

ferroli

COMPAT PLUS

LARGE CAPACITY FAN COIL UNITS



TECHNICAL MANUAL

INTRODUCTION

COMPAT PLUS series fan coils come in both the horizontal configurations (H) and in vertical configurations (V). The series includes 5 models with air-flows rates from 1,700 to 25,000 m³/h.

The **COMPAT PLUS** series can be constructed with a single 2, 3, 4, or 6 row coil or in the double coil configurations for 4-pipe installations. Units in the series come complete with guard and safety micro-switch. The compact dimensions also allow installation in environments with connections to ducts or with direct delivery with plenum. The versatility offered by the series is topped off by an extensive range of accessories such as the cover for both configurations, the outlet plenum, the intake with fixed-louver grill, the air intake damper with or without or manual servo control and mixing chamber. This latter can be built with two dampers, one damper and one grill or two indoor and outdoor air-intake grids.

None of the **COMPAT PLUS** units are suitable for operation in explosive atmospheres.

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1. CONSTRUCTION FEATURES

The COMPAT PLUS series fan coil units are capable of satisfying all heating and cooling requirements in domestic and industrial settings due to their construction features.

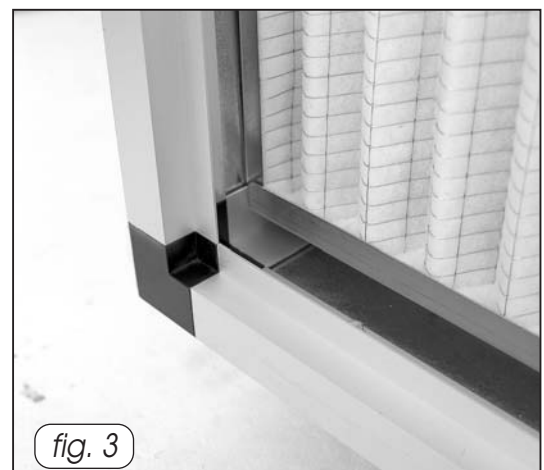
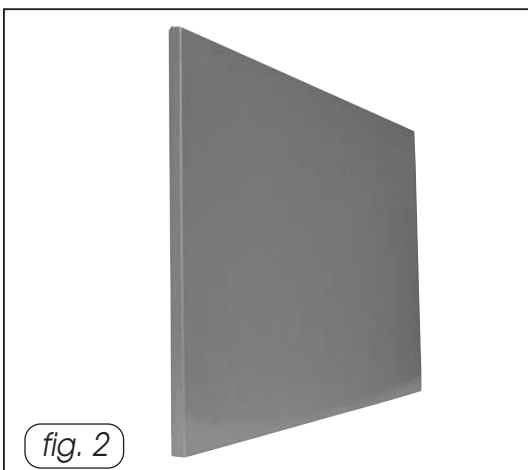


1.1 Models

There are 9 models (from 1,700 to 25,000 m³/h), in the (H) horizontal and (V) vertical configurations.

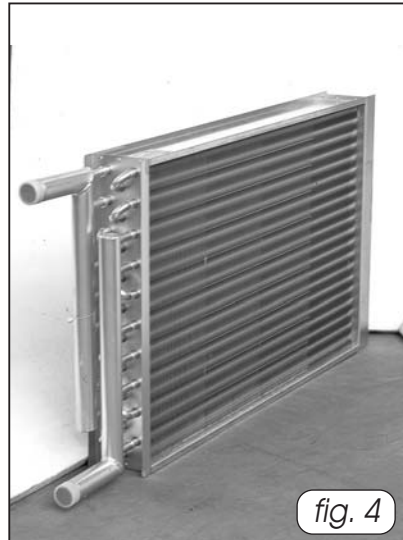
1.2 Structure

The single-units have a structure built of an extruded aluminium section and an internal galvanized sheet panel 23 mm thick and they are pre-painted on the outside, with internal mineral fiber or polyurethane insulation. Any variations such as the 50 mm thick panelling or construction with different materials (stainless steel sheet metal, peraluman etc.) will be quoted subject to specific request.



