



# VENTILATION






## EFFECTIVE HEAT EXCHANGE AND SIMULTANEOUS FRESH AIR VENTILATION






High Efficiency and low noise levels are achieved by using a highly efficient heat exchange process. A comfortable air conditioned space is achieved by conveniently selecting whether to use heat exchange or normal ventilation setting, according to the requirements of the conditioned space.

- Energy Recovery Ventilator ..... 136
- Outdoor Air Unit ..... 138
- DX-Kit for air handling applications ..... 140









### Energy Recovery Ventilator range

|                                   |   |   |   |   |   |
|-----------------------------------|---|---|---|---|---|
| Airflow rate (m <sup>3</sup> /h)  | 250   | 350   | 500   | 800   | 1000  |
| Model code                        | 025   | 035   | 050   | 080   | 100   |
| <b>Energy Recovery Ventilator</b> |  |  |  |  |  |
|                                   | UTZ-BD025B  | UTZ-BD035B  | UTZ-BD050B  | UTZ-BD080B  | UTZ-BD100B  |

### Outdoor Air Unit range

|                                  |   |   |   |
|----------------------------------|---|---|---|
| Airflow rate (m <sup>3</sup> /h) | 1080  | 1680  | 2100  |
| Model code                       | 054   | 072   | 096   |
| <b>Outdoor Air Unit</b>          |  |  |  |
|                                  | ARXH054GTAH   | ARXH072GTAH   | ARXH096GTAH   |

### DX-Kit for air handling applications

|   |   |   |   |   |   |   |   |   |      |      |
|---|---|---|---|---|---|---|---|---|------|------|
| Connectable Capacity class (kW)             | 5.0   | 6.3   | 8.0   | 10.0  | 12.5  | 14.0  | 20.0  | 25.0  | 40.0 | 50.0 |
| <b>DX-Kit for air handling applications</b> |  |  |  |  |  |  |  |  |      |      |
|   | EUV unit UTP-VX30A  | Control unit UTY-VDGX   | EUV unit UTP-VX60A  | Control unit UTY-VDGX   | EUV unit UTP-VX90A  | Control unit UTY-VDGX   | EUV unit UTP-VX90A x 2  | Control unit UTY-VDGX   |      |      |

# Energy Recovery Ventilator

**Models**

- UTZ-BD025B
- UTZ-BD035B
- UTZ-BD050B
- UTZ-BD080B
- UTZ-BD100B



**Feature**

## Heat exchange ventilation and normal ventilation

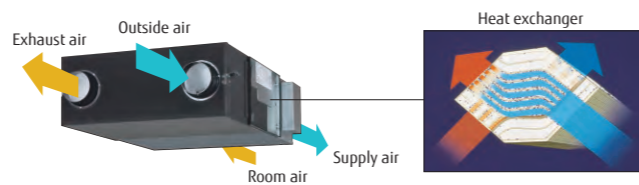
**Heat exchange ventilation**

When a room is cooled or heated, the exhausted cooling / heating energy is recovered by heat-exchange ventilation.

**Normal ventilation**

The operation is used during periods when the room space requires no cooling or heating effect, i.e. when there is minimal temperature difference between the indoor and outdoor environments.

**Adopts a highly efficient counter-flow heat exchange element**



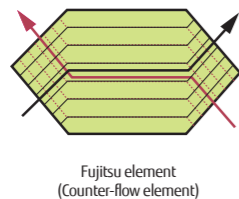
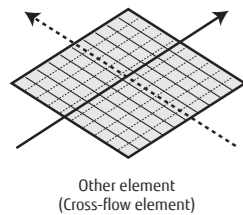
## Energy efficiency and ecology

Energy consumption is dramatically reduced by using a counterflow heat-exchange element. Air conditioning load is reduced by approximately 20%, resulting in significant energy savings. Recovers up to 77% of the heat in the outgoing air.



