



**TRANE®**

# Quantum Climate Changer Model : CLCP Product Catalogue

---

0.5 – 27 m<sup>3</sup>/s  
(1000 – 58000 CFM)



---

**IND-PRC002-E4**

# Contents

---

|                                   |           |
|-----------------------------------|-----------|
| <b>Introduction</b>               | <b>2</b>  |
| <b>Model Nomenclature</b>         | <b>3</b>  |
| <b>Features and Benefits</b>      | <b>4</b>  |
| <b>Quick Select</b>               | <b>5</b>  |
| 50mm Casing Construction          |           |
| 25mm Casing Construction          |           |
| <b>General Data</b>               | <b>7</b>  |
| Casing                            |           |
| Fans and Drives                   |           |
| Coils                             |           |
| Filters                           |           |
| Air Pressure Drop                 |           |
| <b>Dimensional Data</b>           | <b>23</b> |
| HDT - Unit Dimensions             |           |
| HDT - Unit Weight                 |           |
| VDT - Unit Dimensions             |           |
| VDT - Unit Weight                 |           |
| <b>Installation Consideration</b> | <b>32</b> |
| Define Unit Left or Right         |           |
| Service Clearance                 |           |
| Coil Connection Dimension         |           |
| Fan Outlet Dimension              |           |
| <b>Mechanical Specification</b>   | <b>36</b> |



# Introduction

---

## Introduction

Trane have been manufacturing air handling units throughout the world for the past 40 years. This proven world-wide experience enables us to develop a world class air handling unit, the new Quantum Climate Changer. Quantum Climate Changer is a combination of 4 key elements:

### 1. Globally Integrated Research and Development

A global marketing team comprising air handling specialist from Europe, Asia Pacific and China, Middle East, Africa and South America was formed to provide critical customer and market needs. A global design team comprising design specialist from the Trane Technology Center, USA, Trane Europe and the Trane Air Handling International Development Center in Asia was formed to developed a new world class air handling technology.

### 2. World Class Manufacturing Facility

The Quantum Climate Changer manufacturing facility is certified to MS ISO 9001 and is one of the earliest American facilities certified to Demand Flow Technologies (DFT). DFT is a technology that takes quality to the people and the machines that produce the product. In addition, Total Quality Control methodology within DFT brings quality into the manufacturing process at the point where work is being performed, resulting in consistent product quality.

### 3. Performance Assurance and Commitment to Quality

Trane combines comprehensive performance certifications with thorough laboratory testing and manufacturing methods. Together, these elements assure that each Quantum Climate Changer operates predictably and reliably throughout the life of the unit.

### 4. Matching Technologies to Systems

The building industry is continuously evolving and the rate of change is accelerating. Technologies, economic, regulatory and environmental factors are very different now than there were just a few years ago, which will affect the application and installation of the HVAC systems. Recognizing this and utilizing the Trane worldwide air conditioning system experience, the Quantum Climate Changer was developed and packaged to suit most current air conditioning system application needs.

### Purpose

The purpose of this catalogue is to help consulting engineers in the preliminary selection of the Quantum Climate Changer air handling units. Your regional Trane office will assist to provide a computerized selection to confirm or complete your preliminary selection. Where something more special is required, we have full technical support in our regional sales offices and at our factory where non-standard layouts and configurations can be designed to individual requirements.

# Model Nomenclature

EG.: CLCP003040AMKAT 0560J3F1FA028D38X  
12002DNXWR12144YWR12144YWR12144XB

| DIGIT          | Description   |  |             |                        |            |                       |               |                     |           |  |
|----------------|---|--|-------------|------------------------|------------|-----------------------|---------------|---------------------|-----------|--|
| 1, 2, 3        | CLC = Climate Changer   |  |             |                        |            |                       |               |                     |           |  |
| 4              | P = Development sequence  |  |             |                        |            |                       |               |                     |           |  |
| 5, 6, 7        | Casing size   | 003                                    | 008         | 014                    | 025        | 040                   | 060           | 080                 | 095       |  |
|                |   | 004                                    | 010         | 016                    | 030        | 045                   | 065           | 085                 |           |  |
|                |   | 006                                    | 012         | 020                    | 035        | 050                   | 070           | 090                 |           |  |
| 8, 9, 10, 11   | Casing parametric dimension   |  |             |                        |            |                       |               |                     |           |  |
|                | Std parametric (case size), Non standard to key in the parametric dimension               |  |             |                        |            |                       |               |                     |           |  |
|                | 0404 (003)  | 1004 (008)                             | 1206 (014)  | 1210 (025)             | 1612 (040) | 2014 (060)            | 2614 (080)    | 3214 (095)          |           |  |
|                | 0604 (004)  | 0806 (010)                             | 1008 (016)  | 1212 (030)             | 1812 (045) | 2214 (065)            | 2814 (085)    |                     |           |  |
|                | 0804 (006)  | 1006 (012)                             | 1208 (020)  | 1412 (035)             | 2012 (050) | 2414 (070)            | 3014 (090)    |                     |           |  |
| 12             | Insulation  |  |             |                        |            |                       |               |                     |           |  |
|                | A = 25mm PU Insulation  |  |             |                        |            |                       |               |                     |           |  |
|                | B = 25mm PU Insulation+Stealth Insulator  |  |             |                        |            |                       |               |                     |           |  |
|                | C = 50mm PU Insulation+Stealth Insulator  |  |             |                        |            |                       |               |                     |           |  |
|                | D = 50 mm Thermal Break (Eurovent)  |  |             |                        |            |                       |               |                     |           |  |
|                | S = Special   |  |             |                        |            |                       |               |                     |           |  |
| 13             | Country of Origin   |  |             |                        |            |                       |               |                     |           |  |
|                | B = Brazil  | C = China                              | E = England | M = Malaysia           | T = Taiwan |                       |               |                     |           |  |
| 14, 15, 16     | Fan Model   | KAT                                    | FDA         | ADA                    | BDB        | BNA                   | ANA           | SSS=Special         | XXX=None  |  |
| 17, 18, 19, 20 | Fan size  | 0907                                   | 0180        | 0250                   | 0355       | 0500                  | 0710          | 1000                | 1400      |  |
|                |   | 1008                                   | 0200        | 0280                   | 0400       | 0560                  | 0800          | 1120                | XXXX=None |  |
|                |   | 0160                                   | 0225        | 0315                   | 0450       | 0630                  | 0900          | 1250                |           |  |
| 21             | Fan / Bearing Type  | A=S                                    | C=S2        | E=SM                   | G=TM       | I=TX                  | K=S2M         | M=T2M               | X=None    |  |
|                |   | B=C                                    | D=C2        | F=CM                   | H=XM       | J=XX                  | L=C2M         | N=X2M               |           |  |
| 22             | Fan Arrangement   | 1=ARR 1                                | 3=ARR 3     | 5=ARR 5                | 7=ARR 7    | 9=ARR 9               | X=None        |                     |           |  |
|                |   | 2=ARR 2                                | 4=ARR 4     | 6=ARR 6                | 8=ARR 8    | A=ARR 10              | S=Special     |                     |           |  |
| 23, 24         | Motor Frame , kW & Pole   |  |             |                        |            |                       |               |                     |           |  |
|                | XX=None   | H1=D100L, 3.0KW, 4P                    |             | P1=D180L, 22.0KW, 4P   |            | A2=D63, 0.18KW, 2P    |               | I2=D112M, 3.7KW, 2P |           |  |
|                | A1=D63, 0.18KW, 4P  | I1=D112M, 3.7KW, 4P                    |             | Q1=D200L, 30.0KW, 4P   |            | B2=D71, 0.37KW, 2P    |               | J2=D112M, 4.0KW, 4P |           |  |
|                | B1=D71, 0.37KW, 4P  | J1=D112M, 4.0KW, 4P                    |             | R1=D225SC, 37.0KW, 4P  |            | C2=D71, 0.55KW, 2P    |               | K2=D132S, 5.5KW, 2P |           |  |
|                | C1=D80, 0.55KW, 4P  | K1=D132S, 5.5KW, 4P                    |             | T1=D225MC, 45.0KW, 4P  |            | D2=D80, 0.75KW, 2P    |               | L2=D132S, 7.5KW, 2P |           |  |
|                | D1=D80, 0.75KW, 4P  | L1=D132M, 7.5KW, 4P                    |             | U1=D250SC, 55.0KW, 4P  |            | E2=D80, 1.1KW, 2P     |               | SS=Special          |           |  |
|                | E1=D90S, 1.1KW, 4P  | M1=D160M, 11.0KW, 4P                   |             | V1=D250MC, 75.0KW, 4P  |            | F2=D90S, 1.5KW, 2P    |               |                     |           |  |
|                | F1=D90L, 1.5KW, 4P  | N1=D160L, 15.0KW, 4P                   |             | W1=D280SC, 90.0KW, 4P  |            | G2=D90L, 2.2KW, 2P    |               |                     |           |  |
|                | G1=D100L, 2.2KW, 4P   | O1=D180M, 18.5KW, 4P                   |             | Y1=D280MC, 110.0KW, 4P |            | H2=D100L, 3.0KW, 2P   |               |                     |           |  |
| 25             | Electrical rating of motor : Volt/Phase/Hz.   |  |             |                        |            |                       |               |                     |           |  |
|                | X=None  | E=200V / 3 Ph / 50 Hz                  |             | G=380V / 3 Ph / 60 Hz  |            | J=460V / 3 Ph / 60 Hz |               | S=Special           |           |  |
|                | D=380 - 415 V / 3 Ph / 50 Hz  | F=230V / 3 Ph / 60 Hz                  |             | H=440V / 3 Ph / 60 Hz  |            | K=480V / 3 Ph / 60 Hz |               |                     |           |  |
| 26             | Fan Pulley Size   |  |             |                        |            |                       |               |                     |           |  |
| 27, 28, 29     | Fan shaft diameter  |  |             |                        |            |                       |               |                     |           |  |
| 30             | Motor Pulley Size   |  |             |                        |            |                       |               |                     |           |  |
| 31, 32         | Motor shaft diameter  |  |             |                        |            |                       |               |                     |           |  |
| 33             | Belt type   | X=None                                 | A=SPA       | B=SPB                  | C=SPC      | Z=SPZ                 |               |                     |           |  |
| 34, 35, 36, 37 | Belt length   |  |             |                        |            |                       |               |                     |           |  |
| 38             | Grooves   | 1=1Groove                              | 2=2Groove   | 3=3Groove              | 4=4Groove  | 5=5Groove             | X=None        |                     |           |  |
| 39             | Pre-Filter Media  | A=2"Pleated 30%                        |             | B=2"Washable 20%       |            | C=2" Aluminum         |               | D=4"Pleated 30%     |           |  |
| 40             | Filter Media # 1  |  |             |                        |            |                       |               |                     |           |  |
| 41             | Filter Media # 2  | A=2"Pleated 30%                        |             | F=Hepa 99.99%          |            | K=4"Cartridge 85%     |               | P=12"Cartridge 65%  |           |  |
|                |   | B=2"Washable 20%                       |             | G=15" Bag 60-65%       |            | L=4"Cartridge 95%     |               | Q=12"Cartridge 85%  |           |  |
|                |   | C=2" Aluminum                          |             | H=15" Bag 85%          |            | M=21" Bag 60-65%      |               | R=12"Cartridge 95%  |           |  |
|                |   | D=4"Pleated 30%                        |             | I=15" Bag 95%          |            | N=21" Bag 85%         |               | S=Carbon            |           |  |
|                |   | E=Hepa 99.97%                          |             | J=4"Cartridge 65%      |            | O=21"Bag 95%          |               | T=Special Media     |           |  |
| 42             | Coil # 1 , Type   |  |             |                        |            |                       |               |                     |           |  |
|                | X = without coil W = WL ; L = LL ; D = DL ; F = FD ; A = A ; B = AA , S = Special         |  |             |                        |            |                       |               |                     |           |  |
| 43             | Coil # 1 , Connection   |  |             |                        |            |                       |               |                     |           |  |
|                | L = LH, R = RH, X = None  |  |             |                        |            |                       |               |                     |           |  |
| 44, 45         | Coil# 1 , Row   |  |             |                        |            |                       |               |                     |           |  |
|                | XX = without coil., 01=1row, 02= 2row, 04= 4row, 06= 6row, 08= 8row, 10= 10row, 12= 12row |  |             |                        |            |                       |               |                     |           |  |
| 46, 47, 48     | Coil # 1 , Fin Series (FPF)   |  |             |                        |            |                       |               |                     |           |  |
|                | XXX = without coil , 100 - 168 Fins per Foot  |  |             |                        |            |                       | SSS = Special |                     |           |  |
| 49             | Coil # 1 , Turbulator   |  |             |                        |            |                       |               |                     |           |  |
|                | X = No Y = Yes  |  |             |                        |            |                       |               |                     |           |  |
| 50             | Coil # 2 , Type   |  |             |                        |            |                       |               |                     |           |  |
|                | X = without coil W = WL ; L = LL ; D = DL ; F = FD ; A = A ; B = AA , S = Special         |  |             |                        |            |                       |               |                     |           |  |
| 51             | Coil # 2 , Connection   |  |             |                        |            |                       |               |                     |           |  |
|                | L = LH, R = RH, X = None  |  |             |                        |            |                       |               |                     |           |  |
| 52, 53         | Coil# 2 , Row   |  |             |                        |            |                       |               |                     |           |  |
|                | XX = without coil., 01=1row, 02= 2row, 04= 4row, 06= 6row, 08= 8row, 10= 10row, 12= 12row |  |             |                        |            |                       |               |                     |           |  |
| 54, 55, 56     | Coil # 2 , Fin Series (FPF)   |  |             |                        |            |                       |               |                     |           |  |
|                | XXX = without coil , 100 - 168 Fins per Foot  |  |             |                        |            |                       | SSS = Special |                     |           |  |
| 57             | Coil # 2 , Turbulator   |  |             |                        |            |                       |               |                     |           |  |
|                | X = No Y = Yes  |  |             |                        |            |                       |               |                     |           |  |
| 58             | Coil # 3 , Type   |  |             |                        |            |                       |               |                     |           |  |
|                | X = without coil W = WL ; L = LL ; D = DL ; F = FD ; A = A ; B = AA , S = Special         |  |             |                        |            |                       |               |                     |           |  |
| 59             | Coil # 3 , Connection   |  |             |                        |            |                       |               |                     |           |  |
|                | L = LH, R = RH, X = None  |  |             |                        |            |                       |               |                     |           |  |
| 60, 61         | Coil# 3 , Row   |  |             |                        |            |                       |               |                     |           |  |
|                | XX = without coil., 01=1row, 02= 2row, 04= 4row, 06= 6row, 08= 8row, 10= 10row, 12= 12row |  |             |                        |            |                       |               |                     |           |  |
| 62, 63, 64     | Coil # 3 , Fin Series (FPF)   |  |             |                        |            |                       |               |                     |           |  |
|                | XXX = without coil , 100 - 168 Fins per Foot  |  |             |                        |            |                       | SSS = Special |                     |           |  |
| 65             | Coil # 3 , Turbulator   |  |             |                        |            |                       |               |                     |           |  |
|                | X = No Y = Yes  |  |             |                        |            |                       |               |                     |           |  |
| 66             | Service digit   |  |             |                        |            |                       |               |                     |           |  |
|                | B = present   | Model Nomenclature Revision, June 2006 |             |                        |            |                       |               |                     |           |  |



# Features and Benefits

## Ultra Low Leak Construction

Unique casing design with panel attached to the frame through a self-locking mechanism represented by a wedge and frame, exerting pressure evenly onto the panel and the seal attached to the frame, and hence a better air tight cabinet construction. The casing is designed to meet Eurovent Casing Air Leakage Standard.

## Excellent Condensate Management

Dual pitched sloping drain pan allows for total condensate removal. A unique feature developed to prevent stagnant water in air handling units.

## Environmental Friendly Materials

High-grade aluminium frame is non-corrosive and is easily clean-able. All these features will further enhance indoor air quality.

## Design for Routine Cleaning

Double wall panel construction allows for easy cleaning and disinfecting of the interior surfaces. Panel and frame design allows for easy removal of side panels for maximum access to internal areas.

## High Grade Aluminum Frame

Frame is constructed of extruded aluminum channels for structural rigidity and lightness.

## Injected Polyurethane Foam Panels

All panels are injected with high efficiency polyurethane foam insulation. Foamed panels provide superior thermal resistance properties, and have excellent acoustic and vibration absorption characteristics. In addition, polyurethane foam does not absorb moisture and will not promote fungus growth.

## High Efficiency Performance

Patented Delta-Flo slit heat transfer technology gives maximum cooling and dehumidification. Trane engineered fan systems provide maximum airflow while minimizing vibration, acoustic levels and power consumption.

## Suitable for Retrofit, Renovation and Replacement

Change is inevitable. As time passes, building loads alter, new technologies emerge and codes and standards are revised. The Quantum Climate Changer design lends itself to the needs of the renovation, retrofit and replacement market.

## Sturdy Unit Construction

The Quantum Climate Changer's flexibility is contributed by the structural integrity pentapost and panel construction. That not only means you can stack modules in a space-saving vertical air-handler configuration, but also allows removal of panels for unlimited access. The casing strength is designed to meet European Standard EN 1886:1998.

## Optimized Coils

Flexibility characterizes the Quantum Climate Changer's broad coil offering. The variety of types, sizes, arrangements and materials enables you to select a coil optimized for the application pressure drop and capacity requirements. Options include:

- 2 to 12 rows, ½ inch OD chilled water coils and two separate cooling coil in series to meet high capacity requirement.
- One and two rows, ½ inch OD hot water coils.
- Four and six rows, ½ inch OD refrigerant coils.
- One row ½ inch OD, distributing type steam coils.
- Infinitely variable fin spacing (IVS).
- Stainless steel coil casing (option). Copper fins.
- Coated aluminum fin for corrosion resistance.

- Header drain and vent connections.
- Fully drain able coils at header.

All standard heating and cooling coils are engineered and manufactured at Trane air handling systems manufacturing facility.

## Performance Assurance and Commitment to Quality

Trane combines comprehensive performance certifications with thorough laboratory testing and manufacturing methods. Together these elements help to ensure that each Quantum Climate Changer operates predictably and reliably throughout the life of the unit. All fans are tested as per ANSI/AMCA 210, ANSI/ASHRAE Standard 51 – Laboratory Method of Testing Fans for Rating” and AMCA 300 “Reverberant Room Method for Sound Testing of Fans.”

All coil capacities, pressure drops and selection procedures are rated in accordance to ARI Standard 410. All coils are leak and proof tested to min 375 psig.

Quantum Climate Changer is manufactured in a facility that is certified to MS ISO9001.

# Quick Select 50mm Casing Construction

## Quick Selection Procedure

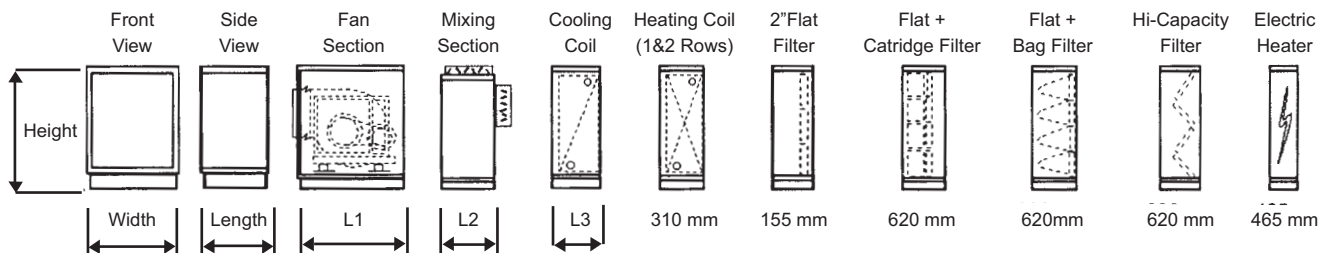
- Step 1: Determine what is the design airflow ( $m^3/s$ ) or total cooling capacity (kW).  
 Step 2: Use the table below to determine the unit size by picking the closest airflow or total cooling capacity.  
 Step 3: The unit width and height are the same for all sections. Unit length in Table A is based on basic fan+coil+flat filter sections only.  
 For other combinations, use Table B: Standard Section Length to determine the overall unit length.  
 Step 4: Determine the nominal unit details (unit weight, coil water pressure drop, water flow rate and motor installed power) using Table A.

**Table A: Quick Select**

| Model Size | Coil Face Area | Airflow At 2.5m/s Face Velocity | Total Cooling Capacity | External Static Pressure | Unit Dimension (Fan + Coil + Flat Filter) |           |           | Unit Weight | Cooling Coil Water Pressure Drop | Water Flow Rate | Motor Installed Power |
|------------|----------------|---------------------------------|------------------------|--------------------------|---|-----------|-----------|-------------|----------------------------------|-----------------|-----------------------|
|            | $m^2$          | $m^3/s$                         | kW                     | Pa                       | Width mm                                  | Height mm | Length mm | kg          | kPa                              | L / s           | kW                    |
| 003        | 0.24           | 0.6                             | 11                     | 300                      | 748                                       | 868       | 1368      | 160         | 1.5                              | 0.48            | 1.50                  |
| 004        | 0.40           | 1.0                             | 22                     | 300                      | 1058                                      | 868       | 1368      | 200         | 3.7                              | 0.94            | 1.50                  |
| 006        | 0.57           | 1.4                             | 22                     | 300                      | 1368                                      | 868       | 1523      | 260         | 1.7                              | 0.96            | 2.20                  |
| 008        | 0.73           | 1.9                             | 36                     | 300                      | 1678                                      | 868       | 1523      | 300         | 4.7                              | 1.53            | 3.00                  |
| 010        | 0.90           | 2.3                             | 41                     | 300                      | 1368                                      | 1178      | 1523      | 330         | 3.6                              | 1.75            | 4.00                  |
| 012        | 1.16           | 3.0                             | 60                     | 300                      | 1678                                      | 1178      | 1678      | 420         | 8.6                              | 2.60            | 4.00                  |
| 014        | 1.42           | 3.6                             | 79                     | 300                      | 1988                                      | 1178      | 1678      | 470         | 15.8                             | 3.41            | 5.50                  |
| 016        | 1.59           | 4.1                             | 81                     | 300                      | 1678                                      | 1488      | 1678      | 530         | 6.9                              | 3.49            | 5.50                  |
| 020        | 1.95           | 5.0                             | 107                    | 500                      | 1988                                      | 1488      | 1833      | 700         | 12.9                             | 4.60            | 11.00                 |
| 025        | 2.40           | 6.2                             | 137                    | 500                      | 1988                                      | 1798      | 1833      | 750         | 18.3                             | 5.89            | 11.00                 |
| 030        | 2.90           | 7.4                             | 160                    | 500                      | 1988                                      | 2108      | 1988      | 850         | 14.7                             | 6.89            | 11.00                 |
| 035        | 3.43           | 8.7                             | 197                    | 500                      | 2298                                      | 2108      | 2143      | 990         | 23.9                             | 8.48            | 15.00                 |
| 040        | 3.97           | 10.1                            | 235                    | 500                      | 2608                                      | 2108      | 2298      | 1150        | 36.0                             | 10.10           | 15.00                 |
| 045        | 4.50           | 11.5                            | 272                    | 500                      | 2918                                      | 2108      | 2298      | 1250        | 51.1                             | 11.70           | 18.50                 |
| 050        | 5.04           | 12.9                            | 309                    | 500                      | 3228                                      | 2108      | 2453      | 1460        | 70.0                             | 13.33           | 22.00                 |
| 060        | 5.95           | 15.2                            | 364                    | 500                      | 3228                                      | 2418      | 2608      | 1870        | 68.4                             | 15.66           | 30.00                 |
| 065        | 6.58           | 16.8                            | 406                    | 750                      | 3538                                      | 2418      | 2763      | 2110        | 78.8                             | 17.61           | 37.00                 |
| 070        | 7.21           | 18.4                            | 410                    | 750                      | 3848                                      | 2418      | 2763      | 2210        | 25.9                             | 17.22           | 37.00                 |
| 080        | 7.85           | 20.0                            | 444                    | 750                      | 4158                                      | 2418      | 2763      | 2450        | 32.6                             | 19.11           | 45.00                 |
| 085        | 8.48           | 21.6                            | 487                    | 750                      | 4468                                      | 2418      | 2763      | 2570        | 39.9                             | 20.94           | 45.00                 |
| 090        | 9.11           | 23.2                            | 532                    | 750                      | 4778                                      | 2418      | 2763      | 2840        | 48.5                             | 22.90           | 55.00                 |
| 095        | 9.78           | 24.9                            | 568                    | 750                      | 5088                                      | 2418      | 2763      | 2940        | 46.0                             | 24.47           | 55.00                 |

Note:

- Nominal cooling capacities are based on EDB 26.7°C / EWB 19.4°C and EWT 6.7°C / LWT 12.2°C.
- Unit dimension and weight includes forward curved fan section (arrangement 1 and 2), 4row 120ft coil (1/2inch cu tube) section and flat filter section (with filter media).



