



REC PRO 90S

High efficiency Heat Recovery Units
Non residential applications



Comply with ErP Directive 125/2009/CE
and EU Regulation 1253/2014.

Classification: Non Residential Ventilation Unit (NRVU).
Bidirectional Ventilation Unit (BVU).

- 4 sizes
- Airflow from **4.800 to 23.500 m³/h**
- Very high efficiency static heat exchanger

DESCRIPTION

The heat recovery units of the **REC PRO 75** series are designed to match the need to equip the buildings with ventilation systems which can combine low energy consumption, high aerologic performance and high indoor air quality.

They can easily be integrated with conventional heating and air-conditioning systems and their construction is optimized for a ducted installation in false ceilings and for an all-seasons operation.

The series is available in 4 sizes with performances ranking from 4.800 to max 23.500 m³/h.

CONSTRUCTION

- Supporting structure in extruded aluminium profiles
- Curtain panels 42 mm thick of sandwich type with special sealing gaskets; exterior finish RAL 9002 and thermal acoustic mineral wool insulation class 0 and high density.
- Filtering sections of F7 efficiency class with soft bags on the outside air circuit and M5 on exhaust air circuit, removable from the side.
- Fan sections with single inlet backward-curved blades plug-fans directly coupled to EC brushless motors.
- Very high efficiency (>90%) counterflow heat recovery, aluminium heat exchanger plates with supplementary sealing and built-in motorized by-pass device.
- Complete control panel with remote display and microprocessor for temperature control at fixed air flow, based on the operation logics designed to maximize energy savings and environmental comfort, thanks to the modulation of air flow guaranteed by the inverter technology. The unit is designer for RS485 connection to supervision systems based on Modbus RTU protocol.

UPON REQUEST

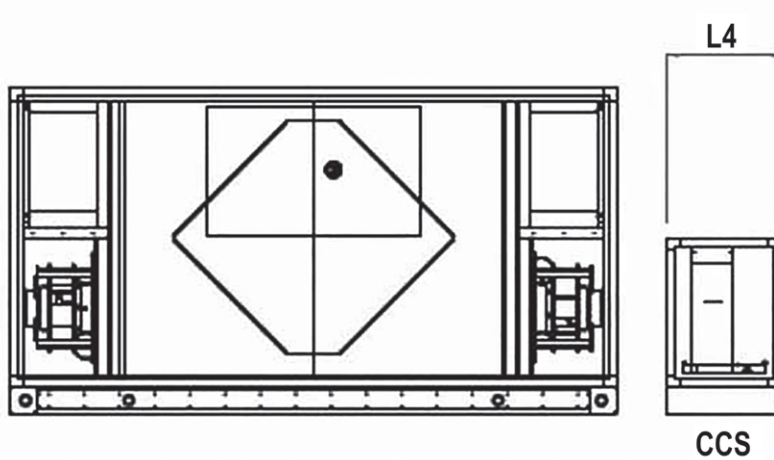
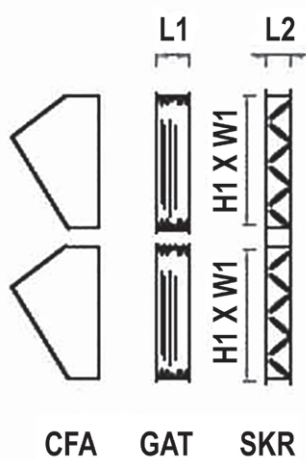
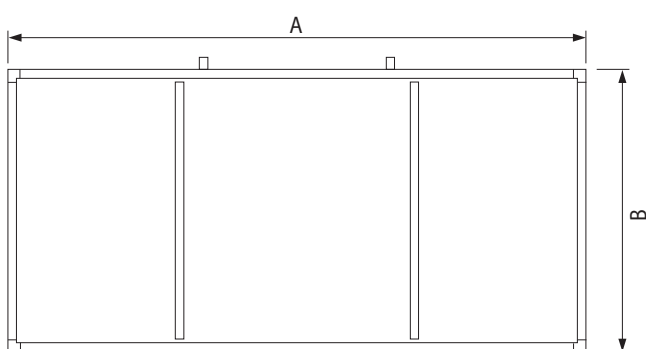
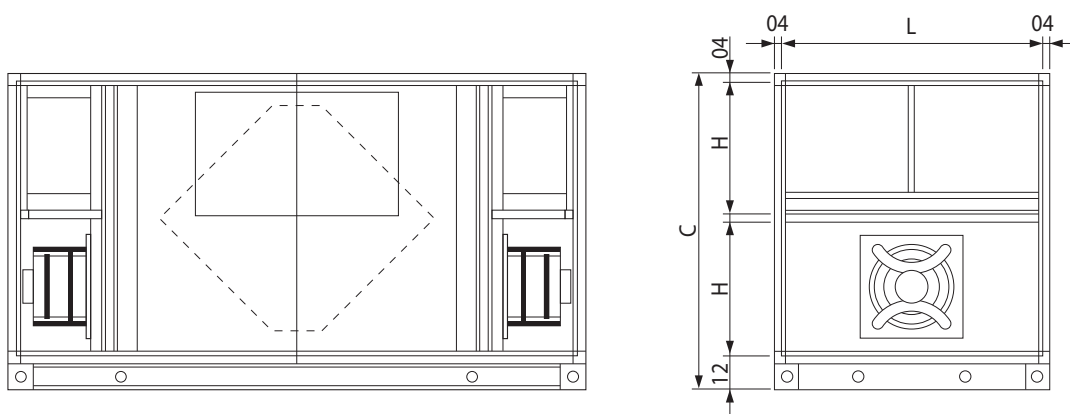
REC 90S can be supplied with the following function components, assembled and connected, to be requested in stage of order:

