

**TOPAIRE**

AIR CONDITIONER

**Eco-friendly**  
**R410A**

# AIR COOLED HIGH STATIC DUCTED SPLIT SYSTEM



## Double Skin Evaporator Units

Cooling Capacity : 80 to 750 MBH

 Innovation Beyond Comfort



# Innovative Outstanding DESIGN & PERFORMANCE

## AIR COOLED CONDENSING UNITS SYSTEM FEATURES & CONSTRUCTION

### GENERAL DESCRIPTION

The TACCS\_PM series with new features is suitable for hotel, office, hospitals, schools, factory and supermarket applications. The low noise and compact series are completely leak tested, evacuated, dehydrated and charged with dry nitrogen to maintain system “dryness” prior to field piping connections.

### MODULAR CONDENSING UNIT

- Independent outdoor unit module of 100,000 , 125,000 & 150,000 Btu/hr are connected to one indoor unit to achieve the rated cooling capacity from 200,000 to 750,000 Btu/hr.



### SCROLL COMPRESSOR(S)

- Proven high efficiency, low noise and high reliability of Hermetic Scroll Compressor(s) designed with support on rubber mounting to minimize vibration.
- Hermetic Scroll Compressor(s) type operating at 2950 rpm.
- No contact scroll design that minimizes friction, increase volumetric efficiency and reduces vibration, thus longer service life.
- 100% suction gas cooled motor.
- Low power consumption with high EER and no crankcase heater required.
- With internal line break or solid state motor protectors.
- High low pressure cut-out safety control device is provided to protect compressor from high discharge pressure and system leakage.



### MULTIPLE COMPRESSOR

- By cycling off compressor(s) operation to match building load, no energy is being wasted when room load requires lesser cooling capacity.
- No total shut down when servicing or repairing a faulty compressor.

### CONDENSER FAN MOTOR

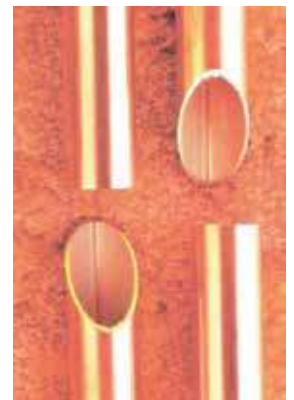
- 3 phase induction condenser fan motor.
- IP 55 Class “F” construction ensure extra motor protection.
- Fan motor operating speed at 950 RPM with high starting torque and low noise fan operation.

### FLEXIBLE CONDENSER AIR DISCHARGE

- The condensing unit air discharge can easily be converted at site to suit the installation space by moving the condenser fan assembly from top to side discharge. (Applicable model for TACCS 100, TACCS 125 & TACCS 150 only)

### EFFICIENT CONDENSER COIL

- Staggered row of 3/8” (9.5mm) OD inner groove copper tubes with 25 to 30 % more surface area guarantee better heat transfer.
- Mechanically expanded into die-formed corrugated aluminium fins.
- Integral subcooling circuit to maximize system efficiency and reduce flash gas formation. Coil fully leak pressure tested on 450 psig (30 bar).
- Access port provided on discharge and suction lines for pressure measurements and charging.



### CASING CONSTRUCTION

- Constructed from electro-galvanized heavy steel sheet to ensure units casing rigidity and eliminate vibration.
- Panels are painted with epoxy polyester powder coating for excellent finish, weather ability and corrosion resistance against severe external conditions.

### FULL LEAKAGE TEST ON REFRIGERANT CIRCUIT

- Leak and pressure tested at 450 psig (31 bar).
- Pressure ports are provided on the discharge, liquid and suction line.
- Evacuated, dehydrated and pressurized with dry nitrogen for storage and shipping purpose.



