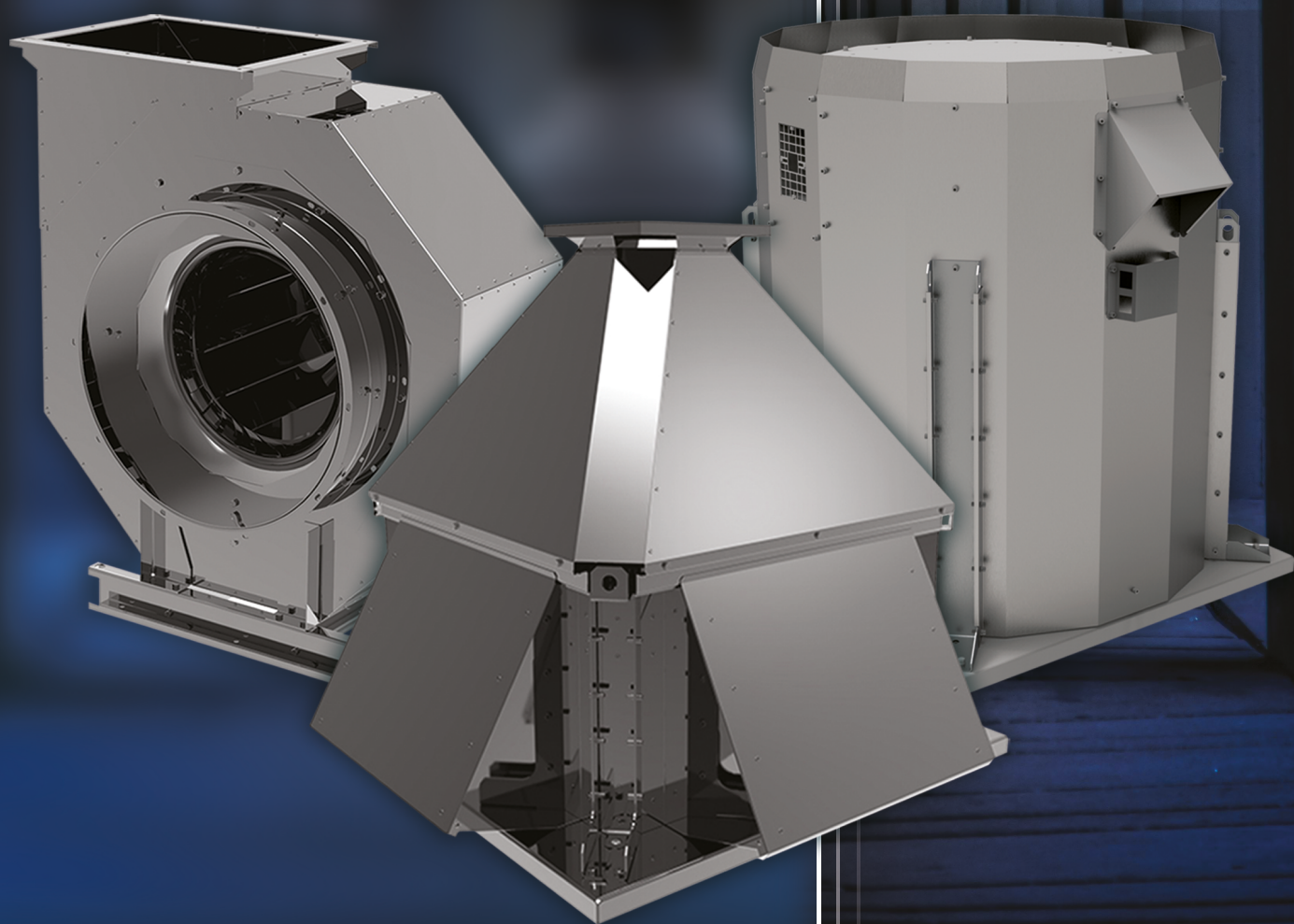




SMOKE EXTRACTION FAN CATALOG

- FANS: SEF, SEF-M, SEF-R, AF
- DAMPERS: FPD, SED, FPDR



CONTENTS

3 SEF SMOKE EXTRACTION FANS



11 SEF-M SMOKE EXTRACTION FANS



16 SEF-R SMOKE EXTRACTION FANS



22 AF SERIES AXIAL FANS

47 INSTALLATION OF FANS

49 FPD DAMPER

53 SED DAMPER

56 FPDR DAMPER

61 SMOKE EXTRACTION UNIT CONTROL PANEL

SEF SMOKE EXTRACTION FANS

Fans are used in accordance with the requirements of DBN V.2.5-67 and DBN B.1.1-7 in exhaust smoke ventilation systems for the removal of combustion products (smoke and gases) that arise during fires in buildings and structures of various types.

APPLICATION

SEF fan of standard design is intended for removing combustion products generated during a fire, as well as for moving air and other non-aggressive gas mixtures in general exchange ventilation systems.

Depending on the operating conditions, fans can be manufactured in the following versions:

SEF FAN:

Standard version for the removal of combustion products arising during fires, as well as for moving air and other non-aggressive gas mixtures in general exchange ventilation systems.

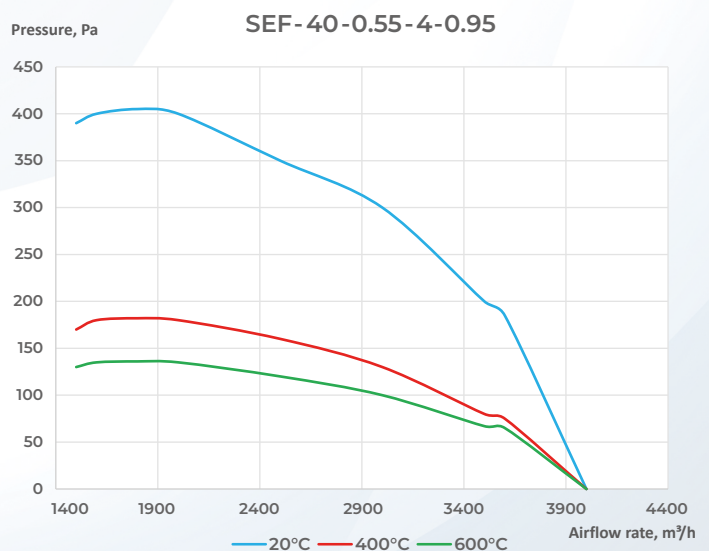
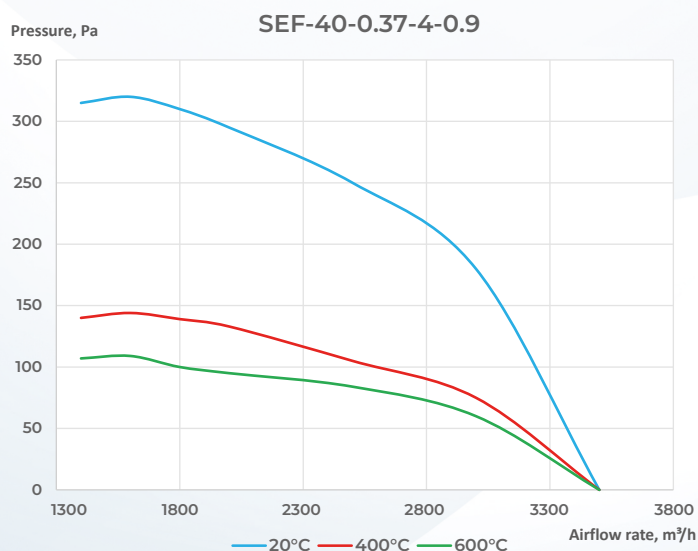
SEF-E FAN:

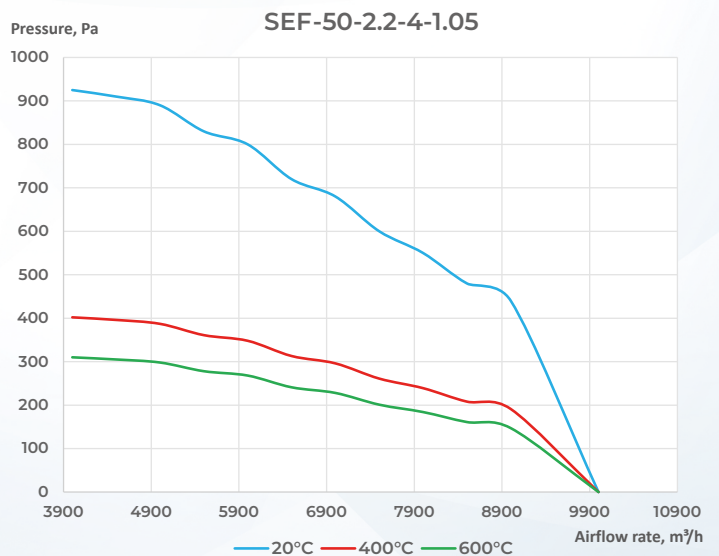
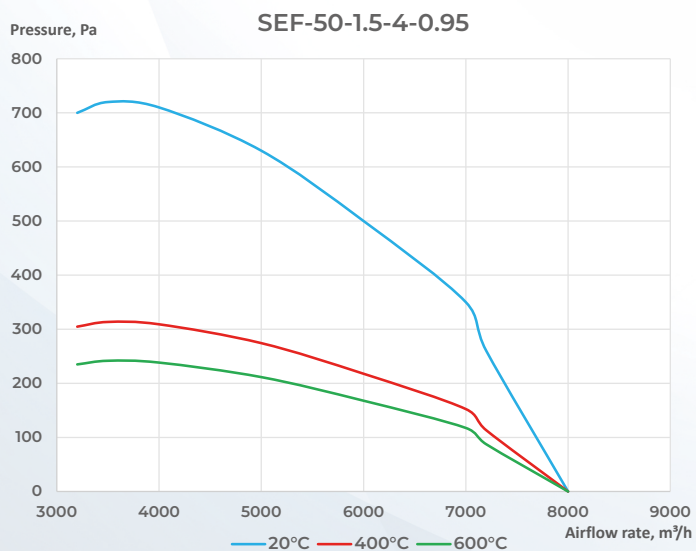
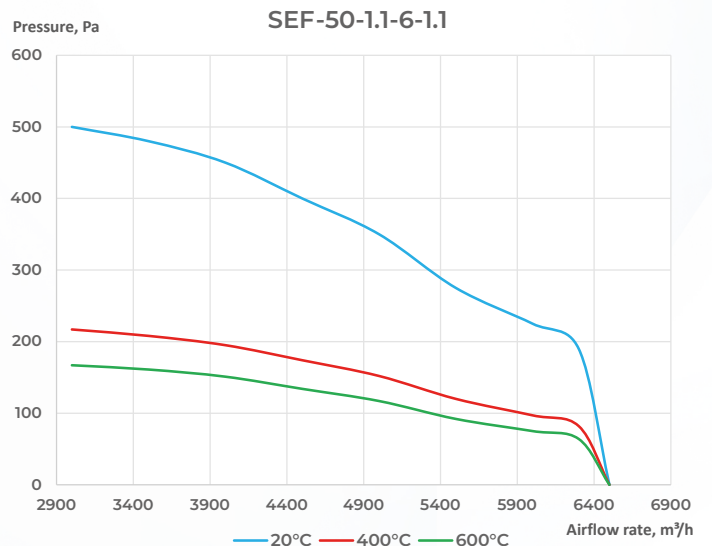
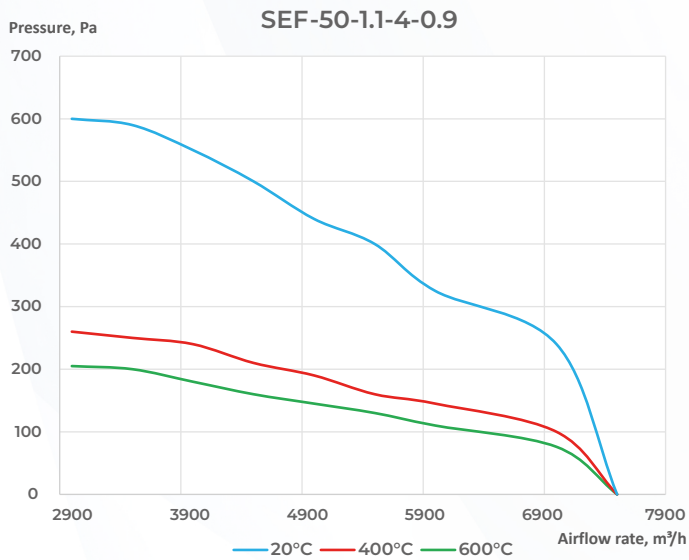
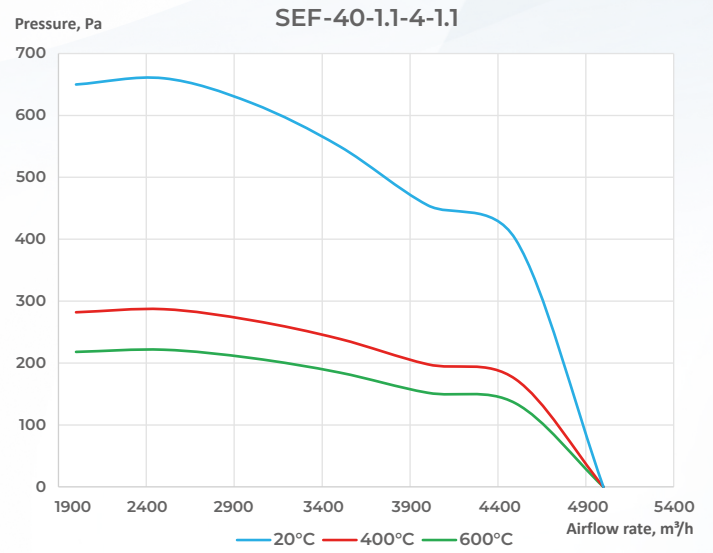
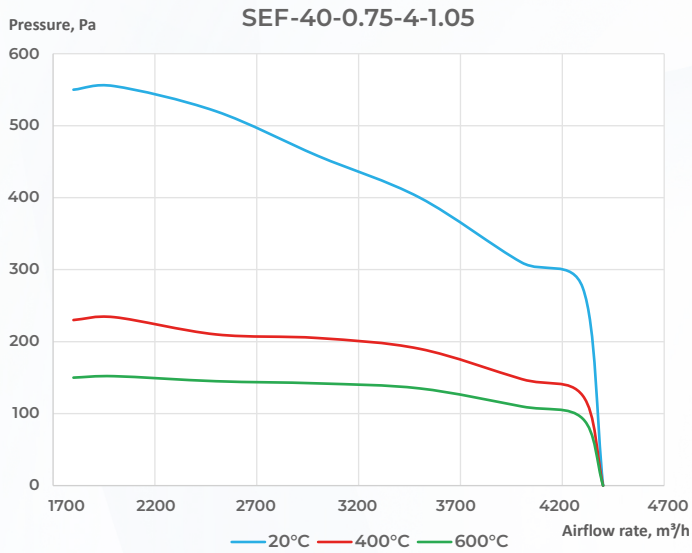
Explosion-proof version.

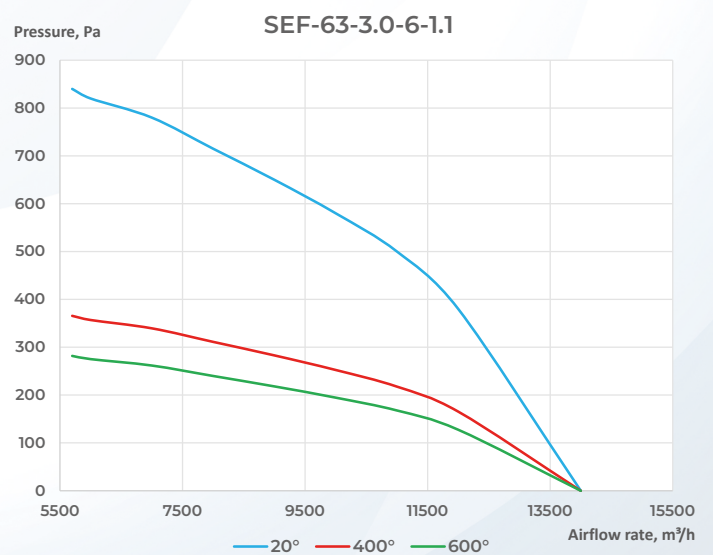
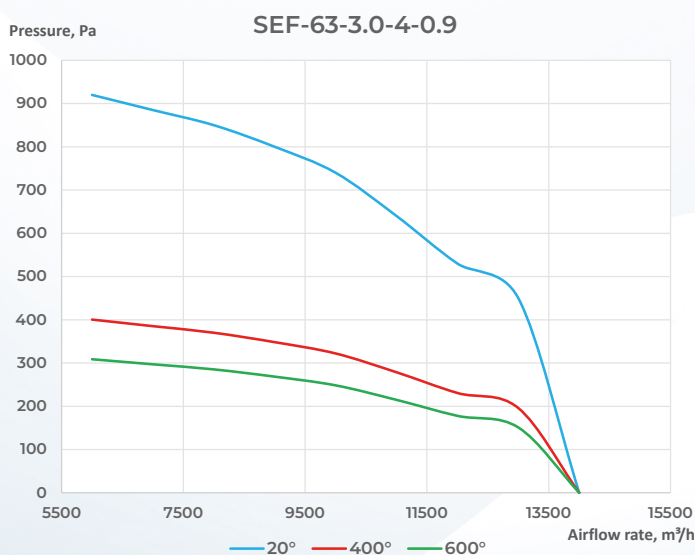
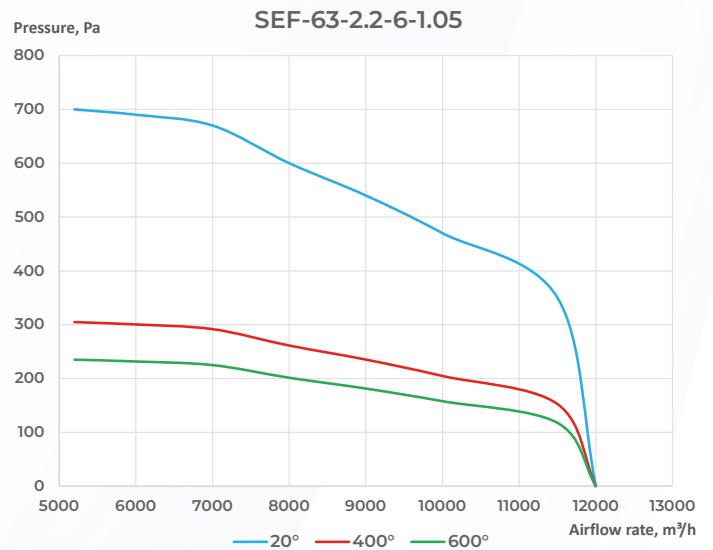
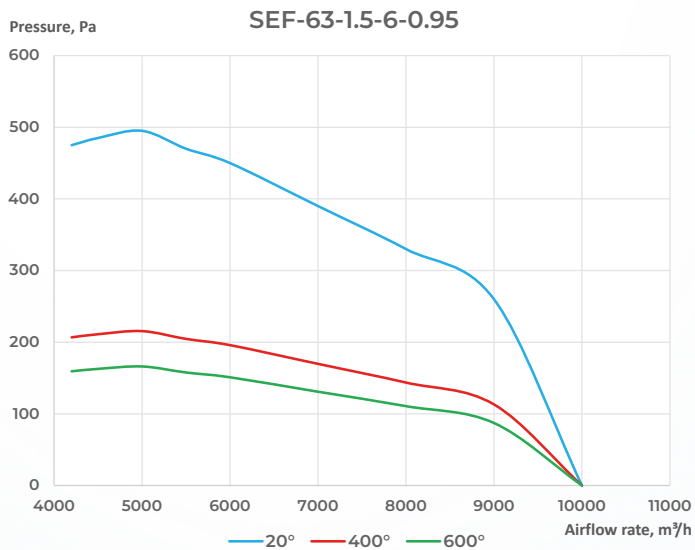
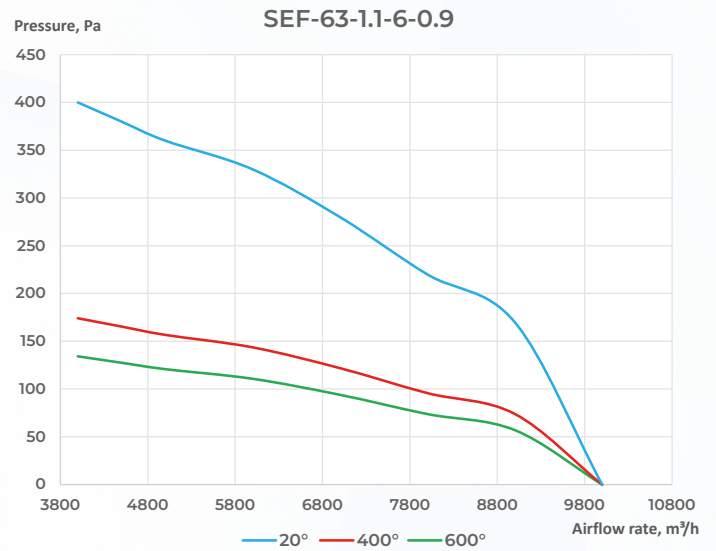
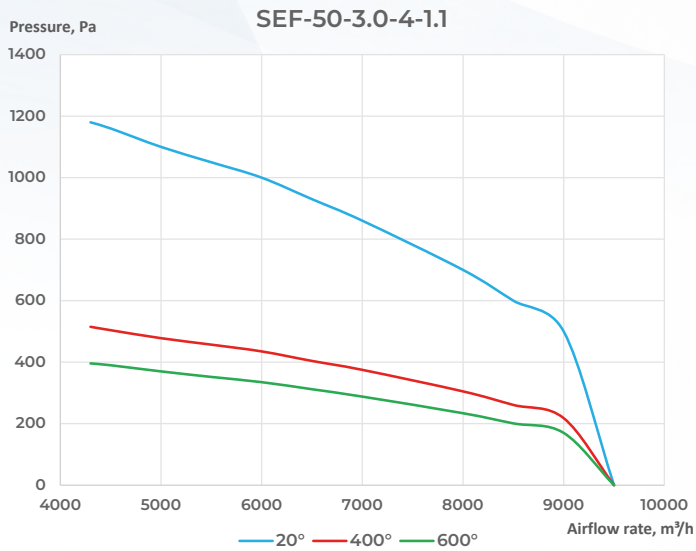
OPERATING CONDITIONS

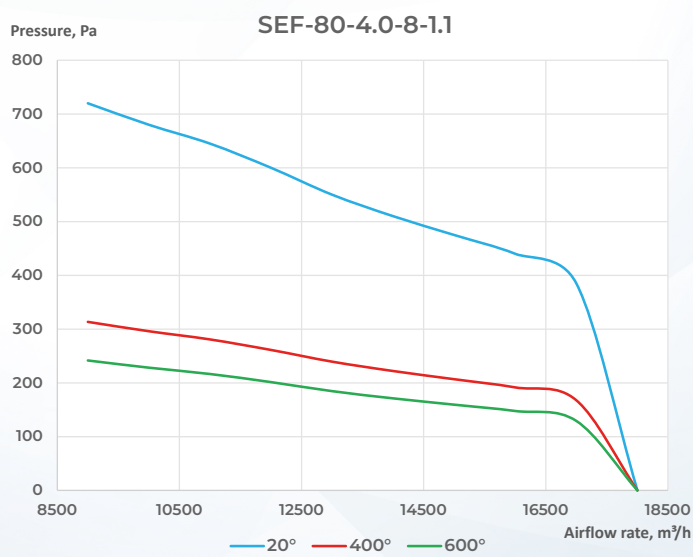
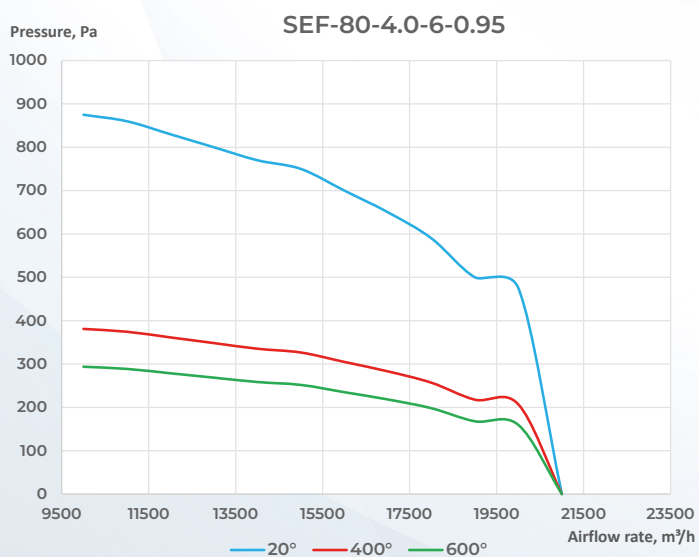
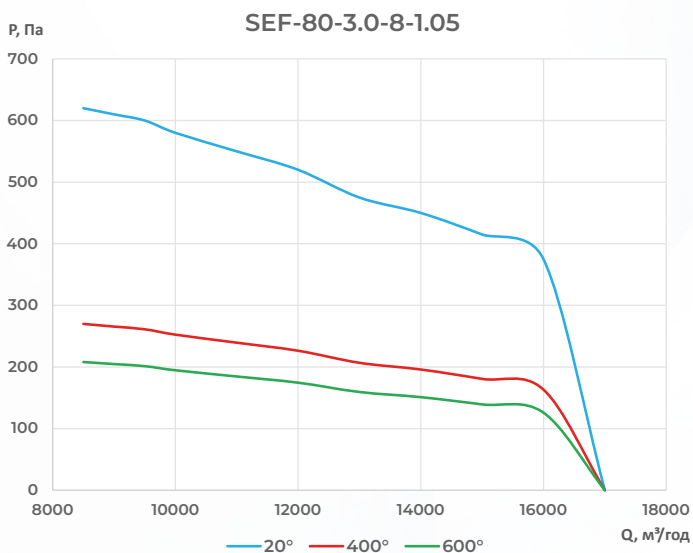
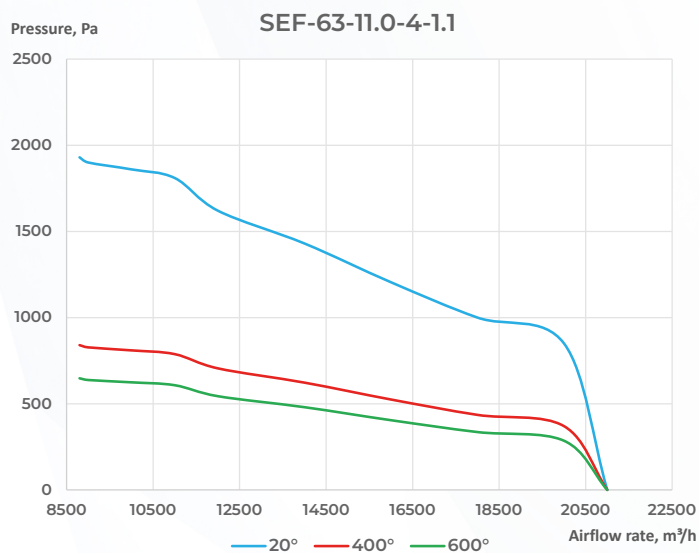
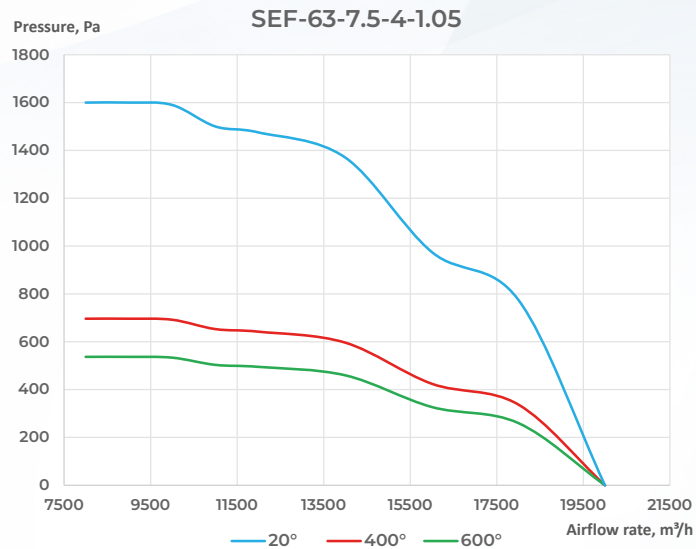
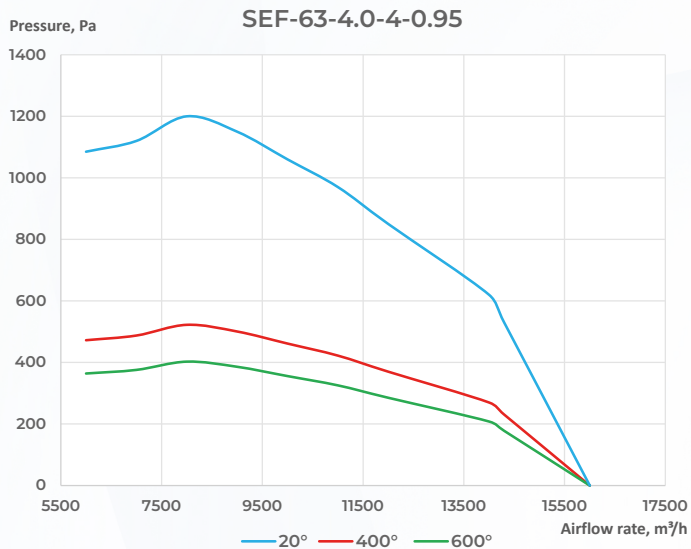
Depending on their version, the fans can move gases with a temperature of up to 400°C for 120 minutes (minimum) or up to 600°C for 120 minutes (minimum).

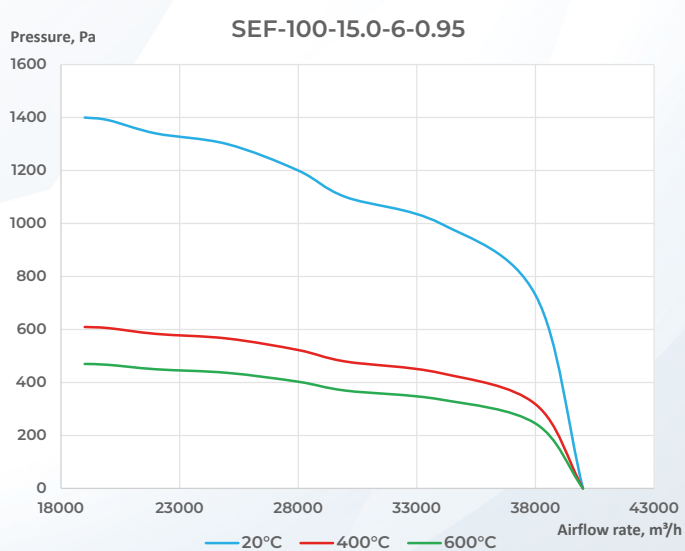
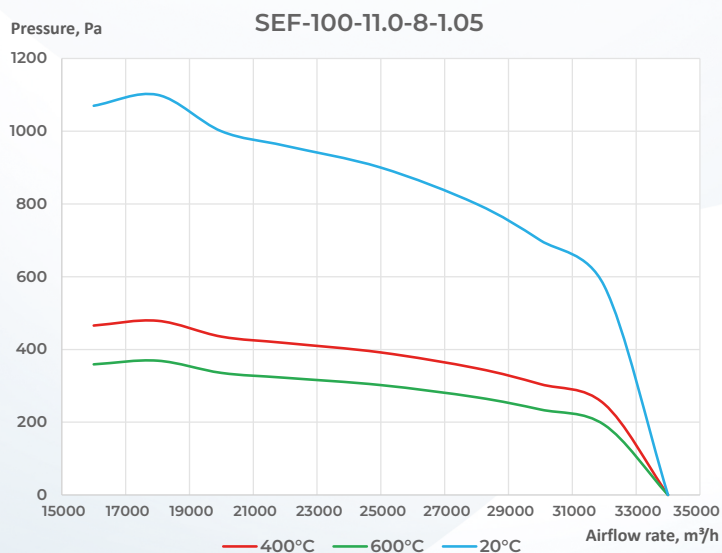
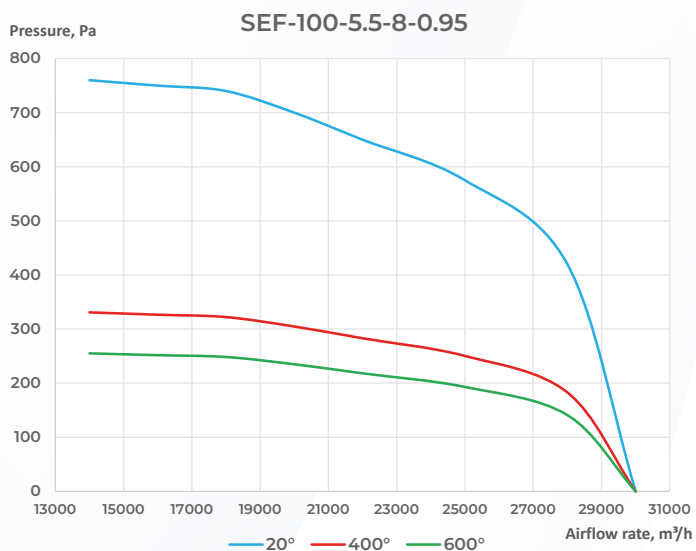
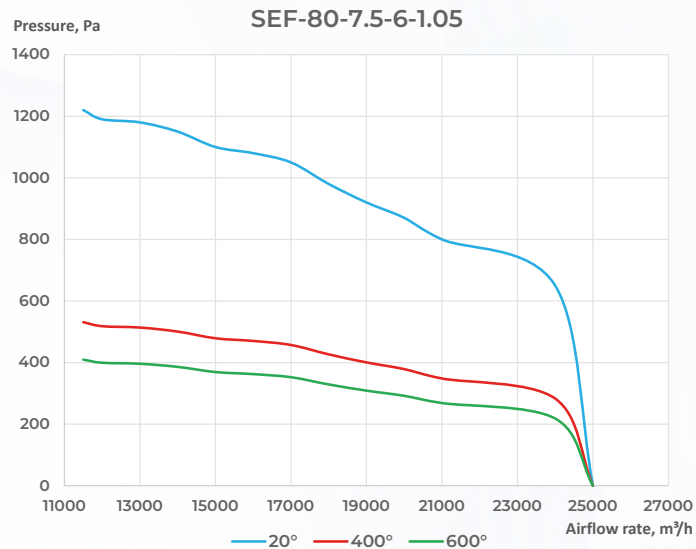
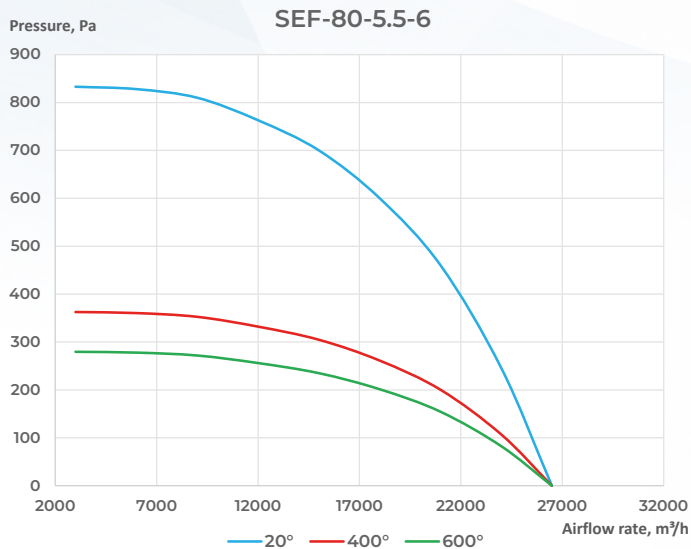
The average square value of the vibration speed of external sources at the installation sites must not exceed 2 mm/s. The fan must be installed outside zones of prolonged human presence.

