

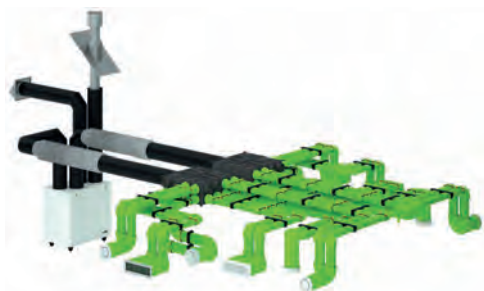
RePuro



Heat recovery unit



RePuroDistribution



AERMEC REPURDISTRIBUTION

This complete range of products for air distribution, which in association with the innovative series of units for heat and purification recovery RePuro, offers to designers, installers and end-users an efficient solution, easy in the installation and comfortable in all its cycle of life.

Examples of plenums for air distribution, which could be equipped of: electric heater, germicidal lamp, water-exchanger.



PLS
with multi-way ~ ange



PLS_M
with one-way ~ ange



PBX
with one-way ~ ange

DESCRIPTION

RePuro is an innovative counter-flow heat recovery system which ensures the correct renewal of air to indoor environments. Through the use of up to 90% high efficiency heat exchangers RePuro allows the introduction of fresh air at a temperature close to that of the room concerned, reducing energy costs that would be incurred in exchanging the air in traditional ways or by mechanical ventilation alone.

Version

- RePuro standard
- RePuro_R with electric pre-heater for continuous operation in cold climates up to -15°C.

Installation

- Wall installation and ceiling (100÷170)
- Upright (250÷650)

CHARACTERISTICS

- Heat exchanger with hexagonal shape to increase the surface area.
- Heat exchanger easily removed from the front for cleaning or replacement.
- Casing in galvanised sheet steel with internal insulation.
- Standard filter on fresh air G4
- Standard filter on extract air G2.
- Filters can be removed for cleaning or replacement.
- All units are equipped with frost protection system for climates > -10°C.
- High efficiency of 90% and above (UNI EN 308).
- Free-cooling in mid-seasons through the automatic by-pass function (RePuro 250-350-450-550-650).

- By-pass no frost (RePuro 450-550-650)
- Ionizer Cold Plasma air purifier : this is able to reduce pollutants, decomposing their molecules using electrical charges, causing the water molecules in the air to split into positive and negative ions. These ions neutralise the molecules in the gaseous pollutants, obtaining products normally present in clean air. The device is able to eliminate 90% of the bacteria. The result is clean, ionized air, free of foul odours.
- Flow rate control 0-100% of nominal air flow rate.
- Direct drive centrifugal fans, with "Brushless" EC high efficiency variable speed electric motors (ERP2015).
- Microprocessor controller with interface capability to the VMF System.
- Monitoring of the units with remote wired control panel (supplied as standard). Innovative design, extremely slim, allows control of functions via a touch keypad with LCD display.
- The panel cable is 6 metres long supplied as standard.
- Activation of the electric heater in the RePuro_R version. Front in light grey colour PANTONE COOL GRAY 1C.
- Easy to wall mount with standard supplied mounting plate, or floor mount with anti-vibration mounts AVM accessory.
- Adaptable to existing systems.
- Compact size.
- Quiet operation.
- The installation requires a condensate drain system.

ACCESSORIES

- **AVM:** Anti-vibration mounts
- **SSR:** Bearing bracket (RePuro 250-350-450-550-650)
- **FF7:** Air filters for fresh air with F7 efficiency
- **KSAE:** External air temperature sensor
- **PLS:** Plenum with acoustic lining equipped with multi-way flange to ensure a uniform distribution in all treated areas, the plenum is configured with:
 - **PLS_E** electric heater
 - **PLS_L** germicidal lamp
 - **PLS_W** water coil (requires accessory valve)
 - **PLS_NF** equipped with motorized damper for the no-frost By-pass
- **PLSM:** Plenum with acoustic lining equipped with one-way flange, the plenum is configured with:
 - **PLSM_E** electric heater
 - **PLSM_L** germicidal lamp
 - **PLSM_W** plenum with acoustic lining equipped with one-way flange)
- **VCH:** Kit consisting of powered 3-way valve, copper couplings and pipes. Combined with the accessory PLS/PLSM in the configuration with the water heat exchanger. In cooling recovery it requires an accessory tray BC
- **VCHR:** such as VCH, but with isolation as.
- **VCHD:** such as VCH, but with 2-way valve instead of 3-way one
- **BC:** Auxiliary condensate drip tray
 - **BC 10** for vertical installation

- **BC 20** for horizontal installation
- **VMF-E5B:** White recessed panel, with backlit graphic LCD and touch keypad allowing the centralised command/control of a complete hydronic system consisting of:
 - **Heat recovery units:** up to 3 outputs for heat recovery units programmed according to time-clocks and/or by measuring the air quality obtained with the VMF-VOC accessory;
 - **Fan coil units:** up to 64 fan coil zones comprising 1 master + maximum 5 slaves;
 - **Chiller/heat pump** unit equipped with controls Modu_Control, GR3 and pCO2 / pCO3 (required accessory RS 485 interface respectively MODU-485A, AER485, AER485P2 / AER485P1);
 - **Circulators:** maximum of 12 configurable zone circulators;
 - **Boiler:** boiler enable for hot water production;
 - **Domestic hot water module:** complete management of the production of domestic hot water through the control of diverting valve/circulator, immersion heater, storage tank temperature sensor, anti-legionella cycle.
- **VMF-E5N:** Variant of the VMF-E5B panel but with black coloured plastic
- **VMF-VOC:** Accessory for measuring air quality (see relevant point in the description of the VMF-E5B panel)
- **VMF-CRP:** Accessory module for the control of the boilers, pumps and heat recovery units

Mod. RePuro	Vers.	100	170	250	350	450	550	650
AVM	All	-	-	*	*	*	*	*
SSR	All	-	-	*	*	*	*	*
FF7	All	170	170	350	350	650	650	650
KSAE	All	*	*	*	*	*	*	*
Delivery plenum with multiway flange								
PLS350		*	*	*	*	-	-	-
PLS350W	(1)	*	*	*	*	-	-	-
PLS350E		*	*	*	*	-	-	-
PLS350L		*	*	*	*	-	-	-
PLS350WE	(1)	*	*	*	*	-	-	-
PLS350WL	(1)	*	*	*	*	-	-	-
PLS350WLE	(1)	*	*	*	*	-	-	-
PLS350LE		*	*	*	*	-	-	-
PLS650		-	-	-	-	*	*	*
PLS650W	(1)	-	-	-	-	*	*	*
PLS650E		-	-	-	-	*	*	*
PLS650L		-	-	-	-	*	*	*
PLS650WE	(1)	-	-	-	-	*	*	*
PLS650WL	(1)	-	-	-	-	*	*	*
PLS650WLE	(1)	-	-	-	-	*	*	*
PLS650LE		-	-	-	-	*	*	*
Delivery plenum with one-way flange								
PLSM350		*	*	*	*	-	-	-
PLSM350W	(1)(2)	*	*	*	*	-	-	-
PLSM350E		*	*	*	*	-	-	-
PLSM350L		*	*	*	*	-	-	-
PLSM350WE	(1)(2)	*	*	*	*	-	-	-
PLSM350WL	(1)(2)	*	*	*	*	-	-	-
PLSM350WLE	(1)(2)	*	*	*	*	-	-	-
PLSM350LE		*	*	*	*	-	-	-
PLSM650		-	-	-	-	*	*	*
PLSM650W	(1)(2)	-	-	-	-	*	*	*
PLSM650E		-	-	-	-	*	*	*
PLSM650L		-	-	-	-	*	*	*
PLSM650WE	(1)(2)	-	-	-	-	*	*	*
PLSM650WL	(1)(2)	-	-	-	-	*	*	*
PLSM650WLE	(1)(2)	-	-	-	-	*	*	*
PLSM650LE		-	-	-	-	*	*	*
Kit per plenum								
VCH	(3)	*	*	*	*	*	*	*
VCHR	(3)	*	*	*	*	*	*	*
VCHD	(3)	*	*	*	*	*	*	*
BC10		*	*	*	*	*	*	*
BC20		*	*	*	*	*	*	*
VMF-system								
VMF-CRP		*	*	*	*	*	*	*
VMF-VOC		*	*	*	*	*	*	*
VMF-E5N		*	*	*	*	*	*	*
VMF-E5B		*	*	*	*	*	*	*

(1) Combination with three-way valve kit required.

(2) If you intend to use all the after-heating coil system, or in all the situations in which the air temperature inside the pipe could provoke condensation on external surfaces of pipe, it is mandatory to isolate adequately the installation components.

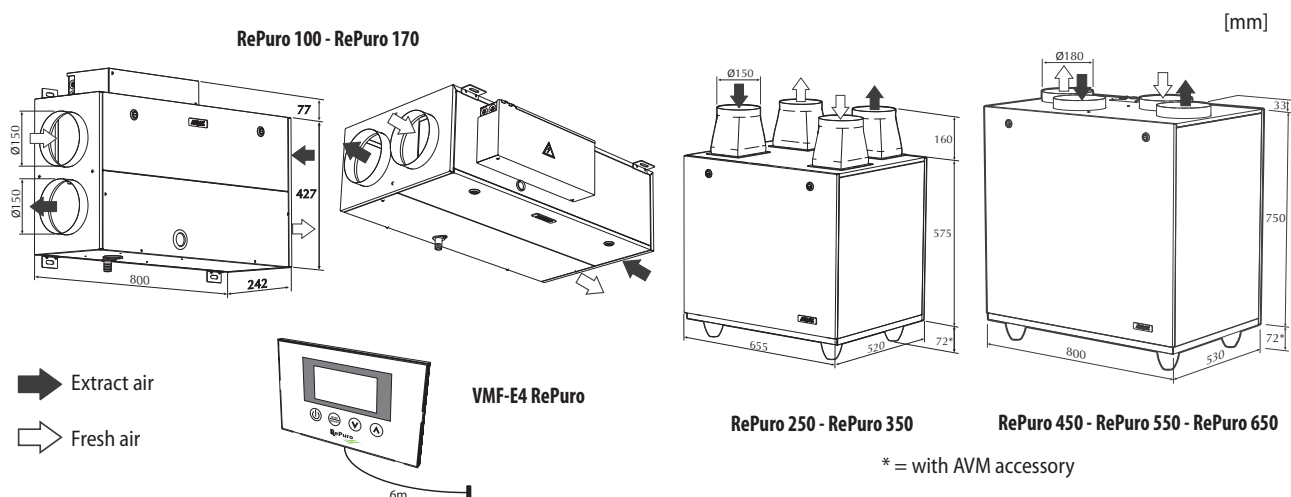
(3) in the cold-functioning they require the accessory BC10 o 20

TECHNICAL DATA

MOD.		RePuro	100	170	250	350	450	550	650
230V ~ 50Hz									
Nominal air flow rate	(4)	m ³ /h	100	170	250	350	450	550	650
Available static pressure		Pa	85	20	195	133	100	120	70
Summer recovery (1)									
Summer recovery efficiency	(1)	%	90,6	85,3	86,4	82,2	83,7	81	78,5
Recovered cooling capacity	(1)	W	180	289	430	573	750	887	1015
Winter recovery (2)									
Winter recovery efficiency	(2)	%	94,4	91,2	91,9	89,4	90,3	88,6	87
Recovered heating capacity	(2)	W	957	1573	2329	3171	4118	4940	5734
Winter recovery efficiency	(3)	%	90,6	85,3	86,3	82,2	83,7	81	78,4
Recovered heating capacity	(3)	W	601	963	1433	1910	2500	2957	3386
230V ~ 50Hz									
Nominal air flow rate	(4)	m ³ /h	75	125	150	200	300	350	450
Available static pressure		Pa	135	110	331	376	210	300	270
Summer recovery (1)									
Summer recovery efficiency	(1)	%	92,7	88,6	91,2	88,7	88,3	86,7	83,7
Recovered cooling capacity	(1)	W	138	220	272	353	527	604	750
Winter recovery (2)									
Winter recovery efficiency	(2)	%	95,7	93,2	94,8	93,3	93	92,1	90,3
Recovered heating capacity	(2)	W	728	1181	1441	1891	2830	3267	4118
Winter recovery efficiency	(3)	%	92,7	88,6	91,1	88,6	88,2	86,6	83,7
Recovered heating capacity	(3)	W	462	735	908	1177	1758	2014	2500
230V ~ 50Hz									
Nominal air flow rate	(4)	m ³ /h	50	75	75	100	150	175	200
Available static pressure		Pa	185	210	426	526	310	430	485
Summer recovery (1)									
Summer recovery efficiency	(1)	%	95	92,7	95,3	93,9	93,6	92,7	91,7
Recovered cooling capacity	(1)	W	95	138	142	187	280	323	365
Winter recovery (2)									
Winter recovery efficiency	(2)	%	97	95,7	97,2	96,4	96,2	95,7	95,1
Recovered heating capacity	(2)	W	492	728	739	977	1463	1697	1928
Winter recovery efficiency	(3)	%	95	92,7	95,3	93,9	93,6	92,7	91,7
Recovered heating capacity	(3)	W	315	462	475	623	932	1077	1218
GENERAL DATA									
SEC		kWh/(m ² a)	-36	-38	-37	-40	-40	-40	-40
CLASS			A	A	A	A	A	A	A
Maximum power input		W	45	65	160	180	220	280	360

