



LD-550

Suitable for ventilation and air conditioning systems

Specially designed for general HVAC industry and industrial applications, suitable for clean air environments equipped with primary filtration systems. Features a high-efficiency centrifugal impeller combined with an optimized fan housing design, directly driven by a 4P motor, providing strong airflow and high static pressure performance. Ideal for use with variable frequency drive systems, maintaining high efficiency across a wide operating range.

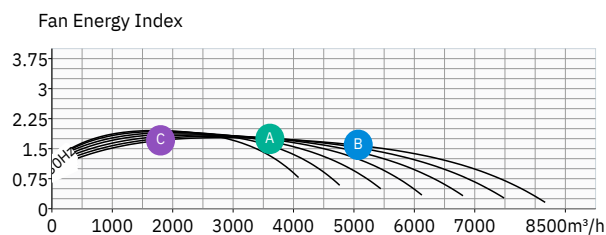
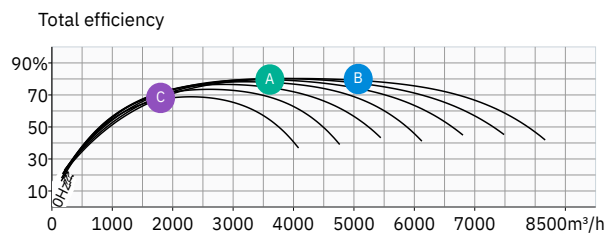
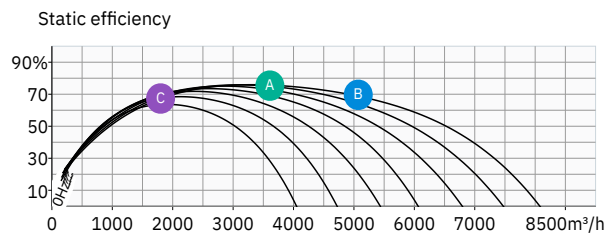
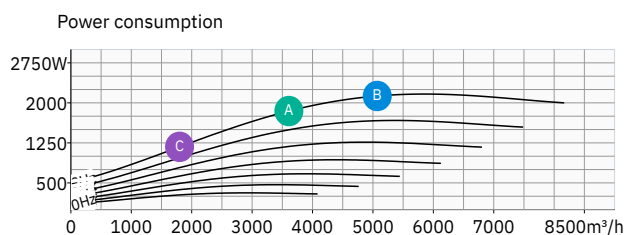
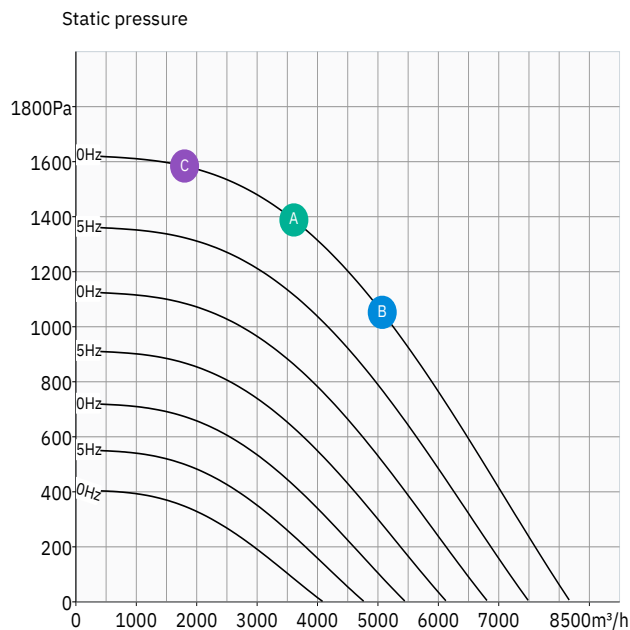
Operating point parameters

Required operating point		A	B	C	
Airflow	q_v	3270	4430	1450	m ³ /h
Required pressure	p_{req}	1140	803	1030	Pa
Medium density	ρ_{air}	1.204	1.204	1.204	kg/m ³

