Radial fan FAM (B, P, R) -1, -2, -3, -7, -8, -9

Model

Radial fan FAM

The FAM radial fan is an industrial and ventilation fan that works with a high degree of efficiency.

The fans are available in a number of different models that can all be combined with three different types of impellers depending on application. The B impeller has blades that are bent backwards, the P impeller has flat blades that are bent backwards and the R impeller has straight radial blades.

Facts

The FAM radial fan with a B impeller is intended for clean air (clean gases).

Flow range: 0.05–38 m^3/s

Pressure range: 500–7,500 Pa

Efficiency up to: 82%

The FAM radial fan with a P impeller is not only intended for clean air (gas) but also air (gas) with lower dust content.

Flow range: 0.05–33 m^3/s

Pressure range: 500–7,500 Pa

Efficiency up to: 75%

The FAM radial fan with an R impeller is intended for transport of polluted air (gas) or grain sized material.

Flow range: 0.05–28 m^3/s

Pressure range: 100–6,500 Pa

Efficiency up to: 59%

All belt-driven and some direct-driven fans can be equipped with a cooling disc that allows the fan to be used for hot air (gas) up to 300°C.

Design

The fan is delivered fully ready to be installed. The fan is manufactured with the required blow-off form. Belt-driven fans (-3) are always delivered on a base, while other designs are equipped with a base when necessary.

The fan, which has an all-welded design, is normally delivered lacquered in environmental class C2.

