



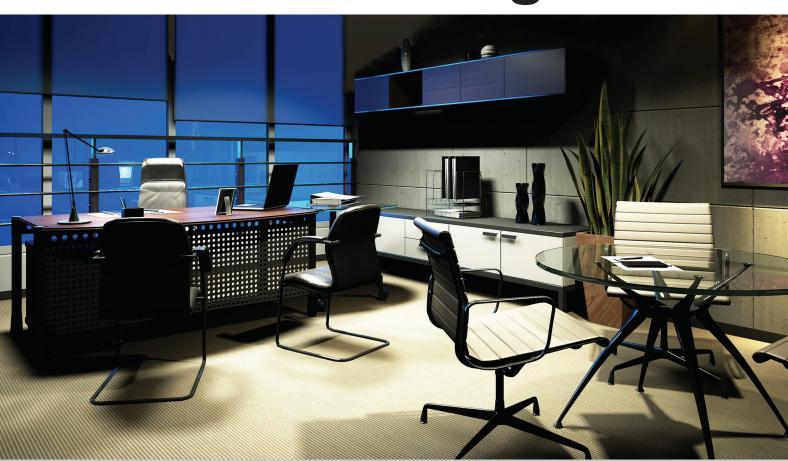
Wall mounted

Ceiling cassette

Ceiling exposed

Ducted

# Chilled Water Fan Coil Unit Product Catalogue



# **CONTENTS**

## **Wall Mounted**



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## **Ceiling Cassette**







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## **Ducted Blower**





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# **PRODUCTS OVERVIEW**

| Cooling Ca                              | pacity (kW)  | 0        | 5                 | 10                     | 15      | 20     | 25 | 30             | 35 | 40 | 45 |
|---|--|----------|-------------------|------------------------|---------|--------|----|----------------|----|----|----|
| FWW-L                                   | Flatin Total   |          | VW<br>/5/6 L      |                        |         |        |    |                |    |    |    |
| FWF-C                                   |  | FW 2/4/5 |                   |                        |         |        |    |                |    |    |    |
| FWK-E/<br>FWK-EH/<br>FWKE-E/<br>FWKE-EH |  |          |                   | VK<br>/11/13 E         |         |        |    |                |    |    |    |
| FWE-E                                   | THE STATE OF THE S |          | FW<br>8/10/1      |                        |         |        |    |                |    |    |    |
| Air Flow (C                             | FM x 100)  | 0        | 5                 | 10                     | 15      | 20     | 25 | 30             | 35 | 40 | 45 |
| FWC-C                                   |  |          |                   | /4/6/7/9/1<br> 4/16 C  | 1/      |        |    |                |    |    |    |
| FWC-FD                                  |  | FWC      | 2/3/4/5/6/8<br>FD | 3/10                   |         |        |    |                |    |    |    |
| FWC-G                                   |  |          |                   | /3/4/6/8/<br>6/18/20   |         |        |    |                |    |    |    |
| FWC-G<br>(EC)                           |  | 2/       | 3/4/6/8/          | FWC<br>10/12/1<br>(EC) | 4/16/18 | 3/20 G |    |                |    |    |    |
| FUD-B/<br>FUD-F                         |  |          |                   |                        |         |        |    | 20/25<br>UD 20 |    | В  |    |







Wireless controller BRC52A



Wired controller BRC51A (optional)

- · Comfortable air flow and lower sound level
- Uniform air distribution

- Onliform air distribution
  Stylish flat-panel, easy maintenance
  Quiet mode, turbo mode
  Sleep function in cool and heat modes
  Auto restart with last-state-memory
  Valve or valveless control options
  Self-diagnosis features
  Compact and easy-to-use wireless controller
  NIM-abled
- NIM-abled
- · BAG compatible



#### Comfortable air flow and lower sound level

User given more choice on preferable fan speed, quiet mode or automatic setting. With the introduction of SCR indoor fan motor, a step-less change of fan speed results in smooth airflow and unnoticeable sound level change during fan speed change.



#### Stylish Flat-Panel

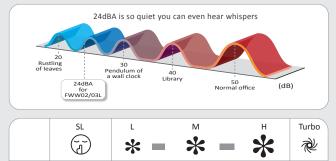
Ideal blend of style and functionality.

- The front panel is designed for contemporary style without compromising on function.
- Air intake area is designed to ensure smooth air flow profile for better sound quality and optimized volume.

#### **Indoor Quiet Mode**

More quiet room environment.

- With up to five selectable fan speeds, users are given more choices. By selecting Quiet mode, the sound pressure level is reduced down to an unobtrusive 24 dBA.
- To quickly cool down the room, Turbo mode can be selected for maximum cooling power and highest airflow.

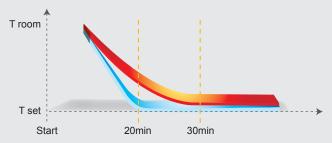


High

#### **Turbo Mode**

Fan Speed

Turbo function is available in Cool and Heat modes only. Once it is activated, the air-conditioner will run on full power with indoor fan running at maximum speed for 20 minutes. This enables the set temperature to be achieved faster. If Turbo and Sleep are activated at the same time, the Sleep mode timer will be reset, it will resume after Turbo function is cleared.



#### Self Diagnosis Features

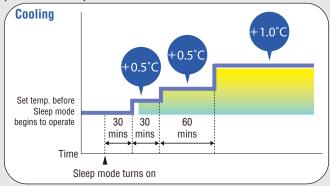
This feature helps to detect any faults or malfunctioning in the system and provide user a warning by blinking of the LED lights.

#### **Easy Maintenance**

Air intake grill is easily detachable to be cleaned with water.

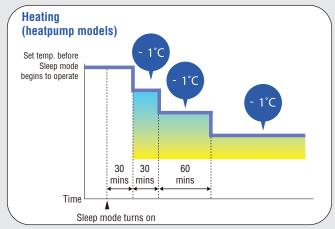
#### Sleep Mode

Pressing the Sleep button activates the Sleep Mode. This function prevents excessive cooling/heating for a pleasant sleep.



Cooling operation:

- 1) After 30 minutes, room temperature is raised by  $0.5\,^{\circ}$  C.
- 2) After 60 minutes, room temperature is raised by 0.5°C.
- 3) After 120 minutes, room temperature is raised by 1°C.

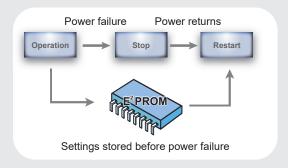


Heating operation:

- 1) After 30 minutes, room temperature is reduced by 1°C.
- 2) After 60 minutes, room temperature is reduced by 1°C.
- 3) After 120 minutes, room temperature is reduced by 1°C.

#### **Auto Restart with Last-State-Memory**

In the event of a sudden power failure during operation, unit restarts automatically in 64 different recovery timing patterns (within 180 seconds to 244 seconds) and the unit will operate based on the previous setting (operating mode, temperature setting and fan speed).



#### **Uniform Air Distribution**

Automated air swing ensures conditioned air distributed evenly.

## Compact and Easy-to-use Wireless Controller Wireless controller BRC52A comes as standard.

## Wall Mounted (50Hz)

#### Specification for wall mounted

| Ind                            | oor model name  |                          |                | FWW02L                       | FWW03L                   | FWW04L                  | FWW05L                | FWW06L               |  |  |  |  |  |
|--------------------------------|---|--------------------------|----------------|------------------------------|--------------------------|-------------------------|-----------------------|----------------------|--|--|--|--|--|
| Nom                            | ninal cooling capacity  |                          | Btu/hr         | 8300                         | 9200                     | 11300                   | 15500                 | 18000                |  |  |  |  |  |
|                                |   |                          | W              | 2430                         | 2700                     | 3310                    | 4540                  | 5280                 |  |  |  |  |  |
| Nom                            | ninal sensible cooling capacit  | ty                       | Btu/hr         | 6300                         | 6900                     | 9000                    | 11700                 | 14000                |  |  |  |  |  |
|                                |   |                          | W              | 1850                         | 2020                     | 2640                    | 3430                  | 4100                 |  |  |  |  |  |
|                                |   |                          | Btu/hr         | 11000                        | 12000<br>3520            | 15000                   | 20500                 | 25000                |  |  |  |  |  |
| ente                           | ering water temperature: 50°  | °C)                      | W              | 3220                         |                          | 4400                    | 6010                  | 7330                 |  |  |  |  |  |
| Nom                            | ninal total input power   |                          | W              | 31                           | 32                       | 42                      | 53                    | 72                   |  |  |  |  |  |
| Nom                            | ninal running current   |                          | А              | 0.19                         | 0.29                     | 0.34                    |                       |                      |  |  |  |  |  |
| ow                             | er source   |                          | V/Ph/Hz        |                              |                          | 220-240 / 1 / 50        |                       |                      |  |  |  |  |  |
|                                | Control   | Air discharge            |                | Automatic louver (up & down) |                          |                         |                       |                      |  |  |  |  |  |
|                                |   | Operation                |                |                              | LCD wire                 | less micro-computer rem | ote control           |                      |  |  |  |  |  |
|                                | Airflow (H/M/L/Q)   |                          | CFM            | 260 / 230 / 200 / 180        | 280 / 250 / 220 / 190    | 370 / 320 / 260 / 240   | 510 / 450 / 390 / 360 | 620 / 520 / 460 / 44 |  |  |  |  |  |
|                                | Nominal water flow rate   |                          | USGPM          | 1.85                         | 2.03                     | 2.51                    | 3.43                  | 4.01                 |  |  |  |  |  |
|                                |   |                          | liters/min     | 7.00                         | 7.68                     | 9.50                    | 13.00                 | 15.18                |  |  |  |  |  |
|                                | Airflow (H/M/L/Q) Nominal water flow rate  Head loss (Cooling) Head loss (Heating): 50°C Max. working pressure Surface air velocity Sound pressure level (H/M/L Unit dimension (HxWxD) Packing dimension (HxWxD) Unit weight Condensate drain size Pipe connection Fan  |                          | kPa            | 34                           | 24                       | 31                      | 30                    | 36                   |  |  |  |  |  |
|                                | Head loss (Heating): 50°C   | 2                        | kPa            | 29                           | 20                       | 25                      | 27                    | 33                   |  |  |  |  |  |
|                                | minal heating capacity Itering water temperature: 50°C)  minal total input power  minal running current  wer source  Control  Airflow (H/M/L/Q)  Nominal water flow rate  Head loss (Cooling)  Head loss (Heating): 50°C  Max. working pressure  Surface air velocity  Sound pressure level (H/M/L  Unit dimension (HxWxD)  Packing dimension (HxWxD)  Unit weight  Condensate drain size  Pipe connection  Fan |                          | kPa            |                              |                          | 1608                    |                       |                      |  |  |  |  |  |
|                                | Surface air velocity  | e air velocity           |                | 0.68                         | 0.74                     | 0.97                    | 0.83                  | 1.01                 |  |  |  |  |  |
|                                | Sound pressure level (H/M/L/Q)  |                          | dBA            | 34 / 29 / 25 / 24            | 35 / 30 / 25 / 24        | 42 / 39 / 32 / 29       | 42 / 38 / 34 / 32     | 46 / 42 / 39 / 37    |  |  |  |  |  |
|                                | Unit dimension (HxWxD)  | nit dimension (HxWxD)    |                |                              | 288 x 800 x 206          | '                       | 310 x 10              | 65 x 224             |  |  |  |  |  |
|                                | Packing dimension (HxW)   | acking dimension (HxWxD) |                |                              | 344 x 874 x 274          |                         | 386 x 11              | 36 x 314             |  |  |  |  |  |
|                                |   | Unit weight              |                |                              | 9                        |                         | 1                     | 4                    |  |  |  |  |  |
|                                | -   | Condensate drain size    |                |                              |                          | 19.05                   |                       |                      |  |  |  |  |  |
|                                | Pipe connection   | mm                       |                | 12.                          | 70 BSP female thread ada | aptor                   |                       |                      |  |  |  |  |  |
|                                | Fan   | Туре                     |                | Cross flow fan               |                          |                         |                       |                      |  |  |  |  |  |
|                                |   | Drive                    |                | Direct                       |                          |                         |                       |                      |  |  |  |  |  |
| door                           |   | Fan speed (H/M/L)        | RPM            | 1030 / 890 / 760             | 1050 / 910 / 780         | 1310 / 1150 / 955       | 1035 / 920 / 825      | 1250 / 1070 / 970    |  |  |  |  |  |
| =                              | Fan motor   | Type                     |                |                              | ı                        |                         |                       |                      |  |  |  |  |  |
|                                |   | Index of Protection (IP) |                | Single phase SCR IP20 IP44   |                          |                         |                       |                      |  |  |  |  |  |
|                                |   | Insulation grade         |                |                              |                          | E                       |                       |                      |  |  |  |  |  |
|                                |   | Rated input power        | W              | 31 /29 / 25                  | 32 / 31 / 29             | 42 / 37 / 33            | 53 / 47 / 42          | 72 / 68 / 60         |  |  |  |  |  |
| H H H M S S S S U U C C P P F. |   | Rated running current    | A              | 0.19 / 0.18 / 0.17           | 0.20 / 0.20 / 0.19       | 0.21 / 0.20 / 0.19      | 0.29 / 0.26 / 0.25    | 0.34 / 0.32 / 0.31   |  |  |  |  |  |
|                                |   | Starting current         | Α              | 0.40                         | 0.40                     | 0.40                    | 0.30                  | 0.43                 |  |  |  |  |  |
|                                |   | Motor output             | W              | 18                           | 18                       | 18                      | 26                    | 30                   |  |  |  |  |  |
|                                |   | Poles                    |                |                              |                          | 4                       |                       |                      |  |  |  |  |  |
|                                | Coil  | Tube                     | Material       |                              |                          | Copper                  |                       |                      |  |  |  |  |  |
|                                |   |                          | Diameter (mm)  |                              |                          | 7.00                    |                       |                      |  |  |  |  |  |
|                                |   | Fin                      | Material       |                              |                          | Aluminium               |                       |                      |  |  |  |  |  |
|                                |   |                          | Face area (m²) |                              | 0.18                     |                         | 0                     | 29                   |  |  |  |  |  |
|                                |   |                          | Row            |                              | 00                       | 2                       | 0.                    | <del></del>          |  |  |  |  |  |
|                                |   | Water volume             | liter          | 0.52                         | 0.58                     | 0.58                    | 0.95                  | 0.95                 |  |  |  |  |  |
|                                | Air quality   | Filter type              | iitoi          | 0.02                         | 0.00                     | Washable saranet filter | 0.50                  | 0.00                 |  |  |  |  |  |
|                                | 7 iii quality   | Filter quantity          | рс             |                              |                          | 2                       |                       |                      |  |  |  |  |  |
|                                | Casing  | i ittor qualitity        | Colour         |                              |                          | White                   |                       |                      |  |  |  |  |  |

| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |
| Leaving water temperature  | 12°C              | -                    |

 $\label{eq:local_problem} \mbox{All specifications are subjected to change by the manufacturer without prior notice.}$ 



FWF-C





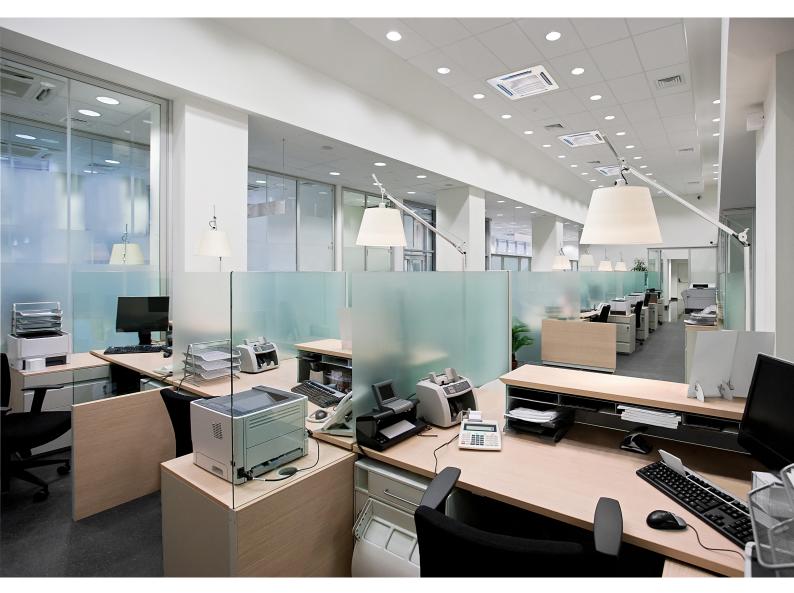


Wired controller BRC51A

- Compact designFresh air intake

- Fresh air Intake
  Stylish and slim panel
  Built-in high head drain pump and water flow switch
  4-way air discharge and air swing
  Sleep function in cool and heat modes
  Branch duct connection
  Auto restart with last-state-memory
  Valve or valveless control options
  Self-diagnosis features

- Self-diagnosis features Choices of wired or wireless controller
- NIM-abled
- BAG compatible



**Compact Design** 

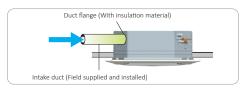
Ceiling Cassette C Series body dimension is only 570 mm x 570 mm which can easily fits into a 600 mm

ceiling grid.



#### Fresh Air Intake

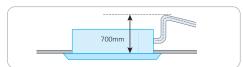
- · Knock out hole is available at the unit.
- Installation and accessories such as booster fan is field supplied and installed.
- Fresh air intake is within 20% of the total air flow.



Stylish & Slim Panel

The slim panel can be blended easily into decoration and interior design.

**Built In High Head Drain Pump & Water Flow Switch** The unit comes with a 700 mm built-in high head drain pump. A safety float is incorporated in the drain pump to monitor its water level.



4-Way Air Discharge and Air Swing

It comes with 4-way air discharge and air swing function to ensure better air distribution and circulation in the room.

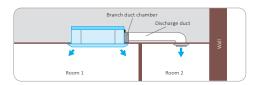


Self Diagnosis Features

This feature helps to detect any faults or malfunctioning in the system and provide user a warning by blinking of the LED lights.

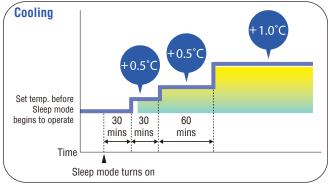
#### **Branch Duct Connection**

Improves air flow distribution when there is an obstruction. It allows for air conditioning of two rooms simultaneously.



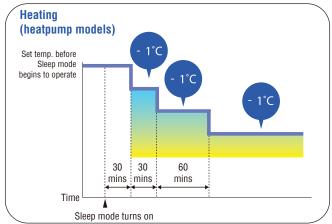
#### Sleep Mode

Pressing the Sleep button activates the Sleep Mode. This function prevents excessive cooling/heating for a pleasant sleep.



Cooling operation:

- 1) After 30 minutes, room temperature is raised by 0.5°C.
- 2) After 60 minutes, room temperature is raised by 0.5°C.
- 3) After 120 minutes, room temperature is raised by 1°C.

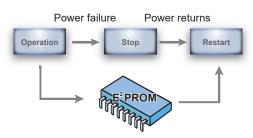


Heating operation:

- 1) After 30 minutes, room temperature is reduced by 1°C.
- 2) After 60 minutes, room temperature is reduced by 1°C.
- 3) After 120 minutes, room temperature is reduced by 1°C.

#### **Auto Restart with Last-State-Memory**

In the event of a sudden power failure during operation, unit restarts automatically in 64 different recovery timing patterns (within 180 seconds to 244 seconds) and the unit will operate based on the previous setting (operating mode, temperature setting and fan speed).



Settings stored before power failure

#### **Valve or Valveless Control Options**

The design is flexible enough to allow for either valve or valveless control installation.

Choices of Wired or Wireless Controller
Choices of wired BRC51A or wireless BRC52A.

