# 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 galvanizied 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 if 12 fins per inch. Each coil shall be decreased 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.

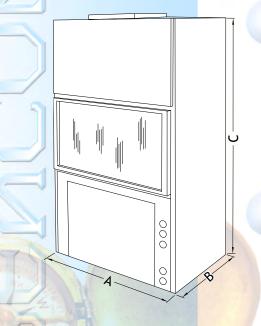
# PHYSICAL DATA & ELECTRICAL DATA

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
	СМН	1,530	2,040	2,720	3,060	3,228
	L/S	420	570	750	850	897
Air Pressure Drop	Pa	80-100				'
Compressor						
Туре		Scroll				
Refrigerant		R-22 (R407)				
Power Supply	V/Ph/Hz	240/1/50 [380 ~ 415V / 3P / 50Hz] [ 440 ~ 480V / 3P / 60Hz ]			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						
Туре		Tube-In-Tube				
Entering Water Temperature	° C	32 ° C				
Leaving Water Temperature	° C	38 ° C				
Water Flow Rate	GPM		9.4	11.3	12.5	12.5
water Flow Rate	L/S	0.47	0.59	0.71	0.79	0.79
Water Dressing Dres	kPa	30	32	38	45	34
Water Pressure Drop	FT. WG	10	11	13	15	11
Water Connection In/Out	inch~(mm)	3/4" FPT ~ (19) 1-1/2			1-1/2"	
Evaporator						
Туре		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

1 °C = 33.8 °F 1 °F = -17.2 °C Temperature:

Air Flow: 1 CFM = 1.699011 CMH



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

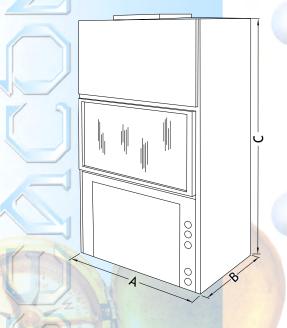
# PHYSICAL DATA & ELECTRICAL DATA

MODEL PWC-DX-C/	Ή	060	080	120	180	240
	BTUH	60,000	80,000	120,000	180,000	240,000
Cooling Capacity	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
	СМН	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						
Туре		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						-
Туре		Tube-In-Tube Shell & Tube			£ Tube	
Entering Water Temperature	° C			32 ° <b>C</b>		
Leaving Water Temperature	° C	38 ° C				
Water Flau Date	GPM	15 20 30 55		55	60	
Water Flow Rate	L/S	0.95	1.26	1.89	3.47	3.79
Water Dressure Dres	ater Pressure Drop		36	30	32	17
water Pressure Drop			12	10	11	6
Water Connection In/Out	inch~(mm)	1-1/2" 2-1/2'			2-1/2"	
Evaporator						
Туре			Copper Tube A	and Aluminium C	or Copper Fins	
Blower Motor	Watts	352 290 x 2 352 x 2			. x 2	
Weight	kgs	250	320	400	470	600

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 1 CFM = 1.699011 CMH Air Flow:



DWC DV C/U	Α	В	С			
PWC-DX-C/H	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)			