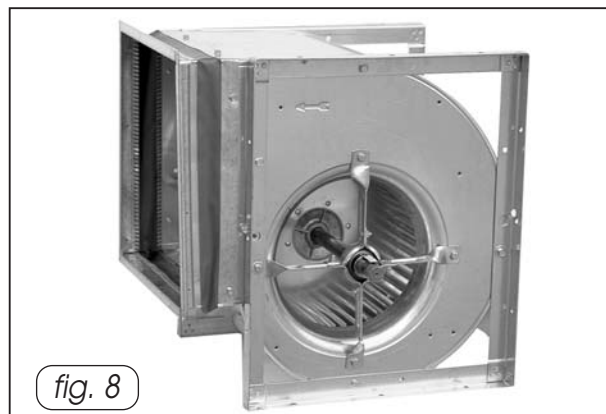
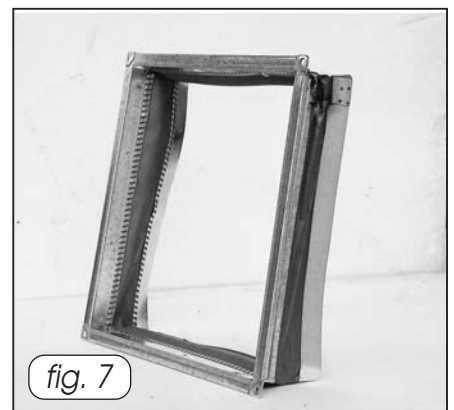
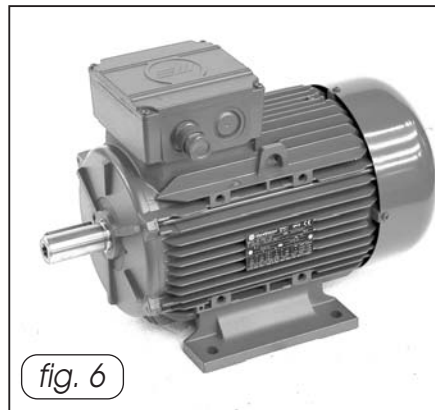
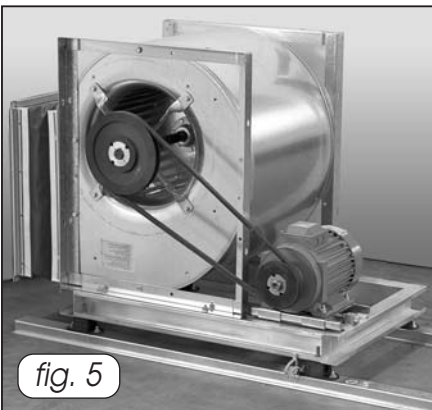
1.3 Coils

The heating and cooling coils are constructed with copper pipe and aluminum fins; the cooling coils are equipped with condensate collection trays and the corresponding drain. Upon request, coils may be made of materials and/or non-standard functions.



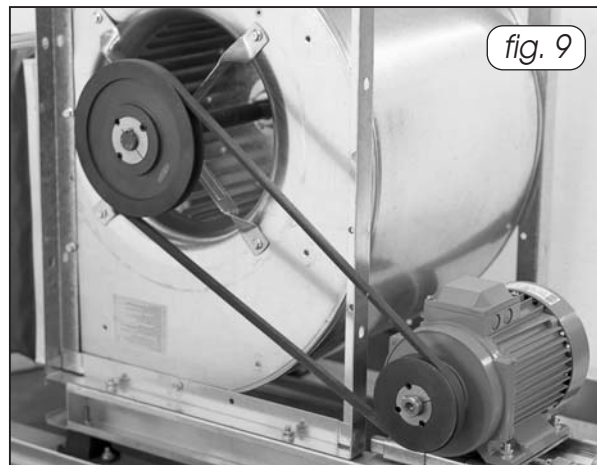
1.4 Fan-motor unit

The ventilated section mounts on a single dampened base, a double-suction centrifugal fan with forward-facing blades, complete with isolator joint at the outlet opening and a 1 or 2 speed asynchronous 3-phase 380V-50 Hz motor with protection level IP55 and class F winding, mounted on special belt-tightener slide.



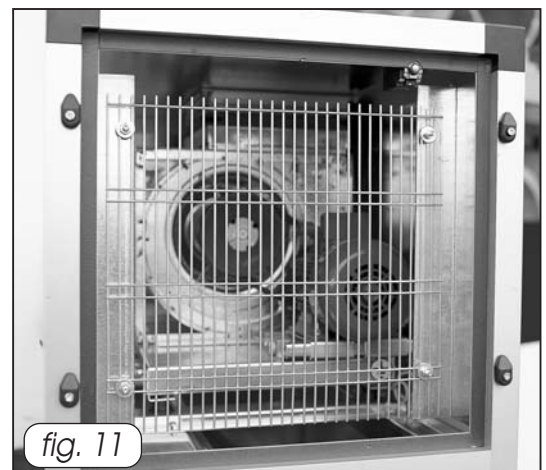
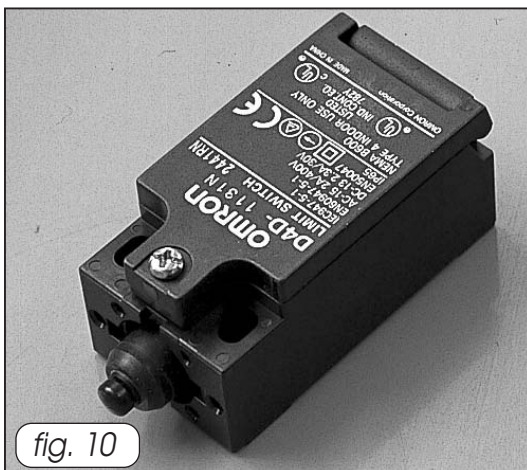
1.5 Transmission

The transmission is accomplished by way of belts and trapezoidal pulleys with conical sleeve bearing (may vary upon request) (fig. 9).