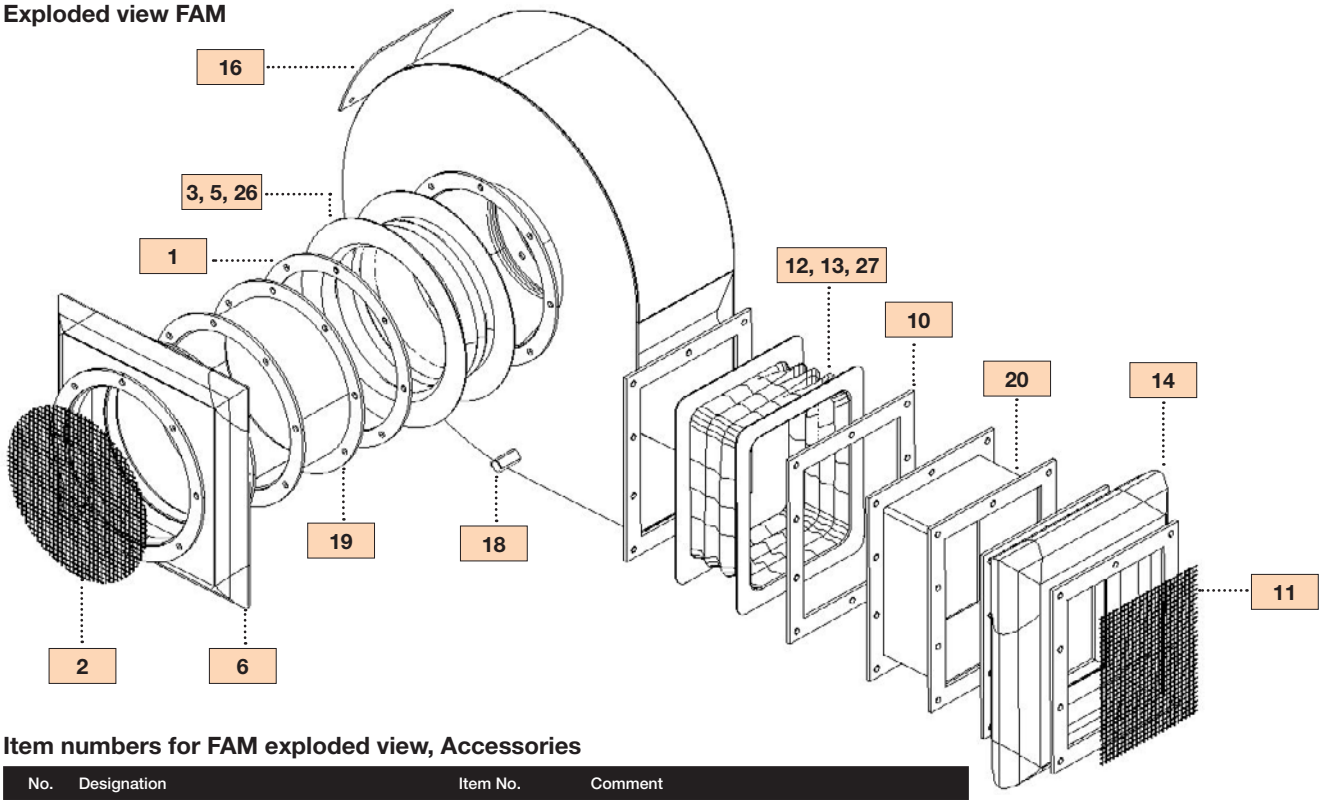
FAMB-1-031

FAMB-3-031

Radial fan FAM – Specifications

Item No./Fan code =	FAM	-	X	-	A	-	BBB	-	C	-	D	-	E
Impeller													
Bent backwards, B			B										
Flat bent backwards, P			P										
Straight radial, R			R										
Drive type													
Direct drive, motor trestle					1								
Direct drive, horizontal flange motor					2								
Belt drive, on base					3								
Direct drive with shaft coupling					7								
Direct drive with cooling disc	Direct driven extended shaft				8								
Direct drive with cooling disc, horizontal flange motor	Direct driven extended shaft				9								
Size													
012							012						
016							016						
020							020						
024							024						
025							025						
026							026						
029							029						
031							031						
032							032						
038							038						
039							039						
040							040						
050							050						
063							063						
071							071						
080							080						
090							090						
100							100						
112							112						
Version													
Normal									6				
Non-sparking									7				
Reinforced									8				
Reinforced + Non-sparking									9				
Blow-off form													
H1											1		
H2											2		
H3											3		
H4											4		
V1											5		
V2											6		
V3											7		
V4											8		
Drive type direct drive													
63 = Ø11													1
71 = Ø14													2
80 = Ø19													3
90 = Ø24													4
100 = Ø28													5
112 = Ø28													6
132 = Ø38													7
160 = Ø42													8
180 = Ø48													9
200 = Ø55													10
225 = Ø60													11
250 = Ø65													12
280 = Ø75													13
315S/M = Ø80													14
Drive type belt-drive													
Motor 63-180, on base													1
Motor 200-225, on base													2
Motor 250-280, on base													3
Motor 315-355, on base													4

Exploded view FAM



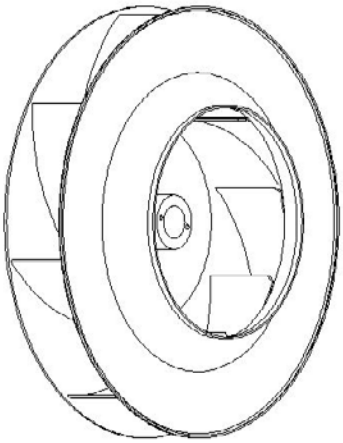
Item numbers for FAM exploded view, Accessories