- (1) Exhaust air temperature 26°C b.s. 50% u.r.; Fresh air temperature 32°C b.s. 50% u.r.
(2) Exhaust air temperature 20°C b.s. 50% u.r.; Fresh air temperature -10°C b.s. 80% u.r.
(3) Exhaust air temperature 25°C b.s. 27% u.r.; Fresh air temperature 5°C b.s. 50% u.r. (UNI EN308)
(4) capacities obtained with air flows different from nominal ones

DIMENSIONS

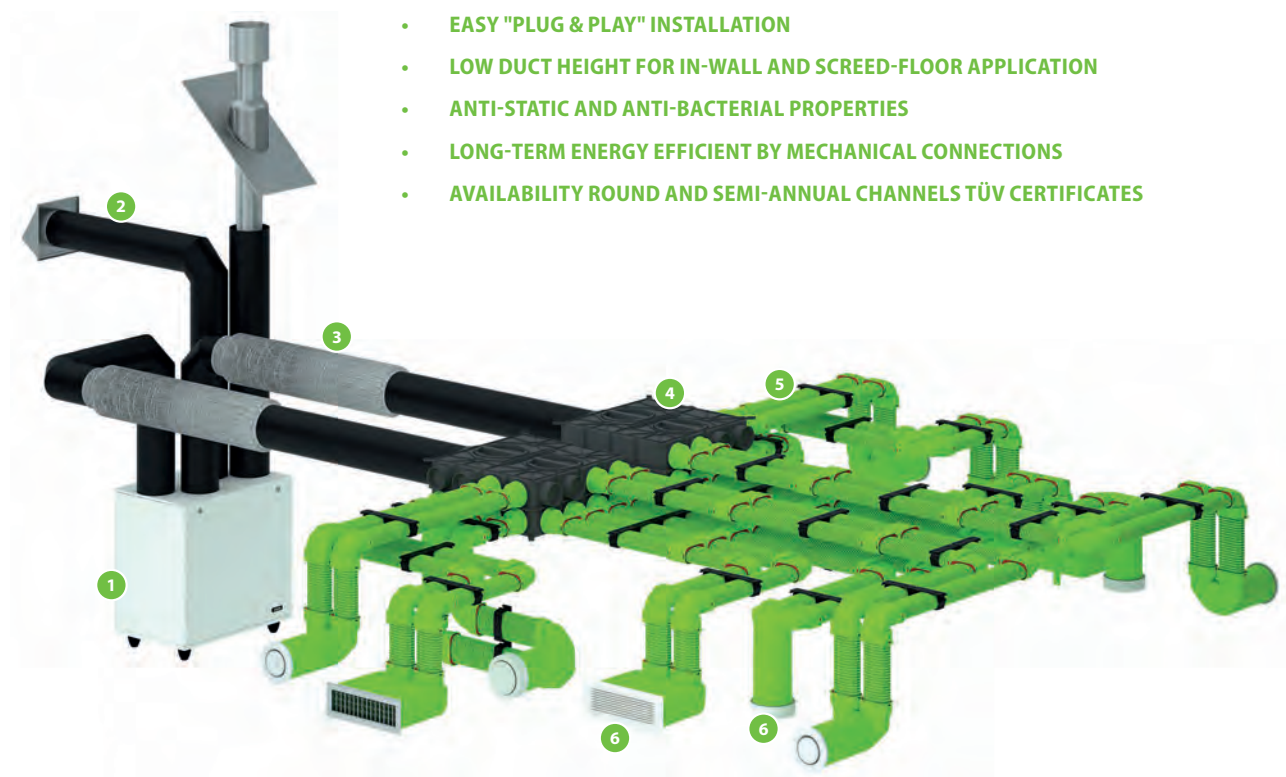


Mod. RePuro	Vers.	100	170	250	350	450	550	650
Weight	(kg)	tutte	25	25	48	48	55	55

RePuroDistribution

Aermec RePuroDistribution

This complete range of products for air distribution, which in association with the innovative series of units for heat and purification recovery RePuro, offers to designers, installers and end-users an efficient solution, easy in the installation and comfortable in all its cycle of life



- EASY "PLUG & PLAY" INSTALLATION
- LOW DUCT HEIGHT FOR IN-WALL AND SCREED-FLOOR APPLICATION
- ANTI-STATIC AND ANTI-BACTERIAL PROPERTIES
- LONG-TERM ENERGY EFFICIENT BY MECHANICAL CONNECTIONS
- AVAILABILITY ROUND AND SEMI-ANNUAL CHANNELS TÜV CERTIFICATES

Please note:

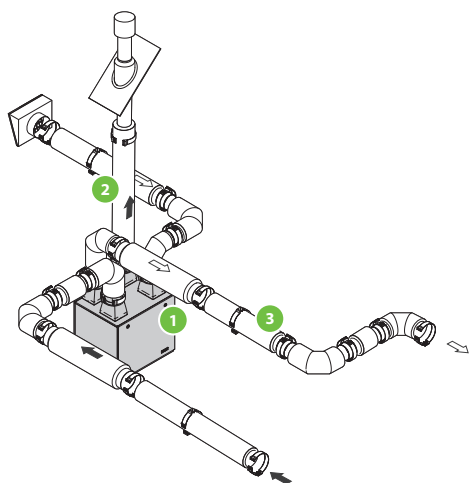
The picture shows as an indication only an example of an installation with semi-oval, semi-rigid antibacterial ducts, composed by:

- 1 heat recovery unit RePuro
- 2 Duct with external air intake/expulsion
- 3 Interconnection between RePuro and distribution box
- 4 Distribution box
- 5 Air distribution with semi-oval semi-rigid antibacterial ducts.
- 6 Terminals with nozzles and design grilles

The Aermec range in addition to point 5, provides two other air distribution system:

- air distribution with round semi-rigid ducts;
- air distribution with rigid rectangular ducts.

SINGLE SYSTEM OF AIR INLET AND EXHAUST CONNECTED TO REPURO



- 1 Heat recovery unit RePuro
- 2 Ducts with external air intake/expulsion
- 3 Interconnection between RePuro and distribution plenum

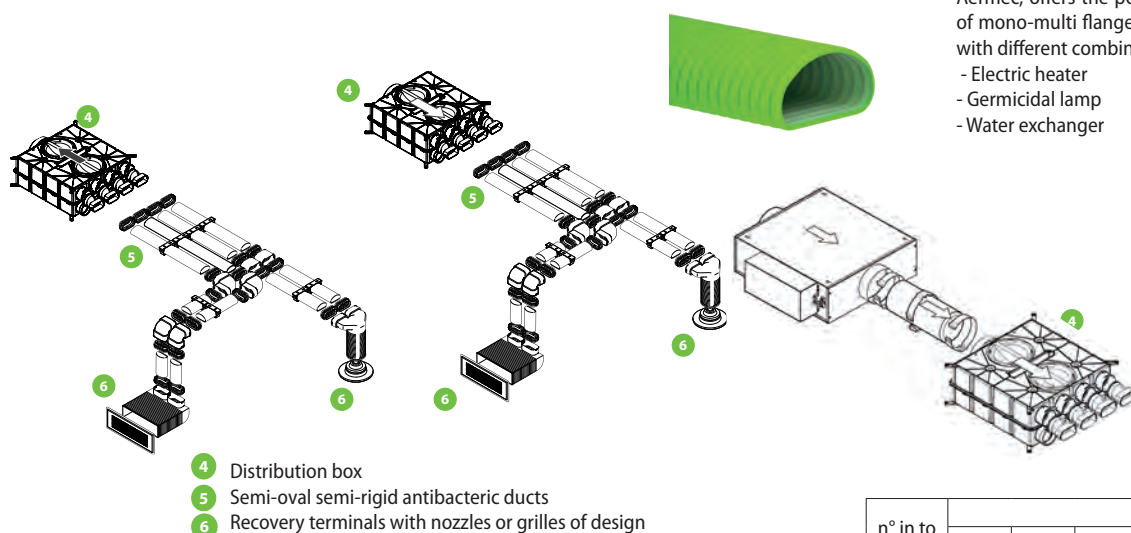


Some examples of the components

		n° in to package	RePuro						
			100	170	250 250R	350 350R	450 450R	550 550R	650 650R
COMPONENTS FOR EXTERNAL AIR INTAKE/EXPULSION SYSTEM									
TV-150	vertical black roof terminal DN150	1	•	•	•	•	-	-	-
T25-150	Underlay for pitched roofs 5-25° DN150	1	•	•	•	•	-	-	-
T45-150	Underlay for pitched roofs 25-45° DN150	1	•	•	•	•	-	-	-
T55-150	Underlay for pitched roofs 35-55° DN150	1	•	•	•	•	-	-	-
TP-150	Rose window deal for flat roofs DN150	1	•	•	•	•	-	-	-
TAP-150B	Suction wall terminal white DN150	1	•	•	•	•	-	-	-
TAP-150N	Suction wall terminal black DN150	1	•	•	•	•	-	-	-
CCI-150	Insulated duct L=2000mm - DN150	1	•	•	•	•	-	-	-
C90-150	90° insulated curve DN150	4	•	•	•	•	-	-	-
C45-150	45° insulated curve DN150	4	•	•	•	•	-	-	-
C30-150	30° insulated curve DN150	4	•	•	•	•	-	-	-
C15-150	15° insulated curve DN150	4	•	•	•	•	-	-	-
GC-150	Clip locking collar for ducts DN150	16	•	•	•	•	-	-	-
CLF-150	Locking collar joint - duct DN150	16	•	•	•	•	-	-	-
SC-150	Silencer L=1000mm - DN150	1	•	•	•	•	-	-	-
TV-180	Terminal with vertical black roof DN180	1	-	-	-	-	•	•	•
T45-180	Underlay for pitched roofs 25-45° DN180	1	-	-	-	-	•	•	•
TP-180	Rose window deal for flat roofs DN180	1	-	-	-	-	•	•	•
TAP-180B	Suction wall terminal white DN180	1	-	-	-	-	•	•	•
TAP-180N	Suction wall terminal black DN180	1	-	-	-	-	•	•	•
CCI-180	insulated duct L=2000mm DN180	1	-	-	-	-	•	•	•
C90-180	90° insulated curve DN180	4	-	-	-	-	•	•	•
C45-180	45° insulated curve DN180	4	-	-	-	-	•	•	•
C30-180	30° insulated curve DN180	4	-	-	-	-	•	•	•
C15-180	15° insulated curve DN180	4	-	-	-	-	•	•	•
GC-180	Locking collar joint DN180	16	-	-	-	-	•	•	•
CLF-180	Joint fastening collar - channel DN180	16	-	-	-	-	•	•	•
SC-180	Silencer L=1500mm - DN180	1	-	-	-	-	•	•	•
COMPONENTS OF INTERCONNECTIONS BETWEEN RePuro UNITS, PLENUM AND SILENCERS									
CCI-150	Insulated duct L=2250mm DN150	1	•	•	•	•	-	-	-
C90-150	90° insulated curve DN150	4	•	•	•	•	-	-	-
C45-150	45° insulated curve DN150	4	•	•	•	•	-	-	-
C30-150	30° insulated curve DN150	4	•	•	•	•	-	-	-
C15-150	15° insulated curve DN150	4	•	•	•	•	-	-	-
GC-150	Duct clip joints DN150	16	•	•	•	•	-	-	-
CLF-150	Locking collar joint - duct DN150	16	•	•	•	•	-	-	-
SC-150	Silencer L=1000mm - DN150	1	•	•	•	•	-	-	-
CCI-180	Insulated duct L=2250mm DN180	1	-	-	-	-	•	•	•
C90-180	90° insulated curve DN180	4	-	-	-	-	•	•	•
C45-180	45° insulated curve DN180	4	-	-	-	-	•	•	•
C30-180	30° insulated curve DN180	4	-	-	-	-	•	•	•
C15-180	15° insulated curve DN180	4	-	-	-	-	•	•	•
GC-180	Duct clip joint DN180	16	-	-	-	-	•	•	•
CLF-180	Locking collar joint - duct DN180	16	-	-	-	-	•	•	•
SC-180	Silencer L=1500mm - DN180	1	-	-	-	-	•	•	•

Please note: For further informations on the typologies of installations and of accessories, please refer to the dedicated documentation available on Aermec website www.aermec.com.

DISTRIBUTION SYSTEM WITH SEMI-OVAL SEMI-RIGID ANTIBACTERIC DUCTS



n° in to package	RePuro						
	100	170	250 250R	350 350R	450 450R	550 550R	650 650R

COMPONENTS OF DISTRIBUTION SEMI-OVAL SEMI-RIGID BETWEEN PLENUM AND ELEMENTS FOR AIR DIFFUSION AND RECOVERY .