Calculated operating point

Airflow	q_v	3609	5071	1798	m ³ /h
Mass flow	q_m	1.207	1.696	0.601	kg/s
Static pressure	p_{static}	1388	1052	1584	Pa
Total pressure	p_{total}	1467	1208	1604	Pa
Total pressure differential	Δp_{out-in}	1421	1116	1592	Pa
Dynamic pressure	$p_{dynamic}$	79	156	19.6	Pa
Medium density	ρ_{air}	1.204	1.204	1.204	kg/m ³
Frequency	f	60	60	60	Hz
Control signal 0~10V	$U_{EC, control}$	0	0	0	V
Rotational speed	n	1745	1745	1745	rpm
Linear velocity	v	8.79	12.36	4.38	m/s
Power consumption	P	1847	2129	1175	W
Shaft power	P_{shaft}	1601	1846	1009	W
Aerodynamic power	P_{air}	1424	1573	795	W
Motor load ratio	M_{load}	83.9	96.8	53.4	%
Shaft Torque	T_{shaft}	8.761	10.103	5.52	Nm
Static efficiency	η_{static}	75.36	69.64	67.32	%
Total efficiency	η_{total}	79.64	79.96	68.15	%
Motor efficiency	η_{motor}	86.67	86.71	85.8	%
Rotor efficiency	η_{imp}	88.98	85.2	78.86	%
Specific Fan Power	SFP	1842	1511	2353	W/m ³ /s
Fan Energy Index	FEI	1.74	1.6	1.71	
Sound pressure level	L_{pa}	0	0	0	dB(A)
Sound power level	L_{wa}	84.8	84.9	91.7	dB(A)

Performance characteristics





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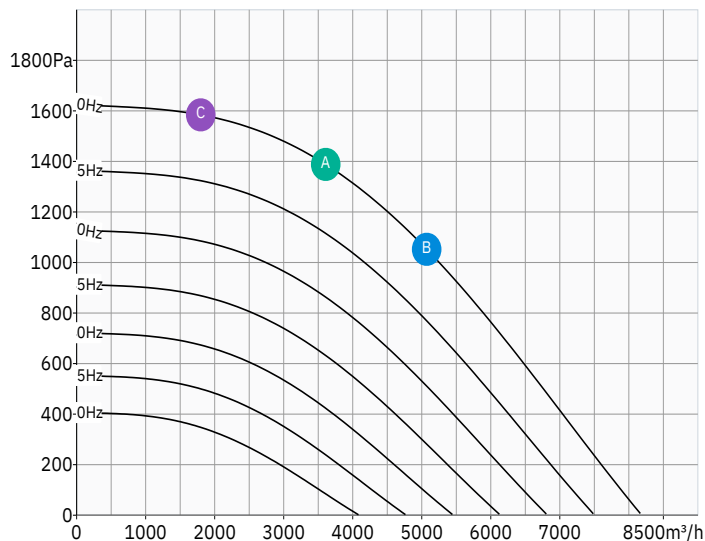
Nominal data

FLOW		
Maximum airflow	$q_{v, \max}$	8166 m ³ /h
Maximum static pressure	$p_{\text{static}, \max}$	1631 Pa
Nominal rotational speed	n_{rated}	1788 rpm
ELECTRICAL		
Number of electrical phases	φ	3
Rated voltage	U_{rated}	220/380 V
Rated power	P_{rated}	2200 W
Rated Frequency	f_{rated}	60 Hz
Rated Current	I_{rated}	7.87/4.55 A
Maximum power consumption	$P_{\text{max, abs}}$	2160 W
Protection rating of the terminal box	IP_{box}	IP55
MOTOR		
Motor power supply type	$TP_{\text{motor, supply}}$	AC
Number of motor poles	p_{motor}	4
Motor protection class IP	IP_{motor}	IP55
Motor insulation class	$Ins_{\text{motor, class}}$	F
Motor rated power in kW	$P_{\text{motor, rated, kW}}$	2.2 kW
Motor energy efficiency class	$\eta_{\text{motor, class}}$	IE3
Rated motor speed	$n_{\text{motor, rated}}$	1745 rpm
Motor rated power in HP	$P_{\text{motor, rated, HP}}$	3 hp
Maximum motor efficiency	$\eta_{\text{motor, max}}$	89.5 %
Motor power reserve	$rs_{\text{motor, power}}$	15 %
Motor protection type	$Prot$	-
Motor frame size	Fr_{motor}	100L
Shaft diameter	D_{shaft}	28
Rated motor current	$I_{\text{motor, rated}}$	7.87/4.55 A
Winding connection	W_{motor}	Δ/Y
Motor torque	τ_{motor}	12 Nm
Motor starting method	$S_{\text{motor, start}}$	DOL
REGULATION		
Control type	T_{reg}	Inverter
Maximum Allowable Frequency	$f_{\text{max, allow}}$	60 Hz
Minimum allowable frequency	$f_{\text{min, allow}}$	30 Hz
TEMPERATURE		
Minimum operating temperature	$t_{\text{op, min}}$	-15 °C
Maximum operating temperature	$t_{\text{op, max}}$	40 °C
Maximum medium temperature	$t_{\text{med, max}}$	60 °C
ACOUSTIC		
Sound pressure level measurement distance	$L_{\text{pa, dist}}$	1.5 m
SIZE		