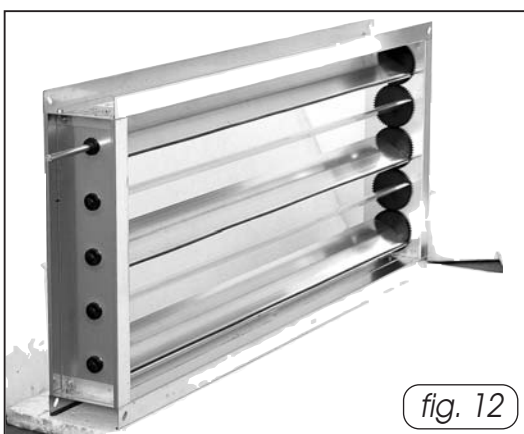
1.6 Safety systems

The micro safety switch (fig. 10) and protective grid (fig. 11) prevent accidents caused by tampering with moving parts.

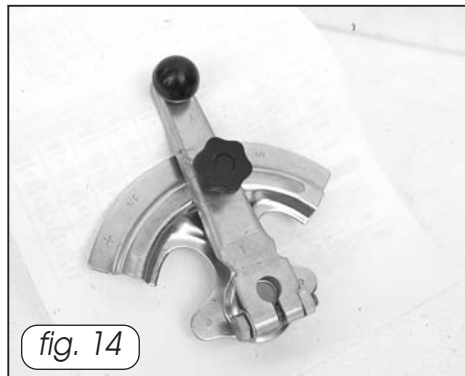


1.7 ACCESSORIES AVAILABLE UPON REQUEST:

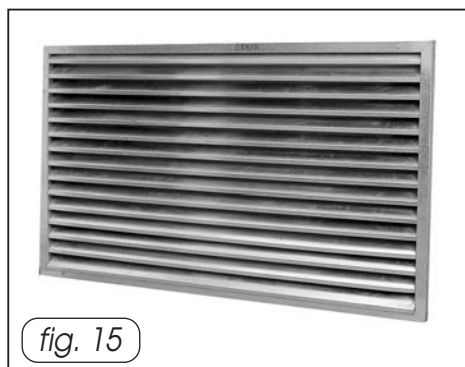
- **SER** air intake complete with control damper with motor pin (fig. 12).
- **MIX** mixing chamber complete with control damper and motor pin (fig. 13).



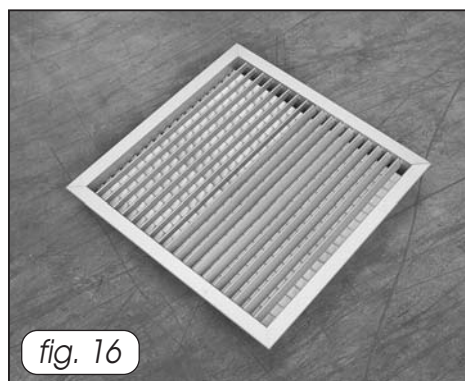
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- **COS** manual control for damper (fig. 14).



- **GRA** intake grill with fixed galvanized sheet louvers complete with bird-protection grid (fig. 15).



- **PMA** outlet plenum with two rows of adjustable aluminium louvers (fig. 16).



- **TEV** galvanized sheet rain cover for vertical units.
- **TEH** galvanized sheet rain cover for horizontal units (fig 17).



Warning - Other configurations or accessories not mentioned may be requested from our Engineering-Sales Department.

