



RSI-EC
VENTILATOR UNIT



RSI-EC

Non-residential ventilator unit with dual flow and high yield heat recovery.

PERFORMANCE

Equipped with a rotary heat exchanger (regenerative recuperator) in aluminum (Eurovent certified) and electronic backward blade ventilators. The bypass effect obtained with temporary stoppage of the rotary recuperator allows favorable climatic conditions to be taken advantage of outside the building for free cooling (or free heating) in automatic mode.

STRUCTURE

RSI-EC is manufactured using a profiled extruded aluminium frame and 36 mm thick sandwich panels, insulated in polyurethane foam. The panels and inner parts are manufactured in Aluzinc®, material that ensures high strength against corrosion and oxidation. A pair of panels with hinged opening eases access to the filters (F7 for the renewed air flow and M5 for the extraction air flow). RSI-EC is prepared for installation outdoors (with an optional, specific protective roof) and indoors; it is supplied with 100 mm high aluminium bases for installation on the floor. Available in 5 sizes, it can be equipped with air post-treatment systems (inside the unit) such as: hot/cold water battery, electrical heater or direct expansion battery. The option is also available with the rotary recuperator with constant speed or variable speed.

CONTROLS

RSI-EC was supplied with an electric box and control system; it is available in a version equipped with CM-EVO control and a version equipped with CM-EVO-IP control prepared for complete integration in home automation systems (Modbus protocol with Ethernet connection or, on request, with the addition of connection RS485). The new version of our control systems enables extremely easy and rapid passage from a control system to another, even after installation with the single

replacement of the remote panel.

The CM-EVO control has a colored, backlit touch screen interface with intuitive viewing of the working status of the machine. It enables precise adjustment of ventilator speed and has a weekly, time schedule for automatic management of the ventilators. It can be controlled by an external switch to activate the booster function, it can automatically adjust the air flow rate if connected to an air quality probe, it can manage any air post treatment accessories, it automatically manages the bypass and prevents heat exchanger freezing by managing the speed of the ventilators or, if installed, an electrical pre-heating resistor (optional accessory outside the machine); it signals to the user the need to replace the filters (the clogging status of the filters is monitored by a pair of different pressure switches, supplied as standard) or an anomaly, indicating the origin. With the addition of optional accessories (COP kit and CAV kit installed on the channel) you can manage the ventilation machine in constant pressure or constant flow rate mode.

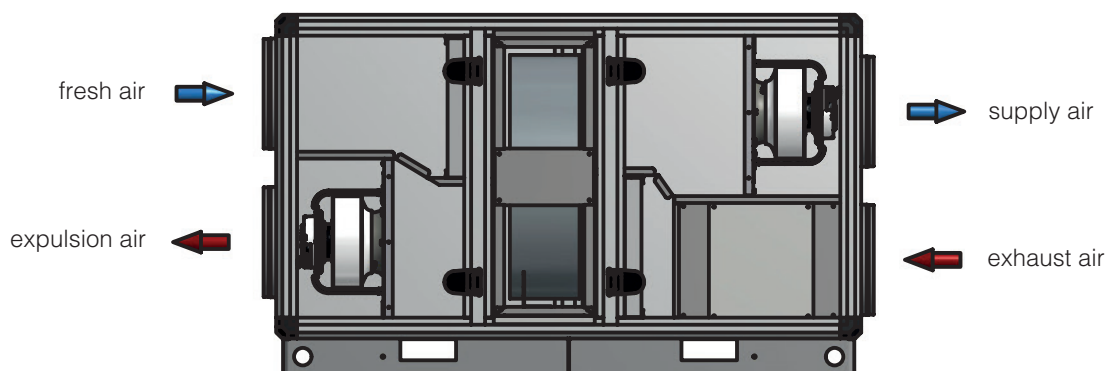
The CM-EVO-IP control has the same characteristics as the CM-EVO version with the addition of Modbus communication protocol which allows full control of the machine by the supervision software of the home automation system. The implemented webserver allows interaction with the machine, even with an internet browser of a device connected (even from remote) to the home automation system in which the machine is inserted.

ACCESSORIES

RSI-EC can be equipped with other accessories such as:

- . R.H. of probe, CO2 or CO2 / VOC
- . Operating kit pressure or constant flow
- . protection roof for outside installation
- . grilles and damper

For a more complete view of the characteristics of the control panels, please read the specific manuals.

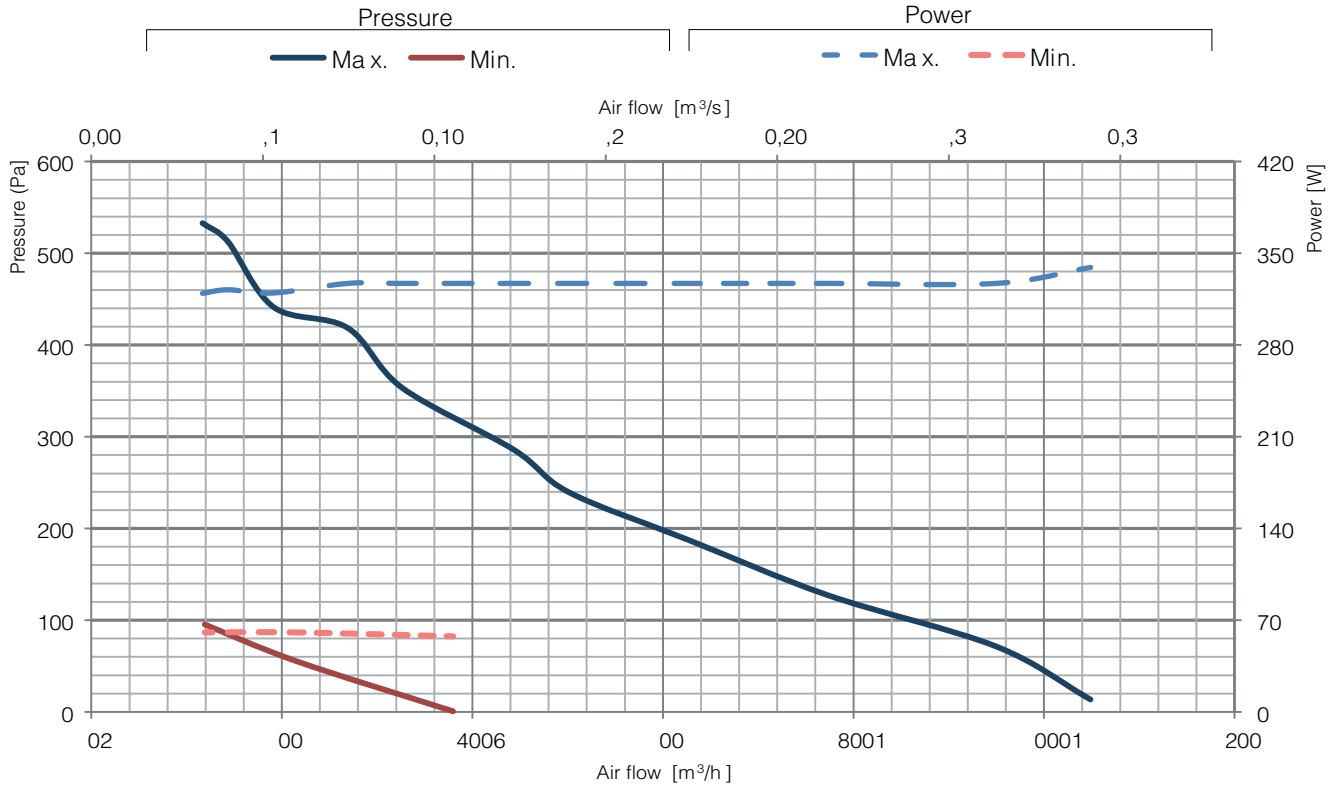


Counterflow heat exchanger made of aluminum manufactured by COVENT
COVENT participates in the Eurovent Certification Program

