

VOLUTE-S

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 86 500 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 of the first placement category.

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

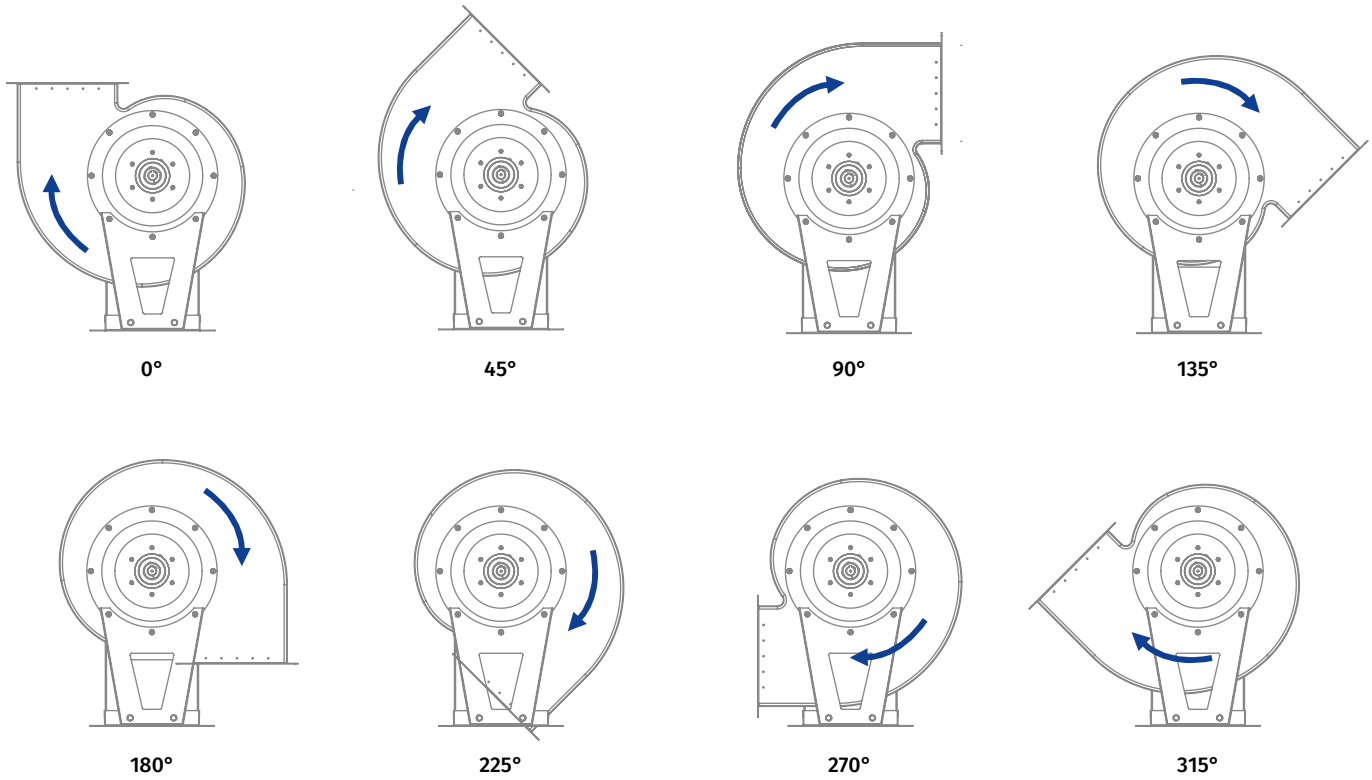
- The fans are equipped with three-phase electric motors rated for a voltage of 400 V.
- The motor is located outside of the transported air flow. The motor protection class according to IEC 60034-5 is IP55.