**Fan Section, L1** (arrangement 1 and 2, motor installed power as per Table A)

|            |      |      |      |      |      |      |      |      |      |      |      |
|------------|------|------|------|------|------|------|------|------|------|------|------|
| Model Size | 003  | 004  | 006  | 008  | 010  | 012  | 014  | 016  | 020  | 025  | 030  |
| Length, mm | 775  | 775  | 930  | 930  | 930  | 1085 | 1085 | 1085 | 1240 | 1240 | 1240 |
| Model Size | 035  | 040  | 045  | 050  | 060  | 065  | 070  | 080  | 085  | 090  | 095  |
| Length, mm | 1395 | 1550 | 1550 | 1705 | 1860 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |

**Mixing Section, L2**

|            |     |     |     |     |     |     |      |      |      |      |      |
|------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| Model Size | 003 | 004 | 006 | 008 | 010 | 012 | 014  | 016  | 020  | 025  | 030  |
| Length, mm | 310 | 310 | 310 | 310 | 465 | 465 | 465  | 465  | 465  | 465  | 620  |
| Model Size | 035 | 040 | 045 | 050 | 060 | 065 | 070  | 080  | 085  | 090  | 095  |
| Length, mm | 620 | 620 | 620 | 620 | 930 | 930 | 1085 | 1085 | 1240 | 1240 | 1240 |

**Coil Section, L3**

|                  |           |           |
|------------------|-----------|-----------|
| Model Size       | 003 - 025 | 030 - 095 |
| 1 and 2 row      | 310mm     | 310mm     |
| 4 row            | 310mm     | 465mm     |
| 6 row            | 465mm     | 465mm     |
| 8, 10 and 12 row | 620mm     | 620mm     |

Note:

- Total unit length shall be calculated based on total sum of all the individual section lengths added together.
- Add 128mm to overall unit length for end frame for all models.
- Fan section lengths are indicative only as the length varies according to the fan arrangement and motor kW range.
- Add another 155mm section for unit with fan and coil sections only.

# Quick Select 25mm Casing Construction

### Quick Selection Procedure

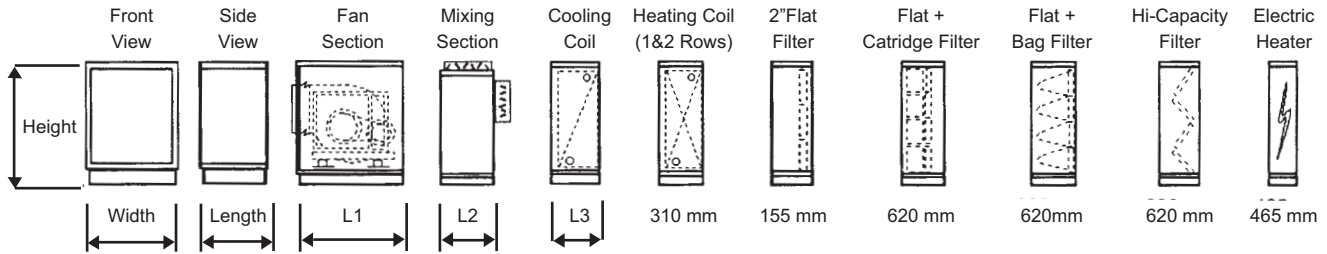
- Step 1: Determine what is the design airflow ( $m^3 / s$ ) or total cooling capacity (kW).  
 Step 2: Use the table below to determine the unit size by picking the closest airflow or total cooling capacity.  
 Step 3: The unit width and height are the same for all sections. Unit length in Table A is based on basic fan+coil+flat filter sections only.  
 For other combinations, use Table B: Standard Section Length to determine the overall unit length.  
 Step 4: Determine the nominal unit details (unit weight, coil water pressure drop, water flow rate and motor installed power) using Table A.

**Table A: Quick Select**

| Model Size | Coil Face Area | Airflow At 2.5m/s Face Velocity | Total Cooling Capacity | External Static Pressure | Unit Dimension (Fan + Coil + Flat Filter) |           |           | Unit Weight | Cooling Coil Water Pressure Drop | Water Flow Rate | Motor Installed Power |
|------------|----------------|---------------------------------|------------------------|--------------------------|---|-----------|-----------|-------------|----------------------------------|-----------------|-----------------------|
|            | $m^2$          | $m^3 / s$                       | kW                     | Pa                       | Width mm                                  | Height mm | Length mm | kg          | kPa                              | L / s           | kW                    |
| 003        | 0.24           | 0.6                             | 11                     | 300                      | 698                                       | 818       | 1318      | 136         | 1.5                              | 0.48            | 1.50                  |
| 004        | 0.40           | 1.0                             | 22                     | 300                      | 1008                                      | 818       | 1318      | 168         | 3.7                              | 0.94            | 1.50                  |
| 006        | 0.57           | 1.4                             | 22                     | 300                      | 1318                                      | 818       | 1473      | 214         | 1.7                              | 0.96            | 2.20                  |
| 008        | 0.73           | 1.9                             | 36                     | 300                      | 1628                                      | 818       | 1473      | 257         | 4.7                              | 1.53            | 3.00                  |
| 010        | 0.90           | 2.3                             | 41                     | 300                      | 1318                                      | 1128      | 1473      | 279         | 3.6                              | 1.75            | 4.00                  |
| 012        | 1.16           | 3.0                             | 60                     | 300                      | 1628                                      | 1128      | 1628      | 354         | 8.6                              | 2.60            | 4.00                  |
| 014        | 1.42           | 3.6                             | 79                     | 300                      | 1938                                      | 1128      | 1628      | 404         | 15.8                             | 3.41            | 5.50                  |
| 016        | 1.59           | 4.1                             | 81                     | 300                      | 1628                                      | 1438      | 1628      | 451         | 6.9                              | 3.49            | 5.50                  |
| 020        | 1.95           | 5.0                             | 107                    | 500                      | 1938                                      | 1438      | 1783      | 524         | 12.9                             | 4.60            | 11.00                 |
| 025        | 2.40           | 6.2                             | 137                    | 500                      | 1938                                      | 1748      | 1783      | 638         | 18.3                             | 5.89            | 11.00                 |
| 030        | 2.90           | 7.4                             | 160                    | 500                      | 1938                                      | 2058      | 1938      | 739         | 14.7                             | 6.89            | 11.00                 |
| 035        | 3.43           | 8.7                             | 197                    | 500                      | 2248                                      | 2058      | 2093      | 843         | 23.9                             | 8.48            | 15.00                 |
| 040        | 3.97           | 10.1                            | 235                    | 500                      | 2558                                      | 2058      | 2248      | 992         | 36.0                             | 10.10           | 15.00                 |
| 045        | 4.50           | 11.5                            | 272                    | 500                      | 2868                                      | 2058      | 2248      | 1080        | 51.1                             | 11.70           | 18.50                 |
| 050        | 5.04           | 12.9                            | 309                    | 500                      | 3178                                      | 2058      | 2403      | 1265        | 70.0                             | 13.33           | 22.00                 |

**Note:**

- Nominal cooling capacities are based on EDB 26.7°C / EWB 19.4°C and EWT 6.7°C / LWT 12.2°C.
- Unit dimension and weight includes forward curved fan section 4row 120ft coil (1/2inch cu tube) section and flat filter section (with filter media).



**Fan Section, L1** (arrangement 1 and 2, motor installed power as per Table A)

|            |      |      |      |      |      |      |      |      |      |      |      |
|------------|------|------|------|------|------|------|------|------|------|------|------|
| Model Size | 003  | 004  | 006  | 008  | 010  | 012  | 014  | 016  | 020  | 025  | 030  |
| Length, mm | 775  | 775  | 930  | 930  | 930  | 1085 | 1085 | 1085 | 1240 | 1240 | 1240 |
| Model Size | 035  | 040  | 045  | 050  | 060  | 065  | 070  | 080  | 085  | 090  | 095  |
| Length, mm | 1395 | 1550 | 1550 | 1705 | 1860 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |

**Mixing Section, L2**

|            |     |     |     |     |     |     |      |      |      |      |      |
|------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| Model Size | 003 | 004 | 006 | 008 | 010 | 012 | 014  | 016  | 020  | 025  | 030  |
| Length, mm | 310 | 310 | 310 | 310 | 465 | 465 | 465  | 465  | 465  | 465  | 620  |
| Model Size | 035 | 040 | 045 | 050 | 060 | 065 | 070  | 080  | 085  | 090  | 095  |
| Length, mm | 620 | 620 | 620 | 620 | 930 | 930 | 1085 | 1085 | 1240 | 1240 | 1240 |

**Coil Section, L3**

|                  |           |           |
|------------------|-----------|-----------|
| Model Size       | 003 - 025 | 030 - 050 |
| 1 and 2 row      | 310mm     | 310mm     |
| 4 row            | 310mm     | 465mm     |
| 6 row            | 465mm     | 465mm     |
| 8, 10 and 12 row | 620mm     | 620mm     |

**Note:**

- Total unit length shall be calculated based on total sum of all the individual section lengths added together.
- Add 78mm to overall unit length for end frame for all models.
- Fan section lengths are indicative only as the length varies according to the fan arrangement and motor kW range.
- Add another 155mm section for unit with fan and coil sections only.



# General Data Casing

---

## Casing Type

- The extruded frame of engineering grade aluminium provides the Quantum™ Climate Changer™ with excellent rigidity.
- Casing strength is designed to meet European standard EN 1886:1998.
- The panel is attached to the frame through a self locking mechanism represented by a wedge and frame, exerting pressure evenly onto the panel and the seal attached to the frame, and hence a better air tight cabinet construction. This unique design requires no welding during assembly of the framework sections.
- The panels are of double wall construction and injected with foam insulation to provide a rigid, sturdy and easily cleaned enclosure.
- Access panels are easily and quickly removed for maintenance and cleaning.
- Quantum™ Climate Changer™ is designed to suit the technical requirement of each application. This flexibility in design is especially suitable for replacement projects.

## Panel Thickness:

Overall average panel nominal thickness shall be 25 & 50mm.

The exterior and inner wall's panel coating comes with a variety of choices.

- Standard offering: Baked polyester powder painted steel sheet on exterior wall and galvanized steel sheet on inner wall.
- Option: Baked polyester powder painted steel sheet on exterior and inner-wall.

## Panel

The panels are manufactured by injection of polyurethane foam insulation between two metal skins to produce a rigid and totally enclosed panel of 25mm and 50mm nominal thickness.

This double wall construction keeps the insulation out of the airstream and contributes towards improved indoor air quality. The panels are also easily cleaned.

## Insulating Material Specification:

Thermal conductivity 'K' factor = 0.02 W/m<sup>2</sup>K.



# General Data Fans and Drives

---

## Fan

### Type of Fans

Quantum™ Climate Changer™ air handling units are designed to provide accurate performance in order to meet the sophisticated building air conditioning requirement.

Quantum™ Climate Changer™ air handling units are supplied with double inlet, double width (DIDW) centrifugal blowers.

- Forward curved blade (FC)
- Backward curved blade (BC)
- Airfoil blade (AF) upon request
- Direct / belt Drive plenum / plug fan upon request

### Construction

- Fan casing are constructed of galvanized steel with a series of punched holes or nutserts allowing the fixing of accessories such as frames or support structure thus providing a variety of discharge positions.
- The impeller (blade) is galvanized steel finish for FC and painted steel for backward curved and securely fixed to the solid straight shaft.
- All fan impellers are statically and dynamically balanced by the ISO 1940 and AMCA 204/3-G2.5 quality.
- Fan shaft are carbon steel (C45) grade and machined to tolerances of ISO 286-2. Grade G6 standard.

## Vibration Isolator

Three types of isolators used are:

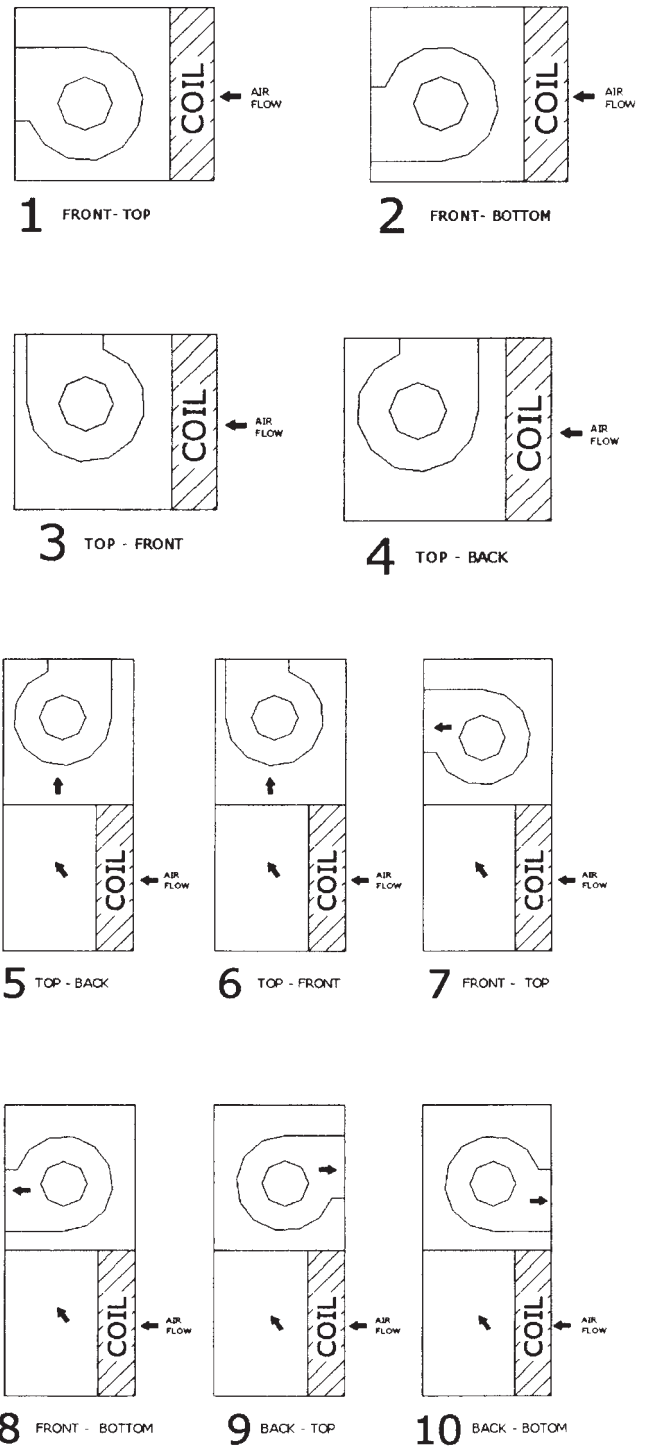
- Rubber In-shear
- 1" Deflection Spring
- 2" Deflection Spring

# General Data Fan & Drives

## Fan Size and Diameter

| Model Size | Fan Size | Fan Wheel Diameter (mm) |
|------------|----------|-------------------------|
| 003        | FC 200   | 200                     |
|            | BC 200   | 200                     |
| 004        | FC 225   | 225                     |
|            | BC 225   | 225                     |
| 006        | FC 250   | 250                     |
|            | BC 250   | 250                     |
| 008        | FC 280   | 280                     |
|            | BC 280   | 280                     |
| 010        | FC 315   | 315                     |
|            | BC 315   | 315                     |
| 012        | FC 400   | 400                     |
|            | BC 400   | 400                     |
| 014        | FC 400   | 400                     |
|            | BC 400   | 400                     |
| 016        | FC 450   | 450                     |
|            | BC 450   | 450                     |
| 020        | FC 500   | 500                     |
|            | BC 500   | 500                     |
| 025        | FC 560   | 560                     |
|            | BC 560   | 560                     |
| 030        | FC 560   | 560                     |
|            | BC 560   | 560                     |
| 035        | FC 630   | 630                     |
|            | BC 630   | 630                     |
| 040        | FC 710   | 710                     |
|            | BC 710   | 710                     |
| 045        | FC 710   | 710                     |
|            | BC 710   | 710                     |
| 050        | FC 800   | 800                     |
|            | BC 800   | 800                     |
| 060        | FC 800   | 800                     |
|            | BC 800   | 800                     |
| 065        | FC 900   | 900                     |
|            | BC 900   | 900                     |
| 070        | FC 900   | 900                     |
|            | BC 900   | 900                     |
| 080        | FC 1000  | 1000                    |
|            | BC 1000  | 1000                    |
| 085        | FC 1000  | 1000                    |
|            | BC 1000  | 1000                    |
| 090        | FC 1000  | 1000                    |
|            | BC 1000  | 1000                    |
| 095        | FC 1000  | 1000                    |
|            | BC 1000  | 1000                    |

## Fan Discharge Arrangements



# General Data Fans and Drives

## Fan Series

### KAT Series - Double Inlet Forward Curved Centrifugal Fans

The KAT fan series is Double Inlet Double Width(DIDW) centrifugal fans with forward curved impellers. The fans are suitable for supply or extract application in commercial, process and industrial HVAC systems.

The KAT series is available in type S and C as shown in Fig.1.

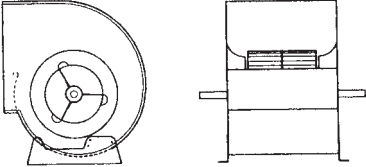
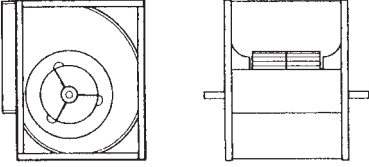
|   |   |
|---|---|
| <p><b>Type S</b><br/>This type are supplies with mounting feet and can be mounted in three different fan orientation.</p>   |  |
| <p><b>Type C</b><br/>This type has a frame on both side of the fans which gives better strength and rigidity. Possibilities of mounting in four different fan orientations.</p> |  |

Fig. 1

### FC & BC Series - Double Inlet Forward Curved and Backward Curved Centrifugal Fans

The FC and BC series is DIDW centrifugal fans with forward curved and backward curved impeller. The fans are suitable for supply or extract applications in commercial, process and HVAC systems. The FC and BC series is available in type S, C, T or X as shown in Fig.2.

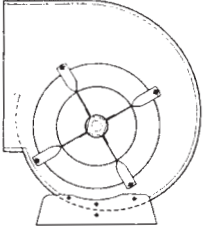
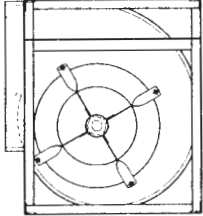
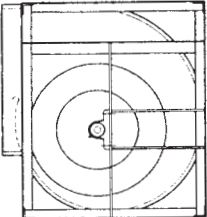
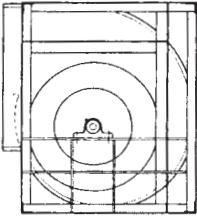
|   |  |
|---|--|
| <p style="text-align: center;"><b>Type S</b></p>  <p>This type are supplied with mounting feet and can be mounted in three differant fan orientation.</p>                | <p style="text-align: center;"><b>Type C</b></p>  <p>This type has a frame on both side of the fans which gives better strength and rigidity. Possibilities of mounting in four different fan oriaitaions.</p>        |
| <p style="text-align: center;"><b>Type T</b></p>  <p>This type has a welded frame giving increased stiffness and rigidity required for higher operating performance.</p> | <p style="text-align: center;"><b>Type X</b></p>  <p>This structure is similar to type 'T' but utilizes enchanced specification bearaings to support higher dynamic load necessary for the increased performance.</p> |

Fig. 2

# General Data Coils

## Coils

### General

- The cooling coil shall be mounted over the dual pitched sloping drain pan to ensure water condensate flowing.
- Coil performances are designed in accordance to ARI Standard 410.
- All coils shall be counter flow design.
- The Delta Flo coils design that shall have the following criteria as above.

| Description                              | Refrigerant (FD)     | Chilled Water       | Hot Water            |
|--|----------------------|---------------------|----------------------|
| Face Velocity; FPM (m/s)                 | 200 ~ 800 (1.0~4.1)  | 200 ~ 800 (1.0~4.1) | 200 ~ 1500 (1.0~457) |
| EDB; ° F (° C)                           | 65 ~ 100 (18 ~ 38)   | 65 ~ 100 (18 ~ 38)  | 0 ~ 100 (18 ~ 38)    |
| EWB; ° F (° C)                           | 60 ~ 85 (15~29)      | 60 ~ 85 (15 ~ 29)   | –                    |
| EWT; ° F (° C)                           | –                    | 35 ~ 65 (2 ~ 38)    | 120 ~ 250 (49 ~ 121) |
| Water Velocity; Ft/s (m/s)               | –                    | 1 ~ 8 (0.31 ~ 2.4)  | 0.5 ~ 8 (0.15 ~ 24)  |
| Saturated Suction Temperature; ° F (° C) | 34 ~ 55 (1.1 ~ 12.8) | –                   | –                    |
| Minimum Superheat; ° F (° C)             | 6 (14)               | –                   | –                    |

## Availability

### Water, Refrigerant and Steam Coil

| Coil Type | Description                                      | Rows             | End Connection | Header Material | Fins Per Foot   | Tube Material  | Max. Standard operation Pressure (Tube Side) |      |       |     |
|-----------|--|------------------|----------------|-----------------|---|----------------|--|------|-------|-----|
|           |  |                  |                |                 |   |                | Pressure                                     |      | Temp. |     |
|           |  |                  |                |                 |   |                | Psig   | kPa  | ° F   | ° C |
| WL        | General Purpose Single-Row Serpentine Water Coil | 2,4,6,8, 10 & 12 | Same Side      | Steel Or Copper | Aluminum<br>96 - 168 Htg<br>96 - 168 Clg<br>Copper<br>120 - 168                             | 1/2" OD Copper | 250  | 1724 | 220   | 104 |
| DL        | Drainable Double-Row Serpentine Water Coil       | 2,4,6,8, 10 & 12 | Same Side      | Steel Or Copper | Aluminum<br>96 - 168 Htg copper<br>96 - 168 Clg<br>Copper<br>120 - 168 Htg<br>120 - 168 Clg | 1/2" OD Copper | 250  | 1724 | 220   | 104 |
| LL        | Drainable Double-Row Serpentine Water Coil       | 4,6,8, 10 & 12   | Same Side      | Steel Or Copper | Aluminum<br>96 - 168 Clg<br>Copper<br>120 - 168 Clg   | 1/2" OD Copper | 250  | 1724 | 220   | 104 |
| FD        | Refrigerant Cooling Coil                         | 4,6              | Same Side      | Copper          | Aluminum<br>96 - 168 Clg<br>Copper<br>120 - 168 Clg   | 1/2" OD Copper | 250  | 1724 | 220   | 104 |
| A or AA   | Steam Coil                                       | 1                | Opposite Side  | Steel           | Aluminum<br>96 - 168  | 1/2" OD Copper | 250  | 1724 | 220   | 104 |

1. All coil length are available in 1inch increments.
2. All fin spacing are available in 1 fin per foot increments
3. Turbulators are available for type WL and LL coils. This option is useful when water velocities are low (less than 4 ft/ sec) to obtain maximum tube side heat transfer. The use of turbulators is equivalent to doubling the water velocity though the tubes.
4. All water coils can be used in cooling and heating applications.
5. Circuiting options for type FD coils are: Standard (Single Distributor), and Intertwined circuiting.



