total	KW [Btu/h]	10.0 [34,121]	13.4 [45,723]
Sensible	KW [Btu/h]	8.2 [27,980]	8.9 [30,368]
EVAPORATOR FAN			
Type		Plug - in AC centrifugal fan	
Qty of fan	n	1	
Air Volume	m3/h [CFM]	2,460 [1,448]	2,650 [1,560]
COMPRESSOR			
Type		Hermetic scroll compressor	
Qty of Compressor		1	
REFRIGERANT			
Type		R410A	
Control		Thermal expansion valve	
POWER SUPPLY			
Power source		208 - 230V, 1Ph, 60Hz	
CONDENSING UNIT FAN			
Qty of fan	n	1	
Air Volume	m3/h [CFM]	6,300 [3,708]	
DIMENSIONS AND WEIGHT			
Width	mm	1,295	
Depth	mm	310	
Height	mm	870	
Weight	Kg	64	67
CERTIFICATIONS & STANDARDS			
Quality & Compliance		ISO 9001:2008 ; ISO 14001:2004 ; ISO 13485:2003 ; OHSAS 18001:2007 ; CE	

(1) — Return air dry bulb temperature 27 , RH 50 %, Outdoor dry bulb temperature 35 .

(2) — Indoor temperature and outdoor temperature difference (AT) is 10°C

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OUTDOOR UNIT FEATURES

- *Remote air-cooled condensing unit with axial fan (DXA)*
- *Aluminum fins and copper tubes staggered in direction of the airflow*
- *Hermetic scroll compressor, installed in the outdoor unit and equipped with electrical protector, phase protector, exhaust muffler, and oil tank heater*
- *Fan speed is step-less controlled by microprocessor according to compressor discharge pressure*

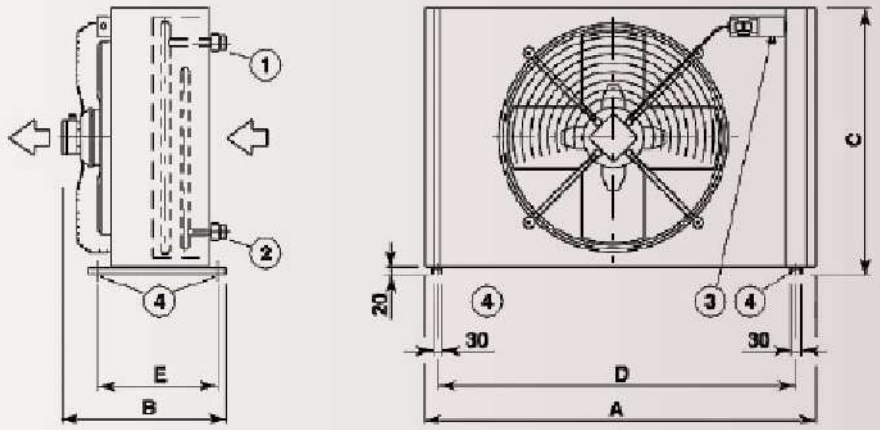
BENEFITS:

- *Outdoor compressor installation reduces the size of the indoor unit*
- *Fan motor provides steady operation, lower noise level, energy savings and low temperature start-up*

TECHNICAL SPECIFICATIONS: OUTDOOR UNIT FOR WP SERIES 10 KW TO 13 KW

MODEL		OPCMD4A
Qty of fan		1
Power input	Kw	0.28
Current	A	1.65
Gas pipe	Ø	5/8"
Liquid pipe	Ø	1/2"
Length	mm	808
Width	mm	509
Height	mm	789
Weight	Kg	57

Vertical installation



PACKAGED AIR CONDITIONERS

PC SERIES

3 KW

FEATURES

- *Designed to be side-mounted on cabinets*
- *Equipped with directly-coupled axial fan (no belts and pulleys)*
- *Independent electrical protections for compressor and fan*
- *Hermetic scroll compressor*

BENEFITS:

- *Wide variety of configurations to fit enclosures*
- *Highly accurate temperature control*
- *Directly-coupled axial fan; for ease of maintenance, there are no belts to change or pulleys to adjust*

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DIGITAL SYNERGY

TECHNICAL SPECIFICATIONS FOR: PC SERIES 3 KW

UNIT MODEL		PCLA3AT
Supply air scheme		L: Lower front discharge
COOLING CAPACITY		
Total capacity	KW [Btu/h]	3.06 [10,441]
REFRIGERANT		
Type		R22
POWER SUPPLY		
Power source		208 V, 1 Ph, 60Hz
IP GRADE		
IP		55
WORKING TEMPERATURE		
Temperature range		-5~50 °C
DIMENSIONS AND WEIGHT		
Width	mm	569
Depth	mm	220
Height	mm	1,308
CERTIFICATIONS & STANDARDS		
Quality		ISO 9001:2008/ ISO 14001:2004 / ISO 13485:2003 / OHSAS 18001:2007
Compliance		EN60529:1991 ; PC