Designation key

Series	VOLUTE-S: centrifugal fan for smoke extraction with direct drive
Impeller size [cm]	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







VOLUTE-S 40-2 D/x-R90-U 1-400/2

Casing rotation angle



CENTRIFUGAL SMOKE EXTRACTION FANS

Accessories

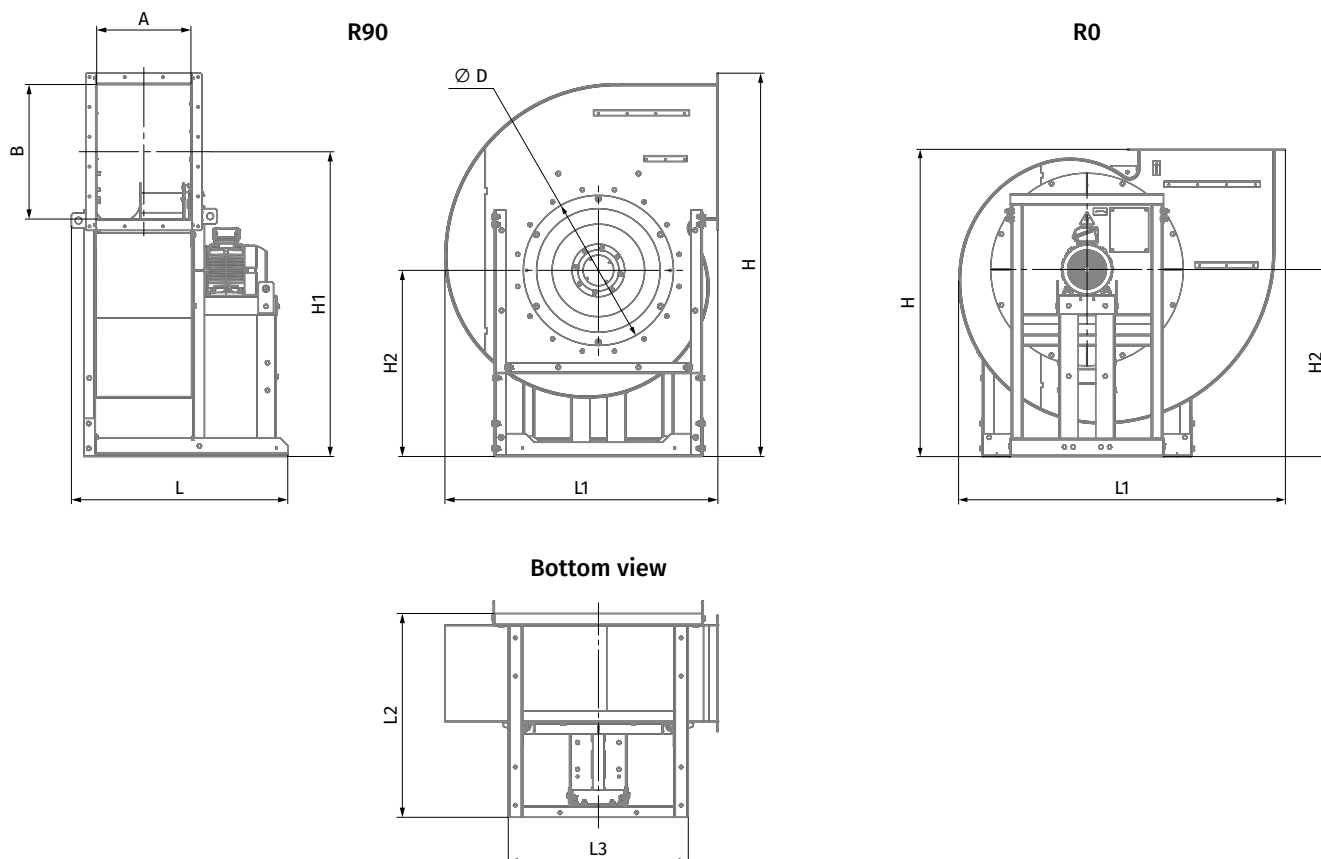
Backdraft damper	Flexible joint	Protective mesh	Spring-loaded anti-vibration mount	Frequency converter	Safety switches
					
VRV-AF...400/2	EVAF-AF...400/2	SZ-AF	SIF-AF	Basic Drive FC-101	AS

Overall dimensions [mm]

