



**WALL / CEILING AIR COOLER – PROFESSIONAL LINE LPC**  
R134A / R404A / R507 / R22

Improved hygiene due to smooth powder coated surface as standard  
Removable inspection panels  
Drip tray can be folded down



## EXECUTION LPC

### HEAT EXCHANGER

especial designed copper tubes diameter 12 mm with high efficiency pure aluminium fins with a fin spacing 4 and 7 mm. Tube die 35x35 mm inline (PROFESSIONAL LINE).

On request: stainless steel tubes, several coated fins according costumer requirement. Schrader-valve at outlet.

### CASING

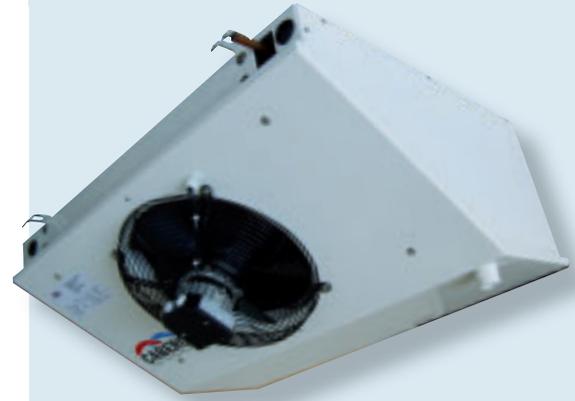
Powder coated aluminium in RAL 9010, brackets for ceiling installation, drip tray with a folded down execution for easy cleaning and maintenance. Accessories and alternative: casing available in different materials such as double drip tray (insulated), electrical defrost in coil and drip tray, hot gas defrost, mounting box and cabling of the fan(s) and electrical defrost.

### FANS

Axial fans designed for low noise level operation, with external or internal rotor system motors, wired on costumer requirement onto clamping device, motors 230V / 1 / 50 Hz, protection class IP44 according DIN 40050. Ambient temperature of operation: -30 °C up to +40° C. Protection grill according EN 294. For protection of fans, they are equipped with internal thermal contacts. The fans are suction versions. The data concerning the motors such as absorption and power may vary depending on environmental conditions and pressure drops. We reserve the right to use fans of different manufactors we have approved and tested. CABERO Efficiency Stream System (ESS) are available on request.

### SOUND PRESSURE LEVEL

Using the enveloping surface method (open area = according EN 13487 at 1 m). As cooling rooms only have a very low absorbing capacity, we recommend that calculations are carried out with only slight reduction in the sound pressure level for other distance.





## CAPACITY DATA

The catalogue capacities refer to Freon R404a – R507 a and are based on the air inlet temperature difference (difference between cooler air inlet temperature  $t_{i1}$  and evaporation temperature  $t_0$   $DT1 = t_{i1} - t_0$ ).

These conditions are marked with DT1 and comply with ENV328 ref. SC2.

Evaporation temperature:  $t_0 = -8 \text{ }^\circ\text{C}$

Subcooling temperature:  $t_s = 5 \text{ }^\circ\text{C}$

Air inlet temperature:  $t_{i1} = 0 \text{ }^\circ\text{C}$

Relative humidity: RH = 85 %

OR

with  $Dtm = 6 \text{ K}$

Evaporation temperature:  $t_0 = -4 \text{ }^\circ\text{C}$

Superheating temperature:  $t_s = 3 \text{ }^\circ\text{C}$

Air (room) temperature:  $t_{di} = 2 \text{ }^\circ\text{C}$

Relative humidity: RH = 85 %

Refrigerant: R 404a

We recommend for an exact thermodynamic calculation in different conditions (for other refrigerants, air humidity or coated fins) to use our CABERO Calculation 2008.



## DEFROST

Electrical coil and tray heating, wired onto clamping device according to VDE prescriptions. Water defrosting limit on  $t_0 = -5 \text{ }^\circ\text{C}$

LPC ... A (air defrost)

LPC ... E (= electrical coil and tray heating)

