RPLI

Counter-current flow heat recovery unit with inverter motor

- **Easy and quick installation**
- **Fan with EC inverter motor**
- **Versions with water coil or electric for the post-heating**

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.

VERSION FOR HORIZONTAL INSTALLATION

RPLI (L or P)	**L low useful static pressure, P high useful static pressure** With fans orientation type 1 (see example on side)
RPLI_W	With water coil **Cooled/ Hot** for the sizes 030 - 100 **Hot** for the sizes 140 - 400
RPLI_E	With electric heating coil

— 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/m^3 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 fans, 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 1 piece.
FGC_: Circular flanges. The accessory is supplied in 1 piece.
RVC_ and RVCL: Speed regulator supplied in 2 pieces.

ACCESSORIES COMPATIBILITY

Module

Size	030	050	070	100	140	200	300	400
M4F	M4F03	M4F05	M4F07	M4F10	M4F14	M4F20	M4F30	M4F40
MBF	-	-	-	-	MBF14	MBF20	MBF30	MBF40
MBF_X	-	-	-	-	MBF14X	MBF20X	MBF30X	MBF40X
MBP	MBP03	MBP05	MBP07	MBP10	MBP14	MBP20	MBP30	MBP40
MBE	MBE03	MBE05	MBE07	MBE10	MBE14	MBE20	MBE30	MBE40
MSU	MSU03	MSU05	MSU07	MSU10	MSU14	MSU20	MSU30	MSU40

Circular flanges

Version	030	050	070	100	140	200	300	400
All	FGC030	FGC050	FGC070	FGC100	FGC140	FGC200	FGC300	FGC400

Speed regulator

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

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

Field		Description
10		**Flow orientation**
	°	Type 1
	X	Type 2
11		**Heat exchanger**
	°	No internal coil
	W	Water coil [1]
	E	Post-heating electric internal coil

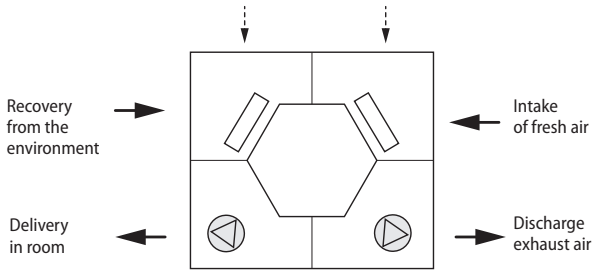
(1) Also to be used with cooled water only for sizes 030-100 including, for sizes 140-400 only be used with hot water.

Example of commercial code: **RPLI030L** (Low static pressure heat recovery unit) **RPLI030LW** (Low static pressure heat recovery unit with water coil), **RPLI030LX** (Low static pressure heat recovery unit with type 2 flow orientation). **Each option is represented in a unique way from all the others, so it is not necessary to indicate (within the commercial code) the standard options (identified by °).**

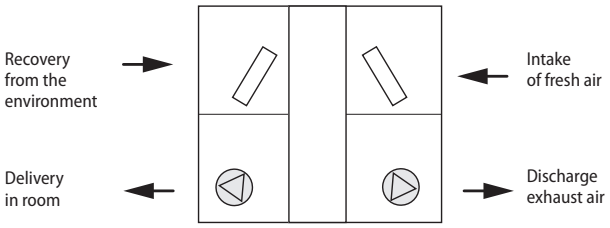
AVAILABLE ORIENTATION

TYPE 1 - STANDARD (TOP VIEW)

