Volute-S 60Hz

Centrifugal smoke extraction fans

Radial centrifugal smoke extraction fan for removing high-temperature gas-air mixtures and heat generated in case of fire in premises

Air flow:
up to 68 000 m³/h

Transported air temperature:
+120 °C for long-term operation;
+400 °C for operation
up to 120 minutes



Application

- The dual-purpose centrifugal smoke extraction fan is used in emergency exhaust ventilation systems for forced removal of smoke, heated gas and combustion products.
- The fan may be used for general exhaust ventilation.
- The fan is a component part and is not designed for independent operation.

Operation

- The fan is designed to remove smoke and air mixtures heated up to +400 °C for up to 120 minutes, and long-term operation with transported air temperature of up to +120°C.
- The fans can be equipped with a frequency converter to adjust the rotation speed.
- The fan may be used for general extract ventilation.
- The fan can be designed for temperate (**U**) , tropical (**T**) or maritime moderately cold (**M**) climate.

Design

- The fans are made from steel with heat-resistant polymer coating, which ensures protection from weather conditions.
- The impeller and backward curved blades are powder-coated.
- The fan's casing can rotate within the angle range of 0° – 315°.
- The unit design is constantly being improved, thus some models may be slightly different from those described in this catalog.

Motor

- The fans are equipped with three-phase electric motors rated for a voltage of 400 V.
- The motor is located outside of the transported air flow. The motor protection class according to IEC 60034-5 is IP55.

Designation key

Volute-S 40-2 D/x-R 90-U 1-400/2-60Hz

Series
Volute-S: centrifugal fan for smoke extraction with direct drive

Impeller size [cm]
31; 35; 40; 45; 50; 56; 63; 71; 80; 90; 100; 112

Number of poles
2, 4, 6, 8

No. of phases
D: three-phase

Motor power [kW]

Casing design
R: right

Casing rotation angle
0; 45; 90 (standard); 135; 180; 225; 270; 315

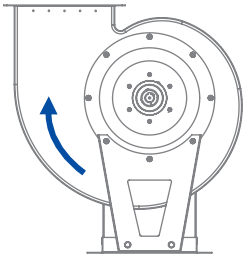
Climatic category
U: temperate climate (-40...+40 °C)
T: tropical climate (-10...+50 °C)
M: maritime moderately cold climate (-40...+40 °C)

Placement category
1: outdoors
2: under a canopy or indoors, where the conditions are the same as outdoors, except for solar radiation and precipitation
3: indoors without artificial climate control

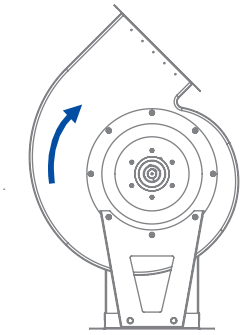
Fire resistance rating/hours
400/2: 400 °C/2 h