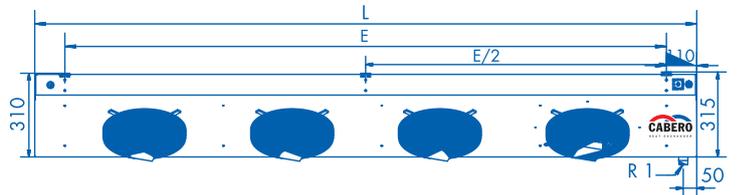
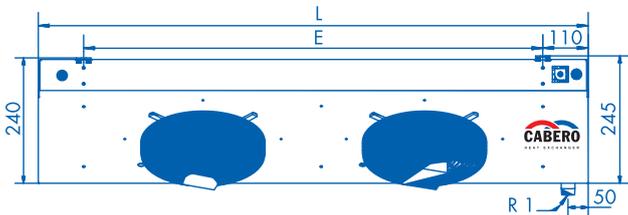
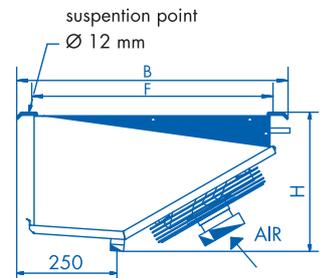
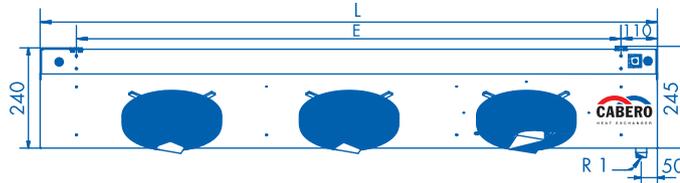
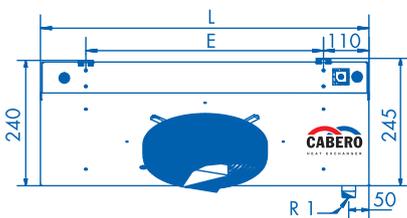


## PRESSURE TESTS

Pressure test made with according to the PED 97 / 23 / EC and EN327: 2000 with 27,5 bar dry air overpressure and leak test.

fin spacing	Model		nom. capacity						connections		electrical defrosting			fan(s)			dimensions in mm					net weight				
	distance	LPC ...	R 404a								50 Hz															
	coil code	number of fans	SC2	SC3	DT1 = 8 K	DT1 = 7 K	DT1 = 8 K	DT1 = 7 K	liquid	suction	Coil	Drip tray	Total	capacity	current	current type	drain	L	B	H	E		F			
fin distance	coil code	number of fans	fan diameter in cm	generation key	kW	kW	dm <sup>3</sup>	m <sup>2</sup>	airflow	Air throw	noise pressure level	liquid	suction	Coil	Drip tray	Total	capacity	current	current type	drain	L	B	H	E	F	kg
4.0 mm	4 A	1/25	.1	0.53	0.46	0.9	3.4	820	6	55	12	12	1x600	1x600	1200	50	0.20	220	1"	700	670	375	475	600	13.0	
	4 B	1/25	.1	0.87	0.73	1.8	6.7	760	6	55	12	12	1x600	1x600	1200	50	0.20	220	1"	700	670	375	475	600	14.2	
	4 C	1/25	.1	1.18	0.95	2.4	9.0	720	5	55	18	16	1x600	1x600	1200	50	0.20	220	1"	700	670	375	475	600	15.3	
	4 D	1/25	.1	1.38	1.08	3.0	11.2	680	5	55	18	16	1x600	2x600	1800	50	0.20	220	1"	700	670	375	475	600	16.4	
	4 E	1/25	.1	1.50	1.08	3.6	13.4	640	4	55	18	16	1x600	2x600	1800	50	0.20	220	1"	700	670	375	475	600	17.4	
	4 B	2/25	.1	1.98	1.52	3.0	12.9	1520	6	58	18	22	1x1100	1x1100	2200	100	0.40	220	1"	1135	670	375	910	600	26.0	
	4 C	2/25	.1	2.35	1.91	4.0	17.2	1440	5	58	18	22	1x1100	1x1100	2200	100	0.40	220	1"	1135	670	375	910	600	28.0	
	4 D	2/25	.1	2.74	2.17	4.9	21.5	1360	5	58	18	22	1x1100	2x1100	3600	100	0.40	220	1"	1135	670	375	910	600	30.2	
	4 E	2/25	.1	3.05	2.35	5.9	25.8	1280	4	58	18	22	1x1100	2x1100	3600	100	0.40	220	1"	1135	670	375	910	600	32.2	
	4 C	3/25	.1	3.70	2.84	5.5	25.4	2160	5	60	18	28	1x1600	1x1600	3200	150	0.60	220	1"	1570	670	375	1345	600	41.4	
	4 D	3/25	.1	4.19	3.32	6.9	31.7	2040	5	60	18	28	1x1600	2x1600	4800	150	0.60	220	1"	1570	670	375	1345	600	44.8	
	4 E	3/25	.1	4.58	3.55	8.2	38.1	1920	4	60	18	28	1x1600	2x1600	4800	150	0.60	220	1"	1570	670	375	1345	600	47.5	
	4 C	4/25	.1	4.95	3.88	7.0	33.6	2880	5	61	18	28	1x2100	1x2100	4200	200	0.80	220	1"	2005	670	375	1780	600	55.0	
	4 D	4/25	.1	5.64	4.26	8.8	42.0	2720	5	61	18	28	1x2100	2x2100	6300	200	0.80	220	1"	2005	670	375	1780	600	59.0	
	4 E	4/25	.1	6.05	4.44	10.6	50.4	2560	4	61	18	28	1x2100	2x2100	6300	200	0.80	220	1"	2005	670	375	1780	600	64.0	