2. TECHNICAL FEATURES

Unit Size	MU	20	30	40	60	80	100	120	170	250
Air flow	m ³ /h	2.200	2.900	3.600	5.400	7.600	9.500	11.300	14.500	20.800
2-ROW COIL - Heating performance:										
Air T = -5°C	kW	24,0	31,0	40,0	51,0	72,0	92,0	118,0	150,0	215,0
Air T = 20°C	kW	15,0	20,0	25,0	35,0	54,0	68,0	76,0	97,0	144,0
available head	Pa	70,0	70,0	70,0	70,0	70,0	70,0	70,0	70,0	70,0
motor power input	kW	0,37	0,37	0,55	1,10	1,10	1,10	2,20	2,20	3,00
available head	Pa	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0
motor power input	kW	0,37	0,55	0,75	1,10	1,50	1,50	2,20	3,00	4,00
available head	Pa	270,0	270,0	270,0	270,0	270,0	270,0	270,0	270,0	270,0
motor power input	kW	0,55	0,75	1,10	1,50	2,20	2,20	3,00	4,00	5,50
3-ROW COIL - Heating performance:										
Air T = -5°C	kW	33,0	45,0	55,0	77,0	108,0	137,0	157,0	201,0	288,0
Air T = 20°C	kW	20,0	28,0	34,0	51,0	72,0	93,0	103,0	132,0	194,0
available head	Pa	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0
motor power input	kW	0,37	0,37	0,55	1,10	1,10	1,10	2,20	2,20	3,00
available head	Pa	160,0	160,0	160,0	160,0	160,0	160,0	160,0	160,0	160,0
motor power input	kW	0,37	0,55	0,75	1,10	1,50	1,50	2,20	3,00	4,00
available head	Pa	260,0	260,0	260,0	260,0	260,0	260,0	260,0	260,0	260,0
motor power input	kW	0,55	0,75	1,10	1,50	2,20	2,20	3,00	4,00	5,50
4-ROW COIL - Heating performance:										
Air T = -5°C	kW	40,0	53,0	67,0	99,0	139,0	168,0	203,0	261,0	378,0
Air T = 20°C	kW	28,0	37,0	45,0	67,0	94,0	119,0	144,0	185,0	255,0
4-ROW COIL - Cooling performance:										
Air T = 27°C 48% U.R.	kW	10,0	13,0	14,0	21,0	29,0	39,0	52,0	67,0	98,0
Air T = 32°C 45% U.R.	kW	15,0	17,0	23,0	35,0	49,0	67,0	81,0	124,0	156,0
available head	Pa	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0
motor power input	kW	0,37	0,37	0,55	1,10	1,10	1,10	2,20	2,20	3,00
available head	Pa	155,0	155,0	155,0	155,0	155,0	155,0	155,0	155,0	155,0
motor power input	kW	0,37	0,55	0,75	1,10	1,50	1,50	2,20	3,00	4,00
available head	Pa	255,0	255,0	255,0	255,0	255,0	255,0	255,0	255,0	255,0
motor power input	kW	0,55	0,75	1,10	1,50	2,20	2,20	3,00	4,00	5,50
6-ROW COIL - Cooling performance:										
Air T = 27°C 48% U.R.	kW	12,0	16,0	21,0	26,0	41,0	51,0	64,0	82,0	123,0
Air T = 32°C 45% U.R.	kW	18,0	25,0	31,0	44,0	65,0	83,0	102,0	131,0	196,0
available head	Pa	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0
motor power input	kW	0,37	0,37	0,55	1,10	1,10	1,10	2,20	2,20	3,00
available head	Pa	140,0	140,0	140,0	140,0	140,0	140,0	140,0	140,0	140,0
motor power input	kW	0,37	0,55	0,75	1,10	1,50	1,50	2,20	3,00	4,00
available head	Pa	240,0	240,0	240,0	240,0	240,0	240,0	240,0	240,0	240,0
motor power input	kW	0,55	0,75	1,10	1,50	2,20	2,20	3,00	4,00	5,50

NOTES: The Air-flow rate refer to a speed of 2.5 m/s across the coil.

For greater air-flow rates or solutions with double coil for four pipe installations, contact our engineering-sales department.