# Innovative Outstanding DESIGN & PERFORMANCE

## EVAPORATOR BLOWER UNITS SYSTEM FEATURES & CONSTRUCTION

### GENERAL DESCRIPTION

The ducted evaporator blower units; each consist of an evaporator coil, a centrifugal forward curved blower fan complete with drive package and filters and enclosed in a single / double skin casing cabinetry; are completely factory packaged to provide greater flexibility for all kinds of application. These flexibility includes;

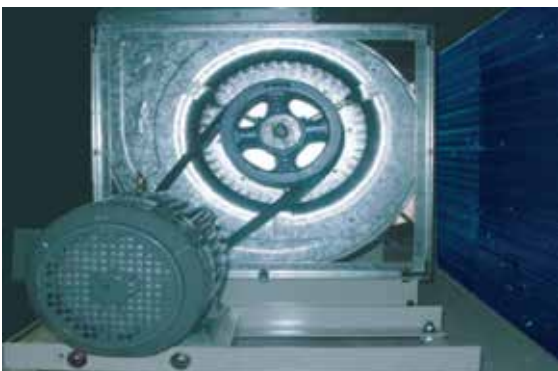
- A wide range of model sizes covering cooling capacities from 80 MBH to 750 MBH and each model size also has a wide band of air flow rates (CFMs) covering a wide band of static pressure to meet almost any system demands.

### VERSATILE APPLICATION

- Three type of configurations namely, horizontal ceiling ducted type, horizontal floor mounted ducted type and vertical floor standing ducted type, each with various optimal fan discharge arrangements, covering a wider cooling capacity range; can be selected to suit any installation requirement and space constraint. The evaporator blower unit can also be provided with optional accessory sections such as bag filter section, angle filter section and mixing box section. (For model TFEB 350 to 750)

### DRIVE PACKAGE AND BLOWER

- Belt driven drive package offers flexibility on various air flow rate and various static pressure applications.
  - Single large diameter double inlet double width blowers reduce the noise level and eliminates the need for common transition and eliminates unbalance air.
- Note: Only THEB 80 & THEB 100 use direct drive motor.



### EVAPORATOR COIL

- Staggered row of seamless inner groove copper tubes mechanically expanded in to die-formed high efficiency corrugated aluminium fins to ensure positive bonding.
- Independent thermal expansion valve with external equalizer for better refrigerant control and wider load condition.
- Evacuated, dehydrated and charged with dry nitrogen.
- Coil fully leak pressure tested to 450 psig.

### CABINET CONSTRUCTION

#### DOUBLE SKIN EVAPORATOR UNIT

- Frameless cabinet with casing constructed with durable heavy-galvanised heavy gauge steel sheet and insulated with 20mm polyurethane foam (PU) sandwiched with internal aluminium sheet with "K" value of 0.02 Watts/°C & density 40 kg/m<sup>3</sup>, sandwiched between galvanized steel sheets.
- Aesthetically painted with epoxy polyester powder coating to provide excellent finish, weather ability and corrosion resistance.

### EVAPORATOR FAN MOTOR

- 3 phase squirrel cage induction (TEFC) fan motor of IP55; Class "F" insulation protection.
- Fan motor operating speed at 1450 RPM.
- All fan motor and drive assembly are internally isolated from unit casing. For horizontal ceiling concealed ducted units capacity range from 80 to 250 MBH, rubber pads are provided, for unit capacity 300 MBH and above, rubber grommets are provided.

### FILTERS

- All standard air filters are 1 inch thick. All filters are using washable polyester fiber and designed for easy withdrawal and renewal of filter cells.
- Flexible loading configurations to meet building requirements.

### OPTIONAL ANTI-CORROSION TREATMENT

- For seaside or corrosive environment application, we can provide Heresite's protective coatings for condenser and/or evaporator coils. These unique coatings increase equipment performance and service life.