- **PSTD** - Filters differential pressure switch.
- **DPS** - Differential pressure sensor.
- **AQS** - Ductable CO₂ probe.

RANGE

CODE	MODEL
1RC9020	REC PRO 90 S 4.800
1RC9021	REC PRO 90 S 7.700
1RC9022	REC PRO 90 S 11.400
1RC9023	REC PRO 90 S 13.200

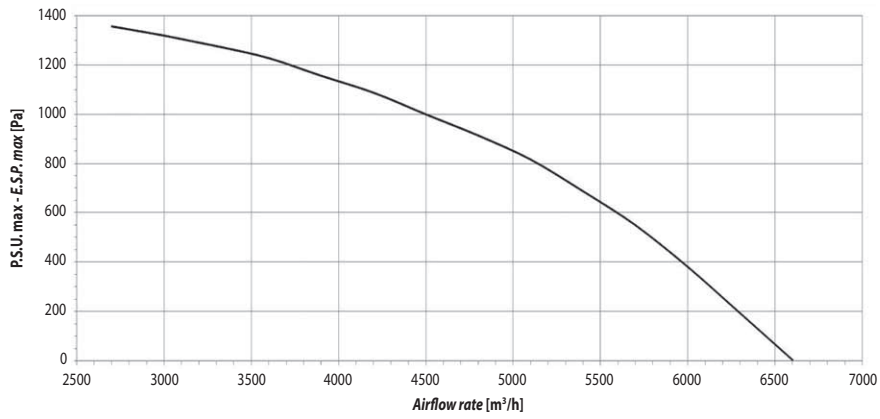
DIMENSIONS (mm)



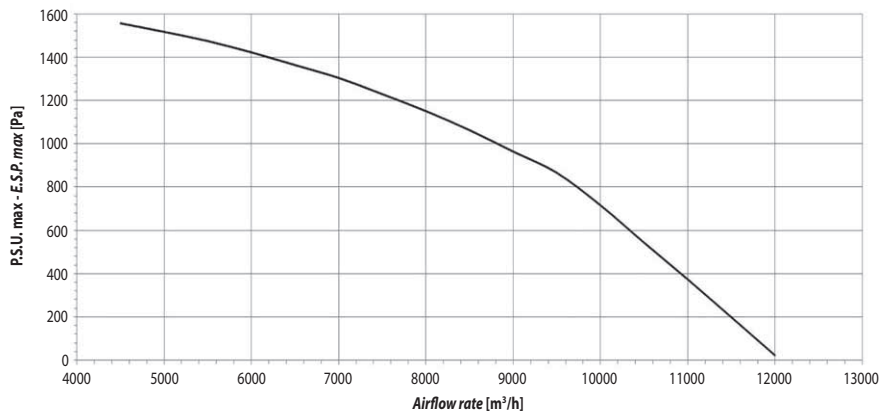
CODE	MODEL	A	B	C	L	H	L1	L2	L4	W1	H1	KG
1RC9020	REC PRO 90 S - 4800	2845	1360	1520	1280	640	150	100	535	1280	620	730
1RC9021	REC PRO 90 S - 7700	3175	1690	1850	1610	805	150	100	535	1610	785	930
1RC9022	REC PRO 90 S - 11400	3505	2020	2180	1940	970	150	100	535	1940	950	1150
1RC9023	REC PRO 90 S - 13200	3835	2020	2510	1940	1135	150	100	535	1940	1115	1470