PBX6-125	Distribution box PP 6 mouths + DN125	1	•	•	•	•	-	-	-
PBX8-MDL	Distribution box PP 8 mouths + multi-lateral diameter	1	•	•	•	•	-	-	-
PBX8-MDT	Distribution box PP 8 mouths + multi-diameter upper	1	•	•	•	•	-	-	-
PBX16-MDL	Distribution box PP 16 mouths + multi-lateral diameter	1	-	-	-	-	•	•	•
TBR	The package of this accessory includes 10 pieces.	10	•	•	•	•	•	•	•
CO30	Semi-oval semi-rigid antibacterial duct L=30	1	•	•	•	•	•	•	•
CO50	Semi-oval semi-rigid antibacterial duct L=50m	1	•	•	•	•	•	•	•
SMC	Mounting bracket for semi-oval semi-rigid antibacterial ducts	10	•	•	•	•	•	•	•
ADT	Sealing ring for semi-oval semi-rigid antibacterial ducts	8	•	•	•	•	•	•	•
CVO	Vertical curve for semi-oval duct	3	•	•	•	•	•	•	•
COO	Horizontal curve for semi-oval semi-rigid antibacterial ducts	2	•	•	•	•	•	•	•
RDPT1	Flow rate regulator for circular ducts	10	•	•	•	•	•	•	•
GCO	Joint for semi-oval semi-rigid antibacterial ducts	4	•	•	•	•	•	•	•
GOO90	90° curve to attach semi-oval semi-rigid antibacterial ducts with round semi-rigid ducts.	1	•	•	•	•	•	•	•
AD125X2	Adaptor for nozzle(x 2) - DN125	1	•	•	•	•	•	•	•
CGP	Collector for flat grille (x 2) - (309x86)	1	•	•	•	•	•	•	•
ADG	Adaptor for grille (140x140)	1	•	•	•	•	•	•	•

TERMINALS FOR AIR INTAKE AND INPUT FROM ROOMS SUGGESTED FOR RESIDENTIAL USE

Some examples



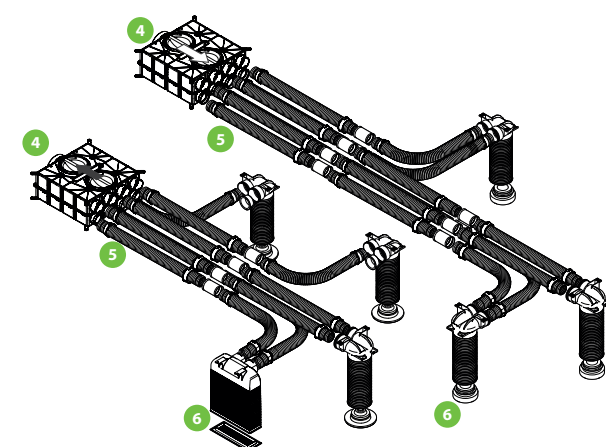
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GRM	Painted steel grille RAL9010	1	•	•	•	•	•	•	•
GRAI	Stainless steel grille	1	•	•	•	•	•	•	•
BES-125	Extraction nozzle DN 125	6	•	•	•	•	•	•	•
BIM-125	Input nozzle DN125	3	•	•	•	•	•	•	•

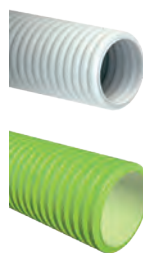
TERMINALS FOR AIR INTAKE AND INPUT FROM ROOMS SUGGESTED FOR COMMERCIAL USE

GRQM	Square grille with fixed aluminium fins	1	•	•	•	•	•	•	•
GRRM	Rectangular grille with fixed aluminium fins	1	•	•	•	•	•	•	•
GRQB	Square grille with horizontal and vertical swinging aluminium fins	1	•	•	•	•	•	•	•
GRRB	Rectangular grille with horizontal and vertical swinging aluminium fins	1	•	•	•	•	•	•	•
GRQL	Square grille with vertical swinging aluminium fins	1	•	•	•	•	•	•	•
GRRL	Rectangular grid with aluminum-oriented vertical fins	1	•	•	•	•	•	•	•

DISTRIBUTION SYSTEM WITH ROUND SEMI-RIGID DUCTS

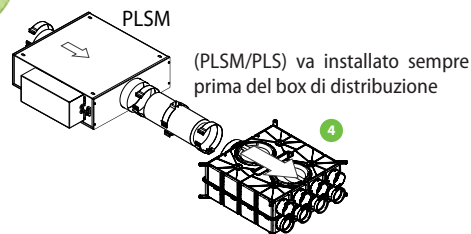


- 4 Distribution box
- 5 Semi-rigid round ducts
- 6 Recovery terminals with nozzles and design grilles



Aermec offers the opportunity for an eventual after-treatment of intake plenum mono-multi flange (PLSM/PLS) with different combinable accessories:

- Electric heater
- Germicidal lamp
- Water exchanger



n° in to package	RePuro						
	100	170	250 250R	350 350R	450 450R	550 550R	650 650R

COMPONENTS FOR DISTRIBUTION ROUND SEMI-RIGID BETWEEN PLENUM AND ELEMENTS FOR AIR DIFFUSION AND RECOVERY

PBX6-125	Distribution box PP 6 mouths + DN125	1	•	•	•	•	-	-	-
PBX8-MDL	Distribution box PP 8 mouths + multi-lateral diameter	1	•	•	•	•	-	-	-
PBX8-MDT	Distribution box PP 8 mouths + multi-diameter upper	1	•	•	•	•	-	-	-
PBX16-MDL	Distribution box PP 16 mouths + multi-lateral diameter	1	-	-	-	-	•	•	•
TBR	The package of this accessory includes 10 pieces.	10	•	•	•	•	•	•	•
CT50	Round duct Ø63mm (internal) / Ø75 mm (external) L=50m	1	•	•	•	•	•	•	•
CT50AB	Round duct Ø63mm (internal) / Ø75 mm (external) L=50m Antistatic and antibacteric	1	•	•	•	•	•	•	•
RDPT1	Flow rate regulator for circular ducts	10	•	•	•	•	•	•	•
AD125X2T	Adaptor for nozzles 2xØ75mm - DN125	1	•	•	•	•	•	•	•
ADTT	Sealing ring for round ducts Ø75mm	10	•	•	•	•	•	•	•
ADTTAS	Round ducts anti-slipping sealing ring	10	•	•	•	•	•	•	•
TCT	Round semi-oval channel adaptor	5	•	•	•	•	•	•	•
GCT	Cap for round ducts Ø75mm	4	•	•	•	•	•	•	•
CGPT	Joint for round ducts Ø75mm	1	•	•	•	•	•	•	•
ADOC	Collector for flat grille - round channels.	10	•	•	•	•	•	•	•
ADGQ1T	Adaptor for rectangular grille 1xØ75mm (external)	1	•	•	•	•	•	•	•

TERMINAL FOR AIR INTAKE AND INPUT FROM ROOMS SUGGESTED FOR RESIDENTIAL USE

Some examples



GRM



BIM125



GRRM

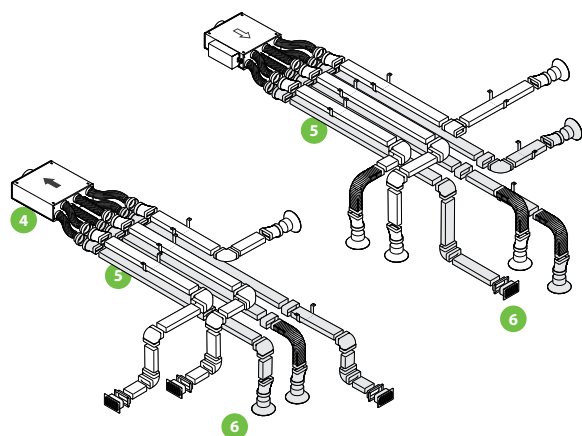
Please note: For further informations on the typologies of installations and of accessories, please refer to the dedicated documentation available on Aermec website www.aermec.com

GRM	Metal grille RAL9010	1	•	•	•	•	•	•	•
GRAI	Steinless steel grille	1	•	•	•	•	•	•	•
BES-125	Extraction nozzle DN 125	6	•	•	•	•	•	•	•
BIM-125	Input nozzle DN125	3	•	•	•	•	•	•	•

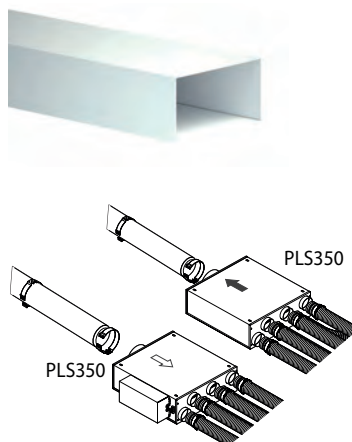
TERMINAL FOR AIR INTAKE AND INPUT FROM ROOMS SUGGESTED FOR COMMERCIAL USE

GRQM	Square grille with fixed aluminium fins	1	•	•	•	•	•	•	•
GRRM	Rectangular grille with fixed aluminium fins	1	•	•	•	•	•	•	•
GRQB	Square grille with horizontal and vertical swinging aluminium fins	1	•	•	•	•	•	•	•
GRRB	Rectangular grille with horizontal and vertical swinging aluminium fins	1	•	•	•	•	•	•	•
GRQL	Square grille with vertical swinging aluminium fins	1	•	•	•	•	•	•	•
GRRL	Rectangular grille with vertical swinging aluminium fins	1	•	•	•	•	•	•	•

DISTRIBUTION SYSTEM WITH RECTANGULAR RIGID DUCTS



- 4 distribution Plenum PLS
 5 Rectangular rigid ducts
 6 Recovery terminals with nozzles and design grilles



In this system Plenum PLS can be used also as a simple distribution box without any accessory for post-treatment.

COMPONENTS FOR RECTANGULAR RIGID DISTRIBUTION WITHIN PLENUM AND ELEMENTS FOR AIR DIFFUSION AND INTAKE

		n° in to package	RePuro						
			100	170	250 250R	350 350R	450 450R	550 550R	650 650R
CPR	Rectangular flat duct 55x110x2000mm	6	•	•	•	•	•	•	•
GRT	Rectangular joint 55x110mm	5	•	•	•	•	•	•	•
CRT	Rectangular terminal frame 55x110mm	4	•	•	•	•	•	•	•
ARC	Rectangular/Circular adaptor 55x110mm/ Ø100	6	•	•	•	•	•	•	•
GRCV90	Vertical crank 90° Rectangular Circular Adaptor 55x110mm	4	•	•	•	•	•	•	•
GRO45	Crank 45° Rectangular Horizontal 55x110mm	8	•	•	•	•	•	•	•
GRO90	Crank 90° Rectangular Horizontal 55x110mm	8	•	•	•	•	•	•	•
GRV90	Crank 90° rectangular vertical 55x110mm	6	•	•	•	•	•	•	•
TR	Rectangular terminal cap	4	•	•	•	•	•	•	•
RMC100	Multi-cone reducer Ø100 - Ø80	4	•	•	•	•	•	•	•
RMC125	Multi-cone reducer Ø125 - Ø100	4	•	•	•	•	•	•	•
RTR	Rectangular T joint 55x110mm	3	•	•	•	•	•	•	•
CR	Rectangular collar 55x110mm	10	•	•	•	•	•	•	•
MFR	Rectangular flexible sleeve 55x110x500mm	1	•	•	•	•	•	•	•
CT50	Round duct Ø63mm (internal) / Ø75 mm (external) L=50m	1	•	•	•	•	•	•	•
CT50AB	Round duct Ø63mm (internal) / Ø75 mm (external) L=50m Antistatic and antibacteric	1	•	•	•	•	•	•	•
RDPT1	Flow regulator for round ducts	10	•	•	•	•	•	•	•
ADTT	Sealing ring for round ducts Ø75mm	10	•	•	•	•	•	•	•
CPVC	Glue for PVC	2	•	•	•	•	•	•	•
NAL	Aluminium tape 50x0,3mm Lenght= 50m	5	•	•	•	•	•	•	•

ACCESSORIES FOR AIR DIFFUSION AND RECOVERY

Some examples



BA



BCI



BCI

Please note: For further informations on the typologies of installations and of accessories, please refer to the dedicated documentation available on Aermec website www.aermec.com

GRIR	Rectangular template grille 55x110mm	6	•	•	•	•	•	•	•
GRIC	Circular template grille Ø100mm	10	•	•	•	•	•	•	•
BCI	Circular template nozzle with net Ø100mm	10	•	•	•	•	•	•	•
BFR	Self-adjusting template nozzle Ø100mm	6	•	•	•	•	•	•	•
BA30	Self-adjusting nozzle 30m³/h Ø125mm	5	•	•	•	•	•	•	•
BA60	Self-adjusting nozzle 60m³/h Ø125mm	5	•	•	•	•	•	•	•

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TRS

Heat recovery unit with enthalpy exchanger

- Compact dimensions
- Fans coupled to brushless Ec motors with low energy consumption
- Easy installation
- Horizontal installation



DESCRIPTION

The TRS heat recoveries, for horizontal inside installation allow the combination of maximum comfort with a safe energy saving. It is more and more necessary in modern systems to create a forced ventilation, but also involves the expulsion of climate-controlled air, thus determining a higher energy consumption.

TRStends to solve these problems using a static heat recovery unit that saves most of the energy that would otherwise be lost.

The unit adopts high-efficiency heat recovery with countercurrent flows which consists of flat sheets of special paper that allow you to recover both sensible and latent heat (humidity). Therefore, no condensate drip tray or the relative drain pipe is required.

The high static pressures available allow ducts to be mounted, thereby allowing the extraction or input of air across multiple environments simultaneously.

They can be integrated in the direct expansion and hydronic systems both in heating and cooling mode.

FEATURES

- Very compact units that can only be installed horizontally, which require simple maintenance of the heat exchanger and filters both removable from the side.
- Free-cooling in mid-season thanks to the automatic by-pass function;

- Centrifugal fans with Brushless EC motor, with the possibility to adjust the speed on 10 different levels through the obligatory accessory TRSPTS, touch screen control panel. In the absence of this accessory it will only be possible, by acting on the remote on-off contact, to operate the fans always at maximum speed;
- Built-in electrical panel with electronic board for the control of ventilation and free-cooling functions;
- Hexagonal-shaped enthalpy recovery unit to increase the exchange surface;
- Self-supporting panels in galvanized sheet with insulation, both internal and external. Access via the side door;
- ISO 16890 ePM2.5 95% efficiency class filter with synthetic cleanable media and COARSE 50% pre-filter on fresh air, COARSE 50% filter on return air intake;
- Pressure switch with integrated dirty filter signal;
- Connections to funnels with plastic fittings;
- Silent operation;
- The installation does not require a condensate drain system.