Model	A	B	∅ D	H (R90)	H (R0)	H1	H2	L	L1 (R90)	L1 (R0)	L2	L3	Weight [kg]
VOLUTE-S 40-2D/4-400/2	258	316	400	966	777	771	498	648	655	765	610	400	67
VOLUTE-S 40-4D/0.37-400/2													57
VOLUTE-S 45-2D/7.5-400/2	283	356	450	1078	835	863	556	767	734	856	705	450	112
VOLUTE-S 45-4D/0.75-400/2													65
VOLUTE-S 50-4D/1.5-400/2	343	396	500	1210	1005	975	634	855	818	947	855	510	98
VOLUTE-S 50-6D/0.37-400/2													88
VOLUTE-S 56-4D/2.2-400/2	353	436	560	1312	1073	1057	671	742	901	1055	705	450	110
VOLUTE-S 56-6D/0.75-400/2													100
VOLUTE-S 63-6D/1.5-400/2	397	491	630	1469	1204	1186	753	787	1014	1182	767	550	128
VOLUTE-S 63-4D/4-400/2													148
VOLUTE-S 71-8D/1.1-400/2	442	554	710	1709	1422	1385	897	895	1146	1338	895	570	153
VOLUTE-S 71-6D/2.2-400/2													160
VOLUTE-S 71-4D/7.5-400/2	492	703	800	2002	1596	1592	972	1130	1426	1697	1065	940	192
VOLUTE-S 80-8D/2.2-400/2													306
VOLUTE-S 80-6D/4-400/2	562	782	900	2349	1892	1900	1210	1265	1573	1880	1200	1060	308
VOLUTE-S 80-4D/15-400/2													365
VOLUTE-S 90-8D/4-400/2	562	782	900	2349	1892	1900	1210	1415	1573	1880	1350	1060	435
VOLUTE-S 90-6D/7.5-400/2													455
VOLUTE-S 90-4D/30-400/2	613	900	1000	2426	1908	1916	1125	1339	1808	2153	1321	1240	480
VOLUTE-S 100-8D/7.5-400/2													550
VOLUTE-S 100-6D/15-400/2	686	1001	1120	2663	2091	2103	1225	1468	2003	2383	1450	1300	590
VOLUTE-S 112-8D/11-400/2													725
VOLUTE-S 112-8D/15-400/2	763	1001	1120	2663	2091	2103	1225	1595	2003	2383	1577	1300	840
VOLUTE-S 112-6D/22-400/2													795
VOLUTE-S 112-6D/30-400/2	763							1685			1667		895