**Features of heat exchange element**

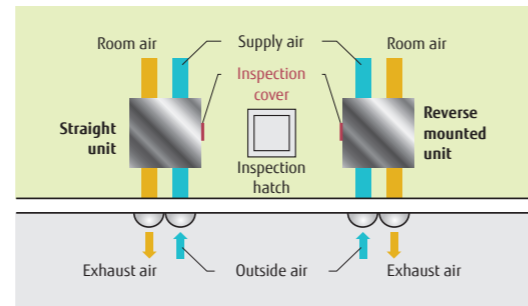
With the cross-flow element, air moves in a straight line across the element. With the counter-flow element, air flows through the element for a longer time (longer distance), so the heat-exchange effect remains unchanged.



## Reverse mountable direct air supply / exhaust system

**Adoption of straight air supply / exhaust system:** Duct design is simplified because the air supply / exhaust ducts are straight.

**Since each unit can be mounted in reverse position, only one inspection hole is needed for two units:** Two units can share one inspection hole so duct work is easier and more flexible.



## Quiet operation

Significantly reducing low pressure loss and noise allows low-noise operation.

## Slim shape and easier installation

Counter-flow heat exchange element used for reduced noise and slimmer, more compact body shape.



## Extended range of an external static pressure

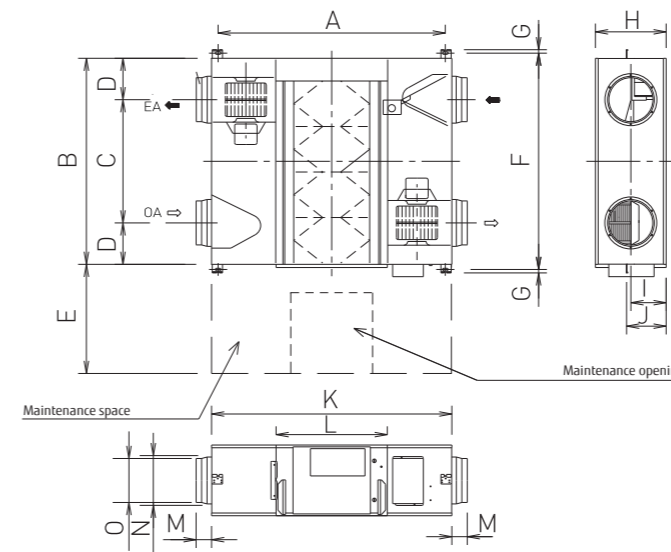
An external static pressure is improved by adopting a powerful fan motor. This allows for application in a wide variety building.