7.0 mm	7 A	1/25	.1	0.32	0.29	1.2	2.7	880	7	55	12	12	1x600	1x600	1200	50	0.20	220	1"	700	670	375	475	600	12.0
	7 B	1/25	.1	0.56	0.49	1.8	4.0	810	7	55	12	12	1x600	1x600	1200	50	0.20	220	1"	700	670	375	475	600	13.0
	7 C	1/25	.1	0.81	0.66	2.4	5.4	760	6	55	18	16	1x600	1x600	1200	50	0.20	220	1"	700	670	375	475	600	14.0
	7 D	1/25	.1	1.03	0.81	3.0	6.7	730	6	55	18	16	1x600	2x600	1800	50	0.20	220	1"	700	670	375	475	600	15.0
	7 E	1/25	.1	1.22	0.81	3.6	8.1	710	5	55	18	16	1x600	2x600	1800	50	0.20	220	1"	700	670	375	475	600	15.7
	7 B	2/25	.1	1.44	1.14	3.0	7.7	1620	7	58	18	22	1x1100	1x1100	2200	100	0.40	220	1"	1135	670	375	910	600	24.3
	7 C	2/25	.1	1.80	1.33	4.0	10.3	1520	6	58	18	22	1x1100	1x1100	2200	100	0.40	220	1"	1135	670	375	910	600	25.8
	7 D	2/25	.1	2.11	1.61	4.9	12.9	1460	6	58	18	22	1x1100	2x1100	3600	100	0.40	220	1"	1135	670	375	910	600	27.3
	7 E	2/25	.1	2.45	1.90	5.9	15.5	1420	5	58	18	22	1x1100	2x1100	3600	100	0.40	220	1"	1135	670	375	910	600	28.9
	7 C	3/25	.1	2.70	2.16	5.5	15.2	2280	6	60	18	28	1x1600	1x1600	3200	150	0.60	220	1"	1570	670	375	1345	600	38.0
	7 D	3/25	.1	3.18	2.47	6.9	19.0	2190	6	60	18	28	1x1600	2x1600	4800	150	0.60	220	1"	1570	670	375	1345	600	40.3
	7 E	3/25	.1	3.68	2.87	8.2	22.9	2130	5	60	18	28	1x1600	2x1600	4800	150	0.60	220	1"	1570	670	375	1345	600	42.6
	7 D	4/25	.1	4.30	3.40	8.8	25.2	2920	6	61	18	28	1x2100	2x2100	6300	200	0.80	220	1"	2005	670	375	1780	600	54.0
	7 E	4/25	.1	4.98	3.78	10.6	30.2	2840	6	61	18	28	1x2100	2x2100	6300	200	0.80	220	1"	2005	670	375	1780	600	57.0





