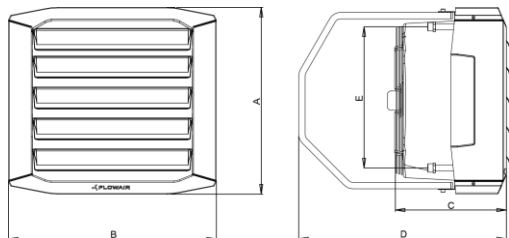


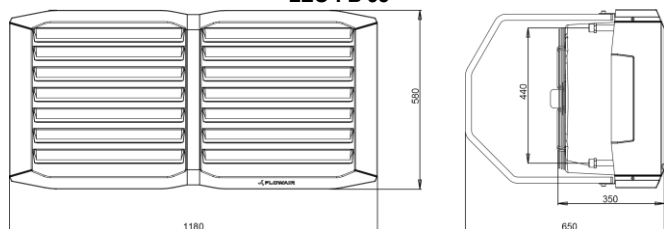
MAIN DIMENSIONS

FB 10 | LEO FB | 20 LEO FB 30 | LEO FB 25 | LEO FB 45 | LEO FB 65



	Dimension [mm]				
	A	B	C	D	E
LEO FB 10, 20, 30	480	550	330	560	355
LEO FB 25, 45, 65	580	650	350	650	440

LEO FB 95



GENERAL INFORMATION

Leo FB fan heaters are dedicated for general use. Construction: casing made of powder painted steel, axial fan with electronically commutated EC motor (in M-type).

Specially designed bracket (optional accessory) as well as air blades mounted either vertically or horizontally make easier directing air stream to the demanded area.



LEO FB main purposes is heating buildings with neutral environment like: workshops, car showrooms, warehouses, pavilions, sports halls, exhibitions halls, assembly halls, supermarkets, churches etc.

Available models:

M-type – Axial, electronically commutated EC motor, single phase.





S/V-type – Axial, single phase.

TECHNICAL DATA

	LEO FB 10			LEO FB 20			LEO FB 30					
	V	M		V	M		V	M				
Maximum airflow	2100 m³/h			2000 m³/h			1900 m³/h					
Power supply	230 V / 50 Hz											
Power consumption	123 W	57,5 W		123 W	57,5 W		123 W	57,5 W				
Current consumption	0,55 A	0,25 A		0,55 A	0,25 A		0,55 A	0,25 A				
IP / Insulation class	54 / F											
Acoustic pressure level*	45 dB(A)*											
	LEO FB 25			LEO FB 45			LEO FB 65			LEO FB 95		
	S	V	M	S	V	M	S	V	M	S	V	M
Maximum airflow	4400 m³/h			4100 m³/h			3900 m³/h			8500 m³/h		
Power supply	230 V / 50 Hz											
Power consumption	280 W	300 W	170 W	280 W	300 W	170 W	280 W	300 W	170 W	280 W	600 W	340 W
Current consumption	1,2 A	1,3 A	0,7 A	1,2 A	1,3 A	0,7 A	1,2 A	1,3 A	0,7 A	1,2 A	2,6 A	1,4 A
IP / Insulation class	54 / F											
Acoustic pressure level*	51 dB(A)*						53 dB(A)*					

* Acoustic pressure level measured in the room of average sound absorption, capacity 1500 m³, at distance of 5 m from the unit.

TECHNICAL DATA

	LEO FB 10		LEO FB 20		LEO FB 30							
	Typ V M											
Exchanger												
Heating capacity**	10,1 kW		20,3 kW		27,3 kW							
Air temperature rise**	14,5 °C		32,5 °C		42,5 °C							
Connection	½"											
Maximum working pressure	1,6 MPa											
Maximum temperature of heating water	120 °C											
	LEO FB 25		LEO FB 45		LEO FB 65		LEO FB 95					
	Typ V M											
Exchanger	Cu-Al, one-row		Cu-Al, two-row		Cu-Al three-row		Cu-Al, two-row					
Heating capacity**	25,4 kW		46,8 kW		64,6 kW		100,1 kW					
Air temperature rise**	16,0 °C		31,5 °C		46,0 °C		32,5 °C					
Connection	¾"											
Maximum working pressure	1,6 MPa											
Maximum temperature of heating water	120 °C											
	LEO FB 10		LEO FB 20		LEO FB 30							
	V	M	V	M	V	M						
Weight	7,4 kg	9,3 kg	8,3 kg	10,2 kg	11,3 kg	9,5 kg						
Weight (unit filled with water)	8,1 kg	10,0 kg	9,5 kg	11,4 kg	12,7 kg	10,9 kg						
Air stream range***	14,5 m		14 m		13 m							
Casing	EPP (expanded polypropylene)											
Color	Graphite											
Working environment	Indoors											
	LEO FB 25			LEO FB 45			LEO FB 65			LEO FB 95		
	S	V	M	S	V	M	S	V	M	S	V	M
Weight	13,4 kg	14,8 kg	11,5 kg	14,6 kg	16,0 kg	13,1 kg	16,9 kg	18,3 kg	15,0 kg	29,4 kg	32,2 kg	25,6 kg
Weight (unit filled with water)	14,4 kg	15,8 kg	12,5 kg	16,6 kg	18,0 kg	15,1 kg	19,6 kg	21,0 kg	17,1 kg	32,9 kg	35,7 kg	29,1 kg
Air stream range***	26 m			24 m			22 m			33 m		
Casing	EPP (expanded polypropylene)											
Color	Graphite											
Working environment	Indoors											