2.1 Heating Performance

MODEL	Air Speed	Nominal Flow rate	Rows	Inlet air Temperature: -5°C			Inlet air Temperature: 20°C		
	m/sec	m ³ /h	No.	T.exh. °C	kW	kcal/h	T.exh. °C	kW	kcal/h
COMPAT PLUS 20	2,5	2.200	2	24	24	20.300	41	15	13.300
			3	36	33	28.600	48	20	17.500
	2,75	2.400	2	23	25	21.400	40	16	14.150
			3	35	35	30.200	47	22	18.600
	3	2.600	2	22	26	22.300	39	17	14.200
			3	34	37	31.900	46	23	19.700
COMPAT PLUS 30	2,5	2.900	2	24	31	26.500	41	20	17.500
			3	37	45	38.300	48	28	23.700
	2,75	3.200	2	23	33	28.200	40	22	18.500
			3	36	48	41.000	47	29	25.200
	3	3.500	2	22	34	29.600	39	23	19.500
			3	34	50	43.400	46	31	26.800
COMPAT PLUS 40	2,5	3.600	2	25	40	34.500	41	25	21.900
			3	37	55	47.500	48	34	29.600
	2,75	4.000	2	24	43	37.000	40	27	23.300
			3	35	59	51.000	47	37	31.900
	3	4.400	2	23	45	38.600	39	28	24.300
			3	34	62	53.400	47	39	33.600
COMPAT PLUS 60	2,5	5.400	2	23	51	43.970	39	35	29.900
			3	37	77	65.800	48	51	44.200
	2,75	5.900	2	22	54	46.270	38	36	31.100
			3	36	82	70.500	47	54	46.500
	3	6.500	2	20	55	47.640	37	38	32.400
			3	34	86	74.000	46	57	49.400
COMPAT PLUS 80	2,5	7.600	2	23	72	61.900	41	54	46.800
			3	36	108	92.500	48	72	62.300
	2,75	8.300	2	22	76	65.100	40	55	47.700
			3	36	115	99.200	47	76	65.500
	3	9.100	2	20	78	66.690	39	59	50.400
			3	34	120	103.600	46	80	69.100
COMPAT PLUS 100	2,5	9.500	2	23	92	78.800	41	68	58.500
			3	37	137	117.800	49	93	80.200
	2,75	10.400	2	22	97	83.000	40	71	61.000
			3	36	145	124.300	47	97	83.500
	3	11.300	2	22	103	88.600	39	74	63.750
			3	34	150	128.700	46	102	87.400
COMPAT PLUS 120	2,5	11.300	2	25	118	102.200	40	76	66.180
			3	35	157	135.000	46	103	89.000
	2,75	12.400	2	23	121	104.800	39	81	69.900
			3	33	164	141.100	45	109	94.100
	3	13.600	2	22	128	110.700	38	84	73.000
			3	32	173	149.000	44	114	98.300
COMPAT PLUS 170	2,5	14.500	2	25	150	129.000	39	97	84.000
			3	35	201	173.000	46	132	114.000
	2,75	16.000	2	23	157	135.000	38	102	88.000
			3	33	211	182.000	45	140	121.000
	3	17.500	2	22	165	142.000	38	108	93.000
			3	32	223	192.000	44	146	126.000
COMPAT PLUS 250	2,5	20.800	2	25	215	185.000	40	144	124.000
			3	35	288	248.000	47	194	167.000
	2,75	22.800	2	24	231	199.000	39	150	129.000
			3	34	306	264.000	46	204	176.000
	3	25.000	2	22	236	203.000	38	161	139.000
			3	32	324	279.000	45	219	189.000

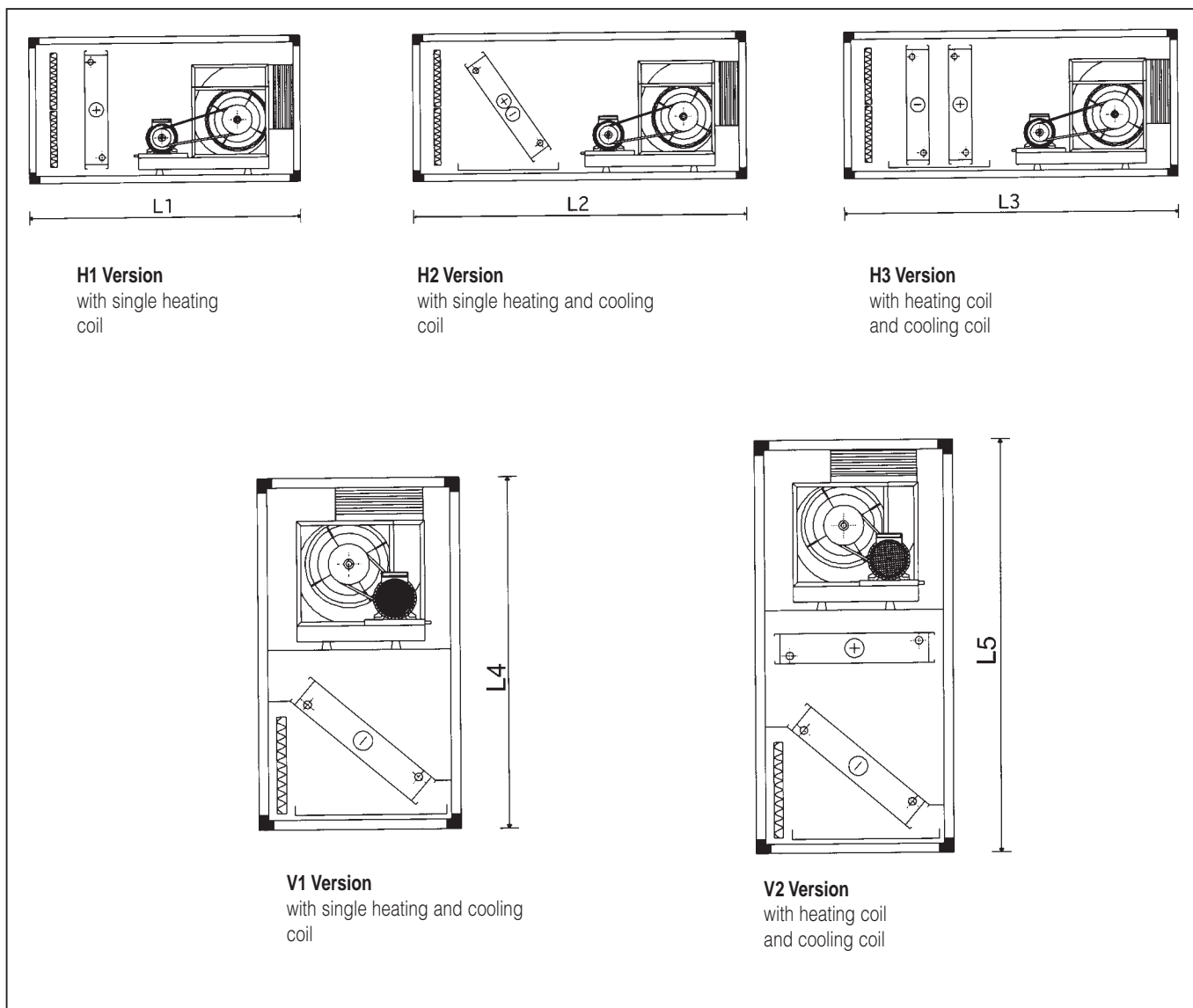
Performance for an inlet water temperature of: 80°C and outlet temperate 70°C
Water pressure drop < 24,5 kPa