PERFORMANCE

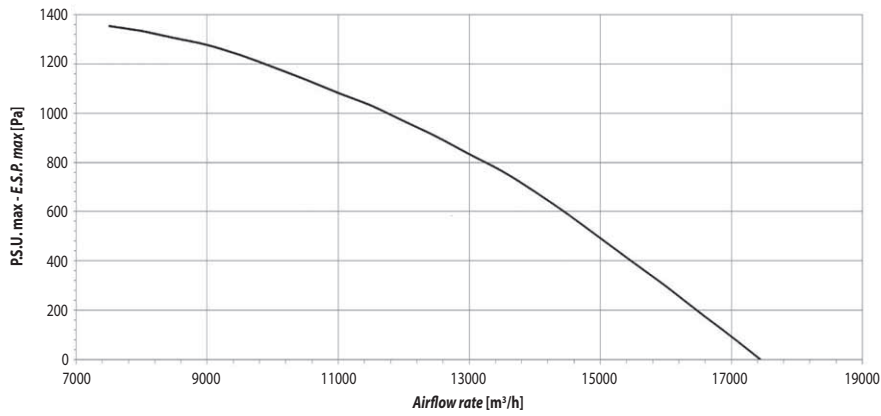
REC PRO 90S - 4800



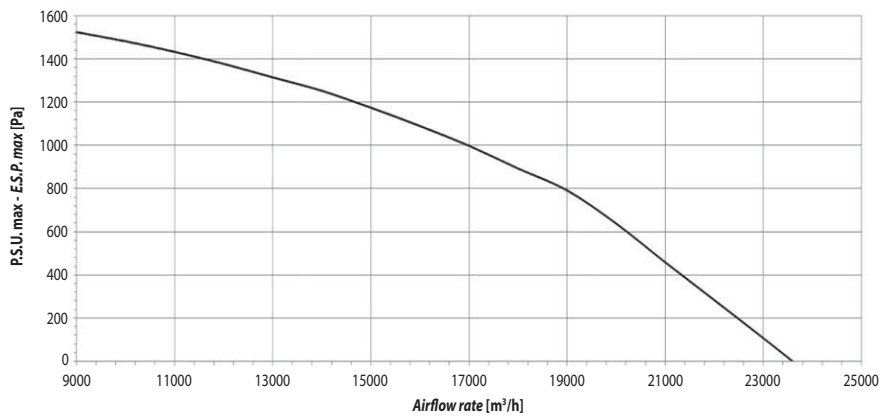
REC PRO 90S - 7700



REC PRO 90S - 11400



REC PRO 90S - 13200



PERFORMANCE AND ErP CONFORMITY

EU Regulation 1253/2014

VENTILAZIONE			90S 4800	90S 7700	90S 11400	90S 13200
Airflow rate	Nom	m³/h	4800	7700	11400	13200
	Max	m³/h	6600	12000	17500	23500
Static pressure (1)	Nom	Pa				
	Max		939	1209	1048	1308
Corrente assorbita totale		A	7,6	16,0	20,5	31,9
Potenza max. assorbita		kW	5,0	10,4	13,2	20,8
Potenza specifica vent.	Nom	W/(m³/s)	937	888	808	927
	Max		1860	2384	2071	2727
Colnformity 2009/125/EC		-	2015			
Protection grade min.		-	IP 54			
Temperature class min.		-	F			
Power supply		V-Ph-Hz	400-3-50			
Recovery efficiency (1)		%	90,0	90,0	90,0	90,0
Recovery capacity (1)		kW	46,4	74,4	110	128
Supply temperature (1)		°C	18,8	18,8	18,8	18,8
Recovery efficiency (2)		%	79,3	79,3	79,3	79,3
Recovery capacity (2)		kW	7,8	12,4	18,4	21,3
Supply temperature (2)		°C	27,2	27,2	27,2	27,2

(1) External air -10°C 90% RH, ambient air +22°C 50% RH

(2) External air 32°C 50% RH, ambient air 26°C 50% RH

SOUND LEVELS

With reference to the nominal operating conditions, the following table reports the sound power values (SWL) in octave band and total; it also reports, for comparative purposes, the sound pressure level (SPL) at 1m, 5m and 10m in output, input and outside the unit, in conditions of ducted units.