## MODULAR CONDENSING UNIT



**Model : TACCS 80PM4**  
80,000 BTU/HR  
Horizontal Discharge only



**Model : TACCS 100 - TACCS 125PM4**  
100,000 - 125,000 BTU/HR  
Horizontal Discharge or Top Discharge



**Model : TACCS 150PM4**  
150,000 BTU/HR  
Top Discharge only



## FRAMELESS DOUBLE SKIN EVAPORATOR UNITS



**Model :**  
■ **THEB 80PM4 - THEB 100PM4**  
(DIRECT DRIVE)



**Model :**  
■ **THEB 125PM4 - THEB 250PM4**  
(BELT DRIVE)



**Model :**  
■ **TFEB 300PM4 - TFEB 750PM4**  
(BELT DRIVE)



## THEB\_PM4 Series with Double Skin Evaporator Unit (R410A)

| MODEL            |                          |        | INDOOR      | THEB 80PM4                         | THEB 100PM4        | THEB 125PM4              | THEB 150PM4        |
|------------------|--------------------------|--------|-------------|------------------------------------|--------------------|--------------------------|--------------------|
|                  |                          |        | OUTDOOR     | TACCS 80PM4                        | TACCS 100PM4       | TACCS 125PM4             | TACCS 150PM4       |
| COOLING CAPACITY |                          |        | BTU/HR      | 80,000                             | 100,000            | 125,000                  | 150,000            |
|                  |                          |        | KW          | 23.45                              | 29.31              | 36.64                    | 43.96              |
| RATED POWER      |                          |        | KW          | 11.4                               | 14.6               | 16.7                     | 21.2               |
| RATED CURRENT    |                          |        | A           | 21.6                               | 27.0               | 29.5                     | 37.4               |
| POWER SUPPLY     |                          |        | V / Ph / Hz | 240 / 1 / 50                       |                    | 380 - 415 / 3 / 50       |                    |
| INDOOR UNIT      | AIR FLOW                 |        | CFM         | 2,400                              | 3,000              | 4,000                    | 4,500              |
|                  | EXTERNAL STATIC PRESSURE |        | In.wg       | 0.5                                | 0.6                | 0.6                      | 0.7                |
|                  | FAN MOTOR RATED POWER    |        | HP          | 1.0                                | 1.0                | 2.0                      | 2.0                |
|                  | EVAPORATOR BLOWER        |        | Type/Drive  | CENTRIFUGAL / DIRECT DRIVE         |                    | CENTRIFUGAL / BELT DRIVE |                    |
|                  | REFRIGERANT CONTROL      |        | Type        | THERMOSTATIC EXPANSION VALVE (TXV) |                    |                          |                    |
|                  | UNIT DIMENSION           | WxDxH  | mm          | 1237 x 637 x 532                   | 1478 x 637 x 532   | 1505 x 818 x 640         | 1555 x 918 x 742   |
|                  | NET WEIGHT               |        | kg          | 65                                 | 91                 | 138                      | 145                |
| OUTDOOR UNIT     | POWER SUPPLY             |        | V / Ph / Hz | 380 - 415 / 3 / 50                 |                    |                          |                    |
|                  | COMPRESSOR               |        | Type        | HERMETIC SCROLL                    |                    |                          |                    |
|                  | CONDENSER FAN            |        | Type        | PROPELLER / DIRECT                 |                    |                          |                    |
|                  | CONDENSER FAN MOTOR      |        | Type        | PSC INDUCTION , IP54, CLASS F      |                    |                          |                    |
|                  | UNIT DIMENSION           | WxDxH  | mm          | 1247 x 548 x 900                   | 1000 x 1000 x 1100 | 1000 x 1000 x 1100       | 1000 x 1000 x 1450 |
|                  | PIPE CONNECTION          | Type   |             | BRAZED                             |                    |                          |                    |
|                  |                          | Liquid | inch        | 1/2                                | 5/8                | 5/8                      | 3/4                |
|                  |                          | Gas    | inch        | 7/8                                | 1 1/8              | 1 1/8                    | 1 3/8              |
| NET WEIGHT       |                          | kg     | 160         | 175                                | 190                | 210                      |                    |