2.2 Cooling Performance

MODEL	Air Speed	Nominal Flow rate	Rows	Inlet air Temperature: 27°C 48% R.H			Inlet air Temperature: 32°C 45% R.H.		
	m/sec	m ³ /h	No.	T.exh. °C	kW	kcal/h	T.exh. °C	kW	kcal/h
COMPAT PLUS 20	2	1.700	4	17-79	8	6.650	18-77	12	10.600
			6	13,5-92	11	9.660	15-85	15	12.800
	2,5	2.200	4	17,5-78	10	8.250	19-74	15	12.500
			6	14-90	12	10.650	16,5-80	18	15.100
	2,75	2.400	4	18-77	10	8.550	19,5-73	15	13.150
			6	15-85	15	12.600	17-79	19	16.100
COMPAT PLUS 30	2	2.300	4	16-81	12	9.990	19-74	15	12.900
			6	14-90	14	12.400	15-85	21	17.800
	2,5	2.900	4	17-79	13	10.800	20-72	17	15.000
			6	15-85	16	13.530	15,5-84	25	21.250
	2,75	3.200	4	17,5-78	14	12.050	20,5-71	18	15.700
			6	15,5-84	17	14.650	14-90	26	22.700
COMPAT PLUS 40	2	2.900	4	17-79	13	11.200	18,5-76	20	17.100
			6	13,5-92	19	16.200	14-90	28	23.800
	2,5	3.600	4	18-77	14	12.200	19-74	23	19.700
			6	14,5-87	21	18.050	15,5-84	31	27.050
	2,75	4.000	4	18,5-76	15	12.700	19,5-73	25	21.100
			6	15-85	22	19.300	16-81	34	29.200
COMPAT PLUS 60	2,3	5.000	4	17-79	20	17.000	19-74	34	29.000
			6	15-85	26	22.100	16-81	42	36.500
	2,5	5.400	4	17,5-78	21	17.700	19-74	35	30.200
			6	15,5-84	26	22.700	16,5-80	44	38.000
	2,75	5.900	4	18-77	22	18.960	19,5-73	38	32.320
			6	15,5-84	28	23.900	17-79	46	39.950
COMPAT PLUS 80	2,3	7.000	4	17,5-78	28	23.800	19-74	47	40.600
			6	14,5-87	41	35.000	15-85	65	55.700
	2,5	7.600	4	17,5-78	29	24.900	19,5-73	49	42.500
			6	14,5-87	41	35.000	15,5-84	65	55.700
	2,75	8.300	4	18-77	31	26.700	19,5-73	53	45.500
			6	15-85	46	39.500	16-81	73	62.400
COMPAT PLUS 100	2,3	8.700	4	17-79	38	32.250	18,5-76	63	54.000
			6	14,5-87	48	41.400	15,5-84	78	66.700
	2,5	9.500	4	17,5-78	39	33.920	19-74	67	57.900
			6	15-85	51	43.500	16-81	83	71.400
	2,75	10.400	4	17,5-78	43	37.200	19,5-73	69	59.200
			6	15,5-84	53	45.900	16,5-80	88	75.900
COMPAT PLUS 120	2,3	10.400	4	17-80	48	41.240	18,5-78,5	78	66.900
			6	14,5-88	61	52.800	15,5-86,5	96	82.600
	2,5	11.300	4	17-79	52	44.800	19-77,5	81	70.000
			6	15-87	64	55.300	15,5-86	102	88.100
	2,75	12.400	4	17,5-78	53	45.900	19-76,5	87	75.400
			6	15-86	68	58.900	16-85	108	93.170
COMPAT PLUS 170	2,3	13.400	4	17-80	61	53.100	18,5-78,5	100	86.300
			6	14,5-88	79	68.100	15,5-86,5	124	106.500
	2,5	14.500	4	17-79	67	57.500	19-77,5	124	89.900
			6	15-87	82	71.000	15,5-86	131	113.100
	2,75	16.000	4	17,5-78	69	59.300	19-76,5	113	97.300
			6	15-86	88	76.000	16-84,5	139	120.200
COMPAT PLUS 250	2,3	19.100	4	16,5-80	93	80.100	18-78,5	150	129.100
			6	14-88	117	100.800	15-87	185	159.400
	2,5	20.800	4	17-79	98	84.000	18,5-77,5	156	133.900
			6	14,5-87	123	105.700	15,5-86	196	168.500
	2,75	22.800	4	17-78	105	90.400	19-76,5	164	141.400
			6	15-86	132	113.700	16-85	207	177.900