# General Data Coils

## Chilled and Hot Water Coil

### Dimensions

| Model Size | Coil Face Area  |                | Actual Fin Height |      | Finned Length |      |
|------------|-----------------|----------------|-------------------|------|---------------|------|
|            | Ft <sup>2</sup> | M <sup>2</sup> | in                | mm   | in            | mm   |
| 003        | 2.5             | 0.24           | 21                | 533  | 17            | 432  |
| 004        | 4.3             | 0.40           | 21                | 533  | 29            | 737  |
| 006        | 6.1             | 0.57           | 21                | 533  | 41            | 1041 |
| 008        | 7.9             | 0.73           | 21                | 533  | 53            | 1346 |
| 010        | 9.7             | 0.90           | 34                | 864  | 41            | 1041 |
| 012        | 12.5            | 1.16           | 34                | 864  | 53            | 1346 |
| 014        | 15.3            | 1.42           | 34                | 864  | 65            | 1651 |
| 016        | 17.1            | 1.59           | 46                | 1175 | 53            | 1346 |
| 020        | 21.0            | 1.95           | 46                | 1175 | 65            | 1651 |
| 025        | 26.0            | 2.40           | 58                | 1473 | 65            | 1651 |
| 030        | 31.5            | 2.93           | 70                | 1778 | 65            | 1651 |
| 035        | 37.3            | 3.47           | 70                | 1778 | 77            | 1956 |
| 040        | 43.2            | 4.02           | 70                | 1778 | 89            | 2261 |
| 045        | 49.0            | 4.56           | 70                | 1778 | 101           | 2565 |
| 050        | 54.8            | 5.10           | 70                | 1778 | 113           | 2870 |
| 060        | 64.0            | 5.95           | 40                | 1016 | 113           | 2870 |
|            |                 |                | 41                | 1041 | 113           | 2870 |
| 065        | 70.8            | 6.58           | 40                | 1016 | 125           | 3175 |
|            |                 |                | 41                | 1041 | 125           | 3175 |
| 070        | 77.6            | 7.21           | 40                | 1016 | 137           | 3480 |
|            |                 |                | 41                | 1041 | 137           | 3480 |
| 080        | 84.4            | 7.85           | 40                | 1016 | 149           | 3785 |
|            |                 |                | 41                | 1041 | 149           | 3785 |
| 085        | 91.1            | 8.48           | 40                | 1016 | 161           | 4089 |
|            |                 |                | 41                | 1041 | 161           | 4089 |
| 090        | 97.9            | 9.11           | 40                | 1016 | 173           | 4394 |
|            |                 |                | 41                | 1041 | 173           | 4394 |
| 095        | 104.5           | 9.78           | 40                | 1016 | 185           | 4699 |
|            |                 |                | 41                | 1041 | 185           | 4699 |



# General Data Coils

## Steam Coil Dimension (1/2" Delta Flo; Type A and AA Circuiting)

### Dimensions

| Model Size | Coil Face Area  |                | Actual Fin Height |     | Finned Length |      |
|------------|-----------------|----------------|-------------------|-----|---------------|------|
|            | Ft <sup>2</sup> | M <sup>2</sup> | in                | mm  | in            | mm   |
| 003        | 2.1             | 0.20           | 20                | 508 | 15            | 381  |
| 004        | 2.4             | 0.23           | 20                | 508 | 17            | 432  |
| 006        | 5.4             | 0.50           | 20                | 508 | 39            | 991  |
| 008        | 7.1             | 0.66           | 20                | 508 | 51            | 1295 |
| 010        | 8.8             | 0.82           | 32.5              | 826 | 39            | 991  |
| 012        | 11.5            | 1.07           | 32.5              | 826 | 51            | 1295 |
| 014        | 14.2            | 1.32           | 32.5              | 826 | 63            | 1600 |
| 016        | 14.2            | 1.32           | 20                | 508 | 51            | 1295 |
|            |                 |                | 20                | 508 | 51            | 1295 |
| 020        | 17.6            | 1.64           | 20                | 508 | 63            | 1600 |
|            |                 |                | 20                | 508 | 63            | 1600 |
| 025        | 23.0            | 2.14           | 32.5              | 826 | 63            | 1600 |
|            |                 |                | 20                | 508 | 63            | 1600 |
| 030        | 28.4            | 2.64           | 32.5              | 826 | 63            | 1600 |
|            |                 |                | 32.5              | 826 | 63            | 1600 |
| 035        | 33.8            | 3.14           | 32.5              | 826 | 75            | 1905 |
|            |                 |                | 32.5              | 826 | 75            | 1905 |
| 040        | 39.2            | 3.65           | 32.5              | 826 | 87            | 2210 |
|            |                 |                | 32.5              | 826 | 87            | 2210 |
| 045        | 44.6            | 4.15           | 32.5              | 826 | 99            | 2515 |
|            |                 |                | 32.5              | 826 | 99            | 2515 |
| 050        | 50.2            | 4.66           | 32.5              | 826 | 111           | 2819 |
|            |                 |                | 32.5              | 826 | 111           | 2819 |
| 060        | 57.8            | 5.38           | 20                | 508 | 111           | 2819 |
|            |                 |                | 20                | 508 | 111           | 2819 |
|            |                 |                | 35                | 889 | 111           | 2819 |
| 065        | 64.1            | 5.96           | 20                | 508 | 123           | 3124 |
|            |                 |                | 20                | 508 | 123           | 3124 |
|            |                 |                | 35                | 889 | 123           | 3124 |
| 070        | 70.4            | 6.55           | 20                | 508 | 135           | 3429 |
|            |                 |                | 20                | 508 | 135           | 3429 |
|            |                 |                | 35                | 889 | 135           | 3429 |
| 080        | 78.5            | 7.11           | 20                | 508 | 147           | 3734 |
|            |                 |                | 20                | 508 | 147           | 3734 |
|            |                 |                | 35                | 889 | 147           | 3734 |
| 085        | 82.8            | 7.70           | 20                | 508 | 159           | 4039 |
|            |                 |                | 20                | 508 | 159           | 4039 |
|            |                 |                | 35                | 889 | 159           | 4039 |
| 090        | 89.2            | 8.30           | 20                | 508 | 171           | 4343 |
|            |                 |                | 20                | 508 | 171           | 4343 |
|            |                 |                | 35                | 889 | 171           | 4343 |
| 095        | 95.3            | 8.86           | 20                | 508 | 183           | 4648 |
|            |                 |                | 20                | 508 | 183           | 4648 |
|            |                 |                | 35                | 889 | 183           | 4648 |



# General Data Coils

## Refrigerant Coil Circuits (1/2" Standard Refrigerant Coil Circuiting)

### Dimensions

| Model Size | Coil Face Area  |                | Actual Fin Height |      | Finned Length |      | No. of Dist | Fin Height | Piping Ø |       |         |
|------------|-----------------|----------------|-------------------|------|---------------|------|-------------|------------|----------|-------|---------|
|            | Ft <sup>2</sup> | M <sup>2</sup> | in                | mm   | in            | mm   |             |            | Liquid   |       | Suction |
|            |                 |                |                   |      |               |      |             |            | 1/4"     | 3/16" | O.D.    |
| 003        | 2.5             | 0.23           | 21                | 533  | 17            | 432  | 1           | –          | 28.6     | 22.2  | 41.2    |
| 004        | 4.3             | 0.40           | 21                | 533  | 29            | 737  | 1           | –          | 28.6     | 22.2  | 41.2    |
| 006        | 6.1             | 0.56           | 21                | 533  | 41            | 1041 | 1           | –          | 28.6     | 22.2  | 41.2    |
| 008        | 7.9             | 0.73           | 21                | 533  | 53            | 1346 | 1           | –          | 28.6     | 22.2  | 41.2    |
| 010        | 9.7             | 0.90           | 34                | 864  | 41            | 1041 | 1           | –          | 35       | 28.6  | 41.2    |
| 012        | 12.5            | 1.16           | 34                | 864  | 53            | 1346 | 1           | –          | 35       | 28.6  | 41.2    |
| 014        | 15.3            | 1.42           | 34                | 864  | 65            | 1651 | 1           | –          | 35       | 28.6  | 41.2    |
| 016        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 020        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 025        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 030        | 31.5            | 2.93           | 70                | 1778 | 65            | 1651 | 2           | 70         | 35       | 28.6  | 41.2    |
| 035        | 37.3            | 3.47           | 70                | 1778 | 77            | 1956 | 2           | 70         | 35       | 28.6  | 41.2    |
| 040        | 43.2            | 4.02           | 70                | 1778 | 89            | 2261 | 2           | 70         | 35       | 28.6  | 41.2    |
| 045        | 49.0            | 4.56           | 70                | 1778 | 101           | 2565 | 2           | 70         | 35       | 28.6  | 41.2    |
| 050        | 54.8            | 5.10           | 70                | 1778 | 113           | 2870 | 2           | 70         | 35       | 28.6  | 41.2    |
| 060        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 065        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 070        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 080        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 085        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 090        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |
| 095        | –               | –              | –                 | –    | –             | –    | –           | –          | –        | –     | –       |



# General Data Coils

## Refrigerant Coil Circuits (1/2" Interwined Refrigerant Coil Circuiting)

### Dimensions

| Model Size | Coil Face Area  |                | Actual Fin Height |      | Finned Length |      | No. of Dist | Piping Ø |       |         |
|------------|-----------------|----------------|-------------------|------|---------------|------|-------------|----------|-------|---------|
|            | Ft <sup>2</sup> | M <sup>2</sup> | in                | mm   | in            | mm   |             | Liquid   |       | Suction |
|            |                 |                |                   |      |               |      |             | 1/4"     | 3/16" | O.D.    |
| 003        | 2.5             | 0.23           | 21                | 533  | 17            | 432  | 1/1         | 28.6     | 22.2  | 41      |
| 004        | 4.3             | 0.40           | 21                | 533  | 29            | 737  | 1/1         | 28.6     | 22.2  | 41      |
| 006        | 6.1             | 0.56           | 21                | 533  | 41            | 1041 | 1/1         | 28.6     | 22.2  | 41      |
| 008        | 7.9             | 0.73           | 21                | 533  | 53            | 1346 | 1/1         | 28.6     | 22.2  | 41      |
| 010        | 9.7             | 0.90           | 34                | 864  | 41            | 1041 | 1/1         | 35       | 28.6  | 41      |
| 012        | 12.5            | 1.16           | 34                | 864  | 53            | 1346 | 1/1         | 35       | 28.6  | 41      |
| 014        | 15.3            | 1.42           | 34                | 864  | 65            | 1651 | 1/1         | 35       | 28.6  | 41      |
| 016        | 17.1            | 1.59           | 46                | 1168 | 53            | 1346 | 1/1/1/1     | 28.6     | 22.2  | 41      |
| 020        | 21.0            | 1.95           | 46                | 1168 | 65            | 1651 | 1/1/1/1     | 28.6     | 22.2  | 41      |
| 025        | 26.0            | 2.42           | 58                | 1473 | 65            | 1651 | 1/1/1/1     | 35       | 28.6  | 41      |
| 030        | 31.5            | 2.93           | 70                | 1778 | 65            | 1651 | 1/1/1/1     | 35       | 28.6  | 41      |
| 035        | 37.3            | 3.47           | 70                | 1778 | 77            | 1956 | 1/1/1/1     | 35       | 28.6  | 41      |
| 040        | 43.2            | 4.02           | 70                | 1778 | 89            | 2261 | 1/1/1/1     | 35       | 28.6  | 41      |
| 045        | 49.0            | 4.56           | 70                | 1778 | 101           | 2565 | 1/1/1/1     | 35       | 28.6  | 41      |
| 050        | 54.8            | 5.10           | 70                | 1778 | 113           | 2870 | 1/1/1/1     | 35       | 28.6  | 41      |
| 060        | 64.0            | 5.93           | 40                | 1016 | 113           | 2870 | 1/1/1/1     | 28.6     | 22.2  | 41      |
|            |                 |                | 41                | 1041 | 113           | 2870 | 1/1/1/1     |          |       |         |
| 065        | 70.8            | 6.56           | 40                | 1016 | 125           | 3175 | 1/1/1/1     | 28.6     | 22.2  | 41      |
|            |                 |                | 41                | 1041 | 125           | 3175 | 1/1/1/1     |          |       |         |
| 070        | 77.6            | 7.19           | 40                | 1016 | 137           | 3480 | 1/1/1/1     | 28.6     | 22.2  | 41      |
|            |                 |                | 41                | 1041 | 137           | 3480 | 1/1/1/1     |          |       |         |
| 080        | 84.4            | 7.82           | 40                | 1016 | 149           | 3785 | 1/1/1/1     | 28.6     | 22.2  | 41      |
|            |                 |                | 41                | 1041 | 149           | 3785 | 1/1/1/1     |          |       |         |
| 085        | 91.1            | 8.45           | 40                | 1016 | 161           | 4089 | 1/1/1/1     | 28.6     | 22.2  | 41      |
|            |                 |                | 41                | 1041 | 161           | 4089 | 1/1/1/1     |          |       |         |
| 090        | 97.9            | 9.08           | 40                | 1016 | 173           | 4394 | 1/1/1/1     | 28.6     | 22.2  | 41      |
|            |                 |                | 41                | 1041 | 173           | 4394 | 1/1/1/1     |          |       |         |
| 095        | 104.5           | 9.71           | 40                | 1016 | 185           | 4699 | 1/1/1/1     | 28.6     | 22.2  | 41      |
|            |                 |                | 41                | 1041 | 185           | 4699 | 1/1/1/1     |          |       |         |

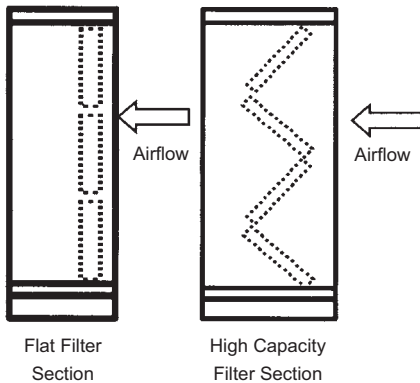
# General Data Filters

## General

Quantum™ Climate Changer™ air handling unit offers wide range of filters to meet air filtration requirement in various types of commercial and industrial air conditioning applications. Filter type offered are:

- (a) Washable and throwaway type flat filters
- (b) Bag and cartridge type filters
- (c) Final or Hepa filters
- (d) Carbon or gas filters, etc.

## Flat Filter and High Capacity Filter



### a) Washable Filter

The filter is for use in room air conditioning units, hot air generators and air conditioning installation. The filter media consist of selected synthetic fibers. An exclusive bonding technology provides the media with high numbers of fibers per square meter for a given weight. Its characteristics are relatively low resistance to air flow and a high dust holding capacity. The media can be cleaned:

- in warm water (30° - 40°C) with addition of a household detergent if necessary. Drying should be done on a flat surface. Do not rub or wiring.
- by blowing with compressed air in the opposite direction of filter airflow.

| Washable Filter – Product Information |                         |
|---------------------------------------|-------------------------|
| Normal Sizes (inch)                   | : 12x24<br>20x24, 24x24 |
| Filter Depth (mm)                     | : 50                    |
| Average Arrestance                    | : 80 – 85%              |

### b) Throwaway Filter

Unique “pleat” design assures total usage of the filter media, maximum dust holding capacity and extended service life. Its greater dust holding capacity not only extends replacement intervals, but considerably lengthens the service life of any other secondary filters in the systems.

The media used is a lofted, high performance, nonwoven, reinforced cotton and synthetic fabric. Filter media shall be of high density glass mirco fibers laminated to all glass woven mesh backing. The filter media shall have an average arrestance of 90 – 92%. The filter is categorized as a 30% efficiency filter.

| Throwaway Filter – Product Information |                         |
|--|-------------------------|
| Normal Sizes (inch)                    | : 12x24<br>20x24, 24x24 |
| Filter Depth (mm)                      | : 50                    |
| Average Arrestance                     | : 90 – 92%              |
| Average Efficiency                     | : 25 – 30%              |

# General Data Filters

## High Efficiency Filter Section

### a. Bag Filter

The filter is an extended surface non-supported pocket filter which offers high efficiency, low resistance, compactness and unusual dust-holding capacity. When placed in ventilating system, the pockets of the filtering media inflate for maximum efficiency and dust holding capacity.

Filter efficiency is determined by the size and quality of fibers per square inch. In each efficiency category the media is manufactured to rigid specifications that assure an extremely large amount of dirt-catching surface area to catch microscopic contaminants.

The exclusive pocket design allows every channel to fully inflate while maintaining the amount of space between pockets. Clean air can freely exit from front to back. Some manufacturer's design permit adjacent pockets to touch when inflated which significantly reduces dust holding capacity.

Each filter pocket is attached to a support frame that fits into a U-channel header. Each pocket support frame is then mechanically fastened to the adjacent frame forming a rigid construction that does not rack during handling and installation. The positive locking arrangement forms an air tight seal and also virtually eliminates the possibility of pocket separation from the header as resistance increase.

| Bag Filter – Product Information |                                  |
|----------------------------------|----------------------------------|
| Normal Sizes (inch) :            | 12x24<br>20x24, 24x24            |
| Filter Depth (mm) :              | 381                              |
| Average Efficiency :             | 60 – 65%<br>80 – 85%<br>90 – 95% |

### b. Cartridge Filter

The filters are ideally suited to variable volume systems. Being totally rigid, Performance is not affected by changes in air velocity or fan shutdown, and their configuration is not altered by accumulation of dirt. High loft glass fiber media is laminated to which provides positive support, optimizes dust holding capacity, and precludes fiber emission, as compared to flat glass media.

All double wall fiber board contour stabilizers, diagonal support provide rigidity, durability, consistent integrity and performance reliability throughout the filter's life.

The lofted media and exclusive radial pleats provide a high dust holding capacity, extending the life of the filter. The filter will operate at air volumes considerably below rates velocity and capacity. Initial resistance is reduced, performance is improved and service life is extended.

| Cartridge Filter – Product Information |                                  |
|--|----------------------------------|
| Normal Sizes (inch) :                  | 12x24<br>20x24, 24x24            |
| Filter Depth (mm) :                    | 100                              |
| Average Efficiency :                   | 60 – 65%<br>80 – 85%<br>90 – 95% |



# General Data Filters

## Filter Quantity and Sizes (Nominal)

### a. Flat, Bag and Cartridge Filters

| Model Size | Filter Face Area<br>Sq.Ft. | Filter Sizes (inch) |       |       |
|------------|----------------------------|---------------------|-------|-------|
|            |                            | 12x24               | 20x24 | 24x24 |
| 003        | 3.3                        | –                   | 1     | –     |
| 004        | 3.3                        | –                   | 1     | –     |
| 006        | 6.7                        | –                   | 2     | –     |
| 008        | 6.7                        | –                   | 2     | –     |
| 010        | 10.7                       | 2                   | 2     | –     |
| 012        | 10.7                       | 2                   | 2     | –     |
| 014        | 16.0                       | 3                   | 3     | –     |
| 016        | 20.0                       | 2                   | –     | 4     |
| 020        | 24.0                       | –                   | –     | 6     |
| 025        | 30.0                       | 3                   | –     | 6     |
| 030        | 36.0                       | –                   | –     | 9     |
| 035        | 42.0                       | 3                   | –     | 9     |
| 040        | 48.0                       | –                   | –     | 12    |
| 045        | 54.0                       | 3                   | –     | 12    |
| 050        | 60.0                       | –                   | –     | 15    |
| 060        | 70.0                       | 5                   | –     | 15    |
| 065        | 76.0                       | 8                   | –     | 15    |
| 070        | 84.0                       | 6                   | –     | 18    |
| 080        | 90.0                       | 9                   | –     | 18    |
| 085        | 98.0                       | 7                   | –     | 21    |
| 090        | 104.0                      | 10                  | –     | 21    |
| 095        | 112.0                      | 8                   | –     | 24    |


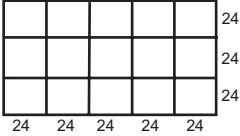

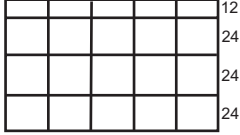
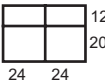
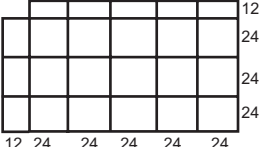
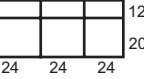
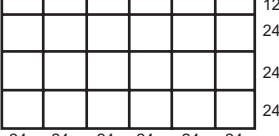

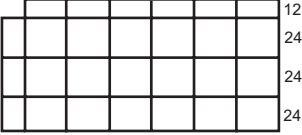

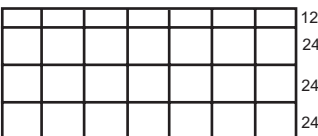
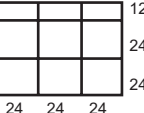
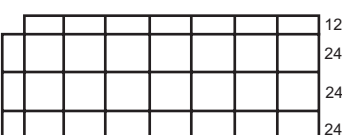
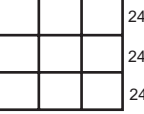
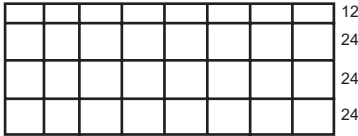
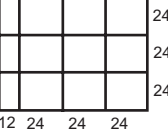
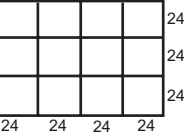
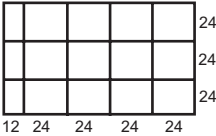
### b. High Capacity Filters

| Model Size | Filter Face Area | Filter Sizes (inch) |
|------------|------------------|---------------------|
|            |                  | 20x24               |
| 003        | 8                | 2                   |
| 004        | 8                | 2                   |
| 006        | 16               | 4                   |
| 008        | 16               | 4                   |
| 010        | 32               | 8                   |
| 012        | 32               | 8                   |
| 014        | 48               | 12                  |
| 016        | 40               | 10                  |
| 020        | 60               | 15                  |
| 025        | 84               | 21                  |
| 030        | 96               | 24                  |
| 035        | 96               | 24                  |
| 040        | 128              | 32                  |
| 045        | 128              | 32                  |
| 050        | 160              | 40                  |
| 060        | 180              | 45                  |
| 065        | 180              | 45                  |
| 070        | 216              | 54                  |
| 080        | 216              | 54                  |
| 085        | 252              | 63                  |
| 090        | 252              | 63                  |
| 095        | 308              | 63                  |

# General Data Filters



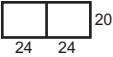
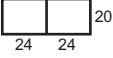
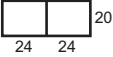
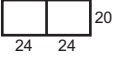
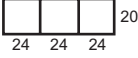
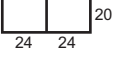
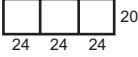

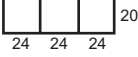
## Filter Dimension (Nominal) and Arrangement


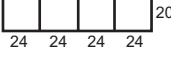
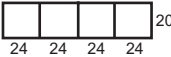
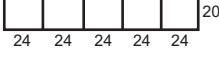
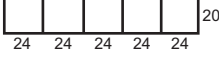
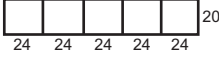
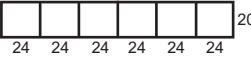
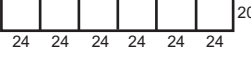



### Flat Filter, Bag Filter & Cartridge Filter

| Model      | Arrangement   | (Nominal Sizes In Inches)  | Model | Arrangement   | (Nominal Sizes In Inches)   |   |
|------------|---|----------------------------|-------|---|---|---|
| 003<br>004 |    | 24<br>20                   | 050   |  | 24<br>24<br>24  |   |
| 006<br>008 |    | 24 24<br>20                |       | 060   |  | 12<br>24<br>24<br>24  |
| 010<br>012 |    | 12 24<br>20                |       |   | 065   |  |
| 014        |   | 24 24 24<br>12<br>20       | 070   |   |   |  |
| 016        |  | 12 24 24<br>24<br>24       |       | 080   |   |  |
| 020        |  | 24 24 24<br>24<br>24       |       |   | 085   |  |
| 025        |  | 12 24 24<br>24<br>24       | 090   |   |   |  |
| 030        |  | 24 24 24<br>24<br>24       |       | 095   |   |  |
| 035        |  | 12 24 24 24<br>24<br>24    |       |   |   |   |
| 040        |  | 24 24 24 24<br>24<br>24    |       |   |   |   |
| 045        |  | 12 24 24 24 24<br>24<br>24 |       |   |   |   |