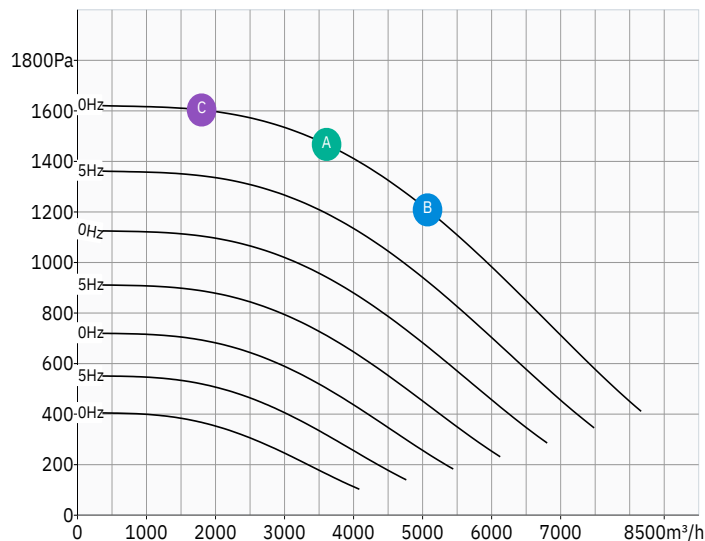
Weight	m	125 kg
Inlet diameter	D_{in}	381 mm
Outlet profile	AxB_{out}	250x350 mmxm m
ENERGY EFFICIENCY		
Maximum static efficiency	$\eta_{\text{static, max}}$	75.37 %
Maximum total efficiency	$\eta_{\text{total, max}}$	80.72 %
Maximum impeller efficiency	$\eta_{\text{imp, max}}$	89.07 %
Fan Energy Grade (FEG)	FEG	90
Maximum motor efficiency	$\eta_{\text{motor, max}}$	86.714 %
IMPELLER		
Impeller type	TP_{imp}	Centrifugal Rotor
Impeller diameter	D_{imp}	530 mm
Blade profile	$TP_{\text{imp, blade}}$	Backward curved blades
Impeller design	C_{imp}	Welded blades rotor
Rotor Surface	S_{imp}	Coated
Impeller width	W_{imp}	96 mm
Impeller material	Mt_{imp}	Carbon steel
Minimum impeller speed	$n_{\text{imp, min}}$	900 rpm
Maximum impeller speed	$n_{\text{imp, max}}$	1800 rpm
Impeller moment of inertia	J_{imp}	0.18 kg·m ²
Blade angle setting	α_{blade}	23 °
Number of impeller blades	N_{blade}	10 x
Blade material	Mt_{blade}	Carbon steel
Inner diameter of the impeller	$D_{\text{imp, inlet}}$	313 mm
DRIVE		
Drive type	TP_{drive}	Direct drive
ERP DIRECTIVE		
ErP verification type	ErP_{type}	Fan
ErP exemption reason	ErP_{exempt}	No exemption
Measurement category	$ErP_{\text{msrm, cat}}$	B
VSD type	ErP_{vsd}	Without control
Fan efficiency	n_{act}	80.72 %
Efficiency coefficient	N_{act}	88
Airflow	q_v	4410 m ³ /h
Pressure increase	Δp	1342 Pa
Power consumption	P_e	2037 W
Specific speed	σ_{BEP}	3.07
Rotational speed	n	1745 rpm
Characteristic coefficient	C_c	1
Compliance with ErP2026 regulation (2024/1834)	ErP_{2026}	true