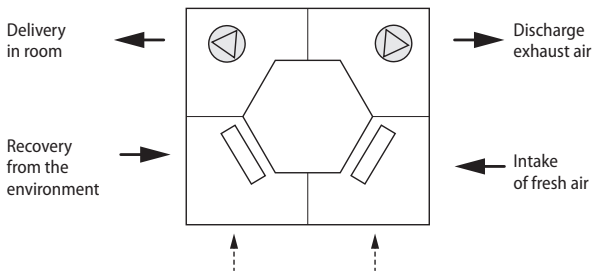
SIZE FROM 030 TO 100

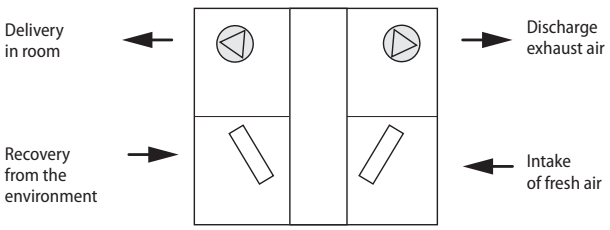


SIZE FROM 140 TO 400



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





TECHNICAL DATA

RPLI - L

Size			**030**	**050**	**070**	**100**	**140**	**200**	**300**	**400**
Power supply		V/ph/Hz	230V~50	230V~50	230V~50	230V~50	230V~50	230V~50	230V~50	400V/3/50
Ventilation units type	*		UVNR (non-residential ventilation unit)							
Heat recovery unit										
Heat recovery system type	*	type/n°	Static at counter-current flow / 1							
Dry heating efficiency	*(1)	%	81,1	78,1	76,8	75,3	76	76,3	75,5	75,6
Heat capacity recovered (EN308)	(2)	kW	1,6	2,4	3,6	4,8	7,1	10,0	14,9	19,7
Nominal air flow rate supply/recovery	*	m³/s	0,08	0,13	0,19	0,26	0,39	0,54	0,82	1,08
		m³/h	300	450	700	950	1400	1950	2950	3900
Minimum air flow rate		m³/h	200	250	400	550	800	1150	1750	2300
Fans										
Commissioning	*		Analogue signal of EC fan (0-10Vdc)							
Fans		type/n°	EC/2	EC/2	EC/2	EC/2	EC/4	EC/2	EC/2	EC/2
Supplied electrical power consumption		kW	0,065	0,088	0,142	0,208	0,333	0,449	0,472	0,734
Recovered electrical power consumption		kW	0,064	0,085	0,139	0,203	0,307	0,412	0,436	0,686
Total input electric power	*	kW	0,129	0,173	0,2811	0,410	0,640	0,860	0,907	1,420
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	1,4	2,2	2,2	1,9	2,5
Nominal external pressure Δp	(5)	Pa	100	100	110	110	110	110	110	110
Max. useful static supply pressure	(5)	Pa	323	401	191	143	112	110	132	196
Max. useful static recovery pressure	(5)	Pa	328	416	198	161	154	149	164	242
Supplied internal pressure drop Δp	*	Pa	115	228	189	293	268	270	245	290
Recovered internal pressure drop Δp	*	Pa	110	213	182	274	228	230	213	244
Fans static efficiency	*(3)	%	35,8%	57,0%	57,0%	59,7%	57,0%	49,2%	67,2%	66,9%
External / internal leakage	(4)		<3% / 3,9%							
Filters										
Expelled air filter		type/n°	M5/1							
External air filter		type/n°	F7/1							
Filters energy class (delivery and recovery)			On request							
Sound data										
Sound power level	*	db(A)	On request							