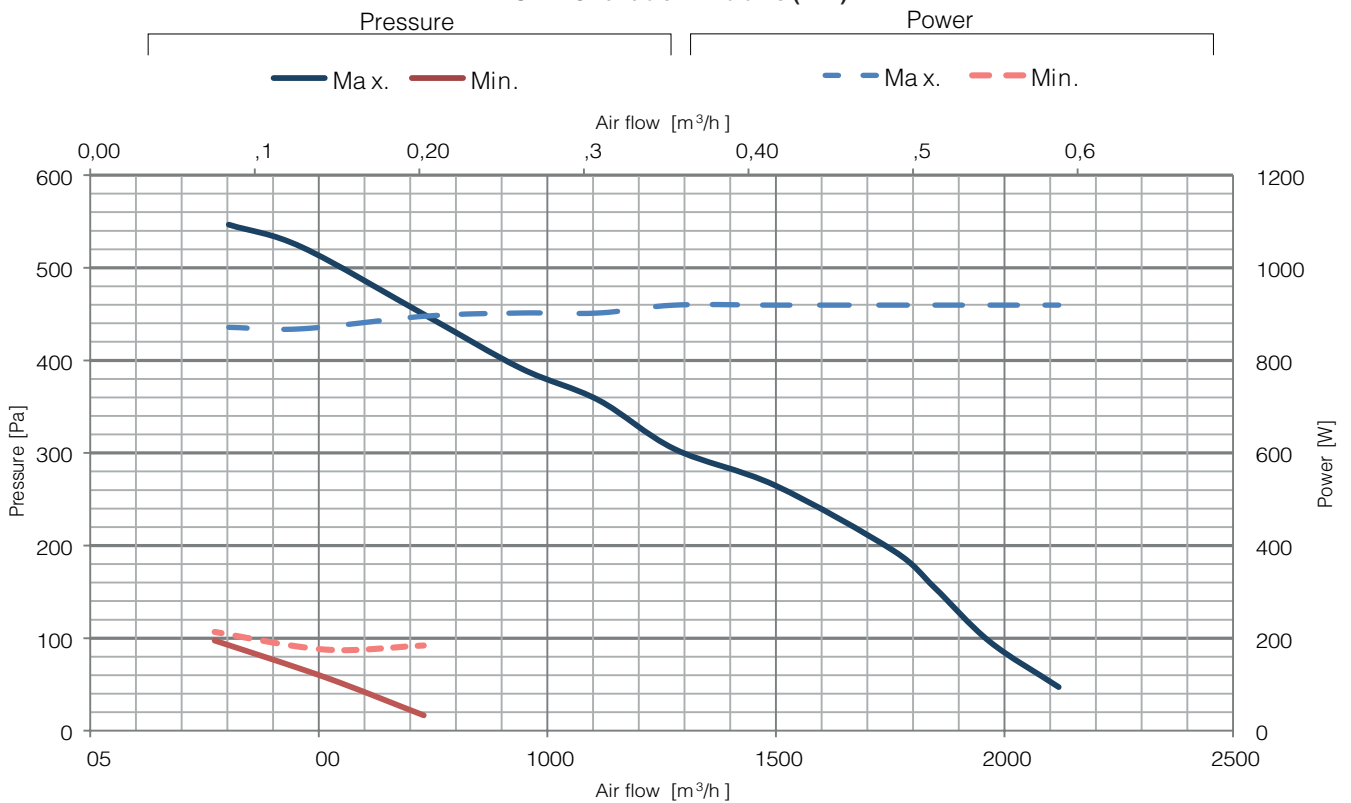
PERFORMANCES (UNI EN 13141-7)

The unit must be ducted properly: SAMP authorizes the use only according to its performance diagram shown into this catalogue.
The declared performances are with CLEAN filters, and guaranteed ONLY with the original filters SAMP low pressure drop.

RSI 1 EC Variable Air Volume (VAV)



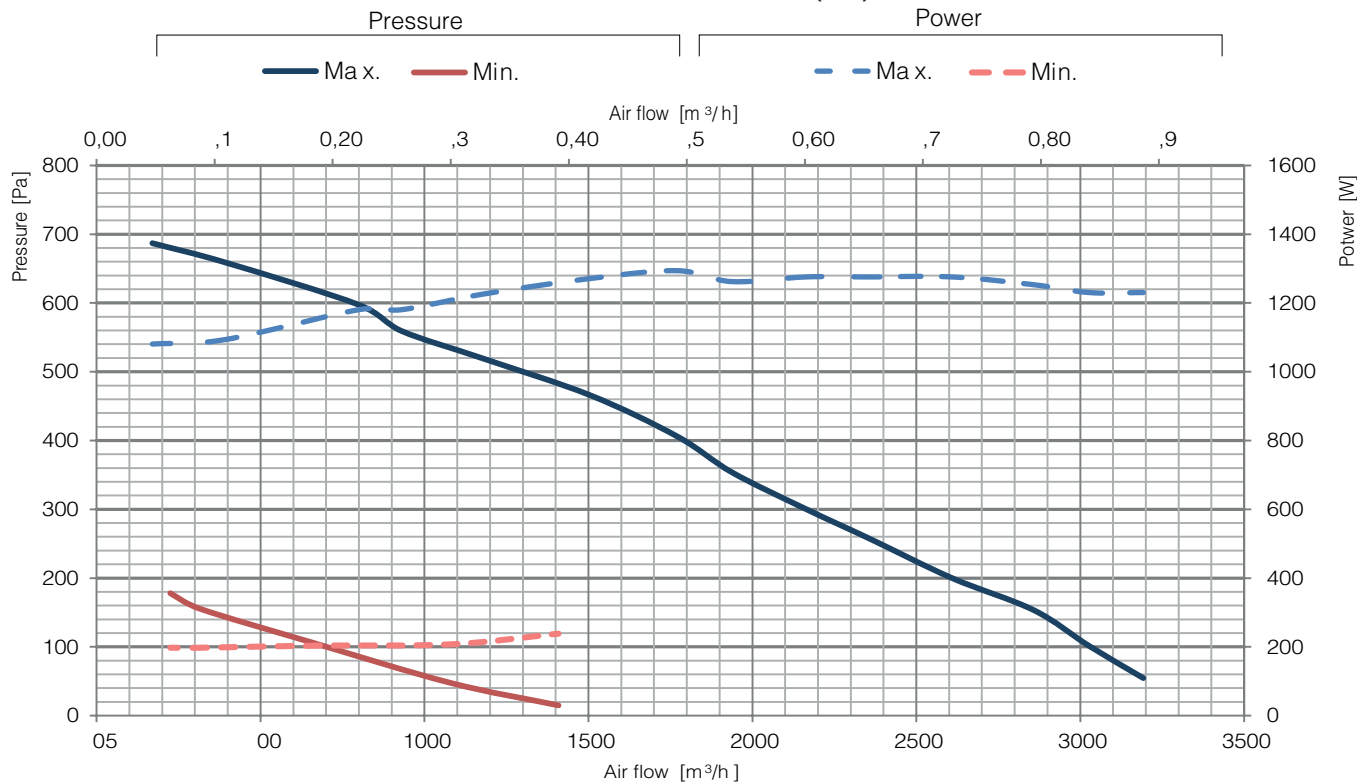
RSI 2 EC Variable Air Volume (VAV)



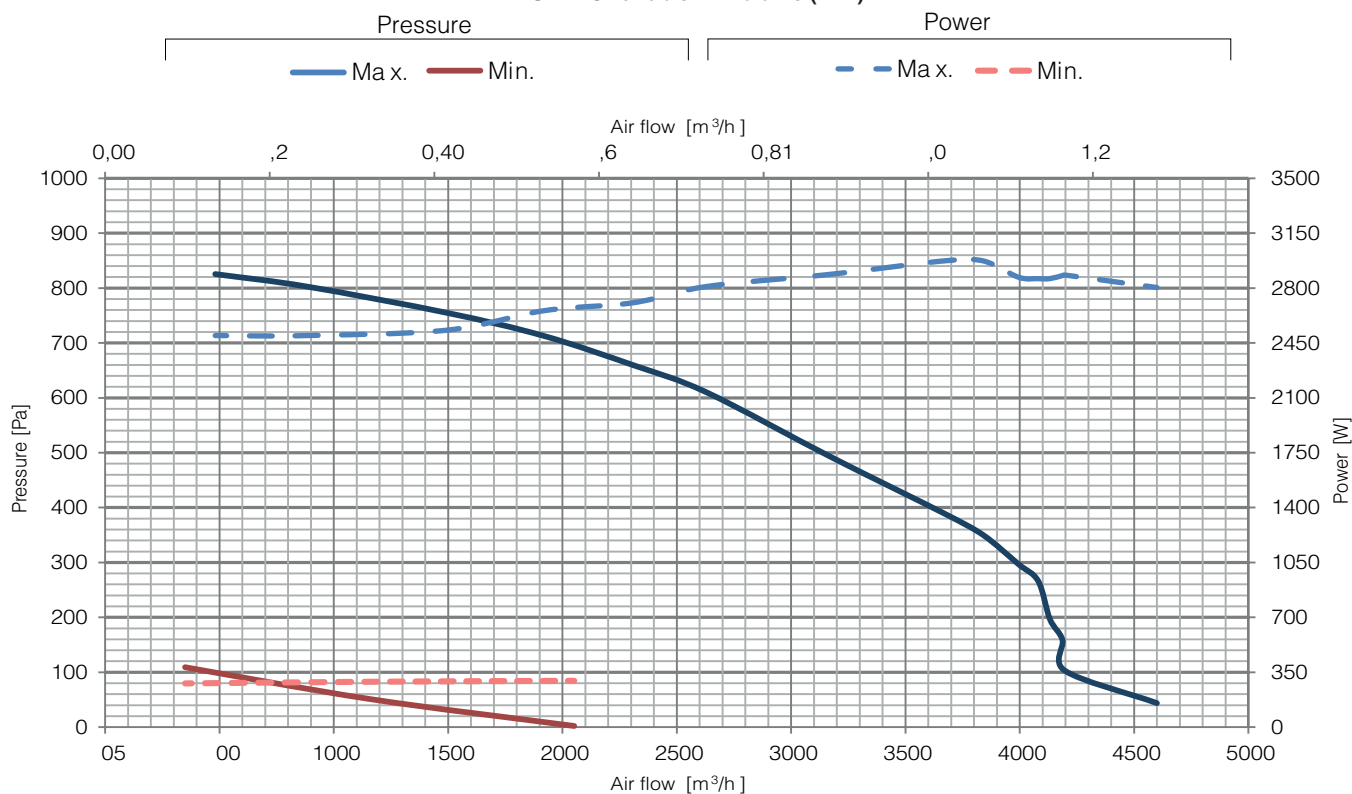
PERFORMANCES (UNI EN 13141-7)