# General Data Filters

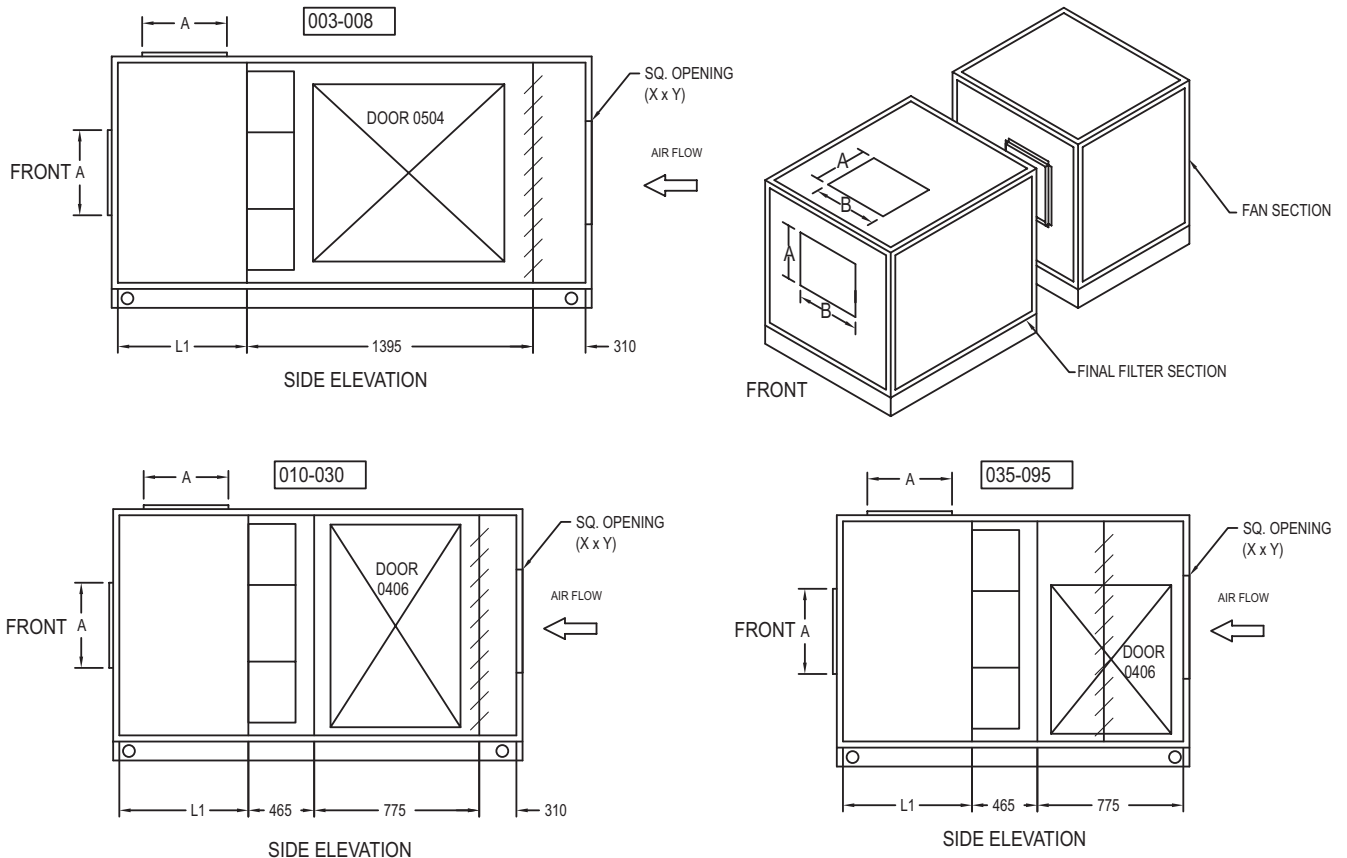
## Filter Dimension (Nominal) and Arrangement High Capacity Filter

| FILTER PLAN |                    |   |
|-------------|--------------------|---|
| Model       | Dimension          | Filter Arrangement  |
| 003         | 2 ROWS – 24" X 20" |    |
| 004         | 2 ROWS – 24" X 20" |    |
| 006         | 2 ROWS – 48" X 20" |   |
| 008         | 2 ROWS – 48" X 20" |  |
| 010         | 4 ROWS – 48" X 20" |  |
| 012         | 4 ROWS – 48" X 20" |  |
| 014         | 4 ROWS – 72" X 20" |  |
| 016         | 5 ROWS – 48" X 20" |  |
| 020         | 5 ROWS – 72" X 20" |  |
| 025         | 7 ROWS – 72" X 20" |  |
| 030         | 8 ROWS – 72" X 20" |  |

| FILTER PLAN |                     |   |
|-------------|---------------------|---|
| Model       | Dimension           | Filter Arrangement  |
| 035         | 8 ROWS – 72" X 20"  |    |
| 040         | 8 ROWS – 96" X 20"  |    |
| 045         | 8 ROWS – 96" X 20"  |   |
| 050         | 8 ROWS – 120" X 20" |  |
| 060         | 9 ROWS – 120" X 20" |  |
| 065         | 9 ROWS – 120" X 20" |  |
| 070         | 9 ROWS – 144" X 20" |  |
| 080         | 9 ROWS – 144" X 20" |  |
| 085         | 9 ROWS – 168" X 20" |  |
| 090         | 9 ROWS – 168" X 20" |  |
| 095         | 9 ROWS – 168" X 20" |  |

# General Data Filters

## Final Filter (HEPA)







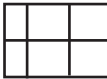



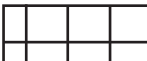
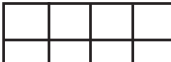
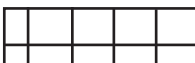
## Final Filter Casing Dimension

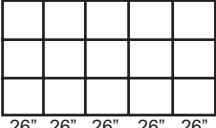
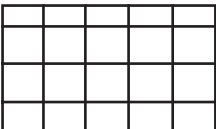
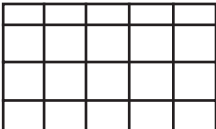
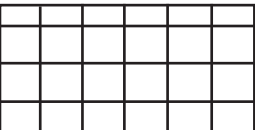
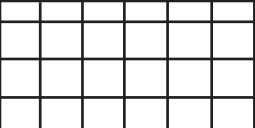
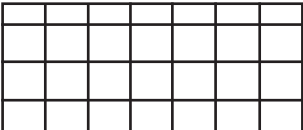
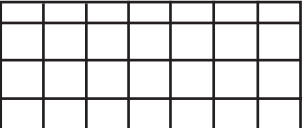
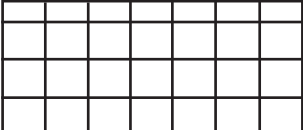
| CLCP - AHU | Final Filter (HEPA) Casing Size | 25mm Casing Dimension |      |      | 50mm Casing Dimension |      |      | Outlet Opening | Discharge Plenum Section |
|------------|---------------------------------|-----------------------|------|------|-----------------------|------|------|----------------|--------------------------|
|            |                                 | W                     | H    | L    | W                     | H    | L    |                |                          |
| Std. Model | ( X 155 parametric)             |                       |      |      |                       |      |      | B x A          | L1                       |
| 003 (0404) | 0505                            | 853                   | 973  | 2248 | 903                   | 1023 | 2298 | 465 x 310      | 465                      |
| 004 (0604) | 0605                            | 1008                  | 973  | 2248 | 1058                  | 1023 | 2298 | 465 x 310      | 465                      |
| 006 (0804) | 0905                            | 1473                  | 973  | 2248 | 1523                  | 1023 | 2298 | 465 x 310      | 465                      |
| 008 (1004) | 1005                            | 1628                  | 973  | 2248 | 1678                  | 1023 | 2298 | 620 x 310      | 465                      |
| 010 (0806) | 0907                            | 1473                  | 1283 | 2093 | 1523                  | 1333 | 2143 | 620 x 310      | 465                      |
| 012 (1006) | 1007                            | 1628                  | 1283 | 2093 | 1678                  | 1333 | 2143 | 620 x 310      | 465                      |
| 014 (1206) | 1307                            | 2093                  | 1283 | 2093 | 2143                  | 1333 | 2143 | 775 x 310      | 465                      |
| 016 (1008) | 1109                            | 1783                  | 1593 | 2248 | 1833                  | 1643 | 2298 | 775 x 465      | 620                      |
| 020 (1208) | 1309                            | 2093                  | 1593 | 2248 | 2143                  | 1643 | 2298 | 775 x 465      | 620                      |
| 025 (1210) | 1311                            | 2093                  | 1903 | 2248 | 2143                  | 1953 | 2298 | 930 x 465      | 620                      |
| 030 (1212) | 1313                            | 2093                  | 2213 | 2403 | 2143                  | 2263 | 2453 | 930 x 620      | 775                      |
| 035 (1412) | 1614                            | 2558                  | 2368 | 2248 | 2608                  | 2418 | 2298 | 930 x 775      | 930                      |
| 040 (1612) | 1813                            | 2868                  | 2213 | 2248 | 2918                  | 2263 | 2298 | 1085 x 775     | 930                      |
| 045 (1812) | 1914                            | 3023                  | 2368 | 2248 | 3073                  | 2418 | 2298 | 1240 x 775     | 930                      |
| 050 (2012) | 2213                            | 3488                  | 2213 | 2248 | 3538                  | 2263 | 2298 | 1240 x 775     | 930                      |
| 060 (2014) | 2215                            |                       |      |      | 3538                  | 2573 | 2298 | 1705 x 775     | 930                      |
| 065 (2214) | 2215                            |                       |      |      | 3538                  | 2573 | 2298 | 1860 x 775     | 930                      |
| 070 (2414) | 2715                            |                       |      |      | 4313                  | 2573 | 2298 | 2015 x 775     | 930                      |
| 080 (2614) | 2715                            |                       |      |      | 4313                  | 2573 | 2298 | 2170 x 775     | 930                      |
| 085 (2814) | 3215                            |                       |      |      | 5088                  | 2573 | 2298 | 2170 x 775     | 930                      |
| 090 (3014) | 3215                            |                       |      |      | 5088                  | 2573 | 2453 | 2325 x 930     | 1085                     |
| 095 (3214) | 3215                            |                       |      |      | 5088                  | 2573 | 2453 | 2480 x 930     | 1085                     |



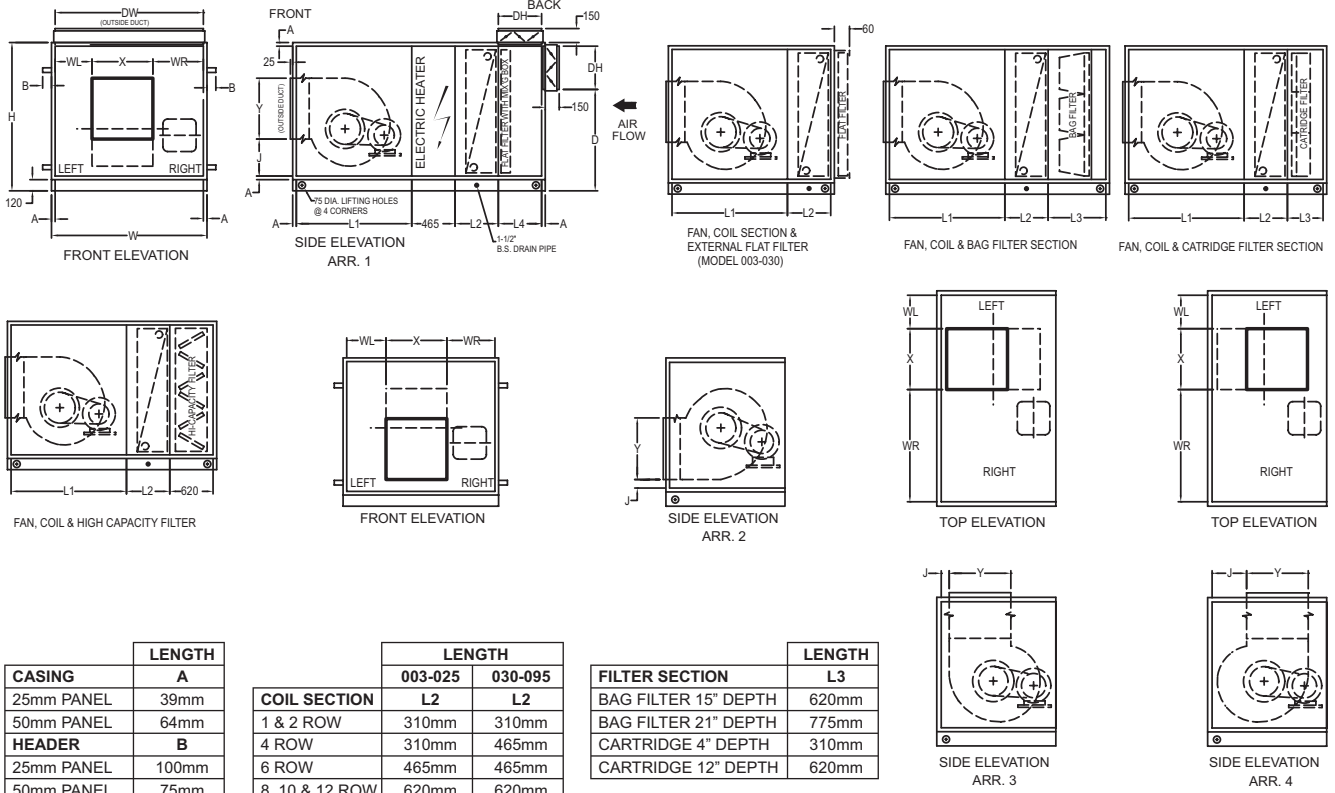
# General Data Filters

## Filter Dimension (Nominal) and Arrangement Final Filter

| MODEL      | ARRANGEMENT   | (NOMINAL SIZES IN INCHES)                          |
|------------|---|--|
| 003<br>004 |    | 24.5"<br>26  |
| 006<br>008 |    | 24.5"<br>26 26                                     |
| 010<br>012 |    | 12.5"<br>24.5"<br>26 26                            |
| 014        |    | 12.5"<br>24.5"<br>26 26 26                         |
| 016        |   | 26<br>26<br>12.5" 24.5" 24.5"                      |
| 020        |  | 21.5"<br>24.5"<br>26" 26" 26"                      |
| 025        |  | 12.5"<br>24.5"<br>24.5"<br>26" 26" 26"             |
| 030        |  | 24.5"<br>24.5"<br>24.5"<br>26" 26" 26"             |
| 035        |  | 26"<br>26"<br>26"<br>12.5" 24.5" 24.5" 24.5"       |
| 040        |  | 24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26"         |
| 045        |  | 26"<br>26"<br>26"<br>12.5" 24.5" 24.5" 24.5" 24.5" |

| MODEL | ARRANGEMENT   | (NOMINAL SIZES IN INCHES)                                   |
|-------|---|---|
| 050   |    | 24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26"              |
| 060   |    | 12.5"<br>24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26"     |
| 065   |   | 12.5"<br>24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26"     |
| 070   |  | 12.5"<br>24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26" 26" |
| 080   |  | 12.5"<br>24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26" 26" |
| 085   |   | 12.5"<br>24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26" 26" |
| 090   |   | 12.5"<br>24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26" 26" |
| 095   |   | 12.5"<br>24.5"<br>24.5"<br>24.5"<br>26" 26" 26" 26" 26" 26" |

# Dimensional Data HDT (Single Motor) – Unit Dimensions



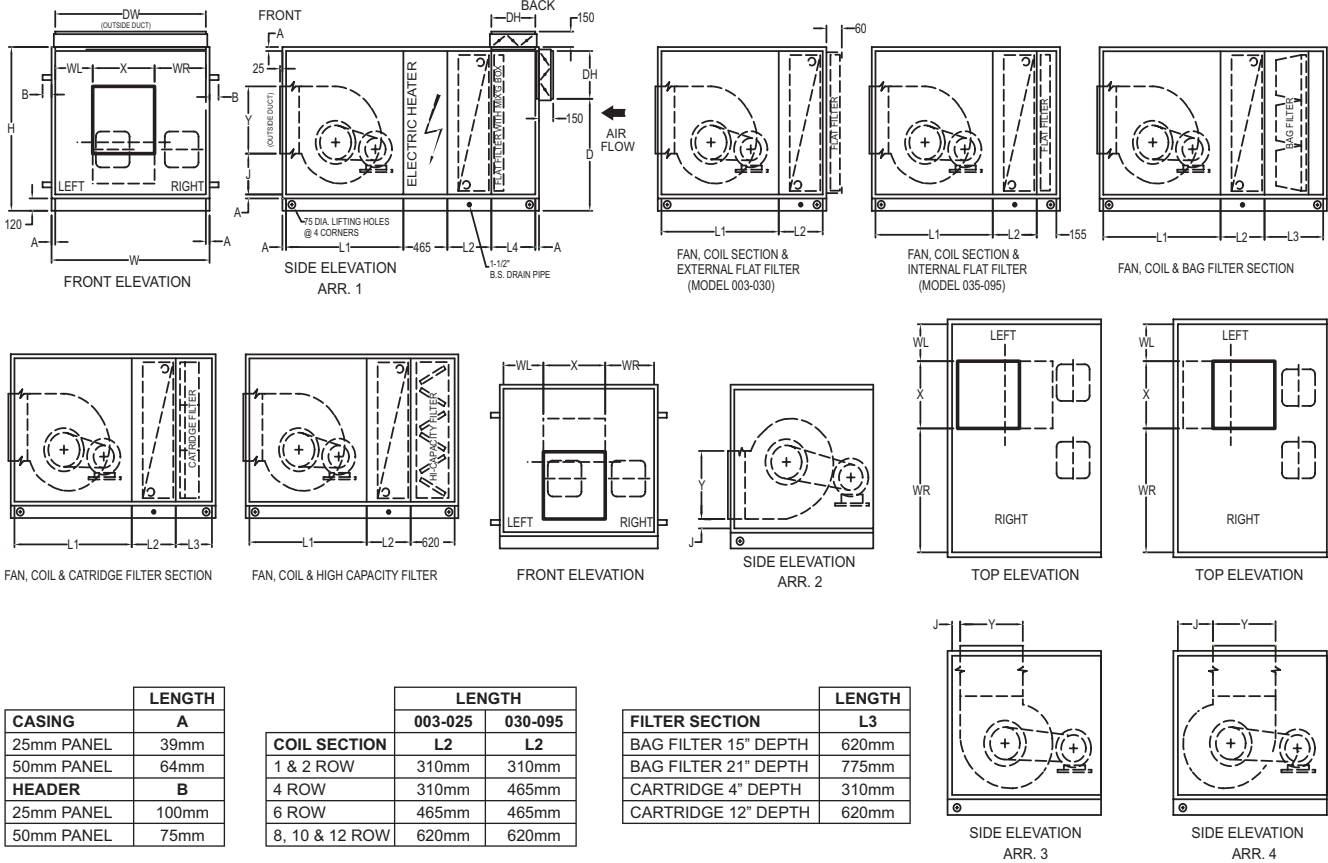
| CASING     | LENGTH |   |
|------------|--------|---|
|            | A      | B |
| 25mm PANEL | 39mm   |   |
| 50mm PANEL | 64mm   |   |
| HEADER     |        |   |
| 25mm PANEL | 100mm  |   |
| 50mm PANEL | 75mm   |   |

| COIL SECTION   | LENGTH     |            |
|----------------|------------|------------|
|                | 003-025 L2 | 030-095 L2 |
| 1 & 2 ROW      | 310mm      | 310mm      |
| 4 ROW          | 310mm      | 465mm      |
| 6 ROW          | 465mm      | 465mm      |
| 8, 10 & 12 ROW | 620mm      | 620mm      |

| FILTER SECTION       | LENGTH |    |
|----------------------|--------|----|
|                      | L3     | L3 |
| BAG FILTER 15" DEPTH | 620mm  |    |
| BAG FILTER 21" DEPTH | 775mm  |    |
| CARTRIDGE 4" DEPTH   | 310mm  |    |
| CARTRIDGE 12" DEPTH  | 620mm  |    |

| MODEL     | FAN        | MOTOR KW   | FAN ARR |       |       |       | FAN SECTION |         | MOTOR ACCESS |      |      |      | FLAT FILTER W/ MIX. SECT. | 25mm CASING |      |      | 50mm CASING |      |      | DAMPER |      |      |      |    |
|-----------|------------|------------|---------|-------|-------|-------|-------------|---------|--------------|------|------|------|---------------------------|-------------|------|------|-------------|------|------|--------|------|------|------|----|
|           |            |            | J       |       |       |       | L1          |         | RH           | LH   | X    | Y    |                           | L4          | H    | W    | D           | H    | W    | D      | DW   | DH   |      |    |
|           |            |            | ARR 1   | ARR 2 | ARR 3 | ARR 4 | ARR 1,2     | ARR 3,4 |              |      |      |      |                           |             |      |      |             |      |      |        |      |      | WL   | WR |
| 003(0404) | F/BDB 200  | 0.18 - 3   | 221     | 115   | 100   | 185   | 775         | 775     | 170          | 170  | 170  | 170  | 274                       | 274         | 310  | 818  | 698         | 469  | 868  | 748    | 494  | 620  | 310  |    |
| 004(0604) | F/BDB 225  | 0.37 - 3   | 236     | 115   | 99    | 217   | 775         | 775     | 155          | 468  | 468  | 155  | 307                       | 307         | 310  | 818  | 1008        | 469  | 868  | 1058   | 494  | 930  | 310  |    |
| 006(0804) | F/BDB 250  | 0.55 - 7.5 | 246     | 116   | 97    | 227   | 775         | 930     | 199          | 702  | 702  | 199  | 340                       | 340         | 310  | 818  | 1318        | 469  | 868  | 1368   | 494  | 1240 | 310  |    |
| 008(1004) | F/BDB 280  | 0.75 - 7.5 | 194     | 46    | 98    | 247   | 775         | 930     | 336          | 837  | 837  | 336  | 378                       | 378         | 310  | 818  | 1628        | 469  | 868  | 1678   | 494  | 1550 | 310  |    |
| 010(0806) | F/BDB 315  | 1.1 - 7.5  | 283     | 115   | 96    | 264   | 930         | 930     | 161          | 657  | 657  | 161  | 422                       | 422         | 310  | 1128 | 1318        | 779  | 1178 | 1368   | 804  | 1240 | 310  |    |
|           |            | 11         |         |       |       |       | 1085        | 1240    | 409          | 409  | 409  | 409  |                           |             |      |      |             |      |      |        |      |      |      |    |
| 012(1006) | F/BDB 400  | 1.1 - 7.5  | 337     | 116   | 97    | 318   | 930         | 1085    | 209          | 817  | 817  | 209  | 524                       | 524         | 310  | 1128 | 1628        | 779  | 1178 | 1678   | 804  | 1550 | 310  |    |
|           |            | 11 - 15    |         |       |       |       | 1085        | 1240    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 014(1206) | F/BDB 400  | 1.5 - 7.5  | 337     | 116   | 97    | 318   | 930         | 1085    | 349          | 987  | 987  | 349  | 524                       | 524         | 310  | 1128 | 1938        | 779  | 1178 | 1988   | 804  | 1860 | 310  |    |
|           |            | 11 - 15    |         |       |       |       | 1085        | 1240    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 016(1008) | F/BDB 450  | 1.5 - 7.5  | 365     | 117   | 99    | 345   | 930         | 1240    | 227          | 738  | 738  | 227  | 586                       | 586         | 310  | 1438 | 1628        | 1089 | 1488 | 1678   | 1114 | 1550 | 310  |    |
|           |            | 11 - 18.5  |         |       |       |       | 1395        | 1550    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 020(1208) | F/BDB 500  | 2.2 - 7.5  | 387     | 117   | 100   | 368   | 930         | 1240    | 266          | 938  | 938  | 266  | 656                       | 656         | 310  | 1438 | 1938        | 1089 | 1488 | 1988   | 1114 | 1860 | 310  |    |
|           |            | 11 - 18.5  |         |       |       |       | 1085        | 1395    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 025(1210) | F/BDB 560  | 2.2 - 7.5  | 446     | 145   | 100   | 401   | 1240        | 1550    | 276          | 851  | 851  | 276  | 732                       | 732         | 465  | 1748 | 1938        | 1244 | 1798 | 1988   | 1269 | 1860 | 465  |    |
|           |            | 11 - 15    |         |       |       |       | 1550        | 1705    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 030(1212) | F/BDB 560  | 2.2 - 7.5  | 446     | 145   | 100   | 401   | 1085        | 1395    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
|           |            | 11 - 15    |         |       |       |       | 1240        | 1550    | 276          | 851  | 851  | 276  | 732                       | 732         | 465  | 2058 | 1938        | 1554 | 2108 | 1988   | 1579 | 1860 | 465  |    |
|           |            | 18.5 - 30  |         |       |       |       | 1550        | 1705    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 035(1412) | F/BDB 630  | 4 - 22     | 540     | 196   | 100   | 443   | 1240        | 1395    | 294          | 1058 | 1058 | 294  | 818                       | 818         | 465  | 2058 | 2248        | 1554 | 2108 | 2298   | 1579 | 2170 | 465  |    |
|           |            | 30 - 45    |         |       |       |       | 1550        | 1705    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 040(1612) | F/BDB 710  | 4 - 22     | 589     | 198   | 100   | 489   | 1395        | 1550    | 406          | 1158 | 1158 | 406  | 916                       | 916         | 620  | 2058 | 2558        | 1399 | 2108 | 2608   | 1424 | 2480 | 620  |    |
|           |            | 30 - 45    |         |       |       |       | 1550        | 1705    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 045(1812) | F/BDB 710  | 4 - 22     | 589     | 198   | 100   | 489   | 1395        | 1550    | 561          | 1313 | 1313 | 561  | 916                       | 916         | 620  | 2058 | 2868        | 1399 | 2108 | 2918   | 1424 | 2790 | 620  |    |
|           |            | 30 - 45    |         |       |       |       | 1550        | 1705    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 050(2012) | F/BDB 800  | 5.5 - 22   | 648     | 201   | 100   | 547   | 1550        | 1705    | 602          | 1474 | 1474 | 602  | 1024                      | 1024        | 620  | 2058 | 3178        | 1399 | 2108 | 3228   | 1424 | 2790 | 620  |    |
|           |            | 30 - 45    |         |       |       |       | 1705        | 1860    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 060(2014) | F/BDB 800  | 7.5 - 22   | 648     | 201   | 100   | 547   | 1550        | 1705    | 602          | 1474 | 1474 | 602  | 1024                      | 1024        | 775  | -    | -           | -    | 2418 | 3228   | 1579 | 2790 | 775  |    |
|           |            | 30 - 45    |         |       |       |       | 1705        | 1860    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 065(2214) | F/BDB 900  | 7.5 - 22   | 702     | 198   | 100   | 604   | 1550        | 1860    | 671          | 1591 | 1591 | 671  | 1148                      | 1148        | 775  | -    | -           | -    | 2418 | 3538   | 1579 | 2790 | 775  |    |
|           |            | 30 - 75    |         |       |       |       | 1860        | 2015    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 070(2414) | F/BDB 900  | 7.5 - 22   | 702     | 198   | 100   | 604   | 1550        | 1860    | 826          | 1746 | 1746 | 826  | 1148                      | 1148        | 930  | -    | -           | -    | 2418 | 3848   | 1424 | 2790 | 930  |    |
|           |            | 30 - 75    |         |       |       |       | 1860        | 2015    |              |      |      |      |                           |             |      |      |             |      |      |        |      |      |      |    |
| 080(2614) | F/BDB 1000 | 7.5 - 75   | 732     | 207   | 102   | 627   | 1860        | 2015    | 831          | 1914 | 1914 | 831  | 1284                      | 1284        | 930  | -    | -           | -    | 2418 | 4158   | 1424 | 2790 | 930  |    |
| 085(2814) | F/BDB 1000 | 7.5 - 75   | 732     | 207   | 102   | 627   | 1860        | 2015    | 986          | 2069 | 2069 | 986  | 1284                      | 1284        | 1085 | -    | -           | -    | 2418 | 4468   | 1269 | 2790 | 1085 |    |
| 090(3014) | F/BDB 1000 | 11 - 75    | 732     | 207   | 102   | 627   | 1860        | 2015    | 1141         | 2224 | 2224 | 1141 | 1284                      | 1284        | 1085 | -    | -           | -    | 2418 | 4778   | 1269 | 2790 | 1085 |    |
| 095(3214) | F/BDB 1000 | 11 - 75    | 732     | 207   | 102   | 627   | 1860        | 2015    | 1296         | 2379 | 2379 | 1296 | 1284                      | 1284        | 1085 | -    | -           | -    | 2418 | 5088   | 1269 | 2790 | 1085 |    |