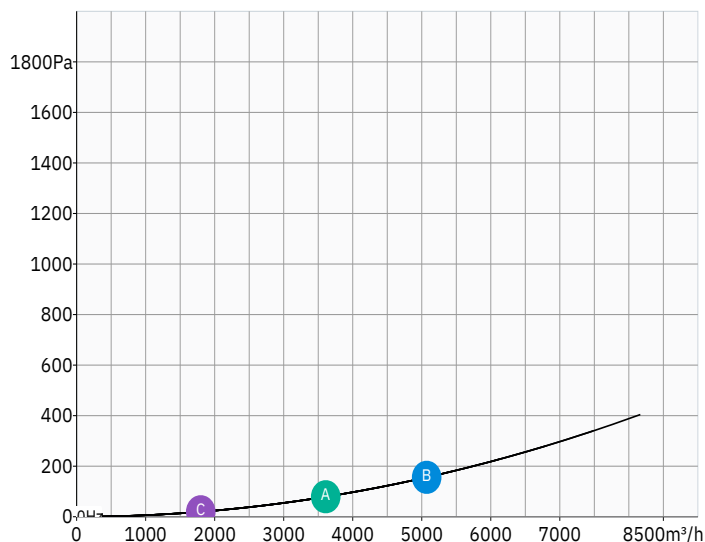
Static pressure



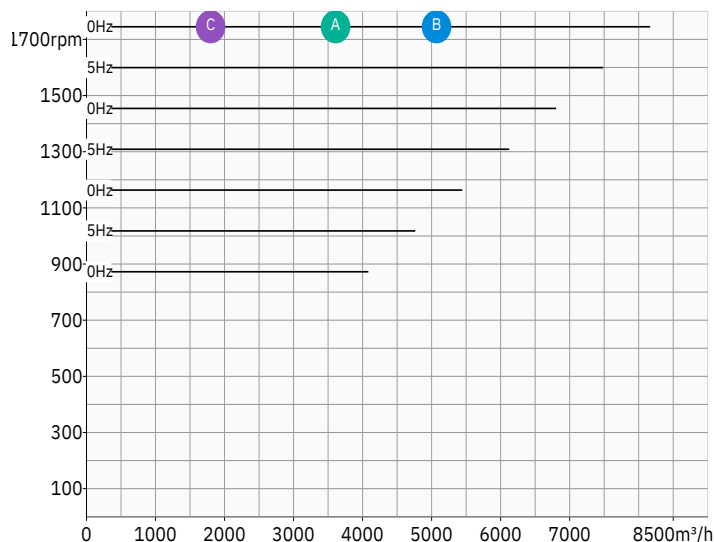
Total pressure



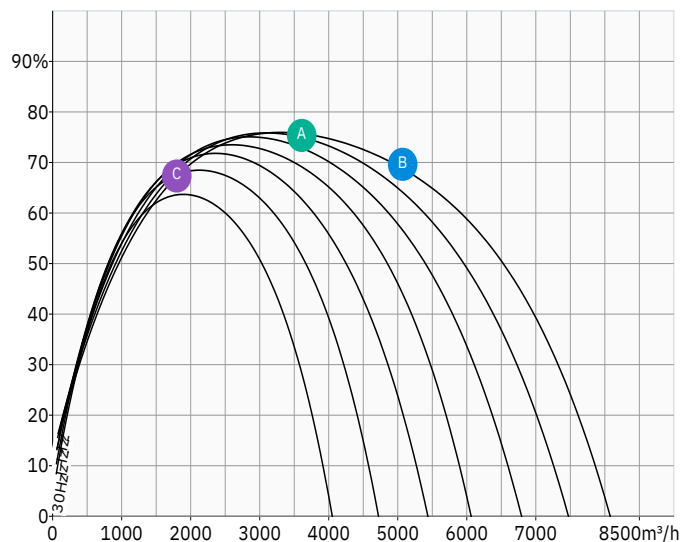
Dynamic pressure



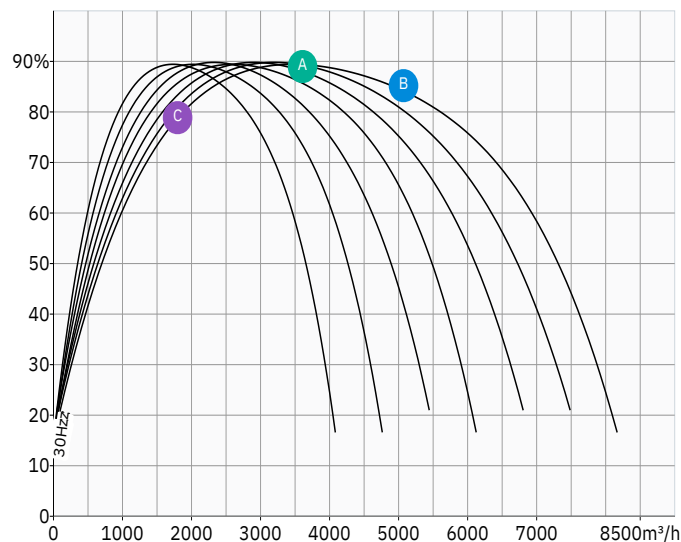
Rotational speed



