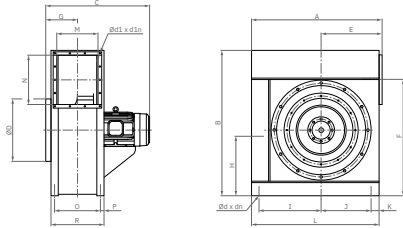




LD-550

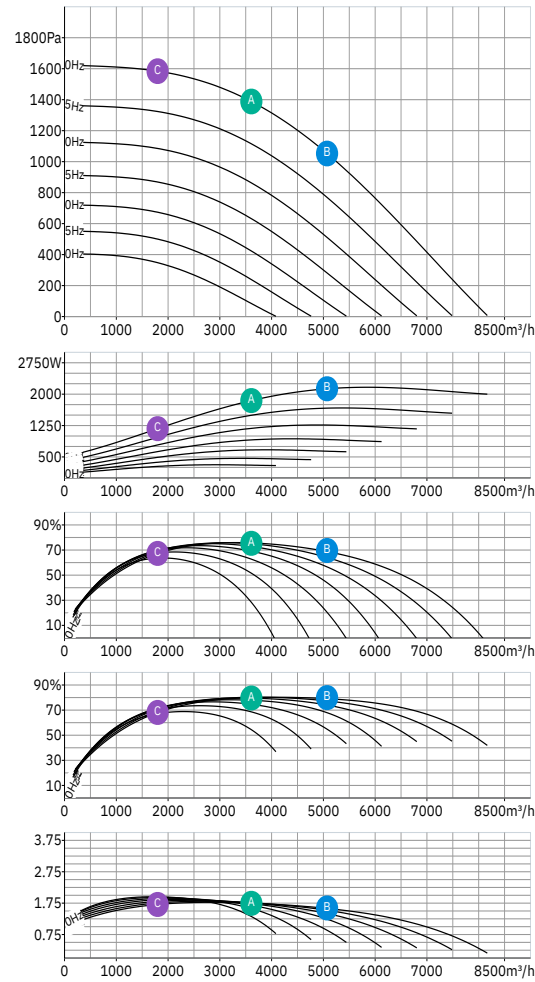
Suitable for ventilation and air conditioning systems

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.



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		

Performance characteristics



Operating point parameters

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

Calculated operating point	A	B	C
Airflow q_v	3609	5071	1798
Mass flow q_m	1.207	1.696	0.601
Static pressure p_{static}	1388	1052	1584
Total pressure p_{total}	1467	1208	1604
Total pressure differential Δp_{out-in}	1421	1116	1592
Dynamic pressure $p_{dynamic}$	79	156	19.6
Medium density ρ_{air}	1.204	1.204	1.204
Frequency f	60	60	60
Control signal 0-10V $U_{EC, control}$	0	0	0
Rotational speed n	1745	1745	1745
Linear velocity v	8.79	12.36	4.38
Power consumption P	1847	1219	1175
Shaft power P_{shaft}	1601	1846	1009
Aerodynamic power P_{air}	1424	1573	795
Motor load ratio M_{load}	83.9	96.8	53.4
Shaft Torque T_{shaft}	8.761	10.103	5.52
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
Fan Energy Index FEI	1.74	1.6	1.71
Sound pressure level L_{pa}	0	0	0
Sound power level L_{wa}	84.8	84.9	91.7

Nominal data

Maximum airflow $q_{v, max}$	8166 m³/h
Maximum static pressure $p_{static, max}$	1631 Pa
Nominal rotational speed n_{rated}	1788 rpm
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 $P_{max, abs}$	2160 W
Protection rating of the terminal box IP _{box}	IP55
Motor power supply type $Tp_{motor, supply}$	AC
Number of motor poles p_{motor}	4
Motor protection class IP _{motor}	IP55
Motor insulation class Ins _{motor, class}	F
Motor rated power in kW $P_{motor, rated, kW}$	2.2 kW
Motor energy efficiency class $\eta_{motor, class}$	IE3
Rated motor speed $n_{motor, rated}$	1745 rpm
Motor rated power in HP $P_{motor, rated, HP}$	3 hp
Maximum motor efficiency $\eta_{motor, max}$	89.5 %
Motor power reserve $rs_{motor, power}$	15 %
Motor protection type Prot	-
Motor frame size Fr_{motor}	100L
Shaft diameter D_{shaft}	28
Rated motor current $I_{motor, rated}$	7.87/4.55 A
Winding connection W_{motor}	Δ/Y
Motor torque τ_{motor}	12 Nm
Motor starting method $S_{motor, start}$	DOL
Control type T_{reg}	Inverter
Maximum Allowable Frequency $f_{max, allow}$	60 Hz
Minimum allowable frequency $f_{min, allow}$	30 Hz
Minimum operating temperature $t_{op, min}$	-15 °C
Maximum operating temperature $t_{op, max}$	40 °C
Maximum medium temperature $t_{med, max}$	60 °C
Sound pressure level measurement distance $L_{pa, dist}$	1.5 m
Weight m	125 kg
Inlet diameter D_{in}	381 mm
Outlet profile $A \times B_{out}$	250x350 mm
Maximum static efficiency $\eta_{static, max}$	75.37 %
Maximum total efficiency $\eta_{total, max}$	80.72 %
Maximum impeller efficiency $\eta_{imp, max}$	89.07 %
Fan Energy Grade (FEG) FEG	90
Maximum motor efficiency $\eta_{motor, max}$	86.714 %
Impeller type Tp_{imp}	Centrifugal Rotor
Impeller diameter D_{imp}	530 mm
Blade profile $Tp_{imp, blade}$	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 $n_{imp, min}$	900 rpm
Maximum impeller speed $n_{imp, max}$	1800 rpm
Impeller moment of inertia J_{imp}	0.18 kg·m²
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 $D_{imp, inlet}$	313 mm
Drive type Tp_{drive}	Direct drive
ErP verification type ErP_{type}	Fan
ErP exemption reason ErP_{exempt}	No exemption
Measurement category $ErP_{msrm, cat}$	B
VSD type ErP_{vsd}	Without control
Fan efficiency η_{act}	80.72 %

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Efficiency coefficient N_{act}	88
Airflow q_v	4410 m³/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

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