#### Ceiling Cassette Compact 2x2 (50Hz)

## Specification for ceiling cassette compact

| door mode      | el name  |                               |                | FWF02C             | FWF04C                                   | FWF05C             |  |  |  |  |
|----------------|--|-------------------------------|----------------|--------------------|--|--------------------|--|--|--|--|
| minal cooling  | g capacity   |                               | Btu/hr         | 8500               | 14000                                    | 15500              |  |  |  |  |
|                |  |                               | W              | 2490               | 4100                                     | 4540               |  |  |  |  |
| minal sensib   | le cooling capacity  |                               | Btu/hr         | 6500               | 10000                                    | 11500              |  |  |  |  |
|                |  |                               | W              | 1910               | 2930                                     | 3370               |  |  |  |  |
| minal heating  | Air discharge Operation  flow (H/M/L) minal water flow rate  ad loss (Cooling) ad loss (Heating): 50°C ix. working pressure rface air velocity und pressure level (H/M/L) it dimension (Unit dimension with panel) (HxWxD) cking dimension (Panel dimension) (HxWxD) it weight + panel weight indensate drain size be connection in  Type  Drive  Fan speed (H/M/L) In motor  Type  Index of Protection (IP) Insulation grade Rated input power (H/M/L) Starting current | Btu/hr                        | 12000          | 16000              | 18000                                    |                    |  |  |  |  |
| tering water   | temperature: 50°C)   |                               | W              | 3520               | 4690                                     | 5280               |  |  |  |  |
| minal total in | put power  |                               | W              | 63                 | 64                                       | 79                 |  |  |  |  |
| minal running  | g current  |                               | A              | 0.28               | 0.28                                     | 0.35               |  |  |  |  |
| ver source     |  |                               | V/Ph/Hz        |                    | 220-240 / 1 / 50                         |                    |  |  |  |  |
| Control        |  | Air discharge                 |                |                    | 4-way automatic louver (up & down)       |                    |  |  |  |  |
|                |  | Operation                     |                | L                  | CD wireless micro-computer remote contro | ol                 |  |  |  |  |
| Airflow (      | H/M/L)   |                               | CFM            | 380 / 290 / 230    | 400 / 310 / 220                          | 440 / 330 / 280    |  |  |  |  |
| Nominal        | water flow rate  |                               | USGPM          | 2.03               | 3.43                                     | 3.57               |  |  |  |  |
|                |  |                               | liters/min     | 7.68               | 12.98                                    | 13.51              |  |  |  |  |
| Head los       | s (Cooling)  |                               | kPa            | 19.3               | 26.9                                     | 28.8               |  |  |  |  |
| Head los       | Control  Airflow (H/M/L)  Nominal water flow rate  Head loss (Cooling)  Head loss (Heating): 50°C  Max. working pressure  Surface air velocity  Sound pressure level (H/M/L)  Unit dimension (Unit dimension  Packing dimension (Panel dime  Unit weight + panel weight  Condensate drain size  Pipe connection  |                               | kPa            | 16.8               | 23.9                                     | 26.5               |  |  |  |  |
| Max. wor       |  |                               | kPa            |                    | 1608                                     |                    |  |  |  |  |
| Surface a      | air velocity   |                               | m/s            | 0.74               | 0.76                                     | 0.84               |  |  |  |  |
| Sound pr       | ressure level (H/M/L   | )                             | dBA            | 42 / 35 / 29       | 42 / 35 / 29 45 / 38 / 30                |                    |  |  |  |  |
| Unit dime      | Unit dimension (Unit dimension with panel) (HxWxD)   |                               | mm             |                    | 250 X 570 X 570 (295 X 640 X 640)        |                    |  |  |  |  |
| Packing        | dimension (Panel di  | mension) (HxWxD)              | mm             |                    | 316 X 630 X 630 (126 X 700 X 726)        |                    |  |  |  |  |
| Unit weig      | Unit weight + panel weight   |                               | kg             | 15 + 3             | 17 +                                     | 3                  |  |  |  |  |
| Condens        | Condensate drain size  |                               | mm             |                    | 19.05                                    |                    |  |  |  |  |
| Pipe con       | nection  |                               | mm             |                    | 19.05 BSP female thread adaptor          |                    |  |  |  |  |
| Fan            | Туре   |                               |                |                    | Turbo fan                                |                    |  |  |  |  |
|                |  | Drive                         |                | Direct             |  |                    |  |  |  |  |
|                |  | Fan speed (H/M/L)             | RPM            | 725 / 565 / 460    | 810 / 630 / 480                          | 900 / 700 / 610    |  |  |  |  |
| Fan moto       | or   | Туре                          |                |                    |  |                    |  |  |  |  |
|                |  | Index of Protection (IP)      |                | IP20               |  |                    |  |  |  |  |
|                |  | Insulation grade              |                | В                  |  |                    |  |  |  |  |
|                |  | Rated input power (H/M/L)     | W              | 63 / 51 / 46       | 64 / 58 / 52                             | 79 / 73 / 69       |  |  |  |  |
|                |  | Rated running current (H/M/L) | A              | 0.28 / 0.23 / 0.21 | 0.28 / 0.25 / 0.24                       | 0.35 / 0.32 / 0.31 |  |  |  |  |
|                |  | Starting current              | A              | 0.32               | 0.3                                      | 0.47               |  |  |  |  |
|                |  | Motor output                  | W              | 17                 | 23                                       | 28                 |  |  |  |  |
|                |  | Poles                         |                |                    | 6  |                    |  |  |  |  |
| Coil           |  | Tube                          | Material       |                    | Copper                                   |                    |  |  |  |  |
|                |  |                               | Diameter (mm)  |                    | 7.00                                     |                    |  |  |  |  |
|                |  | Fin                           | Material       |                    | Aluminium                                |                    |  |  |  |  |
|                |  |                               | Face area (m²) | 0.24               | 0.2                                      | 5                  |  |  |  |  |
|                |  |                               | Row            | 1                  |  |                    |  |  |  |  |
|                |  | Water volume                  | liter          | 0.43 0.83          |  |                    |  |  |  |  |
| Air qualit     | у  | Filter type                   |                |                    | Washable saranet filter                  |                    |  |  |  |  |
|                |  | Filter quantity               | рс             |                    | 1  |                    |  |  |  |  |
| Casing         |  |                               | Colour         |                    | White                                    |                    |  |  |  |  |

| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |
| Leaving water temperature  | 12°C              | -                    |



FWK-E

- Multi comfort 3 air swing pattern control
  Fresh air intake

- Fresh air intake
  Optimum air discharge
  Superior sound level
  Branch duct connection
  Low height design
  Built-in high head drain pump and water flow switch
  Modern and elegant panel
  Low water pressure drop
  Sleep function in cool and heat modes
  Auto restart with last-state-memory
  Valve or valveless control options
  Self-diagnosis features
  Choices of wired or wireless controller
  NIM-abled

- NIM-abled
- 4-pipe system availability\* BAG compatible







Wired controller BRC51A



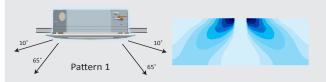
#### Multi Comfort - 3 Air Swing Pattern Control

To increase the comfort level of the air conditioned area of FWK-E series, the system had been built in with three different types of air flow pattern to suit different requirements.

\* The default setting is pattern 1. The air swing pattern can be selected via wireless controller.

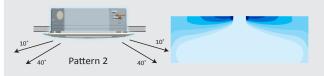
#### Standard Setting

Louver is set to swing at the maximum angle for gentle drafts.



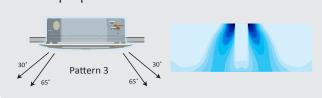
#### **Draft Prevention Setting**

With the aid of Coanda effect, direct draft which may lead to discomfort can be avoided.



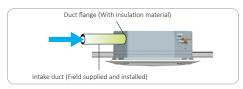
#### Soil Prevention Setting

Even distribution of cooling whilst ensuring ceiling to be kept spotless.



#### Fresh Air Intake

- Knock out hole is available at the unit.
- Installation and accessories such as booster fan is field supplied and installed.
- Fresh air intake is within 20% of the total air flow.



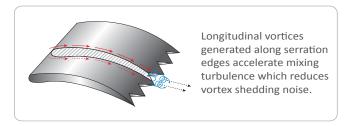
#### **Optimum Air Discharge and Air Swing**

Combining 4-way air discharge and large discharge area on each side, the ceiling cassette promotes uniform air distribution. The additional feature of automatic air swing helps to distribute the conditioned air evenly to every corners of the room.



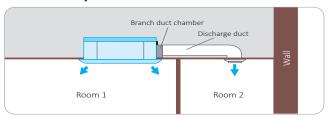
#### **Superior Sound Level**

The ceiling cassette series is able to achieve exceptional low noise by adaption of Daikin's turbo fan technology. With 4 selectable fan speeds, users are given more choices. In Quiet mode, the sound pressure level can be as low as 23dBA.



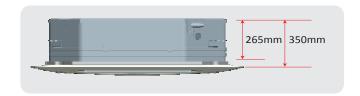
#### **Branch Duct Connection**

Improves air flow distribution when there is an obstruction. It allows for air conditioning of two rooms simultaneously.



#### Low Height Design

Unit height as low as 265mm for installation convenience.



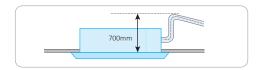
#### **Modern & Elegant Panel**

It is designed with unique "round" side contour and new LED light location. The rotatable intake grill promotes uniform installation as well.



#### **Built In High Head Drain Pump & Water Flow Switch**

The unit comes with a 700 mm built-in high head drain pump. A safety float is incorporated in the drain pump to monitor its water level.



#### **Low Water Pressure Drop**

Also commonly known as low head loss actually helps to increase the system efficiency.

#### **Self Diagnosis Features**

This feature helps to detect any faults or malfunctioning in the system and provide user a warning by blinking of the LED lights.

#### **Valve or Valveless Control Options**

The design is flexible enough to allow for either valve or valveless control installation.

#### NIM-Able

Able to communicate with the versatile NIM networking control module and offers the opportunity of one centralized control for a system of multiple indoor units in a building.

#### **Choices of Wired or Wireless Controller**

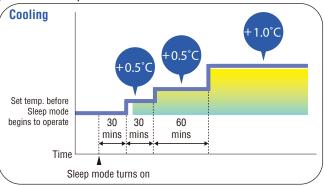
Choices of wired BRC51A or wireless BRC52A.

#### **Auto Restart with Last-State-Memory**

In the event of a sudden power failure during operation, unit restarts automatically in 64 different recovery timing patterns (within 180 seconds to 244 seconds) and the unit will operate based on the previous setting (operating mode, temperature setting and fan speed).

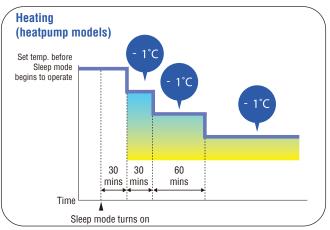
#### Sleep Mode

Pressing the Sleep button activates the Sleep Mode. This function prevents excessive cooling/heating for a pleasant sleep.



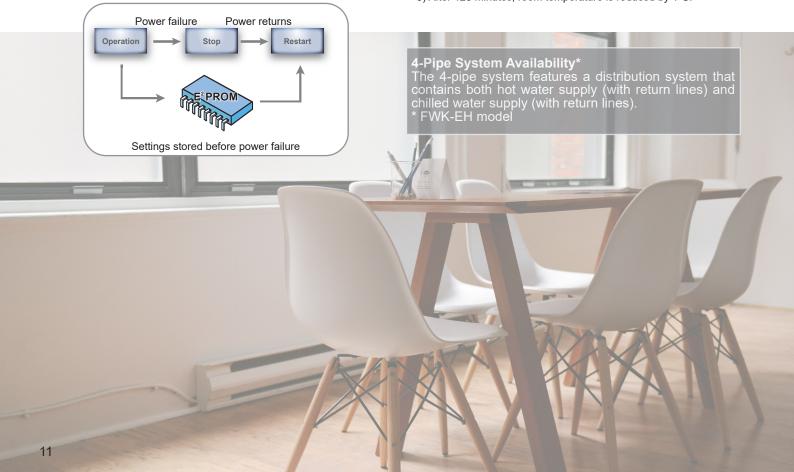
#### Cooling operation:

- 1) After 30 minutes, room temperature is raised by 0.5°C.
- 2) After 60 minutes, room temperature is raised by 0.5°C.
- 3) After 120 minutes, room temperature is raised by 1°C.



#### Heating operation:

- 1) After 30 minutes, room temperature is reduced by 1  $^{\circ}\text{C}.$
- 2) After 60 minutes, room temperature is reduced by 1°C.
- 3) After 120 minutes, room temperature is reduced by 1°C.



#### Ceiling Cassette 3x3 (50Hz

## Specification for ceiling cassette (2-pipe system)

| ndo     | oor model name   |                               |                | FWK06E                                     | FWK08E                   | FWK09E                  | FWK11E                 | FWK13E                 |  |  |  |  |  |
|---------|--|-------------------------------|----------------|--|--------------------------|-------------------------|------------------------|------------------------|--|--|--|--|--|
| lom     | inal cooling capacity  |                               | Btu/hr         | 21000                                      | 25000                    | 30000                   | 38000                  | 43000                  |  |  |  |  |  |
|         |  |                               | W              | 6150                                       | 7330                     | 8790                    | 11140                  | 12600                  |  |  |  |  |  |
| lom     | inal sensible cooling capacity   |                               | Btu/hr         | 16700                                      | 19200                    | 22300                   | 27400                  | 31000                  |  |  |  |  |  |
|         |  |                               | W              | 4890                                       | 5630                     | 6540                    | 8030                   | 9090                   |  |  |  |  |  |
| lom     | inal heating capacity  |                               | Btu/hr         | 28000                                      | 33600                    | 38300                   | 45500                  | 52000                  |  |  |  |  |  |
| ente    | ering water temperature: 50°C)   |                               | W              | 8210                                       | 9850                     | 11230                   | 13340                  | 15240                  |  |  |  |  |  |
| lom     | inal total input power   |                               | W              | 95   | 126                      | 167                     | 186                    | 227                    |  |  |  |  |  |
| om      | inal running current   |                               | А              | 0.44                                       | 0.55                     | 0.74                    | 0.85                   | 1.03                   |  |  |  |  |  |
| OW      | er source  |                               | V/Ph/Hz        | 220-240 / 1 / 50                           |                          |                         |                        |                        |  |  |  |  |  |
|         | Control  | Air discharge                 |                |  | 4-way                    | automatic louver (up &  | down)                  |                        |  |  |  |  |  |
|         |  | Operation                     |                |  | LCD wire                 | ess micro-computer rem  | ote control            |                        |  |  |  |  |  |
|         | Airflow (H/M/L/Q)  |                               | CFM            | 750 / 620 / 480 / 320                      | 860 / 700 / 540 / 380    | 890 / 720 / 570 / 420   | 1000 / 840 / 680 / 540 | 1140 / 1000 / 840 / 70 |  |  |  |  |  |
|         | Nominal water flow rate  |                               | USGPM          | 4.71                                       | 5.59                     | 6.69                    | 8.45                   | 9.60                   |  |  |  |  |  |
|         | source Control  Airflow (H/M/L/Q) Nominal water flow rate Head loss (Cooling) Head loss (Heating): 50°C Max. working pressure Surface air velocity Sound pressure level (H/M/L/ Unit dimension (Unit dimension Packing dimension (Panel din Unit weight + panel weight Condensate drain size Pipe connection Fan |                               | liters/min     | 17.83                                      | 21.17                    | 25.29                   | 31.94                  | 36.29                  |  |  |  |  |  |
|         |  |                               | kPa            | 20   | 37                       | 22                      | 44                     | 53                     |  |  |  |  |  |
|         |  |                               | kPa            | 19   | 33                       | 19                      | 38                     | 47                     |  |  |  |  |  |
|         |  |                               | kPa            |  |                          | 1608                    |                        |                        |  |  |  |  |  |
|         |  |                               | m/s            | 0.92                                       | 1.05                     | 1.13                    | 1.02                   | 1.17                   |  |  |  |  |  |
|         |  | /Q)                           | dBA            | 42 / 38 / 32 / 23                          | 46 / 42 / 35 / 27        | 48 / 43 / 38 / 30       | 52 / 49 / 45 / 39      |                        |  |  |  |  |  |
|         | , , ,  | ·                             | mm             | 265 >                                      | ( 820 X 820 (340 X 990 ) | ( 990)                  | 300 X 820 X 820        | (375 X 990 X 990)      |  |  |  |  |  |
|         | · · · · · · · · · · · · · · · · · · ·  |                               | mm             |  | 916 X 916 (125 X 1020 )  |                         |                        | 125 X 1020 X 1020)     |  |  |  |  |  |
|         |  | monoral (Fixerize)            | kg             |  | +4                       | 28 + 4                  |                        | +4                     |  |  |  |  |  |
|         |  |                               | mm             |  |                          | 19.05                   | -                      |                        |  |  |  |  |  |
|         |  |                               | mm             |  | 19.0                     | 5 BSP female thread ada | aptor                  |                        |  |  |  |  |  |
|         |  | Туре                          |                |  |                          | Turbo fan               |                        |                        |  |  |  |  |  |
|         |  | Drive                         |                | Direct                                     |                          |                         |                        |                        |  |  |  |  |  |
| IOOD II |  | Fan speed (H/M/L)             | RPM            | 530 / 450 / 360                            | 600 / 500 / 400          | 660 / 550 / 450         | 710 / 610 / 510        | 800 / 710 / 610        |  |  |  |  |  |
| É       | Fan motor  | Type                          | 10 10          | 0007 1007 000                              |                          | 00077107010             |                        |                        |  |  |  |  |  |
|         |  | Index of Protection (IP)      |                | Permanent split capacitor (Induction) IP20 |                          |                         |                        |                        |  |  |  |  |  |
|         |  | Insulation grade              |                | IF20<br>В                                  |                          |                         |                        |                        |  |  |  |  |  |
|         |  | Rated input power (H/M/L)     | W              | 95 / 79 / 67                               | 126 / 103 / 89           | 167 / 109 / 86          | 186 / 151 / 118        | 227 / 176 / 144        |  |  |  |  |  |
|         |  | Rated running current (H/M/L) | A              | 0.44 / 0.40 / 0.36                         | 0.55 / 0.45 / 0.39       | 0.74 / 0.49 / 0.39      | 0.85 / 0.71 / 0.57     | 1.03 / 0.82 / 0.69     |  |  |  |  |  |
|         |  | Starting current              | A              | 0.44                                       | 0.71                     | 0.89                    | 1.02                   | 1.28                   |  |  |  |  |  |
|         |  | Motor output                  | W              | 30   | 45                       | 65                      | 80                     | 110                    |  |  |  |  |  |
|         |  | Poles                         | .,             | - 00                                       | 8                        | 00                      |                        | 6                      |  |  |  |  |  |
|         | Coil   | Tube                          | Material       |  | <u> </u>                 | Copper                  |                        | -                      |  |  |  |  |  |
|         | "  |                               | Diameter (mm)  |  |                          | 7.00                    |                        |                        |  |  |  |  |  |
|         |  | Fin                           | Material       |  |                          | Aluminium               |                        |                        |  |  |  |  |  |
|         |  |                               | Face area (m²) | 0  | 39                       | 0.37                    | 0                      | 46                     |  |  |  |  |  |
|         |  |                               | Row            |  | 2                        |                         | 3                      | -                      |  |  |  |  |  |
|         |  | Water volume                  | liter          | 1.36                                       | 1.34                     | 1.97                    |                        | 35                     |  |  |  |  |  |
|         | Air quality  | Filter type                   |                |  |                          | Washable saranet filter |                        |                        |  |  |  |  |  |
|         | 400)   | Filter quantity               | рс             |  |                          | 1                       |                        |                        |  |  |  |  |  |
|         | Casing   | quantity                      | Colour         |  |                          | White                   |                        |                        |  |  |  |  |  |

| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |
| Leaving water temperature  | 12°C              | -                    |

 $\label{eq:local_problem} \mbox{All specifications are subjected to change by the manufacturer without prior notice.}$ 

#### Ceiling Cassette 3x3 (50Hz)

## Specification for ceiling cassette (4-pipe system)

| oor model name   |                                       |                | FWK06EH               | FWK08EH                  | FWK09EH                               | FWK11EH                | FWK13EH               |  |  |  |  |  |  |  |
|--|---------------------------------------|----------------|-----------------------|--------------------------|---------------------------------------|------------------------|-----------------------|--|--|--|--|--|--|--|
| ninal cooling capacity   |                                       | Btu/hr         | 16400                 | 18500                    | 24600                                 | 29600                  | 31300                 |  |  |  |  |  |  |  |
|  |                                       | W              | 4800                  | 5430                     | 7210                                  | 8670                   | 9160                  |  |  |  |  |  |  |  |
| ninal sensible cooling cap   | pacity                                | Btu/hr         | 14487                 | 16108                    | 19922                                 | 23991                  | 25790                 |  |  |  |  |  |  |  |
|  |                                       | W              | 4250                  | 4720                     | 5840                                  | 7030                   | 7560                  |  |  |  |  |  |  |  |
| ninal heating capacity   |                                       | Btu/hr         | 30300                 | 33400                    | 40500                                 | 51100                  | 54900                 |  |  |  |  |  |  |  |
| ering water temperature:   | 70°C)                                 | W              | 8870                  | 9800                     | 11880                                 | 14990                  | 16100                 |  |  |  |  |  |  |  |
| ninal total input power  |                                       | W              | 95                    | 126                      | 167                                   | 186                    | 227                   |  |  |  |  |  |  |  |
| ninal running current  |                                       | Α              | 0.44                  | 0.55                     | 0.74                                  | 0.85                   | 1.03                  |  |  |  |  |  |  |  |
| rer source   |                                       | V/Ph/Hz        |                       | 220-240 / 1 / 50         |                                       |                        |                       |  |  |  |  |  |  |  |
| Control  | Air discharge                         |                |                       | 4-wa                     | automatic louver (up &                | down)                  |                       |  |  |  |  |  |  |  |
|  | Operation                             |                |                       |                          | ess micro-computer rem                | •                      |                       |  |  |  |  |  |  |  |
| Airflow (H/M/L/Q)  |                                       | CFM            | 750 / 620 / 480 / 320 | 860 / 700 / 540 / 380    | 890 / 720 / 570 / 420                 | 1000 / 840 / 680 / 540 | 1140 / 1000 / 840 / 7 |  |  |  |  |  |  |  |
|  | te (Cooling)                          | USGPM          | 3.65                  | 4.14                     | 5.46                                  | 6.56                   | 6.96                  |  |  |  |  |  |  |  |
| Tronina trator non ra  | (000m.g)                              | liters/min     | 13.83                 | 15.67                    | 20.67                                 | 24.83                  | 26.33                 |  |  |  |  |  |  |  |
| Nominal water flow rate  | te (Heating)                          | USGPM          | 3.35                  | 3.70                     | 4.49                                  | 5.68                   | 6.12                  |  |  |  |  |  |  |  |
|  | ·· ( ·············)                   | liters/min     | 12.67                 | 14.00                    | 17.00                                 | 21.50                  | 23.17                 |  |  |  |  |  |  |  |
| ering water temperature: 70°C) inal total input power inal running current |                                       | kPa            | 25                    | 31                       | 27                                    | 31                     | 35                    |  |  |  |  |  |  |  |
|  | 70°C:                                 | kPa            | 30                    | 37                       | 38                                    | 45                     | 51                    |  |  |  |  |  |  |  |
|  |                                       | kPa            | - 00                  | O1                       | 1608                                  | 40                     | 01                    |  |  |  |  |  |  |  |
|  | -                                     | m/s            | 0.92                  | 1.05                     | 1.13                                  | 1.02                   | 1.17                  |  |  |  |  |  |  |  |
| ,  | · · · · · · · · · · · · · · · · · · · |                | 42 / 38 / 32 / 23     | 46 / 42 / 35 / 27        | 48 / 43 / 38 / 30                     | 50 / 47 / 43 / 33      | 52 / 49 / 45 / 39     |  |  |  |  |  |  |  |
| ·  |                                       | dBA<br>mm      |                       |                          |                                       |                        |                       |  |  |  |  |  |  |  |
| ,  | 1 / 1                                 |                |                       | X 820 X 820 (340 X 990 ) | · · · · · · · · · · · · · · · · · · · |                        | (375 X 990 X 990)     |  |  |  |  |  |  |  |
|  |                                       | mm             |                       | 916 X 916 (125 X 1020 )  |                                       |                        | 125 X 1020 X 1020)    |  |  |  |  |  |  |  |
|  | -                                     | kg             | 26                    | + 4                      | 28 + 4                                | 32                     | + 4                   |  |  |  |  |  |  |  |
|  | 9                                     | mm             |                       |                          | 19.05                                 |                        |                       |  |  |  |  |  |  |  |
|  |                                       | mm             |                       | 19.0                     | 5 BSP female thread add               | aptor                  |                       |  |  |  |  |  |  |  |
| Fan  | Туре                                  |                | Turbo fan             |                          |                                       |                        |                       |  |  |  |  |  |  |  |
|  | Drive                                 |                |                       |                          | Direct                                |                        |                       |  |  |  |  |  |  |  |
|  | Fan speed (H/M/L)                     | RPM            | 530 / 450 / 360       | 600 / 500 / 400          | 660 / 550 / 450                       | 710 / 610 / 510        | 800 / 710 / 610       |  |  |  |  |  |  |  |
| Fan motor  | Туре                                  |                |                       | Perm                     | anent split capacitor (Indi           |                        |                       |  |  |  |  |  |  |  |
|  | Index of Protection (IP)              |                | IP20                  |                          |                                       |                        |                       |  |  |  |  |  |  |  |
|  | Insulation grade                      |                |                       |                          | В                                     |                        |                       |  |  |  |  |  |  |  |
|  | Rated input power (H/M/L)             | W              | 95 / 79 / 67          | 126 / 103 / 89           | 167 / 109 / 86                        | 186 / 151 / 118        | 227 / 176 / 144       |  |  |  |  |  |  |  |
|  | Rated running current (H/M/L)         | Α              | 0.44 / 0.40 / 0.36    | 0.55 / 0.45 / 0.39       | 0.74 / 0.49 / 0.39                    | 0.85 / 0.71 / 0.57     | 1.03 / 0.82 / 0.69    |  |  |  |  |  |  |  |
|  | Starting current                      | Α              | 0.44                  | 0.71                     | 0.89                                  | 1.02                   | 1.28                  |  |  |  |  |  |  |  |
|  | Motor output                          | W              | 30                    | 45                       | 65                                    | 80                     | 110                   |  |  |  |  |  |  |  |
|  | Poles                                 |                |                       | 8                        |                                       |                        | 6                     |  |  |  |  |  |  |  |
| Coil   | Tube                                  | Material       |                       |                          | Copper                                |                        |                       |  |  |  |  |  |  |  |
|  |                                       | Diameter (mm)  |                       |                          | 7.00                                  |                        |                       |  |  |  |  |  |  |  |
|  | Fin                                   | Material       |                       |                          | Aluminium                             |                        |                       |  |  |  |  |  |  |  |
|  |                                       | Face area (m²) | 0.                    | .39                      | 0.37                                  | 0.                     | 46                    |  |  |  |  |  |  |  |
|  |                                       | Row            |                       | 2                        |                                       | 3                      |                       |  |  |  |  |  |  |  |
|  | Water volume                          | liter          | 1.                    | .36                      | 1.97                                  | 2.                     | 35                    |  |  |  |  |  |  |  |
| Air quality  | Filter type                           |                |                       |                          | Washable saranet filter               |                        |                       |  |  |  |  |  |  |  |
|  | Filter quantity                       | рс             |                       |                          | 1                                     |                        |                       |  |  |  |  |  |  |  |
|  | · · · · · · · · · · · · · · · · · · · | Colour         |                       |                          | White                                 |                        |                       |  |  |  |  |  |  |  |

| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 70°C (4-pipe system) |
| Leaving water temperature  | 12°C              | 60°C (4-pipe system) |