## Specifications

| Rated flow rate           |                                      | (Tentative)             |                       |                       |                       |                        |                  |                    |
|---------------------------|--------------------------------------|-------------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------|--------------------|
| Model No.                 |                                      | 250 m <sup>3</sup> /h   | 350 m <sup>3</sup> /h | 500 m <sup>3</sup> /h | 800 m <sup>3</sup> /h | 1000 m <sup>3</sup> /h |                  |                    |
| Power source              |                                      | 220 - 240V, 50Hz        |                       |                       |                       |                        |                  |                    |
| HEAT EXCHANGE VENTILATION | Input power                          | Extra high / High / Low | kW                    | 128 / 123 / 96        | 190 / 185 / 168       | 289 / 225 / 185        | 418 / 378 / 295  | 464 / 432 / 311    |
|                           | Air flow rate                        | Extra high / High / Low | m <sup>3</sup> /h     | 250 / 250 / 190       | 350 / 350 / 240       | 500 / 500 / 440        | 800 / 800 / 630  | 1000 / 1000 / 700  |
|                           | External static pressure             | Extra high / High / Low | Pa                    | 105 / 95 / 45         | 140 / 60 / 45         | 120 / 60 / 35          | 140 / 110 / 55   | 105 / 80 / 75      |
|                           | Temperature Exchange Efficiency      | Extra high / High / Low | %                     | 75 / 75 / 77          | 75 / 75 / 78          | 75 / 75 / 76           | 75 / 75 / 76     | 75 / 75 / 79       |
|                           | Energy Exchange Efficiency Cooling   | Extra high / High / Low | %                     | 63 / 63 / 65          | 66 / 66 / 71          | 62 / 62 / 64           | 65 / 65 / 68     | 65 / 65 / 70       |
|                           | Energy Exchange Efficiency Heat pump | Extra high / High / Low | %                     | 70 / 70 / 72          | 69 / 69 / 73          | 67 / 67 / 69           | 71 / 71 / 74     | 71 / 71 / 76       |
| NORMAL VENTILATION        | Sound pressure level                 | Extra high / High / Low | dB*                   | 31.5 / 30.5 / 26.5    | 33 / 31 / 25.5        | 37.5 / 35.5 / 32.5     | 37.5 / 37 / 34.5 | 38.5 / 37.5 / 34.5 |
|                           | Input power                          | Extra high / High / Low | W                     | 128 / 123 / 96        | 190 / 185 / 168       | 289 / 225 / 185        | 418 / 378 / 295  | 464 / 432 / 311    |
|                           | Air flow rate                        | Extra high / High / Low | m <sup>3</sup> /h     | 250 / 250 / 190       | 350 / 350 / 240       | 500 / 500 / 440        | 800 / 800 / 630  | 1000 / 1000 / 700  |
|                           | External static pressure             | Extra high / High / Low | Pa                    | 105 / 95 / 45         | 140 / 60 / 45         | 120 / 60 / 35          | 140 / 110 / 55   | 105 / 80 / 75      |
|                           | Sound pressure level                 | Extra high / High / Low | dB*                   | 31.5 / 30.5 / 26.5    | 33 / 31 / 25.5        | 38.5 / 38 / 32.5       | 37.5 / 37 / 34.5 | 40.5 / 39.5 / 36.5 |
|                           | Dimensions (W × D × H)               | mm                      |                       | 882 × 599 × 270       | 1050 × 804 × 317      | 1090 × 904 × 317       | 1322 × 884 × 388 | 1322 × 1134 × 388  |
| Weight                    | kg                                   |                         | 29                    | 49                    | 57                    | 71                     | 83               |                    |
| Outlet duct diameter      | mm                                   |                         | 150                   | 150                   | 200                   | 250                    | 250              |                    |
| Operation range           | °C                                   |                         | -10 ~ 40              | -10 ~ 40              | -10 ~ 40              | -10 ~ 40               | -10 ~ 40         |                    |
| Maximum humidity          | %                                    |                         | 85                    | 85                    | 85                    | 85                     | 85               |                    |

\* The noise level must be measured 1.5 m below the centre of the unit.

## Dimensions (Unit : mm)



|   | UTZ-BD025B | UTZ-BD035B | UTZ-BD050B | UTZ-BD080B | UTZ-BD100B |
|---|------------|------------|------------|------------|------------|
| A | 810        | 978        | 1018       | 1250       | 1250       |
| B | 599        | 804        | 904        | 884        | 1134       |
| C | 315        | 580        | 640        | 428        | 678        |
| D | 142        | 112        | 132        | 228        | 228        |
| E | 600        | 600        | 600        | 600        | 600        |
| F | 655        | 860        | 960        | 940        | 1190       |
| G | 19         | 19         | 19         | 19         | 19         |
| H | 270        | 317        | 317        | 388        | 388        |
| I | 135        | 159        | 159        | 194        | 194        |
| J | 159        | 182        | 182        | 218        | 218        |
| K | 882        | 1050       | 1090       | 1322       | 1322       |
| L | 414        | 470        | 470        | 612        | 612        |
| M | 95         | 70         | 127        | 85         | 85         |
| N | 219        | 162        | 210        | 258        | 258        |
| O | 144        | 144        | 194        | 242        | 242        |