ACCESSORIES

The following accessories are available for complete control of the TRS recovery units:

TRSPTS: Control panel with Touch Screen. Mandatory accessory.

TRSQSW: Wall CO2 probe.

TRSUSW: Wall humidity probe.

ACCESSORIES COMPATIBILITY

Accessory	TRS1001	TRS1301	TRS251	TRS351	TRS501	TRS651	TRS801
TRSPTS	•	•	•	•	•	•	•
TRSQSW	•	•	•	•	•	•	•
TRSUSW	•	•	•	•	•	•	•

PERFORMANCE SPECIFICATIONS

		TRS251	TRS351	TRS501	TRS651	TRS801	TRS1001	TRS1301
Fans (1)								
Nominal air flow rate	m ³ /h	250	350	500	650	800	1000	1300
Nominal useful head	Pa	90	140	110	100	140	140	140
Maximum input power	A	0,5	0,6	0,6	1,2	1,4	2,1	2,7
Type	type				EC			
Speed number	no.	10	10	10	10	10	10	10
SFP int.	W/(m ³ /s)	812	670	547	846	865	881	873
Maximum input power	kW	0,08	0,13	0,15	0,23	0,32	0,39	0,50
Sound data (2)								
Sound pressure level (1 m)	dB(A)	34,0	37,0	39,0	40,0	42,0	43,0	44,0
Heating performances (3)								
Winter thermal efficiency	%	73,0	74,0	76,0	74,0	76,0	76,0	74,2
Enthalpy winter efficiency	%	65,0	65,0	67,0	65,0	65,0	62,0	59,0
Cooling performances (4)								
Summer thermal efficiency	%	73,0	74,0	76,0	74,0	76,0	76,0	74,0
Summer enthalpy efficiency	%	62,0	62,0	63,0	60,0	63,0	60,0	58,0
Heat recovery unit								
Dry heating efficiency (5)	%	73,0	74,0	76,0	74,0	76,0	76,0	74,0
Power supply		230V~50Hz - 60Hz						

(1) Performances referring to clean filters

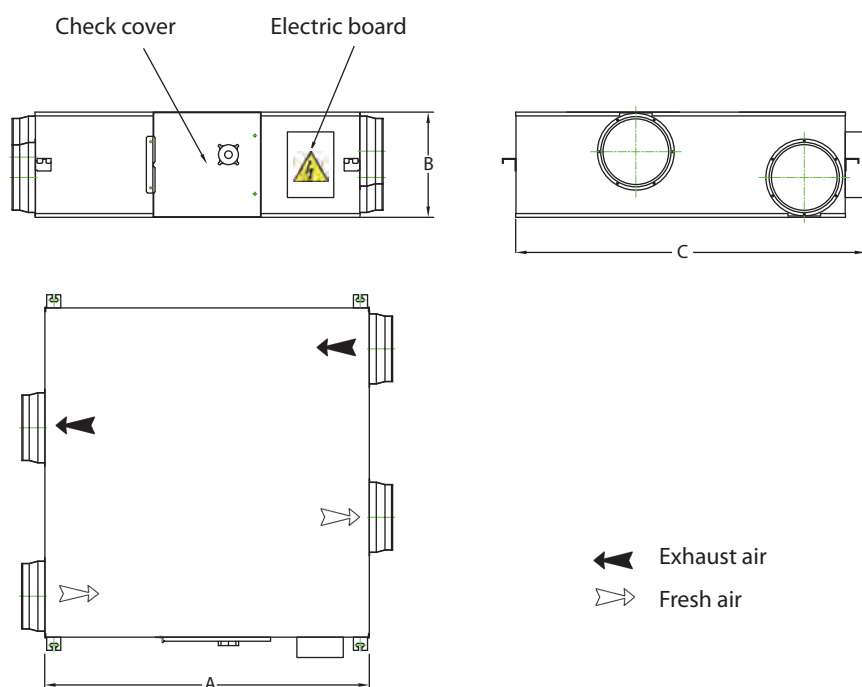
(2) Sound pressure level assessed at 1m from suction / discharge ports and the inspection side at nominal conditions in free field.

(3) Recovery air 20 °C 50%; External air 5 °C 80%.

(4) Recovery air 26 °C 50%; External air 34 °C 50%.

(5) Relation between the inlet air heating gain and the expulsion air heating loss, both relating to the outside temperature, measured in dry reference conditions, with balanced mass flow and an internal/external air heating difference of 20K, excluding the heating gain generated by the fan motors and the internal leakage.

DIMENSIONS AND WEIGHTS



		TRS251	TRS351	TRS501	TRS651	TRS801	TRS1001	TRS1301
Dimensions and weights								
A	mm	814	814	894	1186	1186	1199	1199
B	mm	270	270	270	388	388	388	388
C	mm	650	855	955	945	1200	1290	1290
Empty weight	kg	30	37	43	65	71	83	83

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RPLI

Counter-current flow heat recovery unit with inverter motor

- Compact dimensions
- EC fan Plug-fan
- Versions with water coil or electric for the post-heating
- Horizontal installation



DESCRIPTION

The RPLI heat recoveries, for horizontal inside installation allow the combination of maximum comfort with a safe energy saving.

It is more and more necessary in modern systems to create a forced ventilation, but also involves the expulsion of climate-controlled air, thus determining a higher energy consumption.

The unit is equipped with a counter-current heat recovery unit and allows an effective heat exchange between the expulsion air flow and fresh air that is pre-heated or pre-cooled, depending on the season, thus saving the energy that would otherwise be lost with the expelled exhaust air.

They can be integrated in the direct expansion and hydronic systems both in heating and cooling mode.

VERSIONS

Horizontal installation:

- **RPLI (L o P):** L low, P high, useful static pressure
- **RPLI_W: With water coil:**
- **Cooled / hot** for the sizes up 030 to 100
- **Hot** for the size up 140 to 400.
- **RPLI_E:** With electric heating coil

FEATURES

- Plug-fan radial fan with EC motors;
- **Aluminium plate counter-current flow heat recovery unit with heating efficiency in compliance with the European regulation 1253, housing in condensate collection basin;**
- **Ventilation by-pass of the external air flow equipped with internal damper, with free cooling and even anti-freeze function;**
- **Synthetic filter class M5 according to EN779 placed on the expelled air intake;**
- **Synthetic filter class F7 according to EN779 placed on the external air inlet;**
- Filters fouling pressure switches assembled;
- Self-supporting sandwich panels in galvanised sheet metal with injected polyurethane insulation density 45 kg/m³ and a thickness of 25 mm. The polyurethane is in compliance with the standard UL 94

class HBF and the panel with the standard NF P 512: 1986 in class M1;

- Condensate collection basin in galvanised steel;
- Easy accessible fans, from bottom for the sizes 030-100, from the side for the sizes 140-400;
- Accessible filters, from the top and from the bottom for the sizes 030-100, from the side for the sizes 140-400;
- The fan can be controlled with a 0-10 Vdc controller, RVC or RVCL accessory.

ACCESSORIES

M4F: External module equipped with pre-filters class G4 (according to EN779) to be placed on the external air inlet.

MBF: External module with water cooling coil and condensate collection basin (only for sizes 140-400).

MBF_X: External module with water cooling coil and condensate collection basin (only for sizes 140X-400X).

MBP: Module with post-heating water coil.

MBE: Module with electric coil (anti-freeze and/or post-heating function).

MSU: Module equipped with silencer baffles. The accessory is supplied in n°1 piece.

FGC: Circular flanges. The accessory is supplied in n°1 piece.

RVC: Speed regulator supplied in n°2 pieces.

HRC: Electrical panel (IP56) to be installed outside the heat recovery unit. It is formed of a plastic electric box 300x380x120. It houses an electronic board for controlling the loads, 3 NCT temperature probes (6m long), a 4-pole serial cable + shield for connecting the control card to the user interface of the system, and an interface panel. Via the configuration of 8 dip switches, the electronic board in the kit can control: an electric heater for pre-warming the air taken in from the room; up to 2 electric heaters (with cascade management) for the post-treatment of the fresh air delivered back into the room; a component for air purification (e.g. UV lamp, Plasmacluster, etc.).

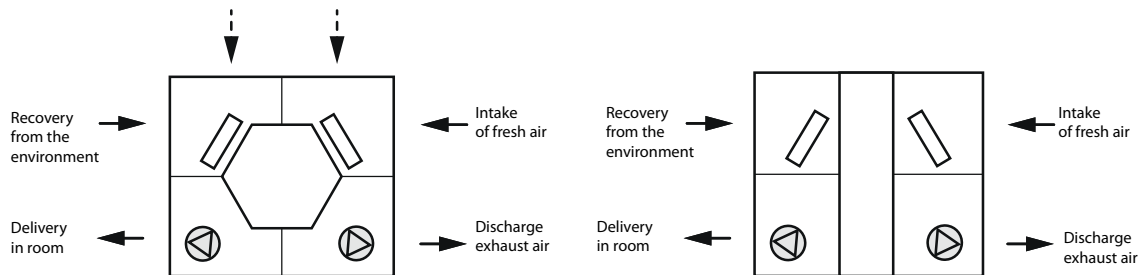
CONFIGURATOR

Field	Description
1,2,3,4	RPLI
5,6,7	Size 030, 050, 070, 100, 140, 200, 300, 400
8	Version
L	Low useful static pressure
P	High useful static pressure
9	Installation
°	Horizontal
10	Flow orientation
°	Type 1
X	Type 2
11	Exchanger
°	No internal coil
E	Post-heating electric internal coil
W	Water coil (1)

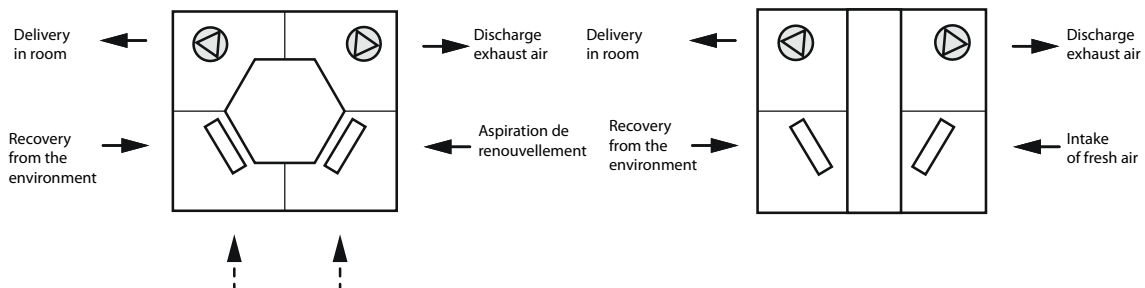
(1) Also to be used with cooled water only for sizes 030-100 including, for sizes 140-400 only be used with hot water.

AVAILABLE ORIENTATION

TYPE 1 - STANDARD (TOP VIEW)



TYPE 2 - TO BE REQUESTED DURING ORDER (TOP VIEW)



ACCESSORIES COMPATIBILITY

Regulation and control panel (outside the heat recovery unit)

Ver	030	050	070	100	140	200	300	400
L,P	HRC	HRC	HRC	HRC	HRC	HRC	HRC	HRC

External module equipped with pre-filters

Ver	030	050	070	100	140	200	300	400
L,P	M4F03	M4F05	M4F07	M4F10	M4F14	M4F20	M4F30	M4F40

External module with water cooling coil

Ver	030	050	070	100	140	200	300	400
L,P	-	-	-	-	MBF14	MBF20	MBF30	MBF40

The accessory cannot be fitted on the configurations indicated with -

Ver	030	050	070	100	140	200	300	400
L,P	-	-	-	-	MBF14X	MBF20X	MBF30X	MBF40X

The accessory cannot be fitted on the configurations indicated with -

Module with electric coil

Ver	030	050	070	100	140	200	300	400
L,P	MBE03	MBE05	MBE07	MBE10	MBE14	MBE20	MBE30	MBE40

Module with post-heating water coil.