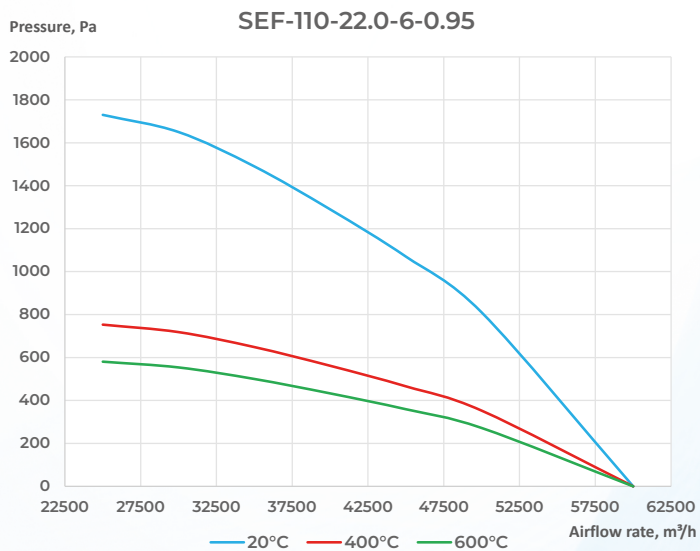
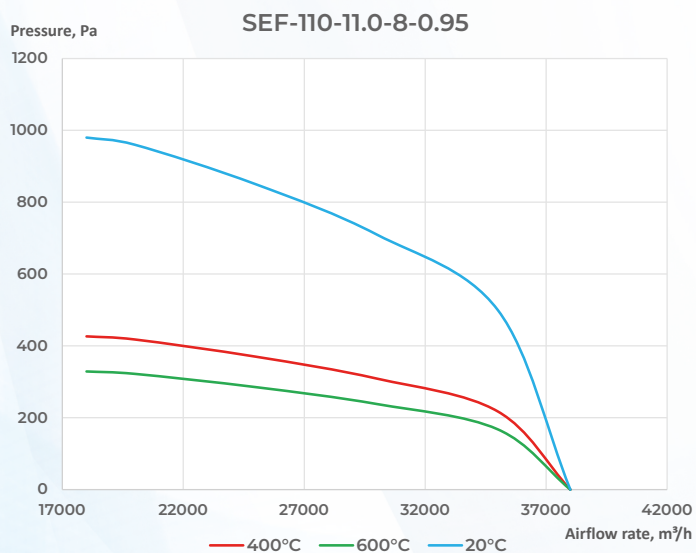
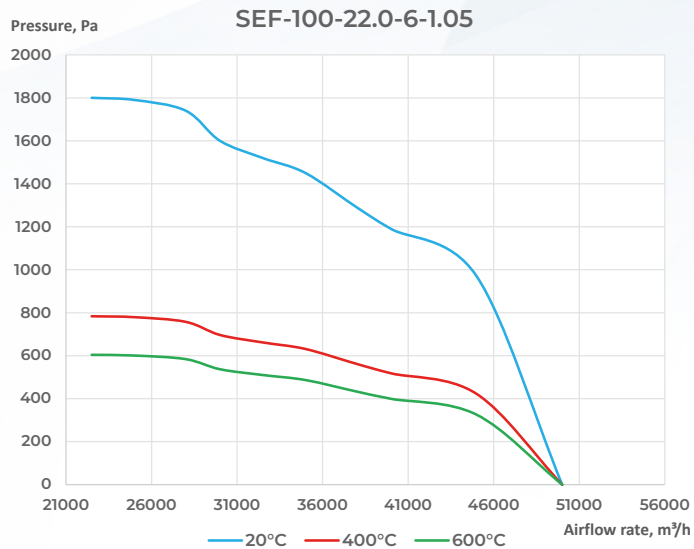






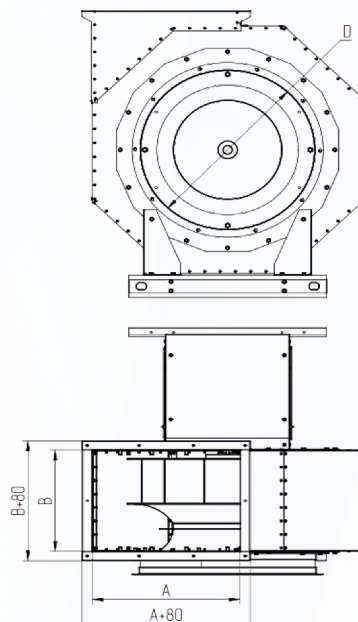




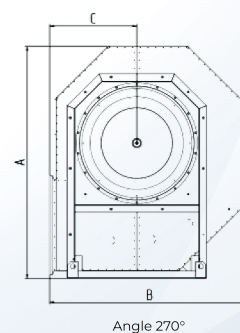
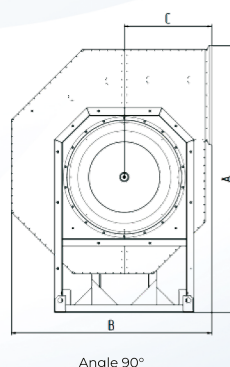
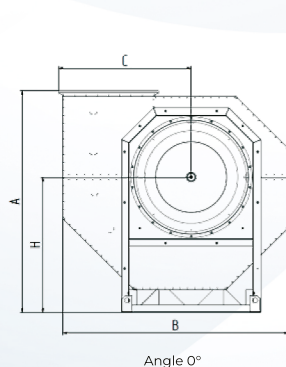
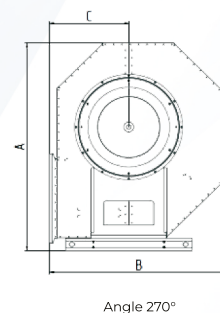
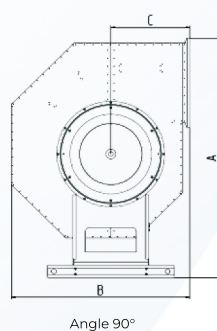
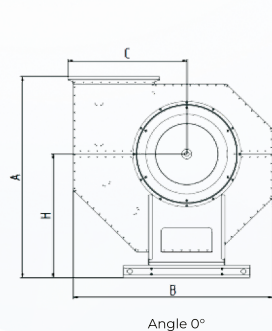


OVERALL DIMENSIONS OF FANS

Name	Inlet flange, D	A, mm	B, mm
SEF-40	449	315	254
SEF-45	499	360,5	280
SEF-50	560	400	320
SEF-56	630	450	350
SEF-63	709	504	400
SEF-71	709	570	450
SEF-80	799	640	500
SEF-90	899	721	570
SEF-100	1000	810	630
SEF-110	1119	890	790
SEF-112	1123	890	790



Name	Overall H, mm.	Angle 0°			Angle 90°			Angle 270°		
		Overall A, mm.	Overall B, mm.	Overall C, mm.	Overall A, mm.	Overall B, mm.	Overall C, mm.	Overall A, mm.	Overall B, mm.	Overall C, mm.
SEF-40	515	854	775	482	996	726	338	850	726	338
SEF-45	580	958	887	545	1125	822	378	962	822	378
SEF-50	640	1058	999	608	1248	919	418	1070	919	418
SEF-56	705	1164	1111	672	1377	1015	460	1184	1015	460
SEF-63	805	1310	1240	745	1550	1125	505	1340	1125	505
SEF-71	895	1455	1395	834	1730	1259	560	1496	1259	560
SEF-80	1000	1625	1576	937	1937	1414	625	1680	1414	625
SEF-90	1085	1782	1775	1050	2135	1584	696	1850	1584	696
SEF-100	1212	1988	1998	1177	2390	1777	777	2073	1777	777
SEF-112	1332	2183	2204	1295	2627	1955	851	2281	1955	851



TECHNICAL SPECIFICATIONS OF FANS

Fan size	Number of poles	Pnom, kW	Motor	Weight	Øf/Øn impeller	RPM	Max airflow
SEF 40	4	0,37	AIP63B4	71,4	0,9	1500	3500
SEF 40	4	0,55	AIP71A4	73,7	0,95	1500	4000
SEF 40	4	0,75	AIP71B4	75	1,05	1500	4400
SEF 40	4	1,1	AIP80A4	79	1,1	1500	5000
SEF 40	2	4	AIP100S2	104	1,0	2880	8500
SEF 45	4	1,1	AIP80A4	118	1	1390	6900
SEF 45	2	7,5	AIP112M2	140	1	2895	14416
SEF 50	4	1,1	AIP80A4	105	0,9	1390	7500
SEF 50	4	1,5	AIP80B4	119,8	0,95	1400	8000
SEF 50	4	1,5	AIP80B4	119	1	1400	10050
SEF 50	4	2,2	AIP90L4	111	1,05	1410	10000
SEF 50	6	1,1	AIP80B6	105	1,1	905	6500
SEF 50	4	3,0	AIP100S4	114	1,1	1410	9500
SEF 56	4	3	AIP100S4	156	1	1410	13950
SEF 63	6	1,1	AIP80B6	125	0,9	905	10000
SEF 63	4	3,0	AIP100S4	134,0	0,9	1410	14000
SEF 63	6	1,5	AIP90L6	131,2	0,95	920	10000
SEF 63	4	5,5	AIP112M4	195	1,0	1440	19600
SEF 63	4	5,5	AIP112M4	192,1	1,0	1440	19600
SEF 63	6	2,2	AIP100L6	141,3	1,05	935	12000
SEF 63	4	7,5	AIP132S4	172,0	1,05	1450	20000
SEF 63	6	3,0	AIP112MA6	114,0	1,1	960	14000
SEF 63	4	11	AIP132M4	191,0	1,1	1460	21000
SEF 71	4	11	AIP132M4	266	1	1460	28700
SEF 80	6	4	AIP112MB6	262,3	0,95	960	16000
SEF 80	6	5,5	AIP132S6	338	1	960	26485
SEF 80	8	3,0	AIP112MB8	245,3	1,05	750	17000
SEF 80	6	7,5	AIP132M6	283,3	1,05	970	20000
SEF 80	8	4,0	AIP132S8	264	1,1	720	18000
SEF 80	6	11,0	AIP160S6	323,5	1,1	970	28000
SEF 80	4	15	AIP160S4	351	1,0	1460	40500
SEF 90	4	30	AIP180M4	621	1	1470	58515
SEF 90	6	11	AIP160S6	551	1	970	39200
SEF 100	8	5,5	AIP132M8	486	0,95	720	30000
SEF 100	6	15	AIP160M6	557,3	0,95	970	40000
SEF 100	6	15	AIP160M6	692,8	1,0	970	55000
SEF 100	8	11	AIP160M8	550	1,05	730	34000
SEF 100	6	22	AIP200M6	640,2	1,05	980	50000
SEF 100	8	15	AIP180M8	572,0	1,1	730	38000
SEF 110	8	11	AIP160M8	632,1	0,95	730	38000
SEF 110	6	22	AIP200M6	713,3	0,95	980	60000
SEF 110	6	30	AIP200I6	981	1,0	980	75500
SEF 112	6	45	AIP250S6	1180,6	1,0	980	85248

SEF-M SMOKE EXTRACTION FANS

Fans are used in accordance with the requirements of DBN V.2.5-67:2013 and DBN B.1.1-7:2016 in exhaust smoke ventilation systems for the removal of combustion products (smoke and gases) that arise during fires in buildings and structures of various types.

APPLICATION

SEF-M fan of standard design is intended for removing combustion products generated during a fire, as well as for moving air and other non-aggressive gas mixtures in general exchange ventilation systems.

Depending on the operating conditions, fans can be manufactured in the following versions:

○ SEF-M FAN:

Standard version for the removal of combustion products arising during fires, as well as for moving air and other non-aggressive gas mixtures in general exchange ventilation systems.

○ SEF-M-E FAN:

Explosion-proof version.

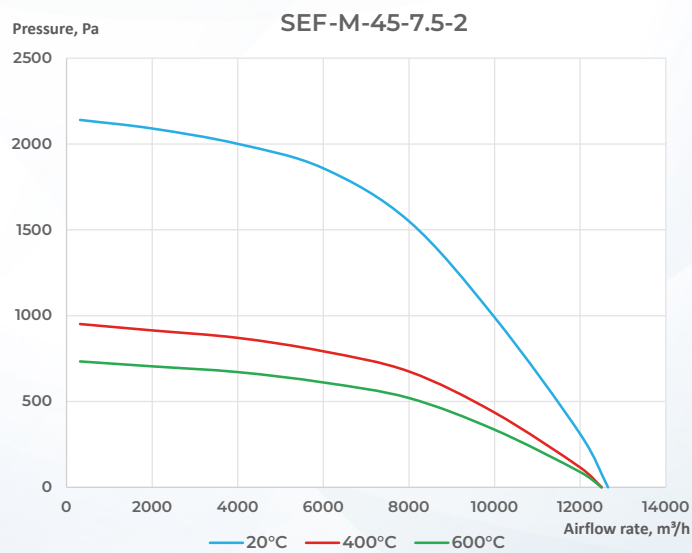
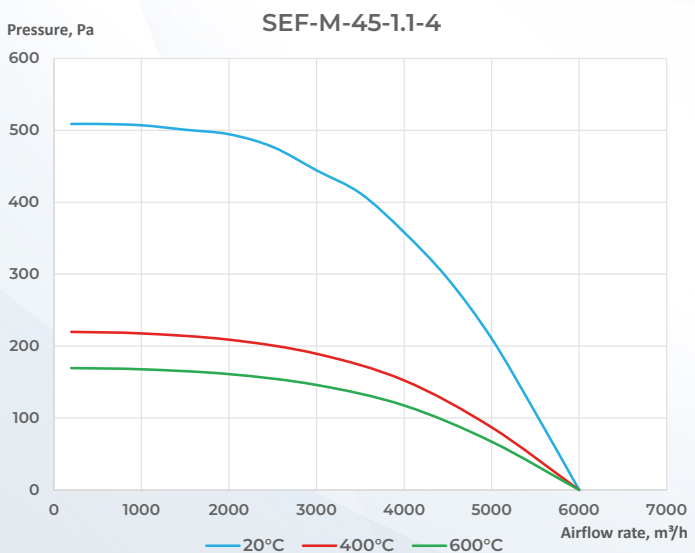
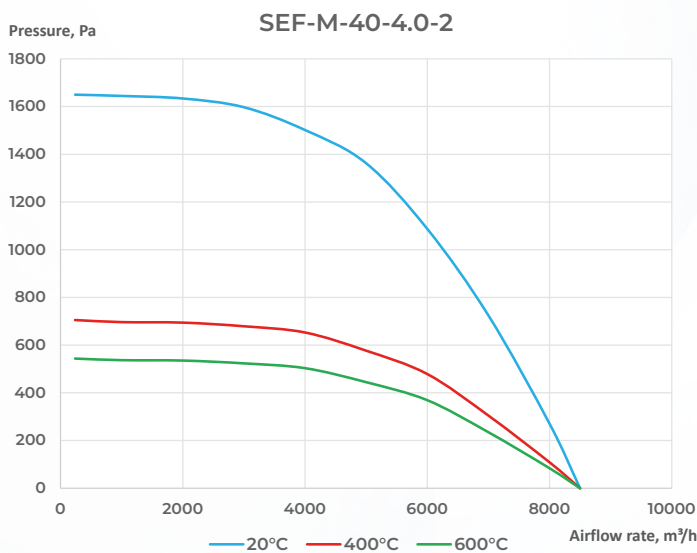
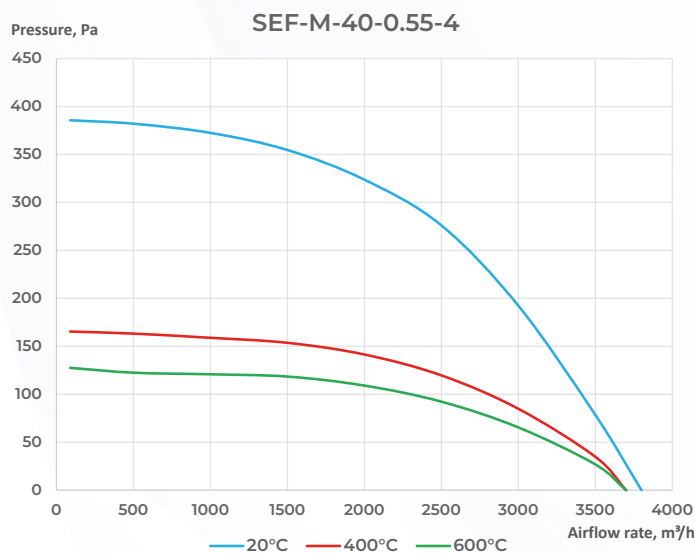
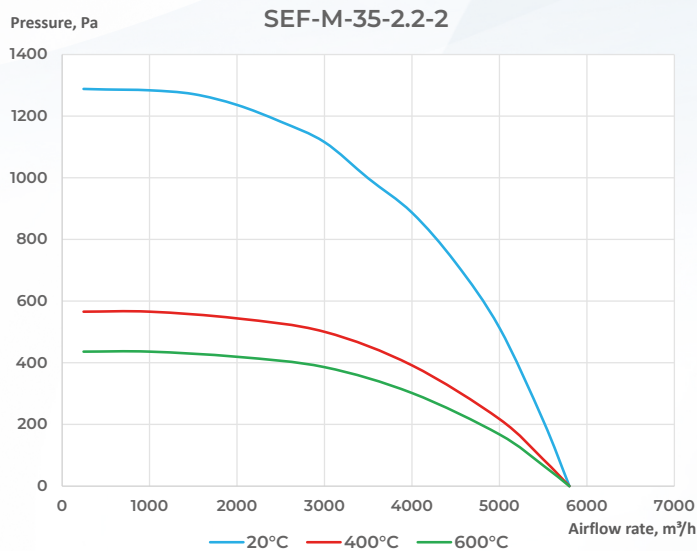
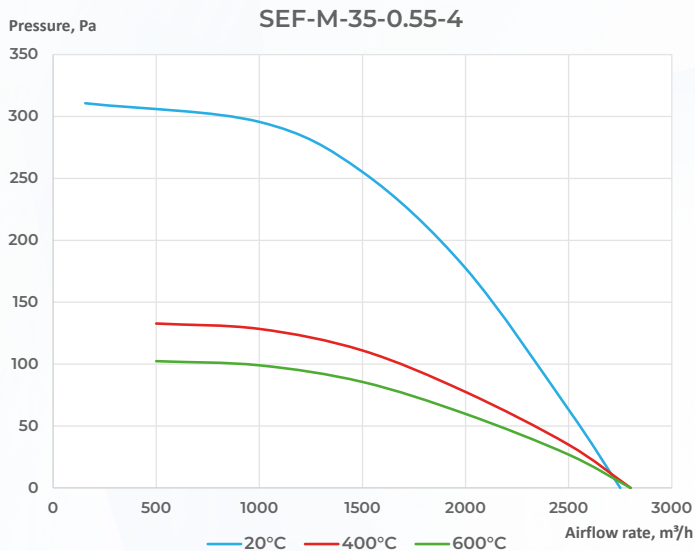
OPERATING CONDITIONS

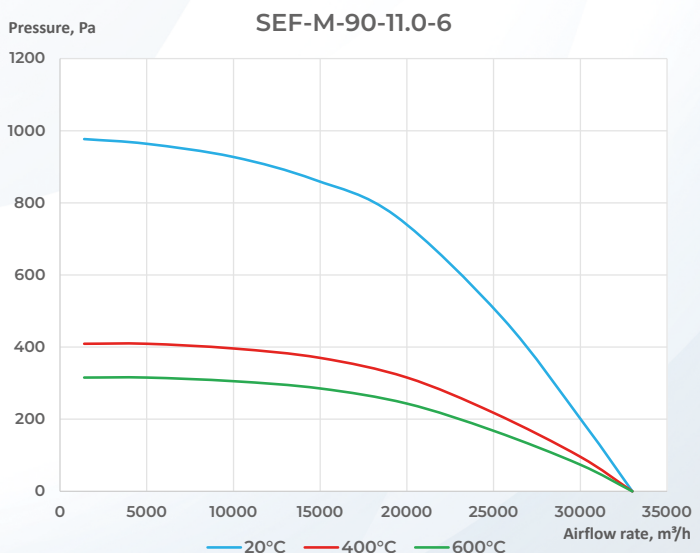
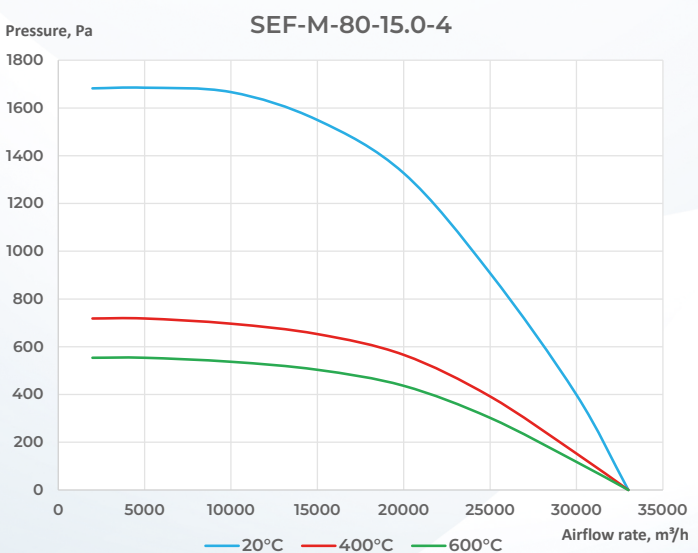
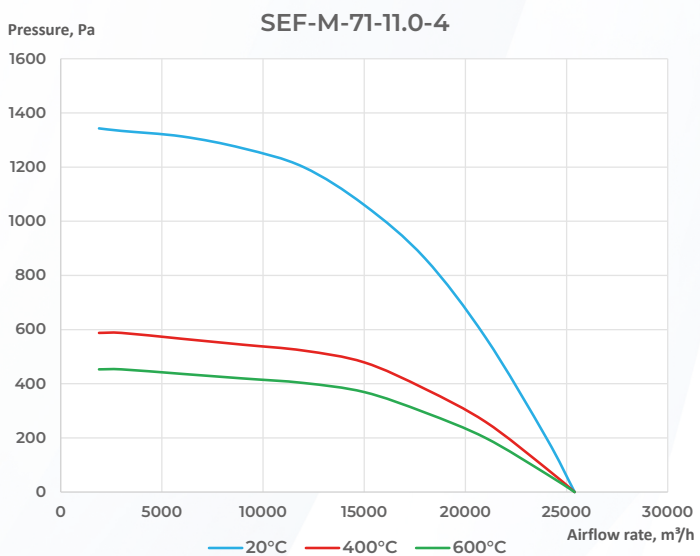
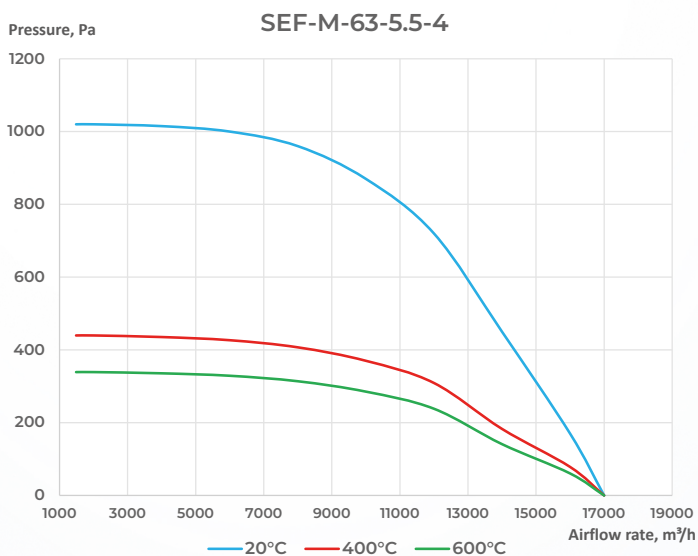
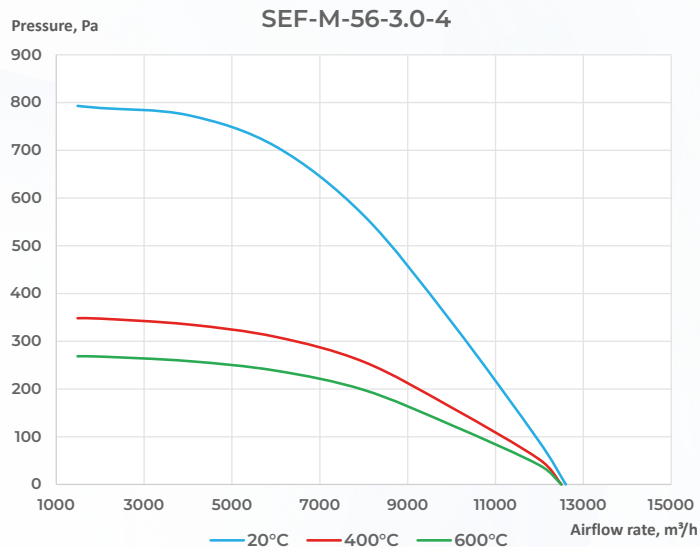
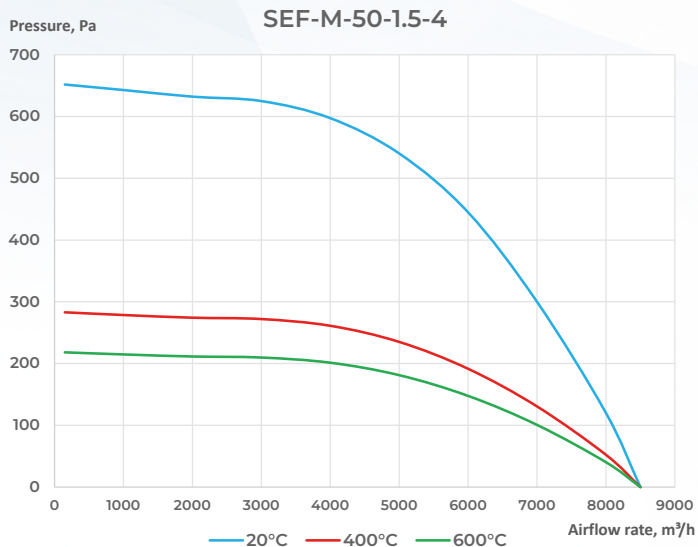
Depending on their version, the fans can move gases with a temperature of up to 400°C for 120 minutes (minimum) or up to 600°C for 120 minutes (minimum).

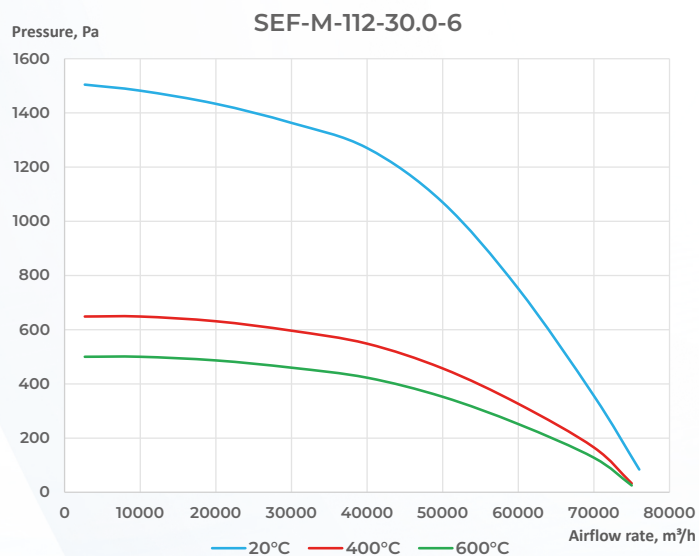
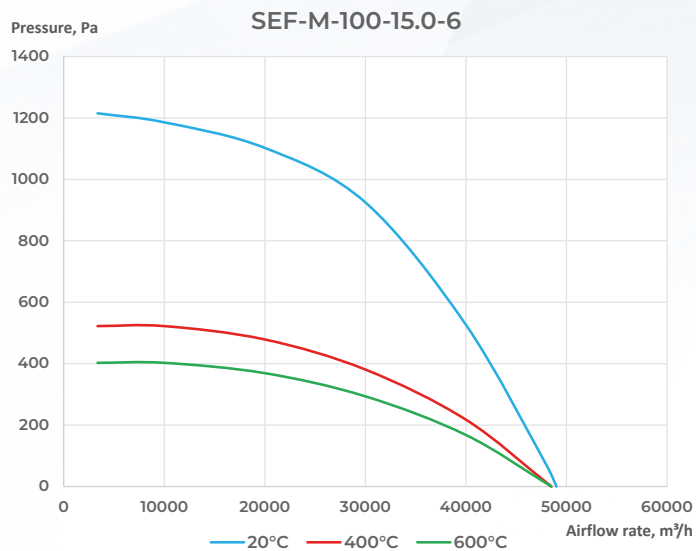
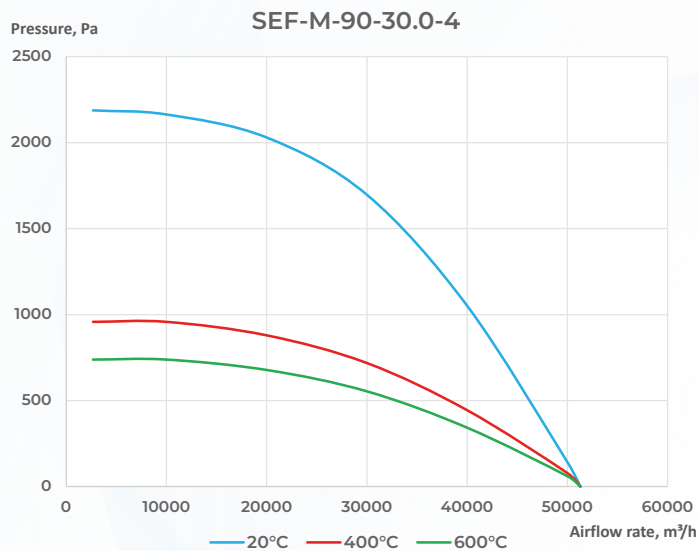
The average square value of vibration resistance from external sources at fan installation sites must not exceed 2 mm/s. The fan must be installed outside zones of prolonged human presence.

ADDITIONAL EQUIPMENT:

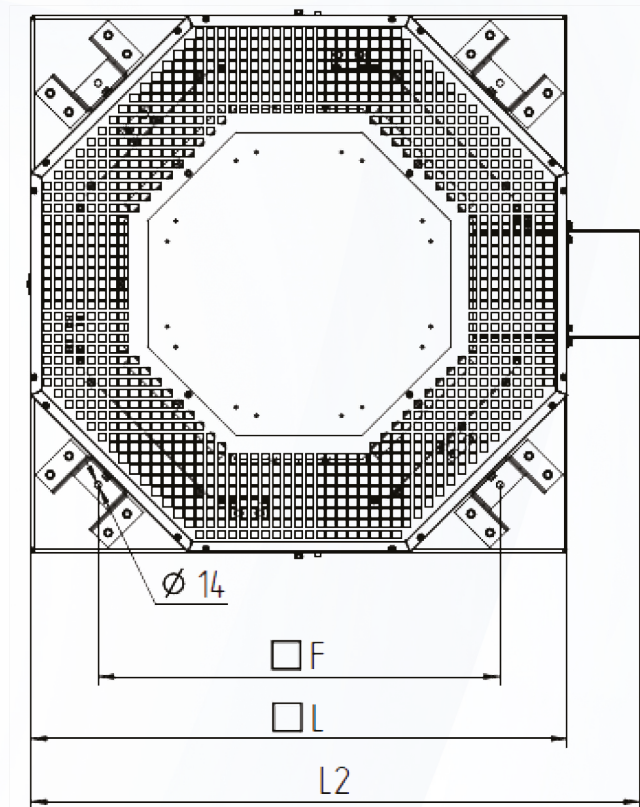
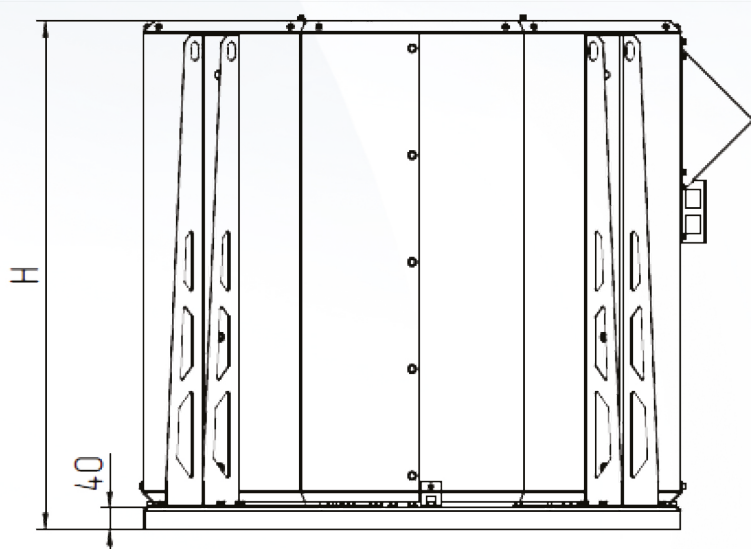
- Mounting sleeve;
- Drip tray;
- Frequency converter;
- Soft starter;
- Control automation.







OVERALL DIMENSIONS OF FANS



Model	Dimensions, mm			
	L	L2	H	F
35	610	790	700	480
40	670	840	792	530
45	720	865	850	580
50	820	985	914	630
56	900	1070	936	690
63	1008	1144	955	755
71	1136	1290	1076	840
80	1280	1490	1203	1005
90	1440	1635	1388	1050
100	1600	1830	1453	1220
112	1792	2020	1601	1350

TECHNICAL CHARACTERISTICS OF FANS

Fan size	Number of poles	Pnom, kW	Rated current, A	RPM	Airflow, m ³ /h	Weight, kg
35	2	2,2	4,85	2855	5800	62
	4	0,55	1,34	1431	2800	56
40	2	4	8,2	2880	8500	96
	4	0,55	1,34	1431	3800	67
45	2	7,5	14,9	2895	12650	126
	4	1,1	2,75	1390	6000	92
50	4	1,5	3,72	1400	8500	102
56	4	3	6,8	1410	12600	146
63	4	5,5	11,7	1440	17000	206
71	4	11	22,5	1460	25400	286
80	4	15	30	1460	33000	403
90	4	30	57,6	1470	51300	524
	6	11	24,5	970	33000	465
100	6	15	31,6	970	49000	580
112	6	45	59,3	980	76000	892

SEF-R SMOKE EXTRACTION FANS

Fans are used in accordance with the requirements of DBN V.2.5-67 and DBN B.1.1-7 in exhaust smoke ventilation systems for the removal of combustion products (smoke and gases) that arise during fires in buildings and structures of various types.

APPLICATION

SEF-R fan of standard design is intended for removing combustion products generated during a fire, as well as for moving air and other non-aggressive gas mixtures in general exchange ventilation systems.

Depending on the operating conditions, fans can be manufactured in the following versions:

○ SEF-R FAN:

Standard version for the removal of combustion products arising during fires, as well as for moving air and other non-aggressive gas mixtures in general exchange ventilation systems.

○ SEF-R-E FAN:

Explosion-proof version.