Static efficiency

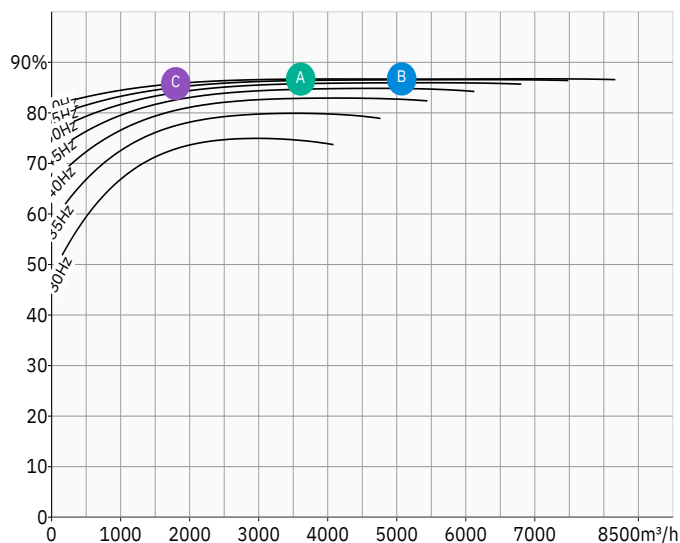


Rotor efficiency

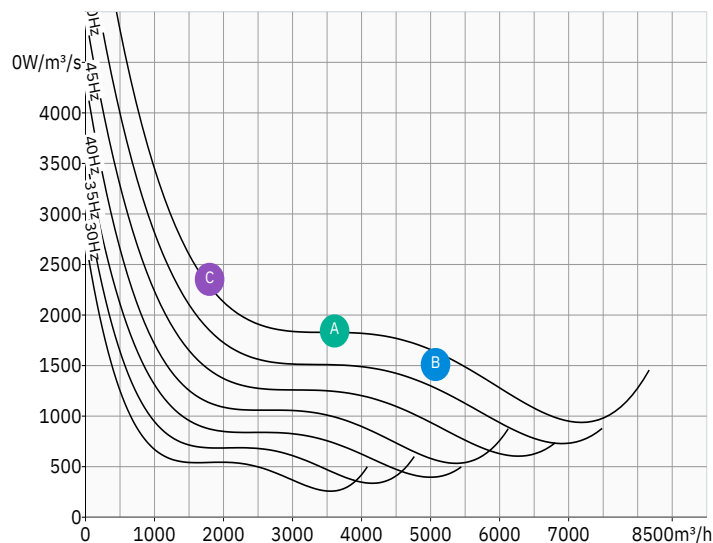




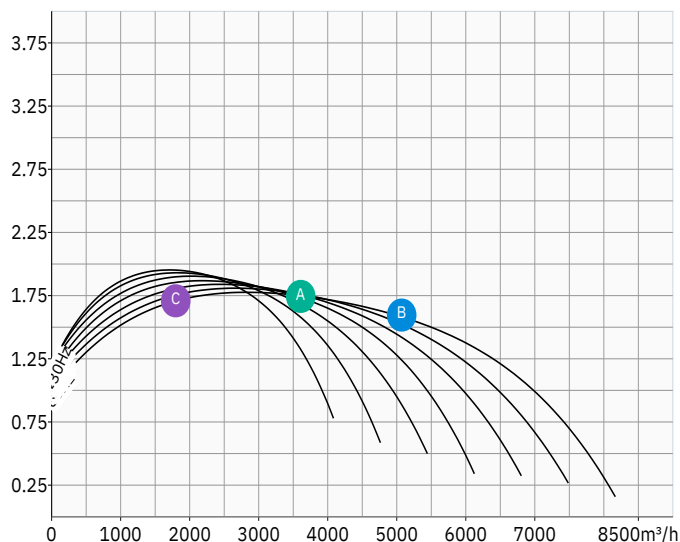
Motor efficiency



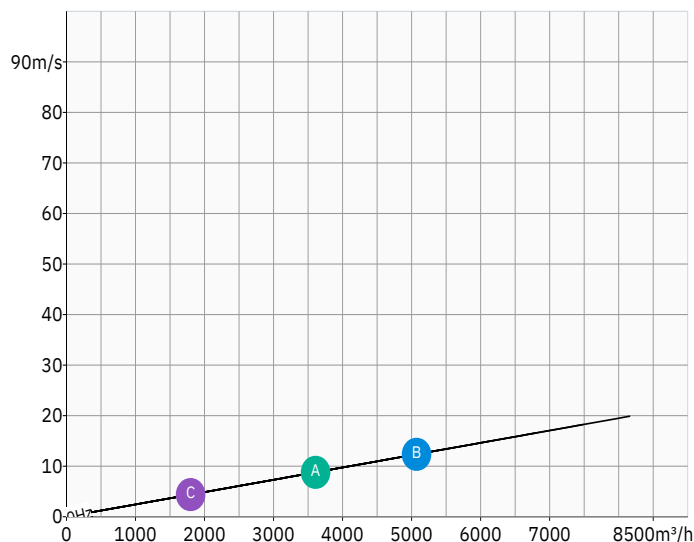
Specific Fan Power