** Maximum air flow, water temperature 90/70, air inlet temperature 0 °C.

*** Range of isothermal horizontal stream, limit speed 0,5 m/s.

CONTROL EQUIPEMENT

		LEO FB typ	S/V	M			LEO FB typ	S/V	M
TRs		0,6 A three step fan speed regulator	●		VNT20		fan speed controller with a built-in room thermostat		●
TR TRd		1,5A 3,5 A five step fan speed regulator	●		VNTLCD		programmable fan speed controller with a built-in room thermostat		●
RA		room thermostat	●		R10		signal distributor		●
RE		room thermostat with a weekly programmer			PT-1000 IP65		external temperature sensor IP65		●
R55		Room thermostat with increased IP	●						
SRQ2d		1/2" two-way valve with actuator	●	●	SRQ2d		3/4" two-way valve with actuator	●	●
SRQ3d		1/2" three-way valve with actuator	●	●	SRQ3d		3/4" three-way valve with actuator	●	●

Detailed information concerning installation and electrical connections are available in the technical documentation of the device.

Special features	LEO FB
	Fan with electronically commutated EC motor achieving higher efficiency than the traditional AC fan motor.
	Specially designed 3D-console allowing parallel or at angle of 30 ° or 45 ° unit installation as well to wall as to ceiling.
	Lightweight casing made of EPP (expanded polypropylene) resistant to scratches and dirt.
	U-profiles for easy ceiling installation with pins.
	Specially profiled nozzle directing the air on the whole surface of the heat exchanger and reducing the noise generated during the flow.
	Possible AUTO mode (type M). Controller automatically adjusts the airflow (so as the heat capacity) depending on the building heat demand.
	High airflow despite small unit dimensions.