 $\label{eq:local_problem} \mbox{All specifications are subjected to change by the manufacturer without prior notice.}$ 



#### FWKE-E

- Comfortable, low noise and energy saving
  Multi comfort 3 air swing pattern control
  Modulating fan speed control
  Fresh air intake
  Optimum air discharge
  Superior sound level
  Branch duct connection
  Low height design
  Built-in high head drain pump and water flow switch
  Low water pressure drop
  Sleep function in cool and heat modes
  Auto restart with last-state-memory
  Self-diagnosis features
  Choices of wired or wireless controller

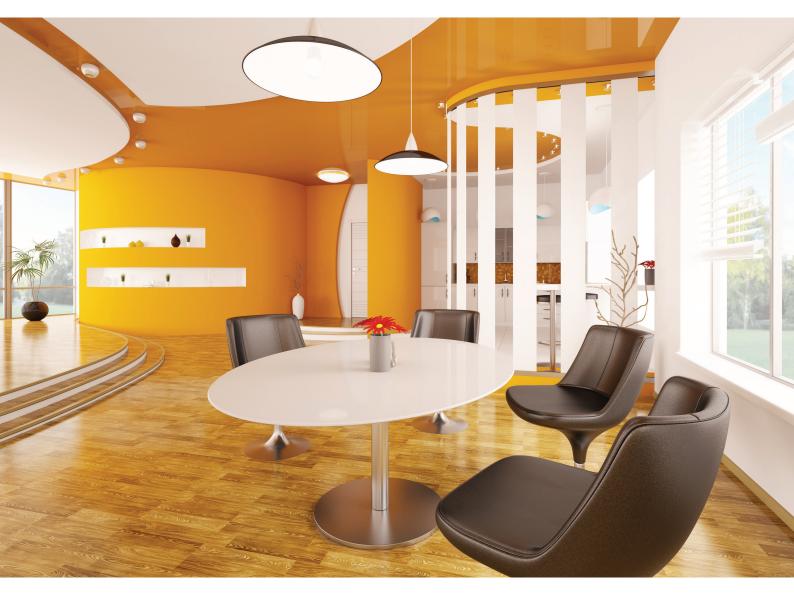
- Choices of wired or wireless controller 4-pipe system availability\* BAG compatible







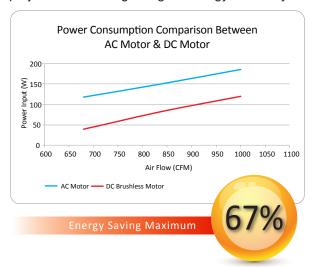
Wired controller BRC51A



**Energy Saving** 

Comparing to the traditional AC motor, DC motor offers the advantages of lower power input, higher efficiency and more energy savings.

- and more energy savings.
  Brushless DC motor has less internal resistance and better heat dissipation in the stator coils. As a result, it has higher operating efficiencies since more heat can be dissipated via the stationary motor housing.
- This line up is an excellent option for green building projects contributing to higher energy efficiency.



#### Choices of Wired or Wireless Controller Choices of wired BRC51A or wireless BRC52A.

#### **Recommended Applications**

Ceiling cassette type fan coil with Brushless DC motor provides a green and pleasant environment.

#### **Low Noise**

The brushless DC motor does not have a carbon brush/mechanical commutator. Therefore, it has minimum shaft friction that contributes to a lower sound level (as low as 16dBA). Other than that, the low RPM also produces low sound level.



Low Maintenance & No Brush Sparks

Without a carbon brush/mechanical commutator, the motor is low in maintenance and does not spark.

4-Pipe System Availability\*

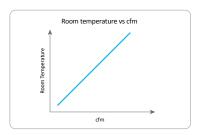
The 4-pipe system features a distribution system that contains both hot water supply (with return lines) and chilled water supply (with return lines).

\* FWKE-EH model

#### **Modulating Fan Speed Control**

The fan speed modulates steplessly based on room temperature to reduce the difference between room temperature and set temperature, providing maximum comfort and reduction in energy consumption.

\* Available in auto fan mode





#### Specification for ceiling cassette (2-pipe system)

| door mod     | ioi ilallie                    |                   |                                   |                                     | E05E   |       |          |               | E08E           |            |                                   |             | E11E         |       |  |
|--------------|--------------------------------|-------------------|-----------------------------------|-------------------------------------|--------|-------|----------|---------------|----------------|------------|-----------------------------------|-------------|--------------|-------|--|
|              |                                |                   | Quiet                             | Low                                 | Medium | High  | Quiet    | Low           | Medium         | High       | Quiet                             | Low         | Medium       | High  |  |
| minal coolin | ig capacity                    | Btu/hr            | 8200                              | 11900                               | 15900  | 20100 | 15200    | 19800         | 24700          | 30000      | 21000                             | 26800       | 33100        | 4010  |  |
|              |                                | W                 | 2400                              | 3500                                | 4650   | 5900  | 4550     | 5800          | 7250           | 8800       | 6150                              | 7850        | 9700         | 1175  |  |
| minal sensib | ble cooling capacity           | Btu/hr            | 5800                              | 8700                                | 11700  | 15400 | 11000    | 14500         | 18500          | 21900      | 14600                             | 18900       | 23800        | 2860  |  |
|              |                                | W                 | 1710                              | 2540                                | 3440   | 4510  | 3220     | 4260          | 5410           | 6430       | 4270                              | 5540        | 6970         | 8370  |  |
| minal heatin |                                | Btu/hr            | 11300                             | 15200                               | 19800  | 24200 | 18400    | 23900         | 30400          | 38200      | 24100                             | 31600       | 39100        | 4670  |  |
| tering water | r temperature: 50°C)           | W                 | 3300                              | 4450                                | 5800   | 7100  | 5400     | 7000          | 8900           | 11200      | 7050                              | 9250        | 11450        | 1370  |  |
| n input powe | er                             | W                 | 7                                 | 12                                  | 19     | 37    | 17       | 26            | 50             | 90         | 23                                | 39          | 83           | 120   |  |
| minal runnir | ng current                     | Α                 | 0.11                              | 0.13                                | 0.19   | 0.26  | 0.19     | 0.28          | 0.43           | 0.74       | 0.21                              | 0.35        | 0.55         | 0.95  |  |
| wer source   |                                | V/Ph/Hz           |                                   | 220-240 / 1 / 50                    |        |       |          |               |                |            |                                   |             |              |       |  |
| Control      | Air discharge                  |                   |                                   | 4-way automatic louver (up & down)  |        |       |          |               |                |            |                                   |             |              |       |  |
|              | Operation                      |                   |                                   |                                     |        |       | LCD wire | less micro-co | omputer remo   | te control |                                   |             |              |       |  |
| Airflow      |                                | CFM               | 220                               | 350                                 | 470    | 620   | 420      | 560           | 720            | 890        | 510                               | 680         | 870          | 1060  |  |
| Nomina       | I water flow rate              | USGPM             | 1.84                              | 2.68                                | 3.56   | 4.52  | 3.41     | 4.44          | 5.55           | 6.74       | 4.71                              | 6.01        | 7.43         | 9.00  |  |
|              |                                | liters/min        | 6.96                              | 10.15                               | 13.48  | 17.10 | 12.90    | 16.81         | 21.02          | 25.51      | 17.83                             | 22.76       | 28.12        | 34.0  |  |
| Head lo      | ss (Cooling)                   | kPa               | 5                                 | 10                                  | 15     | 24    | 7        | 9             | 14             | 20         | 15                                | 22          | 30           | 41    |  |
|              | ss (Heating): 50°C             | kPa               | 4                                 | 8                                   | 13     | 21    | 5        | 8             | 12             | 18         | 12                                | 20          | 26           | 37    |  |
|              | orking pressure                | kPa               |                                   | -                                   |        | 1     |          |               | 608            |            | 1                                 |             |              |       |  |
|              | air velocity                   | m/s               | 0.27                              | 0.43                                | 0.57   | 0.76  | 0.54     | 0.71          | 0.92           | 1.13       | 0.52                              | 0.70        | 0.89         | 1.08  |  |
|              | pressure level                 | dBA               | 16                                | 23                                  | 31     | 37    | 31       | 37            | 42             | 47         | 34                                | 41          | 46           | 51    |  |
| Unit dim     | nension<br>mension with panel) | mm                | 265 X 820 X 820 (340 X 990 X 990) |                                     |        |       |          |               |                |            | 300 X 820 X 820 (375 X 990 X 990) |             |              |       |  |
|              | dimension (HxWxD)              | mm                |                                   | 341 X 916 X 916 (125 X 1020 X 1020) |        |       |          |               |                |            |                                   | 916 X 916 ( | 125 X 1020 X | 1020) |  |
| Unit wei     | ight + panel weight            | kg                |                                   | 26                                  | + 4    |       |          | 28            | + 4            |            |                                   | 32          | + 4          |       |  |
| Conden       | sate drain size                | mm                |                                   |                                     |        |       |          | 9.05          |                |            |                                   |             |              |       |  |
| Pipe cor     | nnection                       | mm                | 19.05 BSP female thread adaptor   |                                     |        |       |          |               |                |            |                                   |             |              |       |  |
| Fan          | Туре                           |                   | Turbo fan                         |                                     |        |       |          |               |                |            |                                   |             |              |       |  |
|              | Drive                          |                   |                                   |                                     |        |       |          | Di            | rect           |            |                                   |             |              |       |  |
|              | Fan speed                      | RPM               | 200                               | 280                                 | 360    | 450   | 350      | 440           | 550            | 660        | 400                               | 510         | 630          | 750   |  |
| Fan          | Туре                           |                   |                                   |                                     |        |       |          | BL            | DC             |            |                                   |             |              |       |  |
| motor        | Index of Protection (IP)       |                   |                                   |                                     |        |       |          | IF            | 220            |            |                                   |             |              |       |  |
|              | Insulation grade               |                   |                                   |                                     |        |       |          |               | E              |            |                                   |             |              |       |  |
|              | Rated running current          | Α                 | 0.11                              | 0.13                                | 0.19   | 0.26  | 0.19     | 0.28          | 0.43           | 0.74       | 0.21                              | 0.35        | 0.55         | 0.95  |  |
|              | Starting current               | А                 |                                   |                                     |        |       |          | N             | I/A            |            |                                   |             |              |       |  |
|              | Motor output                   | W                 |                                   |                                     |        | 7     | 0        |               |                |            |                                   | 1           | 00           |       |  |
|              | Poles                          |                   |                                   |                                     |        |       |          |               | 8              |            |                                   |             |              |       |  |
| Coil         | Tube                           | Material          |                                   |                                     |        |       |          | Co            | pper           |            |                                   |             |              |       |  |
|              |                                | Diameter (mm)     |                                   |                                     |        |       |          | 7.            | .00            |            |                                   |             |              |       |  |
|              | Fin                            | Material          |                                   |                                     |        |       |          | Alum          | ninium         |            |                                   |             |              |       |  |
|              |                                | Face area<br>(m²) |                                   | 0.                                  | 39     |       |          | 0.            | .37            | 0.46       |                                   |             |              |       |  |
|              |                                | Row               |                                   |                                     | 2      |       |          |               |                | 3          |                                   |             |              |       |  |
|              | Water volume                   | liter             |                                   | 1.                                  | 36     |       |          | .97           | 2.35           |            |                                   |             |              |       |  |
| Air          | Filter type                    |                   |                                   |                                     |        |       |          | Washable :    | saranet filter |            |                                   |             |              |       |  |
| quality      | Filter quantity                | рс                |                                   |                                     |        |       |          |               |                |            |                                   |             |              |       |  |
| 49           |                                |                   | 1                                 |                                     |        |       |          |               |                |            |                                   |             |              |       |  |

#### Note:

A) Based on Eurovent conditions.
B) Additional 10W is required for condensate water drain pump.
C) Sound pressure level is tested as per JIS standard as below:
FWKE05E - 1.4m below the face centre of air return of the unit
FWKE08/11E - 1.5m below the face centre of air return of the

| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |
| Leaving water temperature  | 12°C              | -                    |

#### Specification for ceiling cassette (4-pipe system)

| aoor mo        | del name                                     |                   |               | FWKI                                 | E05EH  |       |                         | FWKI                            | E08EH          |            |                 | FWK                                 | E11EH  |      |  |  |
|----------------|--|-------------------|---------------|--------------------------------------|--------|-------|-------------------------|---------------------------------|----------------|------------|-----------------|-------------------------------------|--------|------|--|--|
|                |  | ı                 | Quiet         | Low                                  | Medium | High  | Quiet                   | Low                             | Medium         | High       | Quiet           | Low                                 | Medium | High |  |  |
| minal cooli    | ng capacity                                  | Btu/hr            | 6800          | 9600                                 | 12300  | 15000 | 13300                   | 17100                           | 20800          | 24600      | 17700           | 22200                               | 26400  | 3070 |  |  |
|                |  | W                 | 2000          | 2800                                 | 3600   | 4400  | 3900                    | 5000                            | 6100           | 7200       | 5200            | 6500                                | 7750   | 9000 |  |  |
| minal sens     | ible cooling capacity                        | Btu/hr            | 5300          | 7600                                 | 10200  | 13100 | 9900                    | 13000                           | 16600          | 19600      | 13300           | 16700                               | 20700  | 2450 |  |  |
|                |  | W                 | 1560          | 2240                                 | 2990   | 3850  | 2910                    | 3810                            | 4850           | 5750       | 3890            | 4900                                | 6060   | 7170 |  |  |
|                | ng capacity                                  | Btu/hr            | 12800         | 17200                                | 21700  | 26100 | 21800                   | 27300                           | 32800          | 38200      | 31900           | 39100                               | 46200  | 5340 |  |  |
| ntering water  | er temperature: 70°C)                        | W                 | 3750          | 5050                                 | 6350   | 7650  | 6400                    | 8000                            | 9600           | 11200      | 9350            | 11450                               | 13550  | 1565 |  |  |
| n input pow    | ver .  | W                 | 7             | 12                                   | 19     | 37    | 17                      | 26                              | 50             | 90         | 23              | 39                                  | 83     | 120  |  |  |
| minal runni    | ing current                                  | Α                 | 0.11          | 0.13                                 | 0.19   | 0.26  | 0.19                    | 0.28                            | 0.43           | 0.74       | 0.21            | 0.35                                | 0.55   | 0.98 |  |  |
| wer source     |  | V/Ph/Hz           |               |                                      |        |       |                         | 220-24                          | 0 / 1 / 50     |            |                 |                                     |        |      |  |  |
| Control        | Air discharge                                |                   |               |                                      |        |       | 4-wa                    | y automatic l                   | louver (up & c | lown)      |                 |                                     |        |      |  |  |
| Operation      |  |                   |               |                                      |        |       | LCD wire                | less micro-co                   | omputer remo   | te control |                 |                                     |        |      |  |  |
| Airflow        |  | CFM               | 220           | 350                                  | 470    | 620   | 420                     | 560                             | 720            | 890        | 510             | 680                                 | 870    | 1060 |  |  |
| Nomina         | al water flow rate                           | USGPM             | 1.53          | 2.14                                 | 2.76   | 3.37  | 2.99                    | 3.83                            | 4.67           | 5.51       | 3.98            | 4.98                                | 5.93   | 6.9  |  |  |
| (Coolin        | (Cooling)  Nominal water flow rate (Heating) |                   | 5.80          | 8.12                                 | 10.44  | 12.75 | 11.31                   | 14.49                           | 17.68          | 20.87      | 15.07           | 18.84                               | 22.47  | 26.0 |  |  |
| Nomina         |  |                   | 1.44          | 1.93                                 | 2.43   | 2.93  | 2.45                    | 3.06                            | 3.68           | 4.29       | 3.58            | 4.38                                | 5.19   | 5.99 |  |  |
| (Heatin        |  |                   | 5.44          | 7.31                                 | 9.20   | 11.09 | 9.28                    | 11.58                           | 13.91          | 16.23      | 13.55           | 16.60                               | 19.64  | 22.6 |  |  |
| Head lo        | oss (Cooling)                                | liters/min<br>kPa | 5             | 9                                    | 13     | 18    | 6                       | 10                              | 15             | 19         | 12              | 19                                  | 24     | 32   |  |  |
|                | Head loss (Heating): 70°C                    |                   | 7             | 10                                   | 17     | 22    | 13                      | 18                              | 25             | 32         | 21              | 30                                  | 39     | 52   |  |  |
|                | orking pressure                              | kPa<br>kPa        |               | 7 10 17 22 13 18 25 32 21 30 39 1608 |        |       |                         |                                 |                |            |                 |                                     |        |      |  |  |
|                | e air velocity                               | m/s               | 0.27          | 0.43                                 | 0.57   | 0.76  | 0.54                    | 0.71                            | 0.92           | 1.13       | 0.52            | 0.70                                | 0.89   | 1.0  |  |  |
|                | pressure level                               | dBA               | 16            | 23                                   | 31     | 37    | 31                      | 37                              | 42             | 47         | 34              | 41                                  | 46     | 51   |  |  |
| Unit din       | mension<br>mension with panel)               | mm                |               | 265 × 820 × 820 (340 × 990 × 990)    |        |       |                         |                                 |                |            |                 | 300 X 820 X 820 (375 X 990 X 990)   |        |      |  |  |
| Packing        | g dimension<br>dimension) (HxWxD)            | mm                |               | 341 X 916 X 916 (125 X 1020 X 1020)  |        |       |                         |                                 |                |            |                 | 376 X 916 X 916 (125 X 1020 X 1020) |        |      |  |  |
| Unit we        | eight + panel weight                         | kg                | 26 + 4 28 + 4 |                                      |        |       |                         |                                 |                |            | 32              | ! + 4                               |        |      |  |  |
|                | nsate drain size                             | mm                |               |                                      |        |       |                         |                                 | 9.05           |            |                 |                                     |        |      |  |  |
|                | nnection                                     | mm                |               |                                      |        |       | 19.0                    | 19.05 BSP female thread adaptor |                |            |                 |                                     |        |      |  |  |
| Fan            | Туре   |                   |               |                                      |        |       |                         |                                 | oo fan         |            |                 |                                     |        |      |  |  |
|                | Drive  |                   |               |                                      |        |       | Direct                  |                                 |                |            |                 |                                     |        |      |  |  |
|                | Fan speed                                    | RPM               | 200           | 280                                  | 360    | 450   | 350                     | 440                             | 550            | 660        | 400 510 630 750 |                                     |        |      |  |  |
| Fan            | Туре   | 10.10             | 200           | 200                                  | 000    | 100   | 000                     |                                 |                | 000        | 100             | 010                                 | 000    | 700  |  |  |
| motor          | Index of Protection<br>(IP)                  |                   |               | BLDC IP20                            |        |       |                         |                                 |                |            |                 |                                     |        |      |  |  |
|                | Insulation grade                             |                   |               |                                      |        |       |                         |                                 | E              |            |                 |                                     |        |      |  |  |
|                | Rated running current                        | Α                 | 0.11          | 0.13                                 | 0.19   | 0.26  | 0.19                    | 0.28                            | 0.43           | 0.74       | 0.21            | 0.35                                | 0.55   | 0.9  |  |  |
|                | Starting current                             | Α                 |               |                                      |        |       |                         | N                               | N/A            |            |                 |                                     |        |      |  |  |
|                | Motor output                                 | W                 |               |                                      |        | 7     | 0                       |                                 |                |            |                 | 1                                   | 00     |      |  |  |
|                | Poles  |                   |               |                                      |        |       | -                       |                                 | 8              |            |                 |                                     |        |      |  |  |
| Coil           | Tube   | Material          |               |                                      |        |       |                         |                                 | pper           |            |                 |                                     |        |      |  |  |
| 00             |  | Diameter (mm)     |               |                                      |        |       |                         |                                 | .00            |            |                 |                                     |        |      |  |  |
|                | Fin  | Material          |               |                                      |        |       |                         |                                 |                |            |                 |                                     |        |      |  |  |
|                | 1 111  | Face area         |               | Aluminium                            |        |       |                         |                                 |                |            |                 |                                     |        |      |  |  |
|                |  | (m²)              |               | 0.                                   | 39     |       | 0.37                    |                                 |                |            | 0.46            |                                     |        |      |  |  |
|                |  | Row               |               | 2 3                                  |        |       |                         |                                 |                |            |                 |                                     |        |      |  |  |
|                | \M-4   | liter             |               |                                      | 36     |       |                         | 1.                              | .97            |            |                 | 2                                   | .35    |      |  |  |
|                | Water volume                                 |                   |               |                                      |        |       | Washable saranet filter |                                 |                |            |                 |                                     |        |      |  |  |
| Air            |  |                   |               |                                      |        |       |                         |                                 |                |            |                 |                                     |        |      |  |  |
| Air<br>quality | Filter type Filter quantity                  | рс                |               |                                      |        |       |                         |                                 | saranet filter |            |                 |                                     |        |      |  |  |

#### Note:

A) Based on Eurovent conditions.

