

### VRF Outdoor Units

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



For today's "tighter" buildings, and to meet new building regulations, mechanical ventilation is needed more than ever. The most efficient way to achieve this is the use of Energy Recovery Ventilation (ERV) units. These de-centralised ventilation units can be used as a "stand alone" ventilation solution but are more commonly used in conjunction with room air conditioning systems to provide an integrated cooling, heating and ventilation system.



## Energy Recovery Ventilator Range

### Dimensions

#### Feature

#### Energy saving ventilation

Energy from stale exhaust air is transferred to the incoming outside air via a high efficiency fabric heat exchanger. This minimises the need for any additional pre-heating / cooling of the incoming outside air which dramatically reduces running costs compared to conventional electric pre-heat / cool and separate exhaust ventilation methods. Use of ERV units can reduce the size / capacity of the complimentary air conditioning system by up to 20% which saves on its capital and on-going running costs.

#### Feature

#### Humidity transfer

When the building is in cooling mode excess humidity from the warm outside air is transferred to the exhaust air side minimising the effect on the rooms. The opposite occurs when the building is in heating mode where excess humidity from the exhaust air is transferred to the dry incoming outside air. This is made possible by employing a special paper and resin heat exchanger element.

#### Feature

#### Low sound levels

The ducts of the unit and the heat exchange element are characteristic of sound shield effect, so that the office and store environment can be preserved.

Adopts a highly efficient counter-flow heat exchange element



Heat exchanger



### 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.

**Feature**

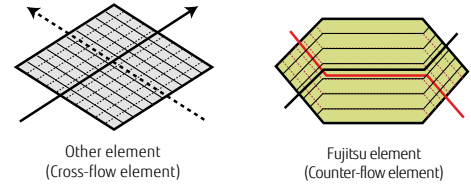
## Energy efficiency and ecology

Energy consumption is dramatically reduced by using a counter-flow 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.

**Feature**

## 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.



**Feature**

## Quiet operation

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

**Feature**

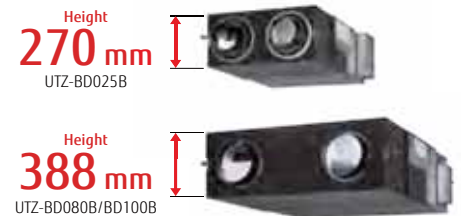
## Extended range of an external static pressure

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

**Feature**

## Slim shape and easier installation

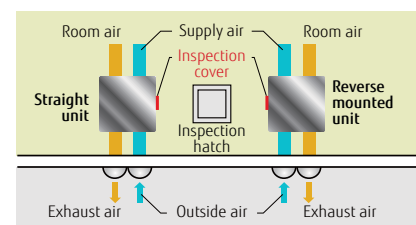
Counter-flow heat exchange element used for reduced noise and slimmer, more compact body shape.



**Feature**

## 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.



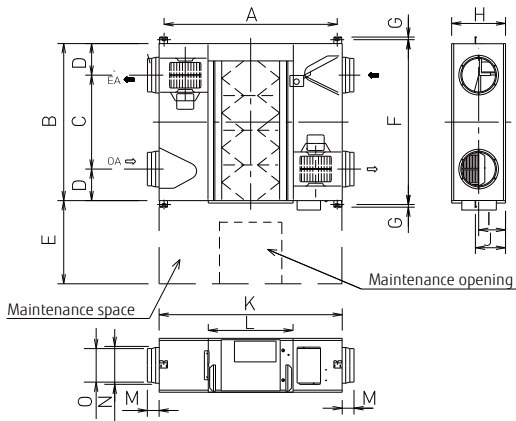
## Specifications

Rated flow rate			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	
Model No.			UTZ-BD025B	UTZ-BD035B	UTZ-BD050B	UTZ-BD080B	UTZ-BD100B	
Power source			220 - 240V, 50Hz					
Heat Exchange Ventilation	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
	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
			l/s	69 / 69 / 52	97 / 97 / 66	138 / 138 / 122	222 / 222 / 175	277 / 277 / 194
	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 x 599 x 270	1050 x 804 x 317	1090 x 904 x 317	1322 x 884 x 388	1322 x 1134 x 388	
Weight		kg	29	49	57	71	83	
Outlet duct diameter		mm	150	150	200	250	250	
Operation range		°C	-10 to 40	-10 to 40	-10 to 40	-10 to 40	-10 to 40	
Maximum humidity		%	85	85	85	85	85	

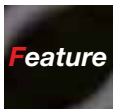
\* The noise level must be measured 1.5m below the centre of the unit.

## Specifications

(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



UTI-ERV

In order to use a Fujitsu hard-wired controller c/w time clock with the ERV units an interface is required. The UTI-ERV interface provides the following features:-

UTI-ERV interface supplied with outside air intake duct sensor for control of the ERV bypass damper e.g. heat recovery or "free cooling" bypass mode.

Dry contact terminals for remote on/off e.g. from BMS.