HEATING CAPACITY																					
Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	
	Tw1/Tw2 = 90/70°C				Tw1/Tw2 = 80/60°C				Tw1/Tw2 = 70/50°C				Tw1/Tw2 = 60/40°C				Tw1/Tw2 = 50/40°C				
	LEO FB 10		V = 2100m³/h																		
	0	10,1	446	2,8	14,5	8,6	377	2,1	12,0	7,0	307	1,5	10,0	5,4	234	1,0	7,5	5,5	481	3,6	8,0
5	9,5	417	2,4	18,5	7,9	347	1,8	16,0	6,3	277	1,3	14,0	4,7	203	0,8	11,5	4,8	421	2,8	12,0	
10	8,8	388	2,1	22,5	7,2	317	1,6	20,0	5,6	246	1,0	18,0	3,9	170	0,6	15,5	4,1	360	2,1	16,0	
15	8,1	358	1,9	26,5	6,5	287	1,3	24,0	4,9	215	0,8	22,0	3,1	135	0,4	19,5	3,4	299	1,5	20,0	
20	7,4	328	1,6	30,5	5,9	257	1,1	28,0	4,2	184	0,6	26,0	1,9	82	0,2	22,5	2,7	235	1,0	23,5	
	LEO FB 20		V = 2000m³/h																		
	0	20,3	918	16,7	32,5	17,9	786	13,0	28,0	15,0	655	9,7	23,5	12,0	524	6,8	19,0	11,5	1002	22,0	18,0
	5	19,5	860	14,8	35,5	16,6	728	11,3	31,0	13,6	597	8,2	26,0	10,7	465	5,5	21,5	10,2	886	17,6	21,0
10	18,2	802	13,1	38,0	15,3	670	9,7	33,5	12,3	538	6,8	29,0	9,3	406	4,3	24,5	8,8	769	13,7	24,0	
15	16,9	745	11,4	41,0	13,9	612	8,3	36,5	11,0	479	5,5	32,0	7,9	345	3,2	27,0	7,5	650	10,1	26,5	
20	15,6	687	9,9	44,0	12,6	553	6,9	39,0	9,6	420	4,4	34,5	6,5	284	2,3	30,0	6,1	531	7,1	29,5	
	LEO FB 30		V = 1900 m³/h																		
	0	27,3	1202	14,3	42,5	23,3	1025	11,0	36,5	19,4	848	8,1	30,5	15,4	671	5,5	24,0	15,0	1308	18,7	23,5
	5	25,5	1125	12,7	44,5	21,6	947	9,6	38,5	17,6	770	6,8	32,5	13,6	592	4,4	26,0	13,2	1152	14,8	25,5
10	23,7	1047	11,1	46,5	19,8	869	8,2	40,5	15,8	691	5,6	34,5	11,8	512	3,4	28,0	11,4	995	11,4	27,5	
15	22,0	970	9,7	49,0	18,0	791	6,9	42,5	14,0	613	4,5	36,5	9,9	431	2,5	30,5	9,6	836	8,4	30,0	
20	20,2	892	8,3	51,0	16,2	713	5,7	45,0	12,2	533	3,5	38,5	8,0	349	1,7	32,5	7,8	677	5,7	32,0	
	LEO FB 25		V = 4400m³/h																		
	0	25,4	1121	11,7	16,0	21,6	950	8,9	13,5	17,8	779	6,4	11,0	13,9	606	4,2	9,0	14,0	1216	15,1	9,0
	5	23,5	1037	10,1	20,0	19,7	867	7,5	17,5	15,9	697	5,2	15,0	12,1	525	3,2	12,5	12,1	1056	11,6	13,0
10	21,6	953	8,7	24,0	17,9	785	6,3	21,5	14,1	617	4,2	19,0	10,2	445	2,4	16,5	10,3	897	8,6	16,5	
15	19,7	871	7,4	28,0	16,0	704	5,1	25,5	12,3	537	3,2	23,0	8,4	365	1,7	20,5	8,5	740	6,1	20,5	
20	17,9	790	6,2	32,0	14,2	624	4,1	29,5	10,5	457	2,4	27,0	6,5	283	1,1	24,5	6,7	585	4,0	24,5	
	LEO FB 45		V = 4100m³/h																		
	0	46,8	2067	17,5	31,5	40,1	1762	13,4	27,0	33,3	1459	9,8	22,5	26,5	1155	6,7	18,0	25,9	2251	22,7	17,5
	5	43,3	1911	15,2	34,5	36,6	1610	11,4	30,0	29,9	1309	8,1	25,5	23,1	1008	5,2	21,0	22,5	1959	17,7	20,5
10	39,8	1758	13,0	38,0	33,2	1459	9,5	33,0	26,6	1162	6,5	28,5	19,8	862	3,9	24,0	19,2	1672	13,2	23,5	
15	36,4	1607	11,0	41,0	29,9	1312	7,8	36,0	23,2	1017	5,1	31,5	16,5	719	2,8	26,5	16,0	1389	9,5	26,5	
20	33,1	1459	9,2	44,0	26,5	1166	6,3	39,0	20,0	874	3,9	34,5	13,2	575	1,9	29,5	12,8	1109	6,3	29,0	
	LEO FB 65		V = 3900m³/h																		
	0	64,6	2660	36,8	46	56,1	2288	28,7	40	47,1	1919	21,5	33	35,6	1549	15,2	25	33,4	2902	48,1	23,5
	5	60,2	2464	32,0	48	51,3	2097	24,5	42	42,5	1731	17,9	36	31,3	1365	12,1	28	29,2	2540	37,7	26,0
10	55,4	2272	27,6	51	46,7	1909	20,7	44	37,9	1547	14,6	38	27,2	1183	9,3	30	25,1	2183	28,7	28,5	
15	50,1	2084	23,6	53	42,1	1725	17,2	46	33,4	1366	11,6	40	23,0	1004	7,0	32	21,1	1833	20,9	30,5	
20	46,2	1899	19,9	55	37,6	1543	14,1	49	28,9	1187	9,1	42	18,9	825	4,9	34	17,1	1488	14,4	33,0	
	LEO FB 95		V = 8500m³/h																		
	0	100,1	4418	55,7	32,5	86,3	3790	43,0	28,0	72,4	3167	31,7	23,5	55,7	2427	16,1	18,0	53,3	4637	53,9	17,0
	5	92,7	4091	48,3	36,0	79,0	3470	36,5	31,0	65,2	2854	26,2	26,5	48,9	2131	12,7	21,0	46,5	4049	42,0	20,5
10	85,4	3771	41,5	39,0	71,8	3156	30,7	34,0	58,2	2545	21,3	29,5	42,2	1838	9,7	24,0	39,9	3471	31,6	23,5	
15	78,3	3456	35,3	42,0	64,8	2847	25,4	37,0	51,2	2242	16,9	32,5	35,5	1549	7,1	27,0	33,3	2900	22,7	26,5	
20	71,3	3146	29,7	45,0	57,9	2543	20,6	40,0	44,4	1942	13,0	35,5	28,9	1261	4,9	30,0	26,9	2337	15,3	29,5	

V – airflow
PT – heat capacity
Tp1 – inlet air temp.
Tp2 – outlet air temp.
Tw1 – inlet water temp.
Tw2 – outlet water temp.
Qw – water flow rate
Δpw – pressure drop of water