No.	Designation	Item No.	Comment
1	Flange inlet, painted	FODA1aaa1	For unpainted version, replace last 1 with a 0
2	Protective guard, Inlet FA	GOCA1aaa	Excluding FODA flange
3	Sleeve coupling, inlet L = 100 flange	POAA1aaa	Tmax: +80°C
4	Plastic fabric sleeve coupling, L = 150	POBA1aaa	Tmax: +80°C
5	Flue gas sleeve coupling, inlet L = 100 flange	AOAA1aaa	Tmax: +350°C, Al clad fibreglass sleeve coupling
6	Expansion boot, inlet FA	EOBA1aaa	Tmax: +500°C, Rust-proof boot with painted flanges
7	Flue gas sleeve coupling, L = 150	AOBA1aaa	Tmax: +350°C, Al clad fibreglass sleeve coupling
8	Wear cone, inlet L = 100	KOHA1aaa	
9	Clamping band	KBAA1aaa	
10	Flange inlet, painted	FRCA1aaa1	For unpainted version, replace last 1 with a 0
11	Protective guard, Outlet FA	GRDA1aaa	Excluding FRCA flange
12	Sleeve coupling, outlet L = 120 flange	SRGA1aaa	Tmax: +80°C
13	Flue gas sleeve coupling FA, Outlet L = 120 flange	ARGA1aaa	Tmax: +350°C, Al clad fibreglass sleeve coupling
14	Expansion boot, outlet FA 020	ERBA1aaa	Tmax: +500°C, Rust-proof boot with painted flanges
15	Transition piece, Outlet FAaaa-Øbbb	TRFA1aaaDbbb	aaa – fan size, bbb – diameter mm, c - 1 aluzink, -2 painted
16	Inspection cover	FAMZ1aaa11	
17	Inspection cover, insulated	FAMZ1aaa112	
18	Drainage, internal thread R15 L = 34	FAMZ1aaa12	
19	Extension inlet for insulation, L =	IOAA1aaaLbbb	aaa – fan size, bbb – extension mm
20	Extension outlet for insulation, L =	IRAA1aaaLbbb	aaa – fan size, bbb – extension mm
21	Motor rain cover	FAMZ1aaa13	
22	Base FA An1	FAMZ1aaa14	FAM 012-040 and FAH 010-031
23	Cooling disc	FAMZ1aaa31	Tmax: +300°C
24	Shaft seal, Teflon	FAMZ1aaa32	Tmax: +250°C
25	Wear cone, outlet L = 120	KRHA1aaa	
26	Flue gas sleeve coupling, inlet L = 100 flange	ROAA1aaa	Tmax: +400°C, Durable flue gas sleeve coupling
27	Flue gas sleeve coupling FA, Outlet L = 120 flange	RRAA1aaa	Tmax: +400°C, Durable flue gas sleeve coupling
28	Radiation shield	FAMZ1aaa33	Tmax: +200°C

Item numbers for FAM, Painting

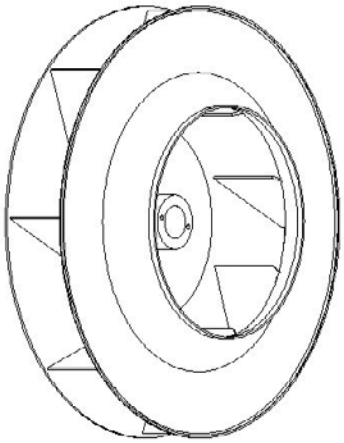
No.	Designation	Item No.	Comment
1	Set-up cost painting FAM M2 (C2)	FAMZ1811	Only used with Customer-specific colour
2	Set-up cost painting FAM M3/Epoxy C4	FAMZ1812	
3	Set-up cost painting FAM Heat resistant	FAMZ1813	Tmax: +400°C. Colour silver-grey.
4	Radial fan painting Customer-specific Colour	FAMZ1aaa913	Specify RAL colour code when ordering.
5	Set-up cost Hot-dip galvanising	FAMZ1814	
6	Radial fan, hot-dip galvanising	FAMZ1aaa914	

B impeller



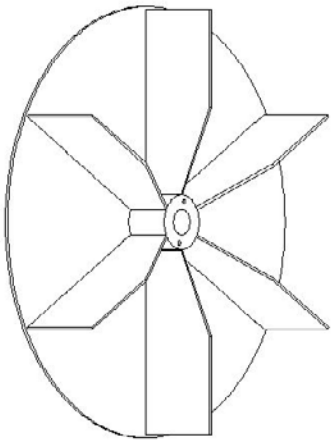
Backwards bent blades
For transporting clean gases.