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

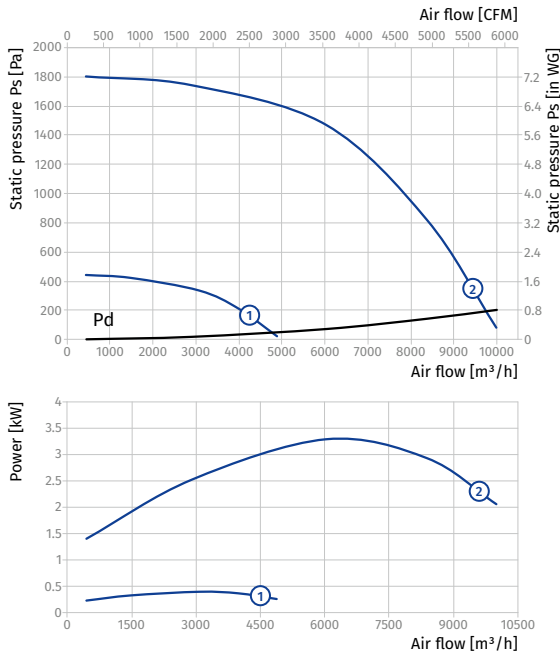
CENTRIFUGAL SMOKE EXTRACTION FANS



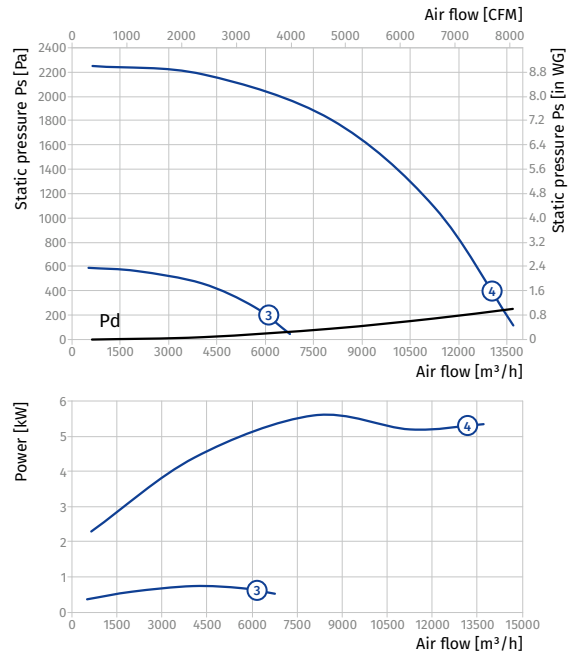
Technical data

Standard size	Number of poles	Voltage [V/50 Hz]	Fan model	Rated power Ny [kW]	Rated RPM [min ⁻¹]	Curve number
400	4	3~400	VOLUTE-S 40-4D/0.37-400/2	0.37	1440	①
400	2	3~400	VOLUTE-S 40-2D/4-400/2	4	2880	②
450	4	3~400	VOLUTE-S 45-4D/0.75-400/2	0.75	1440	③
450	2	3~400	VOLUTE-S 45-2D/7.5-400/2	7.5	2880	④
500	6	3~400	VOLUTE-S 50-6D/0.37-400/2	0.37	960	⑤
500	4	3~400	VOLUTE-S 50-4D/1.5-400/2	1.5	1440	⑥
560	6	3~400	VOLUTE-S 56-6D/0.75-400/2	0.75	960	⑦
560	4	3~400	VOLUTE-S 56-4D/2.2-400/2	2.2	1440	⑧