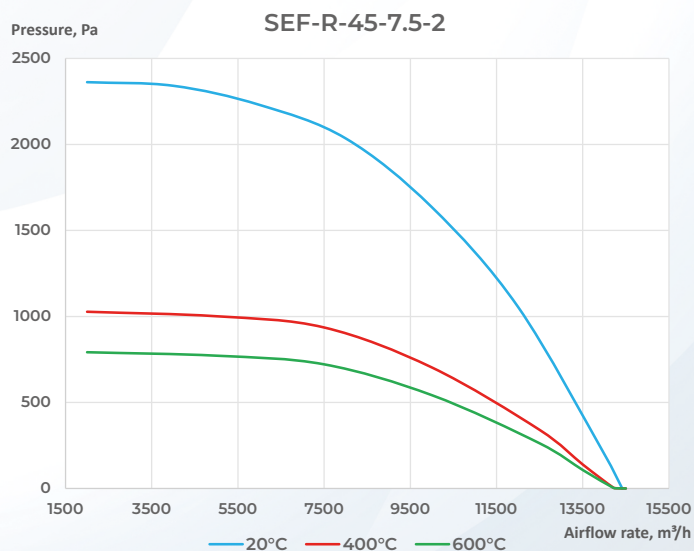
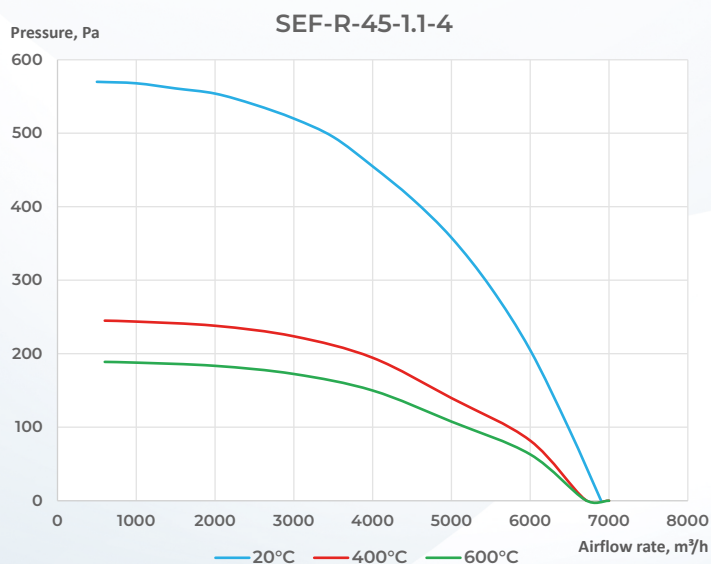
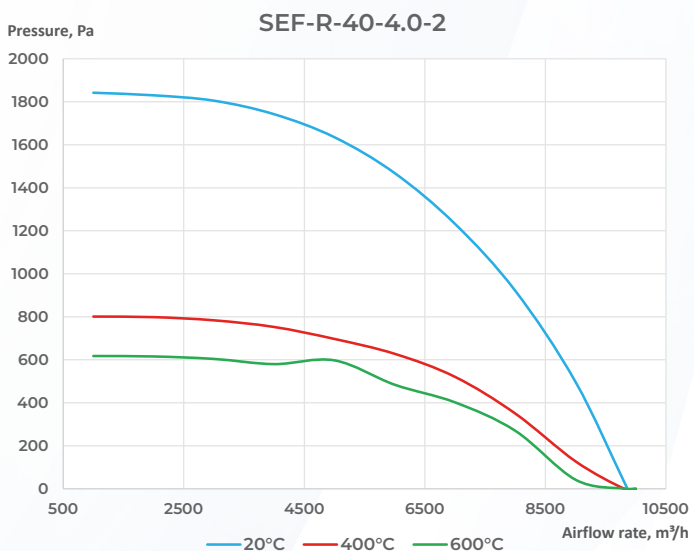
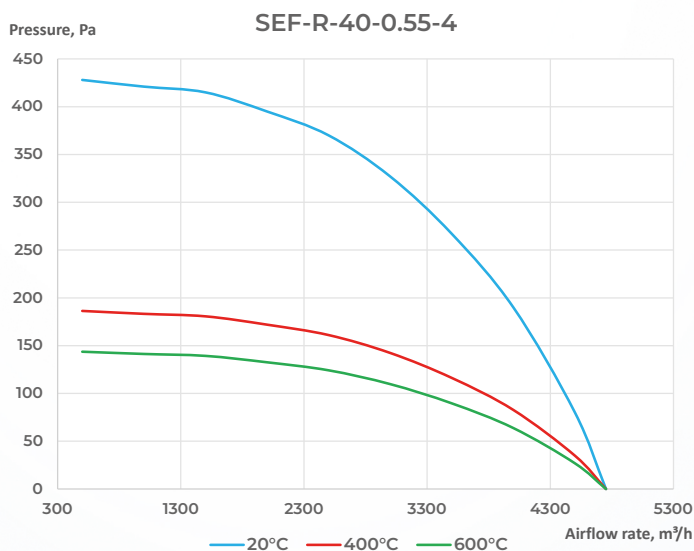
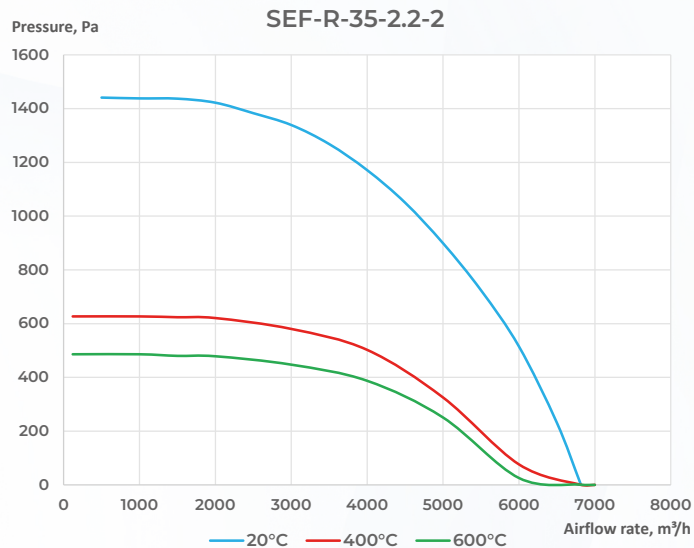
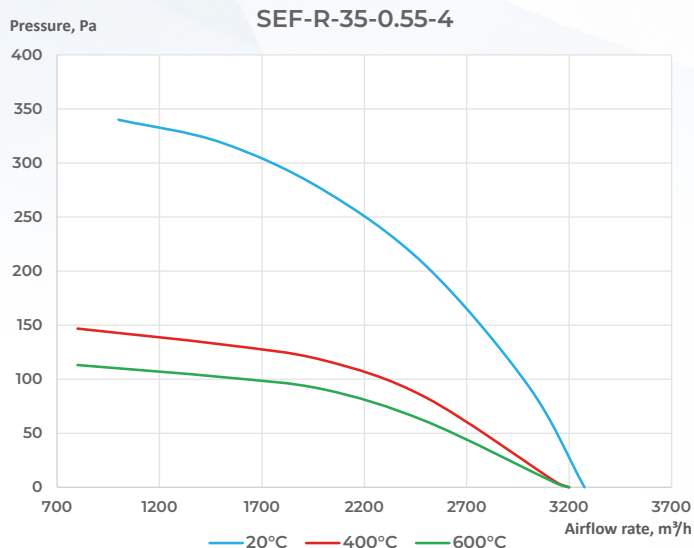
OPERATING CONDITIONS

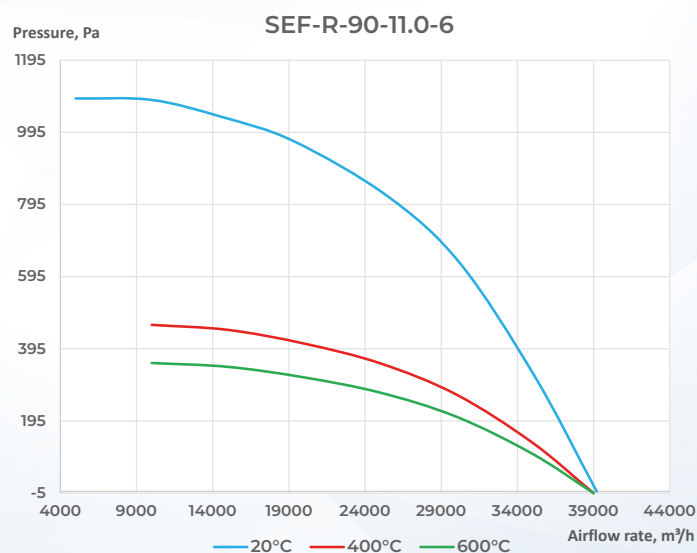
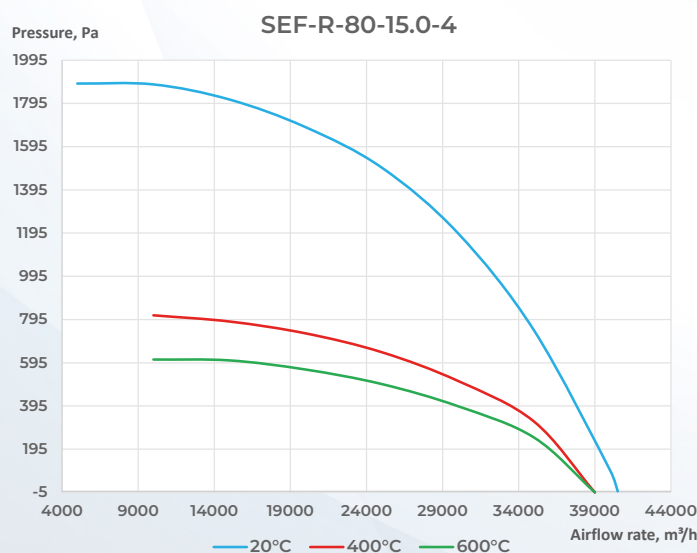
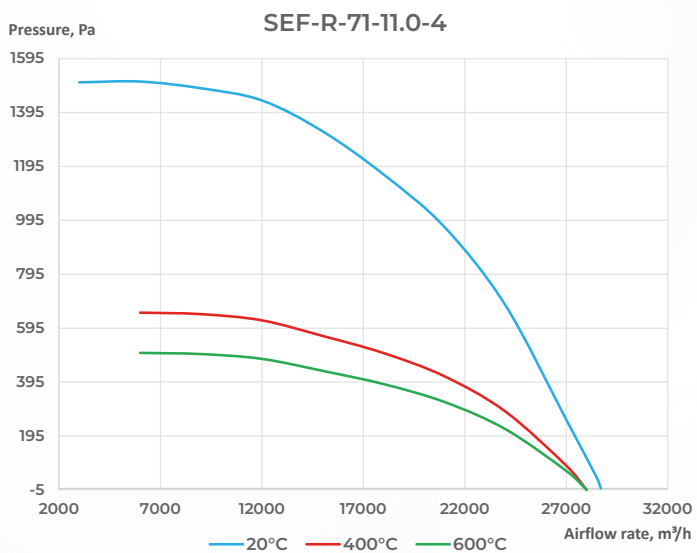
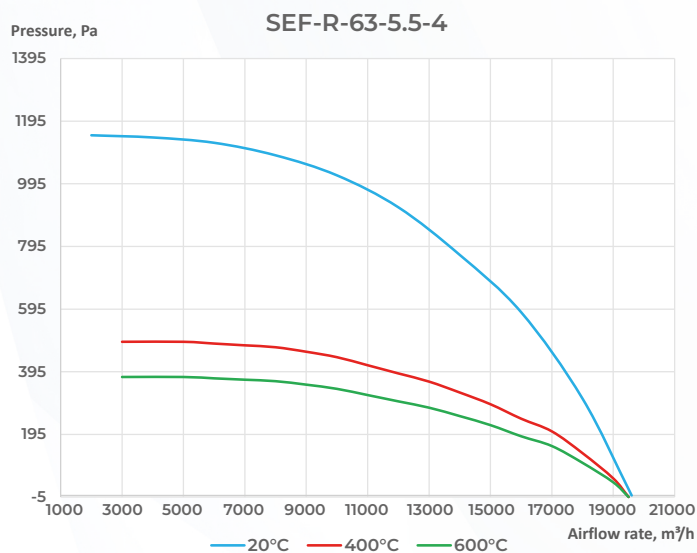
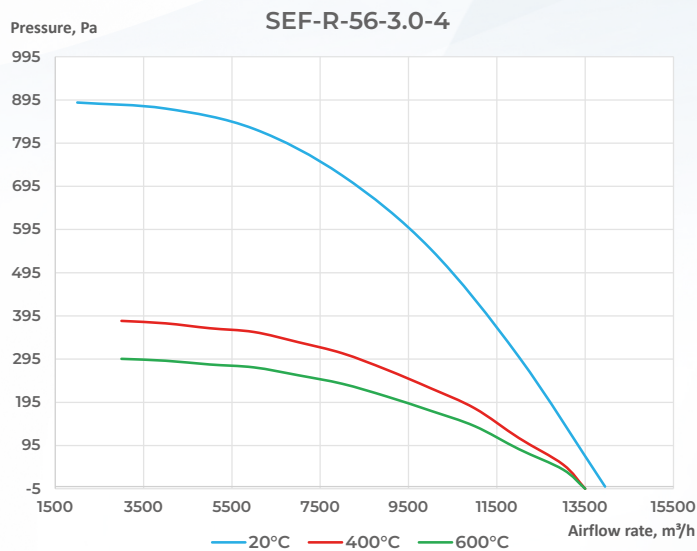
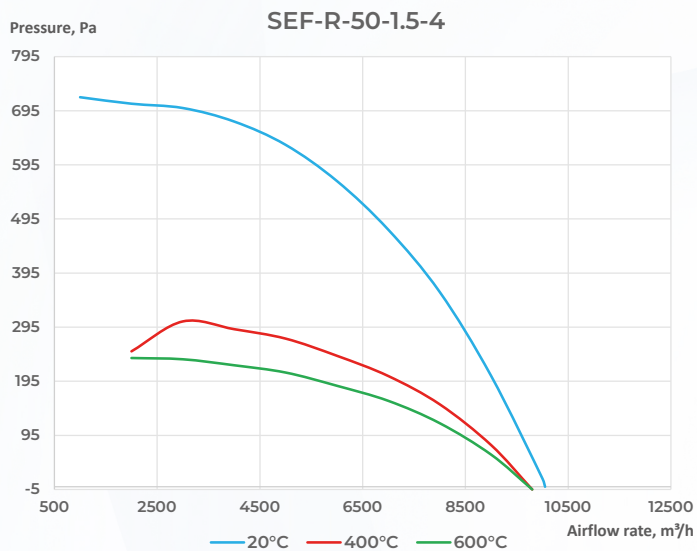
Depending on their version, the fans can move gases with a temperature of up to 400°C for 120 minutes (minimum) or up to 600°C for 120 minutes (minimum).

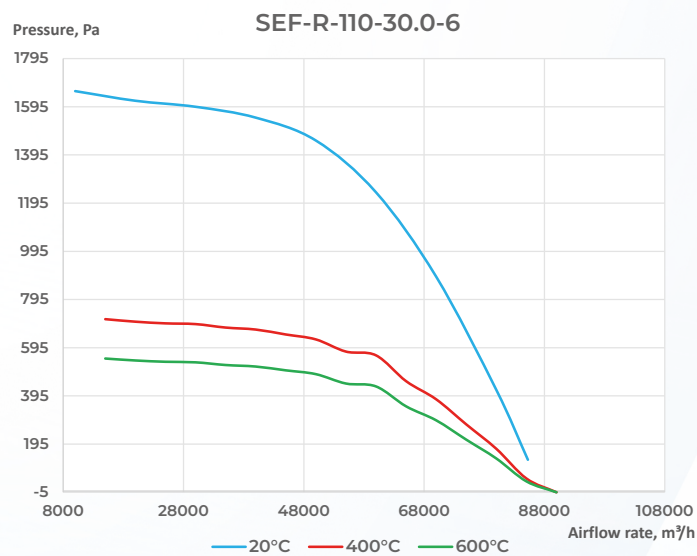
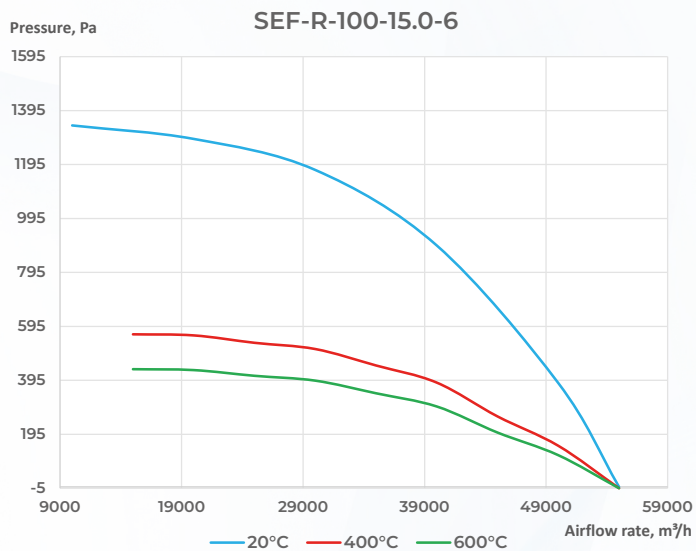
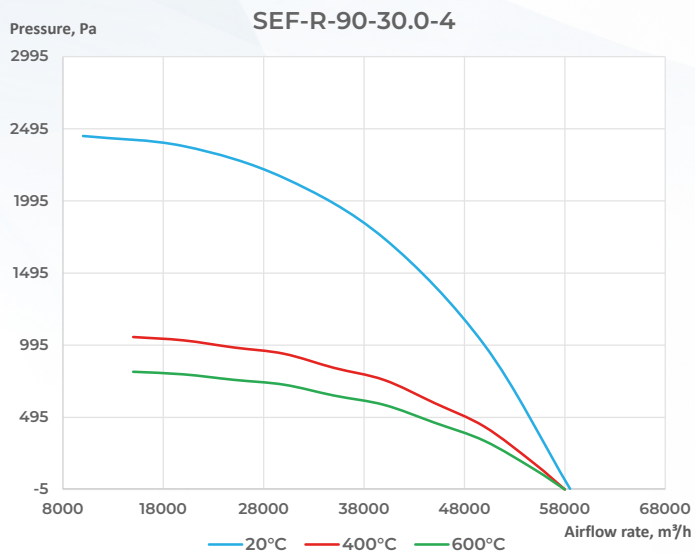
The average square value of vibration resistance from external sources at fan installation sites must not exceed 2 mm/s. The fan must be installed outside zones of prolonged human presence.

ADDITIONAL EQUIPMENT:

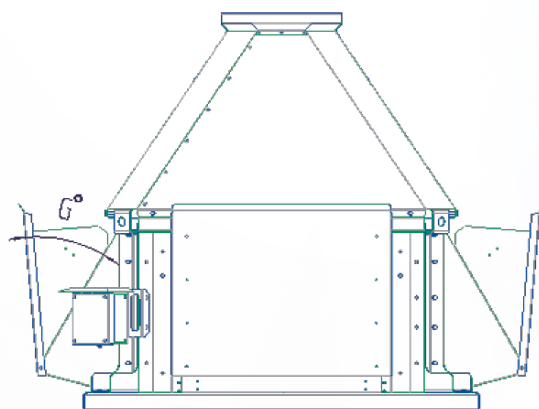
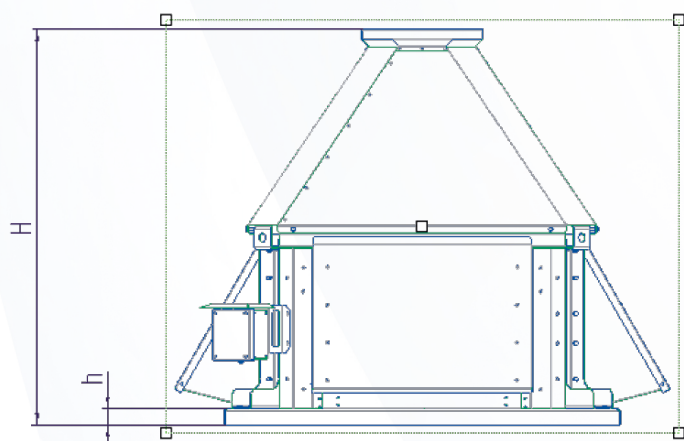
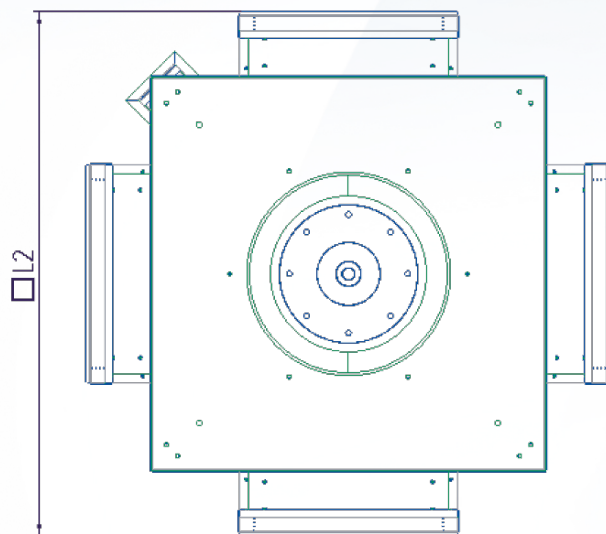
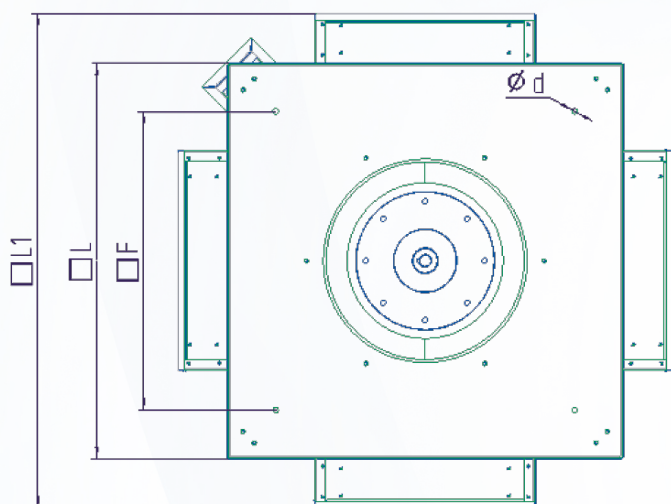
- Mounting sleeve;
- Drip tray;
- Frequency converter;
- Soft starter;
- Control automation.







OVERALL DIMENSIONS OF FANS



Fan size		35	40	45	50	56	63	71	80	90	100	112
Dimensions	H, mm	661	750	830	750	847	937	1064	1217	1402	1343	1615
	h, mm	40	40	40	40	40	40	40	40	40	40	40
	L1, mm	792	876	1003	1131	1228	1360	1516	1778	1970	2210	2514
	L2, mm	831	921	710	1076	1168	1290	1437	1684	1862	2095	2374
	L, mm	620	670	720	820	880	950	1100	1250	1300	1470	1600
	F, mm	480	530	580	630	690	755	840	1005	1050	1220	1350
	d, mm	14	14	14	14	14	14	14	14	14	14	14
	G, degrees	35	35	35	35	35	35	35	35	35	35	35

TECHNICAL CHARACTERISTICS OF FANS

Fan size	Number of poles	Pnom, kW	Rated current, A	RPM	Airflow, m³/h	Weight, kg
35	2	2,2	4,85	2855	6800	62
	4	0,55	1,34	1431	3200	56
40	2	4	8,2	2880	9800	96
	4	0,55	1,34	1431	4800	67
45	2	7,5	14,9	2895	14300	126
	4	1,1	2,75	1390	6700	92
50	4	1,5	3,72	1400	9800	102
56	4	3	6,8	1410	13500	146
63	4	5,5	11,7	1440	19500	206
71	4	11	22,5	1460	28000	286
80	4	15	30	1460	40000	403
90	4	30	57,6	1470	58000	524
	6	11	24,5	970	42000	465
100	6	15	31,6	970	55500	580
112	6	30	59,3	980	85500	892

AF SERIES AXIAL FANS

Fans are installed in supply ventilation systems to create excess pressure and supply atmospheric air into the premises.

APPLICATION

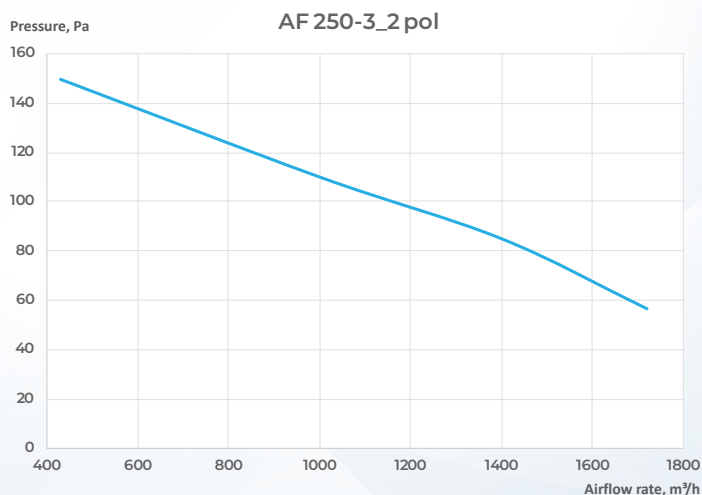
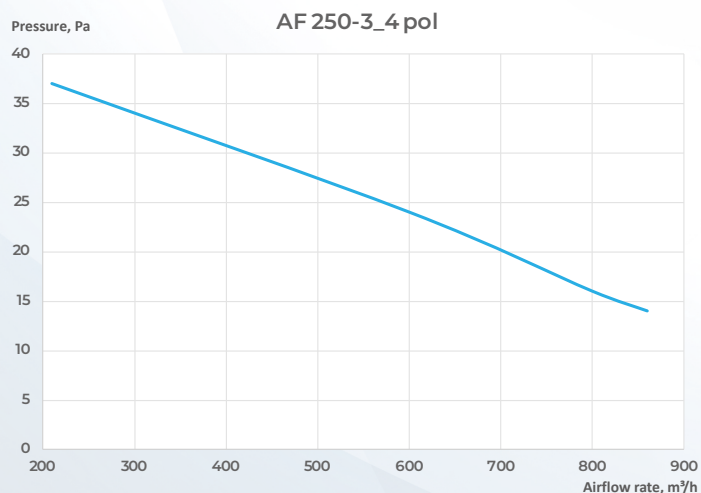
Fans are used in stationary systems of ventilation, air conditioning, and air heating of residential, public, and industrial buildings with a centralized air duct network.

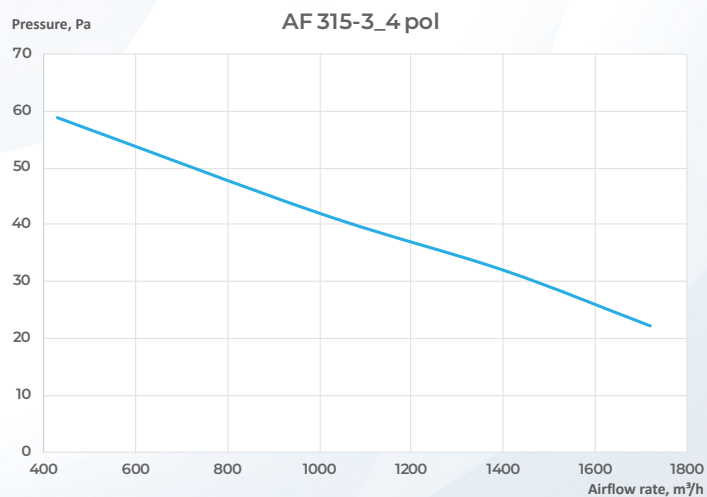
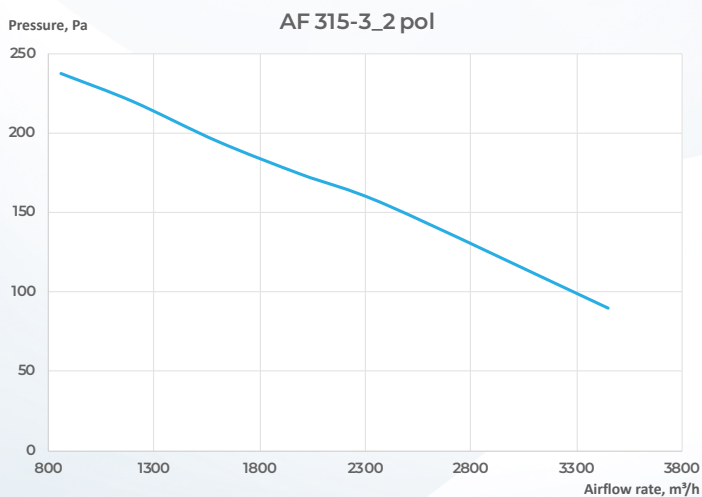
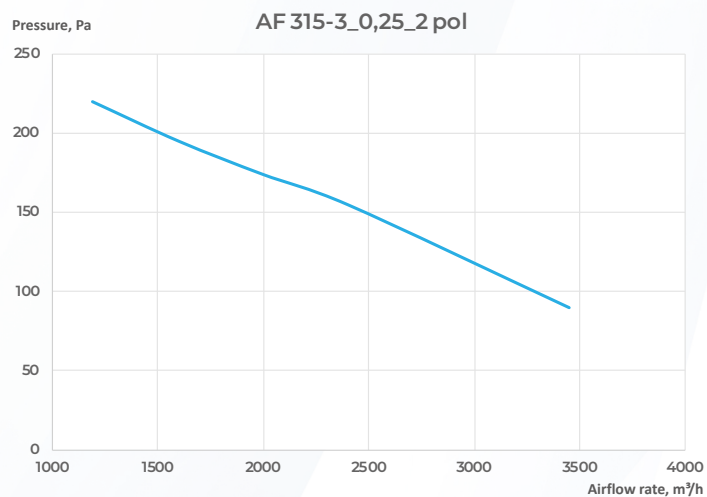
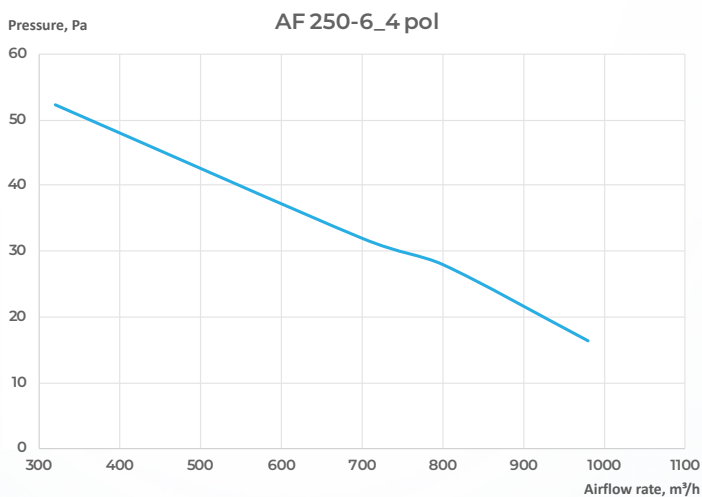
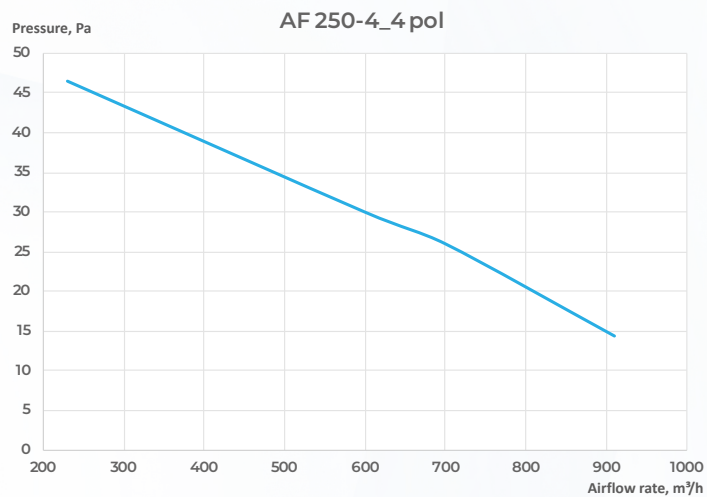
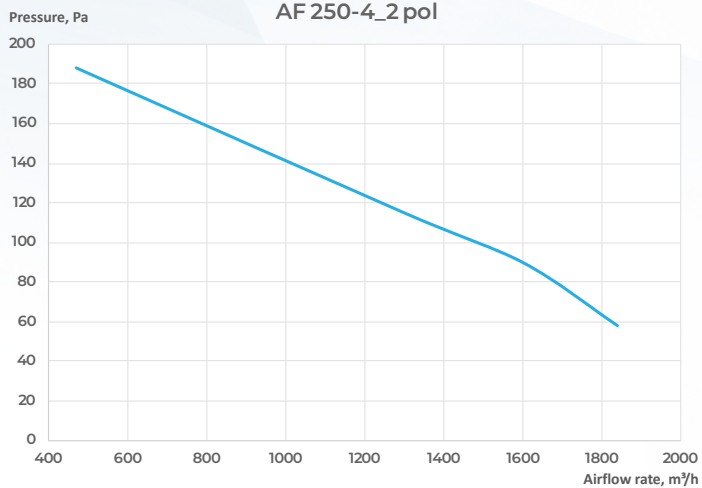
FEATURES:

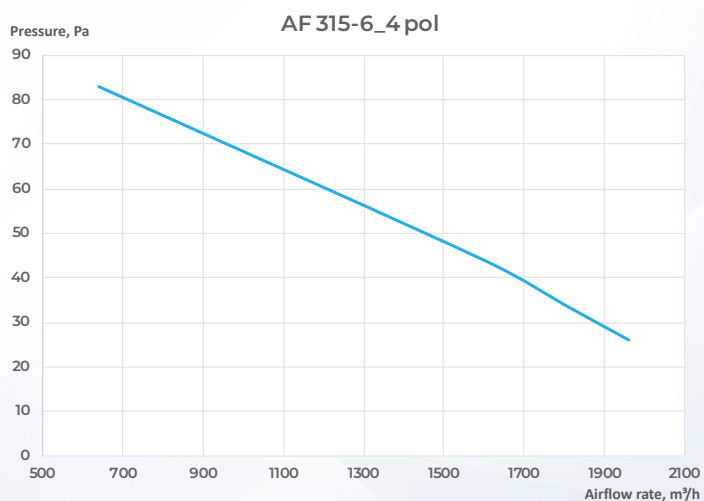
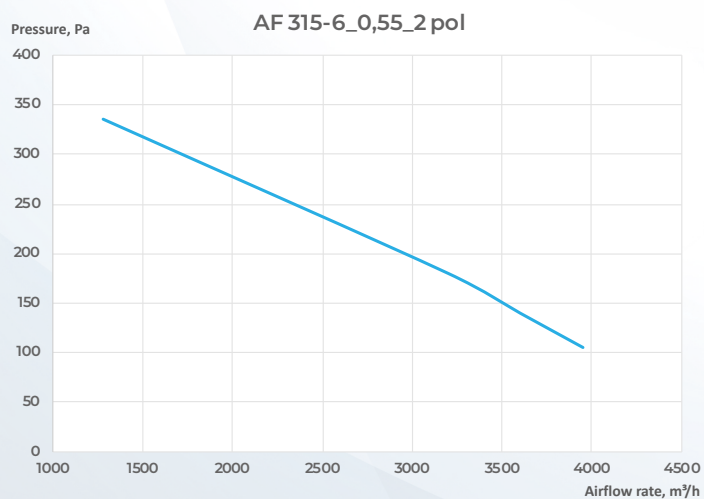
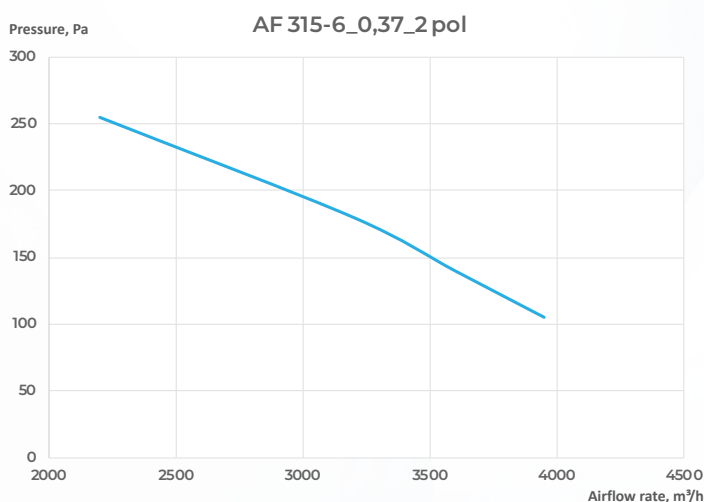
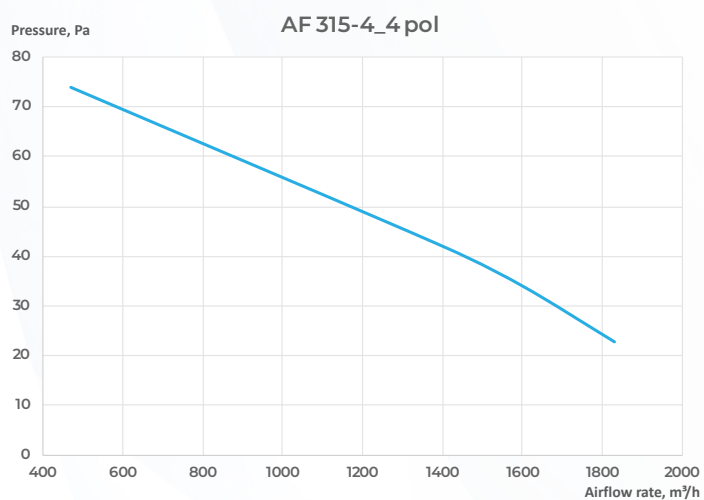
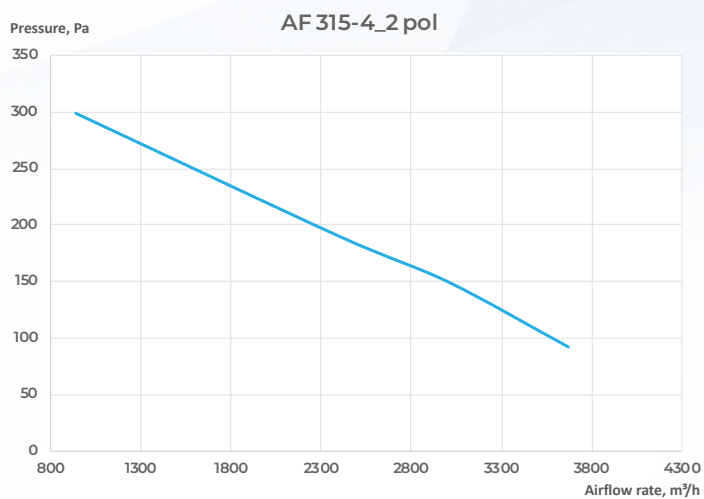
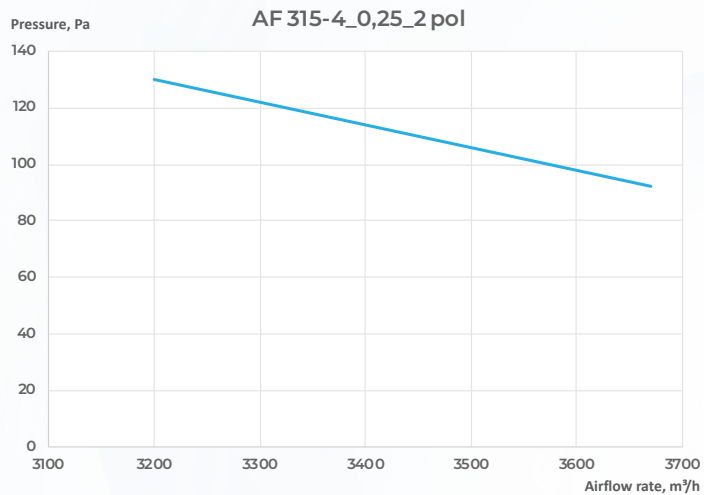
- When selecting the drive motor, its climate version and placement category, corresponding to the equipment's operating conditions, must be considered.
- Parallel operation of several fans without network regulating elements is not recommended.
- Under normal conditions, the transported medium must not contain sticky substances, fibrous materials, vapors or dust, or be aggressive toward carbon steel beyond standard limits, and must not contain dust or other solid impurities in concentrations over 10 mg/m^3 .