Ver	030	050	070	100	140	200	300	400
L,P	MBP03	MBP05	MBP07	MBP10	MBP14	MBP20	MBP30	MBP40

Module equipped with silencer baffles

Ver	030	050	070	100	140	200	300	400
L,P	MSU03	MSU05	MSU07	MSU10	MSU14	MSU20	MSU30	MSU40

Circular flanges

Ver	030	050	070	100	140	200	300	400
L,P	FGC030	FGC050	FGC070	FGC100	FGC140	FGC200	FGC300	FGC400

Speed regulator

Ver	030	050	070	100	140	200	300	400
L	RVC40	RVCL	RVCL	RVC40	RVCL	RVC40	RVC40	RVC40
P	RVC40	RVC40	RVC40	RVC40	RVC40	RVC40	RVC40	RVC40

PERFORMANCE SPECIFICATIONS

Size		030	050	070	100	140	200	300	400
Heat recovery unit									
Power supply		230V~50Hz	230V~50Hz	230V~50Hz	230V~50Hz	230V~50Hz	230V~50Hz	400V 3~50Hz	400V 3~50Hz
Ventilation units type		UVNR (non-residential ventilation unit)							
Heat recovery system type	Type/n°	Static at counter-current flow / 1							
Heat capacity recovered (EN308) (1)	kW	1,6	2,4	3,6	4,8	7,1	10,0	14,9	19,7
Dry heating efficiency (2)	%	81,1	78,1	76,8	75,3	76,0	76,3	75,5	75,6
Information in compliance with Annex V of regulation EU no. 1253/2014									
Nominal air flow rate supply / recovery	m³/s	0,82	0,54	0,39	0,26	0,19	0,13	0,08	1,08
Nominal air flow rate supply / recovery	m³/h	2950	1950	1400	950	700	450	300	3900
Minimum air flow rate	m³/h	1750	1150	800	550	400	250	200	2300
Fans (3)									
Commissioning	type	Analogue signal of EC fan (0-10Vdc)							
Type	type	EC							
Number	no.	2	2	2	2	4	2	2	2
Supplied electrical power consumption	kW	0,07	0,09	0,14	0,21	0,33	0,45	0,47	0,73
Recovered electrical power consumption	kW	0,06	0,09	0,14	0,20	0,31	0,41	0,44	0,69
Total input electric power	kW	0,13	0,17	0,28	0,41	0,64	0,86	0,91	1,42
SFP int.	W/(m³/s)	820	953	907	1120	1132	1103	748	928
SFP int. lim. 2018	W/(m³/s)	1329	1234	1185	1131	1132	1118	1053	1015
Filters face velocity	m/s	0,8	1,2	1,0	1,4	2,2	2,2	1,9	2,5
Nominal external pressure Δp (3)	Pa	100	100	110	110	110	110	110	110
Useful static supply pressure	Pa	323	401	191	143	112	110	132	196
Useful static recovery pressure	Pa	328	416	198	161	154	149	164	242
Supplied internal pressure drop Δps int.	Pa	115	228	189	293	268	270	245	290
Recovered internal pressure drop Δps int.	Pa	110	213	182	274	228	230	213	244
Fans static efficiency (4)	%	35.8%	57.0%	57.0%	59.7%	57.0%	49.2%	67.2%	66.9%
Internal leakage (5)	%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%
External leakage	%	<3%	<3%	<3%	<3%	<3%	<3%	<3%	<3%
Air filter									
Expelled air filter	Type/n°	M5/1							
Delivery air filter	Type/n°	F7/1							
Delivery filter energy classification		On request							
Recovery filter energy classification		On request							

(1) Expelled air: Tdb=25°C; Twb<14°C. Fresh air: Tdb=5°C.

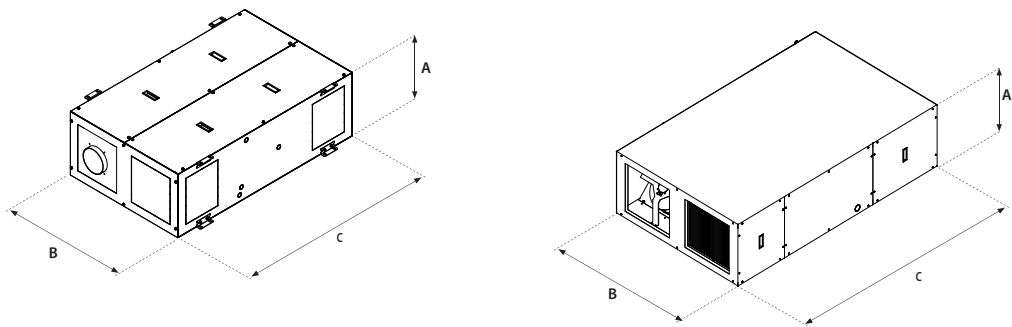
(2) Relation between the inlet air heating gain and the expulsion air heating loss, both relating to the outside temperature, measured in dry reference conditions, with balanced mass flow and an internal/external air heating difference of 20K, excluding the heating gain generated by the fan motors and the internal leakage.

(3) Performances referring to clean filters

(4) According to regulation EU 327/2011

(5) External leakage test performed at +400 Pa and -400 Pa; internal leakage test performed at 250 Pa

DIMENSIONS AND WEIGHTS



Size		030	050	070	100	140	200	300	400
Dimensions and weights									
A	mm	400	400	435	435	460	460	600	600
B	mm	800	800	945	945	1100	1600	1700	2050
C	mm	1300	1300	1600	1600	1800	1800	2350	2350
Empty weight	kg	95	93	125	123	160	210	287	340

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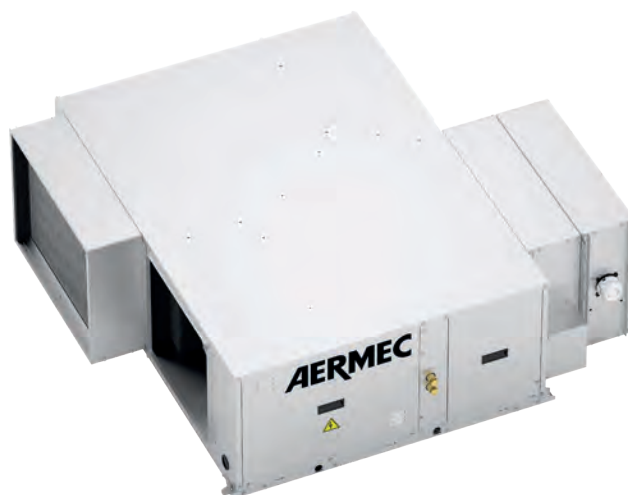
RTD

Thermodynamic recovery unit with integrated heat pump

Air flow rate 1100 - 3200 m³/h



- Compact dimensions
- Compressor with inverter
- EC fan Plug-fan
- Fixed point adjustment in delivery
- Horizontal installation



DESCRIPTION

Is an air replacement, filtration and treatment unit equipped with high efficiency thermodynamic recovery performed by an integrated cooling circuit.

The inverter compressor allows a high energy saving at the same time as maintaining the set delivery temperature.

The unit can be integrated in the direct expansion and hydronic systems both in heating and cooling mode.

FEATURES

Versions

Horizontal installation:

- **RTD:** Standard unit with constant flow-rate control.
- **RTD_Q:** Units with flow modulation according to the concentration of CO₂
- **RTD_W:** Unit with internal hot/cold water coil complete with three-way valve, modulating servo-control and anti-freeze thermostat.

Main components

- Cooling circuit **BLDC inverter compressor**.
- Plug fans with EC inverter motor.
- Safety valve.
- Lower sandwich panels in galvanised sheet metal with injected polyurethane insulation; upper and side panel in galvanised sheet metal internally lined with insulating mat
- Synthetic filter class Coarse 85% according to EN16890 on the outside air inlet complete with fouling detection pressure switch.

- Condensate collection tank in aluminium alloy with side discharge.

Regulation

- **Power and control electrical panel** on the machine.
- Programmable controller able to manage all the advanced functions present on the unit (with fixed point adjustment in delivery; cooling, heating, automatic, free cooling functions; compressor, fans and eventual water coil modulation).
- **Remote panel (mandatory accessory)** in graphic display version or Touch version.

ACCESSORIES

CPVR: Recovery fan constant air flow rate control (accessory supplied separately; the function is enabled on the controller).

PRGD1: Control panel for wall or flush-mount installation with graphic display. Maximum installation distance of 10m.

PRGDx: Touch screen control panel for wall or flush-mount installation complete with black and white frame. Maximum installation distance of 150m.

MRE: Single-stage anti-freeze electric heater module 2 kW to be installed on the external air intake (required for outdoor air temperatures below -5° C).

MF: Coarse 85% efficiency filters module (EN16890) to be positioned in recovery (side extraction) complete with filter clogging pressure switch.

■ *The remote controller is required for unit operation, it is possible to select between PRGD1 and PRGDx.*

ACCESSORIES COMPATIBILITY

Recovery fan constant air flow rate control and xontrol panel

Model	Ver	11	14	17	21	26	32
CPVR (1)	.,Q,QW,W	•	•	•	•	•	•
PRGD1 (2)	.,Q,QW,W	•	•	•	•	•	•
PRGDx	.,Q,QW,W	•	•	•	•	•	•

(1) Accessory supplied separately.

(2) The remote controller is required for unit operation, it is possible to select between PRGD1 and PRGDx.

Anti-freeze electric heater module

Model	Ver	11	14	17	21	26	32
MRE2M	.,Q,QW,W	•	•				
MRE3M	.,Q,QW,W			•			
MRE3T	.,Q,QW,W				•		
MRE5T	.,Q,QW,W					•	•

Coarse 85% efficiency filters module (EN16890)

Model	Ver	11	14	17	21	26	32
MFSR1	.,Q,QW,W	•	•				
MFSR2	.,Q,QW,W			•	•		
MFSR3	.,Q,QW,W					•	•
MF7M1	.,Q,QW,W	•	•				
MF7M2	.,Q,QW,W			•	•		
MF7M3	.,Q,QW,W					•	•

CONFIGURATOR

Field	Description
1,2,3	RTD
4,5	Size 11, 14, 17, 21, 26, 32
6	Ventilation control type
°	Constant flow (standard unit)
Q	Control via air quality probe
7	Internal hot/cold water coil
°	No coil (standard unit)
W	Internal water coil

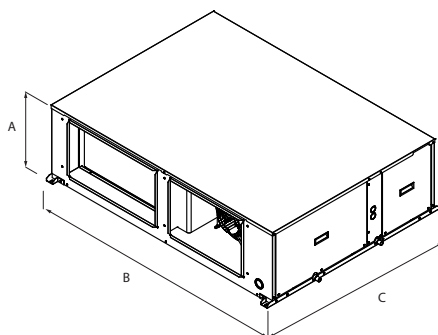
PERFORMANCE SPECIFICATIONS

		RTD11	RTD14	RTD17	RTD21	RTD26	RTD32
Air flow rates							
Nominal air flow rate	m³/h	1100	1400	1700	2100	2600	3200
Minimum air flow rate	m³/h	950	1200	1450	1800	2200	2700
Maximum air flow rate	m³/h	1200	1550	1850	2300	2850	3500
Delivery fan							
Type	type	Plug-fan					
Fan motor	type	EC Inverter motors					
Number	no.	1	1	1	1	1	1
Nominal useful head	Pa	150	150	150	150	150	150
Maximum useful head	Pa	510	580	520	360	570	380
Cooling input power	kW	-	-	-	-	-	-
Heating input power	kW	-	-	-	-	-	-
Expulsion fan							
Type	type	Plug-fan					
Fan motor	type	EC Inverter motors					
Number	no.	1	1	1	1	1	1
Nominal useful head	Pa	150	150	150	150	150	150
Maximum useful head	Pa	530	600	520	370	590	400
Cooling input power	kW	0,17	0,16	0,19	0,27	0,33	0,46
Heating input power	kW	0,18	0,18	0,22	0,31	0,39	0,54
Performance in cooling mode at maximum compressor speed (1)							
Cooling capacity	kW	6,70	8,00	8,80	11,20	14,10	16,30
Sensible cooling capacity	kW	5,70	6,80	7,80	9,80	12,10	13,80
Compressors absorbed power	kW	1,80	2,20	2,30	3,20	4,00	4,50
Total input power EN14511 2017	kW	2,09	2,43	2,58	3,55	4,48	5,15
EER EN14511:2017	W/W	3,20	3,30	3,42	3,16	3,14	3,16
EER	W/W	3,11	3,15	3,24	2,96	2,95	2,92
Performance in heating mode at maximum compressor speed							
Heating capacity	kW	7,70	9,30	10,60	13,80	16,90	20,00
Compressors absorbed power	kW	1,60	2,00	2,20	2,90	3,30	4,10
COP refrigerant circuit	W/W	4,83	4,64	4,82	4,74	5,12	4,87
COP EN14511:2017 (2)	W/W	4,07	4,13	4,26	4,20	4,45	4,18
COP	W/W	3,94	3,92	4,02	3,91	4,15	3,84
Total input power EN14511 2017	kW	1,90	2,20	2,50	3,30	3,80	4,80
Total input power	kW	2,00	2,40	2,60	3,50	4,10	5,20
Compressor							
Type	type	Twin-rotary BLDC					
Compressor regulation	Type	Inverter					
Number	no.	1	1	1	1	1	1
Refrigerant	type	R410A					
Potential global heating	GWP						
Electric data							
Input power at full load	kW	4,30	4,50	4,50	5,30	6,10	6,10
Input current at full load	A	14,40	13,80	13,80	17,90	16,90	16,90

(1) Cooling mode: aire temperature 35°C Tbs / 24 °C Tbh ; ambient air 27°C Tbs /19°C Tbh .

(2) Heating mode: aire temperature 7°C Tbs / 6°C Tbh ; ambient air 20°C Tbs /15°C Tbh.

DIMENSIONS



Dimensions and weights

Size			11	14	17	21	26	32
Dimensions and weights								
A	„Q,QW,W	mm	430	430	530	530	630	630
B	„Q,QW,W	mm	1508	1508	1508	1508	1508	1508
C	„Q,QW,W	mm	1100	1100	1100	1100	1100	1100
Empty weight	.	kg	133	135	148	160	179	179
	Q	kg	135	137	150	162	181	181
	QW	kg	135	142	161	172	197	197
	W	kg	140	142	159	170	195	195
Weight functioning	.	kg	133	135	148	160	179	179
	Q,QW,W	kg	-	-	-	-	-	-

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RPF

High performance heat recovery unit with cross-current recuperator

Air flow rate 790 - 4250 m³/h



- Cross-current heat recovery with performances superior than 90%
- Plug fans coupled with ec brushless motors for energy costs reduction



DESCRIPTION

Heat recovery units RPF have been designed for commercial applications and permits to combine an excellent ambient comfort with a sure energy saving.

It is more and more necessary in modern systems to create a forced ventilation, but also involves the expulsion of climate-controlled air, thus determining a higher energy consumption.

The units RPF thanks to the cross-current heat recuperator permit to save more than 90% of energy which otherwise would be lost with expelled stuffy air.

