

# MODEL PWU

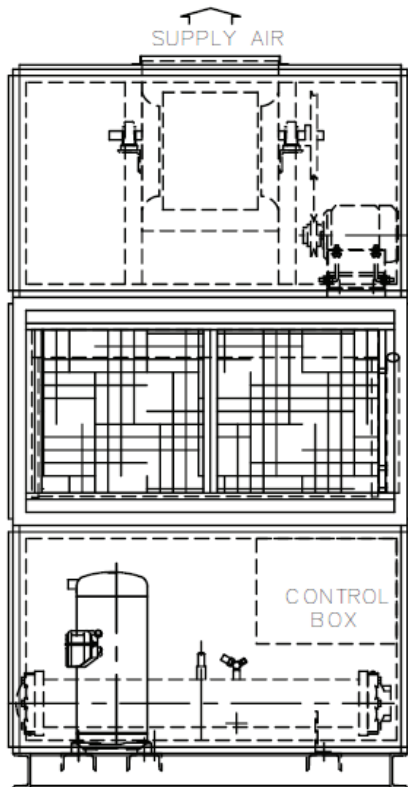
## PACKAGED WATER COOLED UNIT

Capacity Range from

70,000 to 800,000 BTUH

( 20.4 kw - 233.3 kw )

150-250 Pa External Static Pressure



### Features :

- High efficiency, refrigerant cooled compressor.
- High efficiency tube-in-tube condensor for unit model PWU 007 to PWU 025 and shell & tube condenser for unit model PWU 030 to PWU 080.
- Electrical supply connections and knockouts provided.
- Lower operation cost.
- HP and LP cut-out switches.
- Aluminium Air filters
- Electrical panel.

### Description :

- The PWU units are single package water cooled air conditioners. Wide range of indoor
- The PWU series includes 13 models of cooling system.
- Suitable for vertical mount, indoor installation Air Filters.
- Completed with pipe, wiring and refrigeration charging at the factory.
- Ideal for quick and low cost installation.

## GUIDE SPECIFICATION

### GENERAL

The PWU Packaged water cooled unit shall be completely factory assembled, leak-tested, evacuated and pre-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, 2.5 lb./cu.ft. 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 ovenbaked with a thick coat of polyester paint.

### COMPRESSOR

Unit model PWU 007 to 025 shell have scroll hermetic compressor. Unit model 030 to 080 shell have Semi-hermetic Reciprocating compressor. All compressor are mounted on vibration isolators. The refrigerant gas cooled, high torque motor, quiet running with internal suspension system to eliminate vibration, and internal line break motor protection and motor overheating.

### 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 switches to guard against compressor damage due to high discharge head pressure and system leakage.

### FILTERS

Air filters shall be cleanable aluminium type.

### CONDENSER COIL

The water cooled condenser shall be high efficiency profiled tube-in-tube for unit model PWU 007 to 025 and shell & tube type for unit model PWU 030 to 080. 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 aluminum fins with a maximum of 12 fins per inch. Each coil shall be degreased 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.

# PHYSICAL DATA

| MODEL             | PWU                    | 007                             | 009          | 010     | 012     | 015     | 020      | 025                         | 030            | 035     | 040     | 050     | 060      | 080      |          |  |
|-------------------|------------------------|---------------------------------|--------------|---------|---------|---------|----------|-----------------------------|----------------|---------|---------|---------|----------|----------|----------|--|
| Cooling CAPACITY  | 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  |          |  |
|                   | 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    |          |  |
| NOMINAL AIR FLOW  | 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   |          |  |
|                   | L/S                    | 1040                            | 1410         | 1550    | 1880    | 2360    | 3110     | 3860                        | 4710           | 5180    | 6260    | 7820    | 9420     | 12530    |          |  |
| AIR PRESSURE DROP | kPa                    | 150                             | 150          | 150     | 150     | 250     | 250      | 250                         | 250            | 250     | 250     | 250     | 250      | 250      |          |  |
| COMPRESSOR        | TYPE                   | SCROLL                          |              |         |         |         |          | SEMI-HERMETIC RECIPROCATING |                |         |         |         |          |          |          |  |
|                   | NUMBERS OF COMPRESSORS | 1                               | 1            | 1       | 1       | 2       | 2        | 2                           | 1              | 1       | 1       | 2       | 2        | 2        |          |  |
|                   | REFRIGERANT            | R-22                            |              |         |         |         |          |                             |                |         |         |         |          |          |          |  |
|                   | POWER SUPPLY           | V/Ph/Hz                         | 380/3/50     |         |         |         |          |                             |                |         |         |         |          |          |          |  |
|                   | RATED CURRENT          | Amps                            | 14.2         | 17.3    | 19.2    | 22.9    | 14.2 x 2 | 19.2 x 2                    | 22.9 x 2       | 52.1    | 64.1    | 75.7    | 40.2 x 2 | 52.1 x 2 | 75.7 x 2 |  |
|                   | COMPRESSORS            | HP                              | 7            | 9       | 10      | 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 TYPE         |                                 | TUBE-IN-TUBE |         |         |         |          |                             | SHELL AND TUBE |         |         |         |          |          |          |  |
| WATER FLOW RATE   | GRM                    | 17.5                            | 22.5         | 25      | 31.3    | 35      | 50       | 62.5                        | 75             | 87.5    | 100     | 125     | 150      | 200      |          |  |
|                   | L/S                    | 1.10                            | 1.42         | 1.58    | 1.97    | 2.21    | 3.1      | 3.94                        | 4.73           | 5.51    | 6.3     | 7.88    | 9.45     | 12.60    |          |  |
| EVAPORATOR TYPE   |                        | COPPER TUBE AND ALUMINIUM FINNS |              |         |         |         |          |                             |                |         |         |         |          |          |          |  |
| BLOWER MOTOR      | HP                     | 1                               | 1            | 2       | 2       | 2       | 3        | 5                           | 7.5            | 10      | 10      | 10      | 15       | 20       |          |  |

CAPACITY BASED ON 80 FDB, 67 FWB AIR ENTERING  
 95°F AMBIENT TEMP. 45°OF SUCTION TEMP  
 90/100°F CONDENSER INLET/OUTLET WATER TEMP.