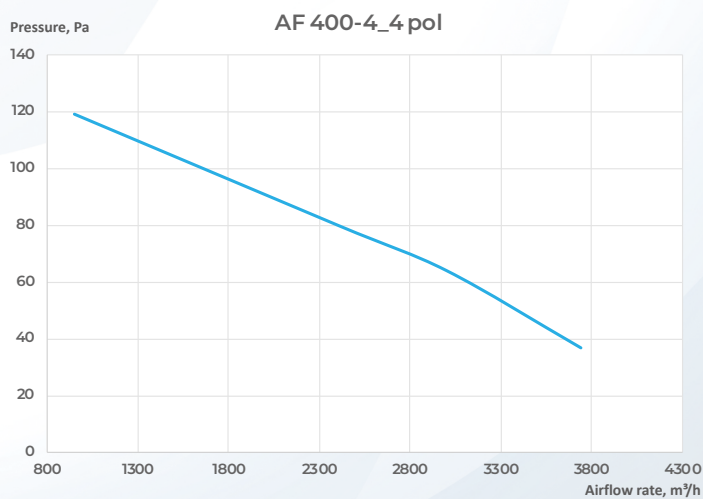
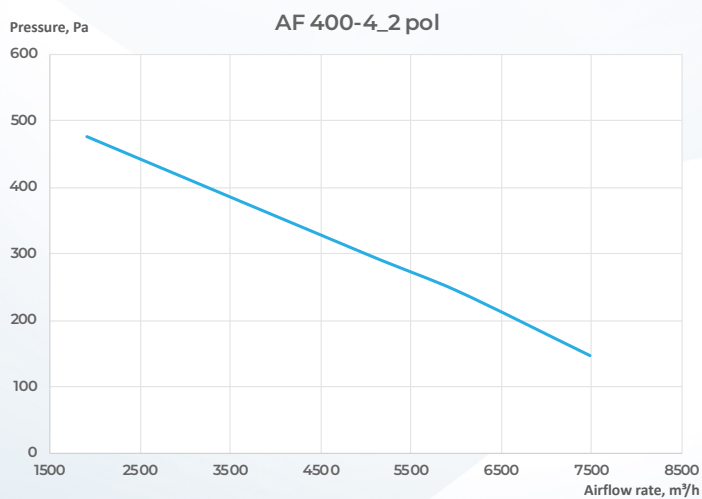
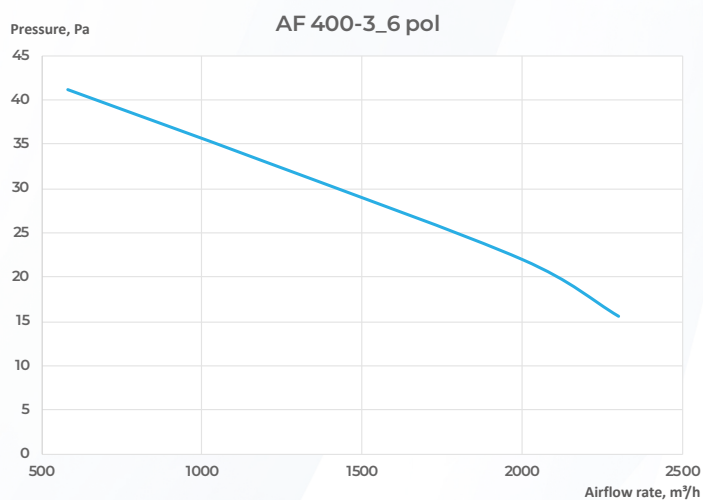
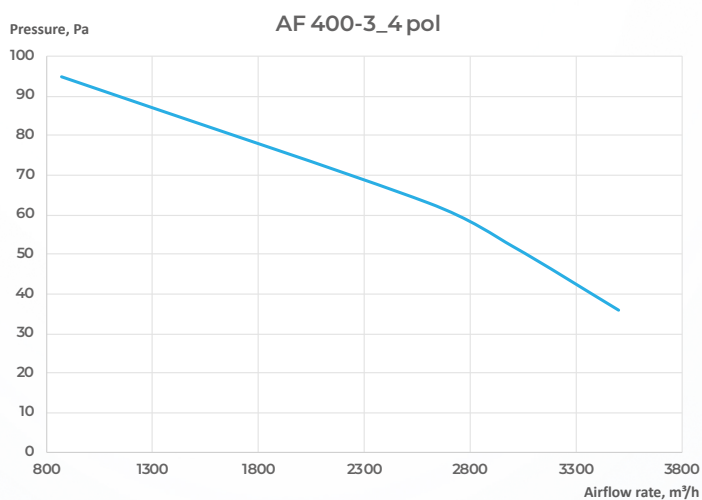
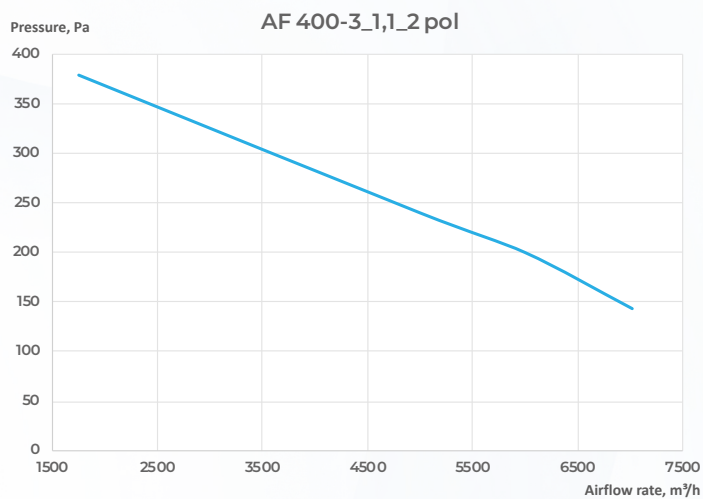
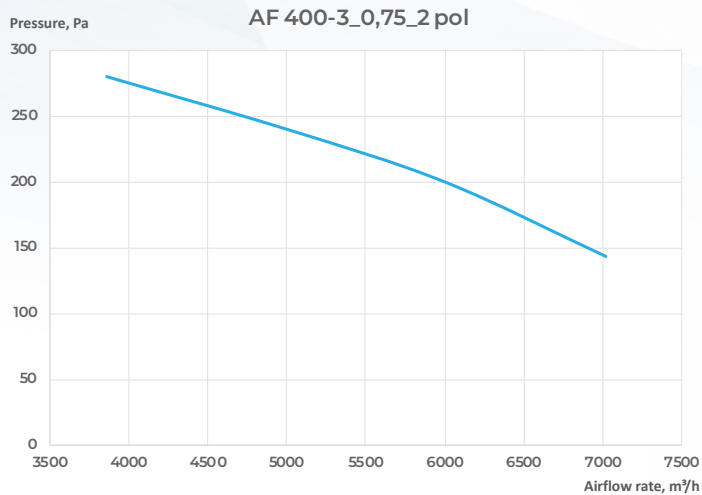
The fans consist of a housing with a circular cross-section, inside which is an impeller with blades. The impeller is mounted directly on the motor rotor.

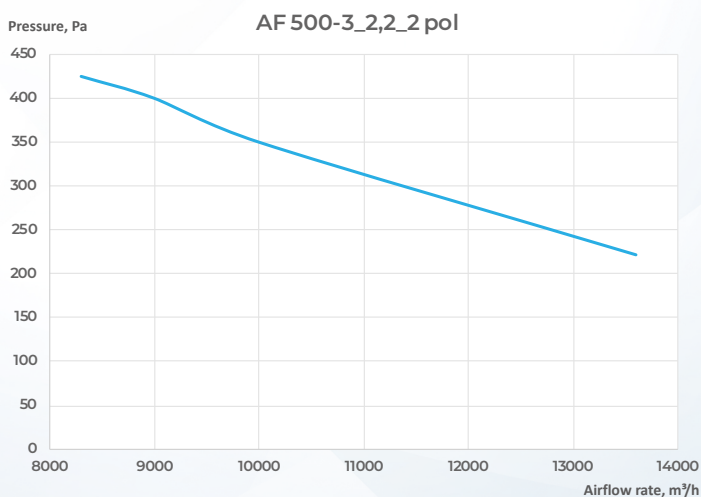
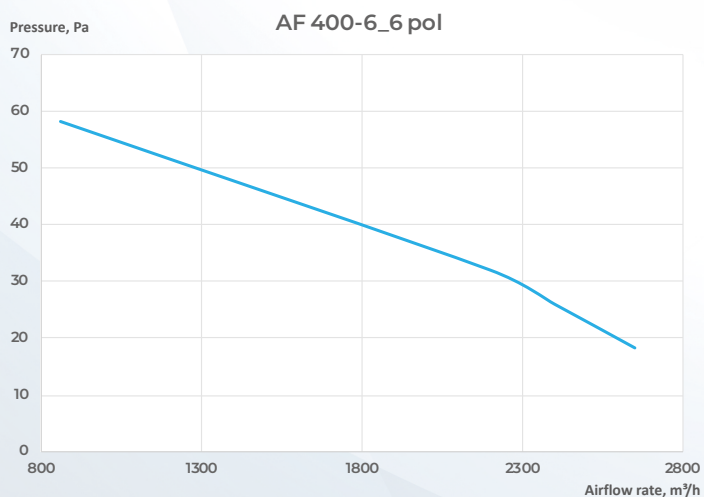
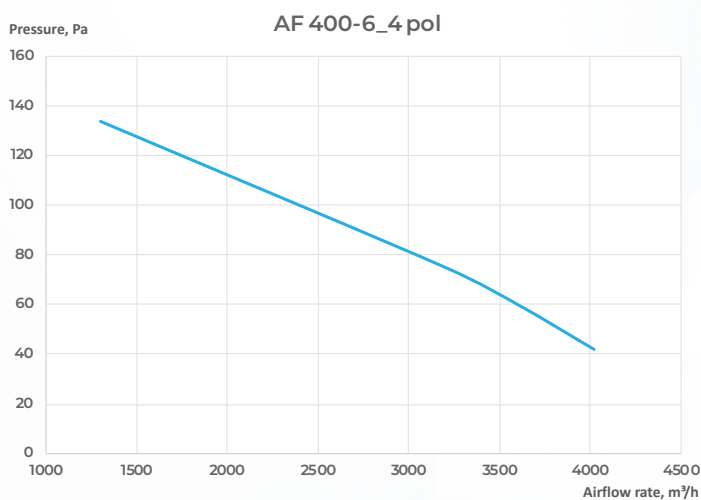
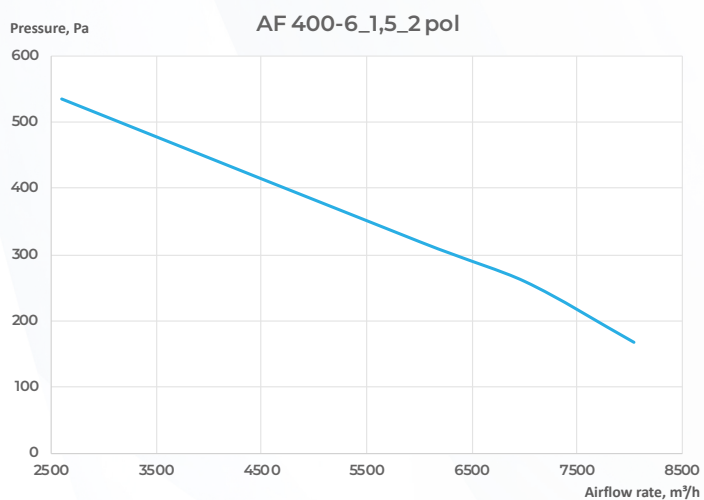
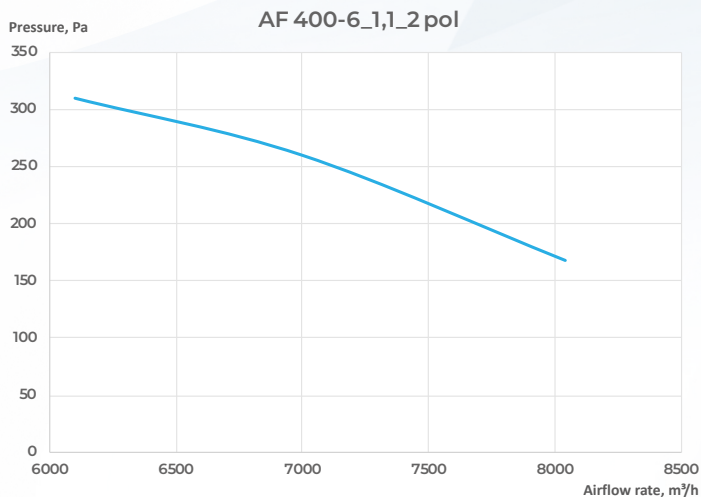
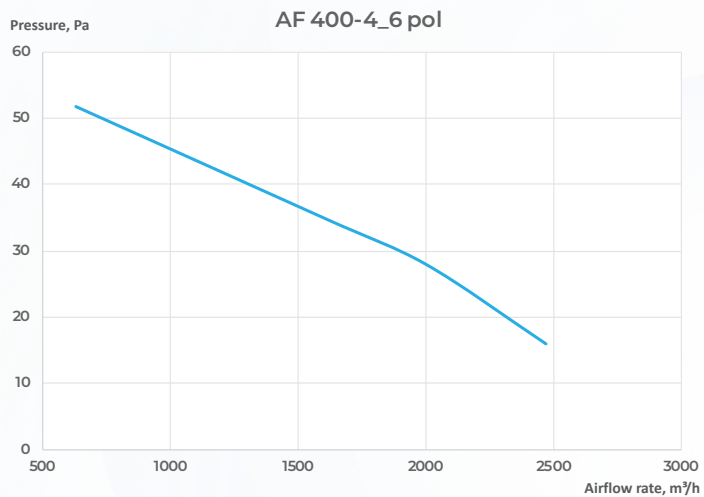
The fan moves the gas-air mixture by transferring energy from the impeller. The intake flow goes directly to the impeller and is discharged into the ventilation system or the room.

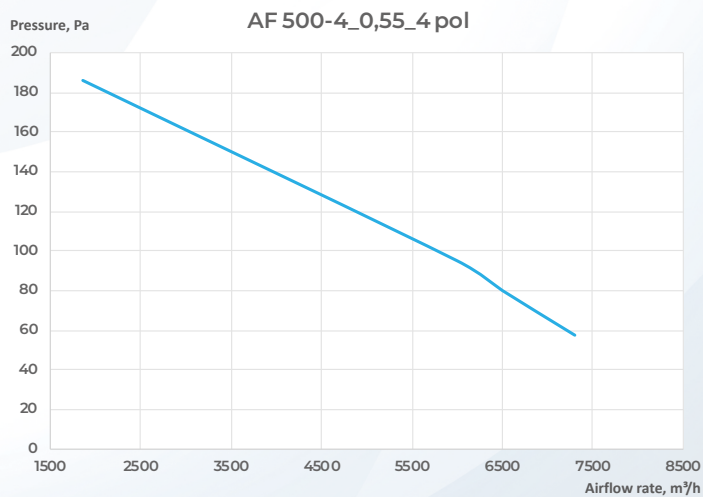
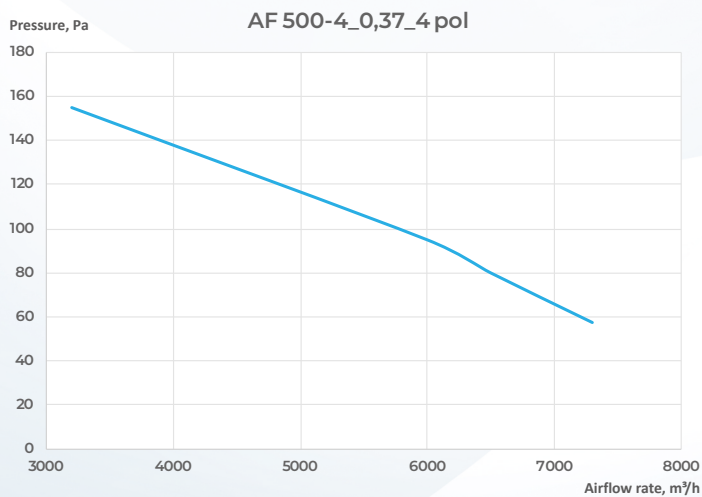
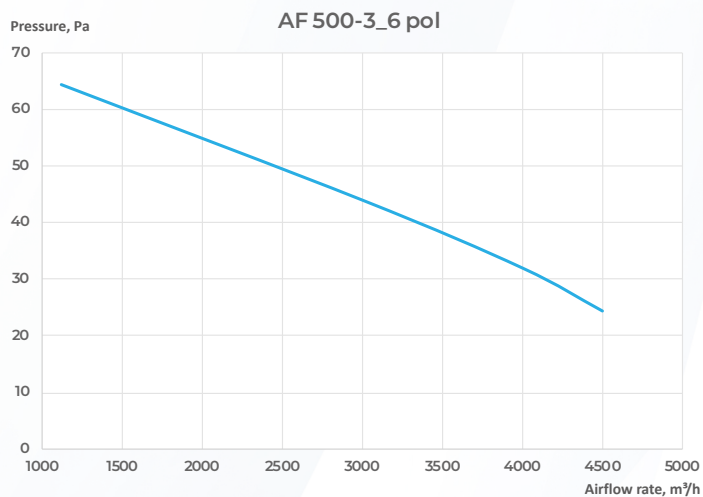
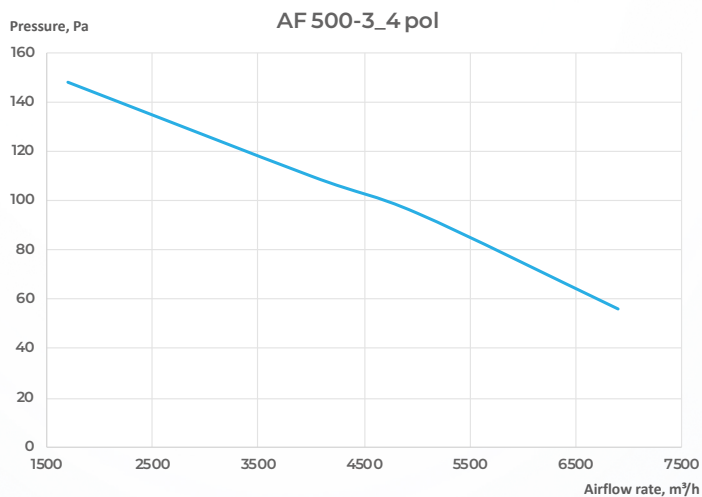
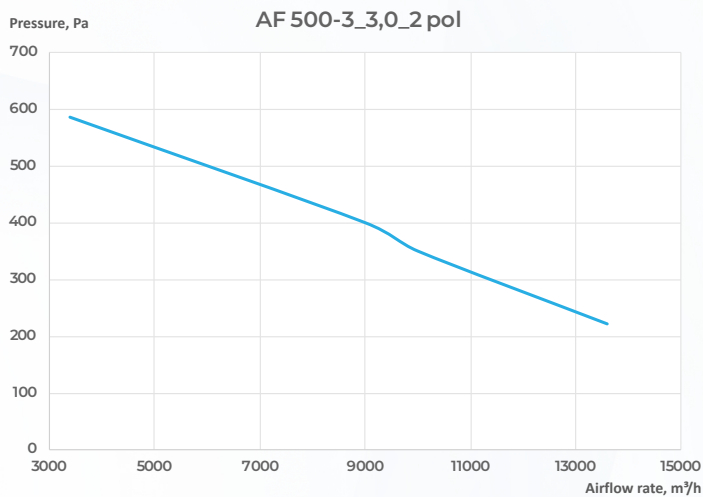
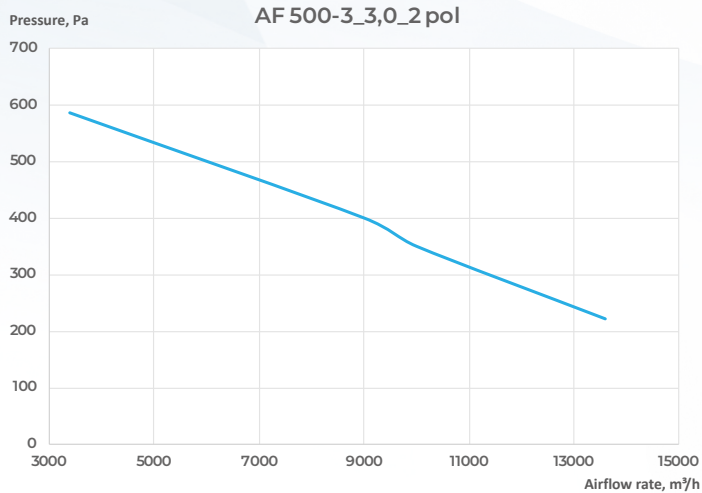


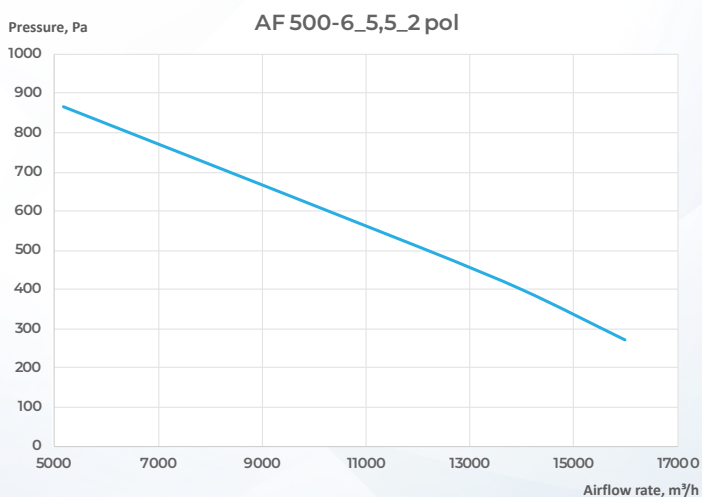
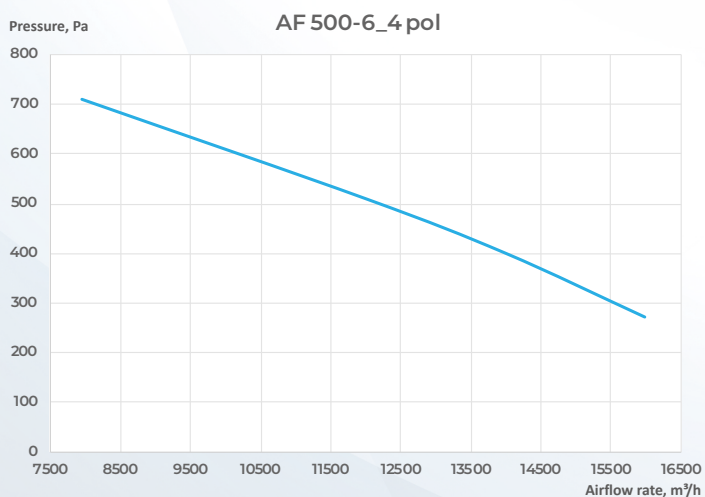
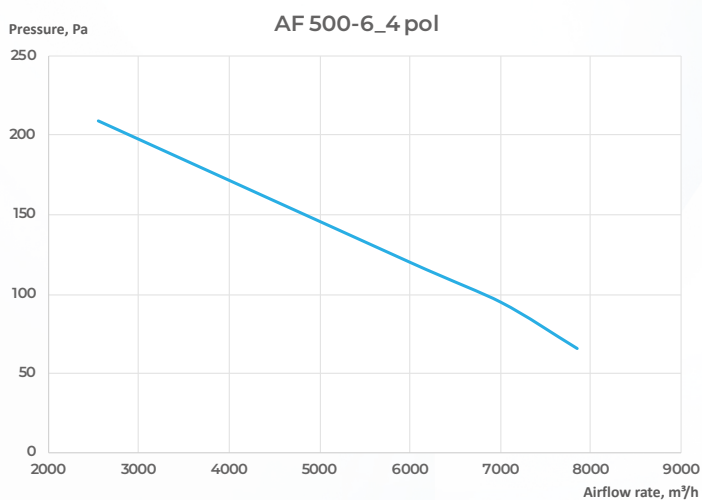
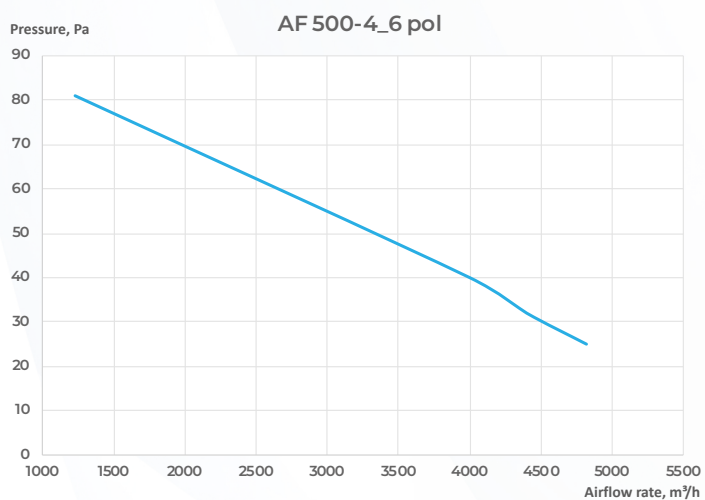
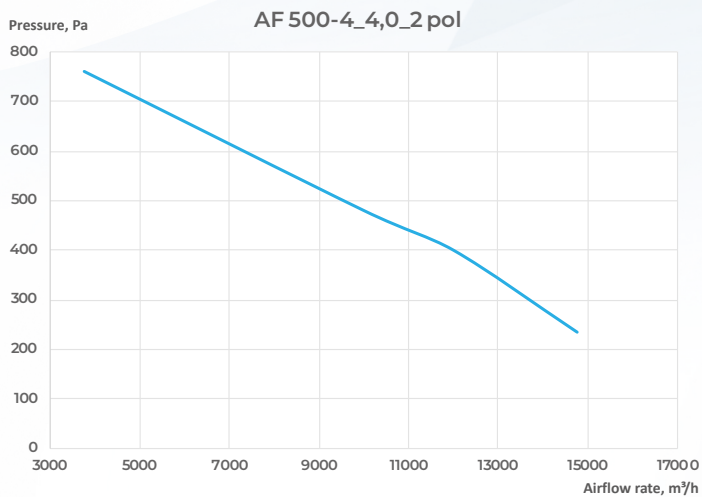
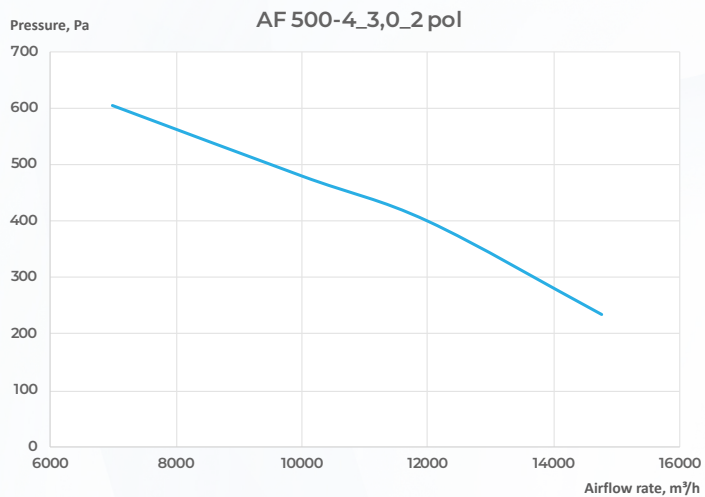


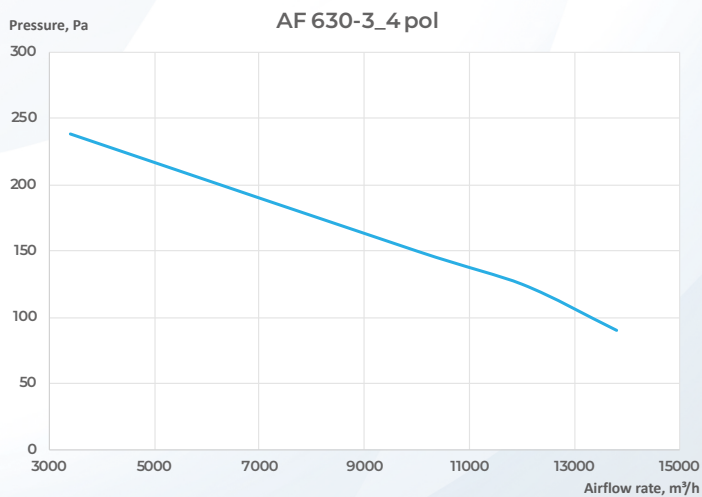
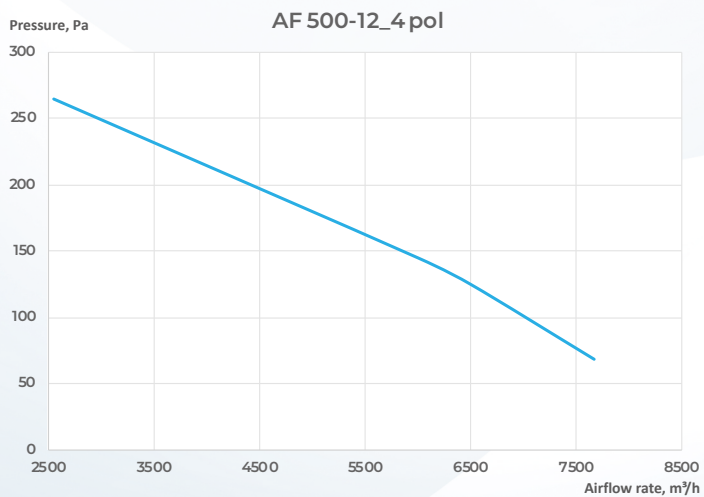
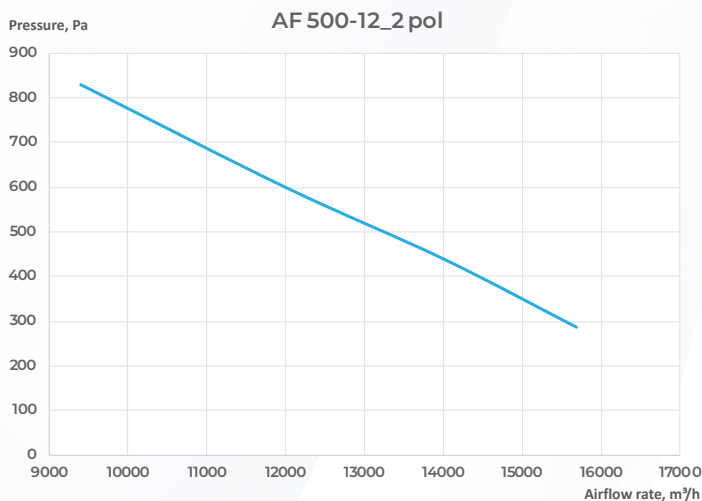
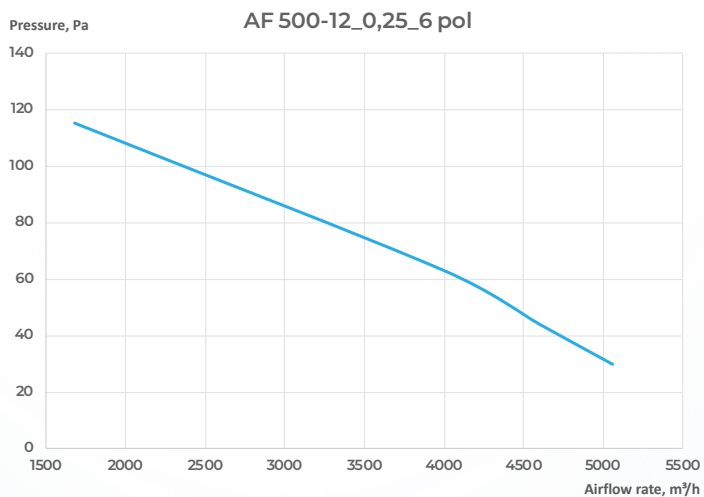
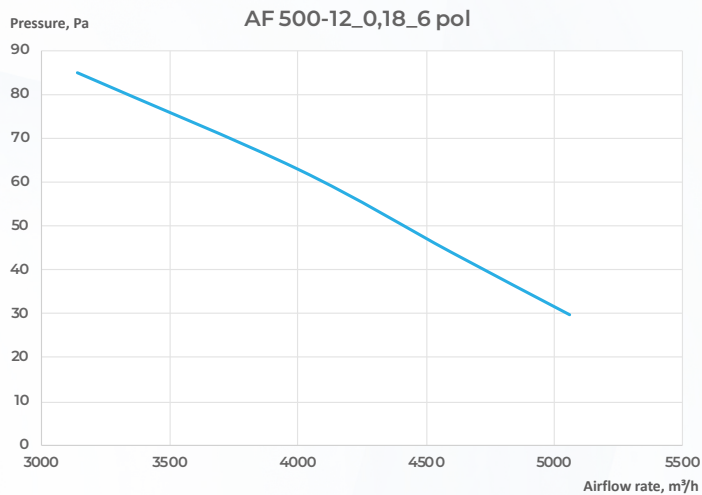
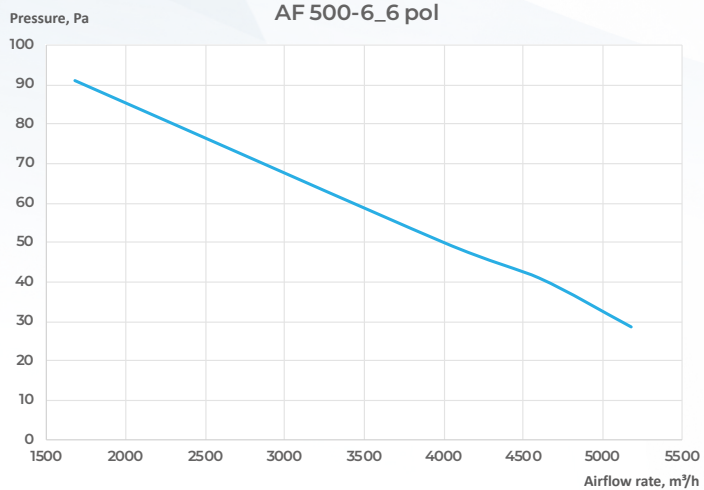


