

# PACKAGED WATER COOLED UNIT (DUCTED)

TYPE: VERTICAL ONLY

MODEL: PWC-DX-C/H

CAPACITY: 5.8 to 66.7 Nominal Tons

70,000 to 800,000 BtuH

20.4 to 233.3 KW

EXTERNAL STATIC: 150 to 250 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, expansion valve and service valve.

### 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		007	009	010	012	015	020	025	030	035	040	050	060	080	
BTUH		70,000	90,000	100,000	125,000	140,000	200,000	250,000	300,000	350,000	400,000	500,000	600,000	800,000	
Tons		5.83	7.50	8.33	10.42	11.67	16.67	20.83	25.00	29.17	33.33	41.67	50.00	66.67	
kW		20.4	26.3	29.2	36.5	40.8	58.3	73.0	87.5	102.1	116.7	145.8	175.0	233.3	
CFM		2,200	3,000	3,300	4,000	5,000	6,600	8,200	10,000	11,000	13,300	16,600	20,000	26,600	
CMH		3,740	5,100	5,610	6,800	8,500	11,220	13,940	17,000	18,700	22,610	28,220	34,000	45,220	
L/S		1,040	1,410	1,550	1,880	2,360	3,110	3,860	4,710	5,180	6,260	7,820	9,420	12,530	
Air Pressure Drop		kPa 150 250													
Compressor		Semi-Hermetic Reciprocating													
Type		Scroll													
Quantity		1	1	2	2	2	2	2	2	2	2	2	2	2	
Refrigerant		R-22 (R407)													
Power Supply	V/Ph/Hz	[380 ~ 415V / 3P / 50Hz] [ 440 ~ 480V / 3P / 60Hz ]													
Rated Current	Amps	14.2	17.3	19.2	22.9	22.9	19.2 x 2	22.9 x 2	22.9 x 2	52.1	64.1	75.7	40.2 x 2	52.1 x 2	75.7 x 2
Compressor	H.P.	7	9	10	12.5	12.5	7 x 2	10 x 2	12.5 x 2	30	35	40	25 x 2	30 x 2	40 x 2
Condenser		Tube-In-Tube													
Type		Shell And Tube													
Entering Water Temperature	° C	32 ° C													
Leaving Water Temperature	° C	38 ° C													
Water Flow Rate	GPM	17.5	22.5	25.0	31.3	35.0	50.0	62.5	75.0	87.5	100	125	150	200	
	L/S	1.10	1.42	1.58	1.97	2.21	3.10	3.94	4.73	5.51	6.30	7.88	9.45	12.60	
Evaporator		Copper Tube And Aluminium Fins													
Type		Copper Tube And Aluminium Fins													
Blower Motor	H.P.	1	1	2	2	3	3	5	5	7.5	10	15	20		

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