Frequency:
60Hz: 60 Hz

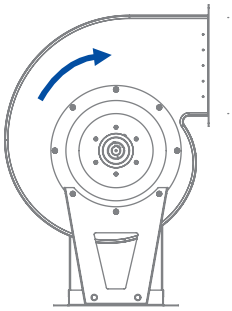
Casing rotation angle



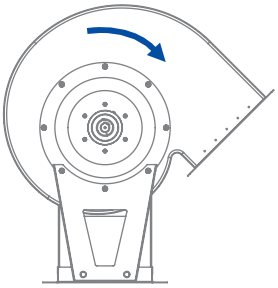
0°



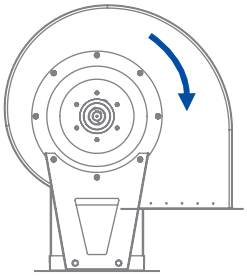
45°



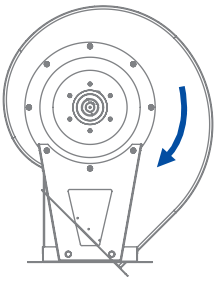
90°



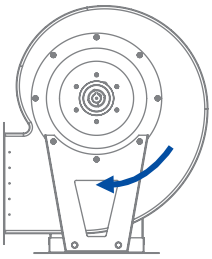
135°



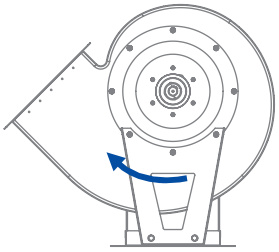
180°



225°



270°



315°

Accessories

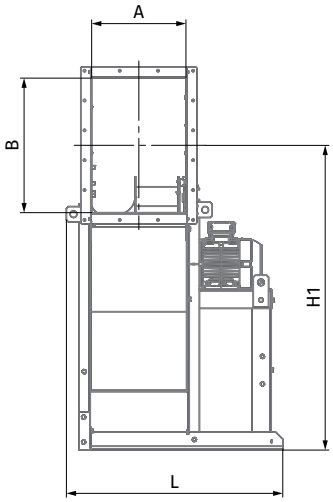
Backdraft damper	Flexible joint	Spring-loaded anti-vibration mount	Frequency converter	Safety switches
				
VRV-AF...400/2	EVAF-AF...400/2	SIF-AF	Basic Drive FC-101	AS

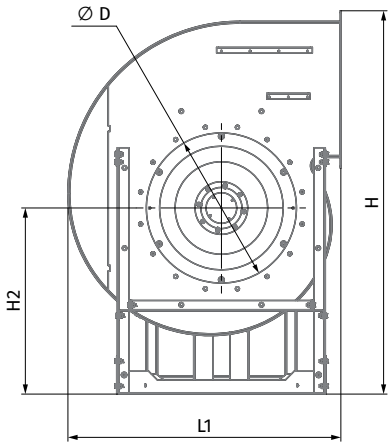
Dimensions [mm]

Model	A	B	H (R90)	H (R0)	H1	H2	L	L1 (R90)	L1 (R0)	L2	L3
Volute-S 31-2D/2.2-400/2-60Hz	207	252	805	685	650	435	530	535	610	530	385
Volute-S 35-4D/0.55-400/2-60Hz	227	284	895	755	720	480	555	595	680	575	400
Volute-S 35-2D/4-400/2-60Hz	227	284	895	755	720	480	555	595	680	575	400
Volute-S 40-6D/0.25-400/2-60Hz	258	316	966	777	771	498	648	655	765	610	400
Volute-S 40-4D/0.75-400/2-60Hz	258	316	966	777	771	498	648	655	765	610	400
Volute-S 45-6D/0.55-400/2-60Hz	283	356	1078	835	863	556	767	734	856	705	450
Volute-S 45-4D/1.5-400/2-60Hz	283	356	1078	835	863	556	767	734	856	705	450
Volute-S 50-8D/0.37-400/2-60Hz	316	390	1186	974	951	607	705	813	950	705	750
Volute-S 50-6D/0.75-400/2-60Hz	316	390	1186	974	951	607	705	813	950	705	750
Volute-S 50-4D/3-400/2-60Hz	316	390	1186	974	951	607	705	813	950	705	750
Volute-S 56-8D/0.75-400/2-60Hz	353	436	1312	1073	1057	671	742	901	1055	705	450