RPF could be integrated with traditional systems realized with fan coils, chillers, and could work both in winter and in summer. This series is indicated for both horizontal and vertical installation.

CONFIGURATIONS

O Horizontal right supply

P Horizontal left supply

V Vertical right supply

Z Vertical left supply

Each of the different configurations could be further customized thanks to the choice of the accessories.

For further information, please refer to the technical documentation on the website.

STRUCTURE

The structure is formed by aluminium profiles with thermic cut, connected by nylon angles charged with glassfibre.

The sealing panels, of 50 mm thickness, are of the sandwich type in pre-painted plate RAL 9002 (external) and galvanized sheet iron (internal) insulated with polyurethane with density 45 kg/m³. The expandent of the polyurethane foam is based on water permitting to reach GWP=0 (Global Warming Potential).

The casing is in fire reaction class M1 according to the French regulation NF P 92-512:1986. Removable panels are also foreseen to access to internal components, equipped with safety locks, condensate drain and internal modulating rolling shutter of motorized and controlled bypass for free-cooling.

Fans

Fans of supply and extract of plug-fan-type with synchronous motor with electronic control permanent magnetos (EC). The impellers are oriented in such a way to grant an optimal air flow which goes through the internal components, with the minimum noise.

Air filters

Air filtration with a filter with G4 efficiency (according to EN779) with low pressure drops on extracted air flow and a compact filter and with efficiency F7 (according to EN779) having a large filtrating surface made of glass microfibre paper, inserted in the intake flow.

The two typologies of filters are positioned upstream of the components to be protected, in order to grant low pressure drops, having a large surface available. The filtrating cells are fixed on a proper bearing frame to avoid any by-pass of non-treated air.

Their extractability is guaranteed from a proper side opening (standard), superior or inferior (optional) [with reference to the horizontal version].

Heat recovery unit

Static high efficiency cross-current heat recovery unit with high efficiency and aluminium plate.

The heat recovery unit guarantees the non-contamination of air flows, because the plates are properly sealed. Its performance is not inferior to 90% (EN308) in function to the external conditions: Air of intake: -10°C/90% - Air of extract 20°C/50% and equal capacities between supply and extract.

It is included also the function of automatic defrosting made easy by the internal modulating rolling shutter and from the possible modulation with intake flow.

REGULATION

Constituted by power electric panel and programmable controller with integrated graphic display. Everything is internally fitted in the unit in an accessible position.

The function of regulation are:

— Ventilation control (manual control of the standard fans speed);

- Thermo-regulation completed with all electric/electronic components (modality of regulation in standard extract);
- Integrated logics of energy savings: modulating free-cooling / free-heating, anti-freeze, night cooling, air quality control, dynamic set point, speed economy of ventilation, ranges of time;
- Complete interfaceability with BMS systems.

FUNCTIONALITY AND TECHNOLOGICAL ADVANTAGES

The elimination from closed rooms of the polluting elements, produced mainly from people and the simultaneous external air input, are at the basis of the concept of controlled mechanical ventilation (VMC) of the internal rooms.

The purpose of ventilation is to raise the standard of internal air quality with consequent positive effects for health and productivity of the occupiers. The change of air has positive effects also on the good maintenance of the building.

For the building to be requalified, the Controlled Mechanical Ventilation is almost a mandatory choice in order to reach high energy standards, which are imposed by the current legislation.

Very high ventilation efficiency

Since the ventilation represents one of the major factor of energy consumption, particular attention has been given to the study and to the creation of the ventilation system.

Fans of the plug-fan type with EC brushless motors have been used both in supply and in extraction; they permit high performances and reduced consumptions. Furthermore, compared with the traditional centrifugal fans, they don't have belts or pulleys with consequent easiness of capacity regulation, compactness, versatility, and an easy maintenance.

A particular adaptative logic permits to adjust the effective air capacity required from the system with more consequent advantages in terms of reduction of consumptions.

Maximum efficiencies

In this context RPF is proposed as the high efficient and performing solution for double flow ventilation systems with heat recovery.

The key-concept on which is based the RPF proposal are:

- Very high efficiency heat recovery attested by EUROVENT certification and maintenance of the complete separation of intake and discharge air flow;
- Reduced ventilation energy consumptions, thanks to a detailed dimensioning of the components in order to have low total values of SFP (Specific Fan Power or rather energy consumption for m³/h of total processed capacity);
- High efficiency filtration and low pressure drops;
- Advanced electronic management for the energy saving and of controlling of internal pollutants functions VOC (Volatile Organic Compounds);
- Compactness of dimensions and logic of installation "plug and play".

Air quality in room

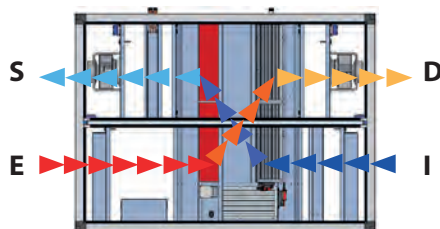
Particular attention has been given naturally also to the quality of air in the room, standard assigned to filters with efficiency G4 on extracted air flow and on compact filter with efficiency F7 included on intake air flow.

Naturally all these technological advantages are controlled by a thermoregulation of last generation, able to manage the different working procedures; assuring the maximum energy saving in every usage condition by using a proper software.

BASIC CONFIGURATION

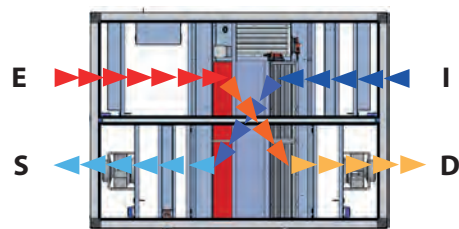
RPF O Horizontal configuration

Right supply (seen from above)



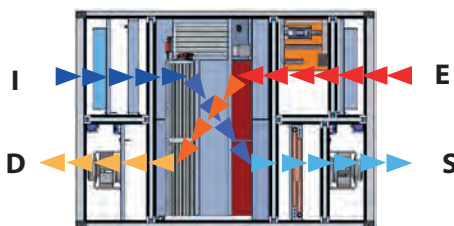
RPF P Horizontal configuration

Left supply (seen from above)



RPF V Vertical configuration

Right supply (seen from the accessible side)



RPF Z Vertical configuration

Left supply (seen from the accessible side)



D = Discharge
I = Intake
S = Supply
E = Extract

PERFORMANCE SPECIFICATIONS

	RPF008	RPF010	RPF013	RPF020	RPF031	RPF042
Heat recovery unit						
Power supply		230V~50Hz			400V 3~50Hz	

		RPF008	RPF010	RPF013	RPF020	RPF031	RPF042
Ventilation units type		UVNR (non-residential ventilation unit)					
Heat recovery system type	Type/n°	Static at counter-current flow / 1					
Heat capacity recovered (EN308) (1)	kW	4,2	5,4	7,0	10,7	16,6	22,8
Dry heating efficiency (2)	%	80,0	79,9	80,0	79,9	79,9	83,8
Information in compliance with Annex V of regulation EU no. 1253/2014							
Nominal air flow rate supply / recovery	m³/s	0,22	0,28	0,36	0,56	0,86	1,18
Nominal air flow rate supply / recovery	m³/h	790	1000	1300	2000	3100	4250
Minimum air flow rate	m³/h	200	200	400	1000	1000	1300
Maximum air flow rate	m³/h	980	1260	1530	2350	3700	4600
Fans (3)							
Commissioning	type	Analogue signal of EC fan (0-10Vdc)					
Type	type	EC					
Number	no.	2	2	2	2	2	2
Supplied electrical power consumption	kW	0,16	0,24	0,33	0,60	0,79	1,30
Recovered electrical power consumption	kW	0,15	0,23	0,33	0,56	0,76	1,20
Total input electric power	kW	0,31	0,47	0,66	1,16	1,55	2,50
Maximum input power	kW	0,60	1,24	1,26	1,66	5,26	5,26
Maximum input power	A	4,6	7,5	7,5	9,3	11,1	11,1
SFP int.	W/(m³/s)	625	667	743	1142	919	1211
SFP int. lim. 2018	W/(m³/s)	1127	1118	1109	1227	1031	1253
Filters face velocity	m/s	1,8	2,0	1,8	2,2	2,2	2,1
Nominal external pressure Δp (3)	Pa	200	250	250	250	250	225
Useful static supply pressure	Pa	191	218	169	134	215	143
Useful static recovery pressure	Pa	196	233	175	152	255	184
Supplied internal pressure drop Δps int.	Pa	174	198	219	319	304	372
Recovered internal pressure drop Δps int.	Pa	176	189	227	355	293	379
Fans static efficiency (4)	%	61,7	57,2	57,2	61,8	66,9	62,7
Internal leakage (5)	%	0,3	0,3	0,3	0,1	0,3	0,2
External leakage	%	< 3	< 3	< 3	< 3	< 3	< 3
Air filter							
Delivery filter energy classification		B					
Recovery filter energy classification		On request					

(1) Expelled air: Tdb=25°C; Twb<14°C. Fresh air: Tdb=5°C.

(2) Relation between the inlet air heating gain and the expulsion air heating loss, both relating to the outside temperature, measured in dry reference conditions, with balanced mass flow and an internal/external air heating difference of 20K, excluding the heating gain generated by the fan motors and the internal leakage.

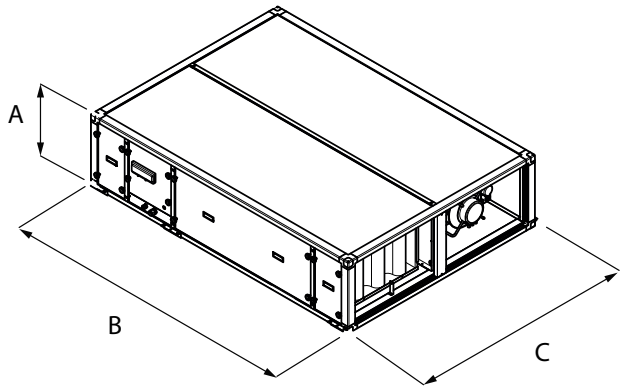
(3) Performances referring to clean filters

(4) According to regulation EU 327/2011

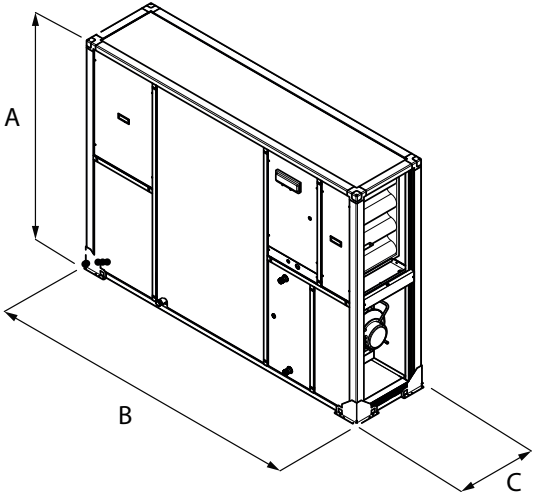
(5) External leakage test performed at +400 Pa and -400 Pa; internal leakage test performed at 250 Pa

DIMENSIONS

RPF 008 - 031
Horizontal Installation



RPF 008 - 042
Vertical Installation



Size			008	010	013	020	031	042
Dimensions and weights								
A	O,P	mm	450	450	524	560	700	-
	V,Z	mm	1054	1258	1374	1694	1948	1550
B	O,P	mm	1915	1915	2174	2334	2654	-
	V,Z	mm	1915	1915	2174	2334	2654	2974
C	O,P	mm	1054	1258	1374	1694	1948	-
	V,Z	mm	450	450	524	560	700	1130
Empty weight	O,P	kg	194	220	264	328	452	-
	V,Z	kg	194	220	264	328	452	585

■ The weights are standard configuration units without accessories.

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URX-CF

Heat recovery unit with refrigerant circuit

Air flow rate 750 - 3300 m³/h



- Heat pump cooling circuit with high yield and low noise scroll compressors.



DESCRIPTION

The URX-CF series is the mono-bloc solution designed for the installation requirements typical for public spaces like bars, restaurants, offices, meeting rooms.

The URX-CF units combine in one mono-bloc unit, besides the fan, filter, and heat recovery sections, a heat pump refrigerant circuit with scroll compressors of high output and low noise.

The supply air is heated or cooled, based on the season, through the heat pump refrigerant circuit located within the unit and charged with refrigerant R410A.

This allows for a complete machine, with autonomous operation during every season and able to provide both the required air renewal for rooms and an efficient heat recovery.

The careful design of the machine combines very compact dimensions, which permit easy installation in false ceilings, with an excellent accessibility for maintaining all the internal components.

FEATURES

Panels

Self-supporting sandwich panel 20 mm thick in galvanised steel for internal and external surfaces with injected polyurethane insulation (density 40 kg/m³).

Heat recovery

Cross flow plate heat exchanger in aluminium with outputs over 50% in winter conditions.

Air filters

Class G3, 80% gravimetric efficiency, according to EN 779, thickness 48 mm, located before the heat recovery both in the supply and return air flow.

Fans

Double inlet forward curved blades with direct drive motor. Single phase 230V-50Hz single speed motor. The air flow is controlled, within +/- 15% of the nominal, through an electronic speed controller supplied as standard.

Refrigerant circuit

Heat pump complete with high efficiency low noise scroll compressors, 4 way refrigerant cycle reversing valve, evaporator coil, condenser coil, liquid receiver, liquid separator, double thermostatic expansion valve, liquid sight glass (only for models 150, 210, 330), filter drier, high/low pressure pressostats.