# Dimensional Data HDT (Dual Motor) – Unit Dimensions



| CASING     | LENGTH | A |
|------------|--------|---|
| 25mm PANEL | 39mm   |   |
| 50mm PANEL | 64mm   |   |
| HEADER     | B      |   |
| 25mm PANEL | 100mm  |   |
| 50mm PANEL | 75mm   |   |

| COIL SECTION   | LENGTH  |         |
|----------------|---------|---------|
|                | 003-025 | 030-095 |
| 1 & 2 ROW      | L2      | L2      |
| 4 ROW          | 310mm   | 465mm   |
| 6 ROW          | 465mm   | 465mm   |
| 8, 10 & 12 ROW | 620mm   | 620mm   |

| FILTER SECTION       | LENGTH | L3 |
|----------------------|--------|----|
| BAG FILTER 15" DEPTH | 620mm  |    |
| BAG FILTER 21" DEPTH | 775mm  |    |
| CARTRIDGE 4" DEPTH   | 310mm  |    |
| CARTRIDGE 12" DEPTH  | 620mm  |    |

| MODEL     | FAN        | MOTOR KW               | FAN ARR |       |       |       | FAN SECTION |         | MOTOR ACCESS |      |      |      | X    | Y    | FLAT FILTER W/ MIX. SEC. | 25mm CASING |      |      | 50mm CASING |      |      | DAMPER |      |    |
|-----------|------------|------------------------|---------|-------|-------|-------|-------------|---------|--------------|------|------|------|------|------|--------------------------|-------------|------|------|-------------|------|------|--------|------|----|
|           |            |                        | J       |       |       |       | L1          |         | RH           |      | LH   |      |      |      |                          | L4          | H    | W    | D           | H    | W    | D      | DW   | DH |
|           |            |                        | ARR 1   | ARR 2 | ARR 3 | ARR 4 | ARR 1,2     | ARR 3,4 | WL           | WR   | WL   | WR   |      |      |                          |             |      |      |             |      |      |        |      |    |
| 003(0404) | F/BDB 200  | 0.18 ~ 3               | 230     | 120   | 100   | 200   | 1240        | 1240    | 175          | 175  | 175  | 175  | 270  | 270  | 310                      | 818         | 698  | 469  | 868         | 748  | 494  | 620    | 310  |    |
| 004(0604) | F/BDB 225  | 0.37 ~ 3               | 254     | 111   | 99    | 253   | 930         | 930     | 167          | 480  | 480  | 167  | 283  | 307  | 310                      | 818         | 1008 | 469  | 868         | 1058 | 494  | 930    | 310  |    |
| 006(0804) | F/BDB 250  | 0.55 ~ 7.5             | 227     | 113   | 97    | 227   | 930         | 930     | 199          | 702  | 702  | 199  | 340  | 340  | 310                      | 818         | 1318 | 469  | 868         | 1368 | 494  | 1240   | 310  |    |
| 008(1004) | F/BDB 280  | 0.75 ~ 7.5             | 183     | 34    | 98    | 246   | 930         | 1085    | 336          | 837  | 837  | 336  | 378  | 378  | 310                      | 818         | 1628 | 469  | 868         | 1678 | 494  | 1550   | 310  |    |
| 010(0806) | F/BDB 315  | 1.1 ~ 7.5              | 280     | 112   | 96    | 264   | 1085        | 1085    | 161          | 657  | 657  | 161  | 422  | 422  | 310                      | 1128        | 1318 | 624  | 1178        | 1368 | 649  | 1240   | 310  |    |
| 012(1006) | F/BDB 400  | 1.1 ~ 15               | 347     | 127   | 97    | 318   | 1240        | 1395    | 209          | 817  | 817  | 209  | 524  | 524  | 310                      | 1128        | 1628 | 624  | 1178        | 1678 | 649  | 1550   | 310  |    |
| 014(1206) | F/BDB 400  | 1.5 ~ 15               | 347     | 127   | 97    | 318   | 1240        | 1395    | 349          | 987  | 987  | 349  | 524  | 524  | 310                      | 1128        | 1938 | 624  | 1178        | 1678 | 649  | 1860   | 310  |    |
| 016(1008) | F/BDB 450  | 1.5 ~ 7.5<br>11 ~ 18.5 | 367     | 119   | 98    | 346   | 1240        | 1395    | 227          | 738  | 738  | 227  | 586  | 586  | 310                      | 1438        | 1628 | 934  | 1488        | 1988 | 959  | 1550   | 310  |    |
| 020(1208) | F/BDB 500  | 2.2 ~ 18.5             | 389     | 119   | 98    | 368   | 1395        | 1550    | 266          | 938  | 938  | 266  | 656  | 656  | 310                      | 1438        | 1938 | 934  | 1488        | 1988 | 959  | 1860   | 310  |    |
| 025(1210) | F/BDB 560  | 2.2 ~ 15<br>18.5 ~ 22  | 490     | 189   | 100   | 401   | 1550        | 1705    | 276          | 851  | 851  | 276  | 732  | 732  | 465                      | 1748        | 1938 | 1244 | 1798        | 1988 | 1269 | 1860   | 465  |    |
| 030(1212) | F/BDB 560  | 3 ~ 15<br>18.5 ~ 30    | 490     | 189   | 100   | 401   | 1550        | 1705    | 276          | 851  | 851  | 276  | 732  | 732  | 465                      | 2058        | 1938 | 1399 | 2108        | 1988 | 1424 | 1860   | 465  |    |
| 035(1412) | F/BDB 630  | 3.7 ~ 22<br>30 ~ 45    | 542     | 198   | 100   | 443   | 1550        | 1860    | 294          | 1058 | 1058 | 294  | 181  | 181  | 465                      | 2058        | 2248 | 1399 | 2108        | 2298 | 1424 | 2170   | 465  |    |
| 040(1612) | F/BDB 710  | 3.7 ~ 22<br>30 ~ 45    | 590     | 200   | 100   | 491   | 1705        | 2015    | 406          | 1158 | 1158 | 406  | 916  | 916  | 620                      | 2058        | 2558 | 1399 | 2108        | 2608 | 1424 | 2480   | 620  |    |
| 045(1812) | F/BDB 710  | 3.7 ~ 22<br>30 ~ 45    | 590     | 200   | 100   | 491   | 1705        | 2015    | 561          | 1313 | 1313 | 561  | 916  | 916  | 620                      | 2058        | 2868 | 1399 | 2108        | 2918 | 1424 | 2790   | 620  |    |
| 050(2012) | F/BDB 800  | 5.5 ~ 22<br>30 ~ 45    | 663     | 216   | 100   | 547   | 2015        | 2325    | 602          | 1474 | 1474 | 602  | 1024 | 1024 | 620                      | 2058        | 3178 | 1399 | 2108        | 3228 | 1424 | 2790   | 620  |    |
| 060(2014) | F/BDB 800  | 7.5 ~ 22<br>30 ~ 45    | 663     | 216   | 100   | 547   | 2015        | 2325    | 602          | 1474 | 1474 | 602  | 1024 | 1024 | 775                      | ~           | ~    | ~    | 2418        | 3228 | 1424 | 2790   | 775  |    |
| 065(2214) | F/BDB 900  | 7.5 ~ 22<br>30 ~ 75    | 714     | 210   | 100   | 604   | 2015        | 2325    | 671          | 1591 | 1591 | 671  | 1148 | 1148 | 775                      | ~           | ~    | ~    | 2418        | 3538 | 1424 | 2790   | 775  |    |
| 070(2414) | F/BDB 900  | 7.5 ~ 22<br>30 ~ 75    | 714     | 210   | 100   | 604   | 2170        | 2480    | 826          | 1746 | 1746 | 826  | 1148 | 1148 | 930                      | ~           | ~    | ~    | 2418        | 3848 | 1269 | 2790   | 930  |    |
| 080(2614) | F/BDB 1000 | 7.5 ~ 22<br>30 ~ 75    | 734     | 212   | 102   | 627   | 2170        | 2480    | 831          | 1914 | 1914 | 831  | 1284 | 1284 | 930                      | ~           | ~    | ~    | 2418        | 4158 | 1269 | 2790   | 930  |    |
| 085(2814) | F/BDB 1000 | 7.5 ~ 22<br>30 ~ 75    | 734     | 212   | 102   | 627   | 2170        | 2480    | 986          | 2069 | 2069 | 986  | 1284 | 1284 | 1085                     | ~           | ~    | ~    | 2418        | 4468 | 1114 | 2790   | 1085 |    |
| 090(3014) | F/BDB 1000 | 11 ~ 22<br>30 ~ 75     | 734     | 212   | 102   | 627   | 2170        | 2480    | 1141         | 2224 | 2224 | 1141 | 1284 | 1284 | 1085                     | ~           | ~    | ~    | 2418        | 4778 | 1114 | 2790   | 1085 |    |
| 095(3214) | F/BDB 1000 | 11 ~ 22<br>30 ~ 75     | 734     | 212   | 102   | 627   | 2170        | 2480    | 1296         | 2379 | 2379 | 1296 | 1284 | 1284 | 1085                     | ~           | ~    | ~    | 2418        | 5088 | 1114 | 2790   | 1085 |    |

# Dimensional Data HDT – Unit Weight

## HDT Unit Weight (kg) – Fan and Coil Sections (without motor weight)

### 50mm Casing

| Model Size | Fan Section Weight         |                        | Coil Section Weight |     |      |      |      |      |      |
|------------|----------------------------|------------------------|---------------------|-----|------|------|------|------|------|
|            | Fan Arrangement            |                        | Coil Row            |     |      |      |      |      |      |
|            | Front-Top and Front-Bottom | Top-Front and Top-Back | 1                   | 2   | 4    | 6    | 8    | 10   | 12   |
| 003        | 68                         | 68                     | 52                  | 55  | 69   | 83   | 101  | 112  | 123  |
| 004        | 82                         | 82                     | 67                  | 71  | 91   | 112  | 136  | 153  | 171  |
| 006        | 111                        | 111                    | 82                  | 87  | 116  | 140  | 171  | 193  | 217  |
| 008        | 128                        | 128                    | 97                  | 103 | 134  | 170  | 208  | 236  | 263  |
| 010        | 140                        | 140                    | 109                 | 117 | 152  | 192  | 235  | 269  | 304  |
| 012        | 178                        | 190                    | 131                 | 141 | 183  | 234  | 288  | 332  | 377  |
| 014        | 196                        | 209                    | 150                 | 162 | 212  | 273  | 337  | 390  | 444  |
| 016        | 238                        | 251                    | 165                 | 178 | 234  | 300  | 371  | 429  | 488  |
| 020        | 282                        | 297                    | 187                 | 203 | 268  | 348  | 431  | 502  | 573  |
| 025        | 364                        | 379                    | 217                 | 237 | 315  | 410  | 510  | 596  | 684  |
| 030        | 406                        | 407                    | 268                 | 292 | 384  | 500  | 622  | 729  | 840  |
| 035        | 466                        | 483                    | 302                 | 330 | 436  | 571  | 712  | 838  | 965  |
| 040        | 567                        | 585                    | 335                 | 368 | 487  | 644  | 803  | 949  | 1093 |
| 045        | 592                        | 611                    | 376                 | 413 | 549  | 726  | 907  | 1074 | 1238 |
| 050        | 740                        | 782                    | 409                 | 451 | 601  | 798  | 999  | 1181 | 1369 |
| 060        | 765                        | 809                    | 465                 | 515 | 694  | 926  | 1163 | 1379 | 1603 |
| 065        | 930                        | 923                    | 539                 | 594 | 790  | 1051 | 1317 | 1560 | 1808 |
| 070        | 930                        | 954                    | 577                 | 637 | 852  | 1134 | 1424 | 1689 | 1958 |
| 080        | 1067                       | 1092                   | 620                 | 685 | 912  | 1219 | 1530 | 1817 | 2107 |
| 085        | 1099                       | 1125                   | 676                 | 747 | 994  | 1328 | 1668 | 1984 | 2300 |
| 090        | 1137                       | 1164                   | 716                 | 791 | 1056 | 1414 | 1775 | 2111 | 2447 |
| 095        | 1168                       | 1196                   | 754                 | 835 | 1116 | 1497 | 1882 | 2239 | 2595 |

### 25mm Casing

| Model Size | Fan Section Weight         |                        | Coil Section Weight |     |     |     |     |      |      |
|------------|----------------------------|------------------------|---------------------|-----|-----|-----|-----|------|------|
|            | Fan Arrangement            |                        | Coil Row            |     |     |     |     |      |      |
|            | Front-Top and Front-Bottom | Top-Front and Top-Back | 1                   | 2   | 4   | 6   | 8   | 10   | 12   |
| 003        | 51                         | 51                     | 50                  | 52  | 66  | 80  | 97  | 108  | 119  |
| 004        | 62                         | 62                     | 62                  | 65  | 83  | 104 | 126 | 142  | 160  |
| 006        | 81                         | 81                     | 75                  | 80  | 102 | 130 | 159 | 181  | 204  |
| 008        | 96                         | 96                     | 90                  | 96  | 124 | 159 | 194 | 222  | 249  |
| 010        | 105                        | 105                    | 102                 | 110 | 141 | 181 | 221 | 255  | 290  |
| 012        | 135                        | 144                    | 123                 | 133 | 171 | 222 | 272 | 316  | 361  |
| 014        | 149                        | 159                    | 141                 | 153 | 199 | 260 | 319 | 372  | 426  |
| 016        | 179                        | 188                    | 156                 | 169 | 221 | 287 | 353 | 412  | 471  |
| 020        | 212                        | 222                    | 177                 | 193 | 254 | 333 | 411 | 482  | 554  |
| 025        | 277                        | 288                    | 206                 | 227 | 299 | 394 | 489 | 575  | 663  |
| 030        | 319                        | 319                    | 256                 | 281 | 367 | 483 | 599 | 707  | 817  |
| 035        | 354                        | 360                    | 289                 | 318 | 418 | 553 | 688 | 814  | 940  |
| 040        | 439                        | 452                    | 321                 | 355 | 468 | 624 | 777 | 922  | 1067 |
| 045        | 458                        | 472                    | 361                 | 399 | 528 | 705 | 880 | 1046 | 1210 |
| 050        | 582                        | 613                    | 394                 | 436 | 579 | 776 | 970 | 1151 | 1339 |

1. Coil weight is the operating weight.

### Motor Weight (kg)

| Motor kW   | 0.18 | 0.37 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 3.0 | 3.7 | 4.0 | 5.5 | 7.5 | 11  | 15  |
|------------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Weight, kg | 7.8  | 12   | 15   | 20   | 22  | 30  | 42  | 65  | 76  | 118 | 139 | 189 | 203 | 290 |

| Motor kW   | 18.5 | 22  | 30  | 37  | 45  | 55  | 75  |
|------------|------|-----|-----|-----|-----|-----|-----|
| Weight, kg | 320  | 348 | 355 | 500 | 520 | 550 | 580 |



# Dimensional Data HDT – Unit Weight

## HDT Unit Weight (kg) – Fan + Coil + Filter Sections (without motor weight)

### 50mm Casing

| Model Size | Fan Section Weight         |                        | Coil Section Weight |     |      |      |      |      |      | Filter Section Length, L3 |                       |                                 |                                      |
|------------|----------------------------|------------------------|---------------------|-----|------|------|------|------|------|---------------------------|-----------------------|---------------------------------|--------------------------------------|
|            | Fan Arrangement            |                        | Coil Row            |     |      |      |      |      |      | 2" Flat Filter            | 2" Hi-Capacity Filter | 2" Flat Filter + 15" Bag Filter | 2" Flat Filter + 4" Cartridge Filter |
|            | Front-Top and Front-Bottom | Top-Front and Top-Back | 1                   | 2   | 4    | 6    | 8    | 10   | 12   |                           |                       |                                 |                                      |
| 003        | 68                         | 68                     | 52                  | 55  | 69   | 83   | 101  | 112  | 123  | 21                        | 47                    | 36                              | 41                                   |
| 004        | 82                         | 82                     | 67                  | 71  | 91   | 112  | 136  | 153  | 171  | 25                        | 57                    | 38                              | 48                                   |
| 006        | 111                        | 111                    | 82                  | 87  | 116  | 140  | 171  | 193  | 217  | 32                        | 67                    | 44                              | 58                                   |
| 008        | 128                        | 128                    | 97                  | 103 | 134  | 170  | 208  | 236  | 263  | 38                        | 81                    | 50                              | 67                                   |
| 010        | 140                        | 140                    | 109                 | 117 | 152  | 192  | 235  | 269  | 304  | 35                        | 84                    | 54                              | 71                                   |
| 012        | 178                        | 190                    | 131                 | 141 | 183  | 234  | 288  | 332  | 377  | 41                        | 102                   | 62                              | 81                                   |
| 014        | 196                        | 209                    | 150                 | 162 | 212  | 273  | 337  | 390  | 444  | 48                        | 111                   | 70                              | 94                                   |
| 016        | 238                        | 251                    | 165                 | 178 | 234  | 300  | 371  | 429  | 488  | 44                        | 117                   | 67                              | 100                                  |
| 020        | 282                        | 297                    | 187                 | 203 | 268  | 348  | 431  | 502  | 573  | 50                        | 128                   | 74                              | 112                                  |
| 025        | 364                        | 379                    | 217                 | 237 | 315  | 410  | 510  | 596  | 684  | 54                        | 149                   | 83                              | 129                                  |
| 030        | 406                        | 407                    | 268                 | 292 | 384  | 500  | 622  | 729  | 840  | 56                        | 165                   | 96                              | 142                                  |
| 035        | 466                        | 483                    | 302                 | 330 | 436  | 571  | 712  | 838  | 965  | 68                        | 193                   | 106                             | 161                                  |
| 040        | 567                        | 585                    | 335                 | 368 | 487  | 644  | 803  | 949  | 1093 | 75                        | 205                   | 116                             | 175                                  |
| 045        | 592                        | 611                    | 376                 | 413 | 549  | 726  | 907  | 1074 | 1238 | 82                        | 232                   | 125                             | 194                                  |
| 050        | 740                        | 782                    | 409                 | 451 | 601  | 798  | 999  | 1181 | 1369 | 75                        | 230                   | 142                             | 219                                  |
| 060        | 765                        | 809                    | 465                 | 515 | 694  | 926  | 1163 | 1379 | 1603 | 82                        | 251                   | 157                             | 249                                  |
| 065        | 930                        | 923                    | 539                 | 594 | 790  | 1051 | 1317 | 1560 | 1808 | 88                        | 279                   | 169                             | 269                                  |
| 070        | 930                        | 954                    | 577                 | 637 | 852  | 1134 | 1424 | 1689 | 1958 | 95                        | 290                   | 180                             | 288                                  |
| 080        | 1067                       | 1092                   | 620                 | 685 | 912  | 1219 | 1530 | 1817 | 2107 | 101                       | 319                   | 187                             | 315                                  |
| 085        | 1099                       | 1125                   | 676                 | 747 | 994  | 1328 | 1668 | 1984 | 2300 | 108                       | 330                   | 198                             | 328                                  |
| 090        | 1137                       | 1164                   | 716                 | 791 | 1056 | 1414 | 1775 | 2111 | 2447 | 114                       | 359                   | 209                             | 349                                  |
| 095        | 1168                       | 1196                   | 754                 | 835 | 1116 | 1497 | 1882 | 2239 | 2595 | 119                       | 365                   | 220                             | 362                                  |

### 25mm Casing

| Model Size | Fan Section Weight         |                        | Coil Section Weight |     |     |     |     |      |      | Filter Section Length, L3 |                       |                                 |                                      |
|------------|----------------------------|------------------------|---------------------|-----|-----|-----|-----|------|------|---------------------------|-----------------------|---------------------------------|--------------------------------------|
|            | Fan Arrangement            |                        | Coil Row            |     |     |     |     |      |      | 2" Flat Filter            | 2" Hi-Capacity Filter | 2" Flat Filter + 15" Bag Filter | 2" Flat Filter + 4" Cartridge Filter |
|            | Front-Top and Front-Bottom | Top-Front and Top-Back | 1                   | 2   | 4   | 6   | 8   | 10   | 12   |                           |                       |                                 |                                      |
| 003        | 51                         | 51                     | 50                  | 52  | 66  | 80  | 97  | 108  | 119  | 19                        | 42                    | 31                              | 36                                   |
| 004        | 62                         | 62                     | 62                  | 65  | 83  | 104 | 126 | 142  | 160  | 23                        | 48                    | 29                              | 39                                   |
| 006        | 81                         | 81                     | 75                  | 80  | 102 | 130 | 159 | 181  | 204  | 31                        | 58                    | 34                              | 48                                   |
| 008        | 96                         | 96                     | 90                  | 96  | 124 | 159 | 194 | 222  | 249  | 37                        | 70                    | 39                              | 56                                   |
| 010        | 105                        | 105                    | 102                 | 110 | 141 | 181 | 221 | 255  | 290  | 33                        | 72                    | 43                              | 59                                   |
| 012        | 135                        | 144                    | 123                 | 133 | 171 | 222 | 272 | 316  | 361  | 39                        | 88                    | 49                              | 68                                   |
| 014        | 149                        | 159                    | 141                 | 153 | 199 | 260 | 319 | 372  | 426  | 46                        | 97                    | 55                              | 80                                   |
| 016        | 179                        | 188                    | 156                 | 169 | 221 | 287 | 353 | 412  | 471  | 42                        | 103                   | 52                              | 85                                   |
| 020        | 212                        | 222                    | 177                 | 193 | 254 | 333 | 411 | 482  | 554  | 48                        | 112                   | 58                              | 96                                   |
| 025        | 277                        | 288                    | 206                 | 227 | 299 | 394 | 489 | 575  | 663  | 51                        | 131                   | 66                              | 112                                  |
| 030        | 319                        | 319                    | 256                 | 281 | 367 | 483 | 599 | 707  | 817  | 53                        | 146                   | 77                              | 123                                  |
| 035        | 354                        | 360                    | 289                 | 318 | 418 | 553 | 688 | 814  | 940  | 65                        | 172                   | 85                              | 140                                  |
| 040        | 439                        | 452                    | 321                 | 355 | 468 | 624 | 777 | 922  | 1067 | 72                        | 183                   | 94                              | 153                                  |
| 045        | 458                        | 472                    | 361                 | 399 | 528 | 705 | 880 | 1046 | 1210 | 80                        | 209                   | 102                             | 171                                  |
| 050        | 582                        | 613                    | 394                 | 436 | 579 | 776 | 970 | 1151 | 1339 | 73                        | 206                   | 118                             | 195                                  |