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RSI 3 EC Variable Air Volume (VAV)

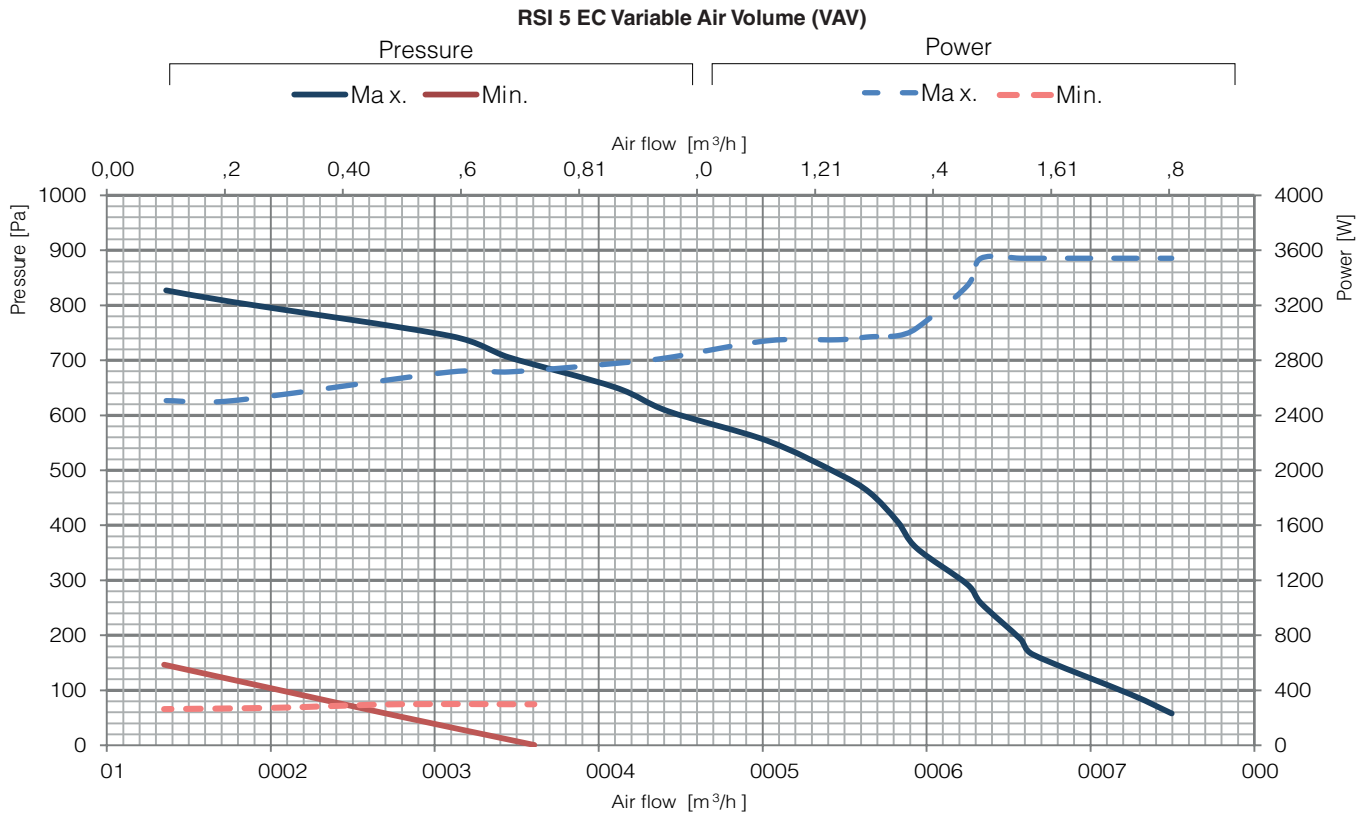


RSI 4 EC Variable Air Volume (VAV)



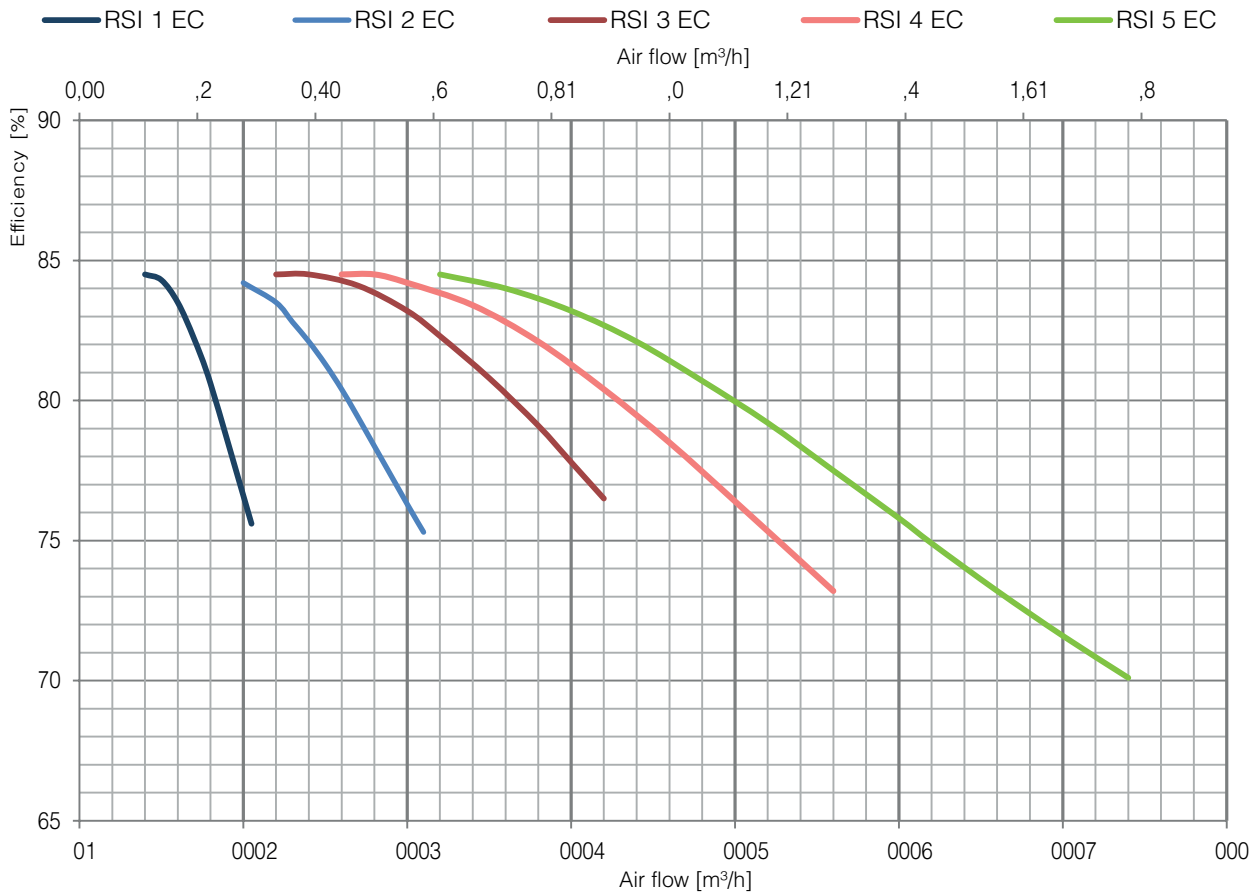
PERFORMANCES (UNI EN 13141-7)

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The declared performances are with CLEAN filters, and guaranteed ONLY with the original filters SAMP low pressure drop.



HEAT RECOVERY PERFORMANCE (sensible efficiency)

Values referred to the following conditions (UNI EN 13141-7): Tbs external air 5°C; U.R. esternal 72%; Tbs enviorment 25°C; U.R. environment 28%



ECODESIGN

MOD.	η_{Lnrvu} [%]	\dot{V}_{nom} [m³/s]	$\Delta p_{s,ext}$ [Pa]	P [kW]	SFP _{int} [W/(m³/s)]	SFP _{int_lim 2016} [W/(m³/s)]	SFP _{int_lim 2018} [W/(m³/s)]	FACE VELOCITY [m/s]	$\Delta p_{s,int}$ [Pa]	η_{Fan} [%]	* Internal LEAKAGE [%]	* External LEAKAGE [%]
RSI 1 EC	83,5	0,17	200	0,33	1035	1669	1389	0,98	588	56,0	-	7,5
RSI 2 EC	79,1	0,48	200	0,92	1074	1490	1210	1,51	668	63,0	-	3,5
RSI 3 EC	80,2	0,72	200	1,28	969	1487	1207	1,81	615	56,7	-	3,4
RSI 4 EC	78,4	1,00	400	2,96	1389	1390	1110	1,93	820	62,6	-	3,0
RSI 5 EC	75,8	1,38	350	3,07	1142	1258	978	1,97	862	64,6	-	3,2

* Percentage of the nominal flow

VALUES ACCORDING UNI EN 1886: 2008

UNIT	CASING STRENGTH	CASING LEAKAGE	FILTER CLASS	THERMAL TRANSMITTANCE	THERMAL BRIDGE
RSI 1 EC	D1 (M)	L3 (M)	F7 (M)	T4 (M)	TB3 (M)
RSI 2 EC	D1 (M)	L3 (M)	F7 (M)	T4 (M)	TB3 (M)
RSI 3 EC	D1 (M)	L3 (M)	F7 (M)	T4 (M)	TB3 (M)
RSI 4 EC	D1 (M)	L3 (M)	F7 (M)	T4 (M)T	B3 (M)
RSI 5 EC	D1 (M)	L3 (M)	F7 (M)	T4 (M)	TB3 (M)