Volute-S 56-6D/1.5-400/2-60Hz	353	436	1312	1073	1057	671	742	901	1055	705	450
Volute-S 56-4D/4-400/2-60Hz	353	436	1312	1073	1057	671	742	901	1055	705	450
Volute-S 63-8D/1.5-400/2-60Hz	397	491	1469	1204	1186	753	787	1014	1182	767	550
Volute-S 63-6D/2.2-400/2-60Hz	397	491	1469	1204	1186	753	787	1014	1182	767	550
Volute-S 63-4D/7.5-400/2-60Hz	397	491	1469	1204	1186	753	787	1014	1182	767	550
Volute-S 71-8D/2.2-400/2-60Hz	442	554	1709	1422	1385	897	895	1146	1338	895	570
Volute-S 71-6D/4-400/2-60Hz	442	554	1709	1422	1385	897	895	1146	1338	895	570
Volute-S 71-4D/15-400/2-60Hz	442	554	1709	1422	1385	897	895	1146	1338	895	570
Volute-S 80-10D/2.2-400/2-60Hz	492	703	2002	1596	1592	972	1130	1426	1697	1065	940
Volute-S 80-8D/4-400/2-60Hz	492	703	2002	1596	1592	972	1130	1426	1697	1065	940
Volute-S 80-6D/7.5-400/2-60Hz	492	703	2002	1596	1592	972	1130	1426	1697	1065	940
Volute-S 90-10D/3-400/2-60Hz	562	782	2349	1892	1900	1210	1265	1573	1880	1200	1060
Volute-S 90-8D/5.5-400/2-60Hz	562	782	2349	1892	1900	1210	1265	1573	1880	1200	1060
Volute-S 90-6D/15-400/2-60Hz	562	782	2349	1892	1900	1210	1265	1573	1880	1200	1060
Volute-S 100-10D/5.5-400/2-60Hz	613	900	2426	1908	1916	1125	1339	1808	2153	1321	1240
Volute-S 100-8D/11-400/2-60Hz	613	900	2426	1908	1916	1125	1339	1808	2153	1321	1240
Volute-S 100-6D/30-400/2-60Hz	613	900	2426	1908	1916	1125	1339	1808	2153	1321	1240
Volute-S 112-10D/11-400/2-60Hz	686	1001	2663	2091	2103	1225	1468	2003	2383	1450	1300
Volute-S 112-8D/18.5-400/2-60Hz	686	1001	2663	2091	2103	1225	1518	2003	2383	1500	1300