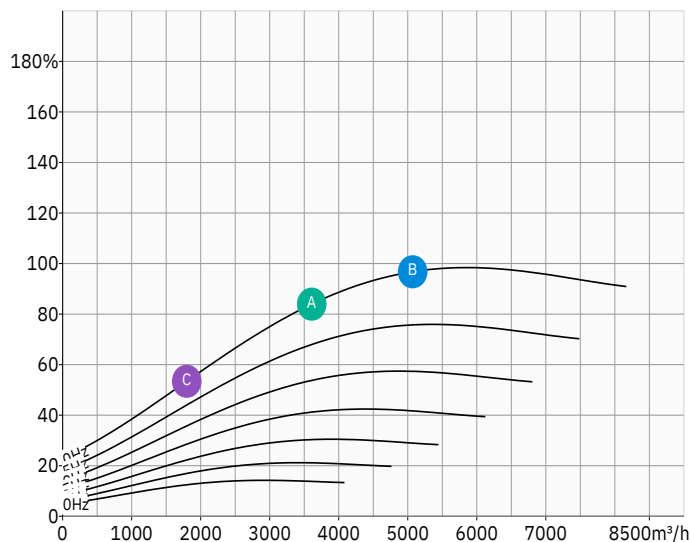
Fan Energy Index



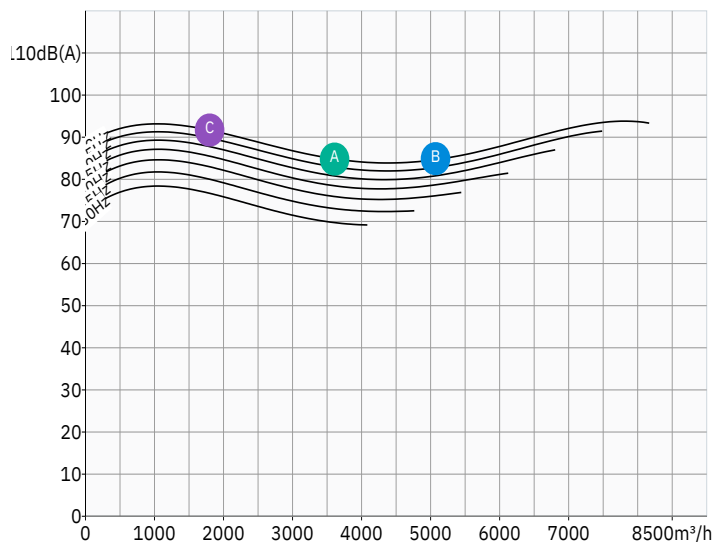
Linear velocity



Motor load ratio

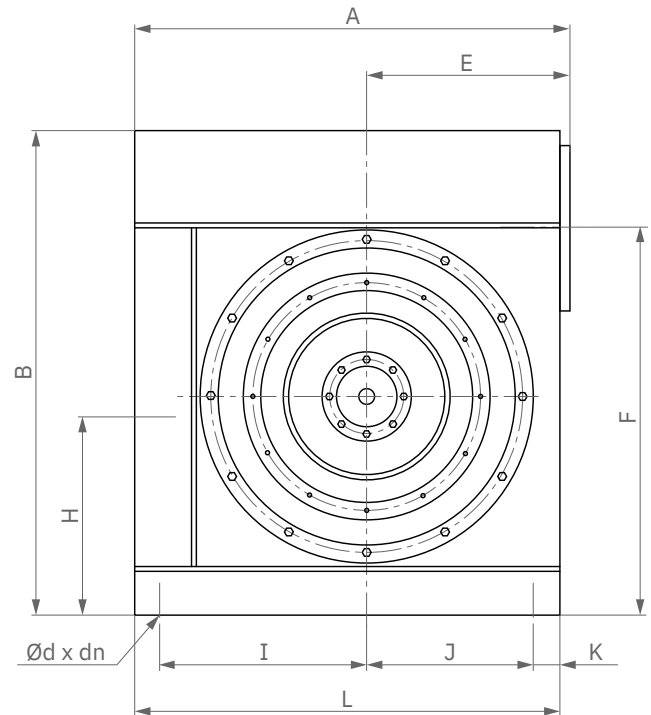
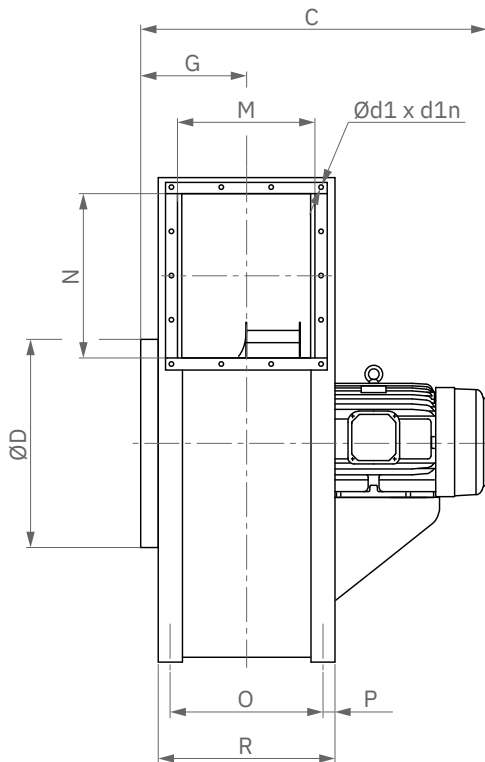


Sound power level





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A	836 mm	B	940 mm	C	661 mm	D	381 mm	E	382 mm	F	729 mm	G	202 mm
H	400 mm	I	404 mm	J	302 mm	K	50 mm	L	806 mm	M	250 mm	N	350 mm
O	290 mm	P	25 mm	R	340 mm	d	14 mm	n	4 x	dn	4 x		