

AIR+PLUS

Air Conditioning Technologies



HRV-IP Ceiling Type Heat
Recovery Units with Heat
Pump

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Plug & Play

HRV-IP Ceiling Type Heat Recovery Unit with Heat Pump

Ceiling type heat pump heat recovery devices are designed to meet the exhaust and fresh air needs in indoor spaces with its special plate heat exchanger and with the help of the built-in fans, it provides energy saving by recovering the heat energy without mixing the exhaust air with fresh air. The device has a compact structure thanks to the evaporator, condenser, compressor, heating-cooling equipment and control panel it includes.

► Product Material

The frame of the ceiling type heat recovery unit with heat pump is made of natural anodized aluminum profile and plastic corner fittings. The cellular panels are made of 42 mm thick rock wool, where the outer wall is electrostatic powder coated and the inner wall is made of galvanized sheet. It has self-powered, imported, silent, mono-phase (230 V) and plug-in fans. Aluminum plate heat exchangers with 40-50% efficiency are used in our heat recovery devices. Highly efficient scroll compressors are used in Heat Recovery units with Heat Pumps. The safety of the system is ensured by low and high pressure switches. Depending on the season selected from the control panel, the system operates in either heating or cooling mode. High efficiency evaporator and condenser are used in copper pipe - aluminum blade type.

A distributor is found at the inlet of the evaporator for homogeneous refrigerant distribution. Air side pressure losses are reduced since the air velocities in the evaporator and condenser are selected at 2.5 m/s or less. There is a condensate tray made of stainless steel under the evaporator and condenser. Fresh air passes through the plated heat recovery exchanger in the device after being cleaned from the particles in the outdoor and indoor ambient air by G2 class filters in the exhaust line. In this way, the supplied air is cleaned of particles and the plate heat recovery is free of dirt. Optionally, a compressor sound dampening is used to reduce compressor noise.



► HRV-IP Capacity, Dimeonsion, Electric Power and Flow Rate External Pressure Lose Table