FWKE08/11EH - 1.5m below the face centre of air return of the unit

| Mode                     | Cooling           | Heating |
|--------------------------|-------------------|---------|
| Entering air temperature | 27°C DB / 19°C WB | 20°C DB |

7°C 70°C (4-pipe system) Entering water temperature 12°C 60°C (4-pipe system)

B) Additional 10W is required for condensate water drain pump.
C) Sound pressure level is tested as per JIS standard as below:
FWKE05EH - 1.4m below the face centre of air return of the unit







FWE-E

Wireless controller BRC52A

Wired controller BRC51A

- Compact designFar air throw

- Par air throw
  Auto air swing
  Easy serviceability and maintenance
  Versatile installation high pressure head drain pump option
  Room temperature sensing
  Sleep function in cool and heat modes
  Auto restart with last-state-memory
  Valve or valveless control options
  Self diagnosis features

- Self-diagnosis features Choices of wired or wireless controller
- NIM-abled
- · BAG compatible



## Ceiling Exposed (50Hz)

#### **Far Air Throw**

Maximum air throw distance up to 16.5m.



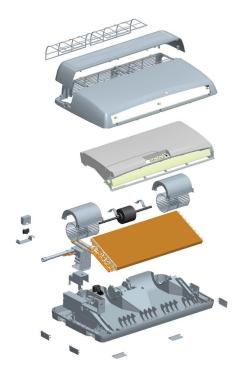
#### **Auto Air Swing**

The motorized louver enables the air flow to be evenly distributed.



#### Service & Maintenance at Ease

The washable filter can be easily accessed by just pulling down the intake grill. During servicing or repairing, only the bottom panel needs to be removed in order to access the parts like fan motor, blower, wiring connection, control box, piping connection and so on.



#### **Ceiling Installation**

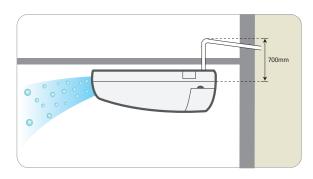
The unit is uniquely designed with the possibility to be installed on the ceiling to suit any interior design requirements.

\*Wall bracket is supplied as optional item.



#### **Versatile Installation**

The unit is designed to work with high pressure head drain pump (optional), offering greater flexibility for installation of condensate drain pipe. The optional drain pump comes with a high head and is incorporated with a float switch as safety protection.
\* Drain pump kit supplied as optional item

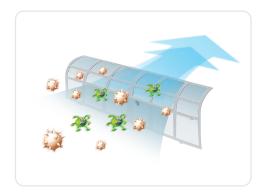


#### **Room Temperature Sensing**

Ability of unit to sense the room temperature for greater room comfort.

#### **Saranet Air Filter**

The anti-fungus air filter removes air-borne particles from the air.



#### Ceiling Exposed (50Hz)

#### **Self Diagnosis Features**

This feature helps to detect any faults or malfunctioning in the system and provide user a warning by blinking of the LED lights.

#### **Valve or Valveless Control Options**

The design is flexible enough to allow for either valve or valveless control installation.

#### NIM-Able

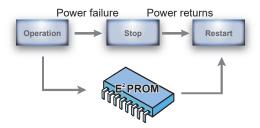
Able to communicate with the versatile NIM networking control module and offers the opportunity of one centralized control for a system of multiple indoor units in a building.

#### **Choices of Wired or Wireless Controller**

Choices of wired BRC51A or wireless BRC52A.

#### **Auto Restart with Last-State-Memory**

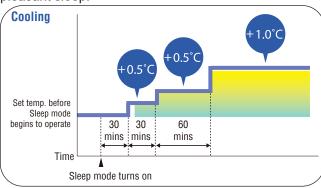
In the event of a sudden power failure during operation, unit restarts automatically in 64 different recovery timing patterns (within 180 seconds to 244 seconds) and the unit will operate based on the previous setting (operating mode, temperature setting and fan speed).



Settings stored before power failure

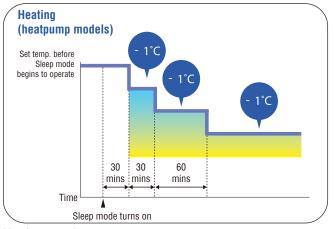
#### Sleep Mode

Pressing the Sleep button activates the Sleep Mode. This function prevents excessive cooling/heating for a pleasant sleep.



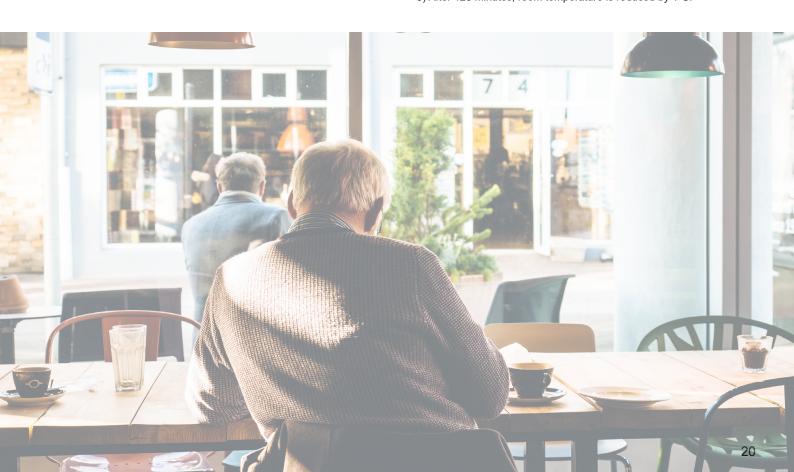
#### Cooling operation:

- 1) After 30 minutes, room temperature is raised by 0.5°C.
- 2) After 60 minutes, room temperature is raised by 0.5°C.
- 3) After 120 minutes, room temperature is raised by 1°C.



#### Heating operation:

- 1) After 30 minutes, room temperature is reduced by 1°C.
- 2) After 60 minutes, room temperature is reduced by 1°C.
- 3) After 120 minutes, room temperature is reduced by 1°C.



## Ceiling Exposed (50Hz)

## Specification for ceiling exposed

| nd                       | oor model name                 |                               |                | FWE08E                          | FWE10E                         | FWE12E             |  |  |
|--------------------------|--------------------------------|-------------------------------|----------------|---------------------------------|--------------------------------|--------------------|--|--|
| Nominal cooling capacity |                                |                               | Btu/hr         | 25000                           | 34000                          | 47000              |  |  |
|                          |                                |                               | W              | 7330                            | 9960                           | 13770              |  |  |
| lom                      | inal sensible cooling capacity |                               | Btu/hr         | 19250                           | 25500                          | 32900              |  |  |
|                          |                                |                               | W              | 5640                            | 7470                           | 9640               |  |  |
|                          | inal heating capacity          |                               | Btu/hr         | 35000                           | 47000                          | 59000              |  |  |
| ente                     | ering water temperature: 50°C) |                               | W              | 10260                           | 13770                          | 17290              |  |  |
| om                       | inal total input power         |                               | W              | 148                             | 197                            | 225                |  |  |
| om                       | inal running current           |                               | Α              | 0.65                            | 0.87                           | 0.99               |  |  |
| OW                       | er source                      |                               | V/Ph/Hz        |                                 | 220-240 / 1 / 50               |                    |  |  |
|                          | Control                        | Air discharge                 |                |                                 | Automatic louver (up & down    | )                  |  |  |
|                          |                                | Operation                     |                | LCD w                           | ireless micro-computer remote  | e control          |  |  |
|                          | Airflow (H/M/L)                |                               | CFM            | 840 / 750 / 660                 | 1120 / 980 / 860               | 1230 / 1090 / 990  |  |  |
|                          | Nominal water flow rate        |                               | USGPM          | 5.77                            | 7.71                           | 10.17              |  |  |
|                          |                                |                               | liters/min     | 21.85                           | 29.19                          | 38.53              |  |  |
|                          | Head loss (Cooling)            |                               | kPa            | 36                              | 50                             | 67                 |  |  |
|                          | Head loss (Heating): 50°C      |                               | kPa            | 32                              | 45                             | 58                 |  |  |
|                          | Max. working pressure          |                               | kPa            |                                 | 1608                           |                    |  |  |
|                          | Surface air velocity           |                               | m/s            | 1.50                            | 1.63                           | 1.50               |  |  |
|                          | Sound pressure level (H/M/L)   |                               |                | 48 / 47 / 44                    | 52 / 47 / 46                   | 52 / 50 / 49       |  |  |
|                          | Unit dimension (HxWxD)         |                               | mm             | 259 X 1320 X 635                | 259 X 1538 X 635               | 259 X 1786 X 635   |  |  |
|                          | Packing dimension (HxWxD)      |                               | mm             | 348 X 1393 X 734                | 348 X 1612 X 734               | 348 X 1860 X 734   |  |  |
|                          | Unit weight                    |                               | kg             | 41                              | 46                             | 53                 |  |  |
|                          | Condensate drain size          |                               | mm             |                                 | 19.05                          |                    |  |  |
|                          | Pipe connection                |                               | mm             | 19.05 BSP female thread adaptor |                                |                    |  |  |
|                          | Fan                            | '                             |                |                                 | Blower                         |                    |  |  |
|                          |                                | Drive                         |                |                                 | Direct                         |                    |  |  |
| 0000                     |                                | Fan speed (H/M/L)             | RPM            | 1235 / 1120 / 1010              | 1300 / 1170 / 1090             | 1310 / 1170 / 1050 |  |  |
| Ξ                        | Fan motor                      | Туре                          |                |                                 | rmanent split capacitor (Induc |                    |  |  |
|                          |                                | Index of Protection (IP)      |                |                                 | IP20                           | ,                  |  |  |
|                          |                                | Insulation grade              |                |                                 | В                              |                    |  |  |
|                          |                                | Rated input power (H/M/L)     | W              | 148 / 138 / 126                 | 197 / 169 / 153                | 225 / 190 / 173    |  |  |
|                          |                                | Rated running current (H/M/L) | A              | 0.65 / 0.61 / 0.55              | 0.87 / 0.74 / 0.67             | 0.99 / 0.84 / 0.76 |  |  |
|                          |                                | Starting current              | Α              | 1.15                            | 1.54                           | 1.88               |  |  |
|                          |                                | Motor output                  | W              | 92                              | 118                            | 149                |  |  |
|                          |                                | Poles                         |                |                                 | 4                              | '                  |  |  |
|                          | Coil                           | Tube                          | Material       |                                 | Copper                         |                    |  |  |
|                          |                                |                               | Diameter (mm)  |                                 | 7.00                           |                    |  |  |
|                          |                                | Fin                           | Material       |                                 | Aluminium                      |                    |  |  |
|                          |                                |                               | Face area (m²) | 0.26                            | 0.32                           | 0.38               |  |  |
|                          |                                |                               | Row            |                                 | 3                              | 4                  |  |  |
|                          |                                | Water volume                  | liter          | 1.23                            | 1.48                           | 2.37               |  |  |
|                          | Air quality                    | Filter type                   | '              |                                 | Washable saranet filter        | '                  |  |  |
|                          |                                | Filter quantity               | рс             |                                 | 3                              | 4                  |  |  |
|                          | Casing                         | , ,                           | Colour         |                                 | Light grey                     |                    |  |  |

| Mode                       | Cooling           | Heating              |  |  |
|----------------------------|-------------------|----------------------|--|--|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |  |  |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |  |  |
| Leaving water temperature  | 12°C              | -                    |  |  |

 $\label{eq:local_problem} \mbox{All specifications are subjected to change by the manufacturer without prior notice.}$ 



FWC-C

- Excellent air distribution
  Compact design
  High capacity range
  High external static pressure (ESP) range
  Double drainage protection
  Easy serviceability
  Option of left or right piping
  4 available fan speed
  Auto restart with last-state-memory
  Valve or valveless control options

- Valve or valveless control options Self-diagnosis features
- Wired controllerNIM-abled
- · BAG compatible



Wired controller BRC51A



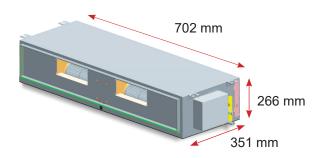
#### **Excellent Air Distribution**

The air can be distributed evenly to every corner of the room through ducting, enabling cooling/heating of multiple areas with one fan coil unit.



#### **Compact Design**

Unit height as low as 266mm for installation at limited ceiling space area.



#### **High Capacity Range**

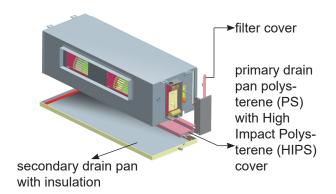
Wide capacity range from 3kW to 16kW.

#### **Double Drain Pan Protection \***

The primary drain pan is designed with high thermal insulation material and moulded in gradient for better condensate water drainage.

The extra secondary drain pan built into the standard unit offers extra protection against possible water leaking problems.

\* Only applicable from FWC09C - FWC16C



#### High External Static Pressure (ESP) Range

Availability of up to 167Pa ESP for high static application.

#### **Left / Right Piping Option**

For flexible installation and application at site.

#### **Easy Serviceability**

Both control box and filter is accessible from the side panel.

#### 4 Available Fan Speed

Each speed offers different external static pressure and air flow which enhances flexibility.

#### **Self Diagnosis Features**

This feature helps to detect any faults or malfunctioning in the system and provide user a warning by blinking of the LED lights.

#### **Valve or Valveless Control Options**

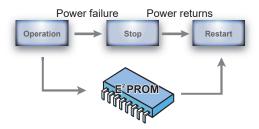
The design is flexible enough to allow for either valve or valveless control installation.

#### NIM-Able

Able to communicate with the versatile NIM networking control module and offers the opportunity of one centralized control for a system of multiple indoor units in a building.

#### **Auto Restart with Last-State-Memory**

In the event of a sudden power failure during operation, unit restarts automatically in 64 different recovery timing patterns (within 180 seconds to 244 seconds) and the unit will operate based on the previous setting (operating mode, temperature setting and fan speed).



Settings stored before power failure

## Specification for ceiling concealed

| loor model name                 |                               |                | FWC03C                                   | FWC04C             | FWC06C              | FWC07C            |  |  |
|---------------------------------|-------------------------------|----------------|--|--------------------|---------------------|-------------------|--|--|
| ninal cooling capacity          |                               | Btu/hr         | 9900                                     | 11600              | 18000               | 22500             |  |  |
|                                 | W                             | 2900           | 3400                                     | 5280               | 6590                |                   |  |  |
| ninal sensible cooling capacity |                               | Btu/hr         | 7000                                     | 8120               | 12600               | 15750             |  |  |
|                                 |                               | W              | 2050                                     | 2380               | 3690                | 4620              |  |  |
| ninal heating capacity          |                               | Btu/hr         | 11500                                    | 15000              | 23000               | 29000             |  |  |
| ering water temperature: 50°C)  |                               | W              | 3370                                     | 4400               | 6740                | 8500              |  |  |
| ninal total input power         |                               | W              | 89                                       | 140                | 168                 | 182               |  |  |
| ninal running current           |                               | Α              | 0.40                                     | 0.65               | 0.77                | 0.86              |  |  |
| ver source                      |                               | V/Ph/Hz        |  | 220-240            | ) / 1 / 50          |                   |  |  |
| Control                         | Air discharge                 |                |  | Duc                | cted                |                   |  |  |
|                                 | Operation                     |                |  | Wired micro-comp   | uter remote control |                   |  |  |
| Airflow (H/M/L)                 |                               | CFM            | 300 / 285 / 260                          | 510 / 490 / 400    | 700 / 675 / 640     | 730 / 660 / 580   |  |  |
| External Static Pressure (H/N   | 1/L)                          | Pa             | 49 / 44 / 36                             | 49 / 42 / 28       | 49 / 45 / 41        | 49 / 43 / 30      |  |  |
| Nominal water flow rate         |                               | USGPM          | 2.20                                     | 2.60               | 4.05                | 5.06              |  |  |
|                                 |                               |                | 8.33                                     | 9.84               | 15.33               | 19.15             |  |  |
| Head loss (Cooling)             |                               | kPa            | 10.5                                     | 24                 | 20.1                | 32.4              |  |  |
| Head loss (Heating): 50°C       |                               | kPa            | 8.8                                      | 20.3               | 17.0                | 27.6              |  |  |
| Max. working pressure           |                               | kPa            | -  | 16                 |                     |                   |  |  |
| Surface air velocity            |                               |                | 1.23                                     | 1.68               | 1.88                | 1.70              |  |  |
| Sound pressure level (H/M/L)    |                               | m/s<br>dBA     | 36 / 35 / 33                             | 40 / 38 / 33       | 42 / 41 / 40        | 41 / 40 / 36      |  |  |
| Unit dimension (HxWxD)          |                               | mm             | 267 x 702 x 351                          | 267 x 842 x 351    | 267 x 1002 x 351    | 267 x 1137 x 35   |  |  |
| Packing dimension (HxWxD)       |                               | mm             | 376 x 951 x 541                          | 376 x 1091 x 541   | 376 x 1251 x 541    | 376 x 1386 x 54   |  |  |
| Unit weight                     |                               | kg             | 18                                       | 22                 | 24                  | 26                |  |  |
| Condensate drain size           |                               |                | 10                                       |                    |                     | 20                |  |  |
|                                 |                               | mm             | 19.05<br>19.05 BSP female thread adaptor |                    |                     |                   |  |  |
| Pipe connection                 | Time                          | mm             |  |                    |                     |                   |  |  |
| Fan                             | Type                          |                | Blower Direct                            |                    |                     |                   |  |  |
|                                 | Drive                         | 551            | 4000 / 4004 / 444=                       |                    |                     | 4040440=0440=     |  |  |
|                                 | Fan speed (H/M/L)             | RPM            | 1282 / 1221 / 1117                       | 1385 / 1279 / 1078 | 1369 / 1331 / 1263  | 1348 / 1270 / 107 |  |  |
| Fan motor                       | Туре                          |                | Permanent split capacitor (Induction)    |                    |                     |                   |  |  |
|                                 | Index of Protection (IP)      |                | IP20<br>B                                |                    |                     |                   |  |  |
|                                 | Insulation grade              |                |  |                    |                     |                   |  |  |
|                                 | Rated input power (H/M/L)     | W              | 89 / 86 / 78                             | 140 / 128 / 127    | 168 / 165 / 163     | 182 / 175 / 163   |  |  |
|                                 | Rated running current (H/M/L) | A              | 0.40 / 0.39 / 0.35                       | 0.65 / 0.59 / 0.59 | 0.77 / 0.76 / 0.75  | 0.86 / 0.83 / 0.7 |  |  |
|                                 | Starting current              | Α              | 0.73                                     | 1.66               | 1.22                | 1.86              |  |  |
|                                 | Motor output                  | W              | 38                                       | 72                 | 80                  | 90                |  |  |
|                                 | Poles                         |                |  |                    | 1                   |                   |  |  |
| Coil                            | Tube                          | Material       |  | Сор                |                     |                   |  |  |
|                                 |                               | Diameter (mm)  |  | 9.                 | 52                  |                   |  |  |
|                                 | Fin                           | Material       |  | Alum               | inium               |                   |  |  |
|                                 |                               | Face area (m²) | 0.11                                     | 0.14               | 0.18                | 0.20              |  |  |
|                                 |                               | Row            |  | 3                  | 3                   |                   |  |  |
|                                 | Water volume                  | liter          | 0.90                                     | 1.20               | 1.40                | 1.60              |  |  |
| Air quality                     | Filter type                   |                |  | Washable s         | aranet filter       |                   |  |  |
|                                 | Filter quantity               | рс             |  | ,                  | 1                   |                   |  |  |
| Casing                          |                               | Colour         |  | Withou             | d maint             |                   |  |  |

| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |
| Leaving water temperature  | 12°C              | -                    |

