

PACKAGED WATER COOLED UNIT (DUCTED)

TYPE: VERTICAL ONLY

MODEL: PWC-DX-C/H

CAPACITY: 2.1 to 20.0 Nominal Tons

25,000 to 240,000 BtuH

7.3 to 70.3 KW

EXTERNAL STATIC: 80 to 100 Pa



Description:

- The PWC units are single package water cooled air conditioners.
- The PWC series includes 4 models of cooling system.
- The PWCJ for Cooling and Heating.
- Suitable for vertical mount, indoor installation.
- Free blow or duct system.
- Completed with pipe, wiring and refrigeration charging at the factory.
- Ideal for quick and low cost installation.

Features:

- High efficiency, hermetic, refrigerant cooled compressor.
- High efficiency tube-in-tub condenser.
- Electrical supply connections and knockouts provided.
- Lower operating cost.
- Low noise operation.
- HP and LP cut-out switches.
- Air filters
- Electrical panel.

GUIDE SPECIFICATION

GENERAL

The PWC-DX-C/H water cooled single packaged air conditioners shall be completely factory assembled, leaktested, evacuated and fully charged with R-22, ready for installation.

UNIT CASING

The unit shall be constructed from electro galvanized steel. The exterior panels shall be acoustically lined with 1/2" thick, 40 kg/cu.m. fiber glass insulation. The insulation shall be affixed to the casing with the water proof adhesive. All steel metal parts shall be degreased, zinc phosphate bonderized before begin oven-baked with a thick coat of polyester paint.

COMPRESSOR

Each unit shall have Scroll hermetic compressor mounted on vibration isolators. The refrigerant gas cooled, high torquer motor, quiet running with internal suspension system to eliminate vibration, and internal linebreak motor protection and motor overheating.

CONDENSER

The water cooled condenser shall be high efficiency profiled tube-in-tube type. The copper tube inside the steel pipe shall offer efficient refrigerant cooling. The refrigerant side of the condenser shall be cleaned, dehydrated and tested for 350 psig design working pressure. The condenser including water shall be tested for leakage at the factory.

EVAPORATOR COIL

The direct expansion evaporator shall consist of full face coil with counter flow circuits, seamless 3/8 inch OD staggered copper tubes mechanically bonded into aluminium fins with a maximum of 12 fins per inch. Each coil shall be dehydrated internally and externally, brazed in nitrogen atmosphere, leak tested at 350 psig and completely dehydrated before assembly.

EVAPORATOR FAN AND MOTOR

The evaporator fan shall be the double inlet, multi-blade centrifugal type. The fan wheel shall be constructed from galvanized steel and statically and dynamically balanced.

REFRIGERANT CIRCUIT

The refrigerant circuit shall be factory piped, leak tested and pre-charged with R-22. Each refrigerant circuit shall consist of a compressor, and capillary tube.

UNIT CONTROL

Each system shall contain factory mounted wired and tested controls required to operate and protect the unit. The control system shall include compressor overload protection, motor winding protection, high and low pressure cutouts (for unit with heat pump) to guard against compressor damage due to high discharge head pressure and system leakage.

FILTERS

Air filters shall be cleanable aluminium type.

PHYSICAL DATA & ELECTRICAL DATA

MODEL PWC-DX-C/H		025	030	036	040	050
Cooling Capacity	BTUH	25,000	31,000	37,000	44,000	50,000
	Tons	2.08	2.58	3.08	3.67	4.20
	kW	7.3	9.1	10.8	12.9	14.65
Nominal Air Flow	CFM	900	1,200	1,600	1,800	1,900
	CMH	1,530	2,040	2,720	3,060	3,228
	L/S	420	570	750	850	897
Air Pressure Drop	Pa	80-100				
Compressor						
Type	Scroll					
Refrigerant	R-22 (R407)					
Power Supply	V/Ph/Hz	240/1/50	[380 ~ 415V / 3P / 50Hz] [440 ~ 480V / 3P / 60Hz]			
Rated Current	Amps	14.3	5.7	7.1	7.2	5.6
Power Input	kW	3.1	3.8	4.7	4.7	3.7
Condenser						
Type	Tube-In-Tube					
Entering Water Temperature	° C	32 ° C				
Leaving Water Temperature	° C	38 ° C				
Water Flow Rate	GPM	7.5	9.4	11.3	12.5	12.5
	L/S	0.47	0.59	0.71	0.79	0.79
Water Pressure Drop	kPa	30	32	38	45	34
	FT. WG	10	11	13	15	11
Water Connection In/Out	inch-(mm)	3/4" FPT - (19)				1-1/2"
Evaporator						
Type	Copper Tube And Aluminium Fins					
Blower Motor	Watts	330	400	400	400	352
Weight	kgs	116	119	125	131	240

Capacity based on 27° CDB, 19° CWB Air Entering.

Condenser Water Supply 32° C Condenser Water Return 37° C

Temperature: 1 ° C = 33.8 ° F

1 ° F = -17.2 ° C

Air Flow: 1 CFM = 1.699011 CMH



PWC-DX-C/H	A	B	C
	mm (inch)		
025	737 (29)	483 (19)	1390 (55)
030			
036			
040	992 (39)	483 (19)	1390 (55)
050	910 (37)	605 (24)	1925 (77)

PHYSICAL DATA & ELECTRICAL DATA

MODEL PWC-DX-C/H		060	080	120	180	240
Cooling Capacity	BTUH	60,000	80,000	120,000	180,000	240,000
	Tons	5.00	6.67	10.00	15.00	20.00
	kW	17.58	23.44	35.16	52.75	70.34
Nominal Air Flow	CFM	2,000	3,000	4,000	6,000	8,000
	CMH	3,398	5,097	6,796	10,194	13,592
	L/S	940	1,400	1,800	2,832	3,776
Air Pressure Drop	Pa	80-150				
Compressor						
Type	Scroll					
Refrigerant	R-22 (R407)					
Power Supply	V/Ph/Hz	[380 ~ 415V / 3P / 50Hz] [440 ~ 480V / 3P / 60Hz]				
Rated Current	Amps	6.8	9.1	13.5	16.2	19.5
Power Input	kW	4.5	6.0	8.9	10.66	12.83
Condenser						
Type	Tube-In-Tube			Shell & Tube		
Entering Water Temperature	° C	32 ° C				
Leaving Water Temperature	° C	38 ° C				
Water Flow Rate	GPM	15	20	30	55	60
	L/S	0.95	1.26	1.89	3.47	3.79
Water Pressure Drop	kPa	60	36	30	32	17
	FT. WG	20	12	10	11	6
Water Connection In/Out	inch-(mm)	1-1/2"				2-1/2"
Evaporator						
Type	Copper Tube And Aluminium Or Copper Fins					
Blower Motor	Watts	352	290 x 2		352 x 2	
Weight	kgs	250	320	400	470	600

Capacity based on 27° CDB, 19° CWB Air Entering.

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PWC-DX-C/H	A	B	C
	mm (inch)		
060	910 (37)	605 (24)	1925 (77)
080	1070 (43)	625 (25)	2000 (80)
120	1450 (58)	658 (26)	2100 (84)
180	1625 (64)	740 (29)	2100 (83)
240	1830 (72)	830 (33)	2110 (84)