## THEB & TFEB\_PM4 Series with Double Skin Evaporator Unit (R410A)

| MODEL            |                          | INDOOR      | THEB 200PM4                        | THEB 250PM4            | TFEB 300PM4            |
|------------------|--------------------------|-------------|------------------------------------|------------------------|------------------------|
|                  |                          | OUTDOOR     | TACCS 100PM4 x2                    | TACCS 125PM4 x2        | TACCS 150PM4 x2        |
| COOLING CAPACITY |                          | BTU/HR      | 200,000                            | 250,000                | 300,000                |
|                  |                          | KW          | 58.62                              | 73.27                  | 87.92                  |
| RATED POWER      |                          | KW          | 30.6                               | 34.4                   | 44.9                   |
| RATED CURRENT    |                          | A           | 53.6                               | 60.1                   | 78.5                   |
| POWER SUPPLY     |                          | V / Ph / Hz | 380 - 415 / 3 / 50                 |                        |                        |
| INDOOR UNIT      | AIR FLOW                 | CFM         | 6,000                              | 7,800                  | 9,000                  |
|                  | EXTERNAL STATIC PRESSURE | In.wg       | 1.0                                | 1.0                    | 1.2                    |
|                  | FAN MOTOR RATED POWER    | HP          | 4.0                                | 5.5                    | 7.5                    |
|                  | EVAPORATOR BLOWER        | Type/Drive  | CENTRIFUGAL / BELT DRIVE           |                        |                        |
|                  | REFRIGERANT CONTROL      | Type        | THERMOSTATIC EXPANSION VALVE (TXV) |                        |                        |
|                  | UNIT DIMENSION           | WxDxH       | mm                                 | 1629 x 1057 x 915      | 1629 x 1239 x 1148     |
|                  | NET WEIGHT               | kg          | 170                                | 218                    | 251                    |
| OUTDOOR UNIT     | POWER SUPPLY             | V / Ph / Hz | 380 - 415 / 3 / 50                 |                        |                        |
|                  | COMPRESSOR               | Type        | HERMETIC SCROLL                    |                        |                        |
|                  | CONDENSER FAN            | Type        | PROPELLER / DIRECT                 |                        |                        |
|                  | CONDENSER FAN MOTOR      | Type        | PSC INDUCTION , IP54, CLASS F      |                        |                        |
|                  | UNIT DIMENSION           | WxDxH       | mm                                 | 1000 x 1000 x 1100 (2) | 1000 x 1000 x 1100 (2) |
|                  | PIPE CONNECTION          | Type        | BRAZED                             |                        |                        |
|                  |                          | Liquid      | inch                               | 5/8 (2)                | 5/8 (2)                |
|                  |                          | Gas         | inch                               | 1 1/8 (2)              | 1 1/8 (2)              |
|                  | NET WEIGHT               | kg          | 350                                | 380                    | 420                    |

ALL specifications are subject to change by manufacturer without prior notice.

Note : The nominal cooling capacity is based on condenser outdoor air entering temp. 35°C (DB); indoor on coil temp. 27/19°C ( DB / WB )



## TFEB\_PM4 Series with Double Skin Evaporator Unit (R410A)

| MODEL            |                          |        | INDOOR      | TFEB 350PM4                        | TFEB 400PM4                                 | TFEB 450PM4            |
|------------------|--------------------------|--------|-------------|------------------------------------|---------------------------------------------|------------------------|
|                  |                          |        | OUTDOOR     | TACCS 100PM4 & TACCS 125PM4 x2     | TACCS 125PM4 x2 & TACCS 150PM4              | TACCS 150PM4 x3        |
| COOLING CAPACITY |                          |        | BTU/HR      | 350,000                            | 400,000                                     | 450,000                |
|                  |                          |        | KW          | 102.58                             | 117.23                                      | 131.89                 |
| RATED POWER      |                          |        | KW          | 49.7                               | 57.6                                        | 66.6                   |
| RATED CURRENT    |                          |        | A           | 86.4                               | 100.2                                       | 115.9                  |
| POWER SUPPLY     |                          |        | V / Ph / Hz | 380 - 415 / 3 / 50                 |                                             |                        |
| INDOOR UNIT      | AIR FLOW                 |        | CFM         | 10,500                             | 12,000                                      | 13,500                 |
|                  | EXTERNAL STATIC PRESSURE |        | In.wg       | 1.2                                | 1.2                                         | 1.2                    |
|                  | FAN MOTOR RATED POWER    |        | HP          | 7.5                                | 10.0                                        | 10.0                   |
|                  | EVAPORATOR BLOWER        |        | Type/Drive  | CENTRIFUGAL / BELT DRIVE           |                                             |                        |
|                  | REFRIGERANT CONTROL      |        | Type        | THERMOSTATIC EXPANSION VALVE (TXV) |                                             |                        |
|                  | UNIT DIMENSION           | WxDxH  | mm          | 2295 x 1478 x 1123                 | 2434 x 1478 x 1327                          | 2434 x 1580 x 1428     |
|                  | NET WEIGHT               |        | kg          | 340                                | 371                                         | 529                    |
| OUTDOOR UNIT     | POWER SUPPLY             |        | V / Ph / Hz | 380 - 415 / 3 / 50                 |                                             |                        |
|                  | COMPRESSOR               |        | Type        | HERMETIC SCROLL                    |                                             |                        |
|                  | CONDENSER FAN            |        | Type        | PROPELLER / DIRECT                 |                                             |                        |
|                  | CONDENSER FAN MOTOR      |        | Type        | PSC INDUCTION , IP54, CLASS F      |                                             |                        |
|                  | UNIT DIMENSION           | WxDxH  | mm          | 1000 x 1000 x 1100 (3)             | 1000 x 1000 x 1100 (2) + 1000 x 1000 x 1450 | 1000 x 1000 x 1450 (3) |
|                  | PIPE CONNECTION          | Type   |             | BRAZED                             |                                             |                        |
|                  |                          | Liquid | inch        | 5/8 (3)                            | 5/8 (2) + 3/4                               | 3/4 (3)                |
|                  |                          | Gas    | inch        | 1 1/8 (3)                          | 1 1/8 (2) + 1 3/8                           | 1 3/8 (3)              |
|                  | NET WEIGHT               |        | kg          | 555                                | 590                                         | 630                    |