NOISE LEVEL

L_w Sound power level taken in accordance to UNI EN ISO 3747 - CLASS 3

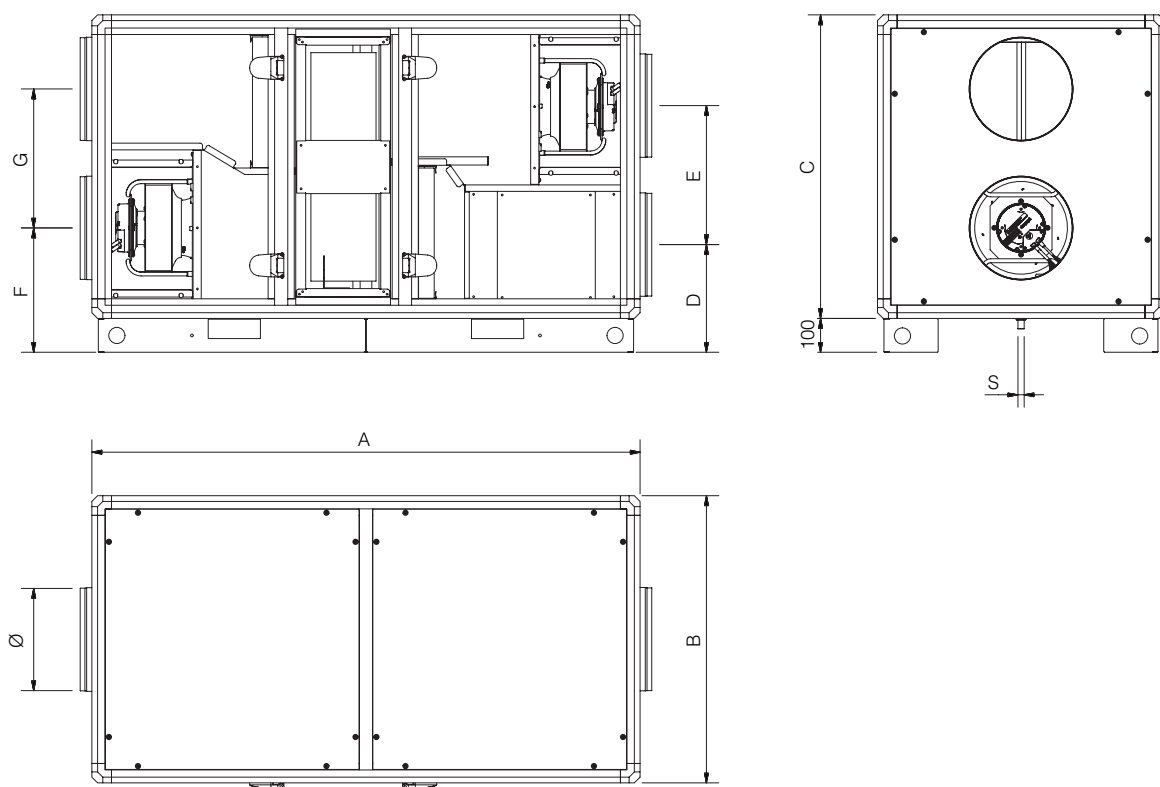
		NOISE FROM THE CASE (dB)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 1 EC	L _w V _{MAX}	69,5	64,0	55,3	44,4	40,3	30,7	21,9	58,9
		NOISE IN THE DUCTS (Hz)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 1 EC	L _w V _{MAX}	69,5	69,1	56,9	52,8	51,6	45,4	40,4	63,0
		NOISE FROM THE CASE (dB)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 2 EC	L _w V _{MAX}	71,8	69,1	57,0	53,8	45,8	37,4	28,7	63,1
		NOISE IN THE DUCTS (Hz)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 2 EC	L _w V _{MAX}	73,9	75,1	64,2	63,3	55,8	50,6	44,9	69,6
		NOISE FROM THE CASE (dB)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 3 EC	L _w V _{MAX}	64,4	67,1	60,4	59,9	52,4	45,0	34,2	64,1
		NOISE IN THE DUCTS (Hz)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 3 EC	L _w V _{MAX}	74,8	76,2	73,1	69,0	61,7	54,4	50,7	74,2
		NOISE FROM THE CASE (dB)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 4 EC	L _w V _{MAX}	72,1	74,6	65,8	65,6	57,7	49,2	38,9	70,3
		NOISE IN THE DUCTS (Hz)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 4 EC	L _w V _{MAX}	76,7	82,6	71,1	71,3	62,6	55,6	51,2	76,9
		NOISE FROM THE CASE (dB)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 5 EC	L _w V _{MAX}	77,3	77,6	66,5	69,0	60,8	50,9	42,6	73,2
		NOISE IN THE DUCTS (Hz)							
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _w dB(A)
RSI 5 EC	L _w V _{MAX}	80,2	83,5	70,6	71,8	63,8	54,8	48,6	77,6

ELECTRICAL DATA

MATCHING	FANS				UNIT RSI-EC		
	Power [W]	Supply	Current max.[A]	Insulation class	Supply	Current max.[A]	Insulation class
RSI 1 EC	2 x 17 0	230V 50/60 Hz 1F	2 x 1,4	IP54 CLASS B	230V 50 Hz 1F	3,0	IP 20
RSI 2 EC	2 x 44 8	230V 50/60 Hz 1F	2 x 2,8	IP54 CLASS B	230V 50 Hz 1F	6,0	IP 20
RSI 3 EC	2 x 71 5	230V 50/60 Hz 1F	2 x 3,1	IP54 CLASS B	230V 50 Hz 1F	7,0	IP 20
RSI 4 EC	2 x 140 0	230V 50/60 Hz 1F	2 x 6,0	IP54 CLASS B	230V 50 Hz 1F	13,4	IP 20
RSI 5 EC	2 x 185 0	400V 50/60 Hz 3F	2 x 2,9	IP54 CLASS B	400V 50 Hz 3F	7,2	IP 20

DIMENSIONS (mm) and WEIGHT (kg)

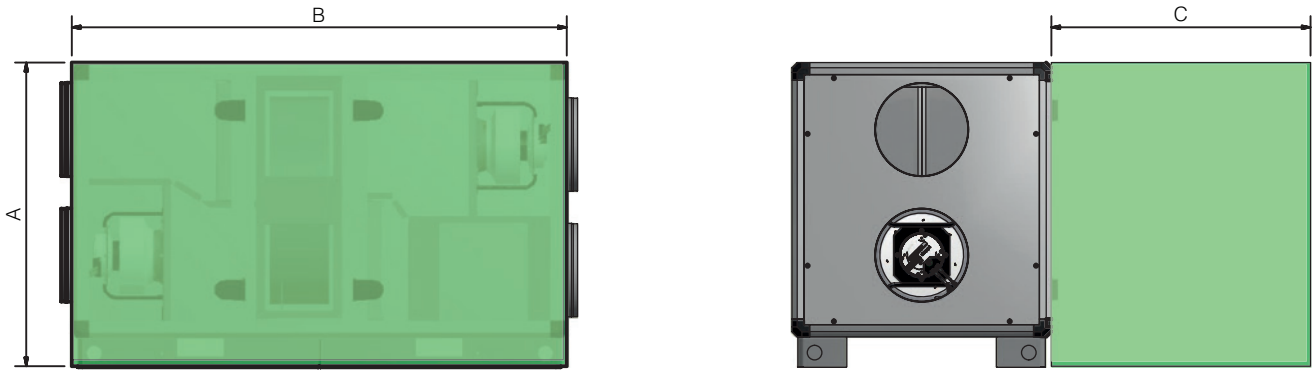
UNITD	imensions [mm]										
	A	B	C	D	E	F	G	S	Ø	Weight[kg]	
RSI 1 EC	1680	680	930	330	419	388	419	1/2"	315	187	
RSI 2 EC	1680	880	930	330	426	381	426	1/2*3	15	269	
RSI 3 EC	1680	1080	1130	372	88	372	588	1/2*4	00	338	
RSI 4 EC	1880	1180	1230	445	595	445	595	1/2*4	50	395	
RSI 5 EC	1980	1280	1330	470	645	470	645	1/2"	500	466	



INSTALLATION

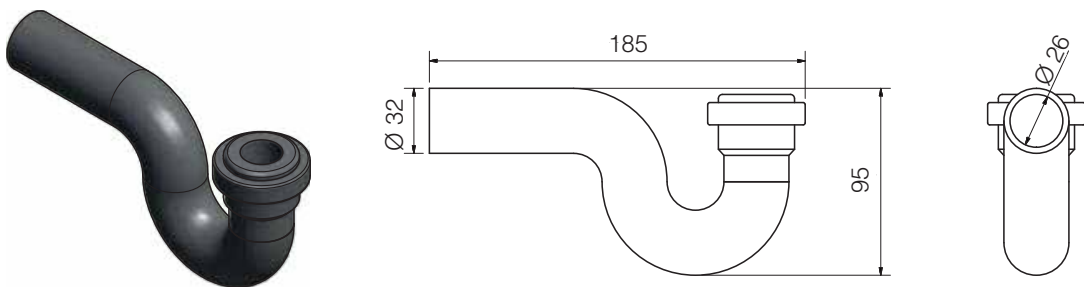
HORIZONTAL FLOOR MOUNTED

■ Minimum required space for maintenance (mm)