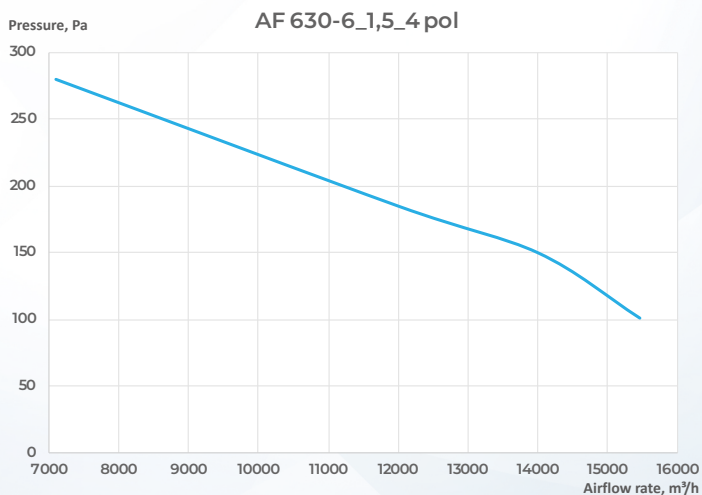
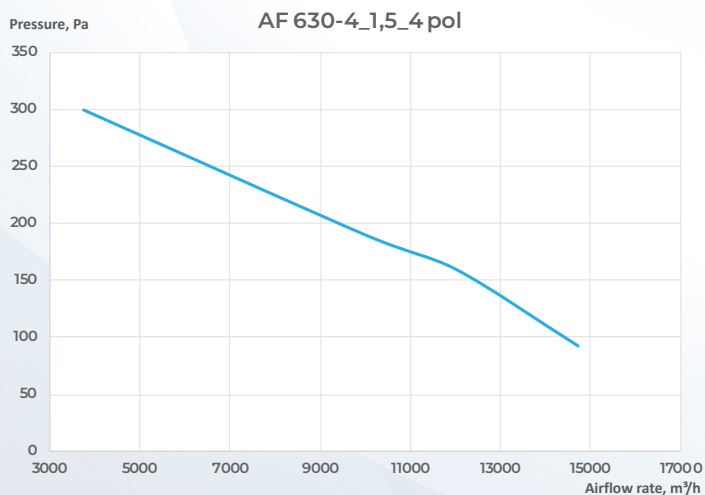
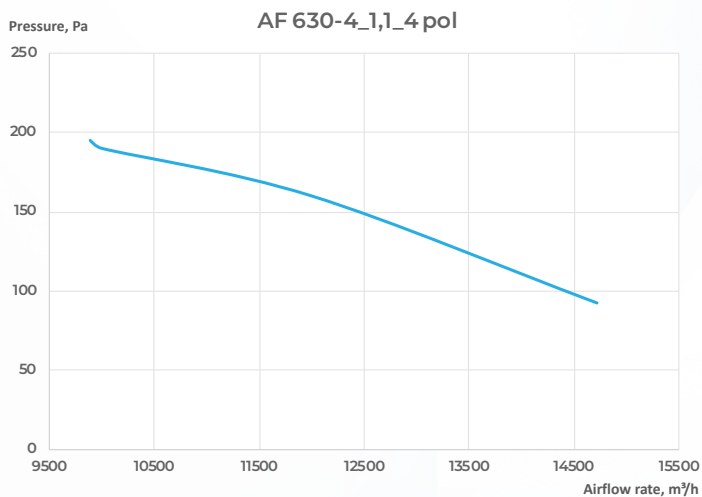
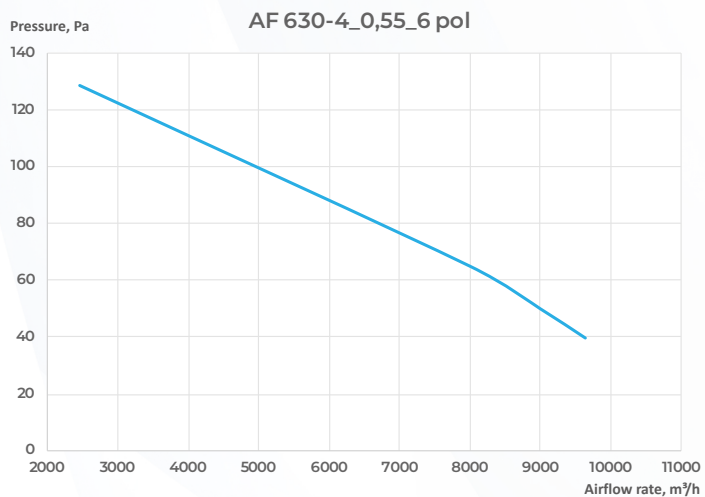
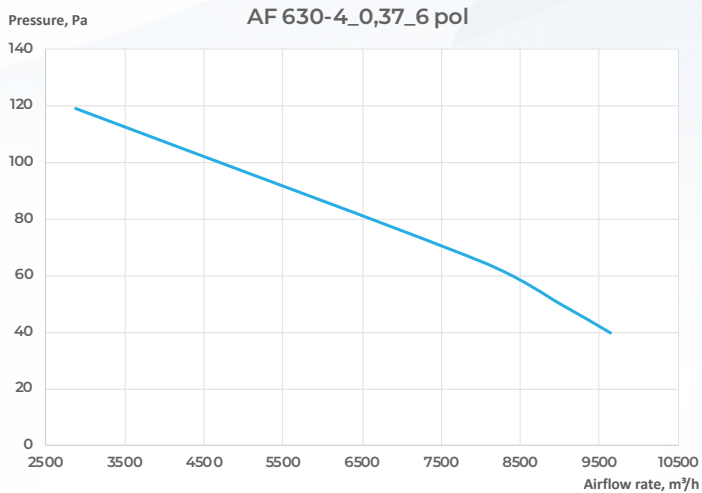
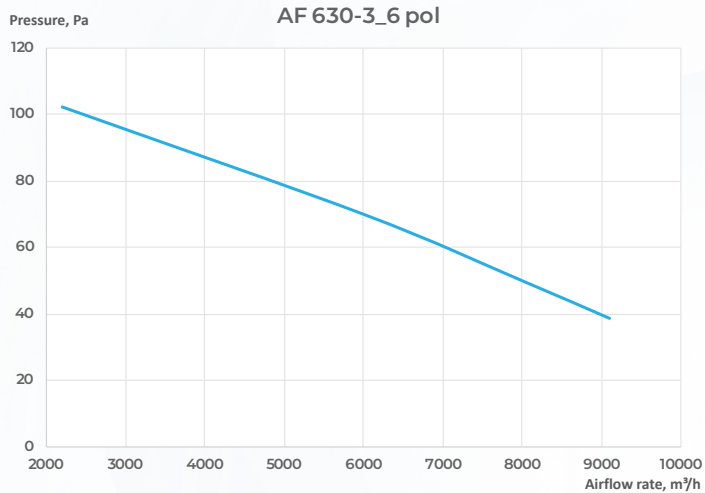


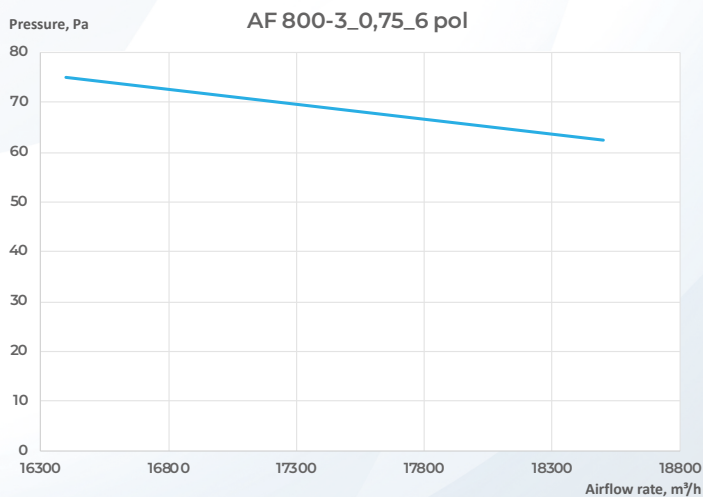
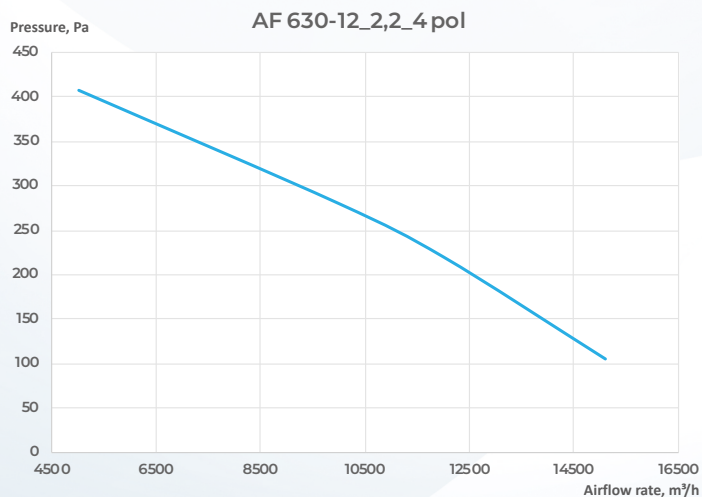
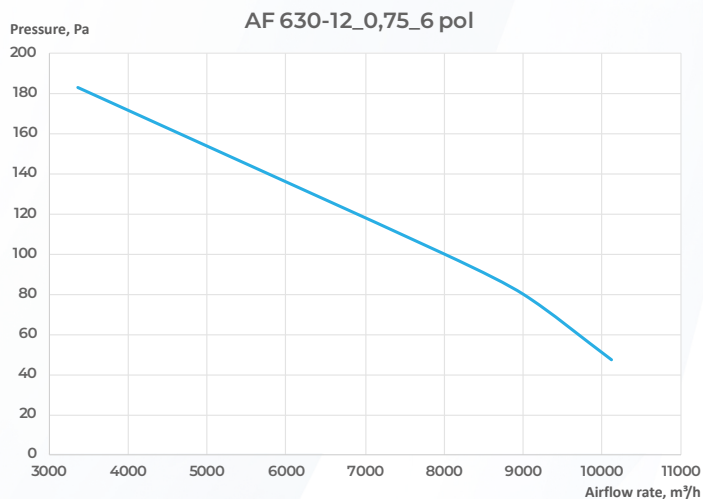
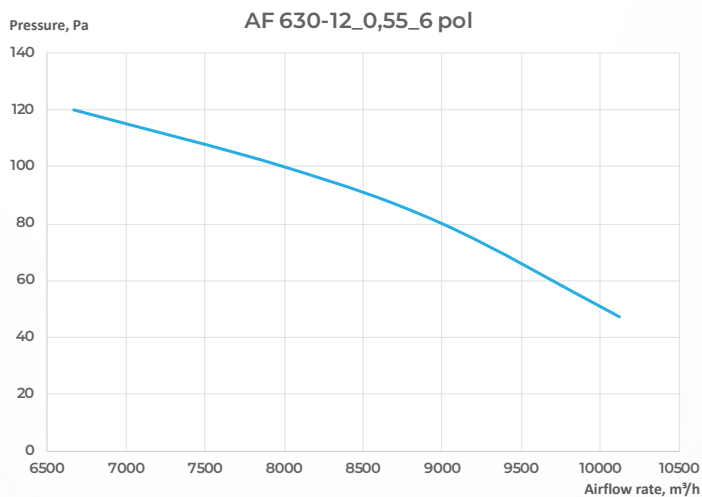
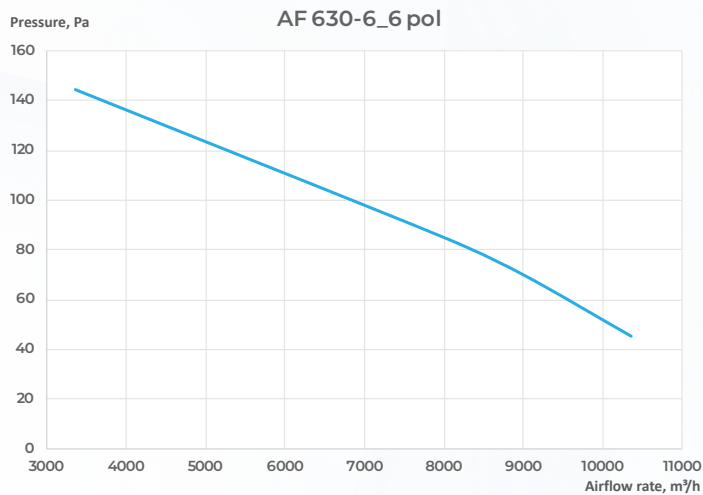
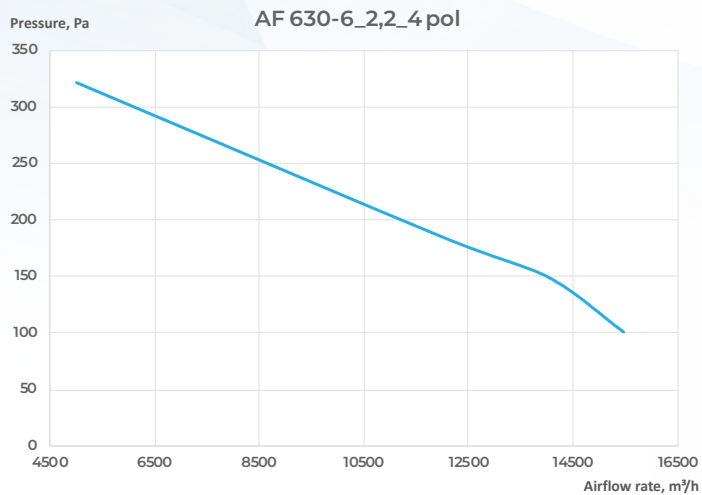


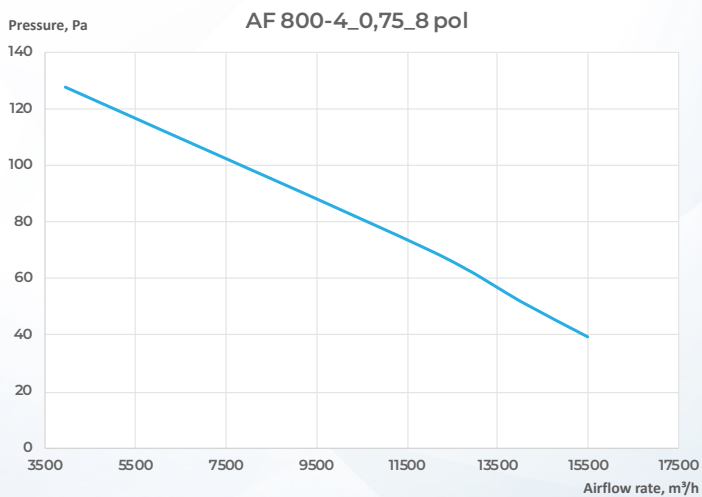
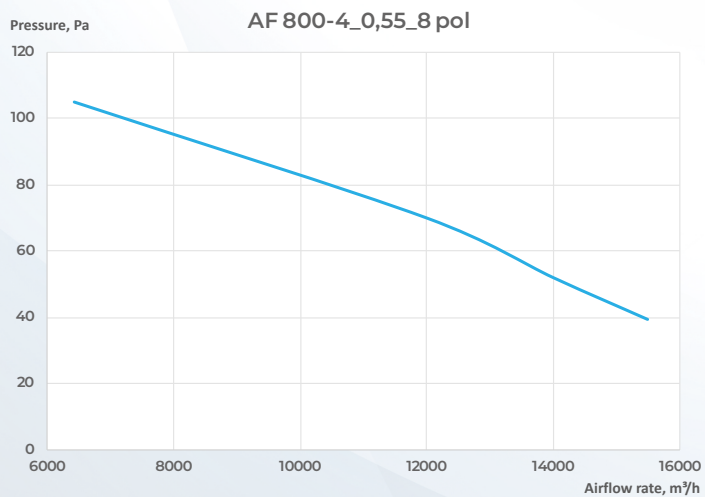
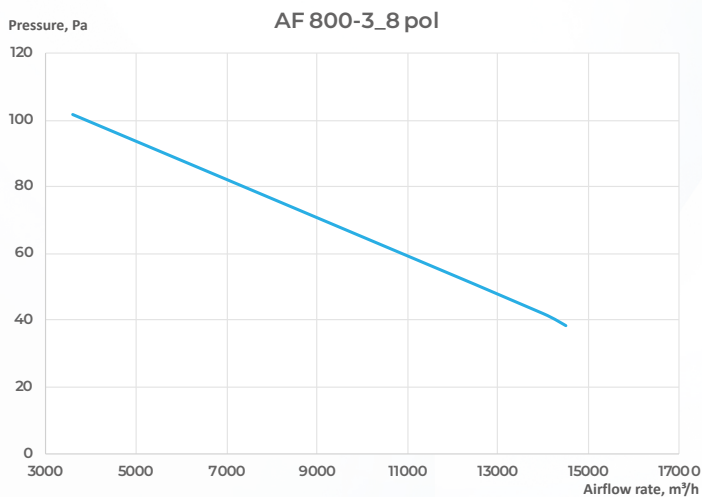
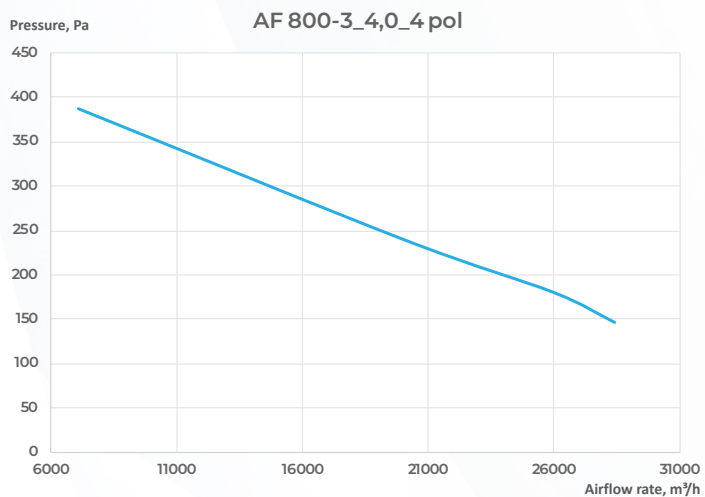
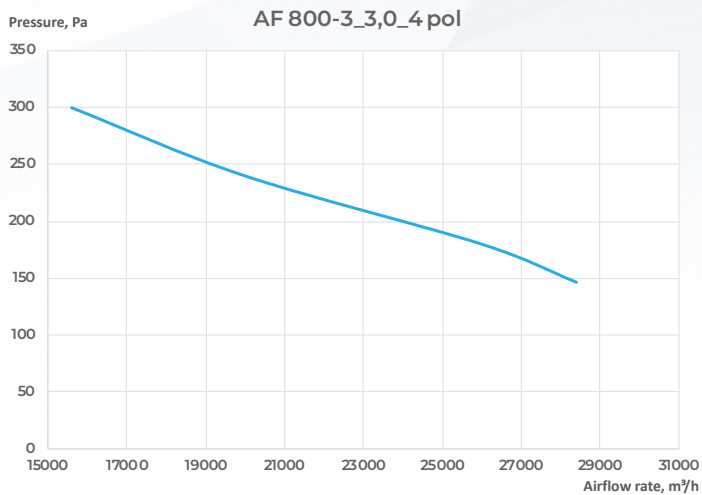
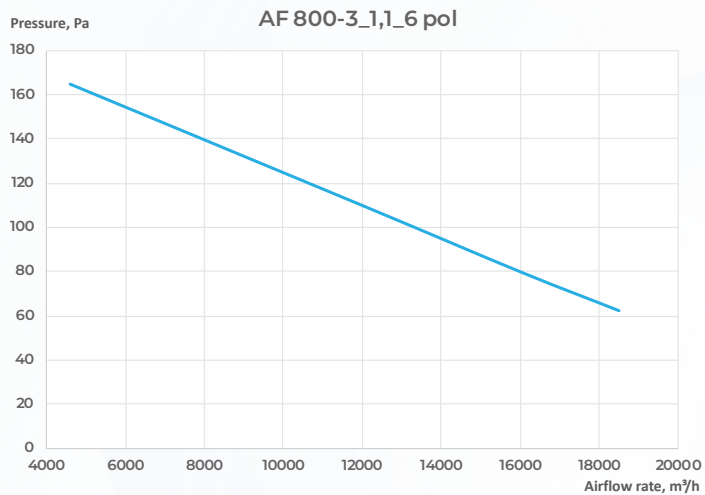


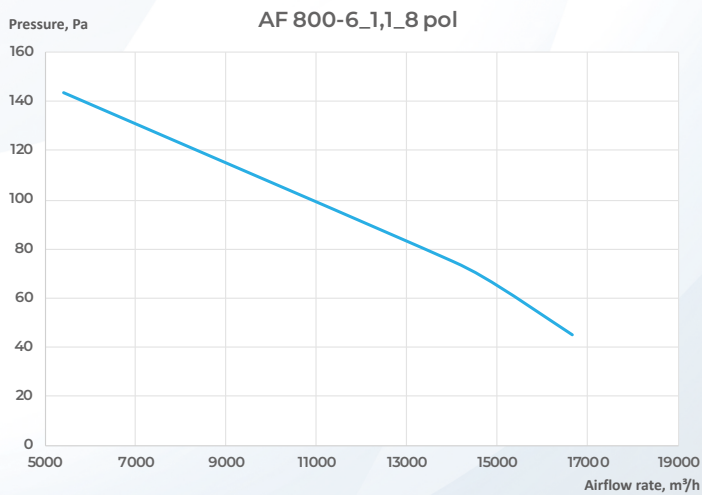
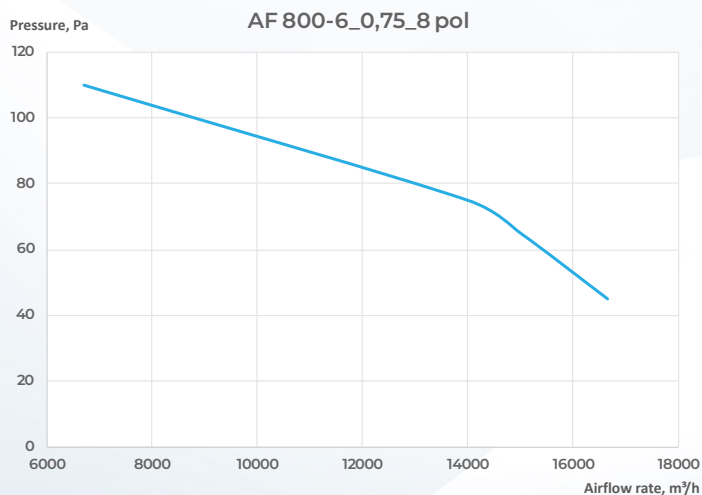
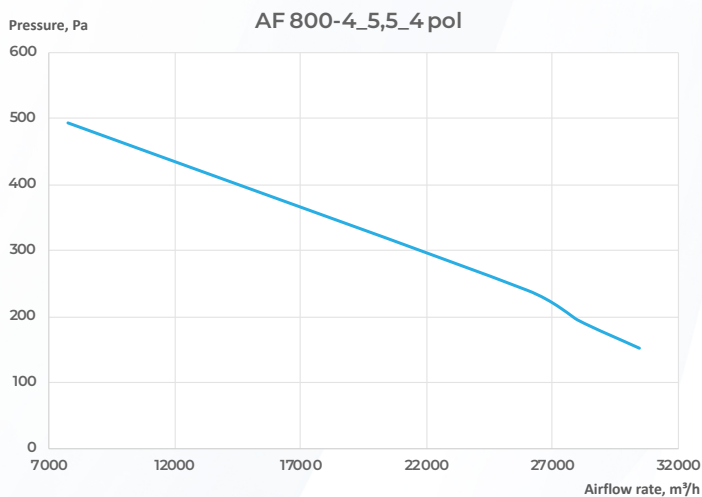
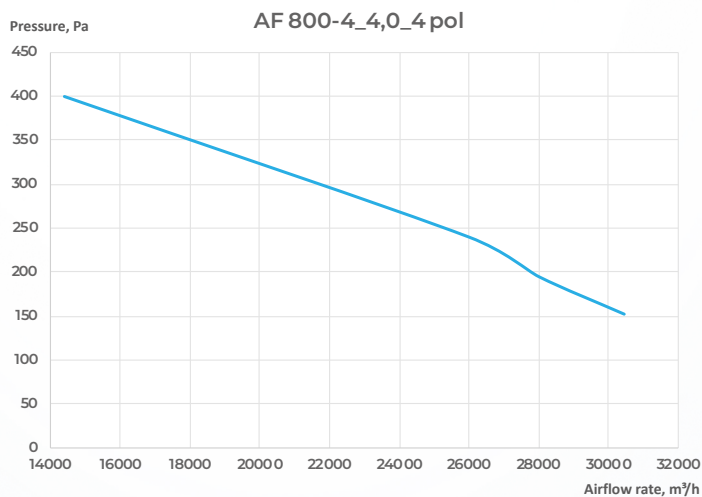
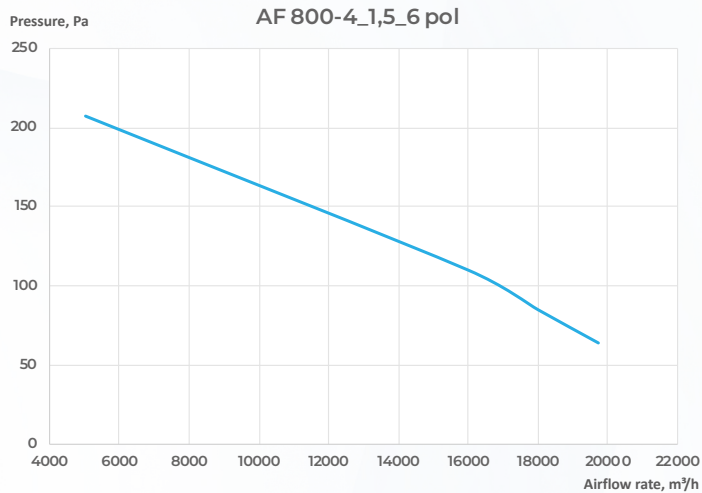
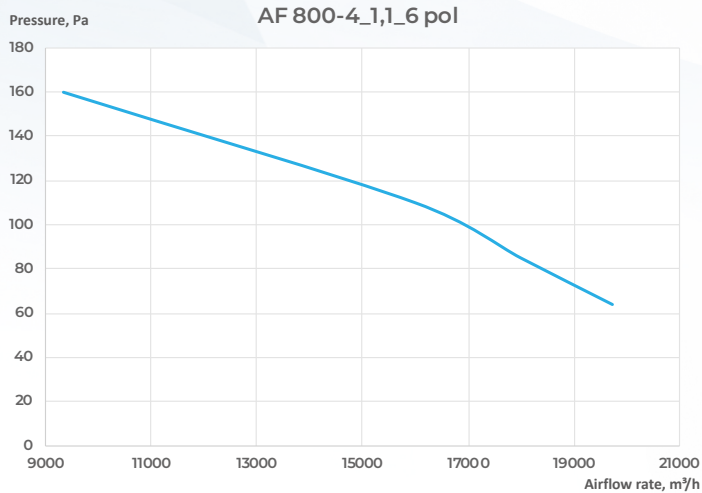


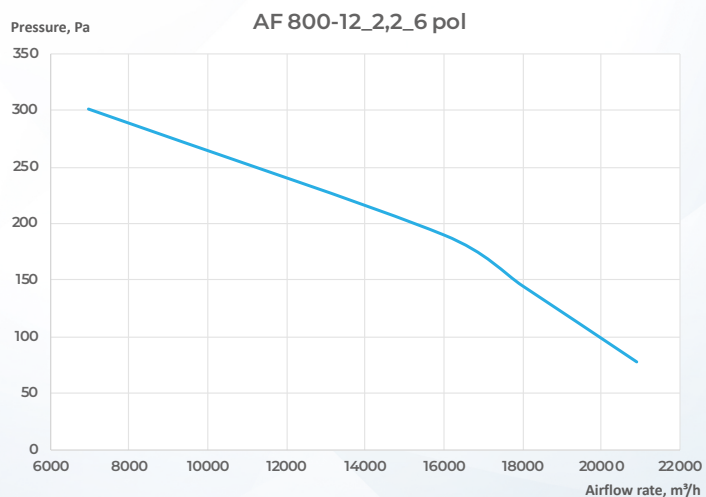
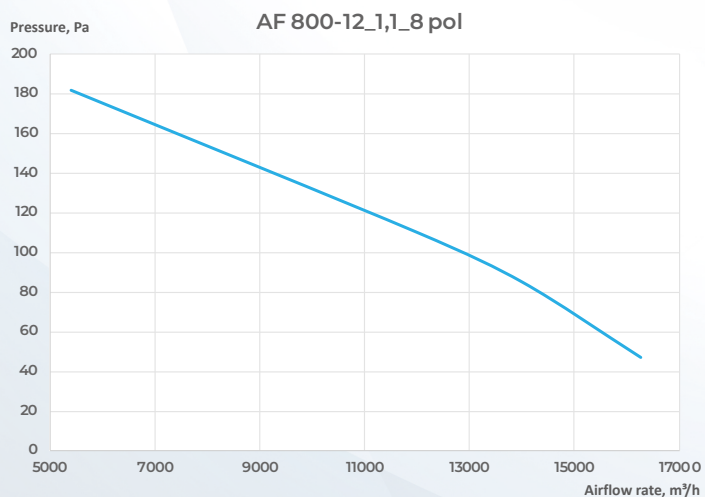
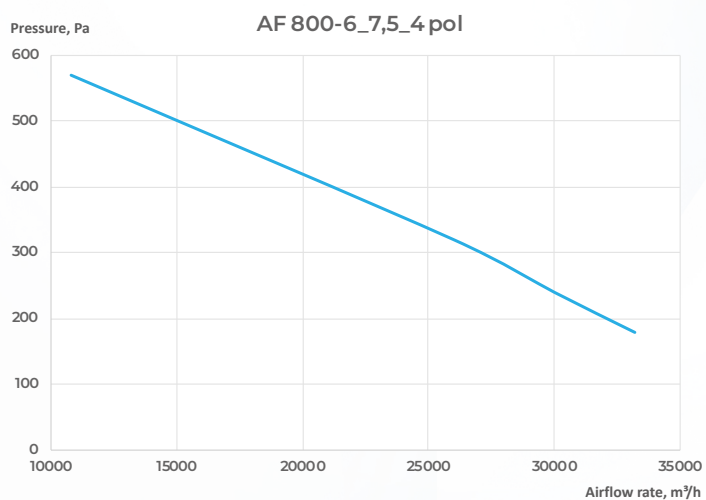
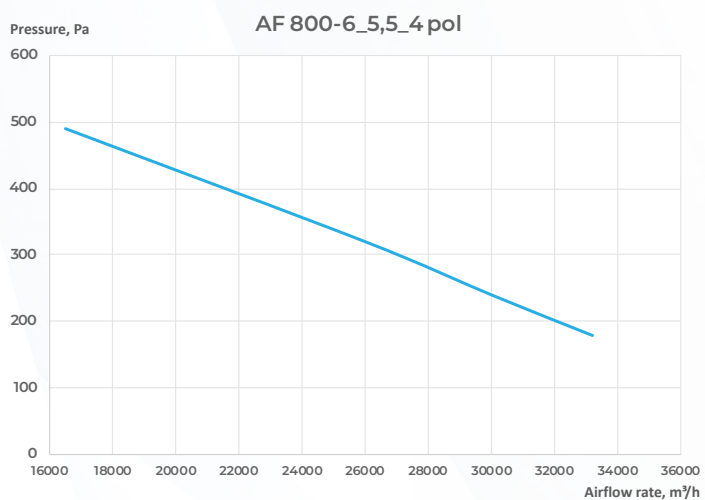
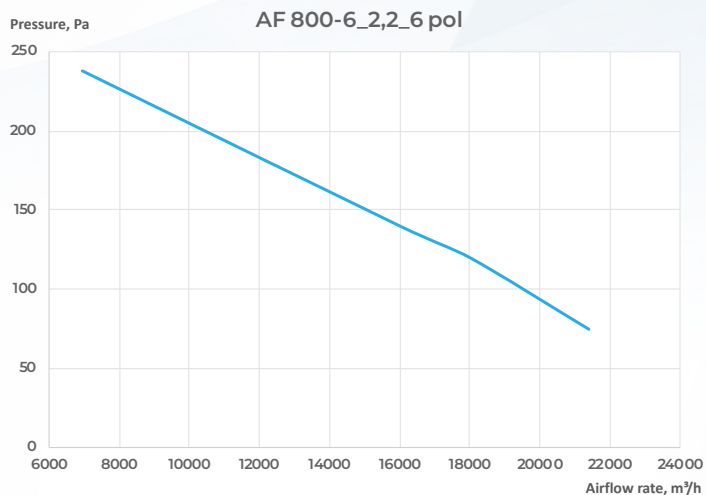
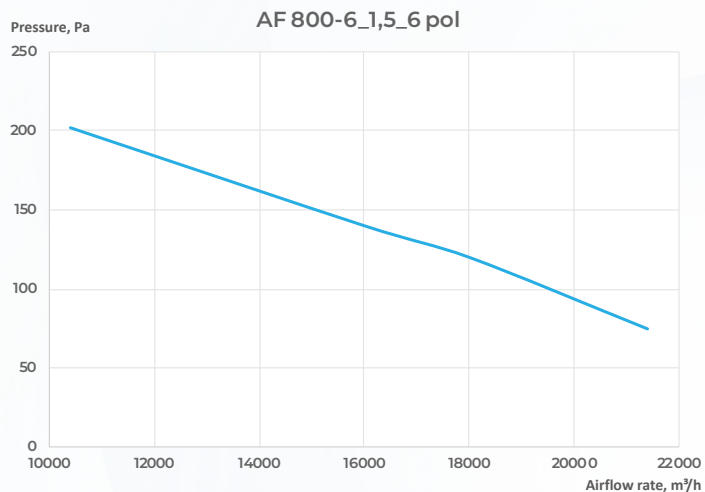


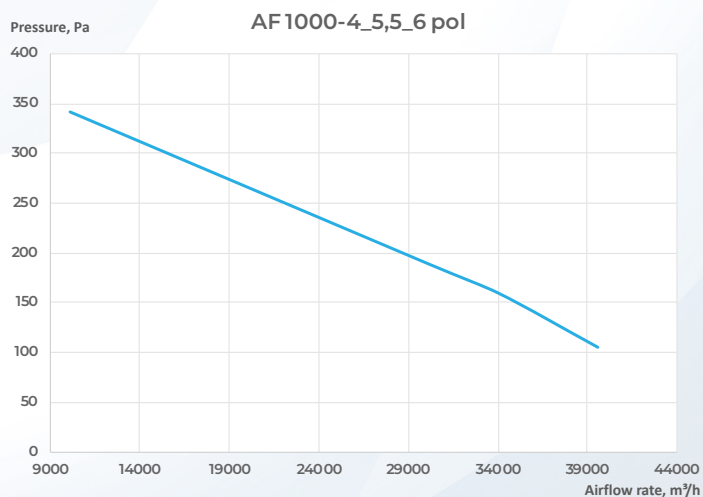
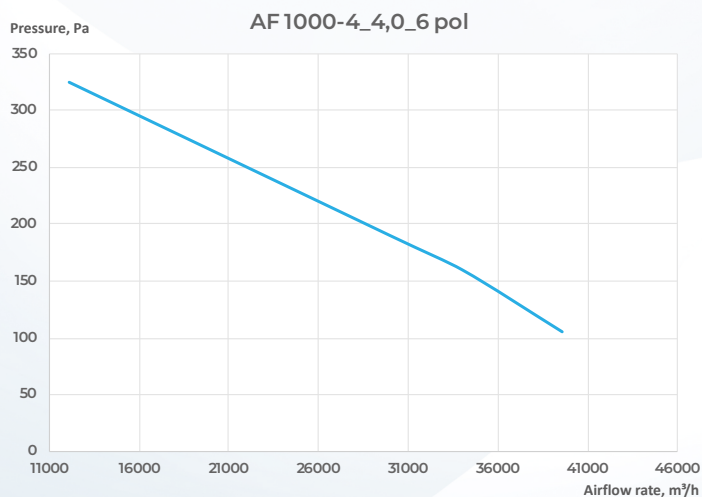
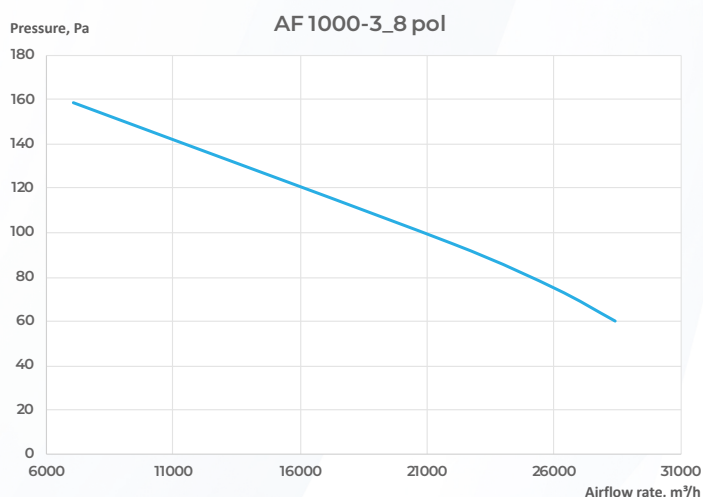
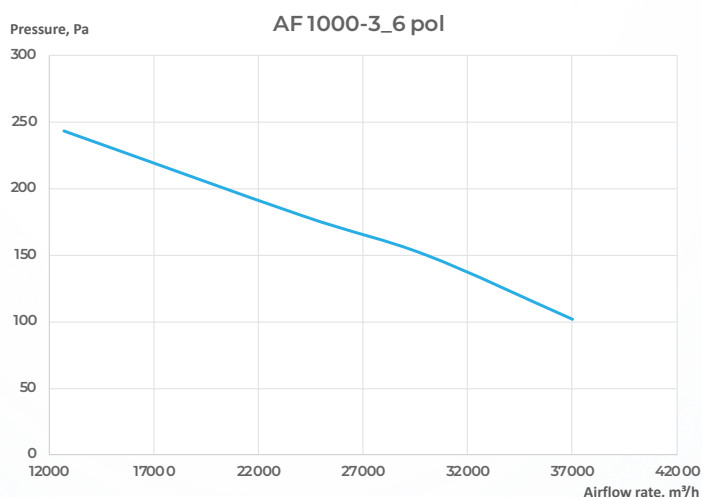
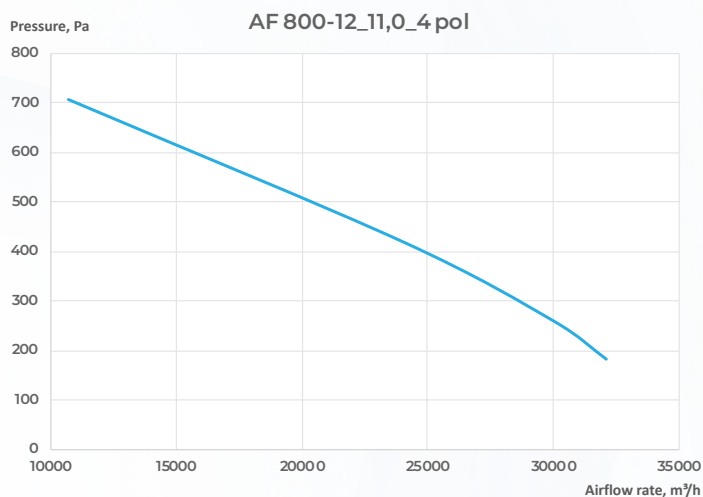
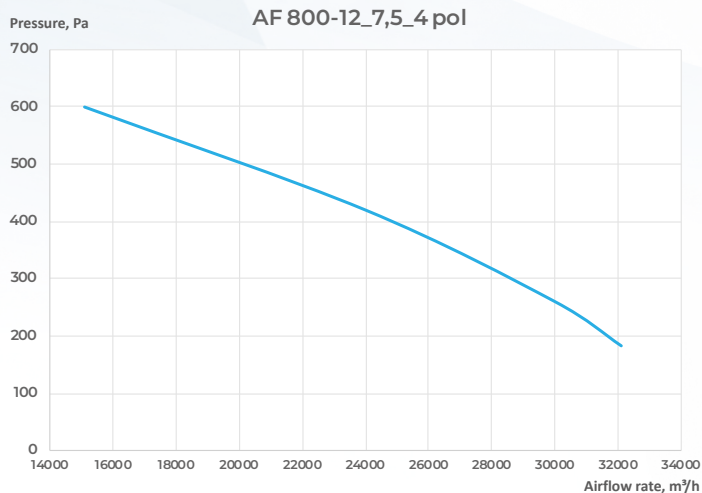


