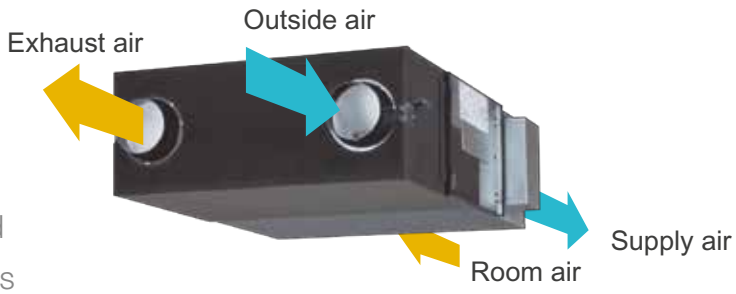
energy recovery ventilator

For todays “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 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 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 up to 20% which saves on its capital and on-going running costs.

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.

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.

FUJITSU
AIR CONDITIONERS

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

Energy recovery ventilator unit offers maximum comfort and greater energy savings.

UTZ-BD025B

UTZ-BD035B

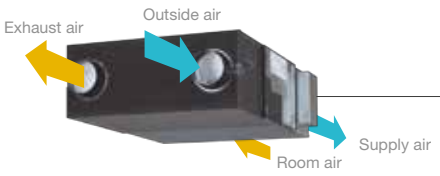
UTZ-BD050B

UTZ-BD080B

UTZ-BD100B

Features

Uses a highly efficient counter-flow heat exchange element



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

This is used in the spring and autumn, when rooms are not cooled or heated, that is, when there is little difference between the indoor and outdoor air conditions. In addition, at night during the hot season, when the outside air temperature drops the outside air is drawn inside without heat exchange, alleviating the load on the air conditioning equipment. (Requires the use and control of internal by-pass damper.)

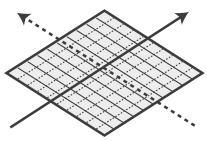
High Efficiency

20% Energy saving

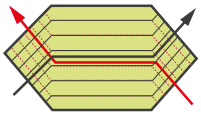
Energy efficiency and ecology

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.

Features of heat exchange element



Other element
(Cross-flow element)



Fujitsu element
(Counter-flow 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 is greater.

More Comfort

Quiet operation

Base units are quiet and when used with a properly designed duct distribution system overall room noise levels are very low.

Design Flexibility

Extended range of external static pressure

Two fan speeds are switchable to control the ventilation rates. Additional tapings on the fan motors are selectable to fine tune exhaust and air volumes.

Features

Easy Installation and Maintenance

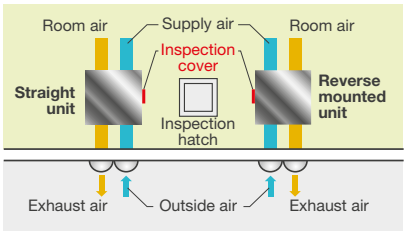
Low height and easier installation

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

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

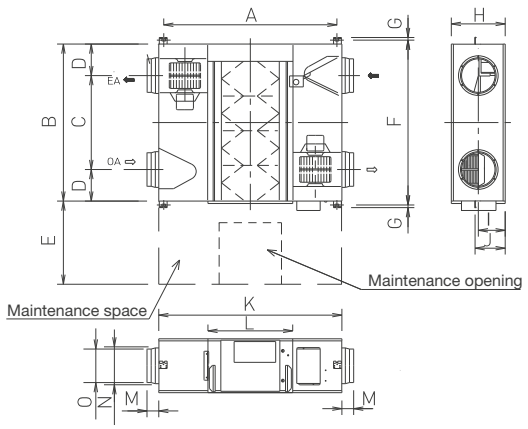
Rated flow rate				250 m3/h	350 m3/h	500 m3/h	800 m3/h	1000 m3/h
Model No.				**UTZBD025B**	**UTZBD035B**	**UTZBD050B**	**UTZBD080B**	**UTZBD100B**
Power source				220 - 240V, 50Hz				
Heat Exchange Ventilation	Input power	(Extra high)/High/Low	W	128 / 123 / 96	190 / 185 / 168	289 / 225 / 185	418 / 378 / 295	464 / 432 / 311
	Air flow rate	(Extra high)/High/Low	m3/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
	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
Normal 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	m3/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		WxDxH	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 ~ 40	-10 ~ 40	-10 ~ 40	-10 ~ 40	-10 ~ 40
Maximum humidity			%	85	85	85	85	85

* The noise level is measured 1.5 m below the centre of the unit.

Dimensions

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

(Unit : mm)



	UTZBD025B	UTZBD035B	UTZBD050B	UTZBD080B	UTZBD100B
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

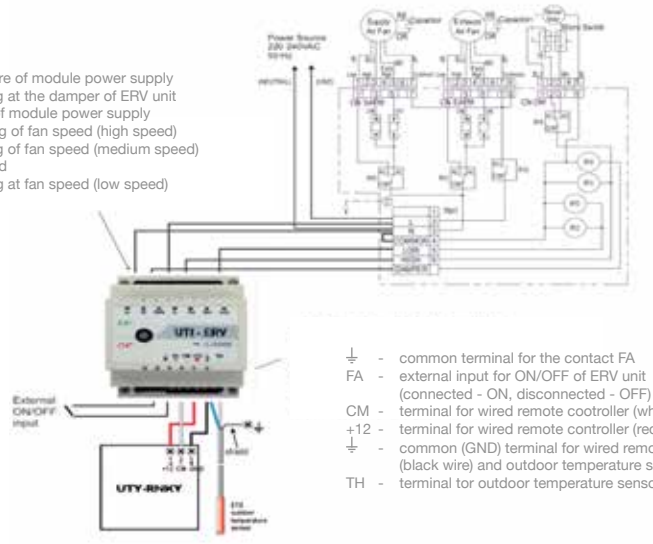
Optional Hard-wired Controller Interface : UTI-ERV

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.

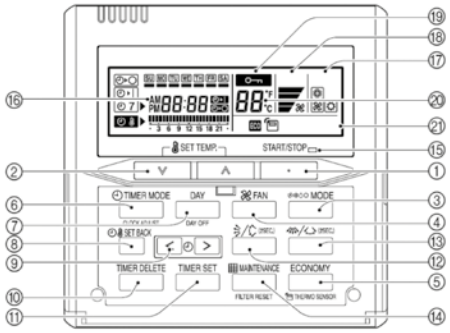
Wired diagram

N - neutral wire of module power supply
DA - controlling at the damper of ERV unit
L - live wire of module power supply
HI - conltrolling of fan speed (high speed)
EH - conltroling 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 cootroller (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 tor 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 NIA
13 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
Thermo Sensor Display
ECO Recovery ventilator ON

Specifications

Model Name	UTI-ERV
Power Supply	208-240V 50/60Hz, Single phase
Power Consummption	6.5
Dimensions (HxWxD) mm	67 x 288 x 211
Weight (g)	1,500

Fujitsu air conditioning products are available from FG Eurofred and local distributors.

FUJITSU
AIR CONDITIONERS

Cooling & Heating capacities are based on the following conditions:
Cooling: Indoor Temp.: 27°C DB/19°C WB, Outdoor Temp.: 35°C DB/24°C WB
Heating: Indoor Temp.: 20°C DB, Outdoor Temp.: 7°C DB
Note: Fuse ratings shown are only for information. Any fuses or MCB's installed on-site should be sized in accordance with I.E.E. regulations.

For full installation details contact FG Eurofred or your local distributor.

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