

Heat recovery unit

UTNR-HP

Air flow rate 350÷4.500 m³/h

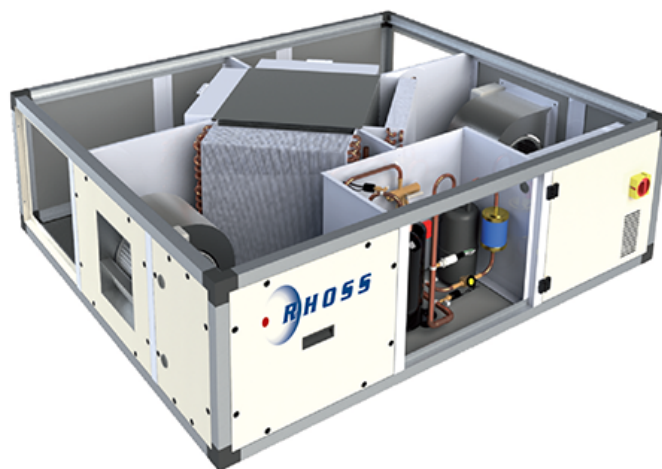


Combined crossed flow and active thermodynamic heat recovery

Standard air filter with G4 efficiency

Integrated electronics

Tax incentives*



Fresh air terminal units with two-stage heat recovery unit.

Construction features

- Recovery unit:
 - First stage of the crossed flow air-air static heat recovery with aluminium heat exchanger plates; lower condensate drain pan along the entire heat treatment zone.
 - Second stage of the active thermodynamic heat recovery unit with heat pump cooling circuit (with R410A gas) consisting of hermetic compressor (rotary or scroll type depending on the size of the machine), evaporating and condensing coils with copper pipes and continuous aluminium fins, electronic expansion valve, liquid separator and receiver, 4-way valve for cycle inversion, high and low pressure switches, Freon filter and liquid indicator.
- Fans: fresh air inlet and dual intake centrifugal exhaust type with a directly coupled electric motor. Fan unit installed on anti-vibration mountings to prevent the transmission of vibration.
- Structure and panels: frame made with extruded aluminium profile, Anticorodal 63 alloy, with preloaded nylon angular joints. Sandwich buffer panels, 23 mm thick, made internally with galvanised sheet steel and externally with galvanised pre-painted sheet steel (RAL 9002), with thermal and acoustic insulation made of injected polyurethane, with a density of 45 kg/m³.
- Filtering section: consisting of two class G4 filters (one on the fresh air intake and one on the ambient inlet), both can be removed from the bottom and side.
- Electrical panel: with integrated adjustment and power; NTC temperature probes on both the delivery and return air circuits; micro-processor electronic control for

automatic room temperature management, winter/summer switch and thawing cycles; remote control of panel up to 20 m from the unit,

Versions

Available orientation:

- UTNR-HP 01, 02 – Heat recovery unit with cross-flow and active thermodynamic double heat exchanger with 01 or 02 orientation (right connection side) or 01s or 02s (left connection side).
- The selected orientation must be specified to process the job order.

Installation

- EXT - Protective roof for outdoor installation.

Factory fitted accessories

- BER - Internally installed filament type reheating electrical resistance, complete with safety thermostats and control relays. 230/1/50 single-phase for models 035-150. 400/3/50 three-phase for models 230-450.
- BEP - Internally installed filament type reheating electrical coil, complete with safety thermostats and control relays. 230/1/50 single-phase for models 035-150. 400/3/50 three-phase for models 230-450.
- PF - Differential pressure switch alerting to dirty filter, installed on intake filter.
- ATG - Antifreeze thermostat installed downstream of

the water coil.

- EG4PF - G4 outdoor air filter with differential pressure switch.
- ERG4PF - G4 outdoor air filter and G4 return air with differential pressure switch.
- EF7 - F7 ePM1 70% outdoor air filter
- ERF7 - F7 ePM1 70% outdoor and return air filter.
- EG7PF - F7 ePM1 70% outdoor air filter with differential pressure switch.
- ERF7PF - F7 ePM1 70% outdoor and return air filter with differential pressure switch.