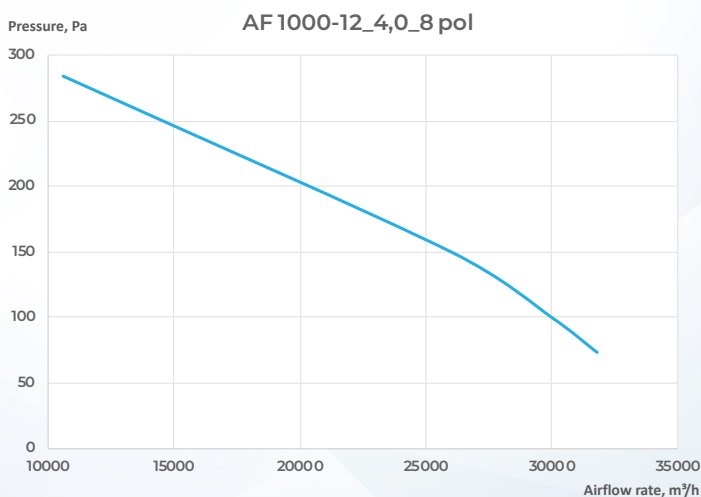
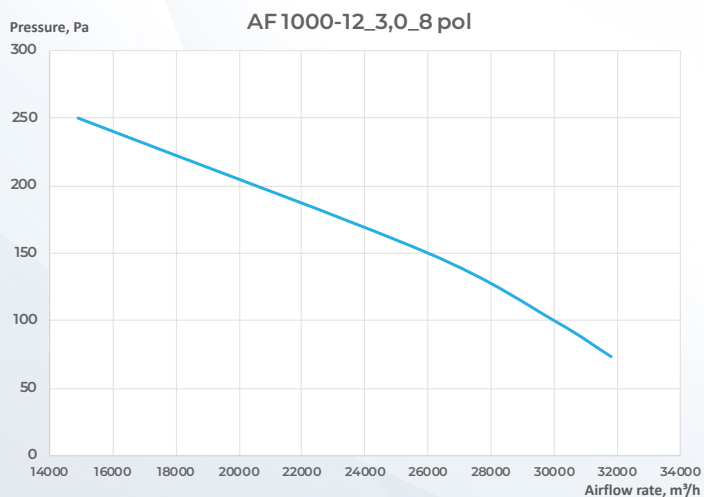
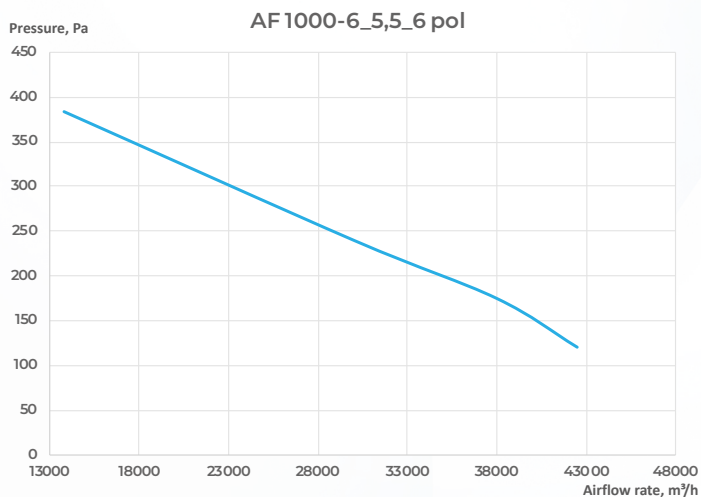
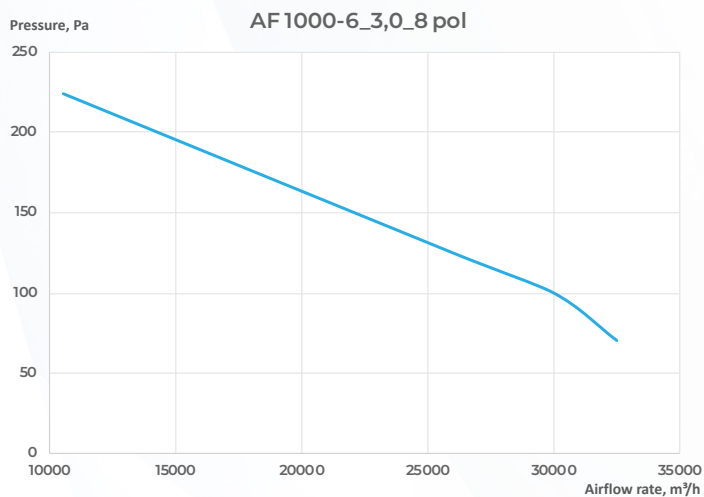
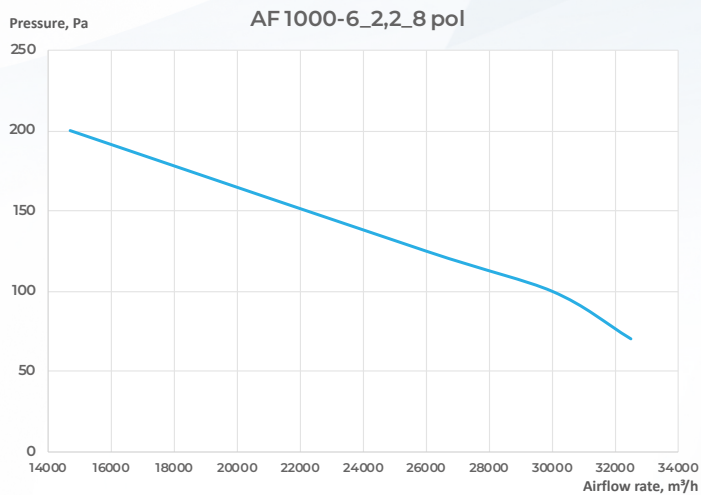
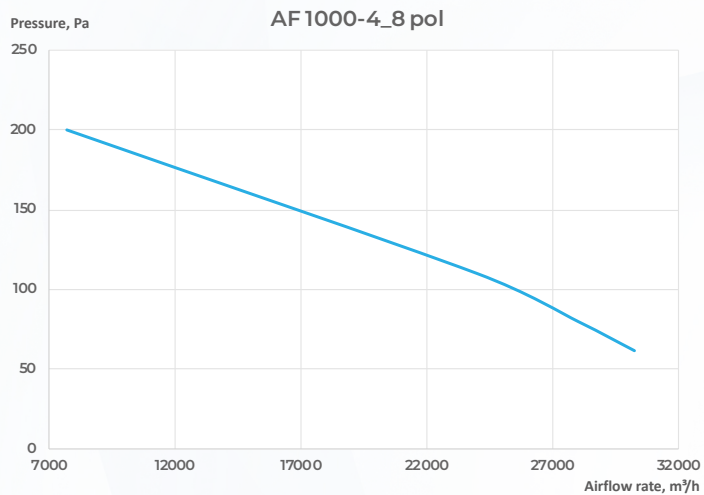


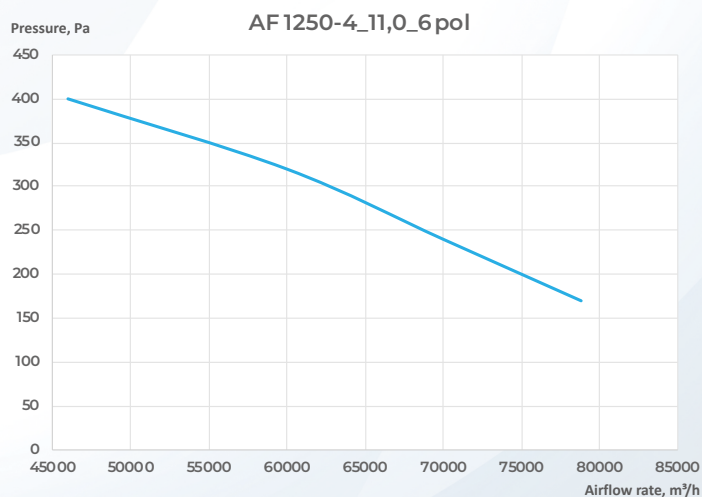
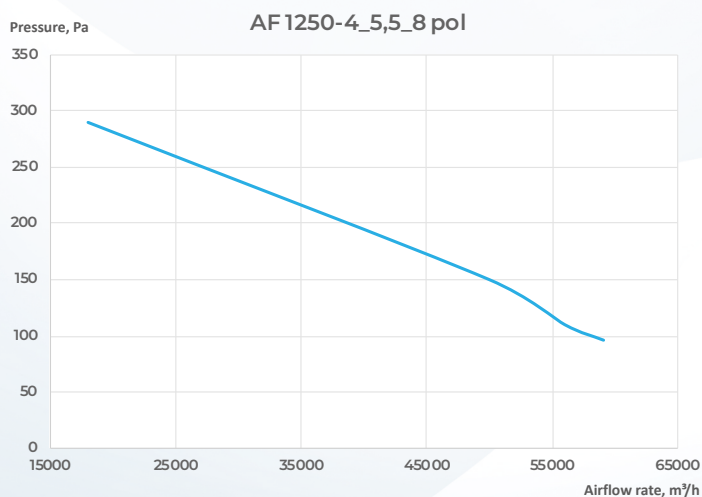
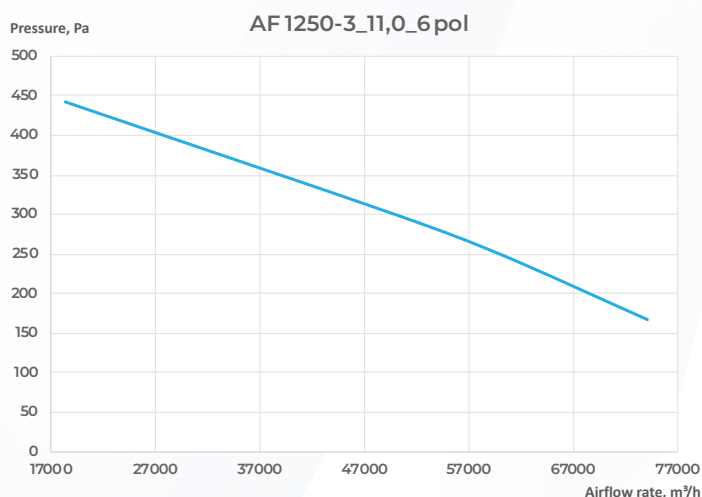
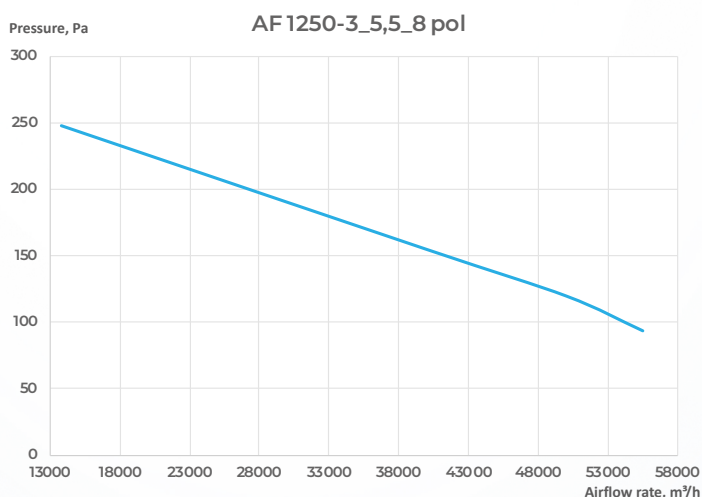
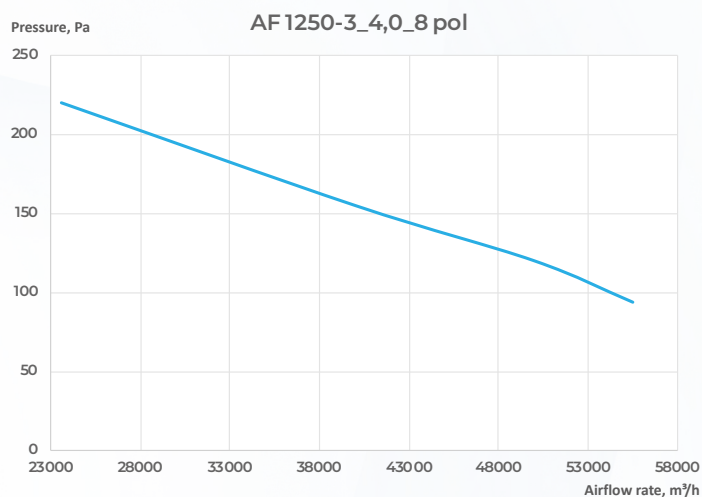
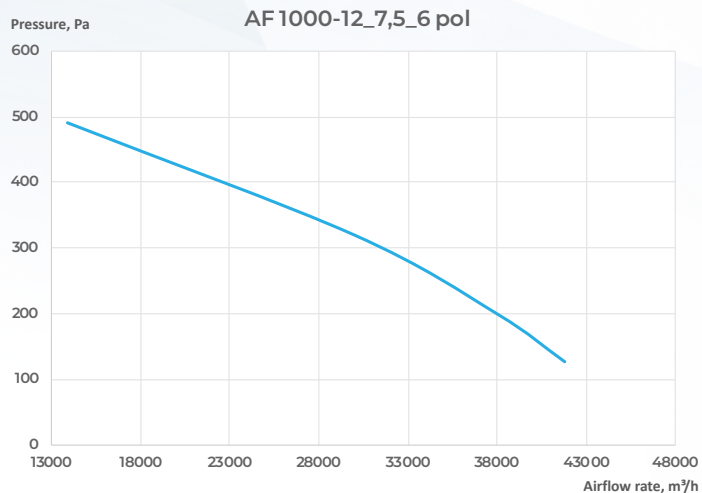


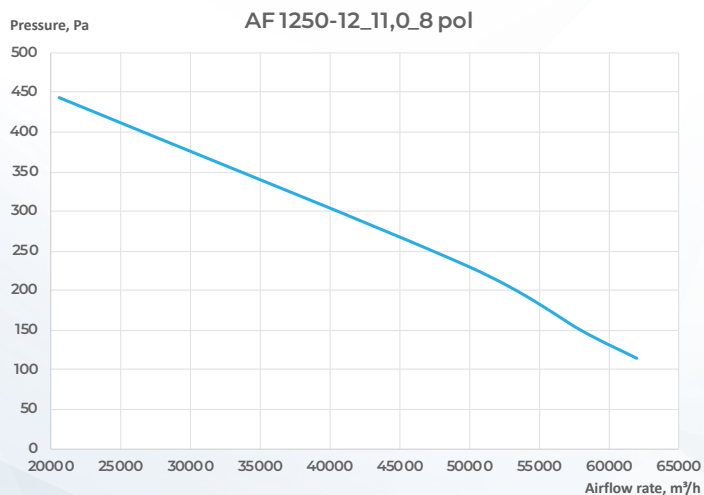
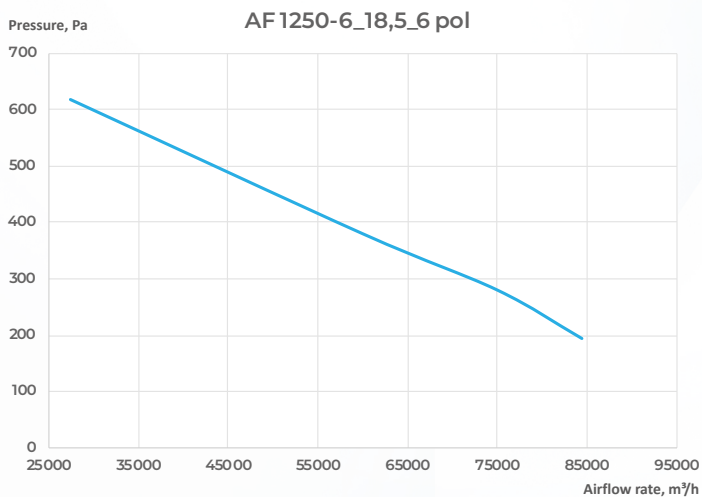
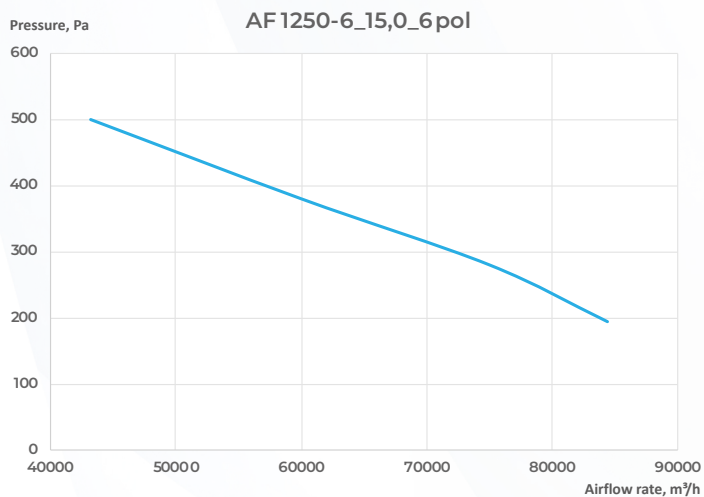
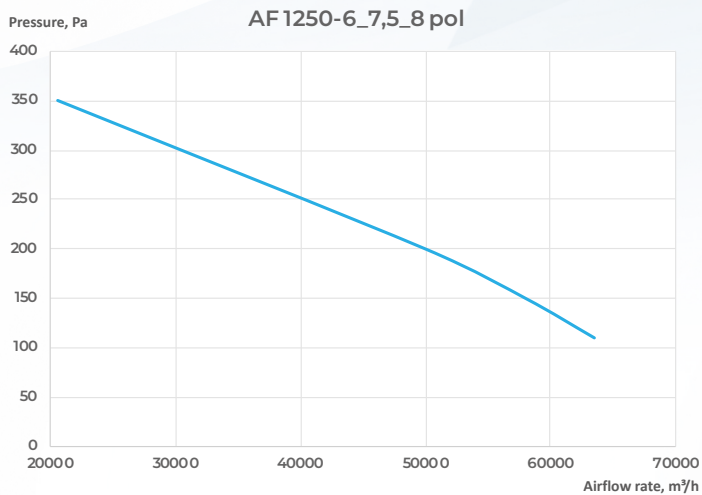
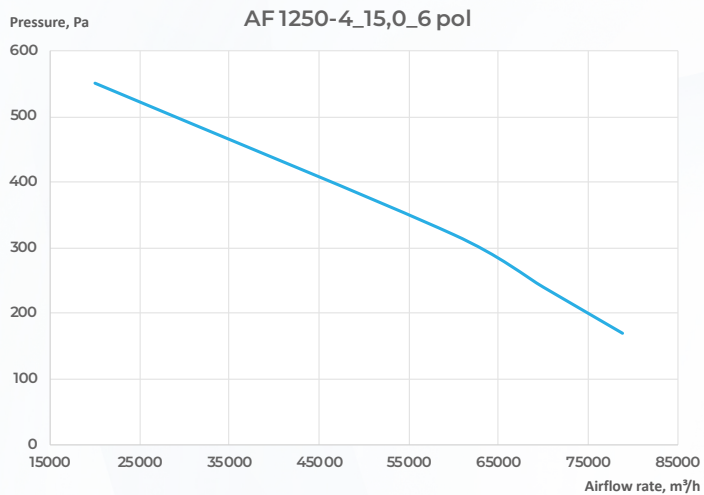




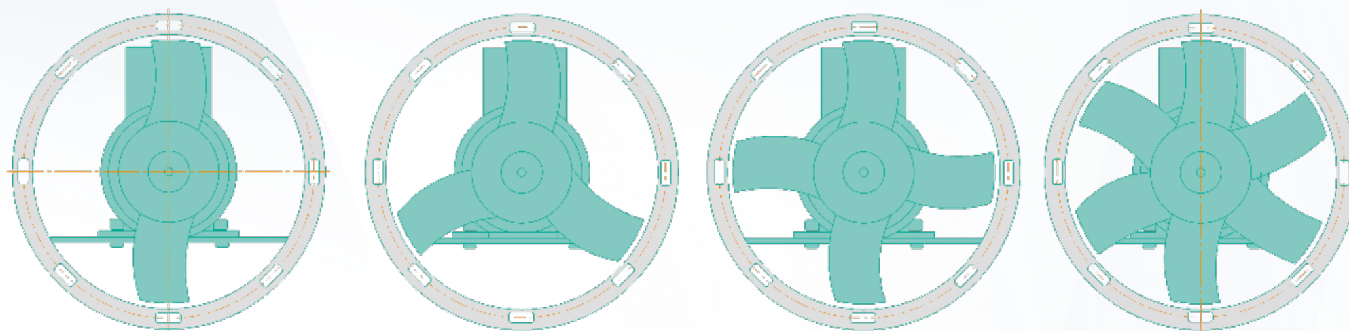






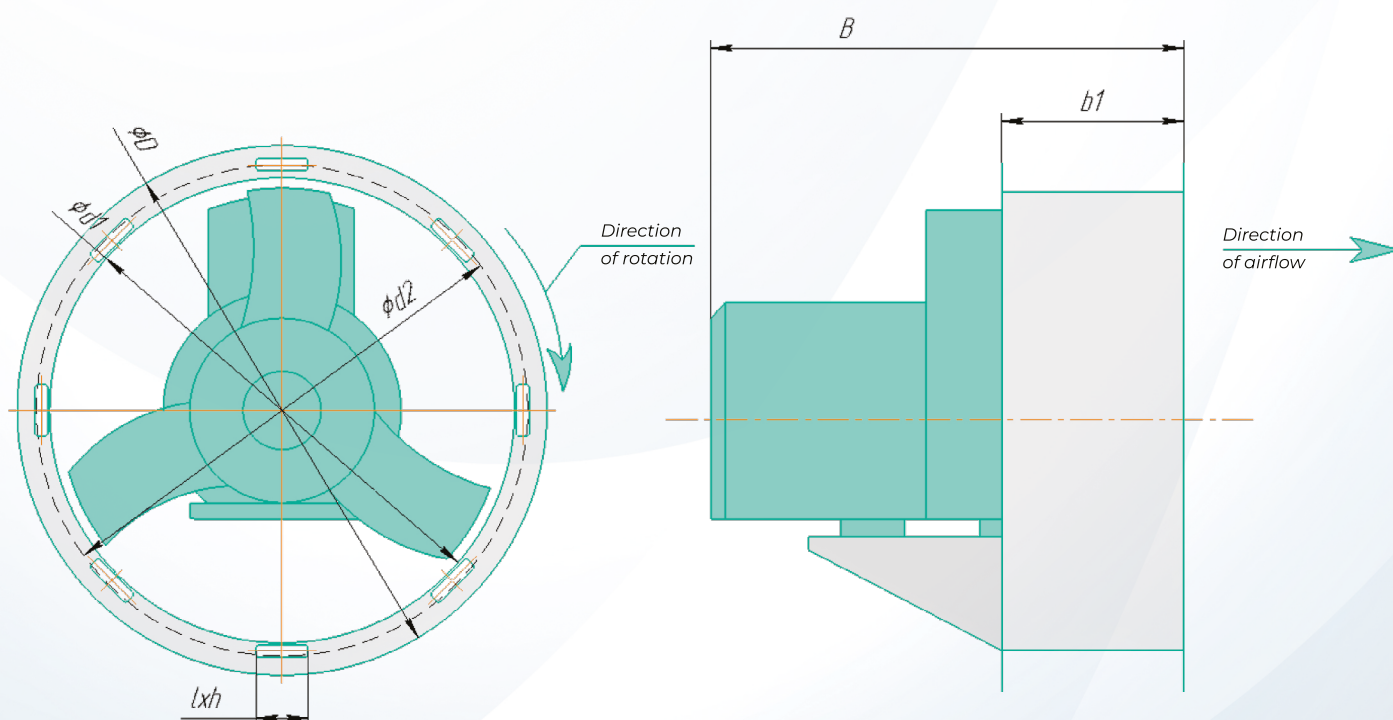


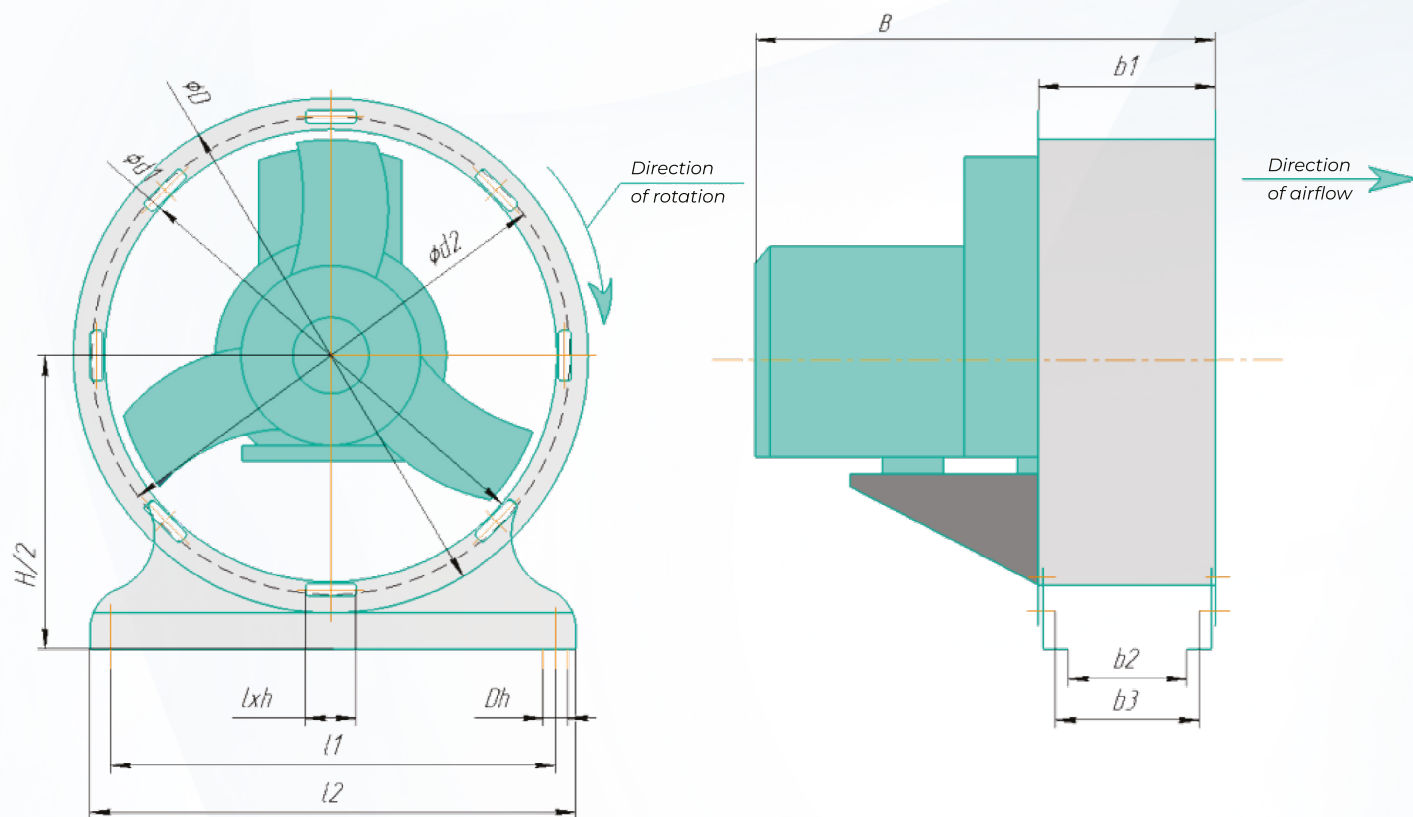
FAN TYPES BY NUMBER OF BLADES



OVERALL AND CONNECTION DIMENSIONS OF AF SERIES FANS

Name	D	d1	d2	H/2	lxh	l1	l2	Dh	B	b1	b2	b3
AF 250	295	255	275	160	9x14	275	295	8	264	100	55	75
AF 315	360	320	340	200	9x14	340	360	8	294	120	75	95
AF 400	460	406	430	250	9x14	440	460	10	330	150	105	125
AF 500	560	530	507	300	9x14	536	560	12	456	190	126	150
AF 630	690	638	660	365	9x14	666	690	12	418	230	166	190
AF 800	864	808	840	495	11x15	750	800	24	608	300	210	250
AF 1000	1075	1010	1045	615	13x20	900	948	24	641	380	272	320
AF 1250	1340	1263	1295	725	11x15	1100	1148	24	828	480	352	400





TECHNICAL CHARACTERISTICS OF FANS

Name	Number of Blades	Motor Power	Rotational Speed, rpm	Airflow Capacity		Total Pressure		Weight with Motor	
				at Max. Efficiency	In Operating Range	at Max. Efficiency	In Operating Range	With Supports	Without Supports
AF 250	2	0,12	1500	0,6	0,77-0,24	16,8	10,4-24,5	6,99	6,28
		0,18	1500	0,6	0,77-0,24	16,8	10,4-24,5	7,59	6,88
		0,25	1500	0,6	0,77-0,24	16,8	10,4-24,5	9,6	8,89
		0,37	1500	0,6	0,77-0,24	16,8	10,4-24,5	11,7	10,99
		0,18	3000	1,26	1,55-0,47	67,8	41,9-98,9	7,19	6,48
		0,25	3000	1,26	1,55-0,47	67,8	41,9-98,9	7,59	6,91
		0,37	3000	1,26	1,55-0,47	67,8	41,9-98,9	9,7	8,99
	3	0,12	1500	0,7	0,86-0,21	21	14-37	7,05	6,33
		0,18	1500	0,7	0,86-0,21	21	14-37	7,65	6,97
		0,25	1500	0,7	0,86-0,21	21	14-37	9,65	8,94
		0,37	1500	0,7	0,86-0,21	21	14-37	11,76	11,04
		0,18	3000	1,41	1,72-0,43	85	56,6-149,6	7,25	6,53
		0,25	3000	1,41	1,72-0,43	85	56,6-149,6	7,55	6,83
		0,37	3000	1,41	1,72-0,43	85	56,6-149,6	9,76	9,04

Name	Number of Blades	Motor Power	Rotational Speed, rpm	Airflow Capacity		Total Pressure		Weight with Motor	
				at Max. Efficiency	In Operating Range	at Max. Efficiency	In Operating Range	With Supports	Without Supports
AF 250	4	0,12	1500	0,75	0,91-0,23	24,5	14,4-46,5	7,1	6,38
		0,18	1500	0,75	0,91-0,23	24,5	14,4-46,5	7,7	6,98
		0,25	1500	0,75	0,91-0,23	24,5	14,4-46,5	9,71	8,99
		0,37	1500	0,75	0,91-0,23	24,5	14,4-46,5	11,81	11,09
		0,18	3000	1,52	1,84-0,47	99,1	58,1-188,1	7,3	6,58
		0,25	3000	1,52	1,84-0,47	99,1	58,1-188,1	7,6	6,88
		0,37	3000	1,52	1,84-0,47	99,1	58,1-188,1	9,81	9,1
	6	0,12	1500	0,83	0,98-0,32	28	16,4-52,3	7,2	6,49
		0,18	1500	0,83	0,98-0,32	28	16,4-52,3	7,8	7,09
		0,25	1500	0,83	0,98-0,32	28	16,4-52,3	9,82	9,1
		0,37	1500	0,83	0,98-0,32	28	16,4-52,3	11,92	11,2
		0,18	3000	1,66	1,97-0,64	113	66,4-211,3	7,4	6,69
		0,25	3000	1,66	1,97-0,64	113	66,4-211,3	7,92	7,2
		0,37	3000	1,66	1,97-0,64	113	66,4-211,3	9,92	9,2
AF 315	2	0,12	1500	1,25	1,54-0,47	26,6	38,8-16,5	8,41	7,45
		0,18	1500	1,25	1,54-0,47	26,6	38,8-16,5	9,01	8,05
		0,25	1500	1,25	1,54-0,47	26,6	38,8-16,5	11,03	10,08
		0,37	1500	1,25	1,54-0,47	26,6	38,8-16,5	13,13	12,18
AF 400	3	0,18	1500	2,87	3,5-0,87	53,8	35,9-94,8	11,79	10,48
		0,25	1500	2,87	3,5-0,87	53,8	35,9-94,8	13,82	12,51
		0,37	1500	2,87	3,5-0,87	53,8	35,9-94,8	15,92	14,61
		0,75	3000	5,75	7,02-3,86	215,3	143,4-285,6	17,28	15,96
		1,1	3000	5,75	7,02-1,75	215,3	143,4-379	18,18	16,86
	4	0,18	1000	2,04	2,47-0,63	27,3	16-51,8	12,6	11,29
		0,25	1000	2,04	2,47-0,63	27,3	16-51,8	13,4	12,09
		0,12	1500	3,09	3,74-1,7	62,8	36,8-92	11,37	10,06
		0,18	1500	3,09	3,74-0,95	62,8	36,8-119,1	11,97	10,66
		0,25	1500	3,09	3,74-0,95	62,8	36,8-119,1	14	12,69
		0,37	1500	3,09	3,74-0,95	62,8	36,8-119,1	16,1	14,79
		1,1	3000	6,18	7,48-1,91	251	147,1-476,5	18,37	17,05