UNIT	imensions [mm]		
	A	B	C
RSI 1 EC	1030	1680	1000
RSI 2 EC	1030	1680	1200
RSI 3 EC	1230	1680	1400
RSI 4 EC	1330	1880	1500
RSI 5 EC	1430	1980	1600

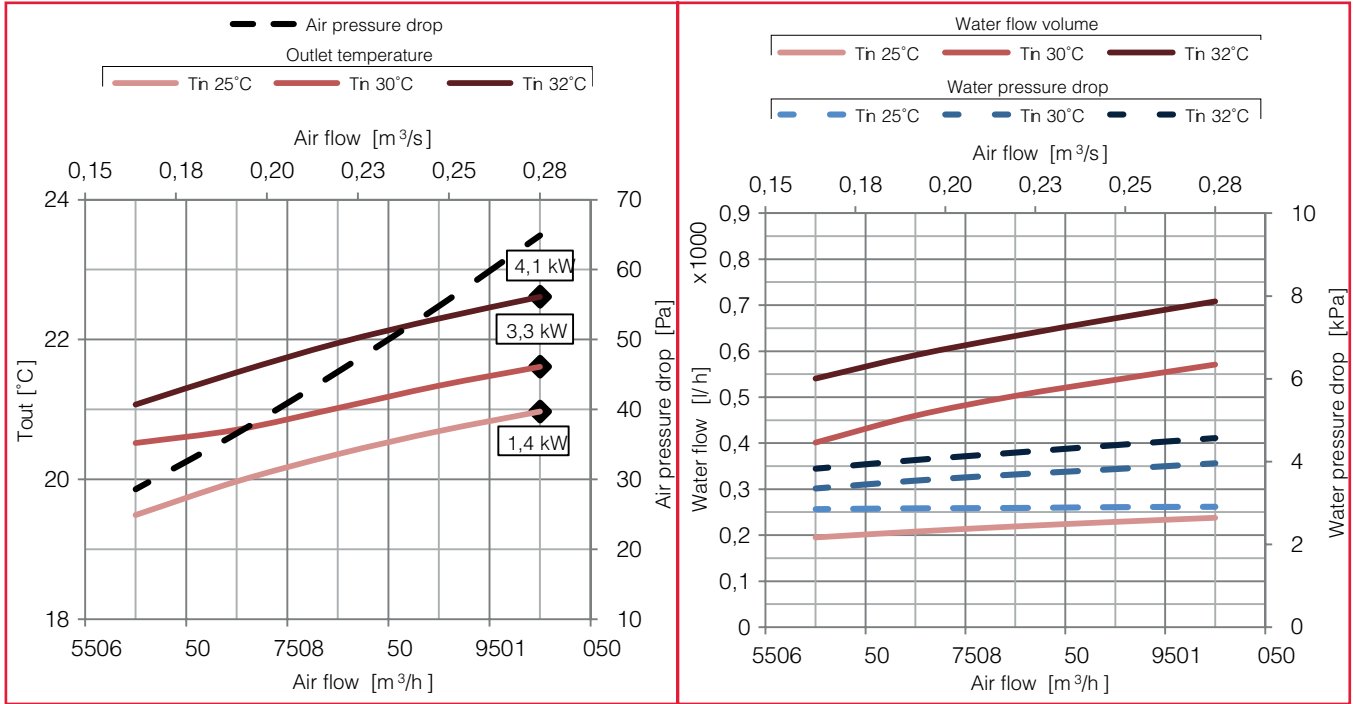
STANDARD SIPHON (MM)



COILS RSI 1 EC

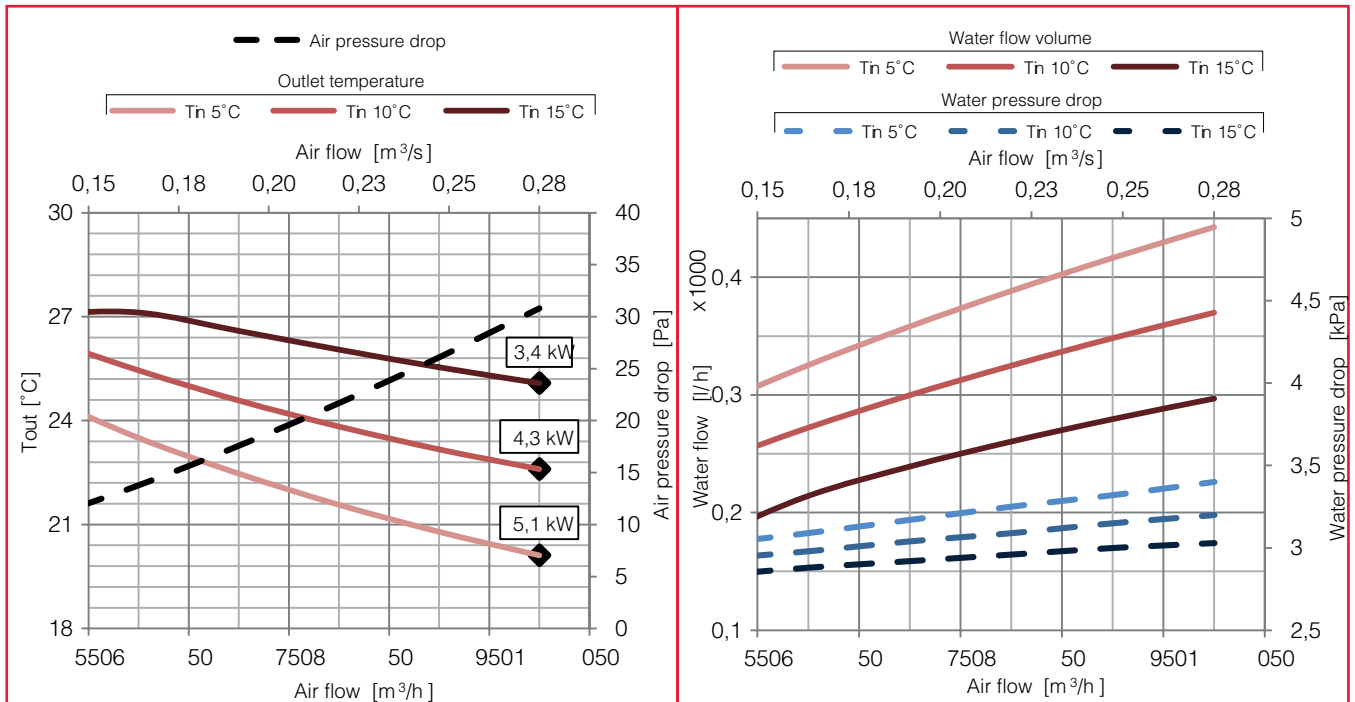
Cooling water coil (7°C/12°C)

Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm ³]	MATERIALS		
				TUBES	FINS	FRAME
3/4"	3	2,5	2	Cu	Al	Fe Zn



Heating water coil (45°C/35°C)

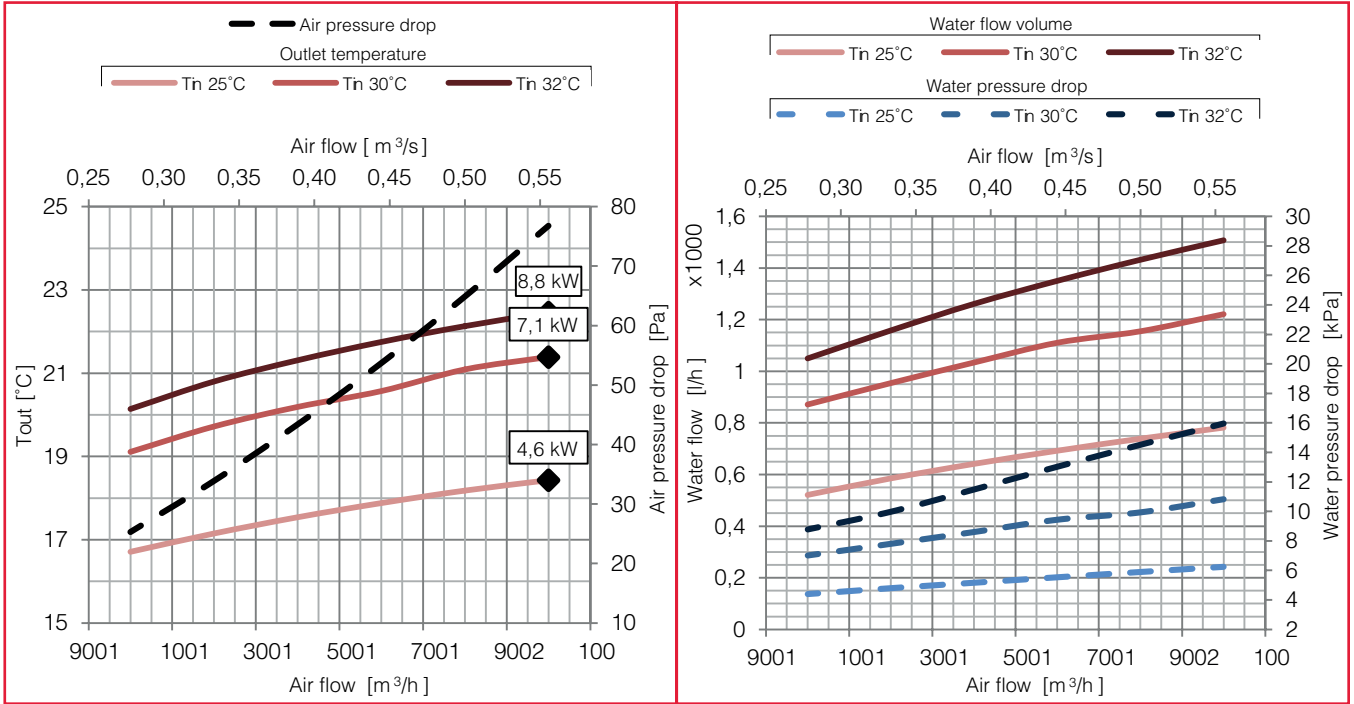
Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm ³]	MATERIALS		
				TUBES	FINS	FRAME
3/4"	3	2,5	2	Cu	Al	Fe Zn