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PACKAGED AIR CONDITIONERS

PC SERIES

10 - 18 KW

FEATURES

- Constructed with a steel frame with corrosion protection treatment
- Equipped with AC directly-coupled centrifugal fan (no belts and pulleys)
- R407C environmentally-friendly refrigerant
- Independent electrical protections for compressor, fan, and motor
- Hermetic scroll compressor equipped with: electrical protector, phase protector, exhaust muffler, and oil tank heater
- Thermodynamic expansion valve (TXV)
- Washable G4 fiber-pad folded filter, built with and exterior aluminum mount structure
- Wall-mounting kit
- Indoor and outdoor service valves

OPTIONAL FEATURES:

- Electronically-Commuted (EC) fan
- Electronic expansion valve (EXV)
- Microprocessor control system with PLD display
- Electric heaters
- Can be design and manufacture to operate at 3,000 meters above sea level without suffering any degradation
- Free-cooling system

BENEFITS:

- Versatile outdoor wall-mount installation that saves internal space
- Highly accurate temperature control
- Energy savings with free-cooling system
- AC directly-coupled centrifugal fans are 35% more efficient, have an average lifespan of 10 to 15 years For ease of maintenance, there are no belts to change or pulleys to adjust
- Automatic self- diagnosis through continuous testing of all components connected to the microprocessor
- Random multiple units insertion after a power failure, with a time delay from 2 to 60 seconds, avoiding simultaneous starting of the units
- Air filter with high torque and low leakage air damper
- Front serviceable with easy access to all major components

SY-G®
DIGITAL SYNERGY

TECHNICAL SPECIFICATIONS FOR:
PC SERIES
10 KW TO 18 KW

UNIT MODEL		PCLA10AM	PCLA13AM	PCLA15AM	PCLA18AM
Supply air scheme		L: Lower front discharge			
COOLING CAPACITY					
Total capacity	KW [Btu/h]	9.6 [32,757]	12.1 [41,287]	13.6 [46,405]	16.5 [56,300]
Sensible capacity	KW [Btu/h]	8.3 [28,321]	10.4 [35,486]	11.6 [39,581]	14.5 [49,476]
SUPPLY FAN					
Type		AC centrifugal fan			
Qty of fan	n	1			
Air Volume	m3/h [CFM]	2,400 [1,413]		2,600 [1,530]	2,750 [1,619]
COMPRESSOR					
Type		Hermetic scroll compressor			
Qty of Compressor		1			
REFRIGERANT					
Type		R407C			
Control		Thermal expansion valve			
FILTERS					
Preliminary Filter Type		G2 (Nylon net)			
Main Filter Type		G3 (Disposable pleated)			
Qty of filters	n	1 of each type			
POWER SUPPLY					
Power source		208 - 230V, 1Ph, 60Hz			
ELECTRIC HEATER					
Type		Finned stainless tube			
Heating capacity	KW	4.5			
DIMENSIONS AND WEIGHT					
Width	mm	930	1,080		1,280
Depth	mm	700			
Height	mm	2,140			
Weight	Kg	270	305	320	402
CONDENSER FAN					
Type		Axial Fan			
Qty	n.	1			2
Air Volume	m3/h [CFM]	5,900 [3,473]	6,300 [3,708]		8,050 [4,738]
CERTIFICATIONS & STANDARDS					
Quality & Compliance		ISO 9001:2008 ; ISO 14001:2004 ; ISO 13485:2003 ; OHSAS 18001:2007 ; CE			

(1) — The cooling capacity at indoor temp. is 24 , at RH 50% and outdoor temp. 35

(2) — CE standard apply only to 10 and 13 KW models

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TECHNICAL SPECIFICATIONS FOR:
PC SERIES FC
10 KW TO 18 KW

UNIT MODEL		PCLF10AM	PCLF13AM	PCLF15AM	PCLF18AM
Supply air scheme		L: Lower front discharge			
COOLING CAPACITY					
Total capacity	KW [Btu/h]	8.6 [29,344]	9.1 [31,050]		15.2 [51,865]
SUPPLY FAN					
Type		AC centrifugal fan			
Qty of fan	n	1			
Air Volume	m3/h [CFM]	2,400 [1,413]		2,600 [1,530]	2,750 [1,619]
COMPRESSOR					
Type		Hermetic scroll compressor			
Qty of Compressor		1			
REFRIGERANT					
Type		R407C			
Control		Thermal expansion valve			
FILTERS					
Preliminary Filter Type		G2 (Nylon net)			
Main Filter Type		G3 (Disposable pleated)			
Qty of filters	n	1 of each type			
POWER SUPPLY					
Power source		208 - 230V, 1Ph, 60Hz			
ELECTRIC HEATER					
Type		Finned stainless tube			
Heating capacity	KW	4.5			
DIMENSIONS AND WEIGHT					
Width	mm	930	1,080		1,280
Depth	mm	700			
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