# Outdoor Air Unit

Production by order

Models

- ARXH054GTAH
- ARXH072GTAH
- ARXH096GTAH

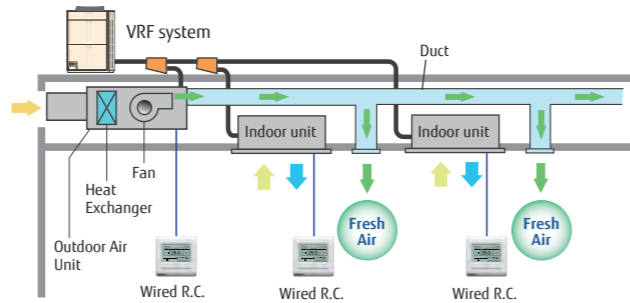
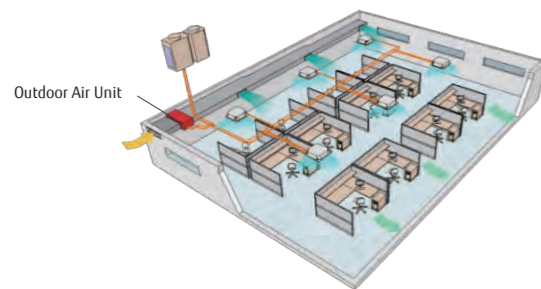


Feature

## One VRF system can provide air conditioning and air supply at the same time.

Outdoor Air Unit can be connected in a same VRF\*1 system as one of indoor unit series and can create fresh and comfortable air supply together from our high advanced technology.

\*1. Connectable VRF series: J-IIS, V-II



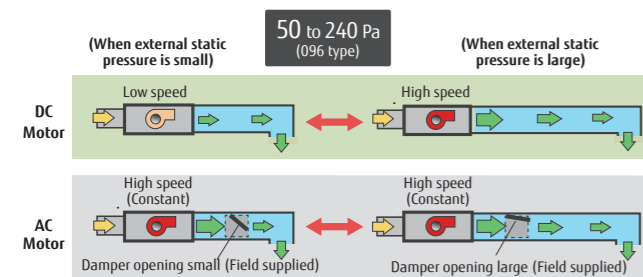
\* Make sure the connected capacity is within the range of 50% to 100% of the outdoor unit capacity. In addition, if there are mixed connections with indoor units, make the Outdoor Air Unit connection capacity 30% or less of the outdoor unit capacity.

## High energy savings and flexible duct design by using DC motor

- Greatly reduces electricity consumption by adopting permanent magnet compared to when using an AC motor.

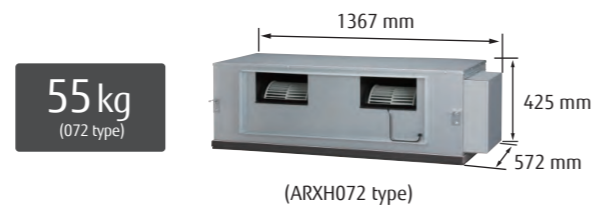


- Compared with AC motor, changing the speed makes it possible to respond flexibly to the external static pressure from 50 Pa to 240 Pa. Even if damper equipment is not used, static pressure can be adjusted and duct design is easy.
- Static pressure can be set easily using wired remote controller.



## Top class compact design

- Top class lightweight compact design at just 425 mm in height, 55 kg in weight for ARXH072 type. This unit can be installed easily even at narrow space.



## Various Controller

Supplied variety of controllers as options, such as individual controller, central controller, and building management controller.

### Individual Controller



### Central Controller



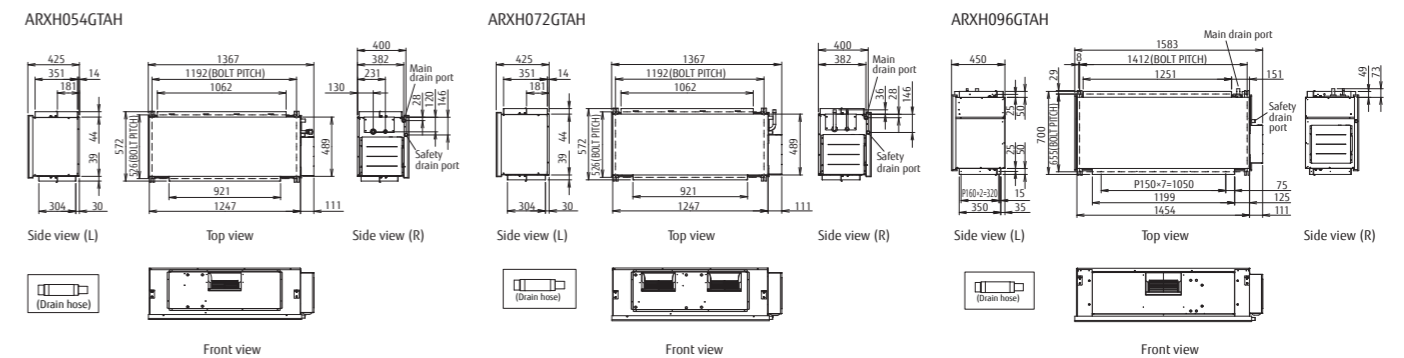
\* The temperature setting is discharged air temperature setting. The air volume is set to a constant speed.