## Specification for ceiling concealed

| idoor model na        | ume                                      |                | FWC09C                                | FWC11C                  | FWC12C                               | FWC14C             | FWC16C            |  |
|-----------------------|--|----------------|---------------------------------------|-------------------------|--------------------------------------|--------------------|-------------------|--|
| ominal cooling capa   | acity                                    | Btu/hr         | 24800                                 | 38000                   | 37000                                | 44700              | 51800             |  |
|                       |  | W              | 7270                                  | 11140                   | 10840                                | 13100              | 15180             |  |
| ominal sensible coo   | oling capacity                           | Btu/hr         | 19700                                 | 29800                   | 29300                                | 35100              | 40900             |  |
|                       |  | W              | 5770                                  | 8730                    | 8590                                 | 10290              | 11990             |  |
| ominal heating capa   |  | Btu/hr         | 32800                                 | 49200                   | 48000                                | 54900              | 65300             |  |
| ntering water temper  | erature: 50°C)                           | W              | 9610                                  | 14420                   | 14070                                | 16090              | 19140             |  |
| ominal total input po | ower                                     | W              | 345                                   | 504                     | 442                                  | 427                | 531               |  |
| ominal running curr   | ent                                      | Α              | 1.50                                  | 2.28                    | 1.93                                 | 1.86               | 2.32              |  |
| ower source           |  | V/Ph/Hz        |                                       |                         | 220-240 / 1 / 50                     |                    |                   |  |
| Control               | Air discharge                            |                |                                       |                         | Ducted                               |                    |                   |  |
|                       | Operation                                |                |                                       | Wired                   | micro-computer remote                | control            |                   |  |
| Airflow (H/M/L        | _)                                       | CFM            | 830 / 760 / 710                       | 1250 / 1130 / 1040      | 1240 / 1100 / 1020                   | 1340 / 1220 / 1190 | 1550 / 1400 / 130 |  |
| External Station      | Pressure (H/M/L)                         | Pa             | 167 / 128 / 88                        | 118 / 108 / 88          | 128 / 88 / 39                        | 157 / 137 / 108    | 157 / 137 / 98    |  |
| Nominal water         | flow rate                                | USGPM          | 5.55                                  | 8.59                    | 8.28                                 | 10.04              | 11.62             |  |
|                       |  | liters/min     | 21.01                                 | 32.51                   | 31.34                                | 38.00              | 43.98             |  |
| Head loss (Co         | oling)                                   | kPa            | 14                                    | 39                      | 23                                   | 38                 | 51                |  |
| Head loss (He         | Head loss (Heating): 50°C                |                | 11                                    | 37                      | 19                                   | 33                 | 48                |  |
| Max. working          | Max. working pressure                    |                |                                       |                         | 1608                                 |                    |                   |  |
| Surface air vel       | Surface air velocity                     |                | 1.41                                  | 1.75                    | 1.83                                 | 1.54               | 1.52              |  |
| Sound pressur         | Sound pressure level (H/M/L)             |                | 46 / 42 / 38                          | 51 / 48 / 45            | 49 / 45 / 41                         | 52 / 50 / 47       | 53 / 50 / 47      |  |
|                       | Unit dimension (HxWxD)                   |                | 384 x 917 x 462                       | 316 x 1225 x 559        | 384 x 1003 x 462                     | 384 x 1287 x 462   | 384 x 1487 x 46   |  |
|                       | Packing dimension (HxWxD)                |                | 415 x 1126 x 631                      | 355 x 1461 x 727        | 415 x 1245 x 631                     | 415 x 1497 x 631   | 415 x 1701 x 63   |  |
|                       | Unit weight                              |                | 42                                    | 47                      | 44                                   | 50                 | 56                |  |
|                       | Condensate drain size                    |                |                                       |                         | 19.05                                |                    |                   |  |
| Pipe connection       |  | mm             | 19.0                                  | 5 BSP female thread add |                                      | 22.23 BSP fema     | le thread adaptor |  |
| Fan                   | Туре                                     | I              | Blower                                |                         |                                      |                    |                   |  |
|                       | Drive                                    |                |                                       |                         | Direct                               |                    |                   |  |
|                       | Fan speed (H/M/L)                        | RPM            | 1230 / 1093 / 937                     | 1381 / 1268 / 1169      | 1260 / 1097 / 913                    | 1284 / 1203 / 1108 | 1303 / 1215 / 106 |  |
| Fan motor             | Type                                     |                | Permanent split capacitor (Induction) |                         |                                      |                    |                   |  |
|                       | Index of Protection (IP)                 |                | IP20 IP21 IP22 IP20                   |                         |                                      |                    |                   |  |
|                       | Insulation grade                         |                |                                       | 1F21 1F22 B             |                                      |                    |                   |  |
|                       | Rated input power (H/M/L)                | W              | 345 / 304 / 270                       | 504 / 380 / 338         | 442 / 384 / 342                      | 427 / 388 / 373    | 531 / 466 / 413   |  |
|                       | Rated running current (H/M/L)            | A              | 1.50 / 1.34 / 1.21                    | 2.28 / 1.72 / 1.53      | 1.93 / 1.69 / 1.54                   | 1.86 / 1.69 / 1.63 | 2.32 / 2.02 / 1.8 |  |
|                       | Starting current                         | A              | 2.43                                  | 2.77                    | 3.18                                 | 3.50               | 4.90              |  |
|                       | Motor output                             | W              | 310                                   | 470                     | 355                                  | 373                | 500               |  |
|                       | Poles                                    | ***            | 010                                   | 410                     | 4                                    | 010                | 000               |  |
| Coil                  | Tube                                     | Material       |                                       |                         | Copper                               |                    |                   |  |
| Ooli                  | Tube                                     | Diameter (mm)  |                                       |                         | 9.52                                 |                    |                   |  |
|                       | Fin                                      | Material       |                                       |                         | Aluminium                            |                    |                   |  |
|                       | 1 111                                    | Face area (m²) | 0.28                                  | 0.34                    | 0.32                                 | 0.41               | 0.48              |  |
|                       |  | Row            | 0.20                                  | 0.54                    | 3                                    | V.41               | 0.40              |  |
|                       |  |                |                                       |                         |                                      | 0.00               | 3.80              |  |
|                       | Watervalume                              |                | 2 20                                  | 2.70                    |                                      |                    |                   |  |
| Air quality           | Water volume                             | liter          | 2.20                                  | 2.70                    | 2.60                                 | 3.30               | 3.00              |  |
| Air quality           | Water volume Filter type Filter quantity |                | 2.20                                  | 2.70                    | 2.60<br>Washable saranet filter<br>2 |                    | 3.00              |  |

| Mode                       | Cooling           | Heating              |  |  |
|----------------------------|-------------------|----------------------|--|--|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |  |  |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |  |  |
| Leaving water temperature  | 12°C              | -                    |  |  |

 $\label{eq:local_problem} \mbox{All specifications are subjected to change by the manufacturer without prior notice.}$ 





FWC-FD

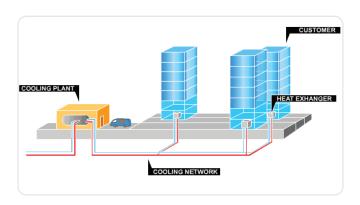
- High delta-T and district cooling application
  Excellent air distribution
  Compact design
  Medium external static pressure (ESP) range
  3 selectable fan speed
  Easy installation and serviceability
  Option of left or right piping
  Various options to meet project requirements
  Metal construction
  FCU selection software

- FCU selection software
- · Eurovent certified and listed
- · BAG compatible



#### Customised for high delta-T application

FWC-FD series caters for applications requiring high water temperature difference (up to 9°C) such as district cooling. At such conditions, FWC-FD performance and capacity can be well maintained.



#### Ease of installation and serviceability

The FWC-FD series are flexible, easy to install and service.



Side removal (both left and right)



Bottom removal

Interconnected air filters: All air filters are interconnected and can easily be removed during servicing.

Bottom accessibility: Removable access panel at bottom for inspection without removing the entire unit from the ceiling.



#### **Metal construction**

Components and parts of the FWC-FD series such as casing, drain pan and blower are made of metal for its solidness and compliance to fire regulation.

#### **FCU Selection Software**

In support of FCU sales, the FCU Selection Software is available for the ease of unit selection for projects.

#### **Eurovent certified and listed**

The FWC-FD series are Eurovent certified. Its performance are tested according to the European and International standards.





#### Various options to meet project requirements

The FWC-FD series have several options that are readily available from the factory without modification:

- Pipe connecting direction: Right piping and left piping (facing FCU air discharge).
- Insulation type: Standard with PE insulation, option with NBR insulation (Class 0 Fire Retardant).



PE insulation

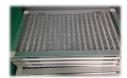


NBR insulation

 Filter type: Standard with 8mm saranet filter, option of 1 inch (nominal) aluminium mesh filter.



8mm saranet filter



Aluminium mesh filter

Compact design

Considering the installation space, the FWC-FD series features low height for low ceiling space. Throughout the entire series, unit height remains at 247 mm while its unit depth maintains at 552 mm.



## Ceiling Concealed High Delta-T (50Hz)

## Specification for ceiling concealed high delta-T

| Ind                      | oor model name                               |  |                             | FWC02FD        | FWC03FD        | FWC04FD        | FWC05FD                    | FWC06FD        | FWC08FD                          | FWC10FD        |
|--------------------------|--|--|-----------------------------|----------------|----------------|----------------|----------------------------|----------------|----------------------------------|----------------|
| Nominal cooling capacity |  |  | Btu/hr                      | 6600           | 8700           | 12100          | 14000                      | 17000          | 24500                            | 28500          |
|                          |  |  | W                           | 1930           | 2550           | 3550           | 4100                       | 4980           | 7180                             | 8350           |
| Non                      | inal sensible cooling capacity               |  | Btu/hr                      | 5400           | 6300           | 9500           | 9600                       | 11800          | 17000                            | 20200          |
|                          |  |  | W                           | 1580           | 1850           | 2780           | 2810                       | 3460           | 4980                             | 5920           |
| Non                      | inal total input power                       |  | W                           | 92             | 108            | 131            | 151                        | 192            | 265                              | 321            |
| Non                      | inal running current                         |  | А                           | 0.42           | 0.5            | 0.58           | 0.66                       | 0.95           | 1.28                             | 1.57           |
| Pow                      | er source                                    |  | V/Ph/Hz                     |                |                |                | 220-240 / 1 / 50           |                |                                  |                |
|                          | Control                                      | Air discharge                            |                             |                |                |                | Ducted                     |                |                                  |                |
|                          |  | Operation                                |                             |                |                |                | Without controlle          | r              |                                  |                |
|                          | Airflow (H/M/L)                              |  | CFM                         | 280/270/220    | 310/300/280    | 450/430/360    | 460/450/400                | 570/560/500    | 820/800/750                      | 940/920/840    |
|                          | External Static Pressure (H/M                | /L)                                      | Pa                          | 53/50/34       | 53/50/44       | 55/50/40       | 78/75/60                   | 77/75/61       | 78/75/66                         | 78/75/67       |
|                          | Nominal water flow rate                      |  | USGPM                       | 0.84           | 1.06           | 1.5            | 1.72                       | 2.11           | 3.04                             | 3.52           |
|                          |  |  | liters/min                  | 3.17           | 4.00           | 5.67           | 6.50                       | 8.00           | 11.50                            | 13.33          |
|                          | Head loss (Cooling)                          |  | kPa                         | 24.9           | 20.8           | 17.2           | 31.2                       | 18.7           | 25.0                             | 19.4           |
|                          | Max. working pressure                        |  | kPa                         |                |                |                | 1608                       |                |                                  |                |
|                          | Surface air velocity                         |  | m/s                         | 1.46           | 1.62           | 1.49           | 1.52                       | 1.47           | 1.54                             | 1.50           |
|                          | Sound pressure level (H/M/L)                 |  | dBA                         | 40/39/36       | 40/39/37       | 41/40/37       | 42/41/39                   | 45/44/41       | 47/46/45                         | 48/47/45       |
|                          | Unit dimension (HxWxD)                       |  | mm                          |                | 52x619         |                | 52x870                     | 247x552x1060   | 247x552x1390                     | 247x552x1600   |
|                          | Packing dimension (HxWxD)                    |  | mm                          |                | 30x737         |                | 30x987                     | 320x630x1177   | 320x630x1507                     | 320x630x1717   |
|                          | Unit weight                                  |  | kg                          | 16             | 17             | 23             | 24                         | 28             | 38                               | 45             |
|                          | _  | Condensate drain size                    |                             | 10             | 17             | 23             | 19.05                      | 20             | 30                               | 43             |
|                          | Condensate drain size mm  Pipe connection mm |  |                             |                |                | 10 05 B        | SPT female threa           | d adaptor      |                                  |                |
|                          | Fan  | Туре                                     |                             |                | 10.00 D        | Centrifugal    | α ασαριοί                  |                |                                  |                |
|                          | I dil  | Drive                                    |                             |                |                |                | Direct                     |                |                                  |                |
|                          |  | Quantity                                 |                             |                | 1              |                | 2                          |                | 3                                | 4              |
| _                        |  |  | DDM                         |                | 1              |                | 2                          |                |                                  | 4              |
| Indoor                   |  | Fan speed (H/M/L)                        | RPM                         | 1265/1232/1107 | 1379/1356/1290 | 1290/1245/1115 | 1389/1369/1290             | 1415/1395/1283 | 1430/1415/1336<br>1403/1388/1337 | 1422/1402/132  |
|                          | Fan motor                                    | Туре                                     |                             |                |                | Permane        | nt split capacitor (       | (Induction)    |                                  |                |
|                          |  | Index of Protection (IP)                 |                             |                |                |                | IP20                       |                |                                  |                |
|                          |  | Insulation grade                         |                             |                |                |                | F                          |                |                                  |                |
|                          |  | Quantity                                 |                             |                |                | 1              |                            |                |                                  | 2              |
|                          |  | Rated input power (H/M/L)                | W                           | 92/86/68       | 108/100/84     | 131/124/105    | 151/131/102                | 192/178/149    | 265/242/201                      | 321/297/253    |
|                          |  | Rated running current (H/M/L)            | А                           | 0.42/0.38/0.30 | 0.50/0.44/0.37 | 0.58/0.54/0.46 | 0.66/0.58/0.49             | 0.95/0.79/0.65 | 1.28/1.06/0.88                   | 1.57/1.31/1.11 |
|                          |  | Starting current                         | А                           | 0.68           | 1.08           | 1.08           | 1.41                       | 2.65           | 2.65/1.08                        | 2.65           |
|                          |  | Motor output                             | W                           | 36             | 71             | 71             | 100                        | 150            | 150/71                           | 150            |
|                          |  | Poles                                    |                             |                | 1              |                | 4                          |                |                                  |                |
|                          | Coil   | Tube                                     | Material                    |                |                |                | Copper                     |                |                                  |                |
|                          |  |  | Diameter (mm)               |                |                |                | 7.0                        |                |                                  |                |
|                          |  | Fin                                      | Material                    |                |                |                | Aluminium                  |                |                                  |                |
|                          |  |  | Face area (m <sup>2</sup> ) | 0.09           | 0.09           | 0.14           | 0.14                       | 0.18           | 0.25                             | 0.30           |
|                          |  |  | Row                         | 3              | 4              | 3              |                            |                | 4                                |                |
|                          |  |  |                             | T              | · ·            | -              |                            | 1.22           |                                  | 1.95           |
|                          |  | Water volume                             |                             | 0.38           | 0.63           | 0.72           | 0.96                       | 1.//           | 1.h/                             |                |
|                          | Air quality                                  | Water volume                             | liter                       | 0.38           | 0.63           | 0.72<br>W      | 0.96<br>ashable saranet fi |                | 1.67                             | 1.50           |
|                          | Air quality                                  | Water volume Filter type Filter quantity |                             | 0.38           | 0.63           |                | 0.96<br>ashable saranet fi |                |                                  | 3              |

| Mode                       | Cooling           |
|----------------------------|-------------------|
| Entering air temperature   | 24°C DB / 18°C WB |
| Entering water temperature | 5.5°C             |
| Leaving water temperature  | 14.5°C            |



FWC-G

- FWC-G

   Standard Delta T=5°C Application
   Excellent Air Distribution
   Wide Range (200- 2000CFM)
   3 Fan Speed (High, Medium, Low)
   Easy Installation & Serviceability
   Low External Static Pressure (30Pa)
   Medium External Static Pressure (50-75Pa) (50Hz, 60Hz)
   Interchangable Coil Direction
   Compact Design
   Low Height
   Short Length
   FCU Selection Software
   Flexibility & Options
   BAG compatible



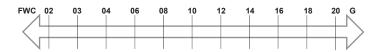
#### **Excellent Air Distribution**

The air can be distributed evenly to every corner of the room through ducting, enabling cooling/heating of multiple areas with one fan coil unit.



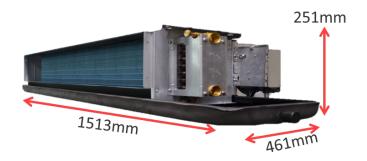
#### Wide Range (200-2000CFM)

A wide range of sizes provides versatility for FWC-G to spec in different project requirements



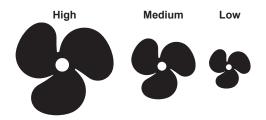
#### **Compact Design 250mm**

It provides flexibility for low ceiling height installations.



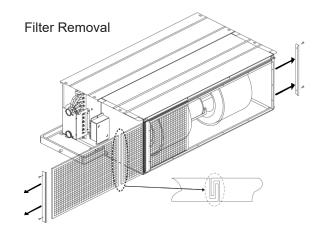
#### 3 Fan Speeds (High, Medium, Low)

Three different fan speeds can be selected from FWC-G according to the external static pressure, airflow and sound level requirements.



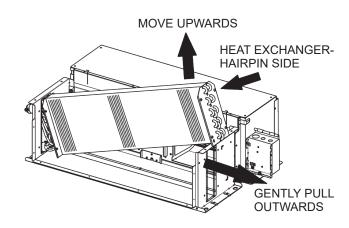
#### **Easy Serviceability**

Filter can be removed from sides easily.



#### **Interchangable Coil Direction**

To match water connections on the field.



#### **FCU Selection Software**

Selection software allows convenience in obtaining FCU rating at specific design condition.

- Flexibility & Options
  Piping: Left, Right
  Filter: Saranet, 8mm Al, 1" Al, No filter
- Plenum: Without Rear Return Plenum, With Rear Return Plenum
- Insulation: PE, NBR
- Drain Pan Material: Galvanised Steel, Stainless
- Drain Pan Length: Standard, Extended 100mm

Specification for ceiling concealed standard delta-T (Low ESP)

| del                             |                          |                      |                | FWC02G         | FWC03G         | FWC04G             | FWC06G           | FWC08G         | FWC10G         | FWC12G        |  |  |
|---------------------------------|--------------------------|----------------------|----------------|----------------|----------------|--------------------|------------------|----------------|----------------|---------------|--|--|
| Nominal cooling capacity Btu/hr |                          |                      |                | 6000           | 9000           | 12000              | 18000            | 24000          | 30000          | 36000         |  |  |
| W                               |                          |                      |                |                | 2640           | 3520               | 5280             | 7030           | 8790           | 10550         |  |  |
| inal sensible                   | cooling capaci           | ty                   | Btu/hr         | 5000           | 7000           | 9700               | 14400            | 19100          | 23400          | 27900         |  |  |
|                                 |                          |                      | W              | 1470           | 2050           | 2840               | 4220             | 5600           | 6860           | 8.18          |  |  |
| inal total inpu                 | t power                  |                      | W              | 53             | 61             | 81                 | 116              | 159            | 202            | 241           |  |  |
| inal running c                  | urrent                   |                      | Α              | 0.23           | 0.27           | 0.36               | 0.50             | 0.72           | 0.90           | 1.05          |  |  |
| er source                       |                          |                      | V/Ph/Hz        |                |                |                    | 220-240/1/50     | ı              | ı              |               |  |  |
| Control                         | Air discha               | rge                  |                |                |                |                    | Ducted           |                |                |               |  |  |
| Operation                       |                          |                      |                |                |                | Without controller |                  |                |                |               |  |  |
| Air flow (H/I                   | M/L)                     |                      | CFM            | 200/160/130    | 300/220/150    | 400/305/200        | 600/500/385      | 800/650/465    | 1000/805/600   | 1200/975/81   |  |  |
|                                 | itic pressure (I         | H/M/L)               | Pa             | 30/19/12       | 30/16/7        | 30/18/7            | 30/21/13         | 30/19/10       | 30/18/11       | 30/20/13      |  |  |
| External ste                    | illo prossuro (i         | 10W/L)               | USGPM          | 1.32           | 2.00           | 2.66               | 3.99             | 5.33           | 6.66           | 7.99          |  |  |
| Nominal wa                      | ter flow rate            |                      | litres/min     | 5.00           | 7.57           | 10.09              | 15.13            | 20.18          | 25.22          | 30.26         |  |  |
| Head loss (                     | Cooling)                 |                      | kPa            | 7              | 20             | 25                 | 34               | 38             | 42             | 38            |  |  |
| Max. working                    |                          |                      | kPa            | '              | 20             | 23                 | 1608             | 30             | 42             | 30            |  |  |
| Surface air                     | • .                      |                      | m/s            | 1.26           | 1.17           | 1.56               | 1.99             | 1.69           | 2.11           | 2.05          |  |  |
|                                 | sure level (H/I          | M/L )                | dBA            | 31/26/20       | 32/25/20       | 35/29/21           | 38/35/30         | 39/34/26       | 41/37/31       | 42/39/35      |  |  |
| _ '                             | ,                        | ,                    |                |                |                |                    |                  |                |                |               |  |  |
|                                 | Unit dimension H x W x D |                      | mm             | 251x630x461    | 251x774x461    | 251x774x461        | 251x874x461      | 251x1264x461   | 251x1264x461   | 251x1514x4    |  |  |
| Packing din                     |                          | HxWxD                | mm             | 595x836x284    | 595x984x284    | 595x984x284        | 595x1084x284     | 595x1473x284   | 595x1473x284   | 595x1724x2    |  |  |
| Unit weight kg                  |                          | 11                   | 14.5           | 15             | 17.5           | 26                 | 26               | 30             |                |               |  |  |
|                                 | Condensate drain size mm |                      |                |                |                | 19.05              |                  |                |                |               |  |  |
| Pipe conne                      | Pipe connection mm       |                      |                |                |                | 19.05 BSPT         | FEMALE THREAD    | ADAPTOR        |                |               |  |  |
|                                 | Туре                     |                      |                |                | Blower         |                    |                  |                |                |               |  |  |
|                                 | Drive                    | Drive                |                |                |                |                    | Direct           |                |                |               |  |  |
| Fan                             | Quantity                 | Quantity             |                | 1              | 2              | 2                  | 2                | 3              | 3              | 4             |  |  |
|                                 | Fan speed                | d (H/M/L)            | RPM            | 985/800/655    | 970/740/540    | 1070/870/610       | 1300/1120/940    | 1140/950/710   | 1275/1035/805  | 1220/1010/8   |  |  |
|                                 | Fan Efficie              | ency (H/M/L)         | %              | 34.2/36.7/40.4 | 34.8/36.1/39.6 | 32.5/34.6/39.0     | 33.4/34.1/35.5   | 52.9/53.6/57.6 | 43.9/51.2/57.3 | 37.7/33.9/46  |  |  |
|                                 | Туре                     |                      |                |                | '              | PERMANENT S        | SPLIT CAPACITOR  | (INDUCTION)    |                |               |  |  |
|                                 | Index of p               | rotection (IP)       |                | IP20           |                |                    |                  |                |                |               |  |  |
|                                 | Insulation               | grade                |                |                |                |                    | В                |                |                |               |  |  |
|                                 | Quantity                 |                      |                | 1              | 1              | 1                  | 1                | 2              | 2              | 2             |  |  |
|                                 | Rated inp                | ut power (H/M/L)     | W              | 53/30/19       | 61/39/21       | 81/57/30           | 116/91/67        | 159/126/81     | 202/161/115    | 241/187/14    |  |  |
| Fan motor                       | Rated run                | ning current (H/M/L) | Α              | 0.23/0.13/0.08 | 0.27/0.17/0.09 | 0.36/0.25/0.13     | 0.50/0.39/0.29   | 0.72/0.54/0.35 | 0.90/0.70/0.50 | 1.05/0.82/0.6 |  |  |
|                                 | Starting co              |                      | Α              | 0.27           | 0.37           | 0.47               | 0.97             | 0.93           | 1.31           | 1.51          |  |  |
|                                 | Motor out                |                      | W              | 15             | 21             | 32                 | 70               | 74             | 109            | 122           |  |  |
|                                 |                          | ciency (H/M/L)       | %              | 28.2/24.4/19.0 | 28.6/19.0/11.9 | 38.7/27.2/15.8     | 54.8/40.7/29.1   | 44.0/32.7/20.8 | 54.2/34.8/21.4 | 51.9/35.9/25  |  |  |
|                                 | Poles                    | , ,                  |                |                |                |                    | 4                |                |                |               |  |  |
|                                 | Tube                     |                      | Material       |                |                |                    | Copper           |                |                |               |  |  |
|                                 |                          |                      | Diameter (mm)  |                |                |                    | 7.00             |                |                |               |  |  |
|                                 | Fin                      |                      | Material       |                |                |                    | Aluminium        |                |                |               |  |  |
| Coil                            | 1                        |                      | Face area (m²) | 0.08           | 0.12           | 0.12               | 0.14             | 0.22           | 0.22           | 0.28          |  |  |
|                                 |                          |                      | Row            |                |                |                    | 3                |                |                | 0.20          |  |  |
|                                 | Water volu               | ıme                  | litre          | 0.28           | 0.45           | 0.45               | 0.62             | 0.90           | 1.04           | 1.29          |  |  |
|                                 | Filter                   | Туре                 |                | 5.20           |                |                    | ANET FILTER OR A |                |                | 1.20          |  |  |
|                                 |                          |                      |                | 2              | 2              | 2                  | 2                | 3              | 3              | 4             |  |  |
| Air quality                     |                          | Quantity pc Colour   |                |                | /              |                    |                  |                |                |               |  |  |

| Mode                       | Cooling (2 Pipe)  |
|----------------------------|-------------------|
| Entering air temperature   | 27°C DB / 19°C WB |
| Entering water temperature | 7°C               |
| Leaving water temperature  | 12°C              |