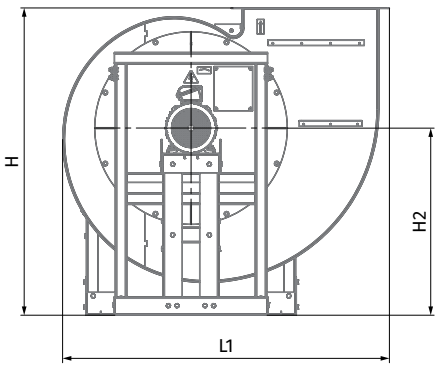
The dimensions provided apply to models with the R0 and R90 rotation angles. Dimensions for models with different rotation angles are available upon request.

R90

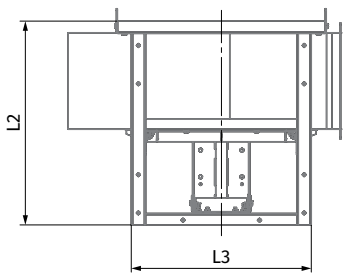




R0



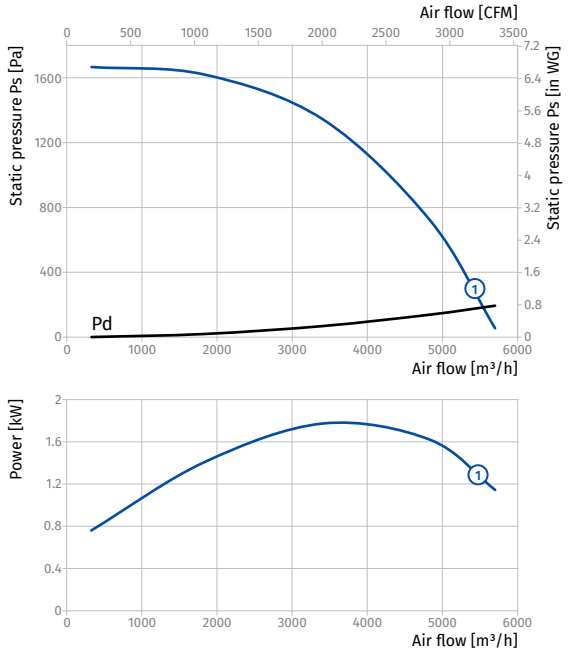
Bottom view



Technical data

Standard size	Number of poles	Voltage [V/60 Hz]	Fan model	Rated power [kW]	Rated RPM [min⁻¹]	Curve number
315	2	3~ 400	Volute-S 31-2D/2.2-400/2-60Hz	2.2	3440	①
355	4	3~ 400	Volute-S 35-4D/0.55-400/2-60Hz	0.55	1720	②
355	2	3~ 400	Volute-S 35-2D/4-400/2-60Hz	4	3440	③
400	6	3~ 400	Volute-S 40-6D/0.25-400/2-60Hz	0.25	1140	④
400	4	3~ 400	Volute-S 40-4D/0.75-400/2-60Hz	0.75	1720	⑥
450	6	3~ 400	Volute-S 45-6D/0.55-400/2-60Hz	0.55	1140	⑥
450	4	3~ 400	Volute-S 45-4D/1.5-400/2-60Hz	1.5	1720	⑦

STANDARD SIZE: 315



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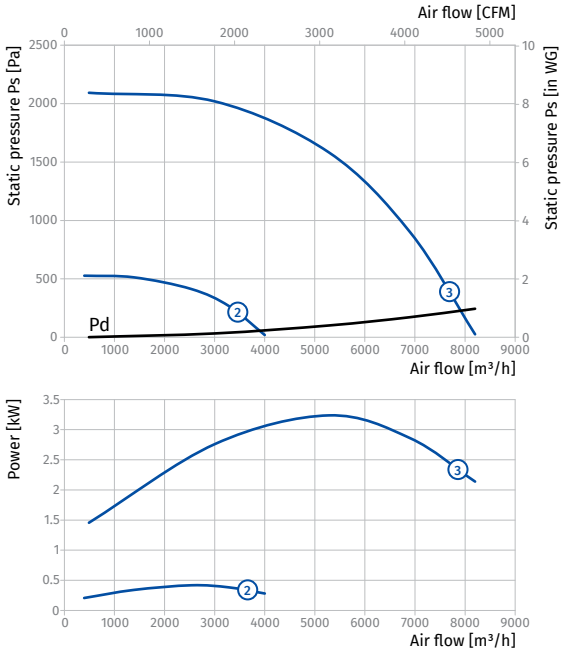

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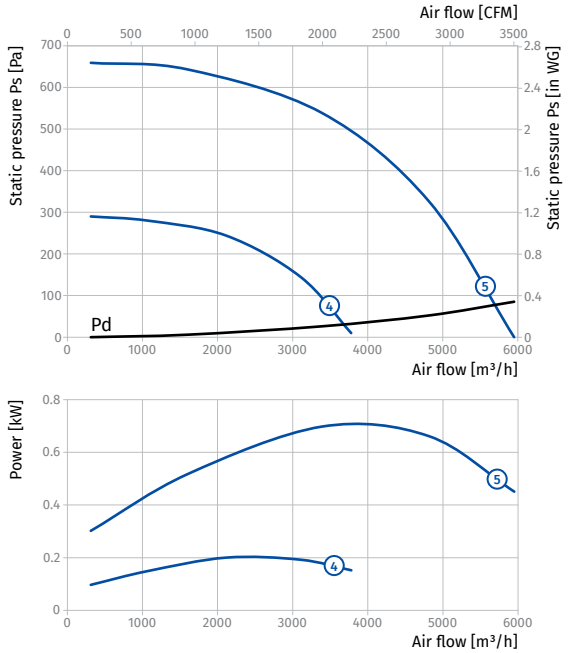