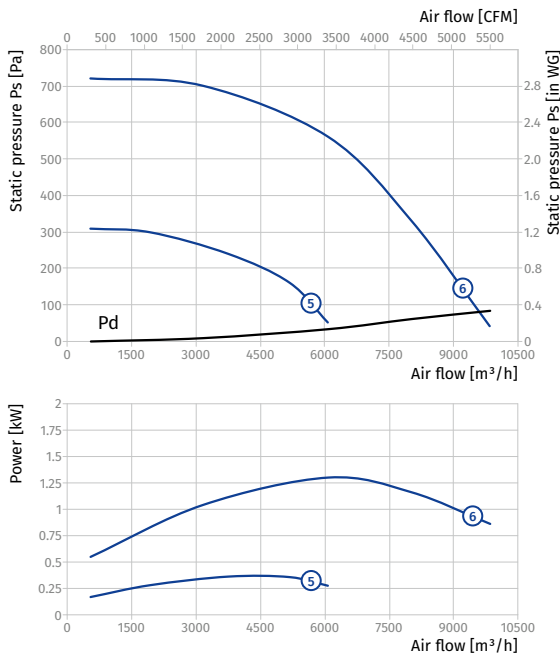
STANDARD SIZE: 400



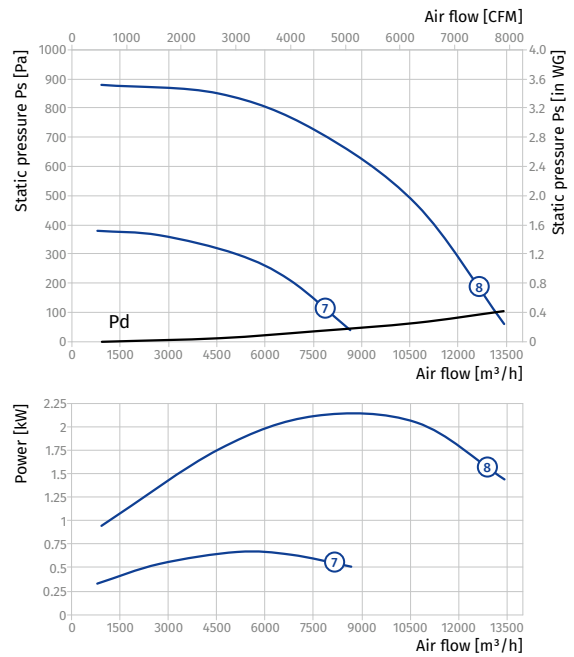
STANDARD SIZE: 450



STANDARD SIZE: 500

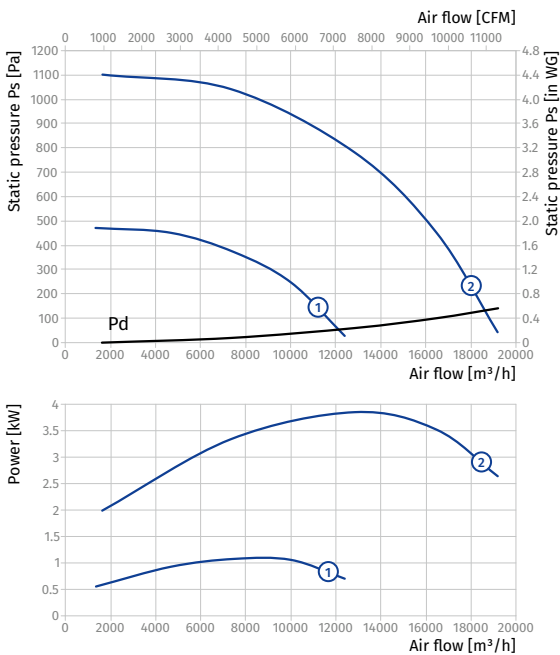


STANDARD SIZE: 560

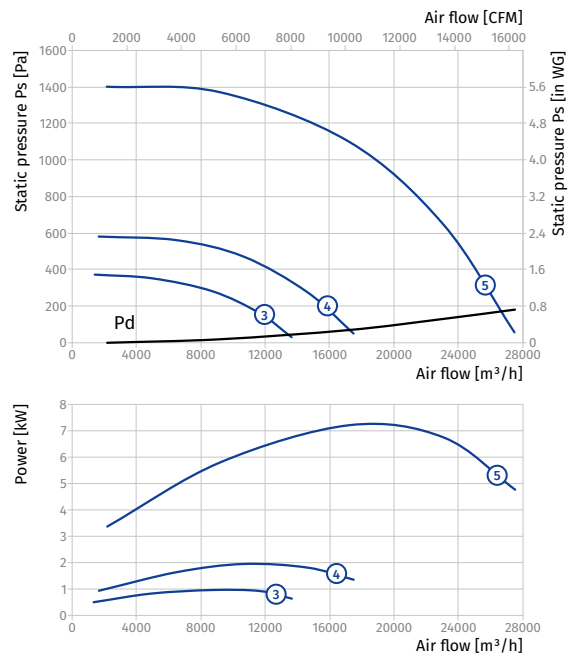


Standard size	Number of poles	Voltage [V/50 Hz]	Fan model	Rated power Ny [kW]	Rated RPM [min ⁻¹]	Curve number
630	6	3~400	VOLUTE-S 63-6D/1.5-400/2	1.5	950	①
630	4	3~400	VOLUTE-S 63-4D/4-400/2	4	1440	②
710	8	3~400	VOLUTE-S 71-8D/1.1-400/2	1.1	730	③
710	6	3~400	VOLUTE-S 71-6D/2.2-400/2	2.2	940	④
710	4	3~400	VOLUTE-S 71-4D/7.5-400/2	7.5	1440	⑤
800	8	3~400	VOLUTE-S 80-8D/2.2-400/2	2.2	730	⑥
800	6	3~400	VOLUTE-S 80-6D/4-400/2	4	940	⑦
800	4	3~400	VOLUTE-S 80-4D/15-400/2	15	1440	⑧
900	8	3~400	VOLUTE-S 90-8D/4-400/2	4	750	⑨
900	6	3~400	VOLUTE-S 90-6D/7.5-400/2	7.5	1000	⑩
900	4	3~400	VOLUTE-S 90-4D/30-400/2	30	1470	⑪