Specification for ceiling concealed standard delta-T (Medium ESP)

| Model  Nominal cooling capacity  Rtu/br |                       |                                       |                                       |                | FWC03G         | FWC04G                                | FWC06G              | FWC08G             | FWC10G        |  |
|---|-----------------------|---------------------------------------|---------------------------------------|----------------|----------------|---------------------------------------|---------------------|--------------------|---------------|--|
|   |                       |                                       |                                       | Btu/hr         | 9000           | 12000                                 | 18000               | 24000              | 30000         |  |
|   |                       |                                       |                                       | W              | 2640           | 3520                                  | 5280                | 7030               | 8790          |  |
| omina                                   | al sensible co        | ooling capacity                       |                                       | Btu/hr         | 7000           | 9700                                  | 14400               | 19100              | 23400         |  |
|   |                       |                                       |                                       | W              | 2050           | 2840                                  | 4220                | 5600               | 6860          |  |
| omina                                   | al total input        | power                                 |                                       | W              | 61             | 87                                    | 130                 | 184                | 235           |  |
| omina                                   | al running cu         | rrent                                 |                                       | Α              | 0.27           | 0.38                                  | 0.58                | 0.81               | 1.03          |  |
| ower                                    | source                |                                       |                                       | V/Ph/Hz        |                |                                       | 220-240/1/50        |                    |               |  |
|   | Control               | Air discharge                         |                                       |                |                |                                       | Ducted              |                    |               |  |
|   |                       | Operation                             |                                       |                |                |                                       | Without controller  |                    |               |  |
|   | Air flow (H/M         |                                       |                                       | CFM            | 300/220/150    | 400/305/200                           | 600/500/385         | 800/650/465        | 1000/805/600  |  |
| -                                       | •                     | ic pressure (H/M/L)                   |                                       | Pa             | 50/32/15       | 50/32/15                              | 50/35/20            | 50/33/17           | 50/33/18      |  |
| l-                                      | LAterrial Stati       | ic pressure (FirMinE)                 |                                       | USGPM          | 2.00           | 2.66                                  | 3.99                | 5.33               | 6.66          |  |
|   | Nominal water         | er flow rate                          |                                       | litres/min     | 7.57           | 10.09                                 | 15.13               | 20.18              | 25.22         |  |
|   | Head loss (C          | cooling)                              |                                       | kPa            | 20             | 25                                    | 34                  | 38                 | 42            |  |
|   | ,                     |                                       |                                       |                | 20             | 20                                    |                     | 30                 | 42            |  |
|   | Max. working          |                                       |                                       | kPa            | 4.47           | 4.50                                  | 1608                | 4.00               | 0.44          |  |
| -                                       | Surface air v         | · · · · · · · · · · · · · · · · · · · |                                       | m/s            | 1.17           | 1.56                                  | 1.99                | 1.69               | 2.11          |  |
|   |                       | ure level (H/M/L)                     |                                       | dBA            | 35/29/20       | 37/31/22                              | 41/37/31            | 43/37/30           | 44/40/33      |  |
| -                                       | Unit dimension        |                                       | HxWxD                                 | mm             | 251x774x461    | 251x774x461                           | 251x874x461         | 251x1264x461       | 251x1264x46   |  |
|   | Packing dime          | ension                                | HxWxD                                 | mm             | 595x984x284    | 595x984x284                           | 595x1084x284        | 595x1473x284       | 595x1473x28   |  |
|   | Unit weight           | Init weight                           |                                       | kg             | 14.5           | 15                                    | 17.5                | 26                 | 26            |  |
|   | Condensate drain size |                                       |                                       | mm             | 19.05          |                                       |                     |                    |               |  |
|   | Pipe connection       |                                       | mm                                    |                | 19.05 BS       | PT FEMALE THREAD A                    | ADAPTOR             |                    |               |  |
|   |                       | Туре                                  |                                       |                |                |                                       | Blower              |                    |               |  |
|   | Drive                 |                                       |                                       |                |                | Direct                                |                     |                    |               |  |
| _   1                                   | Fan                   | Quantity                              |                                       |                | 2 2 2 3 3      |                                       |                     |                    |               |  |
|   |                       | Fan speed (H/M/L)                     |                                       |                | 1115/900/645   | 1235/990/715                          | 1350/1170/935       | 1310/1080/830      | 1405/1190/93  |  |
| 5                                       |                       | Fan Efficiency (H/M/                  | L)                                    | %              | 35.9/37.0/38.7 | 36.3/36.0/37.0                        | 33.5/33.9/35.4      | 39.0/39.9/40.4     | 36.0/38.6/39. |  |
| <b>i</b>                                |                       | Туре                                  | ,                                     |                |                | PERMANENT SPLIT CAPACITOR (INDUCTION) |                     |                    |               |  |
|   |                       | Index of protection (                 | IP)                                   |                |                |                                       | IP20                |                    |               |  |
|   |                       | Insulation grade                      | /                                     |                | В              |                                       |                     |                    |               |  |
|   |                       | Quantity                              |                                       |                | 1              | 1                                     | 1                   | 2                  | 2             |  |
|   |                       | -                                     | Rated input power (H/M/L)             |                | 61/43/26       | 87/66/42                              | 130/106/80          | 184/143/104        | 235/176/137   |  |
|   | Fan motor             | Rated running curre                   | · · · · · · · · · · · · · · · · · · · | W<br>A         | 0.27/0.19/0.12 | 0.38/0.29/0.19                        | 0.58/0.47/0.35      | 0.81/0.63/0.46     | 1.03/0.77/0.6 |  |
|   |                       | Starting current                      | iii (i i/ivi/L)                       | A              | 0.27/0.19/0.12 | 0.53/0.29/0.19                        | 0.56/0.47/0.55      | 1.27               | 2.09          |  |
|   |                       |                                       |                                       | W              | 27             | 43                                    | 80                  | 104                | 140           |  |
|   |                       | Motor output                          | M/L \                                 |                |                |                                       |                     |                    |               |  |
|   |                       | Motor Efficiency (H/I                 | VI/L)                                 | %              | 43.0/28.6/15.8 | 50.3/32.1/17.0                        | 58.8/46.4/30.5      | 53.3/36.4/21.8     | 58.3/43.5/25. |  |
|   |                       | Poles                                 |                                       |                |                |                                       | 4                   |                    |               |  |
|   |                       | Tube                                  |                                       | Material       |                |                                       | Copper              |                    |               |  |
|   |                       |                                       |                                       | Diameter (mm)  |                |                                       | 7.00                |                    |               |  |
|   | Coil                  | Fin                                   |                                       | Material       |                |                                       | Aluminium           |                    |               |  |
|   |                       |                                       |                                       | Face area (m²) | 0.12           | 0.12                                  | 0.14                | 0.22               | 0.22          |  |
|   |                       |                                       |                                       | Row            |                |                                       | 3                   |                    |               |  |
|   |                       | Water volume                          |                                       | litre          | 0.45           | 0.45                                  | 0.62                | 0.90               | 1.04          |  |
|   | Air quality           | Filter                                | Туре                                  |                | (              | OPTION (WASHABLE SA                   | ARANET FILTER OR AL | UMINIUM MESH FILTE | R)            |  |
| '                                       | rai quality           |                                       | Quantity                              | рс             | 2              | 2                                     | 2                   | 3                  | 3             |  |
|   | Casing                |                                       |                                       | Colour         |                | *                                     | Without paint       |                    |               |  |

| Mode                       | Cooling (2 Pipe)  |  |  |  |
|----------------------------|-------------------|--|--|--|
| Entering air temperature   | 27°C DB / 19°C WB |  |  |  |
| Entering water temperature | 7°C               |  |  |  |
| Leaving water temperature  | 12°C              |  |  |  |

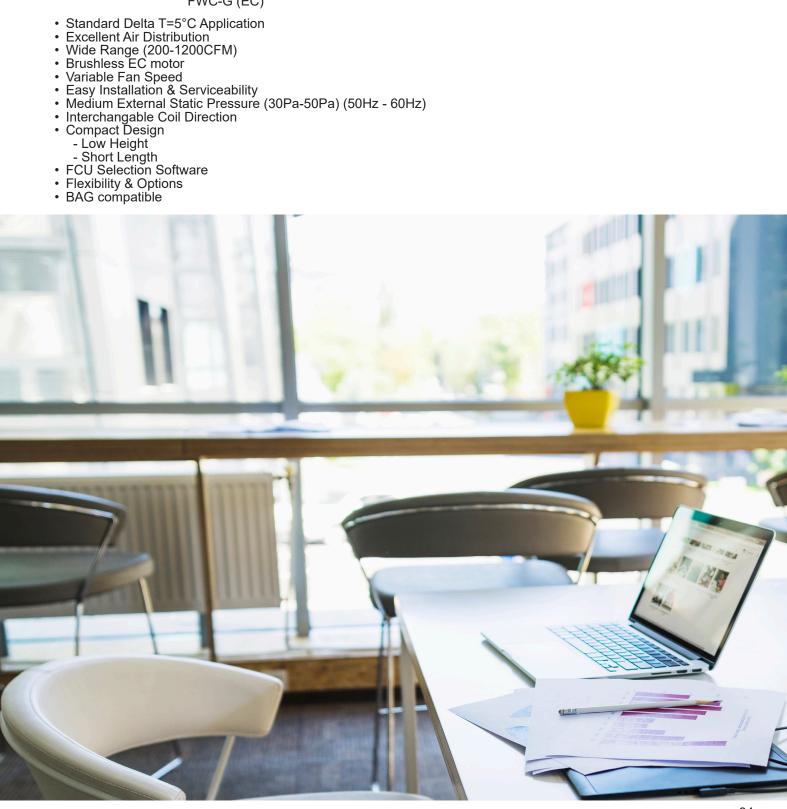
## Specification for ceiling concealed standard delta-T (Medium ESP)

| Model                                    |                               |                    | FWC12G     | FWC14G   | FWC16G                  | FWC18G              | FWC20G         |               |  |
|--|-------------------------------|--------------------|------------|--|-------------------------|---------------------|----------------|---------------|--|
| Nominal cooling capacity Btu/hr          |                               |                    | Btu/hr     | 36000  | 42000                   | 48000               | 54000          | 60000         |  |
| W  |                               |                    | W          | 10550  | 12310                   | 14070               | 15830          | 17580         |  |
| lominal sensible cooling capacity Btu/hr |                               |                    | 27900      | 33900  | 38200                   | 43900               | 50000          |               |  |
| W  |                               |                    | 8180       | 9940   | 11200                   | 12870               | 14650          |               |  |
| lominal total input power W              |                               |                    | 246        | 450  | 558                     | 624                 | 659            |               |  |
| ominal running current A                 |                               |                    | A          | 1.10   | 1.96                    | 2.43                | 2.72           | 2.87          |  |
| Power source V/Ph/Hz                     |                               |                    | V/Ph/Hz    | 220-240/1/50   |                         |                     |                |               |  |
| Control                                  | Air discharge                 |                    |            | Ducted   |                         |                     |                |               |  |
|  | Operation                     |                    |            | Without controller   |                         |                     |                |               |  |
| Air flow (H/N                            | л/L)                          |                    | CFM        | 1200/975/810   | 1400/1130/825           | 1600/1300/905       | 1800/1445/1060 | 2000/1530/10  |  |
| External stat                            | ernal static pressure (H/M/L) |                    |            | 50/33/23   | 75/48/24                | 75/48/24            | 75/48/25       | 75/45/22      |  |
|  | US                            |                    |            | 7.99   | 9.32                    | 10.65               | 11.98          | 13.31         |  |
| Nominal wat                              | ter flow rate                 |                    | litres/min | 30.26  | 35.31                   | 40.35               | 45.40          | 50.44         |  |
| Head loss (C                             | Cooling)                      |                    | kPa        | 38   | 31                      | 27                  | 33             | 32            |  |
| Max. working                             | working pressure kPa          |                    |            | 1608   |                         |                     |                |               |  |
| Surface air v                            | •                             |                    | m/s        | 2.05   | 2.43                    | 2.41                | 2.71           | 2.65          |  |
|  | sure level (H/M/L)            |                    | dBA        | 44/40/37   | 47/43/35                | 48/44/37            | 49/45/39       | 50/46/38      |  |
| Unit dimensi                             |                               | HxWxD              | mm         | 251x1514x461   | 363x1116x660            | 363x1254x660        | 363x1254x660   | 363x1394x66   |  |
| Packing dim                              |                               | HxWxD              | mm         | 595x1724x284   | 760x1331x395            | 760x1469x395        | 760x1469x395   | 760x1609x39   |  |
| Unit weight                              |                               |                    | kg         | 30   | 34                      | 37                  | 38             | 41            |  |
| Condensate                               | drain size                    |                    | mm         |  |                         | 19.05               |                |               |  |
| Pipe connec                              |                               |                    |            | 19.05 BSPT FEMALE THREAD ADAPTOR 25.4 BSPT FEMALE THREAD ADAPTOR |                         |                     |                |               |  |
|  | Туре                          |                    |            | Blower   |                         |                     |                |               |  |
|  | Drive                         |                    |            | Direct   |                         |                     |                |               |  |
| Fan                                      | Quantity                      |                    |            | 4 2 2 2 2 2  |                         |                     |                |               |  |
|  | Fan speed (H/M/L)             |                    | RPM        | 1320/1050/965  | 1065/875/675            | 1115/920/690        | 1210/1000/740  | 1220/1070/87  |  |
|  | Fan Efficiency (H/M           |                    |            | 32.9/30.1/33.4   | 37.6/38.6/42.7          | 31.7/35.0/41.0      | 33.6/34.5/36.9 | 32.4/40.3/46. |  |
|  |                               |                    | %          |  |                         |                     |                |               |  |
|  | Type                          |                    |            | PERMANET SPLIT CAPACITOR (INDUCTION)                             |                         |                     |                |               |  |
|  | Index of protection (IP)      |                    |            | IP20   |                         |                     |                |               |  |
| Fan motor                                | Insulation grade  Quantity    |                    |            | B 2 1 1 1 1 1 1  |                         |                     |                |               |  |
|  | •                             | 11/84/15           | 14/        |  |                         | 1                   |                |               |  |
|  | Rated input power (H/M/L)     |                    | W          | 246/200/158  | 450/307/173             | 558/385/214         | 624/459/295    | 659/497/313   |  |
|  | Rated running current (H/M/L) |                    | A          | 1.10/0.88/0.70   | 1.96/1.34/0.76          | 2.43/1.68/0.95      | 2.72/2.00/1.31 | 2.87/2.17/1.4 |  |
|  | Starting current              |                    | A          | 1.62   | 2.75                    | 3.81                | 4.38           | 4.35          |  |
|  | Motor output                  |                    | W          | 146  | 248                     | 342                 | 418            | 446           |  |
|  | 2.1                           |                    | %          | 58.8/38.9/33.1   | 53.2/41.6/29.7          | 53.3/40.7/26.7      | 62.1/44.9/27.7 | 59.8/50.7/37. |  |
|  | Poles                         |                    |            | 4  |                         |                     |                |               |  |
|  | Tube Material                 |                    | Copper     |  |                         |                     |                |               |  |
|  | Fin Material Face area (m²)   |                    | 7.00 9.52  |  |                         |                     |                |               |  |
| Coil                                     |                               |                    |            | 0.00   | 0.00                    | Aluminium           |                |               |  |
|  |                               |                    |            | 0.28   | 0.22                    | 0.26                | 0.26           | 0.29          |  |
|  |                               |                    | Row        | 4.00   | 0.00                    | 3                   |                |               |  |
|  |                               | Water volume litre |            | 1.29 2.00 2.32 2.32 2.63   |                         |                     |                |               |  |
| Air quality                              | Filter                        | Туре               | рс         | OPTI<br>4  | ION (WASHABLE SAR.<br>2 | ANET FILTER OR ALUI |                |               |  |
| Air quality                              | Quantity                      |                    |            |  |                         |                     | 3              | 3             |  |

| Mode                       | Cooling (2 Pipe)  |  |  |  |
|----------------------------|-------------------|--|--|--|
| Entering air temperature   | 27°C DB / 19°C WB |  |  |  |
| Entering water temperature | 7°C               |  |  |  |
| Leaving water temperature  | 12°C              |  |  |  |



#### FWC-G (EC)



#### **Excellent Air Distribution**

The air can be distributed evenly to every corner of the room through ducting, enabling cooling/heating of multiple areas with one fan coil unit.



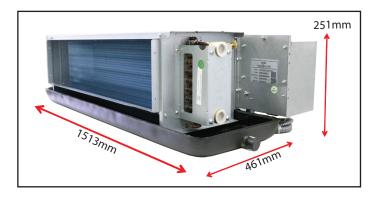
#### Wide Range (200-1200CFM)

A wide range of sizes provides versatility for FWC-G to spec in different project requirements



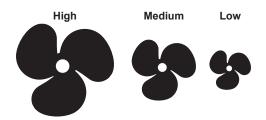
#### **Compact Design 250mm**

It provides flexibility for low ceiling height installations.



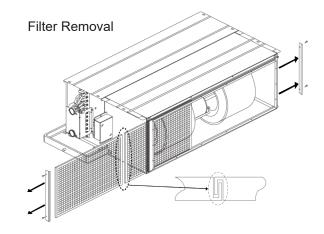
#### Variable Fan Speed

Three different fan speeds can be selected from FWC-G according to the external static pressure, airflow and sound level requirements.



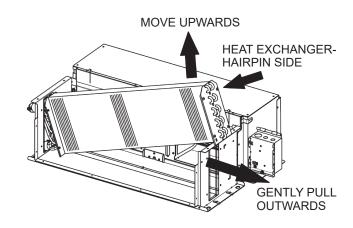
#### **Easy Serviceability**

Filter can be removed from sides easily.



#### Interchangable Coil Direction

To match water connections on the field.



#### **FCU Selection Software**

Selection software allows convenience in obtaining FCU rating at specific design condition.