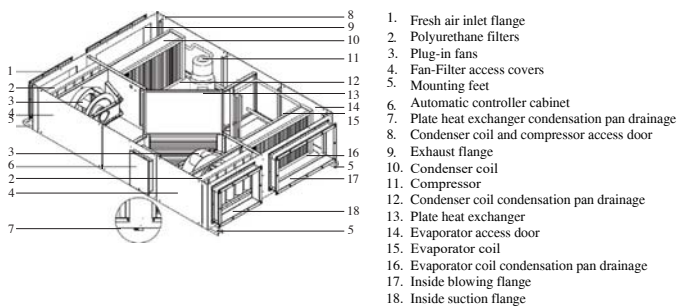
MODEL		HRV-IP-30-1000/GEN2	HRV-IP-30-2000/GEN2	HRV-IP-30-3000/GEN2	HRV-IP-30-4000/GEN2	HRV-IP-30-5000/GEN2
Air Flow	m ³ /h	1.000	2.000	3.000	4.000	5.000
External Pressure Loss	Pa	220 - (with G4 filter-Standard)	220 - (with G4 filter-Standard)	240 - (with G4 filter-Standard)	240 - (with G4 filter-Standard)	225 - (G4 filter-Standard)
Fan Type	Pluq	EC	EC	EC	EC	EC
Compressor Type		Rotary	Rotary	Scroll	Scroll	Scroll
Refrigerant	F Gas	R410A	R410A	R410A	R410A	R410A
Aluminium Plate HR Cooling Capacity	kW	1,39	2,69	3,79	5,1	6,2
Dx Battery Cooling Capacity	kW	5,76	11,40	17,52	23,22	29,40
Total Cooling Capacity	kW	7,15	14,09	21,31	28,32	35,6
Blowing Temperature in Cooling	C°	19,2	19,4	19,7	19,5	19,1
Aluminium Plate HR Heating Capacity	kW	3,01	5,84	8,22	8,8	10,3
Dx Battery Heatpump Heating Capacity	kW	6,18	11,40	17,52	23,22	30,35
Total Heating Capacity	kW	9,19	17,24	25,74	32,02	40,65
Blowing Temperature in Heating	C°	36,8	38,9	37,4	38,2	39,8
Filter - (Standard)	Class	G4 Cassette	G4 Cassette	G4 Cassette	G4 Cassette	G4 Cassette
Filter - (Optional)	Class	F7 Cassette	F7 Cassette	F7 Cassette	F7 Cassette	F7 Cassette
Filter - (Optional)	Class	F9 Cassette	F9 Cassette	F9 Cassette	F9 Cassette	F9 Cassette
Filter - (Optional)	Class	H11 Cassette	H11 Cassette	H11 Cassette	H11 Cassette	H11 Cassette
Filter - (Optional)	Class	UV-C	UV-C	UV-C	UV-C	UV-C
Electric Preheater - (Optional)	kW	2	4	6	7,5	9
Steam Humidifier Capacity - (Optional)	kg/h	4	8	15	15	15
Fan Motor Power	kW	0,500*2 (1 kW)	1,68*2	1,05*2	1,10*2 (2.2 kW)	1,82*2 (3.64 kW)
Compressor Power	kW	1,92	4,75	5,90	6,60	8,97
Installed Power Supply Voltage / frequency	kW V/Hz	2,92 230/50	6,11 380/50	9,00 380/50	8,80 380/50	12,65 380/50
Usable Fuse and Cable Cutout up to 30 meters	A-mm2	C Type - 10 A 3*2.5 mm2	C Type - 16 A 5*2.5 mm2	C Type - 32 A 5*4 mm2	C Type - 32 A 5*4 mm2	C Type - 32 A 5*4 mm2
Installed Power and Supply Voltage With Electric Heater / frequency	kW V/Hz	4,37 230/50	10,11 380/50	15,00 380/50	15,00 380/50	21,65 380/50
Usable Fuse and Cable Cutout With Electric Heater - up to 30 meters	A-mm2	C Type - 25 A 3*4 mm2	C Type - 25 A 5*2.5 mm2	C Type - 40 A 5*4 mm2	C Type - 40 A 5*4 mm2	C Type - 60 A 5*4 mm2
Installed Power and Supply Voltage Steam Humidifier / frequency	kW V/Hz	3,00 230/50	8,00 380/50	13,00 380/50	13,00 380/50	13,00 380/50
Usable Fuse and Cable Cutout With Electric Heater- up to 30 meter	A-mm2	C Type - 16 A 3*4 mm2	C Type - 25 A 5*2.5 mm2	C Type - 40 A 5*4 mm2	C Type - 40 A 5*4 mm2	C Type - 40 A 5*4 mm2
Installed Power and Supply Voltage With Steam Humidifier and Electric Heater /	kW V/Hz	5,00 380/50	12,00 380/50	19,00 380/50	19,00 380/50	19,00 380/50
Usable Fuse and Cable Cutout With Electric Heater- up to 30 meter	A-mm2	C Type - 16 A 5*2,5 mm2	C Type - 32 A 5*2.5 mm2	C Type - 40 A 5*4 mm2	C Type - 40 A 5*4 mm2	C Type - 40 A 5*4 mm2
Noise Volume Level - Compressor Without Jacket	dBa	48	51	53	53	53
Noise Volume Level - Compressor Jacketed		46,5	48,5	50	50	50
Sizes (mm)	Width (W)	1050	1350	1700	1717	1717
	Height (H)	580	620	650	705	800
	Length (L)	1500	1910	2160	2160	2160
Supply Air - Suction Air Duct Connection Size	mm	410*400 - 350*400	500*450 - 500*450	730*450 - 620*450	765*550 - 570*550	815*650 - 570*650
Outside Air Throw - Fresh Air Duct Connection Size		410*400 - 350*400	500*450 - 500*450	730*450 - 620*450	765*550 - 570*550	815*650 - 570*650
Device Weight	kg	190	320	380	430	430
Thickness of Compressor Sound Insulation Jacket	mm	30	30	30	30	30

Summer operation: Outside Air 35°C K.T. 40% rH & Inside Air 25°C K.T. 50% rH.