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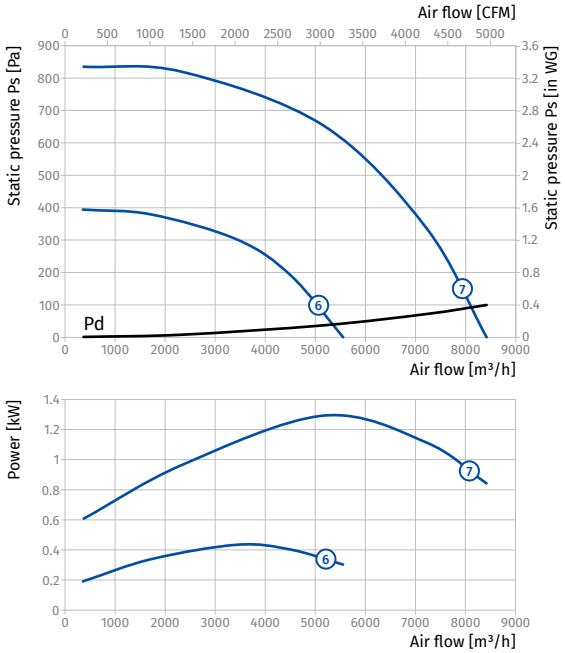
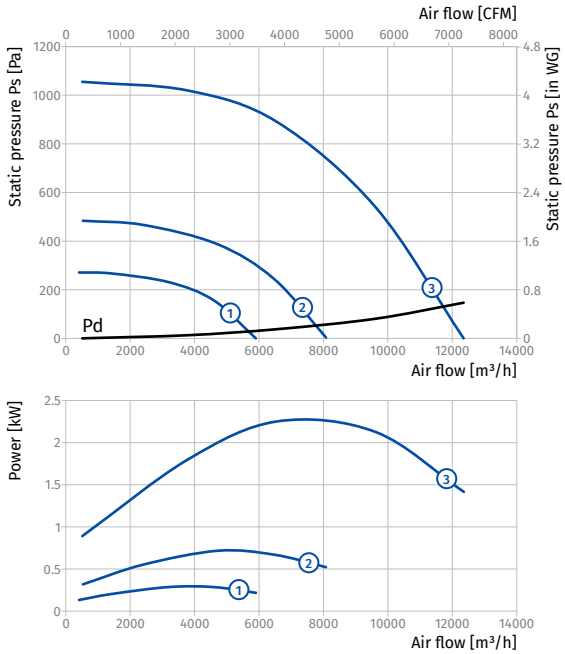


Standard size	Number of poles	Voltage [V/60 Hz]	Fan model	Rated power [kW]	Rated RPM [min⁻¹]	Curve number
500	8	3~ 400	Volute-S 50-8D/0.37-400/2-60Hz	0.37	855	①
500	6	3~ 400	Volute-S 50-6D/0.75-400/2-60Hz	0.75	1140	②
500	4	3~ 400	Volute-S 50-4D/3-400/2-60Hz	3	1720	③
560	8	3~ 400	Volute-S 56-8D/0.75-400/2-60Hz	0.75	855	④
560	6	3~ 400	Volute-S 56-6D/1.5-400/2-60Hz	1.5	1140	⑤
560	4	3~ 400	Volute-S 56-4D/4-400/2-60Hz	4	1720	⑥
630	8	3~ 400	Volute-S 63-8D/1.5-400/2-60Hz	1.5	855	⑦
630	6	3~ 400	Volute-S 63-6D/2.2-400/2-60Hz	2.2	1140	⑧
630	4	3~ 400	Volute-S 63-4D/7.5-400/2-60Hz	7.5	1720	⑨
710	8	3~ 400	Volute-S 71-8D/2.2-400/2-60Hz	2.2	855	⑩
710	6	3~ 400	Volute-S 71-6D/4-400/2-60Hz	4	1140	⑪
710	4	3~ 400	Volute-S 71-4D/15-400/2-60Hz	15	1720	⑫

STANDARD SIZE: 500



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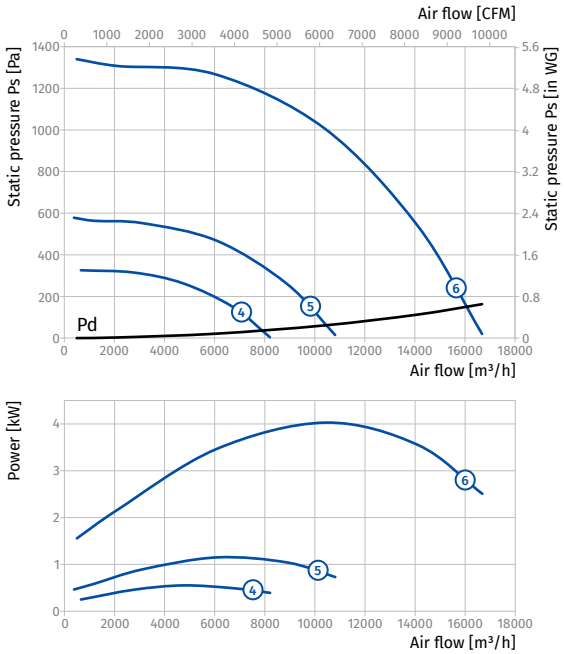