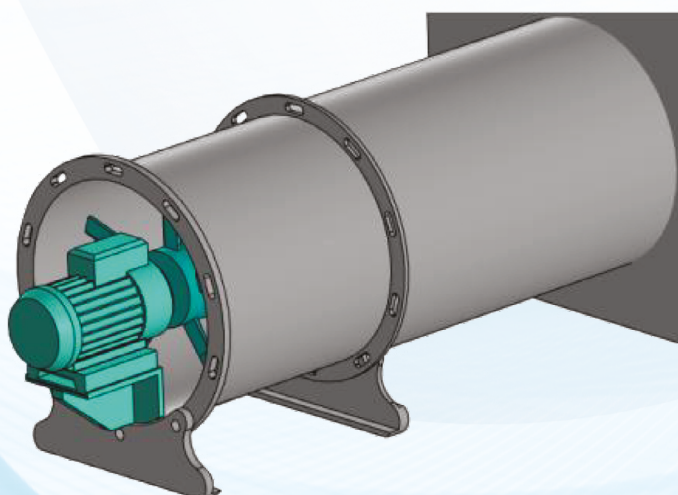
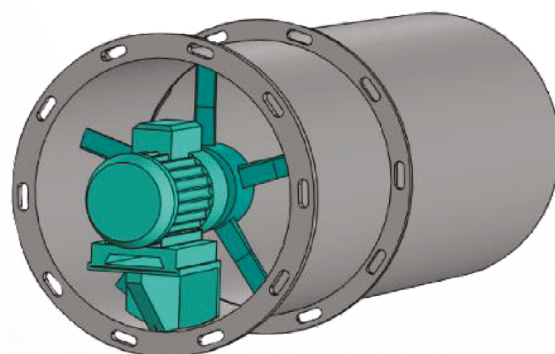
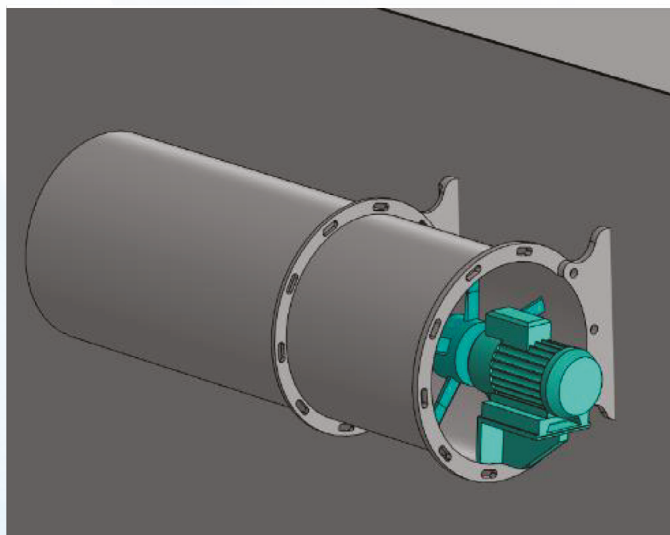
Name	Number of Blades	Motor Power	Rotational Speed, rpm	Airflow Capacity		Total Pressure		Weight with Motor	
				at Max. Efficiency	In Operating Range	at Max. Efficiency	In Operating Range	With Supports	Without Supports
AF 400	6	0,18	1000	2,23	2,65-0,86	31,1	18,3-58,2	12,96	11,65
		0,25	1000	2,23	2,65-0,86	31,1	18,3-58,2	13,76	12,45
		0,18	1500	3,38	4,02-1,3	71,6	42-133,8	12,33	11,02
		0,25	1500	3,38	4,02-1,3	71,6	42-133,8	14,36	13,05
		0,37	1500	3,38	4,02-1,3	71,6	42-133,8	16,46	15,15
		1,1	3000	6,76	8,04-6,1	286,3	168-317,8	18,72	17,41
		1,5	3000	6,76	8,04-2,6	286,3	168-535,3	23,56	22,25
AF 500	2	0,18	1000	3,3	4,1-1,2	29,2	18-42,6	16,63	13,99
		0,25	1000	3,3	4,1-1,2	29,2	18-42,6	17,43	14,79
		0,25	1500	5	6,2-1,9	67,1	41,4-97,9	18,03	15,39
		0,37	1500	5	6,2-1,9	67,1	41,4-97,9	20,13	17,49
		2,2	3000	10	12,4-3,8	268,3	165,8-391,4	27,18	24,54
	3	0,18	1000	3,7	4,5-1,12	36,6	24,4-64,4	16,92	14,26
		0,25	1000	3,7	4,5-1,12	36,6	24,4-64,4	17,72	15,06
		0,37	1500	5,6	6,9-1,7	84,1	56-148,1	20,42	17,76
		2,2	3000	11,2	13,6-8,3	332,8	221,7-415	27,46	24,81
		3	3000	11,2	13,6-3,39	332,8	221,7-585,9	29,82	27,18
	4	0,18	1000	3,98	4,82-1,23	42,7	25-81	17,2	14,54
		0,25	1000	3,98	4,82-1,23	42,7	25-81	18	15,34
		0,37	1500	6,04	7,3-3,2	98	57,5-145	20,7	18,04
		0,55	1500	6,04	7,3-1,86	98	57,5-186	22,07	19,43
		3	3000	12,2	14,76-6,99	400,6	234,7-576,9	20,1	17,46
		4	3000	12,2	14,76-3,76	400,6	234,7-760,5	36,31	33,67
	6	0,18	1000	4,35	5,18-1,68	48,7	28,6-91	17,76	15,11
AF 800	4	0,75	750	12,8	15,49-3,95	67,3	39,4-127,7	67,41	58,46
		1,1	1000	16,3	19,73-9,34	109,2	64-157,3	65	56,05
		1,5	1000	16,3	19,73-5,03	109,2	64-207,3	68,71	59,76
		4	1500	25,2	30,45-14,4	260	152,3-374,4	80,24	71,3
		5,5	1500	25,2	30,45-7,76	260	152,3-493,6	104,8	95,86

Name	Number of Blades	Motor Power	Rotational Speed, rpm	Airflow Capacity		Total Pressure		Weight with Motor	
				at Max. Efficiency	In Operating Range	at Max. Efficiency	In Operating Range	With Supports	Without Supports
AF 800	6	0,75	750	14	16,65-6,7	76,7	45,1-130	69,58	60,62
		1,1	750	14	16,65-5,4	76,7	45,1-143,5	72,38	63,42
		1,5	1000	18	21,4-10,4	127,2	74,7-193	70,88	61,92
		2,2	1000	18	21,4-6,95	127,2	74,7-237,9	79,42	70,46
		5,5	1500	27,9	33,2-16,5	304,9	179-455,3	106,98	98,02
		7,5	1500	27,9	33,2-10,8	304,9	179-570	133,54	124,59
	12	1,1	750	13,8	16,26-5,4	91,5	47-181,7	78,88	69,92
		2,2	1000	17,8	20,9-6,96	151,6	77,9-301,3	85,92	76,96
		7,5	1500	27,3	32,1-15,1	355,9	182,8-630,2	140,04	131,09
		11	1500	27,3	32,1-10,7	355,9	182,8-707,1	152,04	143,09
AF 1000	2	1,5	750	20,7	25,6-7,8	71,9	44,4-104,9	105,27	92,44
		2,2	1000	26,7	32,9-10,1	119,2	73,7-174	108,27	95,44
	3	1,5	750	23,2	28,4-7,06	90,2	60,1-158,7	106,96	94,13
		3	1000	30,3	37-12,7	152,7	101,7-243,2	129,99	117,16
	4	2,2	750	25	30,25-7,71	105,1	61,6-200	120,8	107,25
		4	1000	32,7	39,58-12,1	179,9	105,4-315	140,68	127,85
		5,5	1000	32,7	39,58-10,1	179,9	105,4-341,6	164,13	151,3
	6	2,2	750	27,3	32,5-14,7	119,9	70,4-190	123,47	110,64
		3	750	27,3	32,5-10,55	119,9	70,4-224,2	129,07	116,24
		5,5	1000	35,77	42,5-13,8	205,2	120,5-383,7	167,52	154,69
	12	3	750	27	31,8-14,9	142,9	73,4-253	139,22	126,39
		4	750	27	31,8-10,6	142,9	73,4-283,9	152,87	140,04
		7,5	1000	35,6	41,8-13,9	247,1	127-491	192,67	179,84
AF 1250	2	3	750	40,4	50-15,3	112,4	69,4-163,9	177,2	155,71
		4	750	40,4	50-15,3	112,4	69,4-163,9	185,31	169,82
		7,5	1000	53,2	65,7-20,1	194,3	120,1-283,5	225,11	209,62
	3	4	750	45,4	55,5-23,6	140,9	93,8-208,9	187,94	172,47
		5,5	750	45,4	55,5-13,8	140,9	93,8-248	197,94	182,47
		11	1000	60,6	74,1-18,4	251,3	167,4-442,4	275,16	259,67
	4	5,5	750	48,8	59,09-18	164,3	96,2-290	200,59	185,1

Name	Number of Blades	Motor Power	Rotational Speed, rpm	Airflow Capacity		Total Pressure		Weight with Motor	
				at Max. Efficiency	In Operating Range	at Max. Efficiency	In Operating Range	With Supports	Without Supports
AF 315	2	0,18	3000	2,51	3,1-0,95	107,6	66,5-157	8,61	7,65
		0,25	3000	2,51	3,1-0,95	107,6	66,5-157	8,91	7,95
		0,37	3000	2,51	3,1-0,95	107,6	66,5-157	11,13	10,18
		0,55	3000	2,51	3,1-0,95	107,6	66,5-157	13,73	12,59
	3	0,12	1500	1,4	1,72-0,43	33,4	22,2-58,8	8,52	7,57
		0,18	1500	1,4	1,72-0,43	33,4	22,2-58,8	9,12	8,17
		0,25	1500	1,4	1,72-0,43	33,4	22,2-58,8	11,15	10,19
		0,37	1500	1,4	1,72-0,43	33,4	22,2-58,8	13,25	12,29
		0,25	3000	2,82	3,45-1,19	134,9	90-214,9	9,02	8,07
		0,37	3000	2,82	3,45-0,86	134,9	90-237,6	11,25	10,29
		0,55	3000	2,82	3,45-0,86	134,9	90-237,6	13,85	12,89
	4	0,12	1500	1,51	1,83-0,47	38,9	22,8-73,9	8,63	7,68
		0,18	1500	1,51	1,83-0,47	38,9	22,8-73,9	9,23	8,28
		0,25	1500	1,51	1,83-0,47	38,9	22,8-73,9	11,25	10,31
		0,37	1500	1,51	1,83-0,47	38,9	22,8-73,9	13,35	12,41
		0,25	3000	3,2	3,67-3,2	140	92,2-140	9,13	8,18
		0,37	3000	3,03	3,67-0,94	157,3	92,2-298,7	11,35	10,41
		0,55	3000	3,03	3,67-0,94	157,3	92,2-298,7	13,95	13,01
	6	0,12	1500	1,65	1,96-0,64	44,38	26,1-83	8,85	7,91
		0,18	1500	1,65	1,96-0,64	44,38	26,1-83	9,45	8,51
		0,25	1500	1,65	1,96-0,64	44,38	26,1-83	11,48	10,53
		0,37	1500	1,65	1,96-0,64	44,38	26,1-83	13,58	12,63
		0,37	3000	3,32	3,95-2,2	179,4	105,3-250	11,58	10,63
		0,55	3000	3,32	3,95-1,28	179,4	105,3-335,5	14,18	13,23
AF 400	2	0,18	1000	1,69	2,1-0,64	18,7	11,5-27,2	12,23	10,92
		0,25	1000	1,69	2,1-0,64	18,7	11,5-27,2	13,03	11,72
		0,12	1500	2,56	3,2-0,97	42,9	26,5-62,6	11	9,69
		0,18	1500	2,56	3,2-0,97	42,9	26,5-62,6	11,6	10,29
		0,25	1500	2,56	3,2-0,97	42,9	26,5-62,6	13,63	12,32
		0,37	1500	2,56	3,2-0,97	42,9	26,5-62,6	15,73	14,42
		0,55	3000	5,1	6,4-2,8	173,5	107-235	16,33	15,02
		0,75	3000	5,1	6,4-1,94	173,5	107-235	17,1	15,79
	3	0,18	1000	1,9	2,3-0,58	23,4	15,6-41,2	12,42	11,11
		0,25	1000	1,9	2,3-0,58	23,4	15,6-41,2	13,22	11,91
		0,12	1500	2,87	3,5-0,87	53,8	35,9-94,8	11,19	9,88

Name	Number of Blades	Motor Power	Rotational Speed, rpm	Airflow Capacity		Total Pressure		Weight with Motor	
				at Max. Efficiency	In Operating Range	at Max. Efficiency	In Operating Range	With Supports	Without Supports
AF 500	6	0,25	1000	4,35	5,18-1,68	48,7	28,6-91	18,56	15,91
		0,55	1500	6,6	7,85-2,55	111,8	65,7-209,1	21,54	18,9
		0,75	1500	6,6	7,85-2,55	111,8	65,7-209,1	23,04	20,4
		4	3000	13,4	15,98-7,95	463,3	272-692	36,88	34,22
		5,5	3000	13,4	15,98-5,18	463,3	272-866,4	45,88	43,22
	12	0,18	1000	4,3	5,06-3,14	58	29,8-82,7	19,45	16,8
		0,25	1000	4,3	5,06-1,68	58	29,8-115,2	20,25	17,6
		0,75	1500	6,53	7,67-2,55	133,3	68,5-264,8	24,76	22,09
		1,1	1500	6,53	7,67-2,55	133,3	68,5-264,8	28,99	26,35
		1,5	1500	6,53	7,67-2,55	133,3	68,5-264,8	30,99	28,35
		5,5	3000	13,37	15,69-9,4	558,3	286,9-830	47,57	44,57
AF 630	2	0,37	1000	6,6	8,1-2,5	46,3	28,6-67,6	28,15	24,63
		0,75	1500	10	12,4-3,8	106,5	65,8-155,3	29,55	26,03
	3	0,37	1000	7,4	9,1-2,2	58,1	38,7-102,3	28,6	25,08
		1,1	1500	11,3	13,8-3,4	135,4	90,2-238,4	34,37	30,84
		1,5	1500	11,3	13,8-3,4	135,4	90,2-238,4	36,37	32,84
	4	0,37	1000	7,96	9,64-2,88	67,7	39,7-122	29,05	25,53
		0,55	1000	7,96	9,64-2,46	67,7	39,7-128,6	30,35	26,83
		1,1	1500	12,16	14,72-9,89	157,9	92,5-185,3	34,82	31,29
		1,5	1500	12,16	14,72-3,75	157,9	92,5-299,7	36,82	33,29
	6	0,55	1000	8,7	10,36-3,36	77,2	45,3-144,4	31,25	27,72
		1,5	1500	13	15,46-7,1	172	101-270	37,71	34,19
		2,2	1500	13	15,46-5,01	172	101-321,7	40,98	37,21
	12	0,55	1000	8,6	10,12-6,67	92,1	47,3-123,4	33,94	30,41
		0,75	1000	8,6	10,12-3,36	92,1	47,3-182,9	38,4	34,87
		2,2	1500	12,86	15,1-5,02	205	105,3-407,4	43,43	39,86
AF 800	2	0,37	750	10,6	13,1-4	46	28,4-67,1	59,63	50,68
		0,75	1000	13,5	16,7-5,1	74,7	46,2-109	60,83	51,88
		2,2	1500	20,2	24,9-7,6	166,4	102,8-242,7	66,04	57,1
	3	0,55	750	11,9	14,5-3,6	57,7	38,4-101,6	62,72	53,77
		0,75	1000	16,4	18,5-16,4	82,6	62,4-82,6	61,92	52,97
		1,1	1000	15,2	18,5-4,6	93,7	62,4-164,9	63,92	54,97
		3	1500	23,2	28,4-15,6	219,9	146,5-291,7	70,18	61,23
		4	1500	23,2	28,4-7,1	219,9	146,5-387,1	79,06	70,22
	4	0,55	750	12,8	15,49-6,43	67,3	39,4-103,4	63,8	54,85

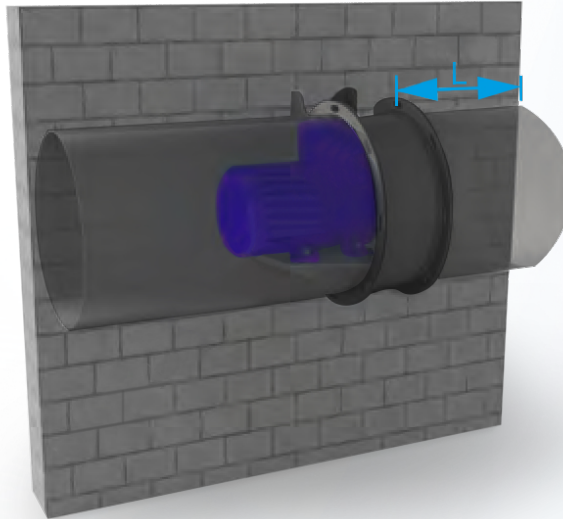
Name	Number of Blades	Motor Power	Rotational Speed, rpm	Airflow Capacity		Total Pressure		Weight with Motor	
				at Max. Efficiency	In Operating Range	at Max. Efficiency	In Operating Range	With Supports	Without Supports
AF 1250	4	11	1000	64,88	78,82-46	290	169,9-372,8	277,8	262,3
		15	1000	64,88	78,82-20	290	169,9-550,6	297,8	282,3
	6	7,5	750	53,4	63,5-20,6	187,3	110-350,3	283,1	267,6
		15	1000	70,97	84,4-43,2	330,8	194,2-481	302,6	287,6
		18,5	1000	70,97	84,4-27,4	330,8	194,2-618,5	320,5	305
	12	11	750	52,8	62-20,6	223,3	114,7-443,6	324	308,5
		22	1000	70,6	82,8-37	398,3	204,6-720	395,3	379,8



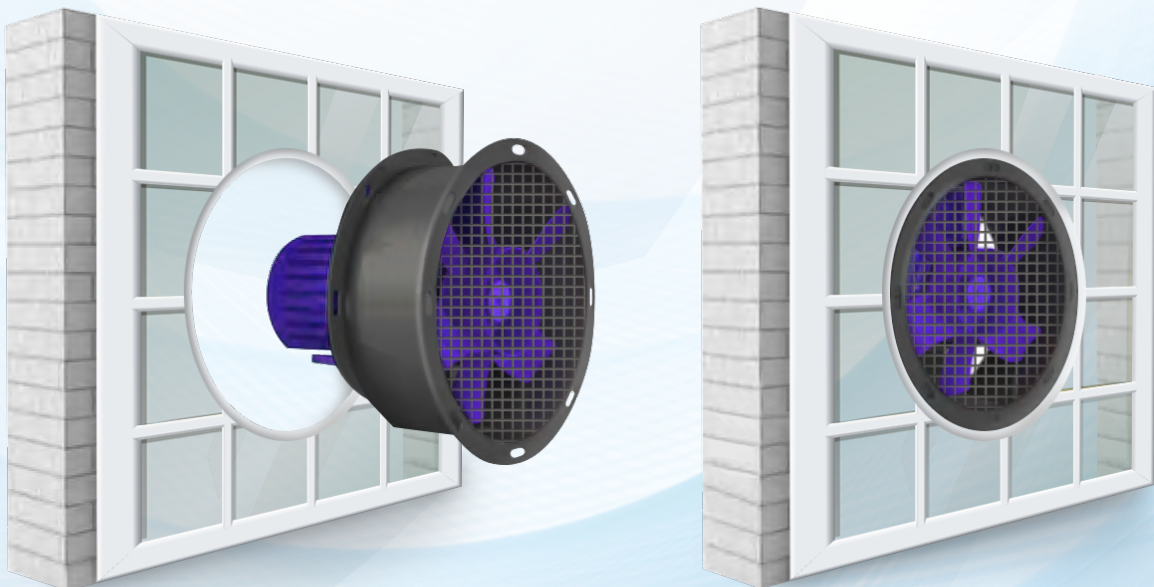
INSTALLATION OF FANS

- Axial fans are delivered to the customer fully assembled, complete with an electric motor.
- The fan installation must allow for easy access for maintenance during operation.
- To reduce noise levels to meet sanitary standards, the casing and ducts must be soundproofed.
- Upon the customer's request, the fan can be additionally equipped with vibration isolators and supports.
- Due to their design, axial fans can be installed in several ways: window-mounted, wall-mounted, and ceiling-mounted.

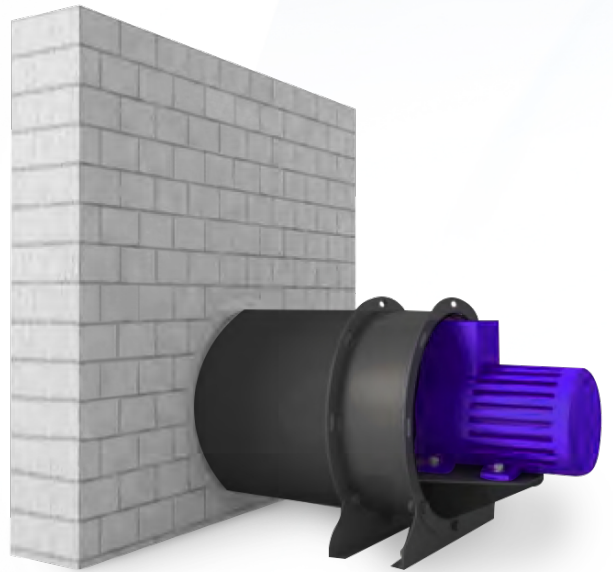
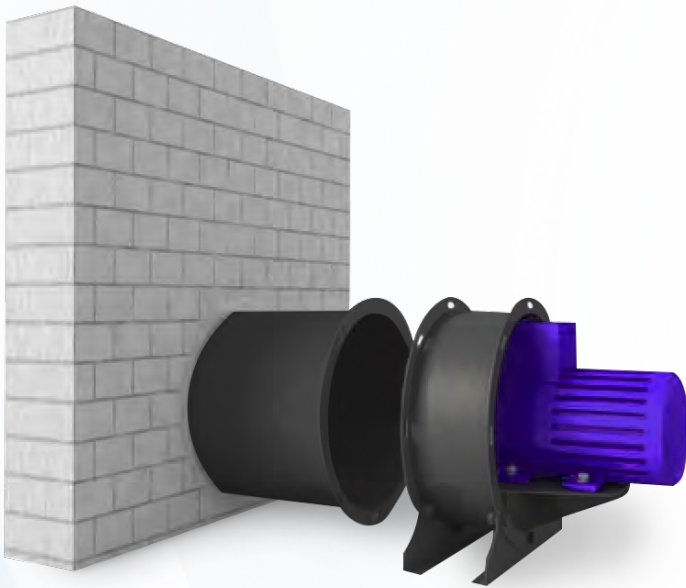
WALL-MOUNTED INSTALLATION METHOD



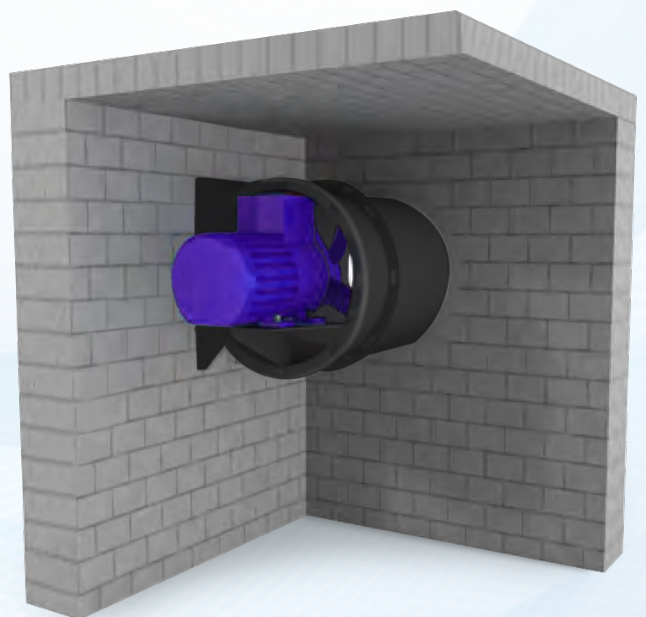
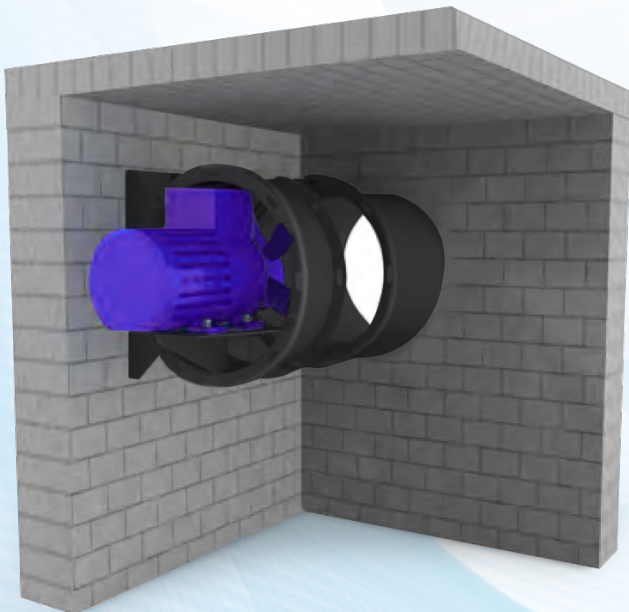
WINDOW-INTEGRATED



WALL-MOUNTED INSTALLATION METHOD



CEILING-MOUNTED INSTALLATION METHOD



FPD DAMPER

Designed for installation in ventilation ducts to prevent the spread of fire and combustion products from one room to another.

FEATURES

Various modifications are available depending on the application:

- **Normally open** (fire-retaining):
The damper closes during a fire, blocking the spread of fire and combustion products through ventilation ducts.
- **Normally closed** (smoke):
The damper opens during a fire. It is used in supply and exhaust smoke ventilation systems.

Available with a fire resistance rating of 120 minutes. Fire resistance class of the FPD-120 damper:

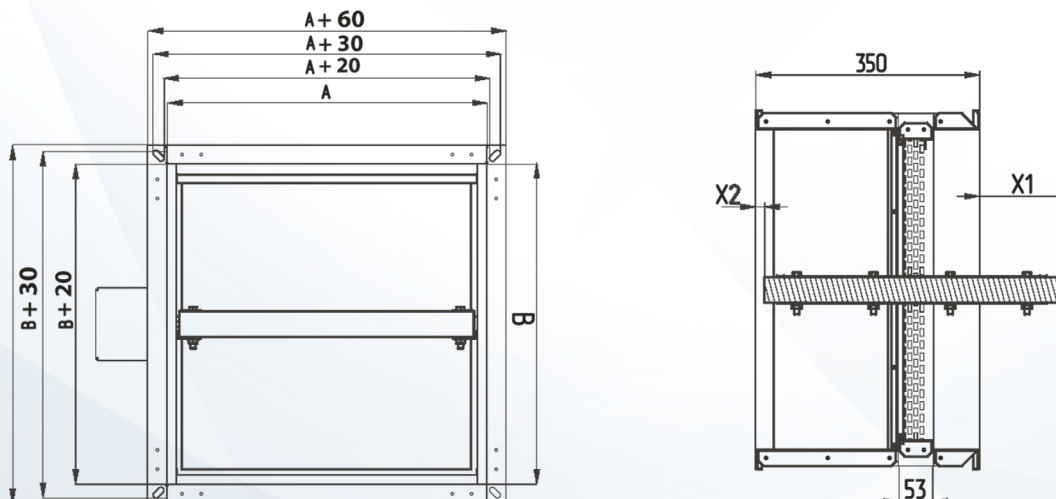
- In **normally open** mode (fire-retaining damper) – EI 120
- In **normally closed** mode (smoke damper) – EI 120, E120

DESIGN AND MATERIALS

The damper casing is made of galvanized steel from a European manufacturer. The rotating blade uses fire-resistant material. Around the blade is a thermally expanding gasket that expands under high temperatures to ensure a tight seal when the damper is closed. The actuators are mounted outside the casing. The damper blade automatically shuts off the air flow with a return spring servo drive.

FPD RECTANGULAR CROSS-SECTION DESIGN SCHEME

Dampers are allowed to operate in non-aggressive environments when the temperature does not exceed +35°C and the relative humidity does not exceed 80% in explosion-proof premises.



VALUES OF DAMPER BLADE PROTRUSIONS BEYOND THE FIRE DAMPER CASING

B, cm	15	20	25	30	35	40	45	50	55
X1, mm	-	-	0	25	50	75	100	125	150
X2, mm	-	-	-	-	-	-	-	-	10

B, cm	55	60	65	70	75	80	85	90	95	100
X1, mm	150	175	200	225	250	275	300	325	350	375
X2, mm	10	35	60	85	110	135	160	185	210	23

X1 - blade protrusion at damper inlet, mm

X2 - blade protrusion at damper outlet, mm

When designing ventilation systems, it is necessary to account for the blade protrusion. A straight section of ductwork must be designed before and after the damper with a cross-section equal to that of the damper and a length equal to the blade protrusion. FPD dampers with no X2 blade protrusion (for $B \leq 50$ cm) can be equipped with a protective mesh and used for shaft installation.

DIMENSIONS AND FREE AREA OF DAMPERS, M²

AxB, cm	15	20	25	30	35	40	45	50	55	60	65	70	75	80
15	0,0086	0,0124	0,0161	0,0199	0,0236	0,0274	0,0311	0,0349	0,0386	0,0424	0,0461	0,0499	0,0536	0,0574
20		0,0206	0,0269	0,0331	0,0394	0,0456	0,0519	0,0581	0,0644	0,0706	0,0769	0,0831	0,0894	0,0956
25			0,0376	0,0464	0,0551	0,0639	0,0726	0,0814	0,0901	0,0989	0,1076	0,1164	0,1251	0,1339
30				0,0596	0,0709	0,0821	0,0934	0,1046	0,1159	0,1271	0,1384	0,1496	0,1609	0,1721
35					0,0866	0,1004	0,1141	0,1279	0,1416	0,1554	0,1691	0,1829	0,1966	0,2104
40						0,1186	0,1349	0,1511	0,1674	0,1836	0,1999	0,2161	0,2324	0,2486
45							0,1556	0,1744	0,1931	0,2119	0,2306	0,2494	0,2681	0,2869
50								0,1976	0,2189	0,2401	0,2614	0,2826	0,3039	0,3251
55									0,2446	0,2684	0,2921	0,3159	0,3396	0,3634
60										0,2966	0,3229	0,3491	0,3754	0,4016
65											0,3536	0,3824	0,4111	0,4399
70												0,4156	0,4469	0,4781
75													0,4826	0,5164
80														0,5546
85														
90														
95														
100														

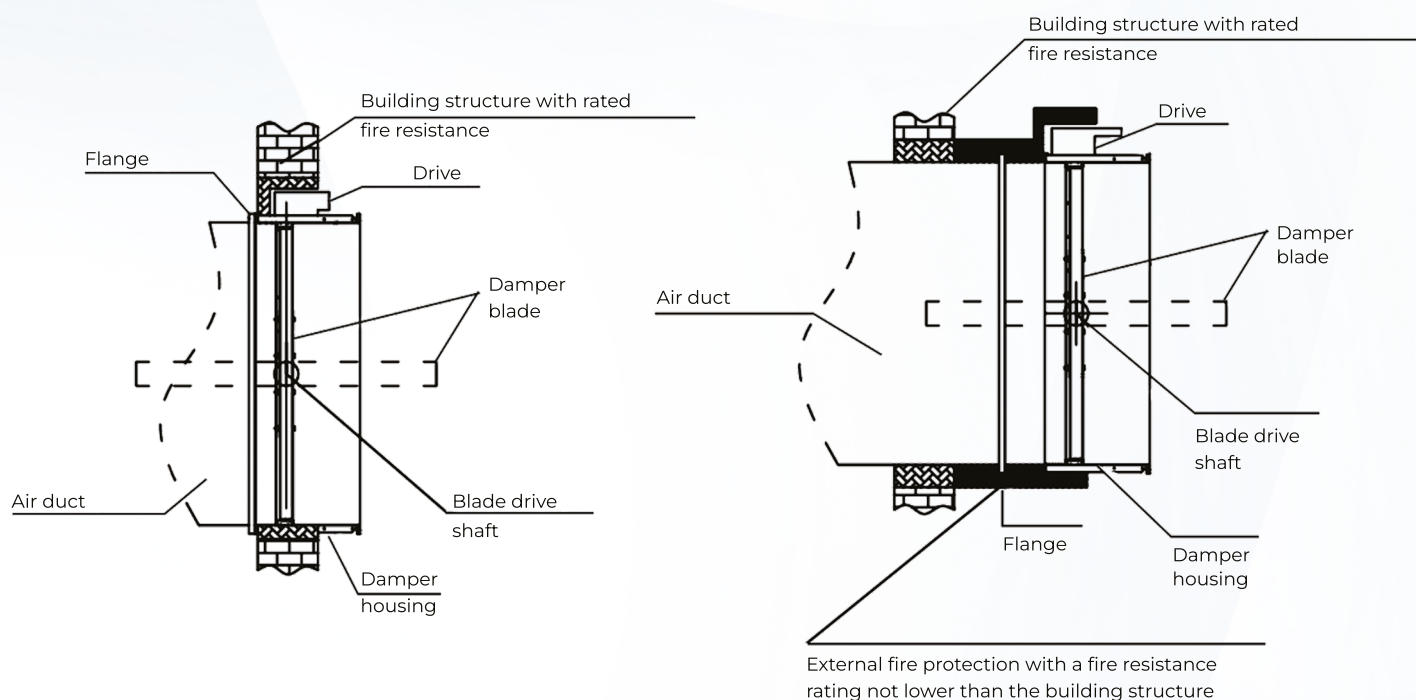
AxB, cm	85	90	95	100	105	110	115	120	125	130	135	140	145	150
15	0,0611	0,0649	0,0686	0,0724	0,0761	0,0799	0,0836	0,0874	0,0911	0,0949	0,0986	0,1024	0,1061	0,1099
20	0,1019	0,1081	0,1144	0,1206	0,1269	0,1331	0,1394	0,1456	0,1519	0,1581	0,1644	0,1706	0,1769	0,1831
25	0,1426	0,1514	0,1601	0,1689	0,1776	0,1864	0,1951	0,2039	0,2126	0,2214	0,2301	0,2389	0,2476	0,2564
30	0,1834	0,1946	0,2059	0,2171	0,2284	0,2396	0,2509	0,2621	0,2734	0,2846	0,2959	0,3071	0,3184	0,3296
35	0,2241	0,2379	0,2516	0,2654	0,2791	0,2929	0,3066	0,3204	0,3341	0,3479	0,3616	0,3754	0,3891	0,4029
40	0,2649	0,2811	0,2974	0,3136	0,3299	0,3461	0,3624	0,3786	0,3949	0,4111	0,4274	0,4436	0,4599	0,4761
45	0,3056	0,3244	0,3431	0,3619	0,3806	0,3994	0,4181	0,4369	0,4556	0,4744	0,4931	0,5119	0,5306	0,5494
50	0,3464	0,3676	0,3889	0,4101	0,4314	0,4526	0,4739	0,4951	0,5164	0,5376	0,5589	0,5801	0,6014	0,6226
55	0,3871	0,4109	0,4346	0,4584	0,4821	0,5059	0,5296	0,5534	0,5771	0,6009	0,6246	0,6484	0,6721	
60	0,4279	0,4541	0,4804	0,5066	0,5329	0,5591	0,5854	0,6116	0,6379	0,6641	0,6904	0,7166		
65	0,4686	0,4974	0,5261	0,5549	0,5836	0,6124	0,6411	0,6699	0,6986	0,7274	0,7561			
70	0,5094	0,5406	0,5719	0,6031	0,6344	0,6656	0,6969	0,7281	0,7594	0,7906				
75	0,5501	0,5839	0,6176	0,6514	0,6851	0,7189	0,7526	0,7864	0,8201					
80	0,5909	0,6271	0,6634	0,6996	0,7359	0,7721	0,8084	0,8446						
85	0,6316	0,6704	0,7091	0,7479	0,7866	0,8254	0,8641							
90		0,7136	0,7549	0,7961	0,8374	0,8786								
95			0,8006	0,8444	0,8881									
100				0,8926										

INSTALLATION

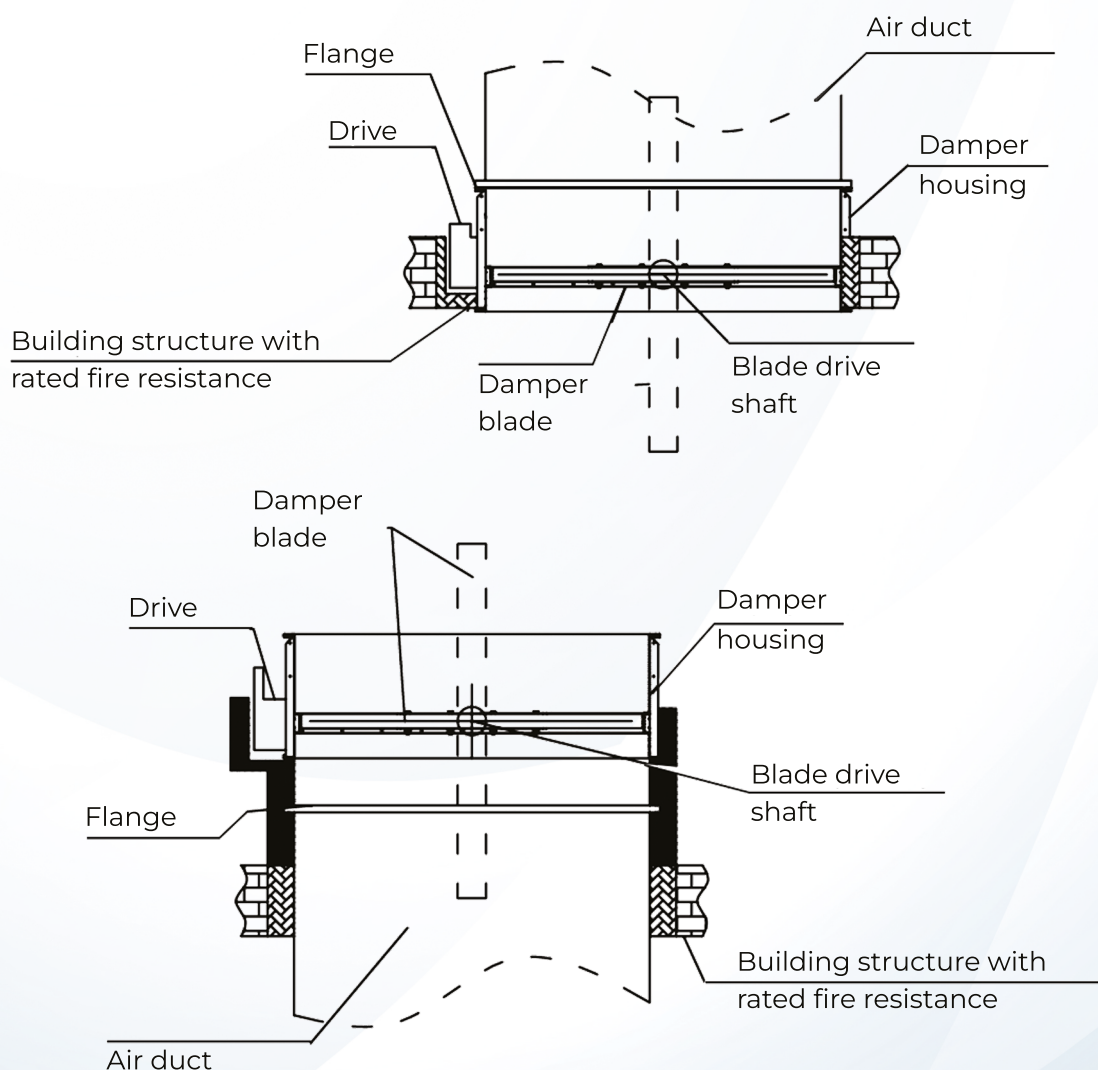
Dampers can be installed in any position in vertical and horizontal passages of fire-resistant partition structures. The damper must be installed so that the damper blade (in the closed position) is located within the plane of the fire-resistant partition structure.