Winter operation: Outside Air 0°C K.T. 80% rH & Inside Air 22°C K.T. 40% rH.

It is recommended to use a preheater in areas where the outside air is between -5 and -15 degrees.

► Main Equipment of HRV-IP Device



1. Fresh air inlet flange
2. Polyurethane filters
3. Plug-in fans
4. Fan-Filter access covers
5. Mounting feet
6. Automatic controller cabinet
7. Plate heat exchanger condensation pan drainage
8. Condenser coil and compressor access door
9. Exhaust flange
10. Condenser coil
11. Compressor
12. Condenser coil condensation pan drainage
13. Plate heat exchanger
14. Evaporator access door
15. Evaporator coil
16. Evaporator coil condensation pan drainage
17. Inside blowing flange
18. Inside suction flange

► Optional Features

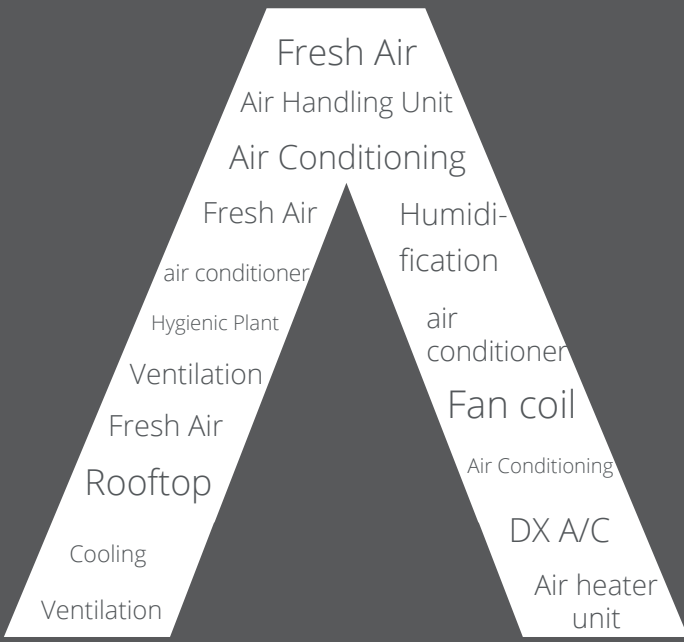
- * Electric heater can be connected.
- * Water heater coil can be connected and motorized valve control can be carried out.
- * Steam humidifier can be connected.
- * Air damper can be connected and controlled.
- * Compressor sound dampening jacket can be made.

► Control Features

- * Ceiling type heat recovery unit with heat pump can be switched On-Off.
- * Allows communication from a distance of 100 m.
- * Mode selection is possible in the device
- * Active alarms can be observed in the shape of alarm codes.
- * Time program can be drawn up.
- * Room temperature set value can be input.
- * Inside temperature can be read on the display.
- * Can connect to building automation system via Modbus RTU or BACnet MS/TP.

► Usage Features

Ceiling type heat recovery unit with heat pump are compact devices designed to provide high indoor air quality as well as saving energy. In addition to energy saving advantages, they also target to meet the need for air-conditioned fresh air in workplaces, banks, offices, hotels, houses, cinemas, fair-exhibition areas, hospitals, multi-purpose halls, restaurants, coffee halls and such high-density areas with the need to be exhausted. They are produced in standardized 3 models with an air flow range between 1000 m³/h to 3000 m³/h. The models are designed to be placed between the suspended ceiling, installed and maintained easily. The Control Unit is capable of controlling the basic equipment and optional accessories in the Heat Recovery Unit with Heat Pump.



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