## Flexibility & Options • Piping: Left, Right

- Filter: Saranet, 8mm Al, 1" Al, No filter
- Plenum: Without Rear Return Plenum, With Rear Return Plenum
- Insulation: PE, NBR
- Drain Pan Material: Galvanised Steel, Stainless Steel
- Drain Pan Length: Standard, Extended 100mm

Specification for ceiling concealed standard delta-T (Low ESP)

| Model   |                               |       | FWC02G EC   | FWC03G EC                        | FWC04G EC      | FWC06G EC      |                |  |
|---|-------------------------------|-------|-------------|----------------------------------|----------------|----------------|----------------|--|
| Nominal cooling capacity  Btu/hr  kW                            |                               |       | Btu/hr      | 6000                             | 9000           | 12000          | 18000          |  |
|   |                               |       | kW          | 1.76                             | 2.64           | 3.52           | 5.28           |  |
| ominal sensible   | cooling capacity              |       | Btu/hr      | 5000                             | 7000           | 9700           | 14400          |  |
|   |                               |       | kW          | 1.47                             | 2.05           | 2.84           | 4.22           |  |
| ominal total inpu   | t power                       |       | W           | 19                               | 30             | 43             | 80             |  |
| ominal running o  | current                       |       | Α           | 0.20                             | 0.29           | 0.40           | 0.69           |  |
| ower source   |                               |       | V/Ph/Hz     |                                  | 220-240/1/50 8 | k 208-230/1/60 |                |  |
| Control   | Air discharge                 |       |             |                                  | Duo            | ted            |                |  |
|   | Operation                     |       |             |                                  | With the       | ermostat       |                |  |
| Air flow (H/  | M/L)                          |       | CFM         | 200/160/130                      | 300/220/150    | 400/305/200    | 600/500/385    |  |
| External sta  | atic pressure (H/M/L)         |       | Pa          | 30/19/12                         | 30/16/7        | 30/18/7        | 30/21/13       |  |
|   |                               |       | m3/hr       | 0.30                             | 0.45           | 0.60           | 0.91           |  |
| Nominal wa  | ater flow rate                |       | USGPM       | 1.32                             | 2.00           | 2.66           | 3.99           |  |
|   |                               |       | litres/min  | 5.00                             | 7.57           | 10.09          | 15.13          |  |
| Head loss   | Cooling)                      |       | kPa         | 7                                | 20             | 25             | 34             |  |
| Max. worki  | ng pressure                   |       | kPa         | 1608                             |                |                |                |  |
| Surface air   | velocity                      |       | m/s         | 1.26                             | 1.17           | 1.56           | 1.99           |  |
| Sound pres  | sure level (H/M/L)            |       | dBA         | 32/27/21                         | 33/26/21       | 36/30/22       | 39/36/31       |  |
| Unit dimen  | Unit dimension H x W x D      |       | mm          | 251x630x461                      | 251x774x461    | 251x774x461    | 251x874x461    |  |
| Packing dimension H x W x D  Unit weight  Condensate drain size |                               | mm    | 595x836x284 | 595x984x284                      | 595x984x284    | 595x1084x284   |                |  |
|   |                               | kg    | 13          | 16                               | 16             | 17.5           |                |  |
|   |                               |       | mm          |                                  | 19             | .05            |                |  |
| Pipe conne  | ction                         |       | mm          | 19.05 BSPT FEMALE THREAD ADAPTOR |                |                |                |  |
| 5   | Туре                          |       |             |                                  | Blo            | wer            |                |  |
|   | Drive                         |       |             | Direct                           |                |                |                |  |
| Fan   | Quantity                      |       |             | 1                                | 2              | 2              | 2              |  |
|   | Fan speed (H/M/L)             |       | RPM         | 985/800/655                      | 970/740/540    | 1070/870/610   | 1300/1120/940  |  |
|   | Fan Efficiency (H/M/L)        | , , , |             | 34.2/36.7/40.4                   | 34.8/36.1/39.6 | 32.5/34.6/39.0 | 33.4/34.1/35.5 |  |
|   | Туре                          |       |             | DC BRUSHLESS MOTOR               |                |                |                |  |
|   | Index of protection (IP)      |       |             | IP20                             |                |                |                |  |
|   | Insulation grade              |       |             |                                  |                | 3              |                |  |
|   | Quantity                      |       |             | 1                                | 1              | 1              | 1              |  |
|   | Rated input power (H/M/L)     |       | W           | 19/10/6                          | 30/13/6        | 43/21/9        | 80/56/30       |  |
| Fax   | Rated running current (H/M/L) |       | Α           | 0.20/0.15/0.12                   | 0.29/0.18/0.13 | 0.40/0.22/0.14 | 0.69/0.50/0.30 |  |
| Fan motor   | Starting current              |       | Α           |                                  | N              | /A             |                |  |
|   | Motor output                  |       | W           | 120                              | 120            | 120            | 120            |  |
|   | Motor Efficiency              |       | %           | 71.5/56.8/38.3                   | 77.9/64.6/44.1 | 79.9/72.4/56.4 | 81.1/80.4/76.4 |  |
|   | Poles                         |       |             |                                  | 1              | 0              |                |  |

| Mode                       | Cooling (2 Pipe)  |
|----------------------------|-------------------|
| Entering air temperature   | 27°C DB / 19°C WB |
| Entering water temperature | 7°C               |
| Leaving water temperature  | 12°C              |

Specification for ceiling concealed standard delta-T (Low  $\ensuremath{\mathsf{ESP}}$  )

| odel                   |                               |       | FWC08G EC  | FWC10G EC                        | FWC12G EC                   |                |  |  |
|------------------------|-------------------------------|-------|------------|----------------------------------|-----------------------------|----------------|--|--|
| minal cooling ca       | apacity                       |       | Btu/hr     | 24000                            | 30000                       | 36000          |  |  |
| kW                     |                               |       | kW         | 7.03                             | 8.79                        | 10.55          |  |  |
| minal sensible c       | cooling capacity              |       | Btu/hr     | 19100                            | 23400                       | 27900          |  |  |
|                        |                               |       | kW         | 5.60                             | 6.86                        | 8.18           |  |  |
| minal total input      | power                         |       | W          | 100                              | 142                         | 163            |  |  |
| minal running cu       | urrent                        |       | A          | 0.87                             | 1.18                        | 1.35           |  |  |
| wer source             |                               |       | V/Ph/Hz    |                                  | 220-240/1/50 & 208-230/1/60 |                |  |  |
| Control                | Air discharge                 |       |            |                                  | Ducted                      |                |  |  |
|                        | Operation                     |       |            |                                  | With thermostat             |                |  |  |
| Air flow (H/M          | N/L)                          |       | CFM        | 800/650/465                      | 1000/805/600                | 1200/975/810   |  |  |
| External stat          | tic pressure (H/M/L)          |       | Pa         | 30/19/10                         | 30/18/11                    | 30/20/13       |  |  |
|                        |                               |       | m3/hr      | 1.21                             | 1.51                        | 1.81           |  |  |
| Nominal wat            | ter flow rate                 |       | USGPM      | 5.33                             | 6.66                        | 7.99           |  |  |
|                        |                               |       | litres/min | 20.18                            | 25.22                       | 30.26          |  |  |
| Head loss (C           | Cooling)                      |       | kPa        | 38                               | 42                          | 38             |  |  |
| Max. working           | g pressure                    |       | kPa        |                                  | 1608                        |                |  |  |
| Surface air v          | velocity                      |       | m/s        | 1.69                             | 2.11                        | 2.05           |  |  |
| Sound press            | Sound pressure level (H/M/L)  |       | dBA        | 40/35/27                         | 42/38/32                    | 43/40/36       |  |  |
| Unit dimensi           | ion H x                       | N x D | mm         | 251x1264x461                     | 251x1264x461                | 251x1514x461   |  |  |
| Packing dim            | nension H x                   | N x D | mm         | 595x1473x284                     | 595x1473x284                | 595x1724x284   |  |  |
| Unit weight            | Unit weight                   |       | kg         | 26                               | 26                          | 29.5           |  |  |
| Condensate             | drain size                    |       | mm         | 19.05                            |                             |                |  |  |
| Condensate Pipe connec | otion                         |       | mm         | 19.05 BSPT FEMALE THREAD ADAPTOR |                             |                |  |  |
|                        | Туре                          |       |            | Blower                           |                             |                |  |  |
|                        | Drive                         |       |            | Direct                           |                             |                |  |  |
| Fan                    | Quantity                      |       |            | 3                                | 3                           | 4              |  |  |
|                        | Fan speed (H/M/L)             |       | RPM        | 1140/950/710                     | 1275/1035/805               | 1220/1010/835  |  |  |
|                        | Fan Efficiency (H/M/L)        |       | %          | 52.9/53.6/57.6                   | 43.9/51.2/57.3              | 37.7/33.9/46.7 |  |  |
|                        | Туре                          |       |            | DC BRUSHLESS MOTOR               |                             |                |  |  |
|                        | Index of protection (IP)      |       |            | IP20                             |                             |                |  |  |
|                        | Insulation grade              |       |            | В                                |                             |                |  |  |
|                        | Quantity                      |       |            | 2                                | 2                           | 2              |  |  |
| F                      | Rated input power (H/M/L)     |       | W          | 100/60/29                        | 142/84/40                   | 163/102/62     |  |  |
| Fan motor              | Rated running current (H/M/L) |       | A          | 0.87/0.58/0.37                   | 1.18/0.77/0.42              | 1.35/0.89/0.60 |  |  |
|                        | Starting current              |       | A          |                                  | N/A                         |                |  |  |
|                        | Motor output                  |       | W          | 120                              | 120                         | 120            |  |  |
|                        | Motor Efficiency              |       | %          | 80.1/77.1/69.1                   | 81.3/78.6/73.9              | 80.8/79.5/78.0 |  |  |
|                        | Poles                         |       |            |                                  | 10                          |                |  |  |

| Mode                       | Cooling (2 Pipe)  |
|----------------------------|-------------------|
| Entering air temperature   | 27°C DB / 19°C WB |
| Entering water temperature | 7°C               |
| Leaving water temperature  | 12°C              |

Specification for ceiling concealed standard delta-T (Medium ESP)

| odel                                    |                           |                                       |                | FWC03G EC          | FWC04G EC                            | FWC06G EC        |  |  |
|---|---------------------------|---------------------------------------|----------------|--------------------|--------------------------------------|------------------|--|--|
| ninal cooling ca                        | apacity                   |                                       | Btu/hr         | 9000               | 12000                                | 18000            |  |  |
|   |                           |                                       | kW             | 2.64               | 3.52                                 | 5.28             |  |  |
| ominal sensible cooling capacity Btu/hr |                           |                                       | Btu/hr         | 7000               | 9700                                 | 14400            |  |  |
|   |                           |                                       | kW             | 2.05               | 2.84                                 | 4.22             |  |  |
| ninal total input                       | power                     |                                       | W              | 40                 | 55                                   | 94               |  |  |
| ninal running cu                        | urrent                    |                                       | A              | 0.38               | 0.49                                 | 0.80             |  |  |
| er source                               |                           |                                       | V/Ph/Hz        |                    | 220-240/1/50 & 208-230/1/60          |                  |  |  |
| Control                                 | Air discharge             |                                       |                | Ducted             |                                      |                  |  |  |
|   | Operation                 |                                       |                |                    | With thermostat                      |                  |  |  |
| Air flow (H/N                           | Λ/L)                      |                                       | CFM            | 300/220/150        | 400/305/200                          | 600/500/385      |  |  |
| External stat                           | tic pressure (H/M/L)      |                                       | Pa             | 50/32/15           | 50/32/15                             | 50/35/20         |  |  |
|   |                           |                                       | m3/hr          | 0.45               | 0.60                                 | 0.91             |  |  |
| Nominal wat                             | ter flow rate             |                                       | USGPM          | 2.00               | 2.66                                 | 3.99             |  |  |
|   |                           |                                       | litres/min     | 7.57               | 10.09                                | 15.13            |  |  |
| Head loss (C                            | Cooling)                  |                                       | kPa            | 20                 | 25                                   | 34               |  |  |
| Max. working                            | g pressure                |                                       | kPa            |                    | 1608                                 |                  |  |  |
| Surface air v                           | velocity                  |                                       | m/s            | 1.17               | 1.56                                 | 1.99             |  |  |
| Sound press                             | sure level (H/M/L)        |                                       | dBA            | 35/29/20           | 37/31/22                             | 41/37/31         |  |  |
| Unit dimensi                            | ion                       | HxWxD                                 | mm             | 251x774x461        | 251x774x461                          | 251x874x461      |  |  |
| Packing dime                            | ension                    | HxWxD                                 | mm             | 595x984x284        | 595x984x284                          | 595x1084x284     |  |  |
| Unit weight                             |                           |                                       | kg             | 16                 | 16                                   | 17.5             |  |  |
| Condensate                              | drain size                |                                       | mm             |                    | 19.05                                |                  |  |  |
| Pipe connec                             | ction                     |                                       | mm             |                    |                                      |                  |  |  |
|   |                           |                                       |                |                    | 19.05 BSPT FEMALE THREAD ADAPTOR     |                  |  |  |
|   | Туре                      |                                       |                | Blower             |                                      |                  |  |  |
|   | Drive                     | •                                     |                |                    | Direct                               |                  |  |  |
| Fan                                     | Quantity                  |                                       |                | 2                  | 2                                    | 2                |  |  |
|   | Fan speed (H/M/L)         |                                       | RPM            | 1115/900/645       | 1235/990/715                         | 1350/1170/935    |  |  |
|   | Fan Efficiency (H/M/L)    |                                       | %              | 35.9/37.0/38.7     | 36.3/36.0/37.0                       | 33.5/33.9/35.4   |  |  |
|   | Type                      | · · · · · · · · · · · · · · · · · · · |                | DC BRUSHLESS MOTOR |                                      |                  |  |  |
|   | Index of protection (IP)  |                                       |                |                    | IP20                                 |                  |  |  |
|   | Insulation grade          |                                       |                | В                  |                                      |                  |  |  |
|   | Quantity                  |                                       |                | 1                  | 1                                    | 1                |  |  |
|   | Rated input power (H/M/L  |                                       | W              | 40/19/9            | 55/27/11                             | 94/62/34         |  |  |
| Fan motor                               | Rated running current (H/ |                                       | A              | 0.38/0.20/0.13     | 0.49/0.26/0.16                       | 0.80/0.56/0.32   |  |  |
|   | Starting current          |                                       | A              | 0.00,0.20,0.10     | N/A                                  | 5.30/0.00/0.0L   |  |  |
|   | Motor output              |                                       | W              | 120                | 120                                  | 120              |  |  |
|   | Motor Efficiency          |                                       | %              | 75.0/67.2/54.1     | 76.4/72.0/59.3                       | 81.5/81.4/77.8   |  |  |
|   | Poles                     | ,                                     |                | 10.0/01.2/01.1     | 10.4/12.0/09.0                       | 51.0101.T.0      |  |  |
|   | Tube                      |                                       | Material       |                    | Copper                               |                  |  |  |
|   |                           |                                       | Diameter (mm)  |                    | 7.00                                 |                  |  |  |
|   | Fin                       |                                       | Material       |                    | Aluminium                            |                  |  |  |
| Coil                                    | . ""                      |                                       | Face area (m²) | 0.12               | 0.12                                 | 0.14             |  |  |
|   |                           |                                       | Row            | V. 12              |                                      | U.1 <del>4</del> |  |  |
|   | Water volume              |                                       | litre          | 0.45               | 3<br>0.45                            | 0.62             |  |  |
|   |                           | Tyne                                  | iiu C          |                    | 0.45 ABLE SARANET FILTER OR ALUMINIU |                  |  |  |
| Air quality                             |                           | Type<br>Quantity                      | nc             | 2                  | ABLE SARANET FILTER OR ALUMINIU  2   | M MESH FILTER)   |  |  |
|   |                           | Quantity                              | рс             | ۷                  |                                      | 2                |  |  |

| Mode                       | Cooling (2 Pipe)  |
|----------------------------|-------------------|
| Entering air temperature   | 27°C DB / 19°C WB |
| Entering water temperature | 7°C               |
| Leaving water temperature  | 12°C              |

Specification for ceiling concealed standard delta-T (Medium ESP)

| del                                     |                      |          |                | FWC08G EC                        | FWC10G EC                       | FWC12G EC      |  |
|---|----------------------|----------|----------------|----------------------------------|---------------------------------|----------------|--|
| ominal cooling capacity  Btu/hr         |                      |          |                | 24000                            | 30000                           | 36000          |  |
|   |                      |          | kW             | 7.03                             | 8.79                            | 10.55          |  |
| ominal sensible cooling capacity Btu/hr |                      |          | Btu/hr         | 19100                            | 23400                           | 27900          |  |
|   |                      |          | kW             | 5.60                             | 6.86                            | 8.18           |  |
| inal total input                        | t power              |          | W              | 120                              | 170                             | 189            |  |
| inal running c                          | urrent               |          | A              | 1.02                             | 1.38                            | 1.54           |  |
| er source                               |                      |          | V/Ph/Hz        |                                  | 220-240/1/50 & 208-230/1/60     |                |  |
| Control                                 | Air discharge        |          |                |                                  | Ducted                          |                |  |
|   | Operation            |          |                |                                  | With thermostat                 |                |  |
| Air flow (H/N                           | M/L)                 |          | CFM            | 800/650/465                      | 1000/805/600                    | 1200/975/810   |  |
| External sta                            | tic pressure (H/M/L) |          | Pa             | 50/33/17                         | 50/33/18                        | 50/33/23       |  |
|   |                      |          | m3/hr          | 1.21                             | 1.51                            | 1.81           |  |
| Nominal wa                              | ter flow rate        |          | USGPM          | 5.33                             | 6.66                            | 7.99           |  |
|   |                      |          | litres/min     | 20.18                            | 25.22                           | 30.26          |  |
| Head loss (                             | Cooling)             |          | kPa            | 38                               | 42                              | 38             |  |
| Max. working                            | ng pressure          |          | kPa            |                                  | 1608                            |                |  |
| Surface air                             | velocity             |          | m/s            | 1.69                             | 2.11                            | 2.05           |  |
| Sound press                             | sure level (H/M/L)   |          | dBA            | 43/37/30                         | 44/40/33                        | 44/40/37       |  |
| Unit dimens                             | ion                  | HxWxD    | mm             | 251x1264x461                     | 251x1264x461                    | 251x1514x461   |  |
| Packing dim                             | nension              | HxWxD    | mm             | 595x1473x284                     | 595x1473x284                    | 595x1724x284   |  |
| Unit weight                             |                      |          | kg             | 26                               | 26                              | 29.5           |  |
| Condensate                              | drain size           |          | mm             | 19.05                            |                                 |                |  |
| Pipe connec                             | tion                 |          | mm             | 19.05 BSPT FEMALE THREAD ADAPTOR |                                 |                |  |
|   | Туре                 |          |                | Blower                           |                                 |                |  |
|   | Drive                |          |                | Direct                           |                                 |                |  |
| Fan                                     | Quantity             |          |                | 3                                | 3                               | 4              |  |
|   | Fan speed (H/M/L)    |          | RPM            | 1310/1080/830                    | 1405/1190/930                   | 1320/1050/965  |  |
|   | Fan Efficiency (H/I  |          | %              | 39.0/39.9/40.4                   | 36.0/38.6/39.6                  | 32.9/30.1/33.4 |  |
|   | Туре                 |          |                | DC BRUSHLESS MOTOR               |                                 |                |  |
|   | Index of protection  | (IP)     |                |                                  | IP20                            |                |  |
|   | Insulation grade     |          |                | В                                |                                 |                |  |
|   | Quantity             |          |                | 2                                | 2                               | 2              |  |
|   | Rated input power    | (H/M/L)  | W              | 120/68/34                        | 170/101/45                      | 189/126/72     |  |
| Fan motor                               | Rated running curr   | , ,      | Α              | 1.02/0.63/0.40                   | 1.38/0.89/0.46                  | 1.54/1.09/0.68 |  |
|   | Starting current     |          | Α              |                                  | N/A                             |                |  |
|   | Motor output         |          | W              | 120                              | 120                             | 120            |  |
|   | Motor Efficiency     |          | %              | 80.7/78.6/70.7                   | 82.1/80.7/74.6                  | 81.7/80.9/78.5 |  |
|   | Poles                |          |                |                                  | 10                              |                |  |
|   | Tube                 |          | Material       |                                  | Copper                          |                |  |
|   |                      |          | Diameter (mm)  |                                  | 7.00                            |                |  |
|   | Fin                  |          | Material       |                                  | Aluminium                       |                |  |
| Coil                                    |                      |          | Face area (m²) | 0.22                             | 0.22                            | 0.28           |  |
|   |                      |          | Row            |                                  | 3                               |                |  |
|   | Water volume         |          | litre          | 0.90                             | 1.04                            | 1.29           |  |
|   | Filter               | Туре     | -              |                                  | ABLE SARANET FILTER OR ALUMINIU |                |  |
| Air quality                             |                      | Quantity | рс             | 3                                | 3                               | 4              |  |
|   |                      |          |                |                                  | Without paint                   | ·              |  |

| Mode                       | Cooling (2 Pipe)  |
|----------------------------|-------------------|
| Entering air temperature   | 27°C DB / 19°C WB |
| Entering water temperature | 7°C               |
| Leaving water temperature  | 12°C              |

 $\ensuremath{\mathsf{All}}$  specifications are subjected to change by the manufacturer without prior notice.

Specification for ceiling concealed standard delta-T (Medium ESP)

| del             |                         |                        |                | FWC14G                          | FWC16G                 | FWC18G                 | FWC20G         |  |
|-----------------|-------------------------|------------------------|----------------|---------------------------------|------------------------|------------------------|----------------|--|
| inal cooling of | cooling capacity Btu/hr |                        |                | 42000                           | 48000                  | 54000                  | 60000          |  |
| kW              |                         |                        | kW             | 12.31                           | 14.07                  | 15.83                  | 17.58          |  |
| inal sensible   | cooling capacity        |                        | Btu/hr         | 33900                           | 38200                  | 43900                  | 50000          |  |
|                 |                         |                        | kW             | 9.94                            | 11.20                  | 12.87                  | 14.65          |  |
| inal total inpi | ut power                |                        | W              | 295                             | 348                    | 438                    | 504            |  |
| inal running    | current                 |                        | A              | 2.44                            | 2.74                   | 3.40                   | 3.77           |  |
| er source       |                         |                        | V/Ph/Hz        |                                 | 220-240/1/50           | & 208-230/1/60         |                |  |
| Control         | Air discharge           |                        |                |                                 | Du                     | ıcted                  |                |  |
|                 | Operation               |                        |                |                                 | With th                | ermostat               |                |  |
| Air flow (H     | /M/L)                   |                        | CFM            | 1400/1130/825                   | 1600/1300/905          | 1800/1445/1060         | 2000/1530/107  |  |
| External st     | atic pressure (H/M/L)   |                        | Pa             | 75/48/24                        | 75/48/24               | 75/48/25               | 75/45/22       |  |
|                 |                         |                        | m3/hr          | 2.12                            | 2.42                   | 2.72                   | 3.02           |  |
| Nominal w       | ater flow rate          |                        | USGPM          | 9.32                            | 10.65                  | 11.98                  | 13.31          |  |
|                 |                         |                        | litres/min     | 35.31                           | 40.35                  | 45.40                  | 50.44          |  |
| Head loss       | (Cooling)               |                        | kPa            | 31                              | 27                     | 33                     | 32             |  |
| Max. worki      | ng pressure             |                        | kPa            |                                 | 1                      | 608                    |                |  |
| Surface air     | velocity                |                        | m/s            | 2.43                            | 2.41                   | 2.71                   | 2.65           |  |
| Sound pre       | ssure level (H/M/L)     |                        | dBA            | 47/43/35                        | 48/44/37               | 49/45/39               | 50/46/38       |  |
| Unit dimen      | sion                    | HxWxD                  | mm             | 363x1116x660                    | 363x1254x660           | 363x1254x660           | 363x1394x660   |  |
| Packing di      | mension                 | HxWxD                  | mm             | 760x1331x395                    | 760x1469x395           | 760x1469x395           | 760x1609x395   |  |
| Unit weigh      | t                       | ·                      | kg             | 35                              | 37                     | 37                     | 40             |  |
| Condensat       | e drain size            | drain size             |                | 19.05                           |                        |                        |                |  |
| Pipe conne      | ection                  | ion                    |                | 25.4 BSPT FEMALE THREAD ADAPTOR |                        |                        |                |  |
|                 | Туре                    | Туре                   |                |                                 | Blower                 |                        |                |  |
|                 | Drive                   | Drive                  |                |                                 | Direct                 |                        |                |  |
| Fan             | Quantity                | Quantity               |                | 2                               | 2                      | 2                      | 2              |  |
|                 | Fan speed (H/M/L        | Fan speed (H/M/L)      |                | 1065/875/675                    | 1115/920/690           | 1210/1000/740          | 1220/1070/875  |  |
|                 | Fan Efficiency (H       | Fan Efficiency (H/M/L) |                | 37.6/38.6/42.7                  | 31.7/35.0/41.0         | 33.6/34.5/36.9         | 32.4/40.3/46.4 |  |
|                 | Туре                    | Туре                   |                | DC BRUSHLESS MOTOR              |                        |                        |                |  |
|                 | Index of protectio      | n (IP)                 |                | IP20                            |                        |                        |                |  |
|                 | Insulation grade        | Insulation grade       |                |                                 | В                      |                        |                |  |
|                 | Quantity                |                        |                | 1                               | 1                      | 1                      | 1              |  |
| Fon             | Rated input powe        | r (H/M/L)              | W              | 295/187/89                      | 348/205/93             | 438/290/123            | 504/340/160    |  |
| Fan motor       | Rated running cu        | rrent (H/M/L)          | A              | 2.44/1.64/0.82                  | 2.74/1.71/0.83         | 3.40/2.33/1.08         | 3.77/2.06/0.97 |  |
|                 | Starting current        |                        | A              | N/A                             |                        |                        |                |  |
|                 | Motor output            |                        | W              |                                 |                        | 150                    |                |  |
|                 | Motor Efficiency        |                        | %              | 81.0/68.4/57.3                  | 85.3/76.6/61.3         | 88.6/71.0/66.7         | 77.0/74.1/72.5 |  |
|                 | Poles                   | Poles                  |                |                                 |                        | 12                     |                |  |
|                 | Tube                    |                        | Material       |                                 |                        | ppper                  |                |  |
|                 |                         |                        | Diameter (mm)  |                                 | 9                      | 1.52                   |                |  |
| Coil            | Fin                     |                        | Material       |                                 | Alur                   | ninium                 |                |  |
| 00              |                         |                        | Face area (m²) | 0.22                            | 0.26                   | 0.26                   | 0.29           |  |
|                 |                         |                        | Row            |                                 |                        | 3                      |                |  |
|                 | Water volume            |                        | litre          | 2.00                            | 2.32                   | 2.32                   | 2.63           |  |
| Air quality     | Filter                  | Туре                   |                | OPTION                          | N (WASHABLE SARANET FI | LTER OR ALUMINIUM MESI | H FILTER)      |  |
| All quality     |                         | Quantity               | рс             | 2                               | 3                      | 3                      | 3              |  |
| Casing          |                         |                        | Colour         |                                 | Witho                  | out paint              |                |  |

| Mode                       | Cooling (2 Pipe)  |
|----------------------------|-------------------|
| Entering air temperature   | 27°C DB / 19°C WB |
| Entering water temperature | 7°C               |
| Leaving water temperature  | 12°C              |

 $\ensuremath{\mathsf{All}}$  specifications are subjected to change by the manufacturer without prior notice.