Accessibility

From below for the heat recovery, the filters, the condensate drain tray and the fans.

Regulation

The unit is provided with an electrical panel complete with power and control section (included the control for the 3 way valve for the supplementary hot water coil and associated actuators), ensuring the control of all the refrigerant circuit functions.

Included are:

- NTC return air temperature sensor;
- External air temperature sensor;
- Dampers and actuators in the free-cooling version;
- Pressure switch in the supply air filter;
- Card RS485

Supplied loose is a remote mounted control terminal for automatic control of the unit and an outlet to power and control a light to conform with the current regulation for smoking zones.

ACCESSORIES COMPATIBILITY

Circular flanges

Accessory	URX07CF	URX10CF	URX15CF	URX21CF
FGC07	•			
FGC10		•		
FGC15			•	
FGC21				•

Hot water coil module

Accessory	URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
MBC07	•				
MBC10		•			
MBC15			•		
MBC21				•	
MBC33					•

Free-cooling module

Accessory	URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
FCE07	•				
FCE10		•			
FCE15			•		
FCE21				•	
FCE33					•

Filter efficiency G4.

Accessory	URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
G4F07	•				
G4F10		•			
G4F15			•		
G4F21				•	
G4F33					•

Module with electric coil

Accessory	URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
MBX07	•				
MBX10		•			
MBX15			•		
MBX21				•	
MBX33					•

Module equipped with silencer baffles

Accessory	URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
SUF07	•				
SUF10		•			
SUF15			•		
SUF21				•	
SUF33					•

PERFORMANCE SPECIFICATIONS

		URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
Heat recovery unit						
Power supply		230V~50Hz	230V~50Hz	400V~ 3N 50Hz	400V~ 3N 50Hz	400V~ 3N 50Hz
Cooling performances (1)						
Total cooling capacity (heat recovery + refrigerant circuit)	kW	6,1	7,3	10,2	15,0	23,0
Cooling capacity available	kW	1,4	1,7	2,2	3,4	5,1
Cooling capacity recovered	kW	0,9	1,3	2,0	2,8	4,2
Summer thermal efficiency	%	46,2	51,2	53,2	53,6	53,6
Total input power	kW	2,60	2,80	3,80	5,00	6,90
Heating performances (2)						
Heating capacity total (heat recovery + refrigerant circuit)	kW	8,8	10,8	15,8	22,8	33,3
Heating capacity available	kW	2,4	2,3	3,0	4,8	5,2
Recovered heating power	kW	2,9	4,3	7,1	10,1	14,3
Winter thermal efficiency	%	46,2	51,2	53,2	53,6	53,6
Total input power	kW	2,00	2,00	3,30	4,00	5,50
Compressor						
Type	type	Scroll	Scroll	Scroll	Scroll	Scroll
Compressor regulation	Type	On-Off	On-Off	On-Off	On-Off	On-Off
Number	no.	1	1	1	1	1
Refrigerant	type	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	2,4	2,9	3,0	3,7	4,5
Delivery fan						
Type	type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Number	no.	1	1	1	1	1
Nominal air flow rate	m³/h	750	1000	1500	2100	3300
Minimum air flow rate	m³/h	640	850	1275	1785	2800
High static pressure	Pa	278	233	239	166	289
Total fan input power	kW	0,37	0,42	0,51	0,62	1,25
Total fan input current	A	2,4	2,4	3,6	3,6	6,6
Recovery fan						
Type	type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Number	no.	1	1	1	1	1
Nominal air flow rate	m³/h	750	1000	1500	2100	3300
Minimum air flow rate	m³/h	640	850	1275	1785	2800
High static pressure	Pa	248	218	233	163	273
Total fan input power	kW	0,37	0,42	0,51	0,62	1,25
Total fan input current	A	2,4	2,4	3,6	3,6	6,6

(1) Recovery air 26 °C 50%; External air 34 °C 50%.

(2) Recovery air 20 °C 50%; External air 5 °C 80%.

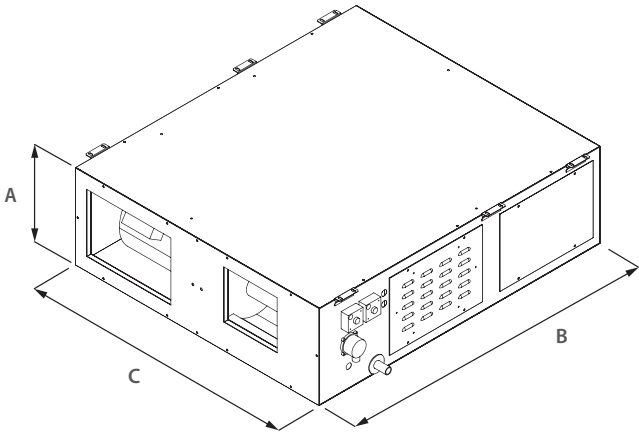
		URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
Hot water coil (accessory)						
Row	no.	2	2	2	2	2
Pressure drop - air side	Pa	11	18	23	42	78
Heating operations 70 °C / 60 °C (1)						
Heating capacity	kW	5,00	6,00	8,70	10,30	16,80
Water flow rate	l/h	442	523	763	902	1475
Pressure drop	kPa	16	22	9	12	31
Heating operations 45 °C / 40 °C (2)						
Heating capacity	kW	1,90	2,20	3,40	3,70	7,50
Water flow rate	l/h	336	382	584	638	1306
Pressure drop	kPa	11	14	6	7	28

(1) Water temperature (in/out) 70°C / 60°C; Compressor operating.

(2) Water temperature (in/out) 45°C / 40°C; Compressor operating.

		URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
Electric heating coil - (accessory)						
Power supply				230V~50Hz		
Stages	no.	1	1	1	1	1
Heating capacity	kW	3,00	4,50	6,00	9,00	12,00
Input current	A	4,6	6,8	11,4	17,2	26,0
Pressure drop - air side	Pa	10	10	10	10	10

DIMENSIONS



		URX07CF	URX10CF	URX15CF	URX21CF	URX33CF
Dimensions and weights						
A	mm	450	450	550	550	600
B	mm	1300	1300	1500	1500	1600
C	mm	1500	1500	1800	1800	1800
Empty weight	kg	205	218	272	298	328

■ The weights are standard configuration units without accessories.

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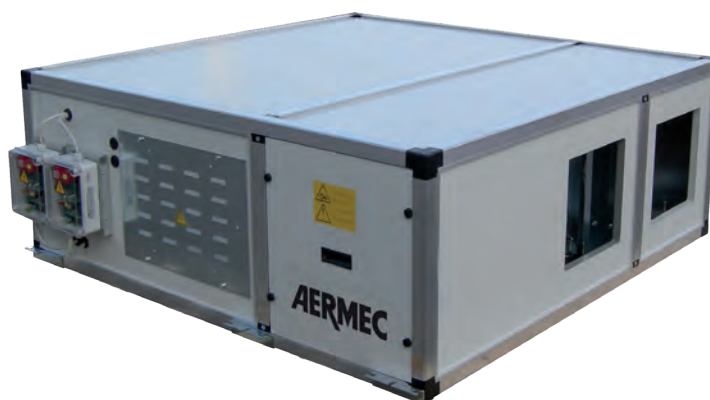
URHE-CF

Heat recovery unit with refrigerant circuit

Air flow rate 1000 - 3300 m³/h



- Heat pump cooling circuit with high yield and low noise scroll compressors.
- High efficiency



DESCRIPTION

The units of the series URHE-CF are a highly efficient solution for satisfying the requirements of thermohygrometric wellness and air changes in air conditioning systems that are used in civil and service sector environments such as offices, bars, restaurants, etc.

The URHE-CF units are perfectly efficient machines in that they use a high performance plate cross flow heat recovery unit together with a heat pump refrigerant circuit operating with the R410A. refrigerant.

The use of the high performance cross flow heat recovery unit allows you to substantially reduce the start-up period of the refrigerant circuit during the year, thereby minimizing electrical energy consumption.

The unit's small size makes it easy to install also in false ceilings, maintaining excellent accessibility for the upkeep of all its internal components.

The numerous accessories that are available upon request, like for example the compact high efficiency filters, the water coils or the silencers, complete the functions of the machine that is generally combined with an air conditioning system.

FEATURES

Panels

Structure made of aluminium profiles with fibreglass reinforced nylon corners.

Sandwich panels, 25 mm thick, in galvanised sheet metal for the inner surface, pre-painted for the external surface with injected polyurethane insulation (density 42 kg/m³).

Heat recovery

Aluminium cross flow plates optimised to guarantee elevated performance.

Air filters

Class G4, 80% gravimetric efficiency, according to EN 779, thickness 48 mm, located before the heat recovery both in the supply and return air flow.

Fans

Centrifugal fans with forward-curved blades with high pressure head motor directly attached. The air flow rate is kept constant by means of an electronic control device.

Refrigerant circuit

Heat pump with R410A refrigerant, equipped with high performance, quiet rotary or scroll compressors (depending on the size), 4-way cycle inversion valves, evaporator coil, condenser coil, liquid receiver, thermostatic valve, liquid indicator, filter-drier, high pressure switch, low pressure switch, safety valve, bypass valve (for smaller sizes).

Regulation

The unit is provided with an electrical panel complete with power and control section (included the control for the 3 way valve for the supplementary hot water coil and associated actuators), ensuring the control of all the refrigerant circuit functions.

Included are:

- NTC return air temperature sensor;
- External air temperature sensor;
- Dampers and actuators in the free-cooling version;
- Pressure switch in the supply air filter;
- Card RS485

Supplied loose is a remote mounted control terminal for automatic control of the unit and an outlet to power and control a light to conform with the current regulation for smoking zones.

ACCESSORIES COMPATIBILITY

Hot water coil module

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
MBCX1	•			
MBCX2		•		
MBCX3			•	
MBCX4				•

Module with electric coil

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
MBCH1	•	•	•	
MBCH2				•

F7 compact high efficiency filters.

Accessory	URHE15CF	URHE25CF	URHE33CF
FCT1	•		
FCT2		•	
FCT3			•

Module equipped with silencer baffles.

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
MSS1	•	•	•	
MSS2				•

Free-cooling module

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
FGE1	•	•	•	•

Base for floor installation.

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
BIT1	•	•		
BIT2			•	
BIT3				•

Base for floor installation of the additional modules.

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
BIM1	•	•	•	•

Roof for outdoor installation.

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
TPE1	•	•		
TPE2			•	
TPE3				•

Roof for outdoor installation of the additional modules.

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
TPM1	•	•	•	
TPM2				•

Kit free-cooling.

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
FCH1	•	•		
FCH2			•	•

Roof for silencer baffles.

Accessory	URHE10CF	URHE15CF	URHE25CF	URHE33CF
TPMSS1	•	•	•	
TPMSS2				•

PERFORMANCE SPECIFICATIONS

		URHE10CF	URHE15CF	URHE25CF	URHE33CF
Heat recovery unit					
Power supply		230V~50Hz	230V~50Hz	400V~ 3N 50Hz	400V~ 3N 50Hz
Cooling performances (1)					
Total cooling capacity (heat recovery + refrigerant circuit)	kW	6,6	8,7	13,8	19,8
Cooling capacity available	kW	1,8	3,1	3,3	5,4
Cooling capacity recovered	kW	2,2	3,2	4,5	5,8
Summer thermal efficiency	%	82,0	80,0	68,0	65,0
Total input power	kW	2,60	2,90	5,10	6,50
Heating performances (2)					
Heating capacity total (heat recovery + refrigerant circuit)	kW	10,9	14,2	24,8	33,1
Heating capacity available	kW	2,8	2,9	3,9	7,0
Recovered heating power	kW	3,6	10,0	15,3	19,6
Winter thermal efficiency	%	82,0	80,0	73,0	71,0
Total input power	kW	2,20	2,40	4,20	4,90
Compressor					
Number	no.	1	1	1	1
Refrigerant	type	R410A	R410A	R410A	R410A
Delivery fan					
Type	type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Number	no.	1	1	1	1
Nominal air flow rate	m ³ /h	1000	1500	2500	3300
Minimum air flow rate	m ³ /h	800	1100	2000	2500
High static pressure	Pa	320	245	140	220
Total fan input power	kW	0,42	0,46	1,10	1,10
Total fan input current	A	3,1	3,1	5,3	5,3
Recovery fan					
Type	type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Number	no.	1	1	1	1
Nominal air flow rate	m ³ /h	1000	1500	2500	3300
Minimum air flow rate	m ³ /h	800	1100	2000	2500
High static pressure	Pa	320	245	140	220
Total fan input power	kW	0,42	0,46	1,10	1,10
Total fan input current	A	3,1	3,1	5,3	5,3

(1) Recovery air 26 °C 50%; External air 34 °C 50%.

(2) Recovery air 20 °C 50%; External air 5 °C 80%.