MODEL	Hz	63	125	250	500	1000	2000	4000	8000	TOT	OUTPUT			INPUT			OUTSIDE		
											1 m	5 m	10 m	1 m	5 m	10 m	1 m	5 m	10 m
											dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
90 S - 4800	LwdB(A)	43	51	73	73	72	73	71	67	80	68	54	45	56	47	42	46	37	32
	LpdB(A) 6mt	16	24	46	46	45	46	44	40	53									
90 S - 7700	LwdB(A)	50	59	79	77	78	78	75	75	85	73	59	53	61	52	47	51	42	37
	LpdB(A) 6mt	23	32	52	50	51	51	48	48	58									
90 S - 11400	LwdB(A)	48	56	80	76	77	78	75	70	85	72	58	52	60	52	47	49	41	36
	LpdB(A) 6mt	21	29	53	49	50	51	48	43	58									
90 S - 13200	LwdB(A)	53	62	82	80	81	81	78	79	88	76	62	56	63	55	51	52	44	40
	LpdB(A) 6mt	26	35	55	53	54	54	51	52	62									

REC PRO 90S ACCESSORIES

SKE	Electric heater
CCS V33	External module of heating/cooling with water coil and 3-way valve
TPR - TPR CCS	Roof cover - Roof cover for CCS
SKR SSE	Air damper with on/off actuator
MS3 SSE	Mix /discharge chamber
FC6	Additional filter Class M6 on the external air intake
FT7	Sleeve filter Class F7 on internal air intake
FT8	Sleeve filter Class F8 on the external air intake (to pair with FC6)
CFA	External cuff
GAT	Flexible connection
TPR	Roof cover
DPSa	Differential pressure sensor at constant flow
DPSp	Differential pressure sensor at constant pressure

CODE	MODEL	SKE1 Pre	SKE1 Post	SKE2 Pre	SKE2 Post	CCS V33	TPR CCS	SKR SSE	MS3 SSE	MS3 SSE mod.	FC6	FT7	FT8	CFA	CFA	GAT	TPR	TPR CCS	DPSa	DPSp	TPR MS3
		high power	high power	low power	low power									high	low						
1RC9020	REC PRO 90 S 4.800	5BT0300	5BT0304	5BT0308	5BT0312	5BT0316	5TE0270	5SE0100	5PL0100	5PL0104	5FL4035	5FL4039	5FL4043	5SU0020	5SU0024	5SU0028	5TE0278	5TE0270	5SU0015	5SU0016	5TE0274
1RC9021	REC PRO 90 S 7.700	5BT0301	5BT0305	5BT0309	5BT0313	5BT0317	5TE0271	5SE0101	5PL0101	5PL0105	5FL4036	5FL4040	5FL4044	5SU0021	5SU0025	5SU0029	5TE0279	5TE0271	5SU0015	5SU0016	5TE0275
1RC9022	REC PRO 90 S 11.400	5BT0302	5BT0306	5BT0310	5BT0314	5BT0318	5TE0272	5SE0102	5PL0102	5PL0106	5FL4037	5FL4041	5FL4045	5SU0022	5SU0026	5SU0030	5TE0280	5TE0272	5SU0015	5SU0016	5TE0276
1RC9023	REC PRO 90 S 13.200	5BT0303	5BT0307	5BT0311	5BT0315	5BT0319	5TE0273	5SE0103	5PL0103	5PL0107	5FL4038	5FL4042	5FL4046	5SU0023	5SU0027	5SU0031	5TE0281	5TE0273	5SU0015	5SU0016	5TE0277

SKE - Electric heater

MODEL			4800	7700	11400	13200
Power	1	kW	28	48	64	80
	2		14	24	32	40
Pressure loss air intake side (1)	1	Pa	< 25			
	2		< 17			
Power supply		V-ph-Hz	400 - 3 - 50			

SKE1 - PRE-HEATING - High Power

Code	Description
5BT0300	SKE 1 - pre-heating 90S 4800
5BT0301	SKE 1 - pre-heating 90S 7700
5BT0302	SKE 1 - pre-heating 90S 11400
5BT0303	SKE 1 - pre-heating 90S 13200

SKE1 - POST-HEATING - High Power

Code	Description
5BT0304	SKE 1 - post-heating 90S 4800
5BT0305	SKE 1 - post-heating 90S 7700
5BT0306	SKE 1 - post-heating 90S 11400
5BT0307	SKE 1 - post-heating 90S 13200

SKE2 - PRE-HEATING - Low Power

Code	Description
5BT0308	SKE 2 - pre-heating 90S 4800
5BT0309	SKE 2 - pre-heating 90S 7700
5BT0310	SKE 2 - pre-heating 90S 11400
5BT0311	SKE 2 - pre-heating 90S 13200

SKE2 - POST-HEATING - Low Power

Code	Description
5BT0312	SKE 2 - post-heating 90S 4800
5BT0313	SKE 2 - post-heating 90S 7700
5BT0314	SKE 2 - post-heating 90S 11400
5BT0315	SKE 2 - post-heating 90S 13200