| MODEL            |                          |        | INDOOR      | TFEB 500PM4                        | TFEB 600PM4            | TFEB 750PM4            |
|------------------|--------------------------|--------|-------------|------------------------------------|------------------------|------------------------|
|                  |                          |        | OUTDOOR     | TACCS 125PM4 x4                    | TACCS 150PM4 x4        | TACCS 150PM4 x5        |
| COOLING CAPACITY |                          |        | BTU/HR      | 500,000                            | 600,000                | 750,000                |
|                  |                          |        | KW          | 146.54                             | 175.85                 | 219.81                 |
| RATED POWER      |                          |        | KW          | 71.8                               | 93.8                   | 113.5                  |
| RATED CURRENT    |                          |        | A           | 124.6                              | 162.9                  | 196.8                  |
| POWER SUPPLY     |                          |        | V / Ph / Hz | 380 - 415 / 3 / 50                 |                        |                        |
| INDOOR UNIT      | AIR FLOW                 |        | CFM         | 15,000                             | 18,000                 | 22,000                 |
|                  | EXTERNAL STATIC PRESSURE |        | In.wg       | 1.6                                | 1.8                    | 1.8                    |
|                  | FAN MOTOR RATED POWER    |        | HP          | 15.0                               | 20.0                   | 20.0                   |
|                  | EVAPORATOR BLOWER        |        | Type/Drive  | CENTRIFUGAL / BELT DRIVE           |                        |                        |
|                  | REFRIGERANT CONTROL      |        | Type        | THERMOSTATIC EXPANSION VALVE (TXV) |                        |                        |
|                  | UNIT DIMENSION           | WxDxH  | mm          | 2309 x 1659 x 1682                 | 2309 x 1659 x 1887     | 2459 x 1652 x 2133     |
|                  | NET WEIGHT               |        | kg          | 529                                | 527                    | 576                    |
| OUTDOOR UNIT     | POWER SUPPLY             |        | V / Ph / Hz | 380 - 415 / 3 / 50                 |                        |                        |
|                  | COMPRESSOR               |        | Type        | HERMETIC SCROLL                    |                        |                        |
|                  | CONDENSER FAN            |        | Type        | PROPELLER / DIRECT                 |                        |                        |
|                  | CONDENSER FAN MOTOR      |        | Type        | PSC INDUCTION , IP54, CLASS F      |                        |                        |
|                  | UNIT DIMENSION           | WxDxH  | mm          | 1000 x 1000 x 1100 (4)             | 1000 x 1000 x 1450 (4) | 1000 x 1000 x 1450 (5) |
|                  | PIPE CONNECTION          | Type   |             | BRAZED                             |                        |                        |
|                  |                          | Liquid | inch        | 5/8 (4)                            | 3/4 (4)                | 3/4 (5)                |
|                  |                          | Gas    | inch        | 1 1/8 (4)                          | 1 3/8 (4)              | 1 3/8 (5)              |
|                  | NET WEIGHT               |        | kg          | 760                                | 840                    | 1050                   |

ALL specifications are subject to change by manufacturer without prior notice.

Note : The nominal cooling capacity is based on condenser outdoor air entering temp. 35°C (DB); indoor on coil temp. 27/19°C ( DB / WB )



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