COILS RSI 2 EC

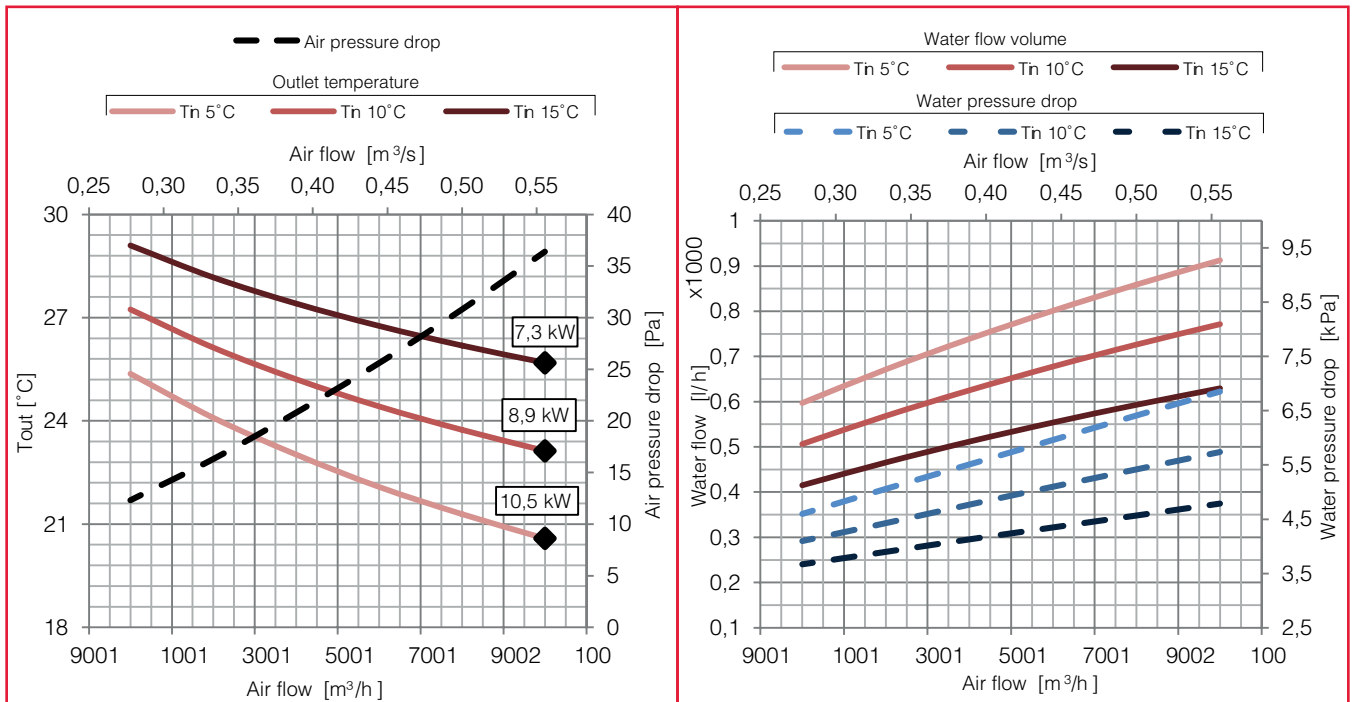
Cooling water coil (7°C/12°C)

Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³/T]	MATERIALS		
				UBES	FINS	FRAME
3/4"	3	2,5	3	Cu	Al	Fe Zn



Heating water coil (45°C/35°C)

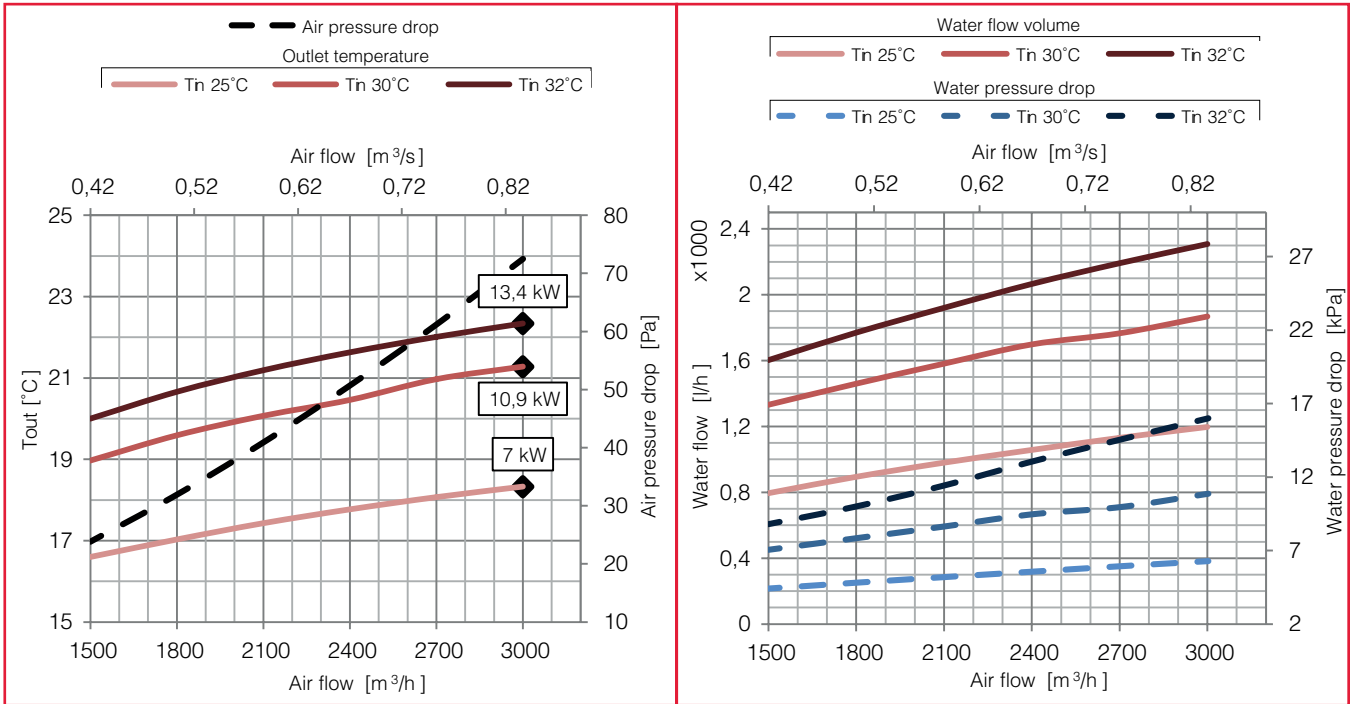
Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³/T]	MATERIALS		
				UBES	FINS	FRAME
3/4"	3	2,5	3	Cu	Al	Fe Zn