## Specifications

|  |          | (Tentative)            |                        |                        |
|--|----------|------------------------|------------------------|------------------------|
| Rated flow rate                          |          | 1000 m <sup>3</sup> /h | 1500 m <sup>3</sup> /h | 2000 m <sup>3</sup> /h |
| Model No.                                |          | ARXH054GTAH            | ARXH072GTAH            | ARXH096GTAH            |
| Power source                             |          | 230/1/50               | 230/1/50               | 230/1/50               |
| Capacity                                 | Cooling  | 14.0                   | 22.4                   | 28.0                   |
|  | Heating  | 8.9                    | 13.9                   | 17.4                   |
| Input Power                              |          | 179                    | 292                    | 370                    |
| Airflow Rate                             |          | 1,080                  | 1,680                  | 2,100                  |
| Static Pressure                          | Standard | 185                    | 200                    | 200                    |
|  | (range)  | (50-185)               | (50-200)               | (50-240)               |
| Sound Pressure Level                     |          | 42                     | 44                     | 47                     |
| Dimensions (H x W x D)                   |          | 425×1,367×572          | 425×1,367×572          | 450×1,583×700          |
| Weight                                   |          | 48                     | 55                     | 71                     |
| Connection Pipe Diameter (Small / Large) |          | Ø9.52/Ø19.05           | Ø12.70/Ø22.22          | Ø12.70/Ø22.22          |
| Operation Range                          | Cooling  | 5 to 43                | 5 to 43                | 5 to 43                |
|  | Heating  | -7 to 21               | -7 to 21               | -7 to 21               |
| Refrigerant                              |          | R410A                  | R410A                  | R410A                  |

Note : Specifications are based on the following conditions.  
 Cooling : Outdoor temperature of 33°CDB / 28°CWB.  
 Heating : Outdoor temperature of 0°CDB / -2.9°CWB.  
 Pipe length : 7.5 m Voltage : 230 [V].