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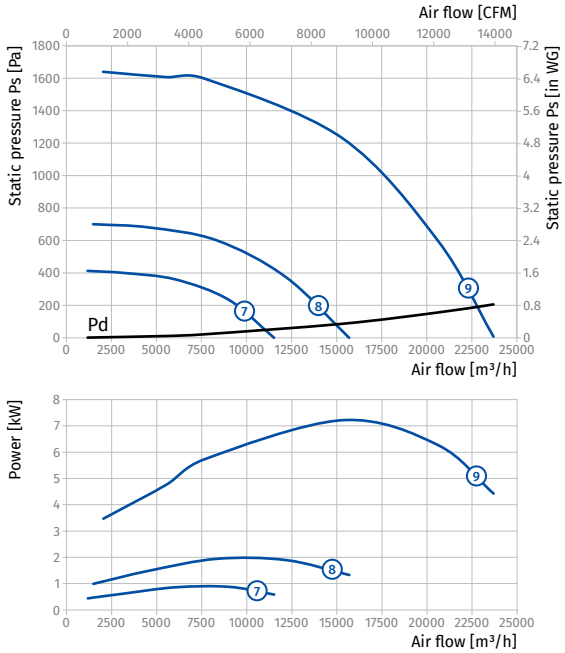

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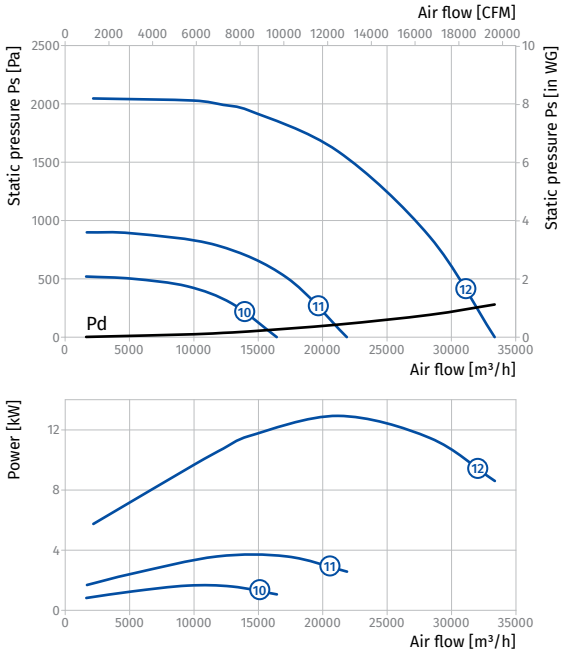
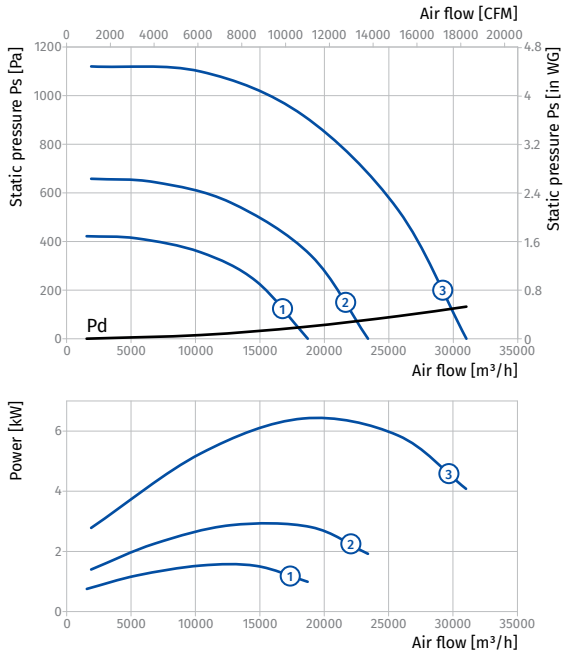