(1) At nominal airflow

CCS V33 - External module of heating/cooling with water coil and 3 way valve

External module that directly interfaces to the unit output section. It includes a 4-row water battery, suitable for both heating and cooling, a plastic drop separator, a 3-way valve with 3-point servomotor (supplied aside) and a side discharge of 1". For performance consult the following table, referring to the nominal airflow:

MODEL			90S 4800	90S 7700	90S 11400	90S 13200
CODE			5BT0316	5BT0317	5BT0318	5BT0319
Refrigeration power (1)	total	kW	40,9	69	106,3	119,8
	sensible		22,9	38,6	58,5	65,9
Thermal power (2)		kW	35,4	58,5	89,1	102,5
Water flow (1)		l/h	7.035	11.877	18.289	20.609
Pressure loss water intake side (1)		kPa	15	18	19	11
Pressure loss air intake side (1)		Pa	164	142	130	118

(1) Air intake 27,5°C 60% RH, water in/out 7/12°C

(2) Air intake 18°C, water in/out 45°/40°C

REC PRO 90S ACCESSORIES

SKR SSE - Air damper

SKR SSE - Air damper

Code	Description
5SE0100	SKR SSE 90S 4800
5SE0101	SKR SSE 90S 7700
5SE0102	SKR SSE 90S 11400
5SE0103	SKR SSE 90S 13200

FT7 - Sleeve filter

FT7 - Sleeve filter

Code	Description
5FL4039	FT7 90S 4800
5FL4040	FT7 90S 7700
5FL4041	FT7 90S 11400
5FL4042	FT7 90S 13200

MS3 SSE - Mix / Discharge chamber

CODE DESCRIPTION

CODE	DESCRIPTION
5PL0100	MS3 SSE 50
5PL0101	MS3 SSE 92
5PL0102	MS3 SSE 144
5PL0103	MS3 SSE 205
5PL0104	MS3 SSEmod 50
5PL0105	MS3 SSEmod 92
5PL0106	MS3 SSEmod 144
5PL0107	MS3 SSEmod 205

FC6 - Compact filter M6

FC6 - Compact filter M6

Code	Description
5FL4035	FC6 90S 4800
5FL4036	FC6 90S 7700
5FL4037	FC6 90S 11400
5FL4038	FC6 90S 13200

FT8 - Sleeve filter F8

FT8 - Sleeve filter F8

Code	Description
5FL4043	FT8 90S 4800
5FL4044	FT8 90S 7700
5FL4045	FT8 90S 11400
5FL4046	FT8 90S 13200

DPS - Differential pressure sensor

DPS - Differential pressure sensor

Code	Description
5SU0015	DPSa
5SU0016	DPSp

GAT - Flexible connexion

GAT - Flexible connexion

Code	Description
5SU0028	GAT 90S 4800
5SU0029	GAT 90S 7700
5SU0030	GAT 90S 11400
5SU0031	GAT 90S 13200

CFA - External cuff with net

CFA/A - External cuff with net - High

Code	Description
5SU0020	CFA/A 90S 4800
5SU0021	CFA/A 90S 7700
5SU0022	CFA/A 90S 11400
5SU0023	CFA/A 90S 13200

CFA/B - External cuff with net - Low

Code	Description
5SU0020	CFA/B 90S 4800
5SU0021	CFA/B 90S 7700
5SU0022	CFA/B 90S 11400
5SU0023	CFA/B 90S 13200

TPR - TPR/CCS - TPR/MS3

Roof cover - Roof cover for CCS

TPR - Roof cover

Code	Description
5TE0278	TPR 90S 4800
5TE0279	TPR 90S 7700
5TE0280	TPR 90S 11400
5TE0281	TPR 90S 13200

TPR/CCS - Roof cover for CCS

Code	Description
5TE0270	TPR/CCS 50 per REC PRO 90 S - 4800
5TE0271	TPR/CCS 92 per REC PRO 90 S - 7700
5TE0272	TPR/CCS 144 per REC PRO 90 S - 11400
5TE0273	TPR/CCS 205 per REC PRO 90 S - 13200

TPR/MS3 - Roof cover for MS3

Code	Description
5TE0274	Roof for MS3 50 - REC PRO 90 S & 80 R
5TE0275	Roof for MS3 92 - REC PRO 90 S & 80 R
5TE0276	Roof for MS3 144 - REC PRO 90 S & 80 R
5TE0277	Roof for MS3 205 - REC PRO 90 S & 80 R