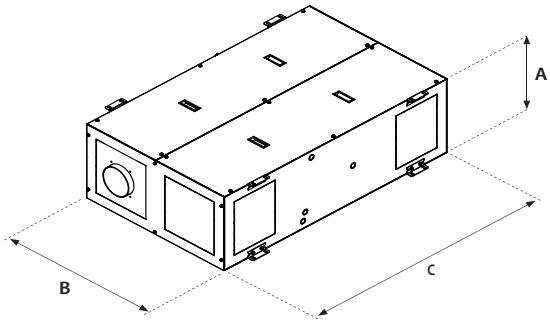
RPLI - P

Size			**030**	**050**	**070**	**100**	**140**	**200**	**300**	**400**
Power supply		V/ph/Hz	230V~50	230V~50	230V~50	230V~50	230V~50	230V~50	230V~50	400V/3/50
Ventilation units type	*		UVNR (non-residential ventilation unit)							
Heat recovery unit										
Heat recovery system type	*	type/n°	static at counter-current flow / 1							
Dry heating efficiency	*(1)	%	81,1	78,1	76,8	75,3	76	76,3	75,5	75,6
Heat capacity recovered (EN308)	(2)	kW	1,6	2,4	3,6	4,8	7,1	10,0	14,9	19,7
Nominal air flow rate supply/recovery	*	m³/s	0,08	0,13	0,19	0,26	0,39	0,54	0,82	1,08
		m³/h	300	450	700	950	1400	1950	2950	3900
Minimum air flow rate		m³/h	200	250	400	550	800	1150	1750	2300
Fans										
Commissioning	*		Analogue signal of EC fan (0-10Vdc)							
Fans		type/n°	EC/2	EC/2	EC/2	EC/2	EC/2	EC/4	EC/4	EC/2
Supplied electrical power consumption		kW	0,043	0,084	0,113	0,215	0,347	0,410	0,546	0,872
Recovered electrical power consumption		kW	0,042	0,080	0,113	0,209	0,328	0,376	0,498	0,818
Total input electric power	*	kW	0,085	0,164	0,226	0,424	0,675	0,786	1,044	1,690
SFP int	*	W/(m³/s)	543	903	694	1116	1095	918	770	999
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	(5)	Pa	100	100	125	125	145	145	150	150
Max. useful static supply pressure	(5)	Pa	506	338	279	638	412	469	462	303
Max. useful static recovery pressure	(5)	Pa	511	353	285	656	452	509	493	349
Supplied internal pressure drop Δp	*	Pa	115	228	189	293	268	270	245	290
Recovered internal pressure drop Δp	*	Pa	110	213	182	274	228	230	213	244
Fans static efficiency	*(3)	%	61,7	61,7	61,7	57,2	57,2	61,8	66,9	62,7
External / internal leakage	(4)		<3% / 3,9%							
Filters										
Expelled air filter		type/n°	M5/1							
External air filter		type/n°	F7/1							
Filters energy class (delivery and recovery)			On request							
Sound data										
Sound power level	*	db(A)	56	58	56	61	66	62	62	68

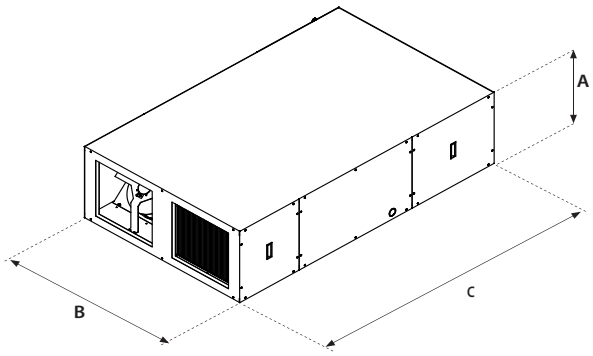
*** Information in compliance with Annex V of regulation EU no. 1253/2014**
SFP Specific Fan Power

(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: Tdb=25°C; Twb<14°C. Fresh air: Tdb=5°C
(3) According to regulation EU 327/2011;
(4) External leakage test performed at +400 Pa and -400 Pa; internal leakage test performed at 250 Pa
(5) Performances referring to clean filters

DIMENSIONS



030 - 100



140 - 400

Size	Version		030	050	070	100	140	200	300	400
Dimensions and weights										
A	All	mm	400	400	435	435	460	460	600	600
B	All	mm	800	800	945	945	1100	1600	1700	2050
C	All	mm	1300	1300	1600	1600	1800	1800	2350	2350
Weight	L	kg	95	93	125	123	160	210	287	340
Weight	P	kg	93	93	125	127	160	210	280	340

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