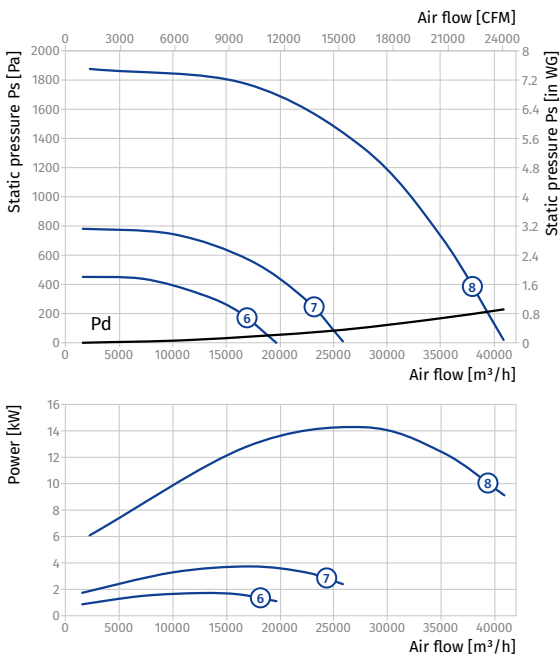
STANDARD SIZE: 630



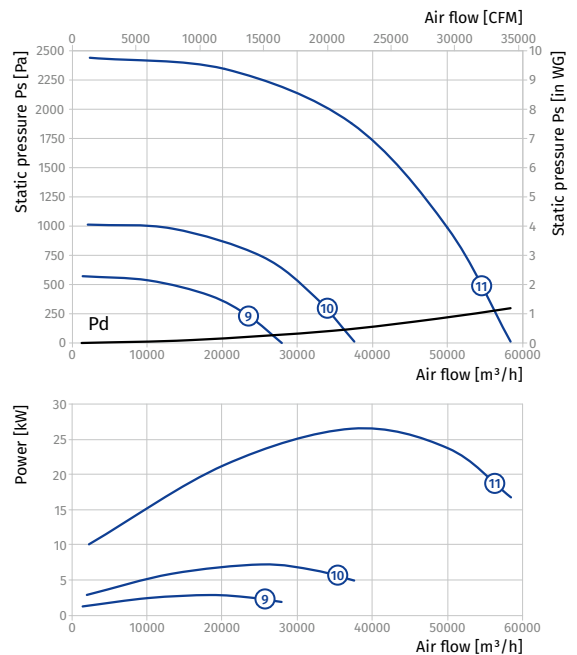
STANDARD SIZE: 710



STANDARD SIZE: 800

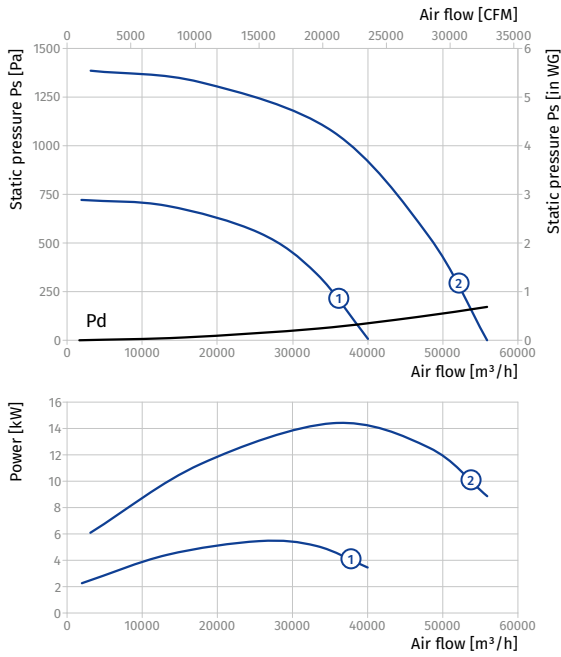


STANDARD SIZE: 900



Standard size	Number of poles	Voltage [V/50 Hz]	Fan model	Rated power Ny [kW]	Rated RPM [min ⁻¹]	Curve number
1000	8	3~400	VOLUTE-S 100-8D/7.5-400/2	7.5	750	①
1000	6	3~400	VOLUTE-S 100-6D/15-400/2	15	1000	②
1120	8	3~400	VOLUTE-S 112-8D/11-400/2	11	750	③
1120	8	3~400	VOLUTE-S 112-8D/15-400/2	15	750	④
1120	6	3~400	VOLUTE-S 112-6D/22-400/2	22	1000	⑤
1120	6	3~400	VOLUTE-S 112-6D/30-400/2	30	1000	⑥

STANDARD SIZE: 1000



STANDARD SIZE: 1120