Performance for an inlet water temperature of: 7°C and outlet temperature 12°C
Water pressure drop < 29,4 kPa

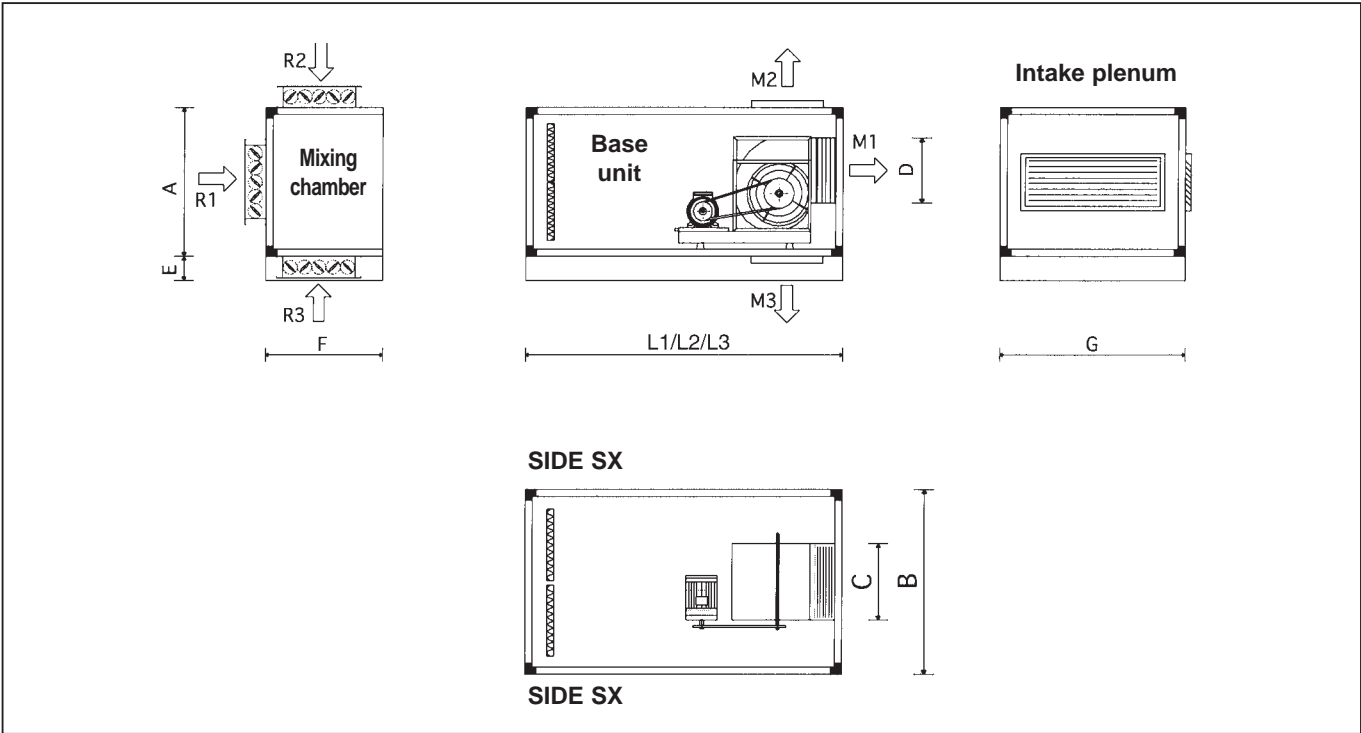
2.3 POSSIBLE CONFIGURATIONS



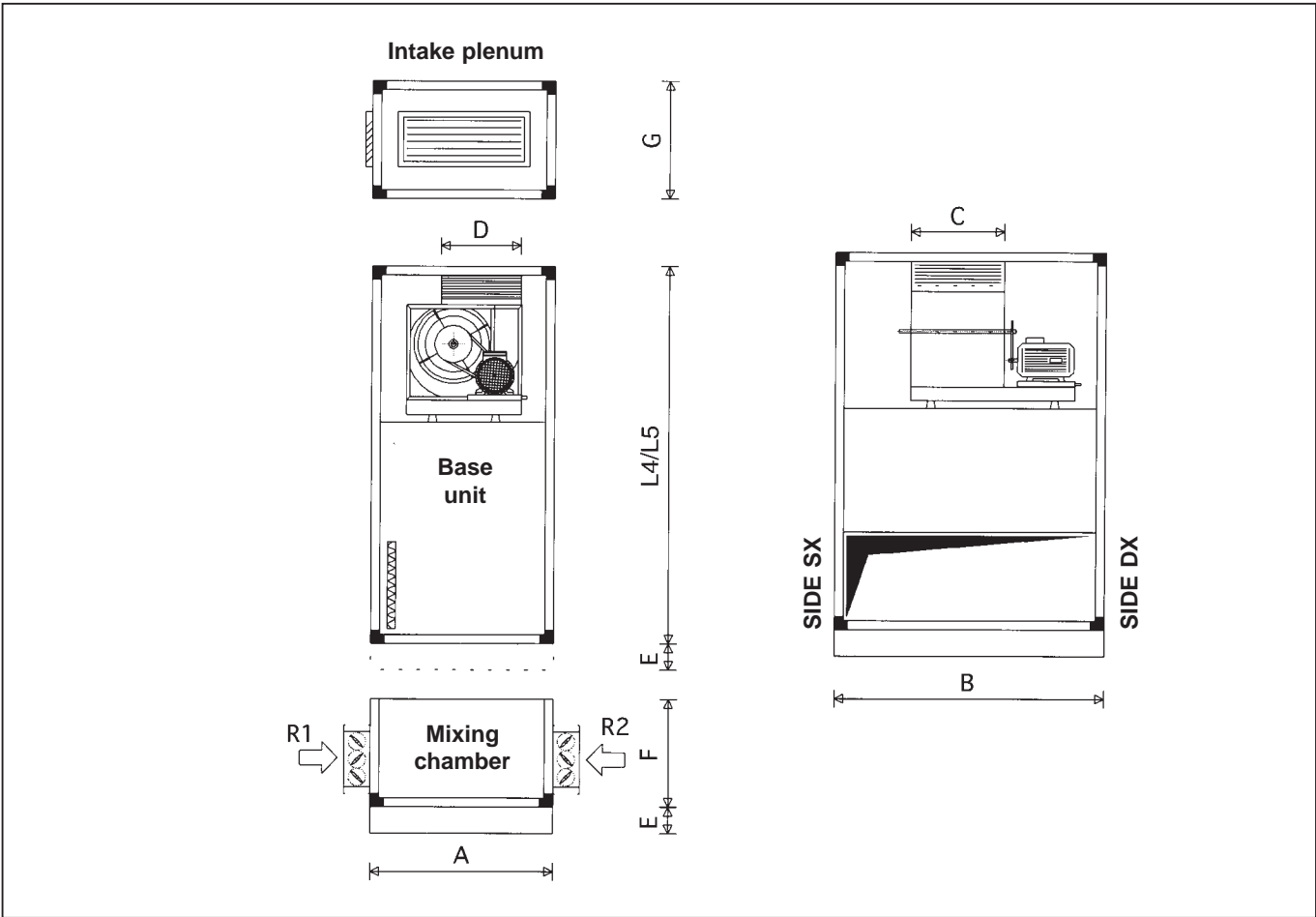
2.4 DIMENSIONS

MODEL	A	B	C	D	E	F	G	L1	L2	L3	L4	L5
COMPAT PLUS 20	600	790	232	261	110	250	500	1.290	1.540	1.540	1.540	1.790
COMPAT PLUS 30	600	1.040	298	261	110	250	500	1.290	1.540	1.540	1.540	1.790
COMPAT PLUS 40	650	1.290	331	289	110	250	500	1.290	1.540	1.540	1.540	1.790
COMPAT PLUS 60	790	1.290	395	342	110	500	750	1.540	1.790	1.790	1.790	2.040
COMPAT PLUS 80	1.040	1.290	474	404	110	500	750	1.540	1.790	1.790	1.790	2.040
COMPAT PLUS 100	1.040	1.540	557	480	110	500	1.000	1.790	2.040	2.040	2.040	2.290
COMPAT PLUS 120	1.040	1.790	570	570	110	500	750	1.790	2.040	2.040	2.040	2.290
COMPAT PLUS 170	1.290	1.790	715	715	110	750	1.000	2.040	2.540	2.540	2.290	2.540
COMPAT PLUS 250	1.540	2.040	800	800	110	750	1.000	2.290	2.790	2.790	2.540	2.790

Horizontal unit (H)



Vertical unit (V)





■
NOTE TO SALES REPRESENTATIVES

In an effort to constantly improve our range of products, with the aim of increasing the level of customer satisfaction, we would like to inform you that the appearance, dimensions, technical data, and accessories of our products may be subject to change.

Therefore, the utmost care must be taken to ensure that all technical and/or sales documents (price lists, catalogues, brochures, etc.) provided to the end client are completely up to date.

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