If such installation is not possible, the damper casing between the fire-resistant structure and the blade must be insulated with fire-resistant material in accordance with current standards.

INSTALLATION IN VERTICAL STRUCTURES



INSTALLATION IN FLOOR SLABS



SED DAMPER

The SED smoke exhaust air dampers are manufactured in accordance with TU U 26.35851853-003:2013 and have a certificate of conformity registered in the UkrSEPRO certification system registry No. UA1.166.0009381-14.

APPLICATION

These dampers may be used in accordance with DBN B.2.5-67:2013 and DBN B.2.5-56:2014 in emergency smoke ventilation systems for removing smoke during the early stages of fire in buildings to ensure the evacuation of people from buildings from the area where the fire originated.

Dampers are intended for installation in openings of enclosing structures of smoke ducts in smoke exhaust systems from upper floors, corridors along evacuation routes in residential, public, administrative, utility, and industrial multi-purpose buildings according to DBN B.2.2-15:2005, DBN B.1.2002, DBN B.2.2-9:99, DBN B.2.2-4:97, DBN B.2.2-3:97, and DBN B.2.2-28:2010, as well as at branch connections of air ducts.

INSTALLATION

Dampers can be installed in any position. For horizontal orientation of the rotation axis, the servo drive should be located on the left. The dampers do not have a service hatch on the casing, so units with an internal drive must be installed at the ends of air ducts. Gaps between the damper housing and the building structure must be sealed with cement-sand mortar.

MODIFICATIONS

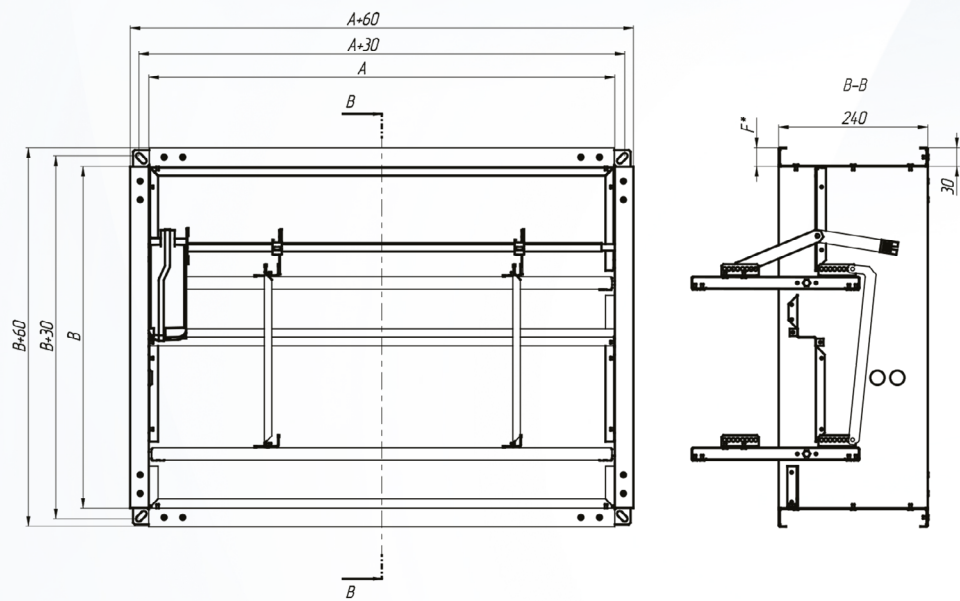
- **Wall-mounted** (with one connecting flange);
- **Duct-mounted** (with two connecting flanges);
- **Optional:** electromechanical actuator.

DESIGN AND MATERIALS:

The casing and damper blade are made of galvanized steel sheet. In wall-mounted dampers, actuators are mounted inside the casing. In duct-mounted dampers, actuators can be mounted both externally and internally.

SED-AXB-M-V-K-ST2

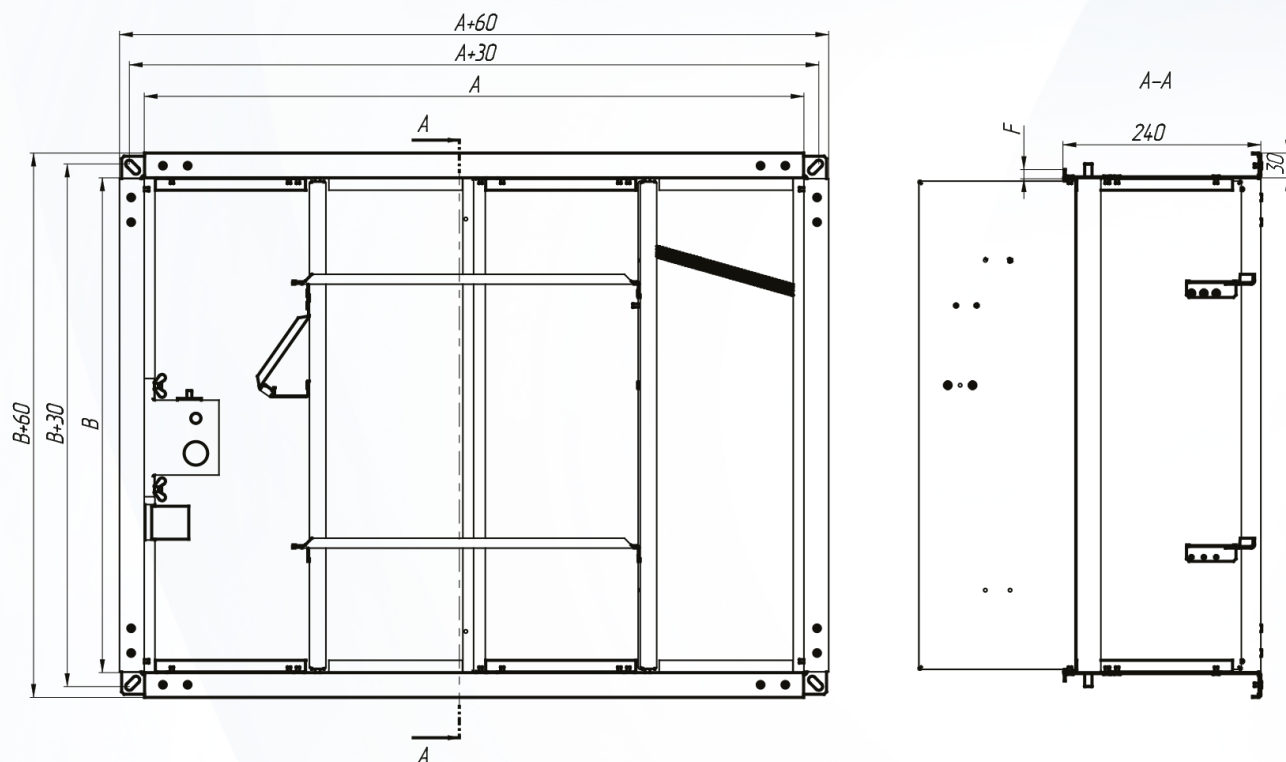
Damper with a certain number of blades from 1 to 3, with internal drive, duct-mounted.



AxB, cm	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
45	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
50	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
55	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
60	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
65	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
70	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
75	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
80	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
85	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
90	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
95	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
100	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
105	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
110	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
115	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
120	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
125	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
130	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
135	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
140	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
145	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
150	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

SED-AXB-N-V-S

Damper with two blades, with electromagnet, wall-mounted.



AxB, cm	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125
30	0,045	0,062	0,075	0,088	0,100	0,113	0,126	0,139	0,151	0,164	0,177	0,190	0,202	0,215	0,228	0,241	0,253	0,266	0,279	0,292
35	0,059	0,080	0,096	0,112	0,128	0,144	0,160	0,176	0,192	0,208	0,224	0,240	0,256	0,272	0,288	0,304	0,320	0,336	0,352	0,368
40	0,068	0,092	0,111	0,129	0,148	0,166	0,185	0,203	0,222	0,240	0,259	0,277	0,296	0,314	0,333	0,351	0,370	0,388	0,407	0,425
45	0,077	0,105	0,126	0,147	0,168	0,189	0,210	0,231	0,252	0,273	0,294	0,315	0,336	0,357	0,378	0,399	0,420	0,441	0,462	0,483
50	0,086	0,117	0,141	0,164	0,188	0,211	0,235	0,258	0,282	0,305	0,329	0,352	0,376	0,399	0,423	0,446	0,470	0,493	0,517	0,540
55	0,096	0,130	0,156	0,182	0,208	0,234	0,260	0,286	0,312	0,338	0,364	0,390	0,416	0,442	0,468	0,494	0,520	0,546	0,572	0,598
60	0,105	0,142	0,171	0,199	0,228	0,256	0,285	0,313	0,342	0,370	0,399	0,427	0,456	0,484	0,513	0,541	0,570	0,598	0,627	0,655
65	0,114	0,155	0,186	0,217	0,248	0,279	0,310	0,341	0,372	0,403	0,434	0,465	0,496	0,527	0,558	0,589	0,620	0,651	0,682	0,713
70	0,123	0,167	0,201	0,234	0,268	0,301	0,335	0,368	0,402	0,435	0,469	0,502	0,536	0,569	0,603	0,636	0,670	0,703	0,737	0,770
75	0,133	0,180	0,216	0,252	0,288	0,324	0,360	0,396	0,432	0,468	0,504	0,540	0,576	0,612	0,648	0,684	0,720	0,756	0,792	0,828
80	0,142	0,192	0,231	0,269	0,308	0,346	0,385	0,423	0,462	0,500	0,539	0,577	0,616	0,654	0,693	0,731	0,770	0,808	0,847	0,885
85	0,151	0,205	0,246	0,287	0,328	0,369	0,410	0,451	0,492	0,533	0,574	0,615	0,656	0,697	0,738	0,779	0,820	0,861	0,902	0,943
90	0,160	0,217	0,261	0,304	0,348	0,391	0,435	0,478	0,522	0,565	0,609	0,652	0,696	0,739	0,783	0,826	0,870	0,913	0,957	1,000
95	0,170	0,230	0,276	0,322	0,368	0,414	0,460	0,506	0,552	0,598	0,644	0,690	0,736	0,782	0,828	0,874	0,920	0,966	1,012	1,058
100	0,179	0,242	0,291	0,339	0,388	0,436	0,485	0,533	0,582	0,630	0,679	0,727	0,776	0,824	0,873	0,921	0,970	1,018	1,067	1,115
105	0,188	0,255	0,306	0,357	0,408	0,459	0,510	0,561	0,612	0,663	0,714	0,765	0,816	0,867	0,918	0,969	1,020	1,071	1,122	1,173
110	0,197	0,267	0,321	0,374	0,428	0,481	0,535	0,588	0,642	0,695	0,749	0,802	0,856	0,909	0,963	1,016	1,070	1,123	1,177	1,230
115	0,207	0,280	0,336	0,392	0,448	0,504	0,560	0,616	0,672	0,728	0,784	0,840	0,896	0,952	1,008	1,064	1,120	1,176	1,232	1,288
120	0,216	0,292	0,351	0,409	0,468	0,526	0,585	0,643	0,702	0,760	0,819	0,877	0,936	0,994	1,053	1,111	1,170	1,228	1,287	1,345
125	0,225	0,305	0,366	0,427	0,488	0,549	0,610	0,671	0,732	0,793	0,854	0,915	0,976	1,037	1,098	1,159	1,220	1,281	1,342	1,403



FPDR DAMPER

Designed for installation in ventilation ducts to prevent the spread of fire and combustion products from one room to another by closing off the duct in accordance with applicable norms and standards.

APPLICATION

Functionally, these dampers are used according to the requirements of DBN B.2.5-67:2013, DBN B.2.5-56:2014, and DBN B.1.1-7:2016 in heating, ventilation, and air conditioning systems of civil and industrial buildings, in emergency smoke ventilation systems to remove smoke during a fire to ensure the evacuation of people from the building in the early stage of a fire that originated in one of the rooms.

GENERAL INFORMATION

Dampers are permitted for use in non-aggressive environments when the temperature does not exceed +35°C and the relative humidity does not exceed 80% in explosion-proof premises.

Dampers must **not** be used in systems that transfer steam-air mixtures from process units where:

- explosive substances are heated above their autoignition temperature or are under residual pressure
- mixtures are transported with higher-than-normal aggressiveness or sticky fibrous materials
- no periodic cleaning is performed according to regulations to prevent combustible deposits

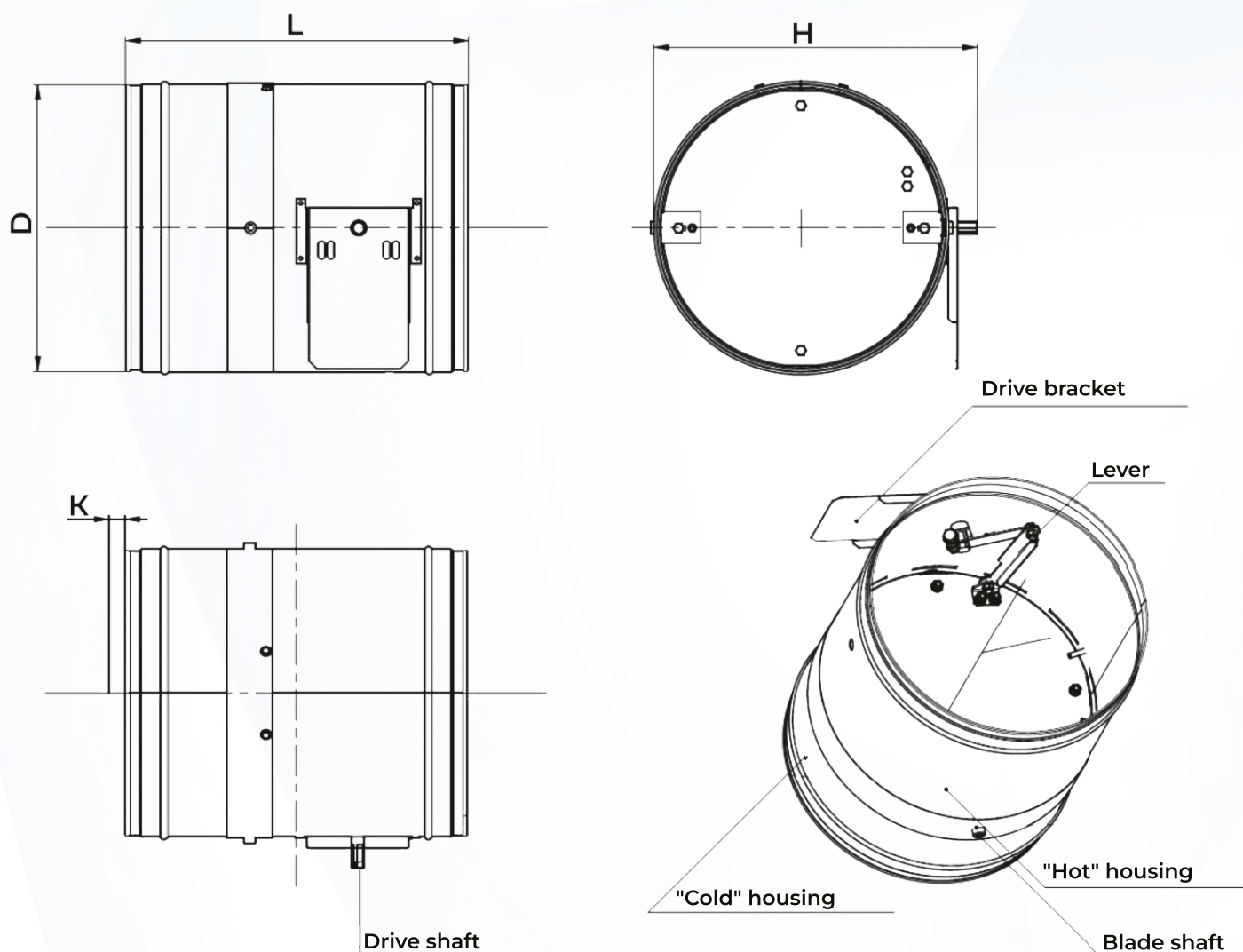
DESIGN AND MATERIALS

The damper housing is made of galvanized steel from a European manufacturer. The housing consists of a nominal “hot” part and a “cold” part separated by a thermal insulation insert with perforation. The rotating blade uses fire-resistant material. Around the blade perimeter is a thermally expanding gasket that expands under high temperatures, ensuring high tightness when the damper is closed.

MODIFICATIONS

- **Fire-retaining:** with electric actuator and built-in spring return drive with thermal sensor.
- **Smoke:** with electric actuator

DAMPER DESIGN



OVERALL AND CONNECTION DIMENSIONS OF DAMPERS

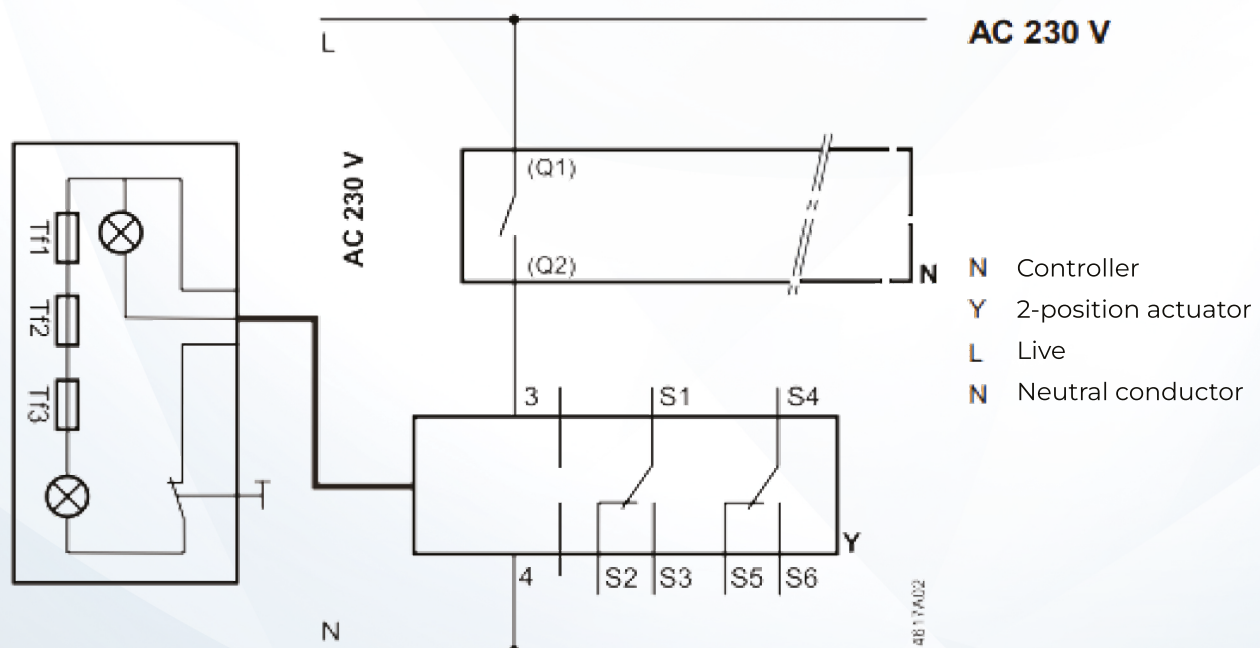
Model	Diameter D, mm	Length L, mm	Height H, mm	Blade protrusion K, mm	Weight, kg
FPDR.120.D100	96	370	131,1	-	3,26
FPDR.120.D125	121	370	156,3	-	3,78
FPDR.120.D160	156	370	191,3	-	4,62
FPDR.120.D200	196	370	231,1	-	5,71
FPDR.120.D250	246	370	281,3	-	7,31
FPDR.120.D315	311	370	346,3	22	9,96
FPDR.120.D355	351	420	386,3	17	11,96
FPDR.120.D400	396	420	431,3	39,5	13,96

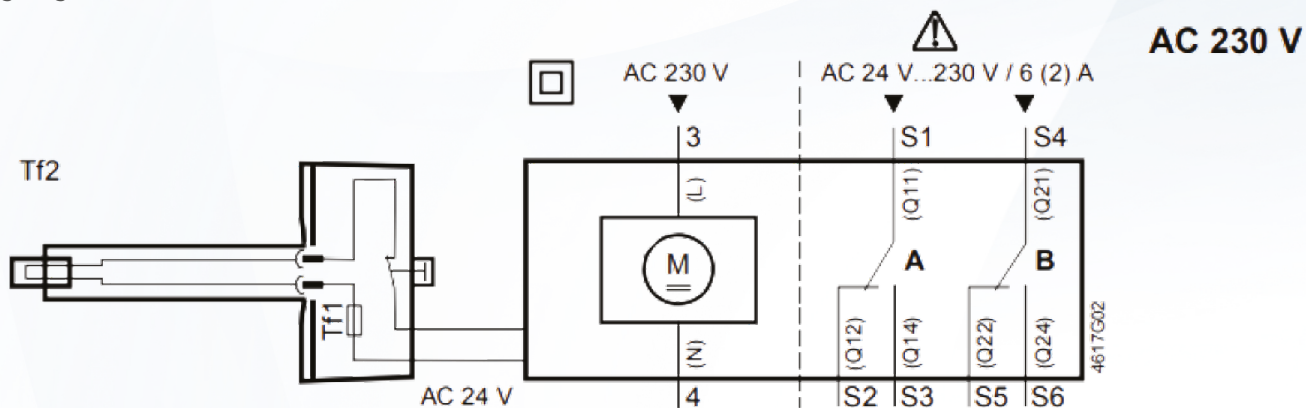
Note: The weight is given including the actuator.

TECHNICAL SPECIFICATIONS OF ACTUATORS

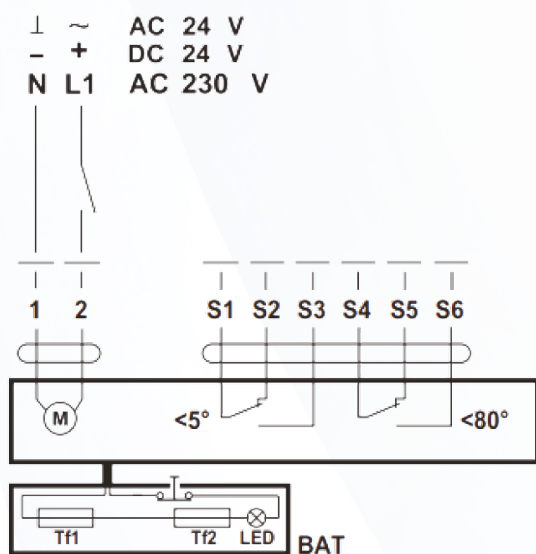
Parameter	Siemens GRA326.1E/T12	Siemens GNA326.1E/T12	BELIMO BFL 230-T	BELIMO BFN 230-T
Power, W	3,5	4,5	3,5	5,0
Dimensions (WxHxD), mm	81x63x178	81x63x178	99x52x180	80x48x180
Protection class, IP	54	54	54	54
Motor torque, Nm	4	7	4	9
Fixed switching points	5°/80°	5°/80°	5°/80°	5°/80°
Turn time with motor/spring, s	90/15	90/15	60/20	60/20
Nominal/max rotation angle, °	90/95	90/95	90/95	90/95
Sensor activation temp, °C	72	72	72	72
Voltage, V	230	230	230	230
Control	2-position	2-position	2-position	2-position
Operating temp, °C	-32 to +50	-32 to +50	-30 to +55	-30 to +55
Weight, kg	1,4	1,3	1,2	1,5

Wiring diagram for Siemens GRA326.1E/T12 actuator





Wiring diagram for Belimo BFL 230-T, BFN 230-T actuators



INSTALLATION DIAGRAMS

Diagram "No1"

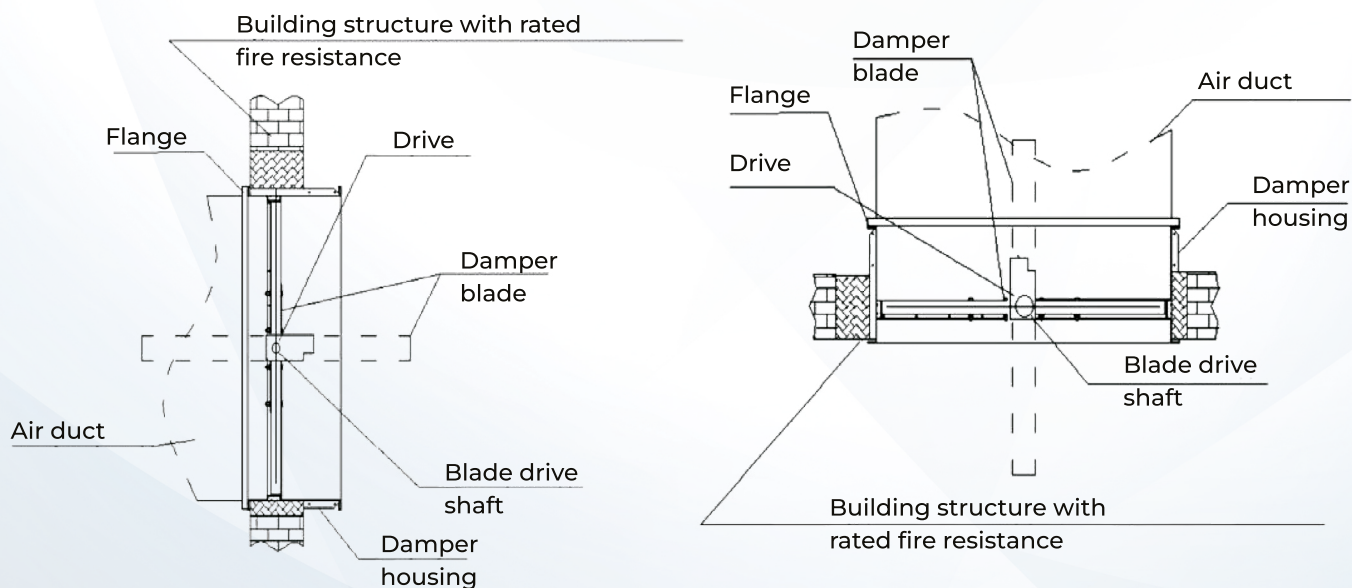


Diagram "No2"

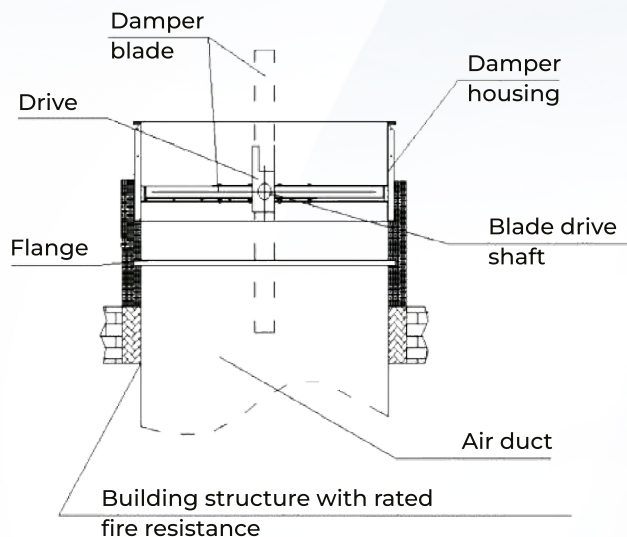
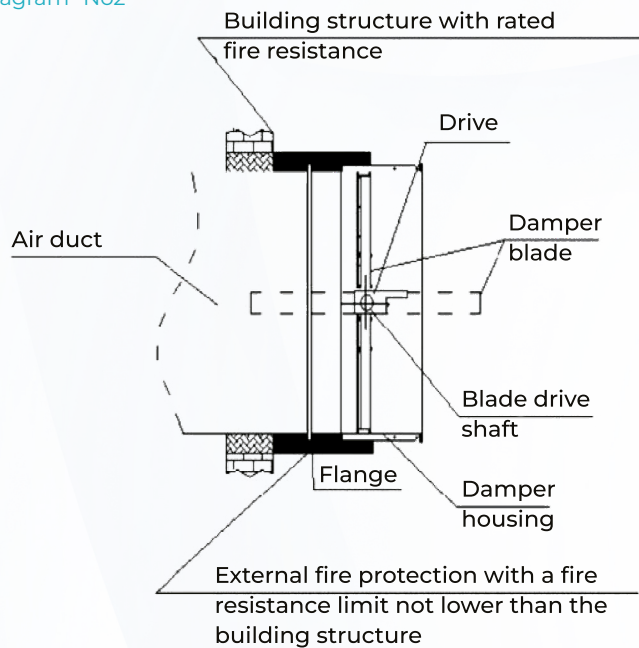


Diagram "No3"

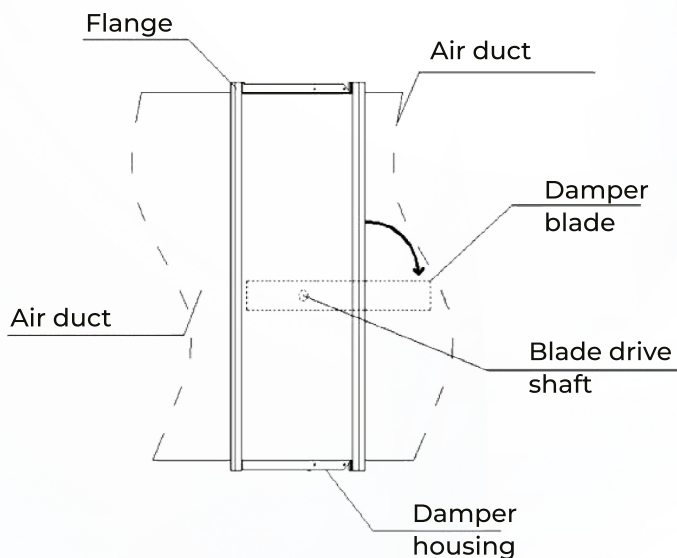
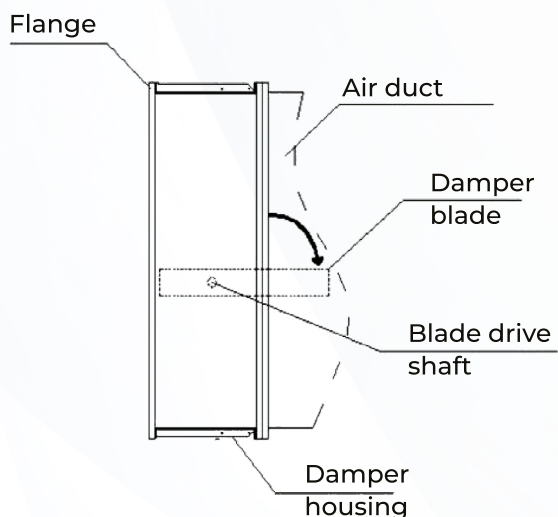
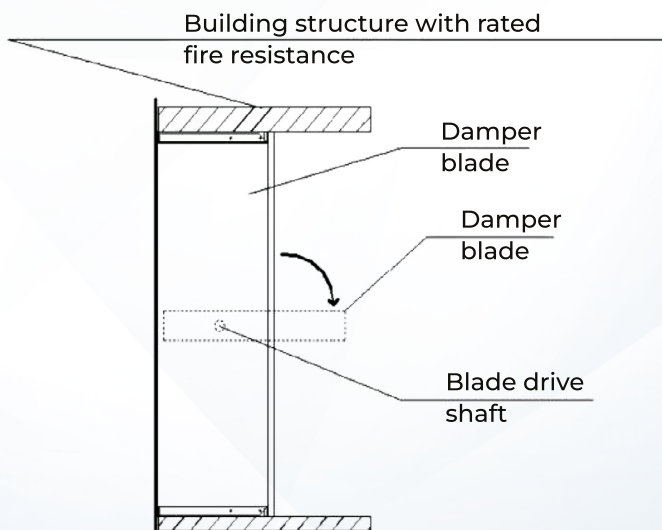
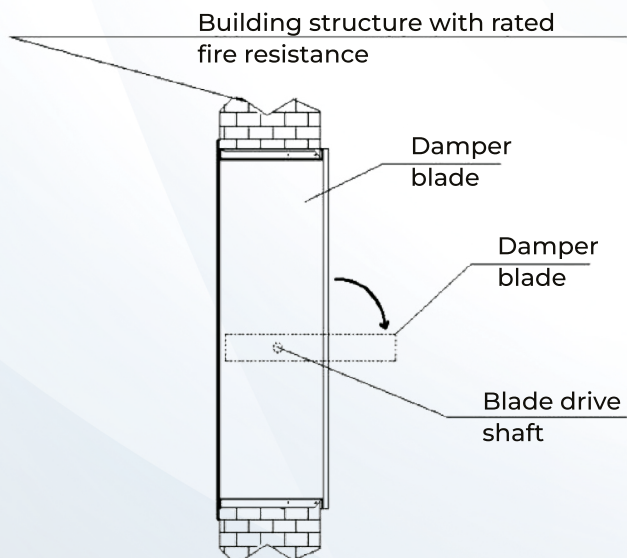
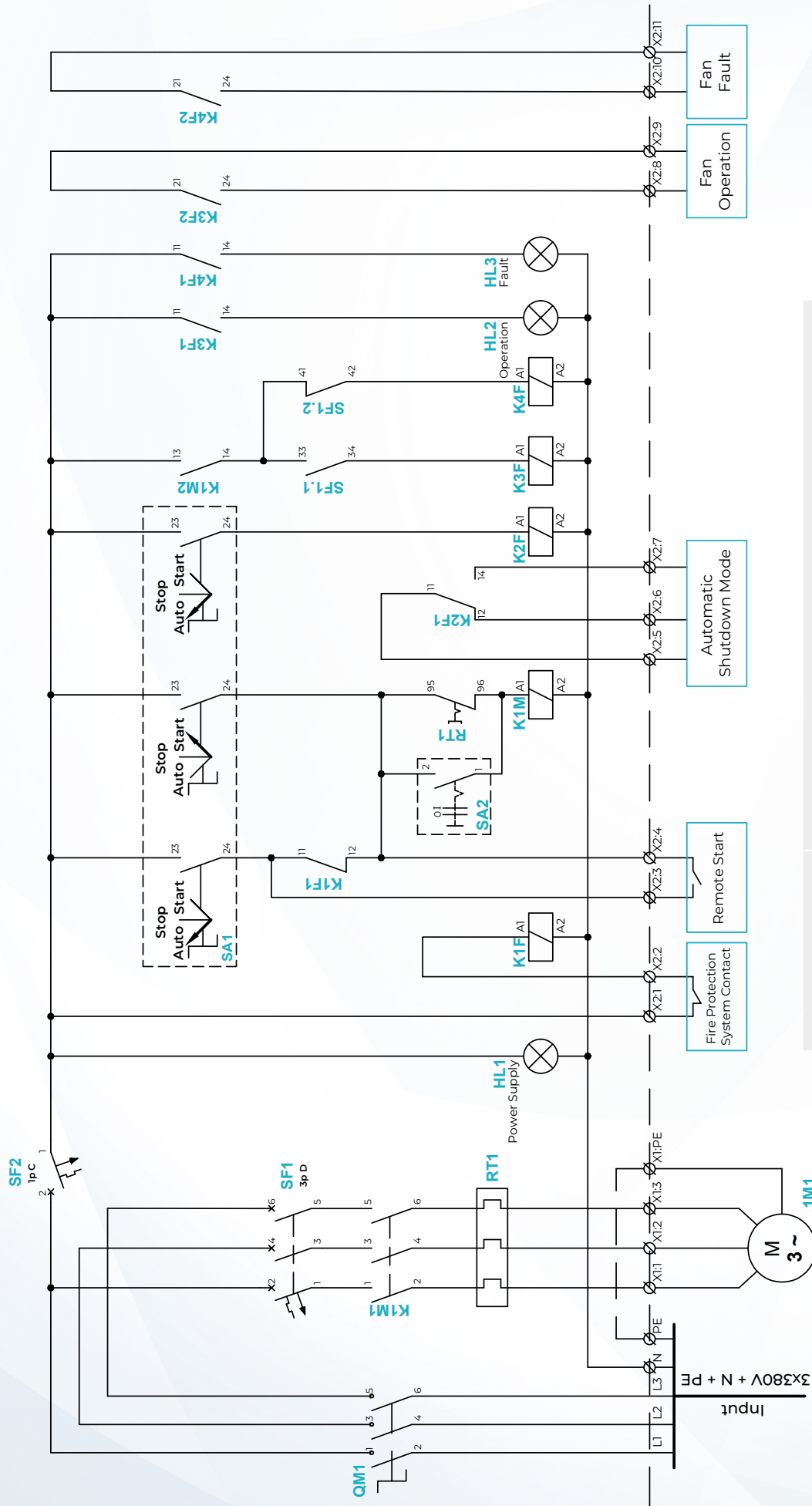


Diagram "No4"



SMOKE EXTRACTION UNIT CONTROL PANEL





SA2 Position	Description
"0"	Activate during commissioning
"1"	Activate in operating mode