1. Coil weight is the operating weight.
2. Filter section weight includes filter media

### Motor Weight (kg)

|            |      |      |      |      |     |     |     |     |     |     |     |     |     |     |
|------------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Motor kW   | 0.18 | 0.37 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 3.0 | 3.7 | 4.0 | 5.5 | 7.5 | 11  | 15  |
| Weight, kg | 7.8  | 12   | 15   | 20   | 22  | 30  | 42  | 65  | 76  | 118 | 139 | 189 | 203 | 290 |
| Motor kW   | 18.5 | 22   | 30   | 37   | 45  | 55  | 75  |     |     |     |     |     |     |     |
| Weight, kg | 320  | 348  | 355  | 500  | 520 | 550 | 580 |     |     |     |     |     |     |     |



# Dimensional Data HDT – Unit Weight

## HDT Unit Weight (kg) – Fan + Coil + Filter and Mixing Sections (without motor weight)

### 50mm Casing

| Model Size | Fan Section Weight (kg)  |                      | Coil Section Weight (kg) |     |      |      |      |      |      | Filter Section Weight (kg) |                      |                               |                                    | Mixing Box/Rear or Top Inlet Section Weight |
|------------|--------------------------|----------------------|--------------------------|-----|------|------|------|------|------|----------------------------|----------------------|-------------------------------|------------------------------------|---|
|            | Fan Arrangement          |                      | Coil Row                 |     |      |      |      |      |      | 2"Flat Filter              | 2"Hi-Capacity Filter | 2"Flat Filter + 15"Bag Filter | 2"Flat Filter + 4"Cartridge Filter |   |
|            | Front-Top & Front-Bottom | Top-Front & Top-Back | 1                        | 2   | 4    | 6    | 8    | 10   | 12   |                            |                      |                               |                                    |   |
| 003        | 51                       | 51                   | 50                       | 52  | 66   | 80   | 97   | 108  | 119  | 0                          | 47                   | 36                            | 29                                 | 38  |
| 004        | 62                       | 62                   | 62                       | 65  | 83   | 104  | 126  | 143  | 160  | 0                          | 57                   | 38                            | 34                                 | 45  |
| 006        | 81                       | 81                   | 75                       | 80  | 102  | 130  | 159  | 181  | 205  | 0                          | 68                   | 44                            | 43                                 | 54  |
| 008        | 96                       | 96                   | 90                       | 96  | 124  | 159  | 194  | 222  | 249  | 0                          | 81                   | 50                            | 50                                 | 64  |
| 010        | 105                      | 105                  | 102                      | 110 | 141  | 181  | 221  | 255  | 290  | 0                          | 84                   | 55                            | 54                                 | 66  |
| 012        | 135                      | 144                  | 123                      | 133 | 171  | 222  | 273  | 316  | 361  | 0                          | 101                  | 62                            | 63                                 | 76  |
| 014        | 149                      | 159                  | 141                      | 153 | 199  | 260  | 320  | 372  | 426  | 0                          | 111                  | 70                            | 74                                 | 81  |
| 016        | 179                      | 188                  | 156                      | 169 | 221  | 287  | 353  | 412  | 471  | 0                          | 117                  | 71                            | 80                                 | 104   |
| 020        | 212                      | 222                  | 177                      | 193 | 254  | 333  | 411  | 482  | 554  | 0                          | 128                  | 74                            | 90                                 | 111   |
| 025        | 277                      | 288                  | 206                      | 227 | 299  | 394  | 483  | 575  | 663  | 0                          | 149                  | 83                            | 105                                | 115   |
| 030        | 319                      | 319                  | 256                      | 281 | 367  | 483  | 600  | 707  | 817  | 0                          | 165                  | 96                            | 116                                | 134   |
| 035        | 354                      | 360                  | 289                      | 318 | 418  | 553  | 688  | 814  | 940  | 0                          | 193                  | 106                           | 134                                | 148   |
| 040        | 439                      | 452                  | 321                      | 355 | 468  | 624  | 777  | 922  | 1067 | 0                          | 205                  | 115                           | 146                                | 161   |
| 045        | 458                      | 472                  | 361                      | 399 | 528  | 705  | 880  | 1046 | 1210 | 0                          | 232                  | 142                           | 163                                | 211   |
| 050        | 582                      | 613                  | 394                      | 436 | 579  | 776  | 970  | 1151 | 1339 | 0                          | 230                  | 157                           | 187                                | 215   |
| 060        | 765                      | 809                  | 465                      | 515 | 694  | 926  | 1163 | 1379 | 1603 | 0                          | 251                  | 157                           | 214                                | 241   |
| 065        | 900                      | 923                  | 539                      | 594 | 790  | 1051 | 1317 | 1560 | 1808 | 0                          | 279                  | 169                           | 233                                | 279   |
| 070        | 930                      | 954                  | 577                      | 637 | 852  | 1134 | 1424 | 1689 | 1958 | 0                          | 290                  | 180                           | 251                                | 324   |
| 080        | 1068                     | 1092                 | 619                      | 685 | 912  | 1219 | 1530 | 1817 | 2107 | 0                          | 319                  | 187                           | 276                                | 332   |
| 085        | 1099                     | 1120                 | 676                      | 747 | 994  | 1328 | 1668 | 1984 | 2300 | 0                          | 330                  | 198                           | 287                                | 379   |
| 090        | 1137                     | 1164                 | 715                      | 791 | 1056 | 1414 | 1775 | 2111 | 2447 | 0                          | 359                  | 209                           | 307                                | 388   |
| 095        | 1168                     | 1196                 | 754                      | 834 | 1116 | 1497 | 1882 | 2239 | 2595 | 0                          | 365                  | 220                           | 317                                | 397   |

### 25mm Casing

| Model Size | Fan Section Weight (kg)  |                      | Coil Section Weight (kg) |     |     |     |     |      |      | Filter Section Weight (kg) |                      |                               |                                    | Mixing Box/Rear or Top Inlet Section Weight |
|------------|--------------------------|----------------------|--------------------------|-----|-----|-----|-----|------|------|----------------------------|----------------------|-------------------------------|------------------------------------|---|
|            | Fan Arrangement          |                      | Coil Row                 |     |     |     |     |      |      | 2"Flat Filter              | 2"Hi-Capacity Filter | 2"Flat Filter + 15"Bag Filter | 2"Flat Filter + 4"Cartridge Filter |   |
|            | Front-Top & Front-Bottom | Top-Front & Top-Back | 1                        | 2   | 4   | 6   | 8   | 10   | 12   |                            |                      |                               |                                    |   |
| 003        | 51                       | 51                   | 50                       | 52  | 66  | 80  | 97  | 108  | 119  | 0                          | 42                   | 31                            | 26                                 | 35  |
| 004        | 62                       | 62                   | 62                       | 65  | 83  | 104 | 126 | 143  | 160  | 0                          | 48                   | 31                            | 31                                 | 42  |
| 006        | 81                       | 81                   | 75                       | 80  | 102 | 130 | 159 | 181  | 205  | 0                          | 58                   | 34                            | 39                                 | 51  |
| 008        | 96                       | 96                   | 90                       | 96  | 124 | 159 | 194 | 222  | 249  | 0                          | 70                   | 39                            | 46                                 | 60  |
| 010        | 105                      | 105                  | 102                      | 110 | 141 | 181 | 221 | 255  | 290  | 0                          | 72                   | 43                            | 49                                 | 58  |
| 012        | 135                      | 144                  | 123                      | 133 | 171 | 222 | 273 | 316  | 361  | 0                          | 88                   | 49                            | 57                                 | 68  |
| 014        | 149                      | 159                  | 141                      | 153 | 199 | 260 | 320 | 372  | 426  | 0                          | 97                   | 55                            | 68                                 | 71  |
| 016        | 179                      | 188                  | 156                      | 169 | 221 | 287 | 353 | 412  | 471  | 0                          | 103                  | 55                            | 74                                 | 89  |
| 020        | 212                      | 222                  | 177                      | 193 | 254 | 333 | 411 | 482  | 554  | 0                          | 112                  | 58                            | 83                                 | 95  |
| 025        | 277                      | 288                  | 206                      | 227 | 299 | 394 | 483 | 575  | 663  | 0                          | 131                  | 66                            | 98                                 | 98  |
| 030        | 319                      | 319                  | 256                      | 281 | 367 | 483 | 600 | 707  | 817  | 0                          | 146                  | 77                            | 108                                | 114   |
| 035        | 354                      | 360                  | 289                      | 318 | 418 | 553 | 688 | 814  | 940  | 0                          | 172                  | 85                            | 125                                | 127   |
| 040        | 439                      | 452                  | 321                      | 355 | 468 | 624 | 777 | 922  | 1067 | 0                          | 183                  | 94                            | 137                                | 140   |
| 045        | 458                      | 472                  | 361                      | 399 | 528 | 705 | 880 | 1046 | 1210 | 0                          | 209                  | 102                           | 154                                | 181   |
| 050        | 582                      | 613                  | 394                      | 436 | 579 | 776 | 970 | 1151 | 1339 | 0                          | 209                  | 118                           | 177                                | 181   |

Note:

1. Coil weight is the operating weight.
2. Filter section weight includes filter media.

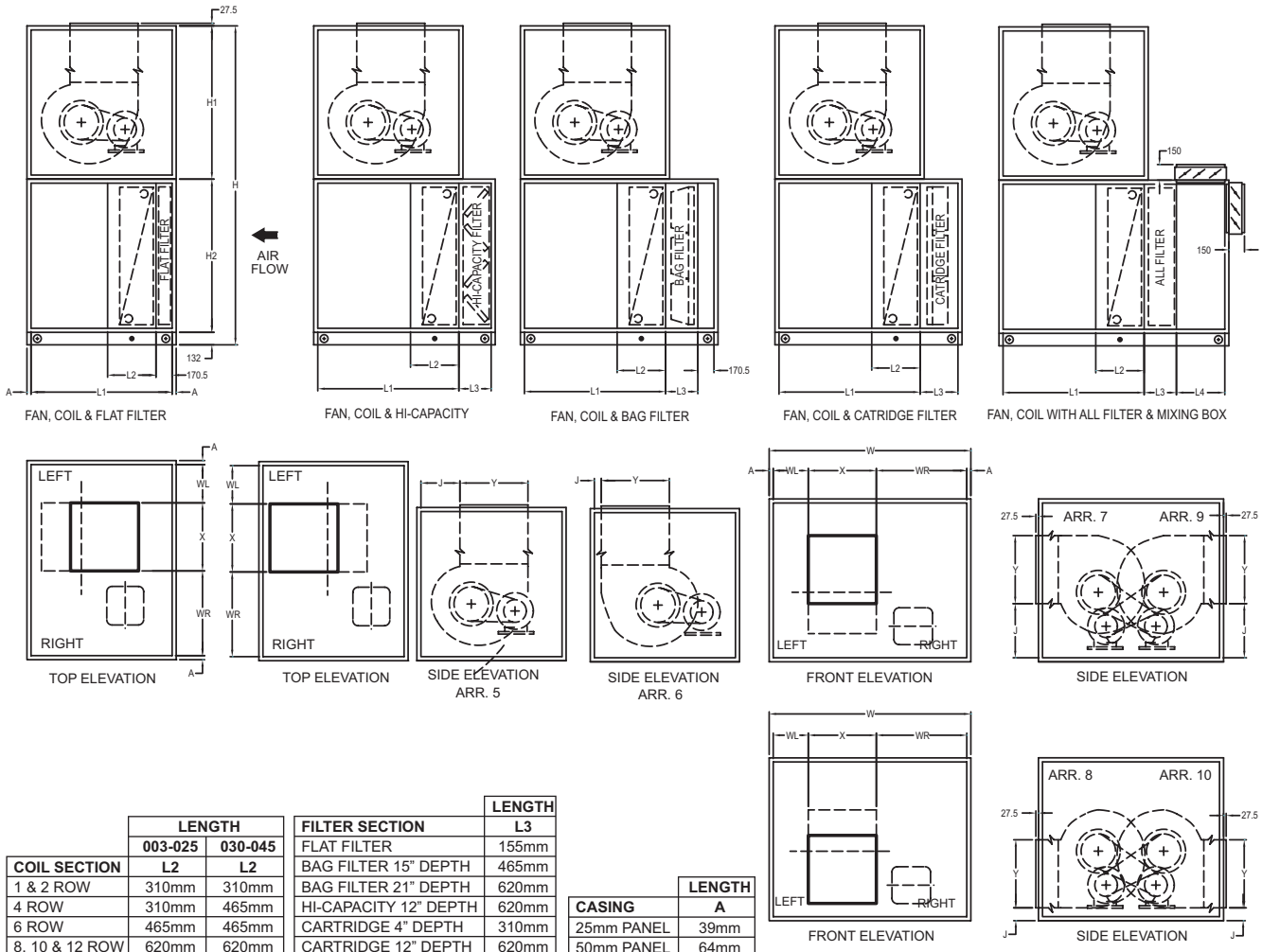
### Motor Weight (kg)

| Motor kW   | 0.18 | 0.37 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 3.0 | 3.7 | 4.0 | 5.5 | 7.5 | 11  | 15  |
|------------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Weight, kg | 7.8  | 12   | 15   | 20   | 22  | 30  | 42  | 65  | 76  | 118 | 139 | 189 | 203 | 290 |

| Motor kW   | 18.5 | 22  | 30  | 37  | 45  | 55  | 75  |
|------------|------|-----|-----|-----|-----|-----|-----|
| Weight, kg | 320  | 348 | 355 | 500 | 520 | 550 | 580 |

# General Data

## VDT - Unit Dimensions



| COIL SECTION   | LENGTH |       | FILTER SECTION        | LENGTH L3 |
|----------------|--------|-------|-----------------------|-----------|
|                | L2     | L2    |                       |           |
| 1 & 2 ROW      | 310mm  | 310mm | FLAT FILTER           | 155mm     |
| 4 ROW          | 310mm  | 465mm | BAG FILTER 15" DEPTH  | 465mm     |
| 6 ROW          | 465mm  | 465mm | BAG FILTER 21" DEPTH  | 620mm     |
| 8, 10 & 12 ROW | 620mm  | 620mm | HI-CAPACITY 12" DEPTH | 620mm     |

| CASING     | LENGTH A   |
|------------|------------|
|            | 25mm PANEL |
| 50mm PANEL | 64mm       |

| MODEL     | FAN       | MOTOR KW   | FAN ARR |          |       |       | FAN SECTION |              | MOTOR ACCESS |      |      |     | X   | Y   | FLAT FILTER W/ MIX. SEC L4 | 1" CASING |      |      |      | 2" CASING |      |      |      |
|-----------|-----------|------------|---------|----------|-------|-------|-------------|--------------|--------------|------|------|-----|-----|-----|----------------------------|-----------|------|------|------|-----------|------|------|------|
|           |           |            | J       |          |       |       | L1          |              | WL           | WR   | WL   | WR  |     |     |                            | H         | W    | H1   | H2   | H         | W    | H1   | H2   |
|           |           |            | ARR 7,9 | ARR 8,10 | ARR 6 | ARR 5 | ARR 5,6     | ARR 7,8,9,10 |              |      |      |     |     |     |                            |           |      |      |      |           |      |      |      |
| 003(0404) | F/BDB 200 | 0.18 - 3   | 221     | 115      | 100   | 185   | 930         | 930          | 175          | 175  | 175  | 175 | 270 | 270 | 310                        | 1516      | 698  | 698  | 698  | 1616      | 748  | 748  | 748  |
| 004(0604) | F/BDB 225 | 0.37 - 3   | 236     | 115      | 99    | 217   | 930         | 930          | 155          | 468  | 468  | 155 | 307 | 307 | 310                        | 1516      | 1008 | 698  | 698  | 1616      | 1058 | 748  | 748  |
| 006(0804) | F/BDB 250 | 0.55 - 7.5 | 246     | 116      | 97    | 227   | 930         | 930          | 199          | 702  | 702  | 199 | 340 | 340 | 310                        | 1516      | 1318 | 698  | 698  | 1616      | 1368 | 748  | 748  |
| 008(1004) | F/BDB 280 | 0.75 - 7.5 | 194     | 46       | 98    | 247   | 1085        | 1085         | 336          | 837  | 837  | 336 | 378 | 378 | 310                        | 1516      | 1628 | 698  | 698  | 1616      | 1678 | 748  | 748  |
| 010(0806) | F/BDB 315 | 1.1 - 7.5  | 283     | 115      | 96    | 264   | 1085        | 1085         | 161          | 657  | 657  | 161 | 422 | 422 | 310                        | 2136      | 1318 | 1008 | 1008 | 2236      | 1368 | 1058 | 1058 |
|           | 11 - 15   | 1240       |         |          |       |       | 1085        | 409          | 409          | 409  |      |     |     |     |                            |           |      |      |      |           |      |      |      |
| 012(1006) | F/BDB 400 | 1.1 - 15   | 337     | 116      | 97    | 318   | 1240        | 1085         | 209          | 817  | 817  | 209 | 524 | 524 | 310                        | 2136      | 1628 | 1008 | 1008 | 2236      | 1678 | 1058 | 1058 |
| 014(1206) | F/BDB 400 | 1.5 - 15   | 337     | 116      | 97    | 318   | 1240        | 1085         | 349          | 987  | 987  | 349 | 524 | 524 | 310                        | 2136      | 1938 | 1008 | 1008 | 2236      | 1988 | 1058 | 1058 |
| 016(1008) | F/BDB 450 | 1.5 - 7.5  | 365     | 117      | 99    | 345   | 1240        | 1085         | 227          | 738  | 738  | 227 | 586 | 586 | 310                        | 2756      | 1628 | 1318 | 1318 | 2856      | 1678 | 1368 | 1368 |
|           | 11 - 18.5 | 1550       |         |          |       |       | 1395        |              |              |      |      |     |     |     |                            |           |      |      |      |           |      |      |      |
| 020(1208) | F/BDB 500 | 2.2 - 18.5 | 387     | 117      | 100   | 368   | 1395        | 1240         | 266          | 938  | 938  | 266 | 656 | 656 | 310                        | 2756      | 1938 | 1318 | 1318 | 2856      | 1988 | 1368 | 1368 |
| 025(1210) | F/BDB 560 | 2.2 - 15   | 446     | 145      | 100   | 401   | 1550        | 1395         | 276          | 851  | 851  | 276 | 732 | 732 | 465                        | 3376      | 1938 | 1628 | 1628 | 3476      | 1988 | 1678 | 1678 |
|           | 18.5 - 30 | 1860       |         |          |       |       | 1550        |              |              |      |      |     |     |     |                            |           |      |      |      |           |      |      |      |
| 030(1212) | F/BDB 560 | 3 - 15     | 446     | 145      | 100   | 401   | 1550        | 1395         | 276          | 851  | 851  | 276 | 732 | 732 | 465                        | 3996      | 1938 | 1938 | 1938 | 4096      | 1988 | 1988 | 1988 |
|           | 18.5 - 30 | 1860       |         |          |       |       | 1550        |              |              |      |      |     |     |     |                            |           |      |      |      |           |      |      |      |
| 035(1412) | F/BDB 630 | 4 - 22     | 540     | 196      | 100   | 443   | 1550        | 1395         | 294          | 1058 | 1058 | 294 | 818 | 818 | 465                        | 3996      | 2248 | 1938 | 1938 | 4096      | 2298 | 1988 | 1988 |
|           | 30 - 45   | 1705       |         |          |       |       | 1705        |              |              |      |      |     |     |     |                            |           |      |      |      |           |      |      |      |
| 040(1612) | F/BDB 710 | 4 - 22     | 589     | 198      | 100   | 489   | 1705        | 1550         | 406          | 1158 | 1158 | 406 | 916 | 916 | 620                        | 3996      | 2558 | 1938 | 1938 | 4096      | 2608 | 1988 | 1988 |
|           | 30 - 45   | 1860       |         |          |       |       | 1705        |              |              |      |      |     |     |     |                            |           |      |      |      |           |      |      |      |
| 045(1812) | F/BDB 710 | 4 - 22     | 589     | 198      | 100   | 489   | 1705        | 1550         | 561          | 1313 | 1313 | 561 | 916 | 916 | 620                        | 3996      | 2868 | 1938 | 1938 | 4096      | 2918 | 1988 | 1988 |
|           | 30 - 45   | 1860       |         |          |       |       | 1705        |              |              |      |      |     |     |     |                            |           |      |      |      |           |      |      |      |



# Dimensional Data VDT – Unit Weight

## VDT Unit Weight (kg) – Fan and Coil Section (without motor weight)

### 50mm Casing

| Model Size | Fan Section Weight (kg)                                 |                         | Coil Section Weight (kg) |     |     |     |     |     |      |
|------------|---|-------------------------|--------------------------|-----|-----|-----|-----|-----|------|
|            | Fan Arrangement   |                         | Coil Row                 |     |     |     |     |     |      |
|            | Front-Top<br>Front-Bottom<br>Back-Top & Back-<br>Bottom | Top-Front &<br>Top-Back | 1                        | 2   | 4   | 6   | 8   | 10  | 12   |
| 003        | 107   | 107                     | 76                       | 78  | 87  | 100 | 113 | 123 | 134  |
| 004        | 121   | 121                     | 94                       | 98  | 111 | 132 | 150 | 167 | 184  |
| 006        | 175   | 175                     | 112                      | 117 | 135 | 162 | 186 | 209 | 232  |
| 008        | 205   | 205                     | 139                      | 146 | 168 | 204 | 233 | 262 | 288  |
| 010        | 228   | 228                     | 151                      | 159 | 186 | 226 | 261 | 295 | 330  |
| 012        | 254   | 267                     | 187                      | 197 | 230 | 281 | 326 | 370 | 414  |
| 014        | 272   | 286                     | 211                      | 223 | 263 | 324 | 378 | 431 | 484  |
| 016        | 355   | 370                     | 246                      | 260 | 306 | 372 | 432 | 490 | 550  |
| 020        | 471   | 486                     | 264                      | 281 | 335 | 414 | 486 | 557 | 629  |
| 025        | 582   | 599                     | 336                      | 357 | 423 | 518 | 606 | 692 | 780  |
| 030        | 609   | 627                     | 396                      | 420 | 500 | 616 | 725 | 833 | 942  |
| 035        | 773   | 792                     | 438                      | 468 | 560 | 695 | 822 | 948 | 1074 |

### 25mm Casing

| Model Size | Fan Section Weight (kg)                                 |                         | Coil Section Weight (kg) |     |     |     |     |     |      |
|------------|---|-------------------------|--------------------------|-----|-----|-----|-----|-----|------|
|            | Fan Arrangement   |                         | Coil Row                 |     |     |     |     |     |      |
|            | Front-Top<br>Front-Bottom<br>Back-Top & Back-<br>Bottom | Top-Front &<br>Top-Back | 1                        | 2   | 4   | 6   | 8   | 10  | 12   |
| 003        | 88  | 88                      | 70                       | 72  | 81  | 95  | 107 | 118 | 129  |
| 004        | 99  | 99                      | 79                       | 82  | 96  | 116 | 134 | 151 | 168  |
| 006        | 146   | 146                     | 94                       | 99  | 116 | 144 | 168 | 190 | 213  |
| 008        | 169   | 167                     | 115                      | 121 | 144 | 179 | 209 | 237 | 264  |
| 010        | 189   | 189                     | 127                      | 135 | 162 | 201 | 237 | 270 | 305  |
| 012        | 211   | 220                     | 156                      | 166 | 199 | 249 | 295 | 338 | 383  |
| 014        | 224   | 235                     | 177                      | 189 | 228 | 290 | 344 | 396 | 450  |
| 016        | 296   | 307                     | 203                      | 217 | 262 | 328 | 389 | 447 | 507  |
| 020        | 400   | 412                     | 221                      | 238 | 292 | 371 | 443 | 514 | 586  |
| 025        | 491   | 504                     | 274                      | 295 | 361 | 456 | 544 | 630 | 717  |
| 030        | 520   | 534                     | 328                      | 353 | 432 | 548 | 657 | 765 | 875  |
| 035        | 657   | 671                     | 366                      | 395 | 487 | 622 | 749 | 875 | 1001 |

Note:

1. Coil weight is the operating weight.

### Motor Weight (kg)

| Motor kW   | 0.18 | 0.37 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 3.0 | 3.7 | 4.0 | 5.5 | 7.5 | 11  | 15  |
|------------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Weight, kg | 7.8  | 12   | 15   | 20   | 22  | 30  | 42  | 65  | 76  | 118 | 139 | 189 | 203 | 290 |

| Motor kW   | 18.5 | 22  | 30  | 37  | 45  | 55  | 75  |
|------------|------|-----|-----|-----|-----|-----|-----|
| Weight, kg | 320  | 348 | 355 | 500 | 520 | 550 | 580 |



