

Heat recovery with DX coil for VRF

Panasonic launches a heat recovery solution for greater energy efficiency. Performing well in extreme weather conditions, it can achieve up to 77 % efficiency (63 % in enthalpy efficiency).



The counter-flow heat exchanger reduces the air conditioning load, enabling customers – typically owners of hotels, restaurants and other large commercial buildings – to reduce their energy consumption and save on the cost of maintaining comfortable room temperatures.

Energy efficiency

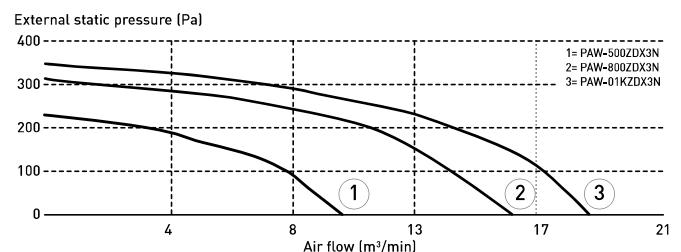
As the latest example of Panasonic's continued commitment to developing unbeatable, energy-efficient air conditioning technologies for commercial applications, the company has introduced a heat recovery device. The unit features a DX coil, and is designed to recover up to 77 % of the heat from outgoing air, and a air purifying system which helps to improve air quality. In even the most demanding commercial applications, business owners will benefit from the unit's ability to by-pass the heat exchange process when the outside air temperature is cool enough for fresh air to be drawn directly inside (free cooling). This alleviates the load on the air conditioning equipment and consequently reduces energy bills.

Supply section complete

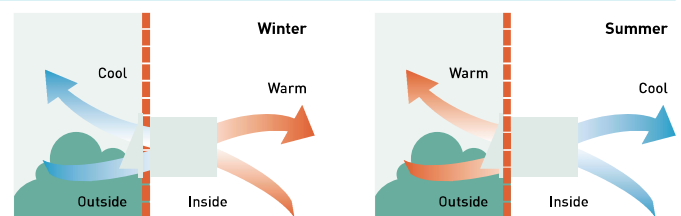
The supply section comes complete with the DX coil (using R410A refrigerant) – fitted with a solenoid control valve, freon filter, contact temperature sensors on the liquid and gas line, and NTC sensors on the upstream and downstream air flows. The built-in electric box is equipped with a PCB to control the internal fan speed and to interconnect the outdoor and indoor units, and the ducts are connected by circular plastic collars.

Characteristic curves

The following curves show the unit external static pressure at maximum fan speed for each model.



Balanced Ventilation





CONEX



Optional controller. CONEX wired remote controller. CZ-RTC6 - CZ-RTC6BL



Optional Controller. Control for hotel application. PAW-RE2C4



Optional Controller. Wired remote controller. CZ-RTC5B

Indoor unit		PAW-500ZDX3N		PAW-800ZDX3N		PAW-01KZDX3N		
Power supply	Voltage	V	230	230	230	230	230	
	Phase		Single phase	Single phase	Single phase	Single phase	Single phase	
	Frequency	Hz	50	50	50	50	50	
Air flow		m ³ /min	8,33	13,33	16,67			
External static pressure ¹⁾		Pa	90	120	115			
Maximum current	Total full load	A	0,6	1,4	2,1			
Input power		W	150	320	390			
Sound pressure ²⁾		dB(A)	39	42	43			
Piping diameter	Liquid pipe	Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)			
	Gas pipe	Inch (mm)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)			
Heat recovery			Cooling	Heating	Cooling	Heating	Cooling	Heating
Temperature efficiency	%		76	76	76	76	76	76
Enthalpy efficiency	%		63	67	63	65	60	62
Saved power summer mode or winter mode*	kW		1,70	4,30 (4,80)	2,50	6,50 (7,30)	3,20	8,20 (9,00)
DX coil								
Total / Sensible capacity	kW		3,00/2,10	2,50/2,70	5,10/3,50	4,40/4,80	5,80/4,10	5,20/6,70
OFF temperature	°C		15,9	28,0 (27,3)	15,5	29,6 (29,0)	16,2	28,5 (27,8)
OFF relative humidity	%		90	16 (15)	90	14 (13)	89	15 (14)

Nominal summer conditions: Outside air: 32 °C DB, RH 50 %. Ambient air: 26 °C DB, RH 50 %. Nominal winter conditions: Outside air: -5 °C DB, RH 80 %. Ambient air: 20 °C DB, RH 50 %. Cooling mode air inlet condition: 28,5 °C DB, RH 50 %; evaporating temperature 7 °C. Heating mode air inlet condition: 13 °C DB, RH 40 % (11 °C DB, RH 45 %); condensating temperature 40 °C. DB: Dry Bulb; RH: Relative Humidity, 1) Referred to the nominal air flow after filter and plate heat exchanger. 2) Sound pressure level calculated at 1 m far from: ducted supply exhaust air ducted return - first air intake / service side, at normal condition. * Tentative data.

Accessories

CZ-RTC6	CONEX wired remote controller (non-wireless)
CZ-RTC6BL	CONEX wired remote controller with Bluetooth®
CZ-RTC5B	Wired remote controller with Econavi function
PAW-RE2C4-MOD-WH	Modbus RS-485 touch room controller with I/O, White

Accessories

PAW-RE2D4-WH	Touch display control with 2 digital inputs, White
PAW-RE2C4-MOD-BK	Modbus RS-485 touch room controller with I/O, Black
PAW-RE2D4-BK	Touch display control with 2 digital inputs, Black

Interconnection

This ventilation unit is connected to an ECOi indoor unit (3,0 kW, 4,0 kW or 4,5 kW) and can be controlled by the easy-to-use ECOi remote controller.

This capability makes the system an excellent choice for hotels, offices (large and small), educational settings and other buildings requiring different temperatures in multiple rooms. The system also integrates easily with building management systems.

Technical focus

- Motorised heat recovery by-pass device automatically controlled by unit control to use fresh air free-cooling when convenient

General characteristics

- Galvanized steel self-supporting panels, internally and externally insulated
- High efficiency enthalpic heat recover, static cross flow type, made by membrane with high moisture permeability, good air tightness, excellent tear, and aging



INTERNET CONTROL: Optional.

resistance, structure consisting of flat and corrugated plates. Total heat exchange with temperature efficiency up to 76 % and enthalpy efficiency up to 67 %, also at high level during summer season

- ISO16890 ePm_{2,5} 95 % (F9 EN 779) efficiency class filter with synthetic cleanable media and COARSE 50 % (G3 EN 779) pre-filter ON fresh air, COARSE 50 % filter on return air intake
- Removable side panel to access filters and heat recovery in the event of scheduled maintenance
- Low consumption, high efficiency and low noise direct driven fans
- Supply section complete with DX coil (R410A) fitted with solenoid control valve, freon filter, contact temperature sensors on liquid and gas line, NTC sensors upstream and downstream of air flow
- Built-in electric box equipped with PCB to control internal fan speed and to interconnect outdoor / indoor units
- Duct connection by circular plastic collars
- CZ-RTC5B Timer remote controller (option)

Interconnection to outdoor / indoor units