FUD20/25B FUD20/25F



FUD30/40B

- Excellent air distribution
  Cabinet construction

- Excellent air distribution
  Cabinet construction
  High CFM range
  High external static pressure (ESP) range
  Fire resistant Polyethylene insulation
  Easy serviceability
  Option of left or right piping
  4 available fan speed\*
  Changeable drive package\*\*
  Convertible air throw direction \*\*
  BAG compatible



#### **Excellent Air Distribution**

The air can be distributed evenly to every corner of the room through ducting, enabling cooling/heating of multiple areas with one fan coil unit.



#### 4 Available Fan Speed\*

Each speed offers different external static pressure and air flow which enhances flexibility.

\*Only available for FUD20/25B

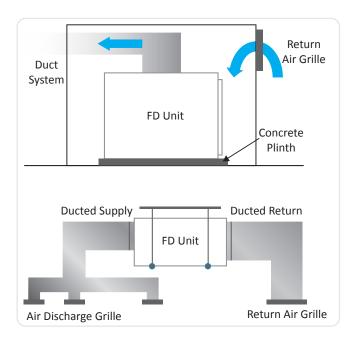
#### **High Airflow Range**

Airflow ranges from 2500CFM to 4600CFM.

#### Convertible Air Throw Direction\*\*

Convertible discharge air direction (vertical or horizontal air throw) provides flexibility in installation at site.

\*\*Only available for FUD30/40B



#### High External Static Pressure (ESP) Range

Availability of up to 230Pa ESP for high static application (without filter for FUD30/40B).

#### **Cabinet Construction**

The enclosure is made from weather-proofed electro galvanized mild steel and coated with epoxy polyester powder layer for protection against severe conditions. Service panel is also available for ease of servicing.

#### **Left / Right Piping Option**

For flexible installation and application at site.

#### Fire-Resistant

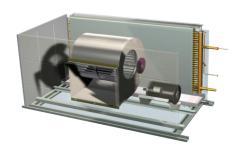
Polyethylene (PE) insulation is used at every possible condensate panel to prevent all forms of water or moisture penetration. Polyethylene, which is also a type of Closed Cell Foam (CCF) insulation has the following advantages:

- · Durable external surface that is resilient to tough dirt.
- Higher degree of puncture resistance when compared to fiberglass.
- Easily cleaned surface (if necessary) to further resist microbial growth.

#### Changeable Drive Package\*\*

Non-standard external static pressure and airflow requirements can be sized accordingly at site by changing the factory fitted drive package.

\*\*Only available for belt driven FUD30/40B

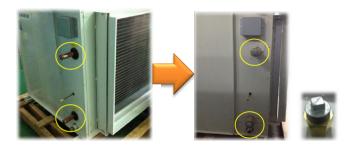


#### **Easy to Service**

For models FUD20/25B, there is a service way allocated at the bottom for servicing.

#### Female Adaptor (Threaded)

The units come with threaded female adaptor, making installation at site easy by eliminating the brazing process.



# **Ducted Blower (50Hz)**

### Specification for ducted blower

| door model name                   |                               |                | FUD20B                                | FUD25B             | FUD30B                | FUD40B           |  |
|-----------------------------------|-------------------------------|----------------|---------------------------------------|--------------------|-----------------------|------------------|--|
| minal cooling capacity            |                               | Btu/hr         | 75600                                 | 95000              | 125000                | 150000           |  |
|                                   |                               | W              | 22160                                 | 27840              | 36640                 | 43960            |  |
| lominal sensible cooling capacity |                               | Btu/hr         | 53700                                 | 69400              | 90000                 | 106500           |  |
|                                   |                               | W              | 15740                                 | 20340              | 26380                 | 31210            |  |
| minal heating capacity            |                               | Btu/hr         | 78000                                 | 97500              | 138000                | 170000           |  |
| tering water temperature: 50°C)   |                               | W              | 22860                                 | 28580              | 40450                 | 49820            |  |
| minal total input power           |                               | W              | 760                                   | 1800               | 1480                  | 1750             |  |
| minal running current             |                               | А              | 3.49                                  | 7.84               | 3.23                  | 3.87             |  |
| wer source                        |                               | V/Ph/Hz        | 220-240                               | 0/1/50             | 380-415               | 5 / 3 / 50       |  |
| Control                           | ir discharge                  |                |                                       | Duc                | ted                   |                  |  |
| C                                 | Operation                     |                |                                       | Without o          | ontroller             |                  |  |
| Airflow (H/M/L)                   |                               | CFM            | 2500 / 2100 / 1750                    | 3200 / 3000 / 2800 | 4200 / N/A / N/A      | 4600 / N/A / N/A |  |
| External Static Pressure (H/M/L)  |                               | Pa             | 100 / 72 / 50                         | 100 / 80 / 60      | 149* / N/A / N/A      | 149* / N/A / N/A |  |
| Nominal water flow rate           |                               | USGPM          | 16.9                                  | 21.1               | 27.7                  | 33.3             |  |
|                                   |                               | liters/min     | 64                                    | 80                 | 105                   | 126              |  |
| Head loss (Cooling)               |                               | kPa            | 34.5                                  | 42.0               | 48.8                  | 53.3             |  |
| Head loss (Heating): 50°C         |                               | kPa            | 32.9                                  | 27.4               | 31.5                  | 63.2             |  |
| Max. working pressure             |                               | kPa            |                                       | 160                | 08                    |                  |  |
| Surface air velocity              |                               | m/s            | 2.18                                  | 2.79               | 1.97                  | 2.16             |  |
| Sound pressure level (H/M/L)      |                               | dBA            | 50/46/42                              | 54/52/50           | 58 / N/               | 'A / N/A         |  |
| Unit dimension (HxWxD)            |                               | mm             | 572 x 1402 x 605 885 x 1540 x 850     |                    |                       | i40 x 850        |  |
| Packing dimension (HxWxD)         |                               | mm             | 762 x 16                              | 605 x 880          | 1154 x 1787 x 1188    |                  |  |
| Unit weight                       |                               | kg             | 92                                    | 102                | 181                   | 196              |  |
| Condensate drain size             |                               | mm             |                                       | OD34mm (with BS    | SP 1" thread size)    |                  |  |
| Pipe connection                   |                               | mm             | 31.75 BSPT female thread adaptor      |                    |                       |                  |  |
| Fan T                             | уре                           |                |                                       | Blov               | ver                   |                  |  |
| D                                 | Drive                         |                | Dii                                   | rect               | В                     | elt              |  |
| F                                 | Fan speed (H/M/L) RPM         |                | 835 / 720 / 615 950 / 855 / 805       |                    | 707 / N               | /A / N/A         |  |
| Fan motor T                       | уре                           |                | Permanent split capacitor (Induction) |                    | Three phase induction |                  |  |
| Ir                                | Index of Protection (IP)      |                | IP22                                  |                    | IP55                  |                  |  |
| Ir                                | Insulation grade              |                | В                                     |                    | F                     |                  |  |
| R                                 | Rated input power (H/M/L)     | W              | 760 / 611 / 478                       | 1800 / 1620 / 1320 | 1480 / NA / NA        | 1750 / NA / NA   |  |
| R                                 | Rated running current (H/M/L) | А              | 3.49 / 2.86 / 2.32                    | 7.84 / 7.06 / 5.82 | 3.23 / NA / NA        | 3.87 / NA / NA   |  |
| S                                 | Starting current              | Α              | 5.20                                  | 10.30              | 3.38                  | 4.04             |  |
| N                                 | Notor output                  | W              | 375                                   | 500                | 1500                  | 2200             |  |
| P                                 | Poles                         |                | 6                                     |                    | 4                     |                  |  |
| Coil T                            | ube                           | Material       | Copper                                |                    |                       |                  |  |
|                                   |                               | Diameter (mm)  |                                       | 9.5                | 52                    |                  |  |
| F                                 | in                            | Material       |                                       | Alumi              | nium                  |                  |  |
|                                   |                               | Face area (m²) | 0.                                    | 54                 | 1.                    | 01               |  |
|                                   |                               | Row            | 3                                     | 4                  | 3                     | 4                |  |
| V                                 | Vater volume                  | liter          | 4.53                                  | 6.27               | 8.14                  | 11.63            |  |
| Air quality F                     | ilter type                    |                | Washable s                            | saranet filter     | Viledo                | on R29           |  |
| F                                 | ilter quantity                | рс             |                                       | 2                  |                       | 3                |  |
| Casing                            |                               | Colour         |                                       | Light              | Grey                  |                  |  |

<sup>\*</sup> The external static pressure for FUD30/40B above is inclusive of R29 filters whereby R29 filters contribute a pressure drop of 81Pa.

| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |
| Leaving water temperature  | 12°C              | -                    |

# **Ducted Blower (50Hz)**

### Specification for ducted blower

| Indoor model name   |                                  |                               |                | FUD20F                               | FUD25F                |
|---|----------------------------------|-------------------------------|----------------|--------------------------------------|-----------------------|
| Nominal cooling capacity  Nominal sensible cooling capacity                                 |                                  |                               | Btu/hr         | 75600                                | 95000                 |
|   |                                  |                               | W              | 22160                                | 27840                 |
|   |                                  |                               | Btu/hr         | 53700                                | 69400                 |
|   |                                  |                               | W              | 15740                                | 20340                 |
| Nominal heating capacity<br>(entering water temperature: 50°C)<br>Nominal total input power |                                  |                               | Btu/hr         | 78000                                | 97500                 |
|   |                                  |                               | W              | 22860                                | 28580                 |
|   |                                  |                               | W              | 508                                  | 990                   |
| m   | inal running current             |                               | А              | 3.90                                 | 7.15                  |
| we  | er source                        |                               | V/Ph/Hz        | 220-240/1/50 8                       | 208-230V/1/60         |
|   | Control                          | Air discharge                 |                | Ducted                               |                       |
|   |                                  | Operation                     |                | With thermostat                      |                       |
|   | Airflow (H/M/L)                  | CFM                           |                | 2500 / 2100 / 1750                   | 3200 / 3000 / 2800    |
|   | External Static Pressure (H/M/L) |                               | Pa             | 100 / 72 / 50                        | 100 / 80 / 60         |
|   | Nominal water flow rate          |                               | USGPM          | 16.90                                | 21.10                 |
|   |                                  |                               | liters/min     | 64.00                                | 80.00                 |
|   | Head loss (Cooling)              |                               | kPa            | 34.5                                 | 42.0                  |
|   | Head loss (Heating): 50°C        |                               | kPa            | 32.9                                 | 27.4                  |
|   | Max. working pressure            |                               | kPa            |                                      | 608                   |
|   | Surface air velocity             |                               | m/s            | 2.18                                 | 2.79                  |
|   | Sound pressure level (H/M/L)     |                               | dBA            | 50/46/42                             | 54/52/50              |
|   | , , ,                            |                               |                |                                      |                       |
|   | Unit dimension (HxWxD)           |                               | mm             | 572 x 1402 x 605<br>762 x 1605 x 880 |                       |
|   | Packing dimension (HxWxD)        |                               | mm             |                                      |                       |
|   | Unit weight                      |                               | kg             | 92                                   | 102                   |
|   | Condensate drain size            |                               | mm             | OD34mm (with BSP 1" thread size)     |                       |
|   | Pipe connection                  |                               | mm             | 31.75 BSP female thread adaptor      |                       |
|   | Fan                              | Туре                          |                | Blower                               |                       |
|   |                                  | Drive                         |                | Direct                               |                       |
|   |                                  | Fan speed (H/M/L)             | RPM            | 835 / 720 / 620                      | 950 / 855 / 805       |
|   |                                  | Fan Efficiency (H/M/L)        | %              | 43.30 / 43.20 / 45.40                | 31.60 / 35.00 / 38.20 |
|   | Fan motor                        | Туре                          |                | BLDC                                 |                       |
|   |                                  | Index of Protection (IP)      |                | IP22                                 |                       |
|   |                                  | Insulation grade              |                |                                      | В                     |
|   |                                  | Rated input power (H/M/L)     | W              | 508 / 300 / 175                      | 990 / 800 / 635       |
|   |                                  | Rated running current (H/M/L) | Α              | 3.90 / 2.38 / 1.48                   | 7.15 / 5.88 / 4.78    |
|   |                                  | Starting current              | Α              | N                                    | /A                    |
|   |                                  | Motor output                  | W              | 7                                    | 50                    |
|   |                                  | Motor Efficiency (H/M/L)      | %              | 87.2 / 86.6 / 86.0                   | 74.5 / 74.1 / 65.1    |
|   |                                  | Poles                         |                | 1                                    | 2                     |
|   | Coil                             | Tube                          | Material       | Copper                               |                       |
|   |                                  |                               | Diameter (mm)  | 9.52                                 |                       |
|   |                                  | Fin                           | Material       | Aluminium                            |                       |
|   |                                  |                               | Face area (m²) | 0.                                   | 54                    |
|   |                                  |                               | Row            | 3                                    | 4                     |
|   |                                  | Water volume                  | liter          | 4.53                                 | 6.27                  |
|   | Air quality                      | Filter type                   |                | Washable saranet filter              |                       |
|   | 1:: 7                            | Filter quantity               | рс             | 2                                    |                       |
|   |                                  | Casing                        |                | Light Grey                           |                       |

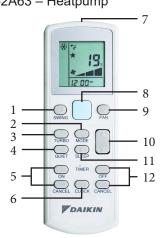
| Mode                       | Cooling           | Heating              |
|----------------------------|-------------------|----------------------|
| Entering air temperature   | 27°C DB / 19°C WB | 20°C DB              |
| Entering water temperature | 7°C               | 50°C (2-pipe system) |
| Leaving water temperature  | 12°C              | -                    |

 $\label{eq:local_problem} \mbox{All specifications are subjected to change by the manufacturer without prior notice.}$ 

#### BRC52A

BRC52A61 - Heatpump with auto mode

BRC52A62 – Cooling only BRC52A63 – Heatpump



#### Features:

- 1. Vertical automatic air swing
- Selectable mode: Auto, Cool, Heat, Dry, Fan
- 3. Turbo function
- 4. Quiet function
- 5. On timer setting
- 6. Real time clock
- 7. Transmission source
- 8. "Glow in the dark" On/Off button
- 9. Fan speed selection: Low, Med, High, Auto
- 10. Temperature setting: Up & down
- 11. Sleep mode function
- 12. Off timer setting

### BRC51A

BRC51A61 – Heatpump with auto mode BRC51A62 – Cooling only



#### Features:

- · Cool/Heat/Fan/Dry/Auto mode
- · Auto/High/Med/Low fan speed
- Temperature operate in °C and °F
- Turbo and Quiet function
- Sleep function
- · Swing function
- Real time clock and day display
- 7-days programmable timer
- Error indicator
- · Key lock and fan lock features
- · Batteries backup and retain setting during power failure
- Last state memory (memory backup setting from mainboard)
- Delay timer (1 or 2 hours)
- Interaction with wireless handset (BRC52A61/62/63)

Network Interface Module (NIM) is a networking system which enables communication among Daikin air conditioners. With the Network interface Module (NIM), all your air conditioning systems can be controlled with just a single controller providing various benefits stated below.

### **Network Controls NIM**

#### Benefits:

- More convenience. No more individually controls of air conditioning units.
- · Quicker and easier zone control from the master control unit.
- Better control of air conditioning systems operating conditions.

NIM utilizes master-slave type system whereby the master node will issue commands to each of the slave nodes.

Every master unit will have a group address so that every slave can only response to their respective master. Each slave unit must have a unique address so that it can be addressed independently of other nodes.

The master unit will be operating in conjunction with a control panel. Any settings done via the control panel connected to the master will overwrite the settings of its slave units.

Slave unit can be operated with or without control panel. If a slave unit is operating with a control panel, its settings can be changed without following its master.

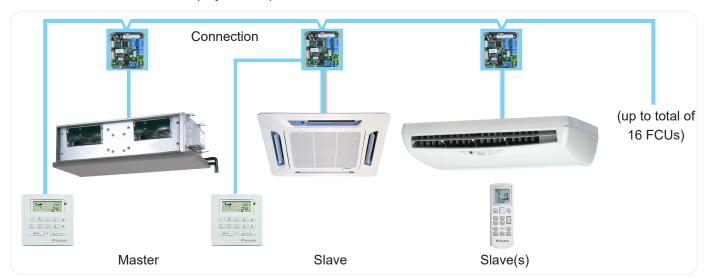


### Basic features:

- · DIP switch setting for Group & Unit address.
- Master or slave system configuration.
- Automatic detection of control panel existence.
- Error type and unit ID indication through display control panel.
- Maximum point-to-point communication bus up to 1000m.
- A single master unit can control up to 15 slave units in each group.
- Each slave unit will sense their individual local temperature.
- Unit address range from 0 to 15 (0000-1111).

#### The NIM system consists of:

- Main board controller
- Display control panel
- NIM controller
- Communications bus



### Main board controllers and display control panel

NIM must be used in conjunction with:

- Fan coil units
- BRC51A or BRC52A

#### Supported configuration:

|        | Master | Slave |
|--------|--------|-------|
| BRC51A | •      | •     |
| BRC52A | -      | •     |

## **Intelligent Control Series**

#### **Communication Bus**

A 2-way twisted pair cable is used as the communication bus. Recommended cable for communication bus is a pair of screened and shielded twisted single core wire with core diameter of 0.5mm to 1.0mm.

#### Connection

The communication bus must be connected serially to the adjacent NIM. (Daisy chain connection). The same polarity has to be connected between the NIMs (A to A, B to B).

|   | Recommended maximum cable length (m) |
|---|--------------------------------------|
| First NIM to the furthest connected NIM | 1000                                 |
| NIM to main board                       | 10                                   |
| NIM to wired controller                 | 10                                   |

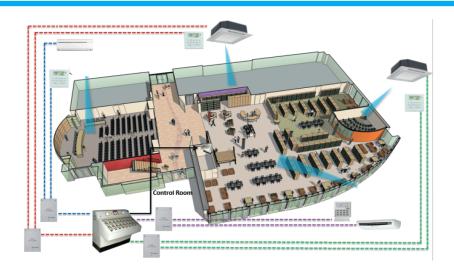
# **BMS Gateway(BAG)**

BAG provides a cost-effective way to control and monitor Daikin Malaysia Units through long distance Building Management System (BMS)

### Advantages

- Short installation time
- Simple setup and convenient operation
- Do not require highly trained installer operator
- Eliminate nuisance of handset setting being change by the public





|                   | BMS Control Funtions   | Inputs Controls         | Applications  |  |
|-------------------|------------------------|-------------------------|---|--|
|                   | Force OFF*             | Off / Unchanged         | Smoke alarm system  |  |
| Inputs            | On / Off               | On / Off                | On / Off units from long disntance control room   |  |
|                   | Mode                   | Heat / Cool             | Mode control from long distance control room  |  |
|                   | Fan Speed**            | High / Low              | Fan speed control from long distance control room   |  |
|                   | On / Off Indication    | On / Off                |   |  |
| Resistance Inputs | Fault Indication       | Alarm / Normal          | To indicate and monitor unit operation status and functionality from long distance control room |  |
|                   | Heat / Cool Indication | Heat, or Cool / Fan Dry |   |  |

<sup>\*</sup> Normally-Closed type Contact.

<sup>\*\*</sup> Fan Speed Control is only applicable for units with multiple fan speed.



- warning Daikin products are manufactured for export to numerous countries throughout the world. Prior to purchase, please confirm with your local authorised importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
  - Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
  - Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
  - Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

Cautions on product corrosion

- 1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
- 2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

Dealer

DAIKIN REFRIGERATION MALAYSIA SDN. BHD.

(formerly known as J & E Hall Refrigeration Sdn. Bhd.) Lot 10, Jalan Perusahaan 8, Kawasan Perusahaan Pekan Banting, 42700 Banting, Selangor D.E. Malaysia.

#### DAIKIN MALAYSIA SDN. BHD.

Lot 60334, Persiaran Bukit Rahman Putra 3, Taman Perindustrian Bukit Rahman Putra. 47000 Sungai Buloh, Selangor Darul Ehsan, Malaysia. http://www.daikinmalaysia.com

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