Standard size	Number of poles	Voltage [V/60 Hz]	Fan model	Rated power [kW]	Rated RPM [min⁻¹]	Curve number
800	10	3~ 400	Volute-S 80-10D/2.2-400/2-60Hz	2.2	684	①
800	8	3~ 400	Volute-S 80-8D/4-400/2-60Hz	4	855	②
800	6	3~ 400	Volute-S 80-6D/7.5-400/2-60Hz	7.5	1140	③
900	10	3~ 400	Volute-S 90-10D/3-400/2-60Hz	3	684	④
900	8	3~ 400	Volute-S 90-8D/5.5-400/2-60Hz	5.5	855	⑤
900	6	3~ 400	Volute-S 90-6D/15-400/2-60Hz	15	1140	⑥
1000	10	3~ 400	Volute-S 100-10D/5.5-400/2-60Hz	5.5	684	⑦
1000	8	3~ 400	Volute-S 100-8D/11-400/2-60Hz	11	855	⑧
1000	6	3~ 400	Volute-S 100-6D/30-400/2-60Hz	30	1140	⑨
1120	10	3~ 400	Volute-S 112-10D/11-400/2-60Hz	11	684	⑩
1120	8	3~ 400	Volute-S 112-8D/18.5-400/2-60Hz	18.5	855	⑪

STANDARD SIZE: 800



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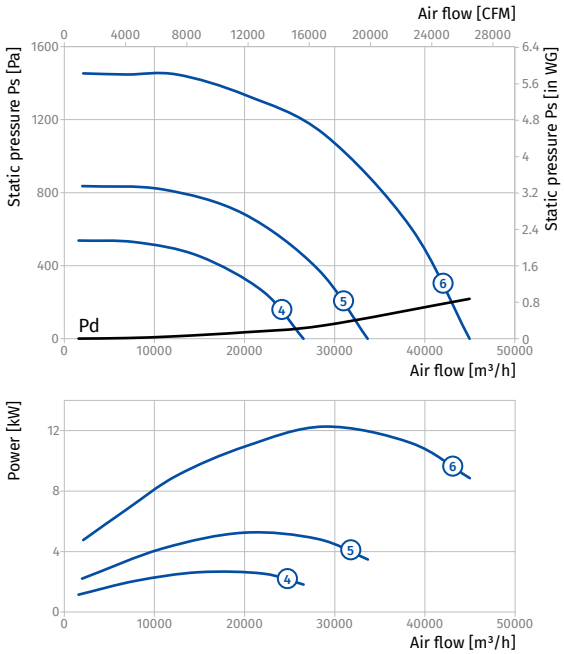

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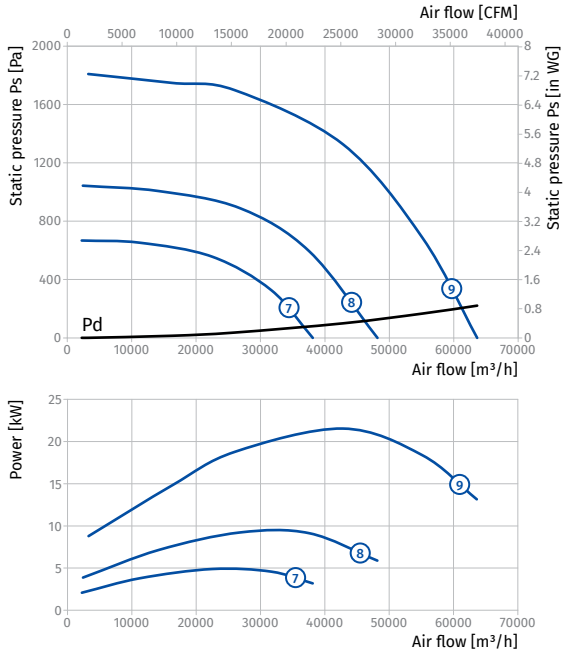

STANDARD SIZE: 1120