Separately supplied accessories

- KSBFR - Section containing hot/cold water coil for reheat or recool, placed outside the machine in front of the intake vent. Includes a stainless steel condensate drain pan with drain connection from the bottom.
- KSBFR + ATG - Hot/cold water coil section with mounted antifreeze thermostat.
- KV2V ON/OFF - 2 way valve kit with On/Off servo-control.
- KV3V ON/OFF - 3 way valve kit with On/Off servo-control.
- KSRE230 - Regulation damper consisting of a galvanised sheet steel frame with adjustable fins, equipped with 230V ON/OFF servo-control.
- KSME230R - Regulation damper consisting of a galvanised sheet steel frame with adjustable fins, equipped with 230V ON/OFF servo-control with spring return.
- KSSC - Duct silencer with wool baffles covered with glass fibre and micro-stretched sheet steel.
- KRMS - 3-damper section for operation with outdoor air at low temperature up to -20°C, with modulating servo-controls.

Controls supplied separately

- KTUP - Additional user terminal, with remote control up to 50 m, for wall mounting.
- KSCMB - Modbus serial sheet.

Technical data

UTNR-HP MODEL		35	60	100	150	230	320	450
Nominal air flow rate	m³/h	350	600	1000	1500	2300	3200	4500
Available delivery static pressure	Pa	165	170	195	155	155	185	175
Available return static pressure	Pa	140	100	140	95	95	115	110
① Sound pressure level	db (A)	59/47/52	64/50/55	62/49/54	67/54/57	65/51/59	68/54/59	70/56/59
Max available delivery static pressure – E Brushless Version	Pa	270	285	295	290	365	265	270
Max available return static pressure – E Brushless Version	Pa	245	215	240	230	305	195	205
FUNCTIONAL LIMITS								
② Standard configuration winter limit operating conditions	°C / %	MIN -10°C OUT & MIN 19°C 50% IN						
③ Winter limit operating conditions with KRMS accessory	°C / %	MIN -20°C OUT & MIN 19°C 50% IN						
Summer limit operating conditions	°C / %	MAX 38°C 50% OUT & MAX 27°C IN						
Flow rate variation field	%	-10/10						
ELECTRICAL SPECIFICATIONS								
Electrical supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50
Max. absorption	A	5,3	9	13,2	20,2	10	15,4	16,4
④ PERFORMANCE IN HEATING MODE		35	60	100	150	230	320	450
Static recovery efficiency	%	62	51	50	50	50	50	50
Active recovery	W	1740	2960	5010	7690	11090	16300	17300
Total power	W	3580	5790	9410	14390	21190	30260	36010
Treated air temperature	°C	24	23	22	22	22	22	18
⑤ Overall COP	W/W	10,9	9,6	9,22	8,64	8,9	9,9	12,6
⑥ PERFORMANCE IN COOLING MODE								
Static recovery efficiency	%	56	50	50	50	50	50	49
Active recovery	W	1810	2860	4890	7270	10580	15310	16990
Total power	W	2210	3450	5840	8720	12830	18390	21440
Treated air temperature	°C	19	20	20	20	20	20	21
⑦ Overall EER	W/W	4,2	3,9	4,2	3,9	3,9	4,1	5,01
ACCESSORIES								
BEP-BER Rated power	W	1500	1500	3000	3000	6000	9000	12000
BEP-BER no. of stages	n°	1	1	1	1	3	3	3
⑧ KSBFR-Thermal yield	W	2000	3100	4800	7800	11800	15300	21000
⑨ THAIY-Cooling capacity	W	1200	1400	2900	4400	7900	9100	13100
DIMENSIONS AND WEIGHTS								
Length	mm	1540	1540	1840	1840	2040	2040	2240
Height	mm	370	370	410	500	550	650	710
Depth	mm	1240	1240	1440	1440	1690	1690	1890
Weight	Kg	122	125	185	228	267	281	329

Data at the following conditions:

- ① Sound pressure level assessed at 1 m from: permanent ducted socket/intake socket/compressor compartment. Generally, the operating noise level differs from the indicated values depending on the operating conditions, reflected noise and peripheral noise.
- ② Referred to the nominal flow rate.
- ③ Outdoor air -5°C UR 80%; ambient air 20°C UR 50%.
- ④ Excluding adsorbed power for ventilation.
- ⑤ Outdoor air 32°C RH 50%; ambient air 26°C UR 50%.
- ⑥ Incoming air 20°C; water in/out 45/40°C
- ⑦ Incoming air 21°C-75% UR; water in/out 7/12°C



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