COILS RSI 3 EC

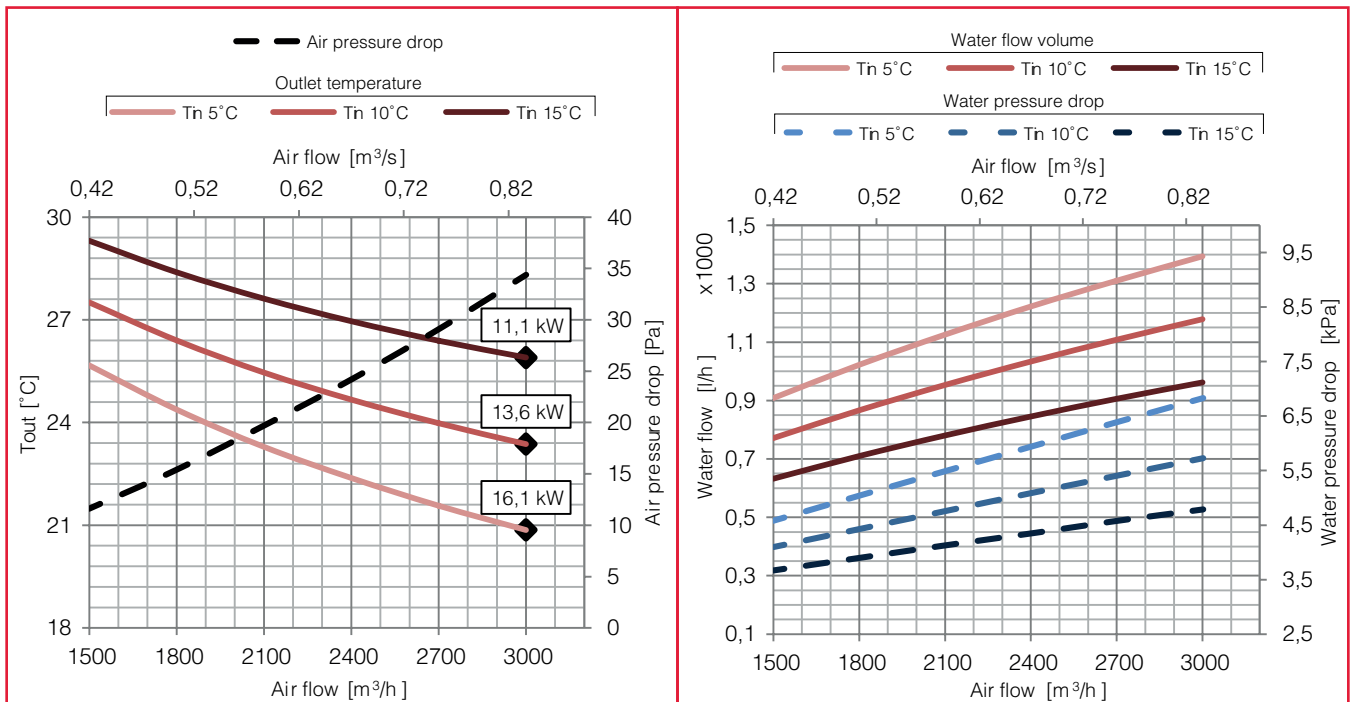
Cooling water coil (7°C/12°C)

Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³/T]	MATERIALS		
				UBES	FINS	FRAME
1”	3	2,5	5	Cu	Al	Fe Zn



Heating water coil (45°C/35°C)

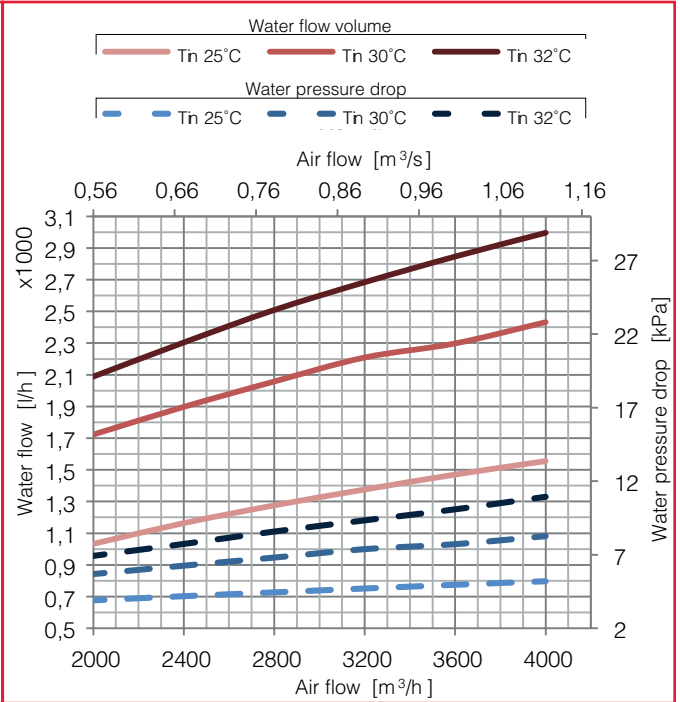
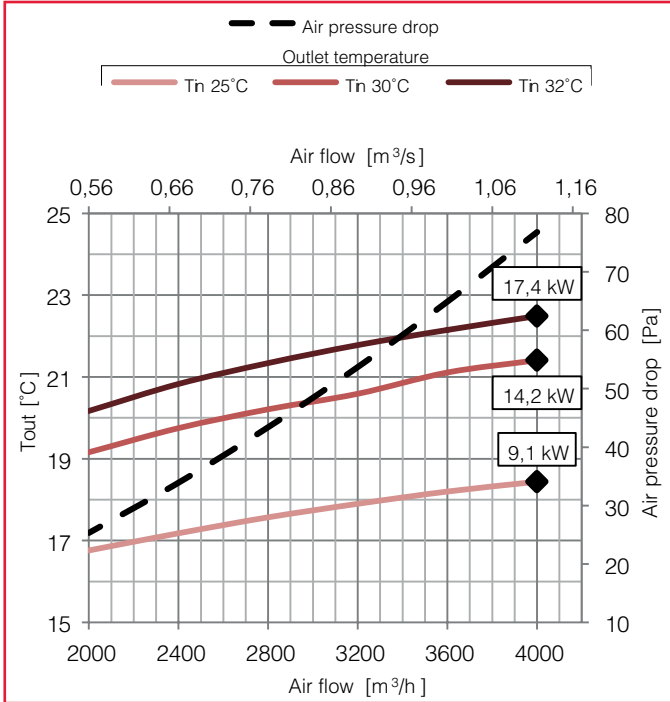
Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³]	MATERIALS		
				TUBES	FINS	FRAME
1”	3	2,5	5	Cu	Al	Fe Zn



COILS RSI 4 EC

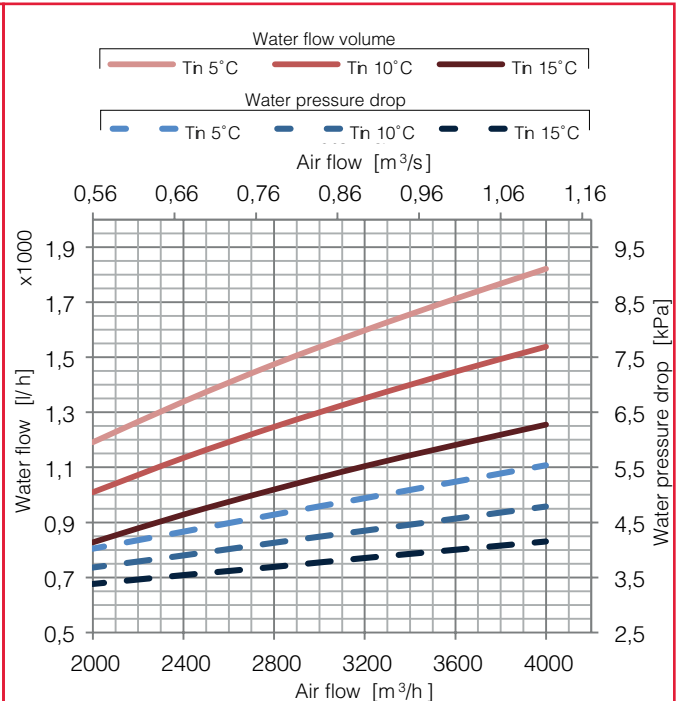
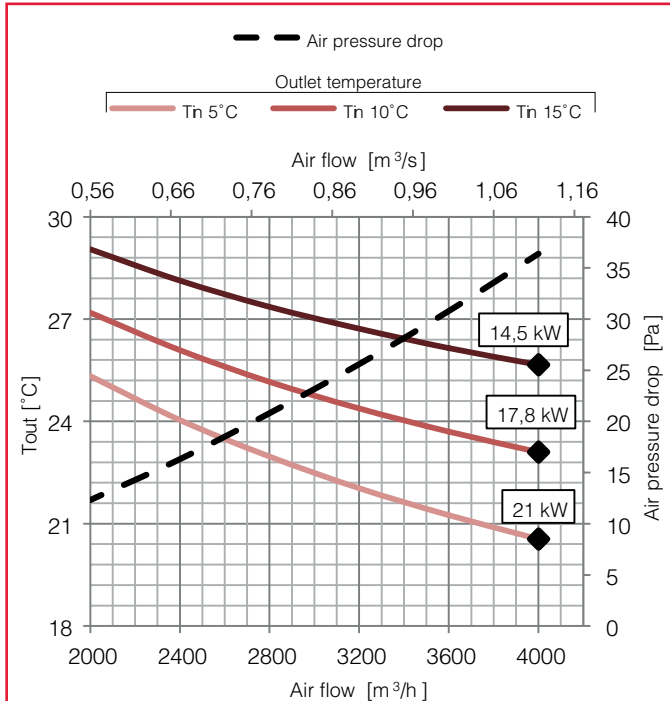
Cooling water coil (7°C/12°C)

				MATERIALS		
Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³]	UBES	FINS	FRAME
1”1/4	3	2,5	7	Cu	Al	Fe Zn



Heating water coil (45°C/35°C)