fin spacing	Model LPC ...	nom. capacity				tube volume	exchange surface	airflow	Air throw	noise pressure level	connections		electrical defrosting			fan(s) 50 Hz			dimensions in mm					net weight	
		R 404a		SC2	SC3						liquid	suction	Coil	Drip tray	Total	capacity	current	current type	drain	L	B	H	E		F
		DT1 = 8 K T evap. = -8 °C	DT1 = 7 K T evap. = -25 °C																						
4.0 mm	4 A 1/30 .1	1.13	0.95	1.4	5.6	1350	7	54	12	12	1x600	1x600	1200	85	0.38	220	1"	815	670	380	590	600	13.0		
	4 B 1/30 .1	1.59	1.29	2.1	8.4	1210	7	54	12	12	1x600	1x600	1200	85	0.38	220	1"	815	670	380	590	600	14.2		
	4 C 1/30 .1	1.95	1.48	2.8	11.1	1120	6	54	18	16	1x600	1x600	1200	85	0.38	220	1"	815	670	380	590	600	15.3		
	4 D 1/30 .1	2.14	1.71	3.5	13.9	1060	6	54	18	16	1x600	2x600	1800	85	0.38	220	1"	815	670	380	590	600	16.4		
	4 E 1/30 .1	2.40	1.87	4.2	16.7	1000	5	54	18	16	1x600	2x600	1800	85	0.38	220	1"	815	670	380	590	600	17.4		
	4 B 2/30 .1	3.23	2.54	3.6	16.1	2420	7	57	18	22	1x1100	1x1100	2200	170	0.76	220	1"	1365	670	380	1140	600	26.0		
	4 C 2/30 .1	3.97	3.02	4.8	21.5	2240	6	57	18	22	1x1100	1x1100	2200	170	0.76	220	1"	1365	670	380	1140	600	28.0		
	4 D 2/30 .1	4.43	3.41	6.0	26.9	2120	6	57	18	22	1x1100	2x1100	3600	170	0.76	220	1"	1365	670	380	1140	600	30.2		
	4 E 2/30 .1	4.87	3.75	7.2	32.3	2000	5	57	18	22	1x1100	2x1100	3600	170	0.76	220	1"	1365	670	380	1140	600	32.2		
	4 C 3/30 .1	5.95	4.62	6.7	31.9	3360	6	59	18	28	1x1600	1x1600	3200	255	1.14	220	1"	1915	670	380	1690	600	41.4		
	4 D 3/30 .1	6.80	5.26	8.4	39.9	3180	6	59	18	28	1x1600	2x1600	4800	255	1.14	220	1"	1915	670	380	1690	600	44.8		
	4 E 3/30 .1	7.33	5.65	10.1	47.8	3000	5	59	18	28	1x1600	2x1600	4800	255	1.14	220	1"	1915	670	380	1690	600	47.5		
4 C 4/30 .1	7.99	6.10	8.7	42.3	4480	6	60	18	28	1x2100	1x2100	4200	340	1.52	220	1"	2465	670	380	2240	600	55.0			
4 D 4/30 .1	9.09	6.79	10.9	52.8	4240	6	60	18	28	1x2100	2x2100	6300	340	1.52	220	1"	2465	670	380	2240	600	59.0			
4 E 4/30 .1	9.85	7.54	13.0	63.4	4000	5	60	18	28	1x2100	2x2100	6300	340	1.52	220	1"	2465	670	380	2240	600	64.0			

7.0 mm	7 A 1/30 .1	0.70	0.59	1.4	3.3	1400	8	54	12	12	1x600	1x600	1200	85	0.38	220	1"	815	670	380	590	600	12.0
	7 B 1/30 .1	1.14	0.92	2.1	5.0	1320	8	54	12	12	1x600	1x600	1200	85	0.38	220	1"	815	670	380	590	600	12.8
	7 C 1/30 .1	1.47	1.17	2.8	6.7	1220	7	54	18	16	1x600	1x600	1200	85	0.38	220	1"	815	670	380	590	600	13.5
	7 D 1/30 .1	1.75	1.26	3.5	8.4	1160	7	54	18	16	1x600	2x600	1800	85	0.38	220	1"	815	670	380	590	600	14.6
	7 E 1/30 .1	1.92	1.47	4.2	10.0	1100	6	54	18	16	1x600	2x600	1800	85	0.38	220	1"	815	670	380	590	600	15.7
	7 B 2/30 .1	2.30	1.91	3.6	9.7	2640	8	57	18	22	1x1100	1x1100	2200	170	0.76	220	1"	1365	670	380	1140	600	24.3
	7 C 2/30 .1	2.95	2.38	4.8	12.9	2440	7	57	18	22	1x1100	1x1100	2200	170	0.76	220	1"	1365	670	380	1140	600	25.8
	7 D 2/30 .1	3.54	2.66	6.0	16.1	2320	7	57	18	22	1x1100	2x1100	3600	170	0.76	220	1"	1365	670	380	1140	600	27.3
	7 E 2/30 .1	3.93	3.11	7.2	19.4	2200	6	57	18	22	1x1100	2x1100	3600	170	0.76	220	1"	1365	670	380	1140	600	28.9
	7 C 3/30 .1	4.36	3.53	6.7	19.1	3660	7	59	18	28	1x1600	1x1600	3200	255	1.14	220	1"	1915	670	380	1690	600	38.0
	7 D 3/30 .1	5.17	4.22	8.4	23.9	3480	7	59	18	28	1x1600	2x1600	4800	255	1.14	220	1"	1915	670	380	1690	600	40.3
	7 E 3/30 .1	5.95	4.55	10.1	28.7	3300	6	59	18	28	1x1600	2x1600	4800	255	1.14	220	1"	1915	670	380	1690	600	42.6
7 D 4/30 .1	6.99	5.62	10.9	31.7	4640	7	60	18	28	1x2100	2x2100	6300	340	1.52	220	1"	2465	670	380	2240	600	54.0	
7 E 4/30 .1	7.89	6.29	13.0	38.1	4400	7	60	18	28	1x2100	2x2100	6300	340	1.52	220	1"	2465	670	380	2240	600	57.0	