# Dimensional Data VDT – Unit Weight

## VDT Unit Weight (kg) – Fan + Coil + Filter Section (without motor weight)

### 50mm Casing

| Model Size | Fan Section Weight (kg)                         |                      | Coil Section Weight (kg) |     |     |     |     |     |      | Filter Section Weight (kg) |                       |                                 |                                      |
|------------|---|----------------------|--------------------------|-----|-----|-----|-----|-----|------|----------------------------|-----------------------|---------------------------------|--------------------------------------|
|            | Fan Arrangement                                 |                      | Coil Row                 |     |     |     |     |     |      | 2" Flat Filter             | 2" Hi-Capacity Filter | 2" Flat Filter + 15" Bag Filter | 2" Flat Filter + 4" Cartridge Filter |
|            | Front-Top, Front-Bottom, Back-Top & Back-Bottom | Top-Front & Top-Back | 1                        | 2   | 4   | 6   | 8   | 10  | 12   |                            |                       |                                 |                                      |
| 003        | 107   | 107                  | 76                       | 78  | 87  | 100 | 113 | 123 | 134  | 0                          | 47                    | 36                              | 29                                   |
| 004        | 121   | 121                  | 94                       | 98  | 111 | 132 | 150 | 167 | 184  | 0                          | 57                    | 38                              | 34                                   |
| 006        | 175   | 175                  | 112                      | 117 | 135 | 162 | 186 | 209 | 232  | 0                          | 68                    | 44                              | 43                                   |
| 008        | 205   | 205                  | 139                      | 146 | 168 | 204 | 233 | 262 | 288  | 0                          | 81                    | 50                              | 50                                   |
| 010        | 228   | 228                  | 151                      | 159 | 186 | 226 | 261 | 295 | 330  | 0                          | 84                    | 55                              | 54                                   |
| 012        | 254   | 267                  | 187                      | 197 | 230 | 281 | 326 | 370 | 414  | 0                          | 101                   | 62                              | 63                                   |
| 014        | 272   | 286                  | 211                      | 223 | 263 | 324 | 378 | 431 | 484  | 0                          | 111                   | 70                              | 74                                   |
| 016        | 355   | 370                  | 246                      | 260 | 306 | 372 | 432 | 490 | 550  | 0                          | 117                   | 71                              | 80                                   |
| 020        | 471   | 486                  | 264                      | 281 | 335 | 414 | 486 | 557 | 629  | 0                          | 128                   | 74                              | 90                                   |
| 025        | 582   | 599                  | 336                      | 357 | 423 | 518 | 606 | 692 | 780  | 0                          | 149                   | 83                              | 105                                  |
| 030        | 609   | 627                  | 396                      | 420 | 500 | 616 | 725 | 833 | 942  | 0                          | 165                   | 96                              | 116                                  |
| 035        | 773   | 792                  | 438                      | 468 | 560 | 695 | 822 | 948 | 1074 | 0                          | 193                   | 106                             | 134                                  |

### 25mm Casing

| Model Size | Fan Section Weight (kg)                         |                      | Coil Section Weight (kg) |     |     |     |     |     |      | Filter Section Weight (kg) |                       |                                 |                                      |
|------------|---|----------------------|--------------------------|-----|-----|-----|-----|-----|------|----------------------------|-----------------------|---------------------------------|--------------------------------------|
|            | Fan Arrangement                                 |                      | Coil Row                 |     |     |     |     |     |      | 2" Flat Filter             | 2" Hi-Capacity Filter | 2" Flat Filter + 15" Bag Filter | 2" Flat Filter + 4" Cartridge Filter |
|            | Front-Top, Front-Bottom, Back-Top & Back-Bottom | Top-Front & Top-Back | 1                        | 2   | 4   | 6   | 8   | 10  | 12   |                            |                       |                                 |                                      |
| 003        | 88  | 88                   | 70                       | 72  | 81  | 95  | 107 | 118 | 129  | 0                          | 42                    | 31                              | 26                                   |
| 004        | 99  | 99                   | 79                       | 82  | 96  | 116 | 134 | 151 | 168  | 0                          | 48                    | 31                              | 31                                   |
| 006        | 146   | 146                  | 94                       | 99  | 116 | 144 | 168 | 190 | 213  | 0                          | 58                    | 34                              | 39                                   |
| 008        | 169   | 167                  | 115                      | 121 | 144 | 179 | 209 | 237 | 264  | 0                          | 70                    | 39                              | 46                                   |
| 010        | 189   | 189                  | 127                      | 135 | 162 | 201 | 237 | 270 | 305  | 0                          | 72                    | 43                              | 49                                   |
| 012        | 211   | 220                  | 156                      | 166 | 199 | 249 | 295 | 338 | 383  | 0                          | 88                    | 49                              | 57                                   |
| 014        | 224   | 235                  | 177                      | 189 | 228 | 290 | 344 | 396 | 450  | 0                          | 97                    | 55                              | 68                                   |
| 016        | 296   | 307                  | 203                      | 217 | 262 | 328 | 389 | 447 | 507  | 0                          | 103                   | 55                              | 74                                   |
| 020        | 400   | 412                  | 221                      | 238 | 292 | 371 | 443 | 514 | 586  | 0                          | 112                   | 58                              | 83                                   |
| 025        | 491   | 504                  | 274                      | 295 | 361 | 456 | 544 | 630 | 717  | 0                          | 131                   | 66                              | 98                                   |
| 030        | 520   | 534                  | 328                      | 353 | 432 | 548 | 657 | 765 | 875  | 0                          | 146                   | 77                              | 108                                  |
| 035        | 657   | 671                  | 366                      | 395 | 487 | 622 | 749 | 875 | 1001 | 0                          | 172                   | 85                              | 125                                  |

Note:

1. Coil weight is the operating weight.
2. Filter section weight includes filter media.

### Motor Weight (kg)

| Motor kW   | 0.18 | 0.37 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 3.0 | 3.7 | 4.0 | 5.5 | 7.5 | 11  | 15  |
|------------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Weight, kg | 7.8  | 12   | 15   | 20   | 22  | 30  | 42  | 65  | 76  | 118 | 139 | 189 | 203 | 290 |

| Motor kW   | 18.5 | 22  | 30  | 37  | 45  | 55  | 75  |
|------------|------|-----|-----|-----|-----|-----|-----|
| Weight, kg | 320  | 348 | 355 | 500 | 520 | 550 | 580 |

# Dimensional Data VDT – Unit Weight

## VDT Unit Weight (kg) – Fan + Coil + Filter and Mixing Sections (without motor weight)

### 50mm Casing

| Model Size | Fan Section Weight (kg)                         |                      | Coil Section Weight (kg) |     |     |     |     |     |      | Filter Section Weight (kg) |                       |                                 |                                      | Mixing Box/Rear or Top Inlet Section Weight (kg) |
|------------|---|----------------------|--------------------------|-----|-----|-----|-----|-----|------|----------------------------|-----------------------|---------------------------------|--------------------------------------|--|
|            | Fan Arrangement                                 |                      | Coil Row                 |     |     |     |     |     |      | 2" Flat Filter             | 2" Hi-Capacity Filter | 2" Flat Filter + 15" Bag Filter | 2" Flat Filter + 4" Cartridge Filter |  |
|            | Front-Top, Front-Bottom, Back-Top & Back-Bottom | Top-Front & Top-Back | 1                        | 2   | 4   | 6   | 8   | 10  | 12   |                            |                       |                                 |                                      |  |
| 003        | 107   | 107                  | 76                       | 78  | 87  | 100 | 113 | 123 | 134  | 0                          | 47                    | 36                              | 29                                   | 38   |
| 004        | 121   | 121                  | 94                       | 98  | 111 | 132 | 150 | 167 | 184  | 0                          | 57                    | 38                              | 34                                   | 45   |
| 006        | 175   | 175                  | 112                      | 117 | 135 | 162 | 186 | 209 | 232  | 0                          | 68                    | 44                              | 43                                   | 54   |
| 008        | 205   | 205                  | 139                      | 146 | 168 | 204 | 233 | 262 | 288  | 0                          | 81                    | 50                              | 50                                   | 64   |
| 010        | 228   | 228                  | 151                      | 159 | 186 | 226 | 261 | 295 | 330  | 0                          | 84                    | 55                              | 54                                   | 66   |
| 012        | 254   | 267                  | 187                      | 197 | 230 | 281 | 326 | 370 | 414  | 0                          | 101                   | 62                              | 63                                   | 76   |
| 014        | 272   | 286                  | 211                      | 223 | 263 | 324 | 378 | 431 | 484  | 0                          | 111                   | 70                              | 74                                   | 81   |
| 016        | 355   | 370                  | 246                      | 260 | 306 | 372 | 432 | 490 | 550  | 0                          | 117                   | 71                              | 80                                   | 104  |
| 020        | 471   | 486                  | 264                      | 281 | 335 | 414 | 486 | 557 | 629  | 0                          | 128                   | 74                              | 90                                   | 111  |
| 025        | 582   | 599                  | 336                      | 357 | 423 | 518 | 606 | 692 | 780  | 0                          | 149                   | 83                              | 105                                  | 115  |
| 030        | 609   | 627                  | 396                      | 420 | 500 | 616 | 725 | 833 | 942  | 0                          | 165                   | 96                              | 116                                  | 134  |
| 035        | 773   | 792                  | 438                      | 468 | 560 | 695 | 822 | 948 | 1074 | 0                          | 193                   | 106                             | 134                                  | 148  |

### 25mm Casing

| Model Size | Fan Section Weight (kg)                         |                      | Coil Section Weight (kg) |     |     |     |     |     |      | Filter Section Weight (kg) |                       |                                 |                                      | Mixing Box/Rear or Top Inlet Section Weight (kg) |
|------------|---|----------------------|--------------------------|-----|-----|-----|-----|-----|------|----------------------------|-----------------------|---------------------------------|--------------------------------------|--|
|            | Fan Arrangement                                 |                      | Coil Row                 |     |     |     |     |     |      | 2" Flat Filter             | 2" Hi-Capacity Filter | 2" Flat Filter + 15" Bag Filter | 2" Flat Filter + 4" Cartridge Filter |  |
|            | Front-Top, Front-Bottom, Back-Top & Back-Bottom | Top-Front & Top-Back | 1                        | 2   | 4   | 6   | 8   | 10  | 12   |                            |                       |                                 |                                      |  |
| 003        | 88  | 88                   | 70                       | 72  | 81  | 95  | 107 | 118 | 129  | 0                          | 42                    | 31                              | 26                                   | 35   |
| 004        | 99  | 99                   | 79                       | 82  | 96  | 116 | 134 | 151 | 168  | 0                          | 48                    | 31                              | 31                                   | 42   |
| 006        | 146   | 146                  | 94                       | 99  | 116 | 144 | 168 | 190 | 213  | 0                          | 58                    | 34                              | 39                                   | 51   |
| 008        | 169   | 167                  | 115                      | 121 | 144 | 179 | 209 | 237 | 264  | 0                          | 70                    | 39                              | 46                                   | 60   |
| 010        | 189   | 189                  | 127                      | 135 | 162 | 201 | 237 | 270 | 305  | 0                          | 72                    | 43                              | 49                                   | 62   |
| 012        | 211   | 220                  | 156                      | 166 | 199 | 249 | 295 | 338 | 383  | 0                          | 88                    | 49                              | 57                                   | 68   |
| 014        | 224   | 235                  | 177                      | 189 | 228 | 290 | 344 | 396 | 450  | 0                          | 97                    | 55                              | 68                                   | 71   |
| 016        | 296   | 307                  | 203                      | 217 | 262 | 328 | 389 | 447 | 507  | 0                          | 103                   | 55                              | 74                                   | 89   |
| 020        | 400   | 412                  | 221                      | 238 | 292 | 371 | 443 | 514 | 586  | 0                          | 112                   | 58                              | 83                                   | 95   |
| 025        | 491   | 504                  | 274                      | 295 | 361 | 456 | 544 | 630 | 717  | 0                          | 131                   | 66                              | 98                                   | 98   |
| 030        | 520   | 534                  | 328                      | 353 | 432 | 548 | 657 | 765 | 875  | 0                          | 146                   | 77                              | 108                                  | 114  |
| 035        | 657   | 671                  | 366                      | 395 | 487 | 622 | 749 | 875 | 1001 | 0                          | 172                   | 85                              | 125                                  | 127  |

Note:

1. Coil weight is the operating weight.
2. Filter section weight includes filter media.

### Motor Weight (kg)

| Motor kW   | 0.18 | 0.37 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 3.0 | 3.7 | 4.0 | 5.5 | 7.5 | 11  | 15  |
|------------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Weight, kg | 7.8  | 12   | 15   | 20   | 22  | 30  | 42  | 65  | 76  | 118 | 139 | 189 | 203 | 290 |

| Motor kW   | 18.5 | 22  | 30  | 37  | 45  | 55  | 75  |
|------------|------|-----|-----|-----|-----|-----|-----|
| Weight, kg | 320  | 348 | 355 | 500 | 520 | 550 | 580 |

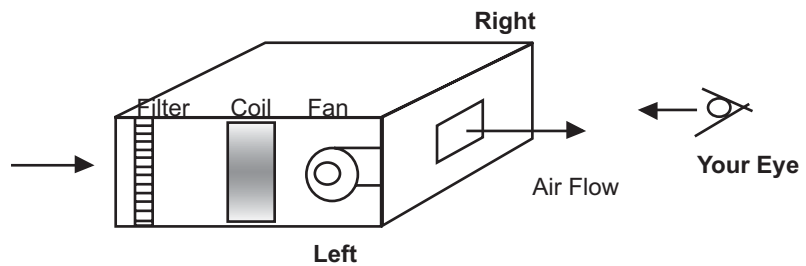
# Installation Consideration

## Define Unit Handling Left Or Right

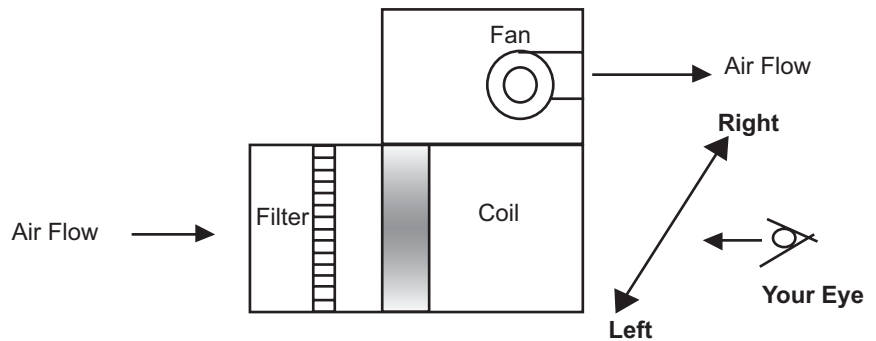
---

Unit handling, LEFT or Right for coil connectors, drain, door location & etc. is expressed when facing the airflow through the coil.

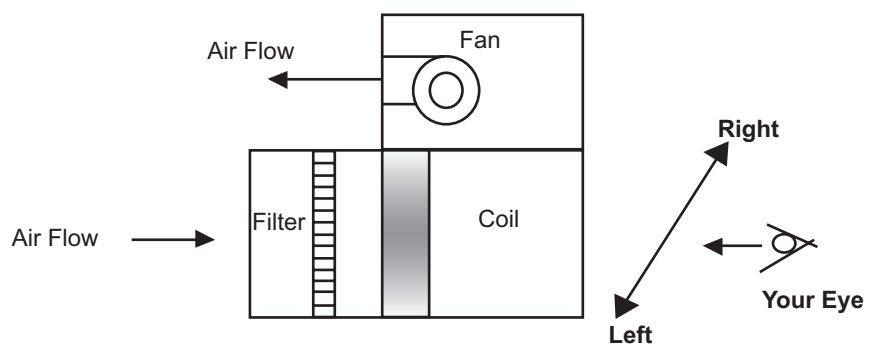
### CLCP : HDT



### CLCP : VDT



### CLCP : VDT

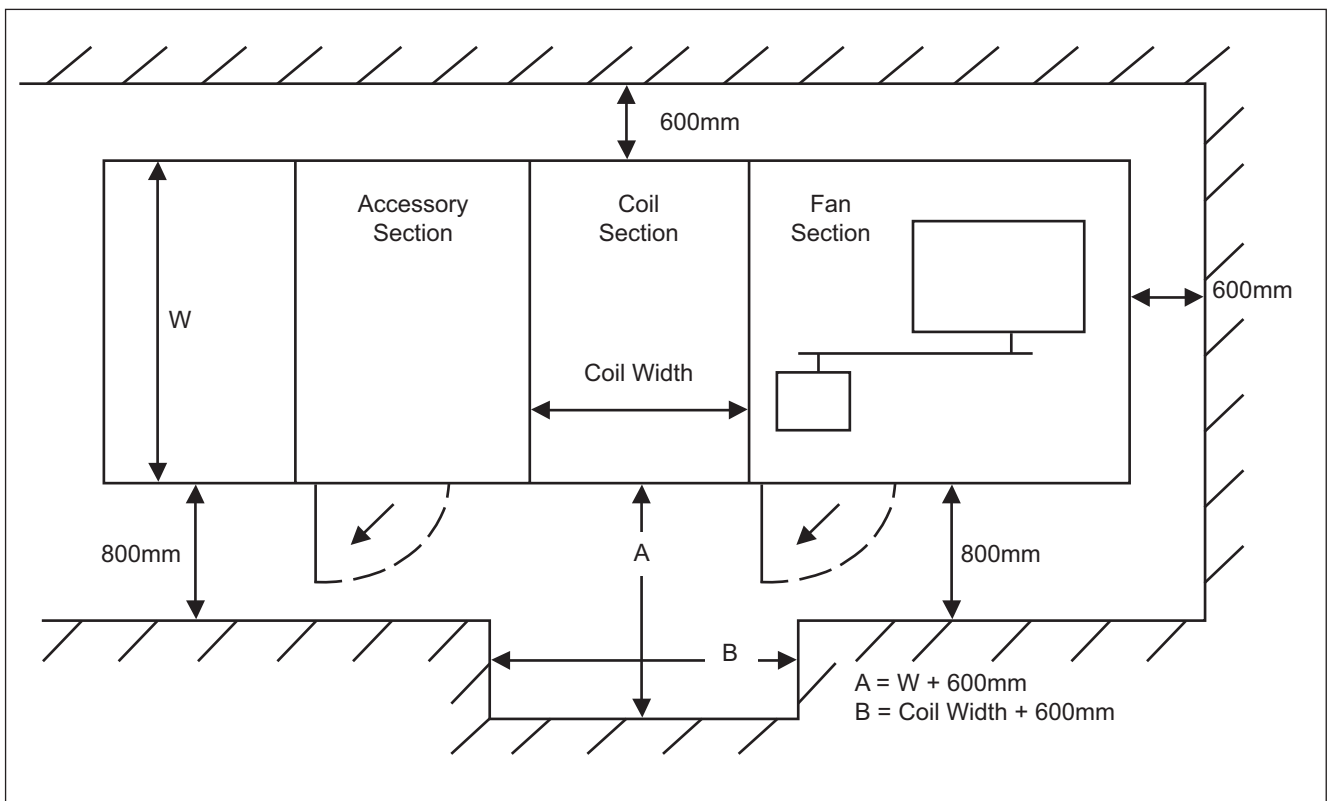


# Installation Consideration Service Clearance

The purpose of this section is to provide Quantum Climate Changer job site installation consideration. Refer to installation, Operation and Maintenance manual for detailed installation information.

When selecting and preparing the unit site, follow these guidelines:

1. Ensure that the site can support the total weight of the unit.
2. Allow sufficient space for service access. The below figure give the recommended space allowances for filters, coil removal, fan shaft removal and motor starter maintenance. As unit configurations will vary, refer to unit submittals for specific location of access doors, accessories, motor starter, etc.
3. Confirm that the foundation of the mounting platform is large enough to include the unit dimensions plus services access. Refer to unit submittals for specific dimension. Certain unit maybe suspended from the ceiling. The recommended method for ceiling suspending air handler is with structural channels that run the full length of the unit. The factory shall provide the support with an external support at the base. Do not suspend air handler from the top of the unit. Serious safety risks exist if the unit is not suspended in the proper manner.
4. The floor or foundation must be level for proper coil drainage and condensate flow.
5. Allow the proper height for coil piping and condensate drain requirements. It may be necessary to elevate the unit when piping the condensate drain. Insufficient height could inhibit condensate drainage and result in flooding the unit or equipment room.
6. Provide adequate lighting for maintenance personnel to perform maintenance duties.
7. Provide permanent power outlets in close proximity of the unit for installation and maintenance.

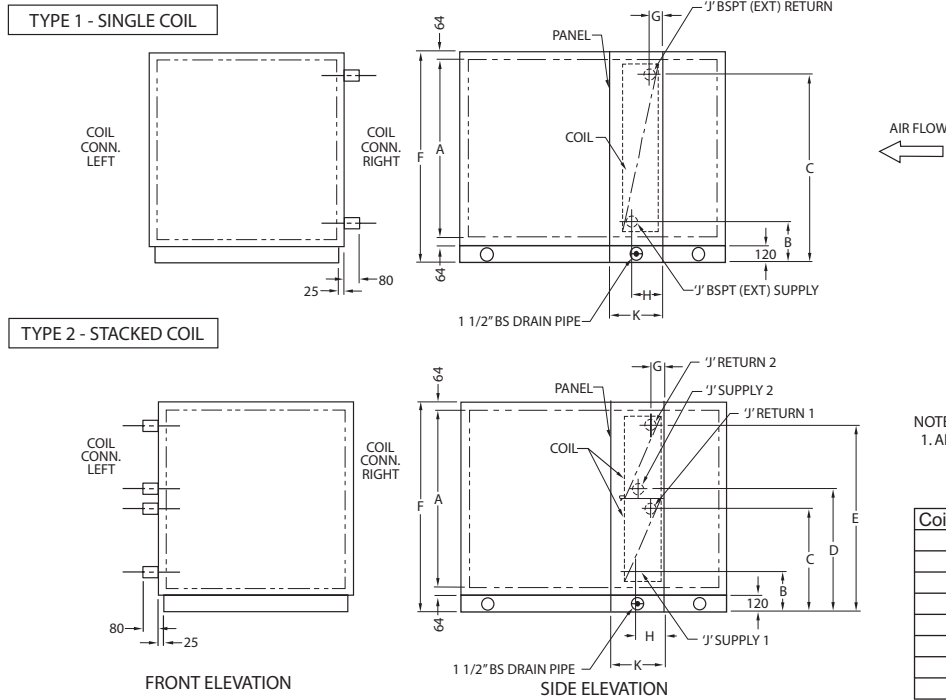


Access Side Clearances

# Installation Consideration Coil Connection Dimension

## 50 mm Casing Construction

### HORIZONTAL / VERTICAL DRAW THROUGH - CHILLED AND HOT WATER COIL CONNECTION DIMENSION



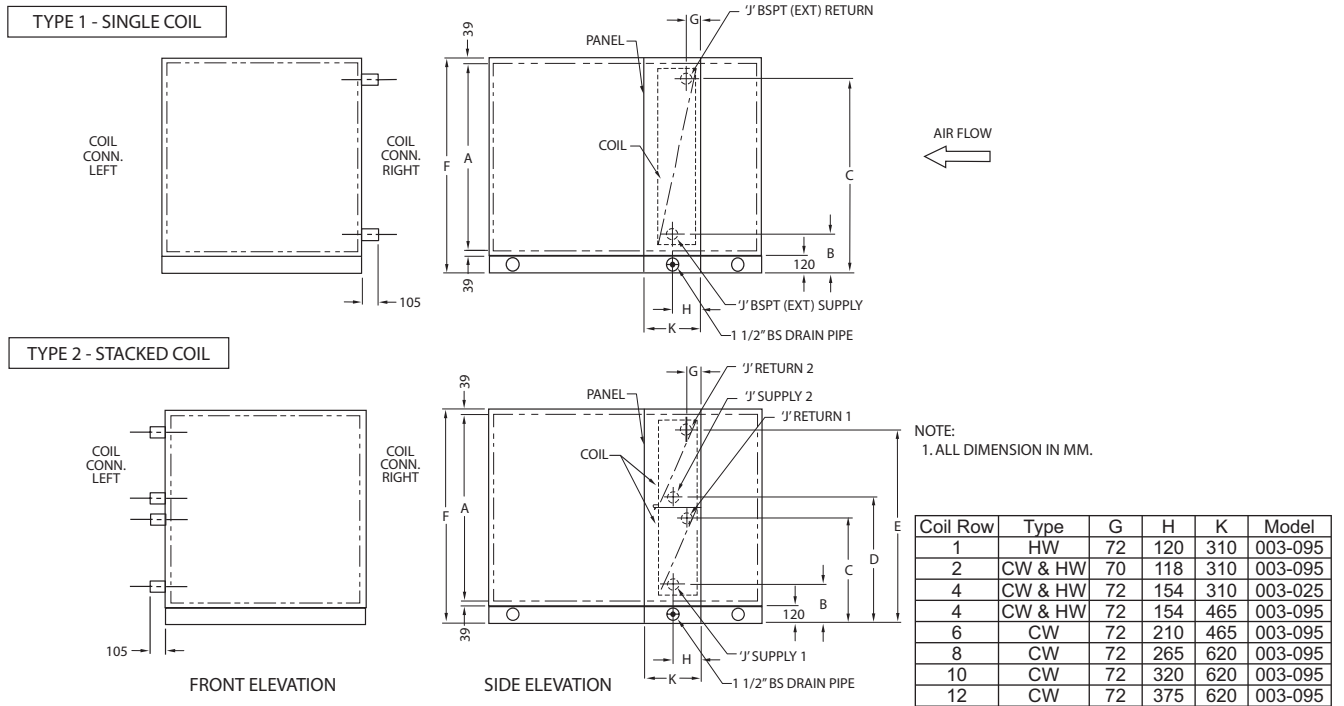
| Coil Row | Type    | G  | H   | K   | Model   |
|----------|---------|----|-----|-----|---------|
| 1        | HW      | 72 | 120 | 310 | 003-095 |
| 2        | CW & HW | 70 | 118 | 310 | 003-095 |
| 4        | CW & HW | 72 | 154 | 310 | 003-025 |
| 4        | CW & HW | 72 | 154 | 465 | 003-095 |
| 6        | CW      | 72 | 210 | 465 | 003-095 |
| 8        | CW      | 72 | 265 | 620 | 003-095 |
| 10       | CW      | 72 | 320 | 620 | 003-095 |
| 12       | CW      | 72 | 375 | 620 | 003-095 |