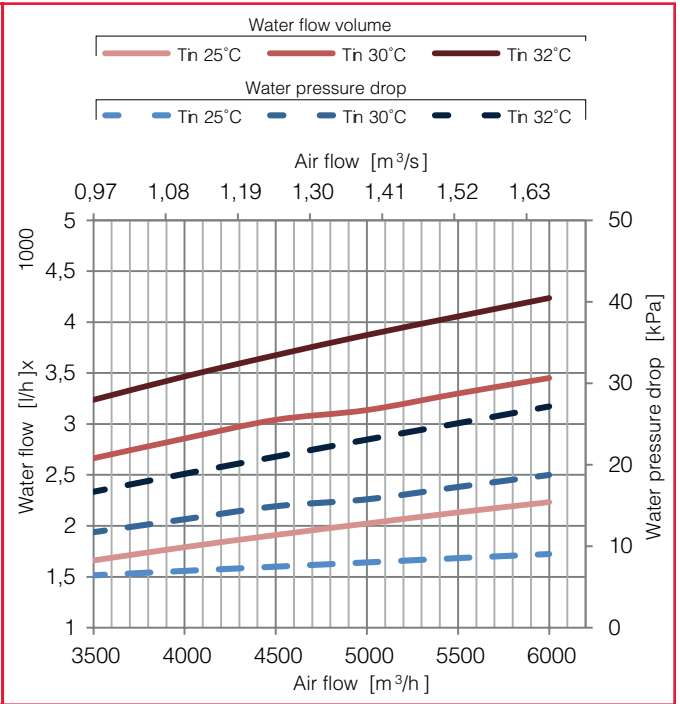
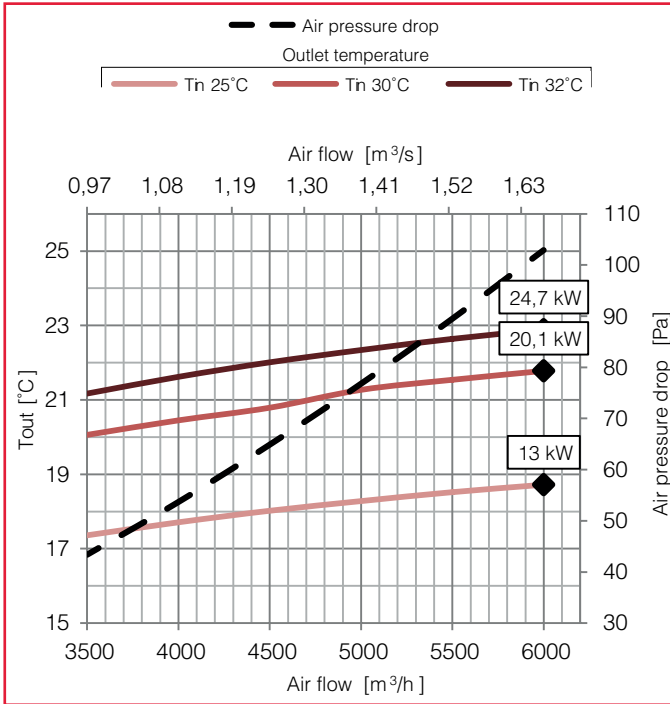
				MATERIALS		
Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³]	TUBES	FINS	FRAME
1”1/4	3	2,5	7	Cu	Al	Fe Zn



COILS RSI 5 EC

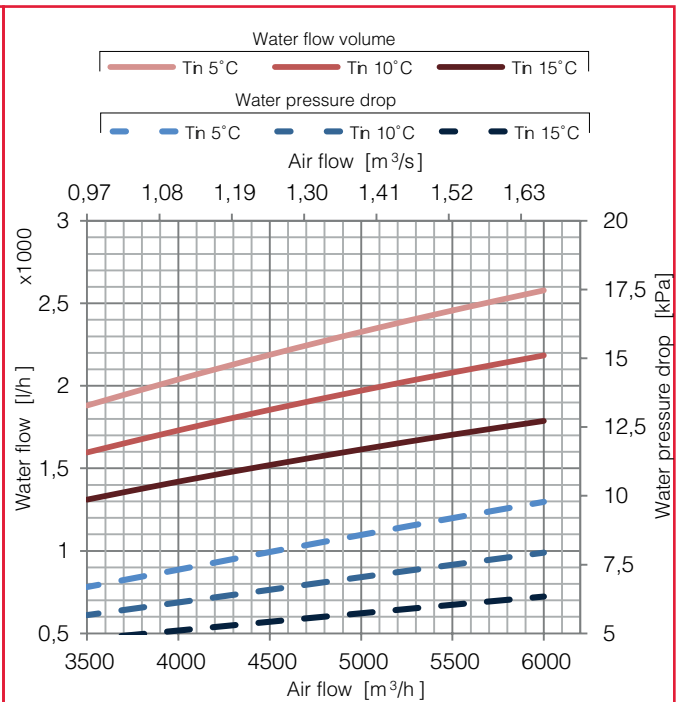
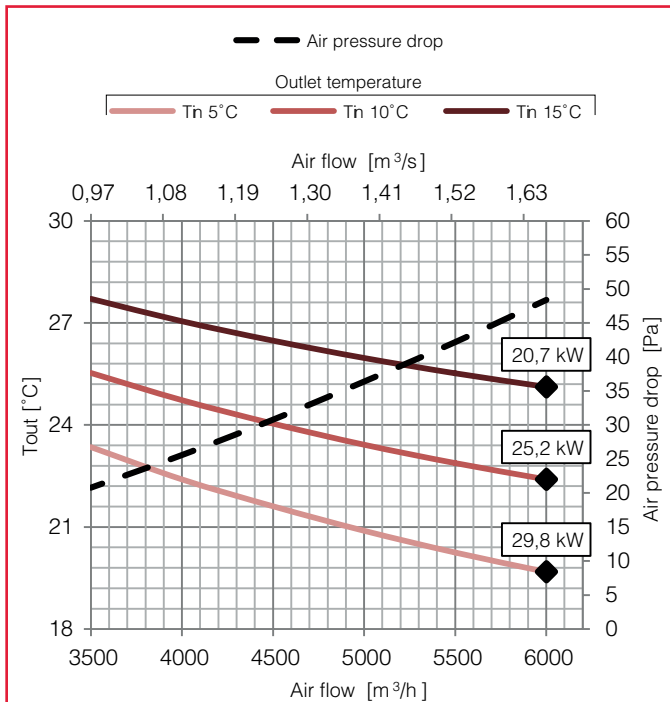
Cooling water coil (7°C/12°C)

Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³]T	MATERIALS		
				UBES	FINS	FRAME
1”1/4	3	2,5	8	Cu	Al	Fe Zn



Heating water coil (45°C/35°C)

Ø WATER [“gas]	N. ROWS	FIN PITCH [mm]	INT.VOL. [dm³]T	MATERIALS		
				UBES	FINS	FRAME
1”1/4	3	2,5	8	Cu	Al	Fe Zn



DX coil RSI 1 EC

DIRECT EXPANSION COIL (R410A) TECHNICAL DATA						
Air flow [m³/h]	Tin [C°]	R.H in [%]	Power [kW]	Tout [°C]	R.H: out [%]	Air pressure drop [Pa]
1000	28	68	6,4	19	92	86
Ø Connection [mm]	Fin pitch [mm]	N. Rows	Int.Vol. [dm³]	T evap [°C]	T cond [°C]	
22-16	2,5	3	2	5	50	

DX coil RSI 2 EC

DIRECT EXPANSION COIL (R410A) TECHNICAL DATA						
Air flow [m³/h]R	Tin [C°]	.H in [%]	Power [kW]	Tout [°C]	R.H: out [%]	Air pressure drop [Pa]
2000	28	68	12	20	92	114
Ø Connection [mm]	Fin pitch [mm]	N. Rows	Int.Vol. [dm³]	T evap [°C]	T cond [°C]	
28-16	2,5	3	3	5	50	

DX coil RSI 3 EC

DIRECT EXPANSION COIL (R410A) TECHNICAL DATA						
Air flow [m³/h]R	Tin [C°]	.H in [%]	Power [kW]	Tout [°C]	R.H: out [%]	Air pressure drop [Pa]
3000	28	50	14	17	82	103
Ø Connection [mm]	Fin pitch [mm]	Nr. Rows	Int.Vol. [dm³]	T evap [°C]	T cond [°C]	
28-16	2,5	3	4	4	50	

DX coil RSI 4 EC

DIRECT EXPANSION COIL (R410A) TECHNICAL DATA						
Air flow [m³/h]R	Tin [C°]	.H in [%]	Power [kW]	Tout [°C]	R.H: out [%]	Air pressure drop [Pa]
4200	28	68	25	20	91	119
Ø Connection [mm]	Fin pitch [mm]	Nr. Rows	Int.Vol. [dm³]	T evap [°C]	T cond [°C]	
35-22	2,5	3	6	5	50	

DX coil RSI 5 EC

DIRECT EXPANSION COIL (R410A) TECHNICAL DATA						
Air flow [m³/h]R	Tin [C°]	.H in [%]	Power [kW]	Tout [°C]	R.H: out [%]	Air pressure drop [Pa]
5700	29	67	29	21	88	136
Ø Connection [mm]	Fin pitch [mm]	Nr. Rows	Int.Vol. [dm³]	T evap [°C]	T cond [°C]	
35-28	2,5	3	7	5	50	

Electrical heater

PRE-POST ELECTRICAL HEATER TECHNICAL DATA				
Unit	Power supply	Power [kW]	Current [A]	N. stages
RSI 1 EC	230V, 50Hz,1F	4	17,4	1
RSI 2 EC	230V, 50Hz,1F	6	26,1	1
RSI 3 EC	400V, 50Hz,3F	8	11,6	1
RSI 4 EC	400V, 50Hz,3F	12	17,4	1
RSI 5 EC	400V, 50Hz,3F	16	23,2	1

N.B. – for other batteries PRE or POST treatment see the Techno-list of ACCESSORIES

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