P impeller



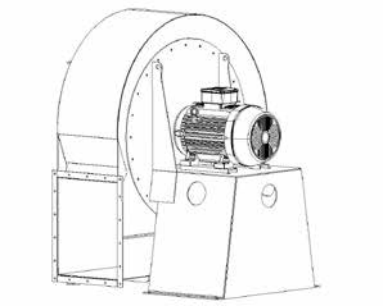
Flat, backwards bent blades
For transport of clean gases or gases with low level of dust content.

R impeller

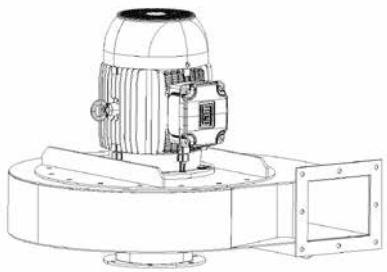


Straight, radial blades
For transport of clean gases. Also suitable for grain size material.

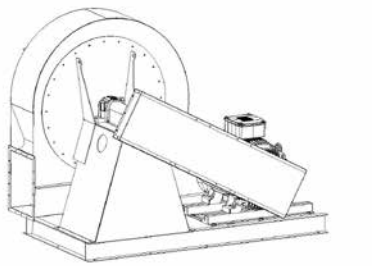
Drive type



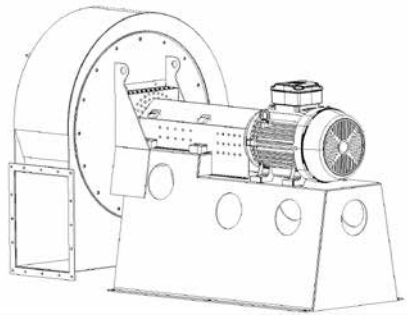
Drive form An1
Direct drive, motor trestle.



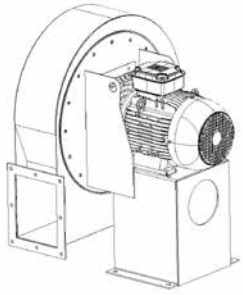
Drive type An2
Direct drive, horizontal flange motor



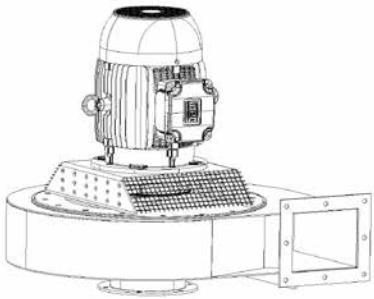
Drive type An3
Belt-drive, motor trestle.