Allows the use of a Fujitsu UTY-RNKY\* hard wired controller which has the following features:-

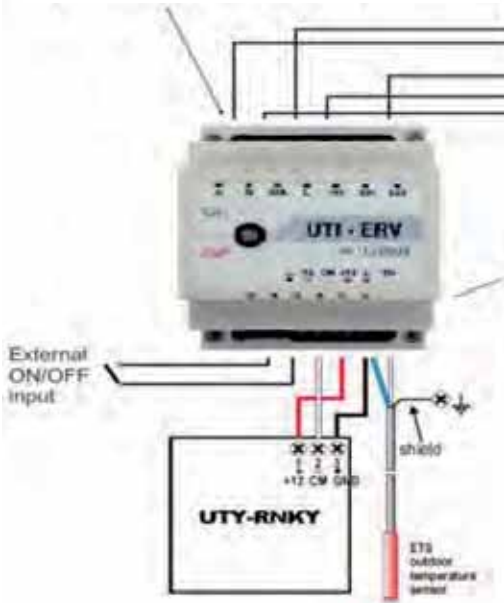
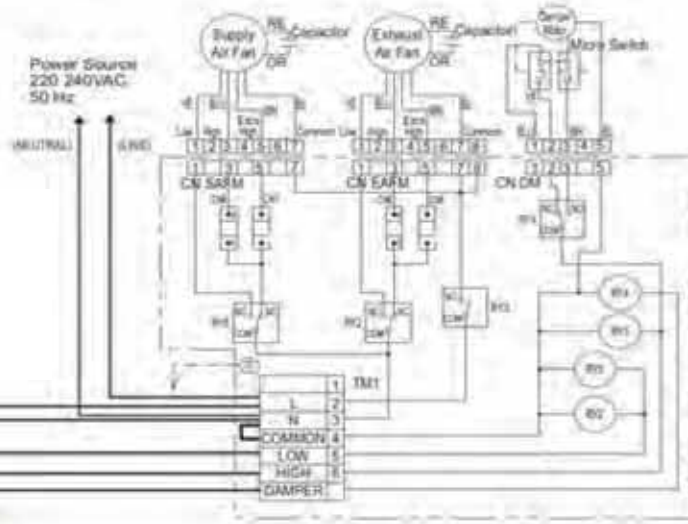
Allows ERV fan speed selection from remote controller - Hi/Low (ERV HI/low fan speeds can also be changed

by re-configuring the tapings on the fan motors).

- Controller has an integral 7 day programmable time clock.
- HW Controller has built-in room temperature sensor and temperature selection.
- Filter clean indicator facility.
- Manual or Auto control of ERV bypass damper.

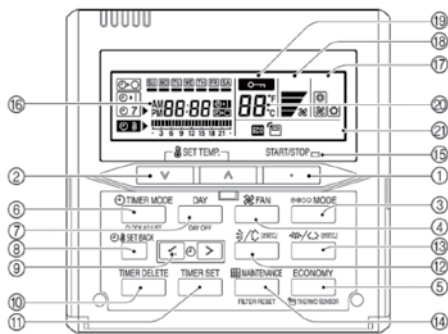
# Wired Diagram

- N - neutral wire of module power supply
- DA - controlling at the damper of ERV unit
- L - live wire of module power supply
- HI - controlling of fan speed (high speed)
- EH - controlling of fan speed (medium speed)
- is not used
- LO - controlling at fan speed (low speed)



- ⏏ - common terminal for the contact FA
- FA - external input for ON/OFF of ERV unit (connected - ON, disconnected - OFF)
- CM - terminal for wired remote controller (white wire)
- +12 - terminal for wired remote controller (red wire)
- ⏏ - common (GND) terminal for wired remote controller (black wire) and outdoor temperature sensor
- TH - terminal for outdoor temperature sensor

## Description of the buttons of remote controller\*



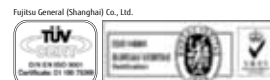
- 1 Start/Stop Button
  - 2 Set Temperature Button
  - 3 Master Control Button
  - 4 Fan Control Button
  - 5 Recovery ventilator ON/OFF
  - 6 Timer Mode (CLOCK ADJUST) Button
  - 7 DAY (DAY OFF) Button
  - 8 SET BACK Button
  - 9 Set Time Button
  - 10 DELETE Button
  - 11 SET Button
  - 12 N/A
  - 14 Filter Button
  - 15 Operation Lamp
  - 16 Timer and Clock Display
  - 17 Operation Mode Display
  - 18 Fan Speed Display
  - 19 Operation Lock Display
  - 20 Temperature Display
  - 21 Function Display
- DELETE Button  
 SET Button



# Specifications

Model name	UTI-ERV	UTY-RNKY
Power Supply	208-240V 50/60Hz, Single Phase	from UTI-ERV
Power Consumption (W)	6.5	-
Dimensions (H × W × D) (mm)	67 × 288 × 211	120 × 120 × 18
Weight (g)	1,500	160

\*UTY-RNKY to be ordered separately



•Specifications and design are subject to change without notice for further improvement.  
 •Actual products' colours may be different from the colours shown in this printed material.

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**FUJITSU GENERAL AIR CONDITIONING (UK) LTD**  
 Unit 150 Centennial Park, Centennial Avenue, Elstree, Herts. WD6 3SG  
 www.fujitsu-general.com/uk  
 Tel: +44 (0)208 731 3450 Fax: +44 (0)208 731 3451  
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