| Model | Type | A    | B   | C    | D    | E    | F    | Steel Pipe External Threaded Connection Diameter (ID) |         |                        |         | Copper Non Threaded Header Diameter (OD) |              |         |                        |         |     |     |     |     |
|-------|------|------|-----|------|------|------|------|---|---------|------------------------|---------|--|--------------|---------|------------------------|---------|-----|-----|-----|-----|
|       |      |      |     |      |      |      |      | (2 Row)   |         | (4, 6, 8, 10 & 12 Row) |         | (1 Row)                                  | (2 Row)      |         | (4, 6, 8, 10 & 12 Row) |         |     |     |     |     |
|       |      |      |     |      |      |      |      | WL & DL Coil  | WL Coil | LL Coil                | DL Coil | WL Coil                                  | WL & DL Coil | WL Coil | LL Coil                | DL Coil |     |     |     |     |
| 003   | 1    | 620  | 265 | 727  | -    | -    | 868  | 'J'   | 'J'     | 'J'                    | 'J'     | 'J'                                      | 'J'          | 'J'     | 'J'                    | 'J'     | 'J' | 'J' | 'J' | 'J' |
| 004   | 1    | 620  | 265 | 727  | -    | -    | 868  | 40  | 40      | 65                     | 40      | 41                                       | 41           | 41      | 67                     | 41      | 41  | 67  | 41  | 41  |
| 006   | 1    | 620  | 265 | 727  | -    | -    | 868  | 40  | 40      | 65                     | 40      | 41                                       | 41           | 41      | 67                     | 41      | 41  | 67  | 41  | 41  |
| 008   | 1    | 620  | 265 | 727  | -    | -    | 868  | 40  | 40      | 65                     | 40      | 41                                       | 41           | 41      | 67                     | 41      | 41  | 67  | 41  | 41  |
| 010   | 1    | 930  | 265 | 1065 | -    | -    | 1178 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
| 012   | 1    | 930  | 265 | 1065 | -    | -    | 1178 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
| 014   | 1    | 930  | 265 | 1065 | -    | -    | 1178 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
| 016   | 1    | 1240 | 265 | 1349 | -    | -    | 1488 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  | 67  |
| 020   | 1    | 1240 | 265 | 1349 | -    | -    | 1488 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  | 67  |
| 025   | 1    | 1550 | 265 | 1635 | -    | -    | 1798 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  | 67  |
| 030   | 2    | 1860 | 265 | 1070 | 1175 | 1960 | 2108 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
|       |      |      |     |      |      |      |      | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |     |
| 035   | 2    | 1860 | 265 | 1070 | 1175 | 1960 | 2108 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
|       |      |      |     |      |      |      |      | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |     |
| 040   | 2    | 1860 | 265 | 1070 | 1175 | 1960 | 2108 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
|       |      |      |     |      |      |      |      | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |     |
| 045   | 2    | 1860 | 265 | 1070 | 1175 | 1960 | 2108 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
|       |      |      |     |      |      |      |      | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |     |
| 050   | 2    | 1860 | 265 | 1070 | 1175 | 1960 | 2108 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  | 54  |
|       |      |      |     |      |      |      |      | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |     |
| 060   | 2    | 2170 | 265 | 1265 | 1370 | 2290 | 2418 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  | 67  |
|       |      |      |     |      |      |      |      | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  |     |     |
| 065   | 2    | 2170 | 265 | 1265 | 1370 | 2290 | 2418 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |     |
|       |      |      |     |      |      |      |      | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  |     |     |
| 070   | 2    | 2170 | 265 | 1265 | 1370 | 2290 | 2418 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |     |
|       |      |      |     |      |      |      |      | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  |     |     |
| 080   | 2    | 2170 | 265 | 1265 | 1370 | 2290 | 2418 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |     |
|       |      |      |     |      |      |      |      | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  |     |     |
| 085   | 2    | 2170 | 265 | 1265 | 1370 | 2290 | 2418 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |     |
|       |      |      |     |      |      |      |      | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  |     |     |
| 090   | 2    | 2170 | 265 | 1265 | 1370 | 2290 | 2418 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |     |
|       |      |      |     |      |      |      |      | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  |     |     |
| 095   | 2    | 2170 | 265 | 1265 | 1370 | 2290 | 2418 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |     |
|       |      |      |     |      |      |      |      | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  |     |     |

# Installation Consideration Coil Connection Dimension

## 25 mm Casing Construction

### HORIZONTAL / VERTICAL DRAW THROUGH - CHILLED AND HOT WATER COIL CONNECTION DIMENSION



| Model | Type | A    | B   | C    | D    | E    | F    | Steel Pipe External Threaded Connection Diameter (ID) |         |                        |         | Copper Non Threaded Header Diameter (OD) |              |         |                        |         |     |     |     |
|-------|------|------|-----|------|------|------|------|---|---------|------------------------|---------|--|--------------|---------|------------------------|---------|-----|-----|-----|
|       |      |      |     |      |      |      |      | (2 Row)   |         | (4, 6, 8, 10 & 12 Row) |         | (1 Row)                                  | (2 Row)      |         | (4, 6, 8, 10 & 12 Row) |         |     |     |     |
|       |      |      |     |      |      |      |      | WL & DL Coil  | WL Coil | LL Coil                | DL Coil | WL Coil                                  | WL & DL Coil | WL Coil | LL Coil                | DL Coil |     |     |     |
| 003   | 1    | 620  | 240 | 702  | -    | -    | 818  | 'J'   | 'J'     | 'J'                    | 'J'     | 'J'                                      | 'J'          | 'J'     | 'J'                    | 'J'     | 'J' | 'J' | 'J' |
| 004   | 1    | 620  | 240 | 702  | -    | -    | 818  | 40  | 40      | 65                     | 40      | 41                                       | 41           | 41      | 67                     | 41      | 41  | 67  | 41  |
| 006   | 1    | 620  | 240 | 702  | -    | -    | 818  | 40  | 40      | 65                     | 40      | 41                                       | 41           | 41      | 67                     | 41      | 41  | 67  | 41  |
| 008   | 1    | 620  | 240 | 702  | -    | -    | 818  | 40  | 40      | 65                     | 40      | 41                                       | 41           | 41      | 67                     | 41      | 41  | 67  | 41  |
| 010   | 1    | 930  | 240 | 1040 | -    | -    | 1128 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 012   | 1    | 930  | 240 | 1040 | -    | -    | 1128 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 014   | 1    | 930  | 240 | 1040 | -    | -    | 1128 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 016   | 1    | 1240 | 240 | 1324 | -    | -    | 1438 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 020   | 1    | 1240 | 240 | 1324 | -    | -    | 1438 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 025   | 1    | 1550 | 240 | 1610 | -    | -    | 1748 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 030   | 2    | 1860 | 240 | 1045 | 1150 | 1935 | 2058 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 035   | 2    | 1860 | 240 | 1045 | 1150 | 1935 | 2058 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 040   | 2    | 1860 | 240 | 1045 | 1150 | 1935 | 2058 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 045   | 2    | 1860 | 240 | 1045 | 1150 | 1935 | 2058 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 050   | 2    | 1860 | 240 | 1045 | 1150 | 1935 | 2058 | 50  | 50      | 65                     | 50      | 41                                       | 54           | 54      | 67                     | 54      | 54  | 67  | 54  |
| 060   | 2    | 2170 | 240 | 1165 | 1346 | 2266 | 2368 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 065   | 2    | 2170 | 240 | 1165 | 1346 | 2266 | 2368 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 070   | 2    | 2170 | 240 | 1165 | 1346 | 2266 | 2368 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 080   | 2    | 2170 | 240 | 1165 | 1346 | 2266 | 2368 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 085   | 2    | 2170 | 240 | 1165 | 1346 | 2266 | 2368 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 090   | 2    | 2170 | 240 | 1165 | 1346 | 2266 | 2368 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |
| 095   | 2    | 2170 | 240 | 1165 | 1346 | 2266 | 2368 | 50  | 65      | 65                     | 65      | 41                                       | 54           | 67      | 67                     | 67      | 67  | 67  | 67  |





# Mechanical Specifications

---

## **General**

The units must be rigged and lifted in strict accordance with the Installation Operation and Maintenance manual. The units are to be installed in strict accordance with the specifications.

Units may be shipped fully assembled or disassembled to the minimum module size in accordance with shipping or jobsite requirements. Units shall have break point if manufacturer found appropriate for easy handling and transportation.

## **Unit Construction**

The casing shall have a perimeter frame with a modular system based on standardized double wall panels. Removal of side panels must not affect the structural integrity of the unit. Casing strength shall be designed to meet European Standard EN 1886:1998.

The framework shall be made from non-corrosive recyclable extruded aluminum channels fitted together non-metal corner pieces.

The casing panel shall be attached to the frame through a self-locking mechanism represented by a wedge and frame, exerting pressure evenly onto the panel and seal attached to the frame, and hence a better air tight cabinet construction. The casing shall be designed to meet Eurovent air leakage requirement.

The casing shall be able to withstand up to 8 inches of total static pressure. Closed-cell foam gasketing shall be provided where modules are joined.

The floor panels shall have double wall construction to allow maintenance personnel access without damage to the insulation.

The whole unit shall be mounted on a galvanized sheet steel base frame for ease of shipment and handling. The minimum height of the floor-mounting base shall be 120mm and designed to ensure air circulation and avoid entrapment of moisture below the unit. The base frame is to be used in lieu of concrete plinths or other additional bases that are used on site. However for high static pressure application additional concrete plinths or other additional bases is required at site to raise the AHU for drain pan's U-trap.

## **Double-Wall Panel**

The outer panel wall shall be painted with baked polyester powder paint that is resistant to scratch and nicks and shall allow for easy cleaning. The inner wall shall be galvanized steel. The paint shall be ultra violet resistant, weather resistant for outdoor application, offering excellent weather resistance properties.

The panels shall be 50mm or 25mm thick double wall type with injected polyurethane foam insulation for a rigid non-vibration construction. The panel insulation shall not absorb moisture and must be rot resistant. The insulation material shall be totally enclosed in the panel to avoid any possibility of insulation being exposed to air stream. The panel insulation shall have a heat transfer "K" value of 0.02 w/mK. Exposed Insulation system shall meet UL 94, standard for safety and flame-ability of plastic material for parts in devices and appliances. The panels shall be flush mounted, leaving no exposed gaps between panels and frame, to minimize potential air leaks.

## **Drain Pans**

Coil, moisture eliminator and humidifier shall be provided with an insulated, galvanized or stainless steel (option), dual pitch sloping drain pan to allow for proper condensate removal. The galvanized drain pan shall be painted with a mastic compound (bitumen) for corrosion protection.

## **Access and Inspection Doors**

Access doors shall be constructed with a double-wall panel that compresses evenly a durable seal onto a rigid frame. The seal around the full perimeter of the access door's frame shall be used to prevent air leakage. The doors shall be hinged and able to be lifted off or removed totally for easy access.

## **View Window**

A view window shall be made of 4mm thick transparent Plexiglas's type on inner and outer wall panel with a rubber grommet seal and fitted on double wall panel. The size shall be 150 x 150mm. The mounting location shall be flexible and upon customer's requirement. Special window size shall be an option.

# Mechanical Specifications

## Service Light

A factory-mounted, weather-resistant (enclosed and gasketed), vapor-tight, light fixture shall be provided. Fixture shall be equipped with plastic switch box, single phase wiring, PL lamp comes with ballast and reflector.

## Fan Module

The fan assembly shall be checked and dynamically balanced to ISO1940 on equivalent. Fan shaft shall be properly size and protectively coated. Fan wheels shall be keyed to fan shaft to prevent slipping. Fan shafts shall be solid and designed so that fan shaft does not pass through its first critical speed as the unit comes up to its rated rpm. Fan modules shall be provided with an access door. Access side for both side of fan shall be an option.

## FC Fan Modules

Fan shall be double-width, double-inlet, and multi-blade type as produced by the unit manufacturer. Fan shall be forward curved (FC) as required for stable operation, low noise and optimum energy efficiency. Fan shall be equipped with bearings with an L-50 life (average life) of up to 200,000 hours. The multi blade shall be made of galvanized steel and the solid shaft shall be made of carbon steel: C45, machined and polished to tolerance of standard ISO 286-2-Grade G6. Protective coat of anti rusting shall be applied to all bare surfaces of shafts at the factory. The fans shall be licensed to bear the AMCA Air and Sound Certified Ratings seal. The test standard used shall be ANSI/AMCA 210, ANSI/ASHRAE Standard 51 "Laboratory Method of Testing Fans for Rating" and AMCA 300 "Reverberant Room method for Sound Testing of fans".

## BC Fan Modules

Fan shall be double-width, double-inlet, and multiblade type as produced by the unit manufacturer. Fan shall be backward curve (BC) as required for stable operation, high static pressure and optimum energy efficiency. Fan shall be equipped with bearings with an L-50 life (average life) of up to 200,000 hours. The multiple blades shall be made of treated steel with paint for corrosion resistant. The solid shaft shall be made of carbon steel: C45, machined and polished to tolerance of standard ISO 286-2-Grade G6. Protective coat of anti rusting shall be applied to all bare surfaces of shafts at the factory. The fans shall be licensed to bear the AMCA Air and Sound Certified Ratings seal. The test standard used shall be ANSI/AMCA 210, ANSI/ASHRAE Standard 51 "Laboratory Method of Testing Fans for Rating" and AMCA 300 "Reverberant Room Method for Sound Testing of Fans".

## AF Fan Modules

Shall be customized upon request. The fan shall be double-width, double-inlet, multiple blade type as produced by the unit manufacturer. Fan shall be backward inclined airfoil (AF).

## Fan Modulation

- a) Inlet Guide Vanes (Option)  
For variable air volume applications, airflow of BC fan type fans shall be modulated by inlet guide vanes. Actuator shall be provided as an option.
- b) Variable Frequency Drive (Option)  
For variable air volume applications, airflow shall be modulated by a variable frequency drive controlling fan speed.

## Fan Isolation

Fan connection shall be isolated from unit casing by a flexible canvas duct mounted at fan discharge outlet.

- a) Rubber-In-Shear Isolators  
Fan and motor assembly shall be internally isolated from the unit casing with rubber-in-shear isolators, furnished and installed by the unit manufacturer.
- b) One-Inch Spring Isolators (Option)  
Fan and motor assembly shall be internally isolated from the unit casing with 1-inch deflection spring isolators, furnished and installed by the unit manufacturer.
- c) Two-Inch Spring Isolators (Option)  
Fan and motor assembly shall be internally isolated from the unit casing. The isolation system shall be designed to take higher isolation efficiency than 1" spring isolator.

## Drives

The drive assembly shall consist of V-belt taper-lock pulley and electric motor. The V-belt type shall be SPZ, SPA, SPB or SPC grades, oil and heat resistant, antistatic and avoiding electric discharges. The pulley and shaft assembly shall be using taper-lock bush with Allen set screws for easy and quick assemble and dis-assemble process. Drive shall be selected at 1.5 service factor.

- a) Variable Pitch (Option)  
Drives shall be variable pitch, suitable for adjustment within  $\pm 5$  percent of specified rpm. Drives shall be limited to two grooves maximum to ensure good alignment. This option shall only use for installing motor Hp that below 25Hp or 18.5 kW due to design limitation.
- b) Fixed Pitch  
Drives shall be constant speed with fixed pitch sheaves.

# Mechanical Specifications

---

## Motors

Motor shall be mounted integral to an isolated fan assembly furnished by the unit manufacturer. Motor shall be mounted inside the unit casing on a sliding base to permit adjustment of drive belt tension.

Standard motor shall be horizontal foot mounting, induction motor, squirrel cage, totally enclosed fan-cooled with IP55 protection with class F insulation and suitable for operation at ambient temperature of 40 degree C.

## Motor Options

- a) 380-415 Volt /3 pH /50 Hz (Standard)
- b) 200 Volt /3 pH /50Hz
- c) 200 Volt /3 pH /60 Hz
- d) 230 Volt /3 pH /60 Hz
- e) 380 Volt /3 pH /60 Hz
- f) 440 Volt /3 pH /60 Hz
- g) 460 Volt /3 pH /60 Hz
- h) High Efficiency Motors
- i) Premium Efficiency Motor
- j) USA's Motor
- k) European's Motor
- l) Explosion Proof Motor
- m) Dual Speed Motor

## Fan Module Option

Belt guard unit shall be provided with a painted metal sheet belt guard.

## Coil Module

Coil shall be installed such that unit casing enclose headers and return bends. Coil shall be designed to maximize the utilization of the available unit cross-section area. Coil

connections shall be clearly labeled on outside of units. Coil shall be cartridge type mounted on steel channel for easy removability. Coils shall have aluminum fins and seamless copper tubes. Coated aluminum (for corrosion protection used near the sea) and copper fins shall be an option. The fins shall be sine-wave design with slits for better heat transfer efficiency and moisture carry-over limit performance. Fins shall have collars drawn, belled and firmly bonded to tubes by mechanical expansion of the tubes. Capacities, pressure drops and selection procedure shall be designed in accordance with ARI Standard 410. The copper tube shall be 0.5 inch OD.

Coil casing shall be 1.5mm thick galvanized steel (standard) or stainless steel (option) or with formed end supports and top and bottom channels. Coil casing shall be a series of drain holes at the bottom channels to insure condensate drainage.

If stacked coil in the unit, intermediate drainpan shall be installed between coils to drain condensate to the main drain pans without flooding the lower coils or passing condensate through the airstream of the lower coil. The coil working pressure at site shall not exceed the leak test value on each coil type given below.

## Water Coils

Supply and return headers shall be clearly labeled on the outside of the unit to ensure that direction of coil water flow is counter to direction of unit air-flow. Coils shall be tested to 375 psig.

The headers shall be constructed of round steel pipe with BSPT external threaded. All headers shall be fitted with air venting and water draining plug.

## Header connection option

- Unthreaded copper header connection
- Copper header with BSPT external threaded brass adaptor for quick job site connection.
- Steel header with steel flanges for quick job site connection.

## Refrigerant Cooling Coils

Suction and liquid line connections plate fins and seamless copper tubes shall be clearly labeled on the outside of the unit. Coils shall be leak tested to 450 psig (17 Bar) air pressure under water. After testing, insides of coils are to be dried; all connections are to be sealed and coils shall be shipped with a charge of dry nitrogen. Suction headers shall be constructed of cooper tubing. Suction connections shall penetrate unit casings to allow for external connections to refrigerant lines. Coils shall have equqlizing vertical distributors sized according to the capacities of the coils.

## Steam Heating Coils

Steam coils shall be pitched in the unit for proper drainage of steam condensate from coils. Coils shall be leak tested to 375 psig air pressure under water. Steam header and condensate header connections are to be constructed of round steel. Steam header connection shall be located opposite with condensate header.

# Mechanical Specifications

## **Filter Modules**

Filter sections shall have filter racks, an access door for filter removal and block-offs as required to prevent air bypass around filters. Modules shall be supplied with 2-inch or 4-inch angled or high capacity, cartridge, bag and final filters. Filter shall be sized so as not to exceed scheduled face velocities.

### **Pleated Filter Media (Throwaway)**

Filters shall be 2-inch or 4-inch thick non-woven fabric, treated with adhesive and continuously laminated to a supported steel wire grid. Filters shall have a rated average dust spot efficiency of not less than 25 to 30 percent when tested in accordance with ASHRAE 52-1-1992 atmospheric dust spot method. Filter access shall be accessed from either right or left hand side as standard. Back access shall be an option.

### **Washable or Permanent Filters**

Filters shall be 2-inch synthetic fibers capable of operating up to 600-fpm face velocity. Filter media shall be layers of cleanable wire maze. Filter frame shall be constructed of galvanized steel. Filter access shall be accessed from either right or left hand side as standard. Back access shall be an option.

### **Hi-Capacity Filters**

Filter shall be 2-inch throwaway as standard. Option for pleated media and washable. The filter shall be fixed in angular (Zig-zag) form for higher duct holding capacity. Filter frame shall be constructed of galvanized steel. Filter access shall be accessed from either right or left hand side a standard.

### **Cartridge Filters**

Filter shall be constructed by pleating a continuous sheet of fine-fiber glass media into closely spaced pleats with safe-edged separators. This filter shall be sealed into a fiber boards frame assembled in a rigid manner to prevent

air leakage. All cartridge filters shall be furnished with a 2-inch prefilter to provide extended cartridge life. Filters shall have a rated average dust spot efficiency of not less than 60 percent when tested in accordance with ASHRAE 52-1-1992 atmospheric dust spot method. Manufacturer shall supply back access filter rack support and holding clips that capable of holding cartridge filters and prefilters.

### **Bag Filters**

Filters shall be synthetic fiber media with spun backing to keep synthetic fibers from eroding downstream. Stitching method shall permit bag to retain pleat shape and air pocket when in operation without the use of wire basket support. Filters shall have a rated average dust spot efficiency of not less than 60 percent when tested in accordance with ASHRAE 52-1-1992 atmospheric dust spot method.

## **Factory-Mounted Direct Digital Control (DDC)**

Factory-mounted DDC systems shall be engineered mounted, wired and tested by the air handling unit manufacturer to reduce installed costs, save time, and improve reliability. Each control system shall be fully functional in a standalone mode or can be tied to a building automation system with a simple pair of wires.

### **Direct Digital Controller**

A dedicated programmable direct digital controller with the appropriate point capabilities shall be unit mounted on each air-handling unit. A screen and keypad shall be provided to facilitate local monitoring, trouble shooting and changing of set points.

### **Factory-Mounted Control Options**

- a) Mixing Box Damper Actuators  
Actuators shall be mounted with

the outside air damper linked normally closed and the return air damper linked normally open.

- b) Face/bypass Damper Actuators  
Actuators shall be linked as indicated on the order and control drawings.
- c) Inlet Guide Vane Actuators  
Actuators shall be mounted with the IGVs linked normally closed.
- d) Averaging Temperature Sensors  
Averaging (Thermistor type) sensor shall be serpentine with capillary clips across the unit as engineered by the air handling unit manufacturer.
- e) Low-Limit Switches  
A manual reset low limit switch shall be installed as an option.
- f) Airflow Switches  
A differential pressure switch piped to both sides of the filter shall indicate filter status.
- g) Dirty Filter Switches  
A differential pressure switch piped to both sides of the filter shall indicate filter status.
- h) Dirty Filter Switches  
A differential pressure switch pipe to the discharge and suction sides of the fan shall indicate fan status.
- i) Customer Interface Relays  
5 amp DPDT relays shall be provided as required for each binary output of the controller for customer interface to; supply, return and exhaust fan motor starters; relief dampers; pumps; condensing units; etc.
- j) Electronic end devices



# Mechanical Specifications

---

## Field-Mounted Control Options

### Control Valves

Control valves can be provided by the air handling unit manufacturer and field piped by the piping contractor. Power and signal wiring shall be by a simple quick connect.

## Space Temperature Sensors

Thermister type sensors shall be provided as required for field wiring.

## Outside Air Sensors

Thermister type sensors shall be provided as required for field wiring. All factory-mounted controls shall be covered by the air handling manufacturer's standard warranty.

*The manufacturer has a policy of continuous product improvement, and reserves the right to alter any details of the products at any time without notice.*



**TRANE**<sup>®</sup>

Trane  
[www.trane.com](http://www.trane.com)

*For more information, contact your local district office*

---

Literature Order Number IND-PRC002-E4(March 2009)

---

File Number

---

Supersedes IND-PRC002-E4(July 2007)

---

Stocking Location MALAYSIA

---

Since The Trane Company has a policy of continuous product improvement, it reserves the right to change design and specifications without notice.