Technical data MBCH - Hot water coil (accessory)

		URHE10CF	URHE15CF	URHE25CF	URHE33CF
Hot water coil (accessory)					
Row	no.	2	2	2	2
Pressure drop - air side	Pa	7	18	37	37
Heating operations 70 °C / 60 °C (1)					
Heating capacity	kW	7,70	10,30	15,60	19,70
Water flow rate	l/h	673	906	1363	1725
Pressure drop	kPa	11	8	18	32
Heating operations 45 °C / 40 °C (2)					
Heating capacity	kW	2,60	4,00	6,50	7,60
Water flow rate	l/h	446	700	1118	1311
Pressure drop	kPa	3	6	14	22

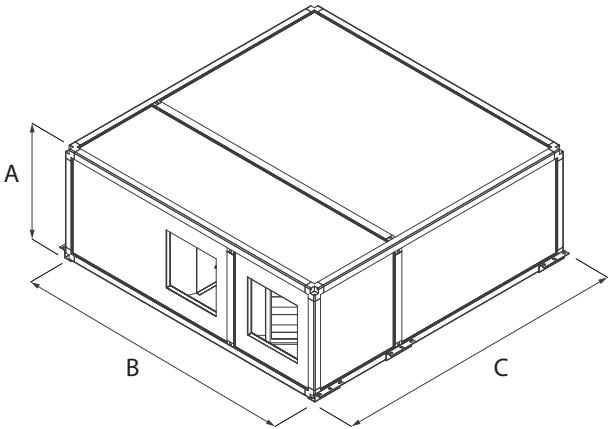
(1) Water temperature (in/out) 70°C / 60°C; Compressor operating.

(2) Water temperature (in/out) 45°C / 40°C; Compressor operating.

Technical data MBCX - Electric heating coil - (accessory)

		URHE10CF	URHE15CF	URHE25CF	URHE33CF
Electric heating coil - (accessory)					
Power supply		400V/3/50Hz			
Stages	no.	1	1	1	1
Heating capacity	kW	5,00	7,50	12,50	10,00
Input current	A	7,6	11,4	19,0	25,1
Pressure drop - air side	Pa	10	10	10	10

DIMENSIONS



		URHE10CF	URHE15CF	URHE25CF	URHE33CF
Dimensions and weights					
A	mm	580	580	580	580
B	mm	1640	1640	1640	1970
C	mm	1500	1500	1990	2310
Empty weight	kg	300	310	373	410

■ The weights are standard configuration units without accessories.

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ERSR

High-efficiency heat recovery with rotary recovery unit

Air flow rates 1000 ÷ 30000 m³/h

- Technology high efficiency
- Mechanically controlled ventilation
- Rotary heat recovery unit
- Recovery of up to 80% of the energy of the expelled air
- Air purification



The ERSR heat recovery units for indoor and outdoor installation are designed for commercial applications and are able to combine maximum environmental comfort with definite energy saving.

With modern systems, there is always the need to create forced ventilation, which, however, also involves expelling air-conditioned air, which thus leads to higher energy consumption.

But ERSR units are equipped with a rotary heat recovery unit (upon request, also hygroscopic rotary) that enables you to save more than 80% of the energy that would otherwise be lost with the expelled stale air.

These units can be integrated with fan coils and chillers, and can operate both in winter and summer.

VERSIONS

ERSR_T with a sensitive rotary recovery

ERSR_H with a hygroscopic rotary recovery

- Rotary heat recovery unit (with the option in hygroscopic material), high-efficiency and low pressure drops.
- Soft air bag F7 filters (flow and recovery) equipped with a standard differential pressure switch, which can be extracted from either side facilitate their periodic cleaning.
- Fans (intake and flow), Plug fan with back curved blades with a directly coupled, electronically controlled motor for sizes 07-17 and with an inverter for sizes 21-24.
- Support frame and sandwich panels, 50 mm thick, in galvanised sheet steel for internal surfaces and pre-painted externally, and with mineral wool insulation (density 40 kg/m³). Upon request, there are two different types of panelling. Base in galvanised sheet steel continuous profiles. Sizes 07 to 09 are monoblocs whilst the other sizes are divided into sections. The unit can be inspected from both sides.
- The unit is equipped with a power electric control board on the machine and adjustment purposely designed to reduce energy consumption. Equipped with a communication serial port on RS485 with MODBUS Master/Slave protocol

ACCESSORIES

CAP: Intake rainproof cover

BDL: Flow rainproof cover

FRR: Rectangular flange

GAR: Rectangular anti-vibration joint

HSR: Fresh air intake damper with servocontrol

RSR: Circulation damper module

HG4: Flat filters G4

TDP: Roof protection for basic unit in the case of outdoor installation

VRC: Condensate drip tray

VVR: Variable speed recovery unit

QP: Air quality probe (VOC)

KDP: Dehumidification and post-heating management kit

RBC: 3-way valve hot water coil module

RBF: 3-way valve cold water coil module

RBE: electric coil module

RBP: 3-way valve cold water and post-heating coil module

MSS: silencer baffles module

FEATURES

Quality of the air

Nowadays, the quality of air inside rooms is fundamental. The mechanically controlled ventilation system is not only indispensable from an energetic point of view, but also for the comfort of the rooms.

Harmful elements and smells in the air are eliminated by the efficient filtration system with bag filters (F7), which are easily extracted and regenerated.

High-efficiency air circulation thanks to plug-fans with electronically controlled motors or inverters, depending on the sizes

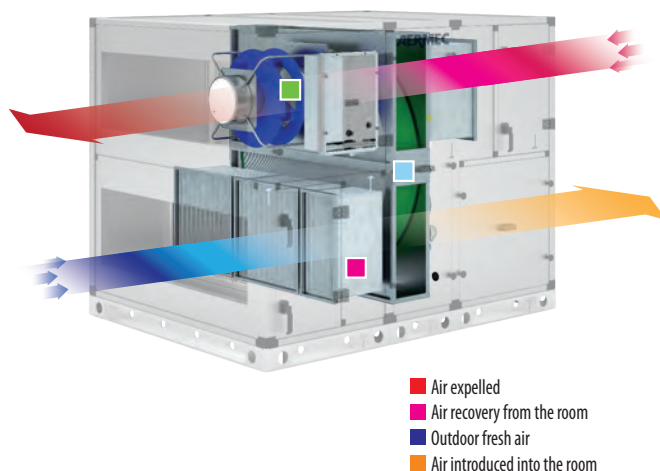
- It eliminates inefficiency, wear and maintenance of traditional fans with belt and pulley transmission
- They guarantee energy savings of up to 30% compared to traditional fans. The control lets you calibrate the fan's speed according to your requirements, thus optimising seasonal efficiency

High-efficiency recovery unit (80% of the energy of the expelled air)

Air heat recovery both in summer and winter, thanks to the rotary recovery unit (hygroscopic version also available). Air introduced into the room is always optimised, thanks to the heat exchange between the air recovery and outdoor fresh air.

State of the art electronic control

Naturally, all these technological advantages are controlled by state of the art heat regulation, thus ensuring maximum energy savings in every condition of use.



- Air expelled
- Air recovery from the room
- Outdoor fresh air
- Air introduced into the room

ACCESSORIES COMPATIBILITY

Size	07	09	12	15	17	21	24
UNIT ACCESSORIES							
CAP	CAP07	CAP09	CAP12	CAP15	CAP17	CAP21	CAP24
BDL	BDL07	BDL09	BDL12	BDL15	BDL17	BDL21	BDL24
FRR	FRR09	FRR09	FRR12	FRR15	FRR17	FRR21	FRR24
GAR	GAR07	GAR09	GAR12	GAR15	GAR17	GAR21	GAR24
HSR	HSR07	HSR09	HSR12	HSR15	HSR17	HSR21	HSR24
RSR	-	-	HSR12	RSR15	RSR17	RSR21	RSR24
HG4	HG407	HG409	HG412	HG415	HG417	HG421	HG424
TDP	TDP07	TDP09	TDP12	TDP15	TDP17	TDP21	TDP24
VRC	VRC07	VRC09	VRC12	VRC15	VRC17	VRC21	VRC24
VVR	VVR07	VVR09	VVR12	VVR15	VVR17	VVR21	VVR24
QP	•	•	•	•	•	•	•
KDP	•	•	•	•	•	•	•
MODULE ACCESSORIES							
RBC	RBC07	RBC09	RBC12	RBC15	RBC17	RBC21	RBC24
RBF	RBF07	RBF09	RBF12	RBF15	RBF17	RBF21	RBF24
RBE	RBE07	RBE09	RBE12	RBE15	RBE17	RBE21	RBE24
RBP	RBP07	RBP09	RBP12	RBP15	RBP17	RBP21	RBP24
MSS	MSS07	MSS09	MSS12	MSS15	MSS17	MSS21	MSS24
MODULE ACCESSORIES WITH ROOF (for outdoor installations)							
RBCT	RBC07T	RBC09T	RBC12T	RBC15T	RBC17T	RBC21T	RBC24T
RBFT	RBF07T	RBF09T	RBF12T	RBF15T	RBF17T	RBF21T	RBF24T
RBET	RBE07T	RBE09T	RBE12T	RBE15T	RBE17T	RBE21T	RBE24T
RBPT	RBP07T	RBP09T	RBP12T	RBP15T	RBP17T	RBP21T	RBP24T
MSST	MSS07T	MSS09T	MSS12T	MSS15T	MSS17T	MSS21T	MSS24T

TECHNICAL DATA

Size			07	09	12	15	17	21	24
Power supply		V/ph/Hz				400V/3N/50-60Hz			
Type of ventilation units	*					UVNR (Unit ventilation not residential)			
Heat recovery									
Type heat recovery system	*	type/n°				Rotary / 1			
Heating efficiency dry	*(1)	%	79,0	78,9	78,3	78,8	78,9	78,5	78,7
Total recovered heating capacity (EN308)	(2)	kW	5,8	10,3	19,4	31,4	41,3	64,3	85,0
Heating efficiency for renovation	(3)	kW	11,4	20,1	37,8	61,3	80,5	125,1	165,7
Total recovered heating capacity	(7)	kW	2,6	4,7	8,8	14,2	18,7	29,1	38,5
Summer efficiency heat recovery	(7)	%	77	74	76,2	76,7	76,8	76,4	76,7
Air flow rate supply/extract	*	m³/s	0,31	0,54	1,03	1,65	2,17	3,39	4,47
		m³/h	1100	1950	3700	5950	7800	12200	16100
Fans									
Driving	*					Analog signal of EC fan			
Fans		type/n°	EC/2	EC/2	EC/2	EC/2	EC/2	AC/2	AC/2
Supplied electrical power consumption		kW	0,27	0,48	0,85	1,31	1,90	2,20	2,80
Recovered electrical power consumption		kW	0,27	0,48	0,86	1,30	1,90	2,20	2,80
Total input electric power	*	kW	0,69	1,20	2,20	3,50	4,90	6,10	7,80
Total input electric power	(4)	kW	0,84	2,04	6,10	8,78	10,20	22,37	30,37
Max total input current	(4)	A	1,8	5,0	11,0	16,1	19,5	40,6	60,0
SFP int	*	W/(m³/s)	1061	994	927	733	669	778	759
SFP int_lim 2018		W/(m³/s)	1141	1106	1033	942	887	886	887
Filters face velocity	*	m/s	1,8	1,9	1,8	1,8	1,8	1,6	1,7
Nominal external pressure Δp		Pa	100	100	100	100	100	100	100
Useful static supply pressure		Pa	360	520	1000	1100	900	1440	1500
Useful static recovery pressure		Pa	360	520	1000	1100	900	1440	1500
Supplied internal pressure drop Δp	*	Pa	269	262	276	222	216	240	241
Recovered internal pressure drop Δp	*	Pa	272	265	280	225	219	243	244
Fans static efficiency	*(5)	%	64,5	65,5	62,8	64,1	67,2	64,7	65,8
Internal leakage	(6)	%				<3			
External leakage	(6)		0,2	0,2	0,1	0,1	0,1	0,1	0,1
Filters									
Expelled air filter energy class			D	D	D	D	D	D	D
External air filter energy class			D	D	D	D	D	D	D
Sound data									
Sound power level	*	dB(A)	66	67	75	77	78	78	79

* Information in compliance with Annex V of regulation EU no. 1253/2014
SFP Specific Fan Power

(1) Relation between the inlet air heating gain and the expulsion air heating loss, both relating to the outside temperature, measured in dry reference conditions, with balanced mass flow and an internal/external air heating difference of 20K, excluding the heating gain generated by the fan motors and the internal leakage.

(2) Expelled air: Tbs=25°C; Tbu<14°C. Fresh air: Tbs=5°C

(3) Expelled air: Tbs=20°C; 50% UR. Fresh air: Tbs=-10°C; 90% UR.

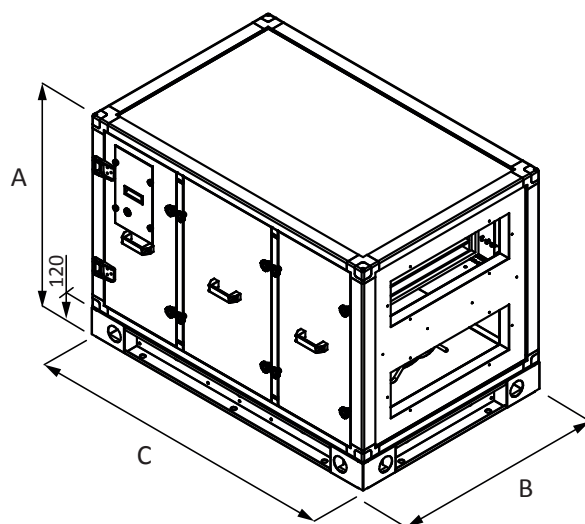
(4) Standard version without accessories

(5) According to regulation EU 327/2011

(6) External leakage test performed at +400 Pa and -400 Pa; internal leakage test performed at 250 Pa

(7) Expelled air: tbs=26°C; 50% UR. Fresh air: Tbs=35°C; 50% UR.

DIMENSIONS



Horizontal installation

Size		07	09	12	15	17	21	24
Dimensions and weights								
A	mm	965	1285	1445	1765	2085	2405	2725
B	mm	895	1005	1375	1695	1855	2335	2665
C	mm	1375	1535	2045	2365	2365	3005	3005
Weights	kg	240	340	570	820	1010	1610	1980

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