Drive type An7
Direct drive with shaft coupling

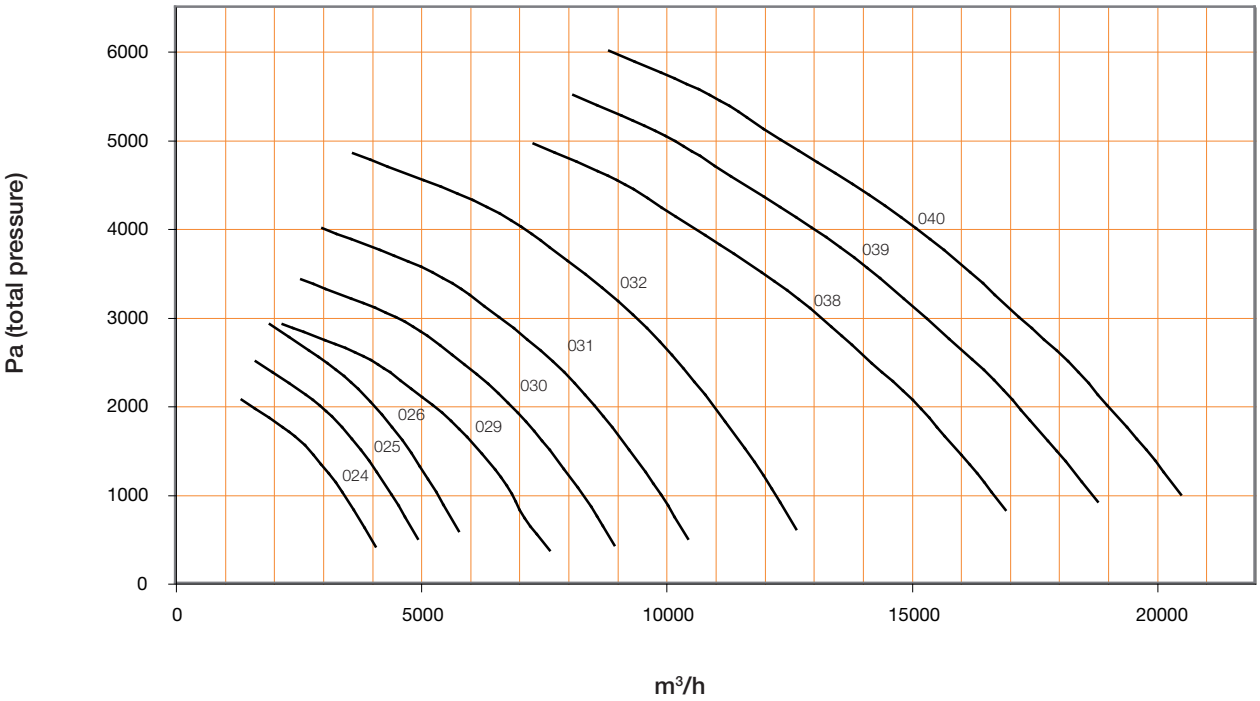


Drive type An8
Direct drive with cooling disc



Drive type An9
Direct drive with cooling disc, horizontal flange motor. Max FAM050

Overview diagram FAMB An1 024-040



The diagrams apply for air with a density of 1.2 kg/m³.

Motor data

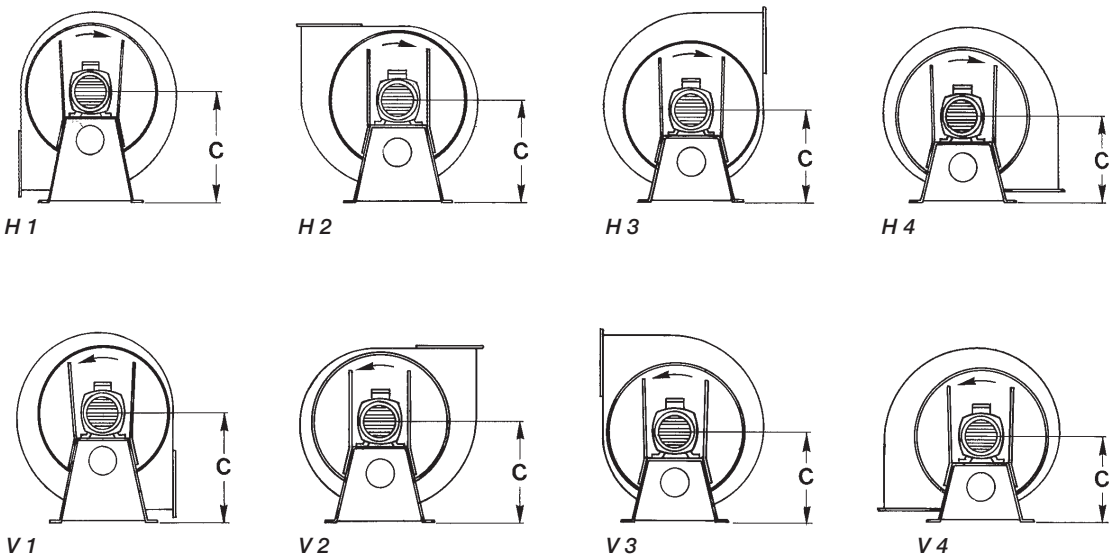
2-pole/3,000 rpm			
FAMB-1	Motor Size	Power [kW]	Rotational speed [rpm]
024	90S	1.5	2,870
025	90L	2.2	2,840
026	100L	3	2,890
029	112M	4	2,900
030	132S	5.5	2,950
031	132S	7.5	2,920
032	160M	11	2,950
038	160M	15	2,945
039	160L	18.5	2,945
040	180M	22	2,950