## Dimensions (Unit : mm)

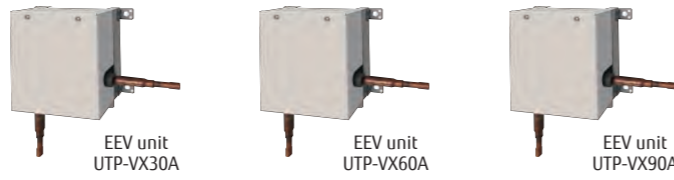


# DX-Kit for air handling applications

**Models**  
Control unit  
UTY-VDGX

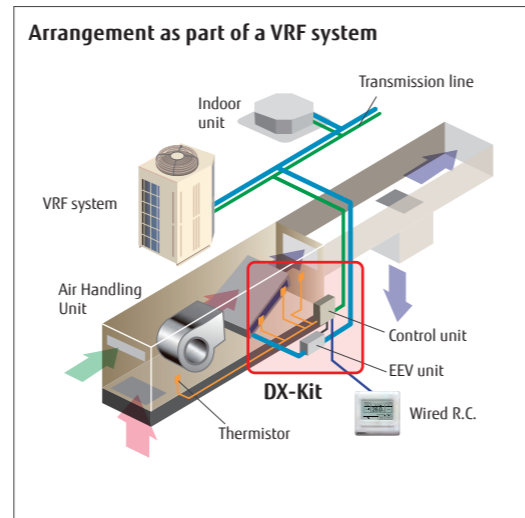
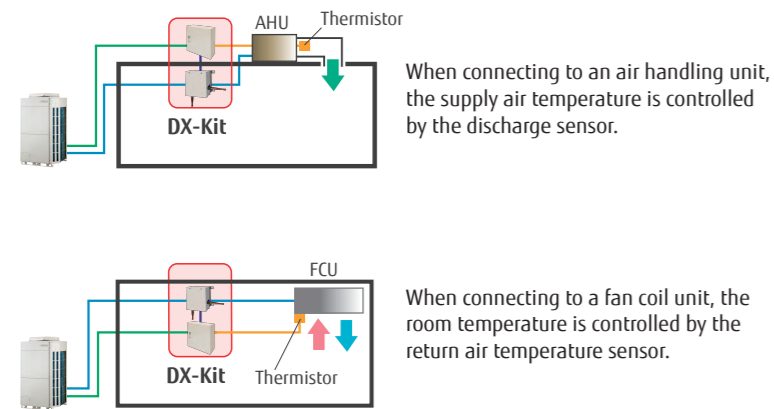
EEV unit  
UTP-VX30A  
UTP-VX60A  
UTP-VX90A

These kits enable other manufacturers air handling units (AHU) and fan coil units (FCU) to be incorporated into a Fujitsu VRF system or, be connected to a dedicated Fujitsu VRF outdoor unit as a 1:1 system to control outside air ventilation (AHU) or room temperature (FCU).



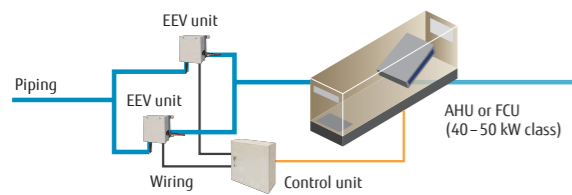
## Feature

### Multiple temperature sensors optimally control the air handling unit and fan coil unit.



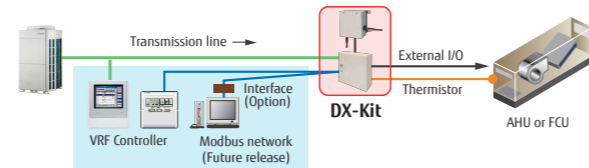
### Supports a wide range of capacity classes

- 2 EEV units can be connected in parallel and up to 20 HP (50 kW) large capacity units. (Separation Tube of UTP-LX180A is required.)
- Connectable capacity range: 5 kW to 50 kW

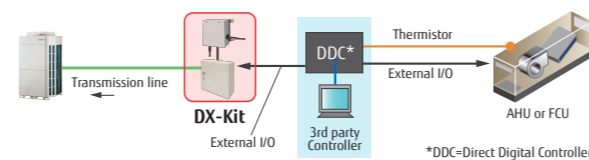


### A variety of controls to match the application

- Central control using our VRF controllers or central management controllers



- Central control from external controllers



## Functions Summary

### Inputs

- ON/OFF
- Setting temperature
- Capacity demand
- Heating / Cooling operation mode
- Fault information

### Outputs

- ON/OFF indication
- Fan ON/OFF indication
- Thermo ON/OFF indication
- Defrost indication
- Fault indication

### Modbus Control

- Possible to control via a Modbus enabled BMS by using optional interface.

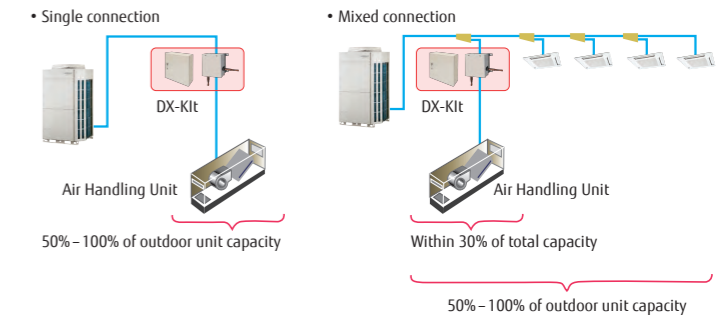
## Installation Limitation

- Connectable VRF series : All VRF
- Connectable DX-Kit system capacity range : 50 to 100% of the outdoor unit capacity
- Connectable DX-Kit system capacity range with indoor units : 30% or less of the outdoor unit capacity
- Max. wiring length from control unit : 10 m
- Max. piping length between EEV unit and indoor unit : 5 m
- Outdoor installation : Control unit (IP54 class) and EEV unit can be installed at an outdoor space.

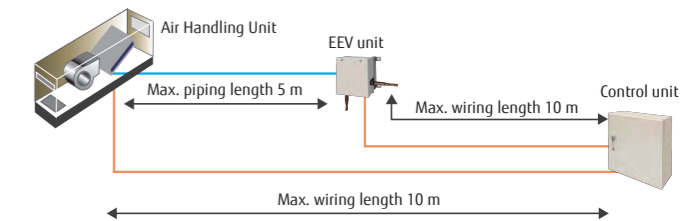
[For 2EEV units connection (option)]  
• Separation Tube : UTP-LX180A



### Connectable capacity



### Piping and wiring length



## Specifications

| EEV unit                          | UTP-VX30A |    | UTP-VX60A      |           | UTP-VX90A  |             | UTP-VX90A   |             | UTP-VX90A×2 |             |             |             |
|-----------------------------------|-----------|----|----------------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Power source                      | V/∅/Hz    |    | 230 / 1 / 50   |           |            |             |             |             |             |             |             |             |
| Connectable capacity class        | kW        |    | 5.0            | 6.3       | 8.0        | 10.0        | 12.5        | 14.0        | 20.0        | 25.0        | 40.0        | 50.0        |
| Capacity                          | Cooling   | kW | 5.6            | 6.3       | 8          | 10          | 12.5        | 14          | 22.4        | 25          | 40          | 50.4        |
|                                   |           |    | (5.1-5.9)      | (6.0-7.1) | (7.2-9.0)  | (9.1-11.1)  | (11.2-13.2) | (13.3-18.0) | (18.1-23.7) | (23.8-28.0) | (28.1-44.7) | (44.8-50.4) |
| Capacity                          | Heating   | kW | 6.3            | 7.1       | 9          | 11.2        | 14          | 16          | 25          | 28          | 45          | 56.5        |
|                                   |           |    | (5.7-6.7)      | (6.8-8.0) | (8.1-10.0) | (10.1-12.4) | (12.5-15.0) | (15.1-20.0) | (20.1-26.5) | (26.6-31.5) | (31.6-49.9) | (50.0-56.5) |
| Airflow Rate (Reference value)    | m³/h      |    | 1,060          | 1,200     | 1,520      | 1,600       | 2,000       | 2,240       | 3,560       | 4,000       | 6,400       | 8,000       |
| Dimensions (H×W×D)                | mm        |    | 160 × 220 × 90 |           |            |             |             |             |             |             |             |             |
| Weight                            | kg        |    | 2              |           |            |             |             |             |             |             |             |             |
| Connection pipe diameter (Liquid) | mm        |    | ∅9.52          |           |            |             |             |             |             |             |             |             |
|                                   |           |    | ∅12.70         |           |            |             |             |             |             |             |             |             |

| EEV unit           | UTY-VDGX |  |
|--------------------|----------|--|
| Power source       | V/∅/Hz   |  |
| Dimensions (H×W×D) | mm       |  |
| Weight             | kg       |  |

Note : Specifications are based on the following conditions.  
Cooling : Indoor temperature of 27°CDB / 19°CWB, and outdoor temperature of 35°CDB / 24°CWB.  
Heating : Indoor temperature of 20°CDB / (15°CWB), and outdoor temperature of 7°CDB / 6°CWB.  
Pipe length : 7.5 m Voltage : 230 [V].