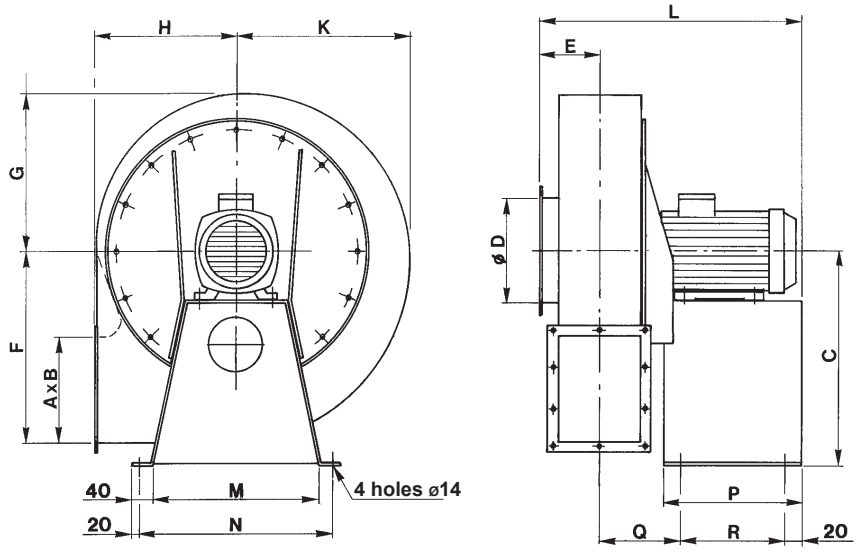
Radial fan FAM 024 and 026 have the same physical outer dimensions as FAM 025.

Radial fan FAM 029 and 030 and 032 have the same physical outer dimensions as FAM 031.

Radial fan FAM 038 and 039 have the same physical outer dimensions as FAM 040.

Blow-off forms





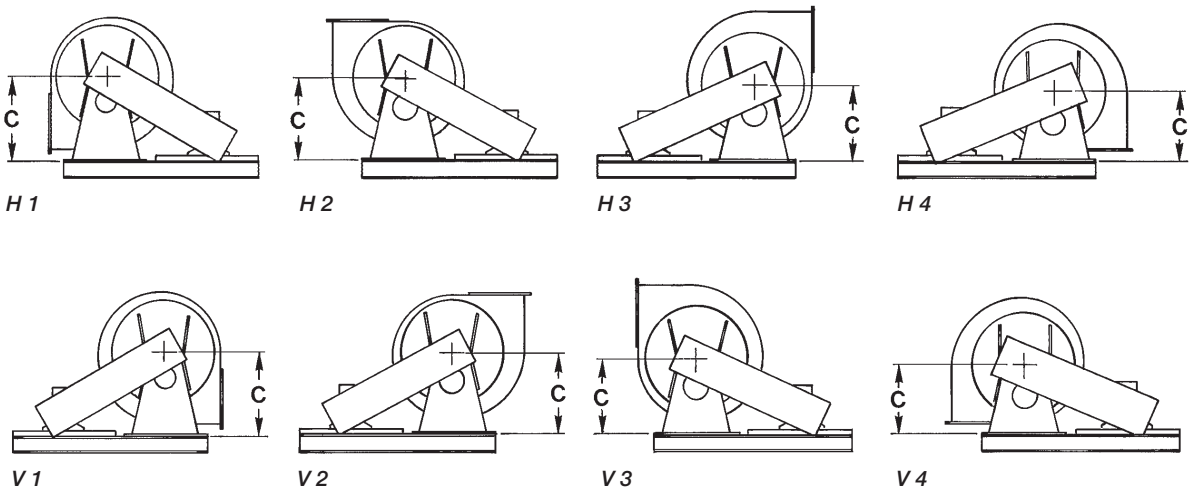
Dimensions

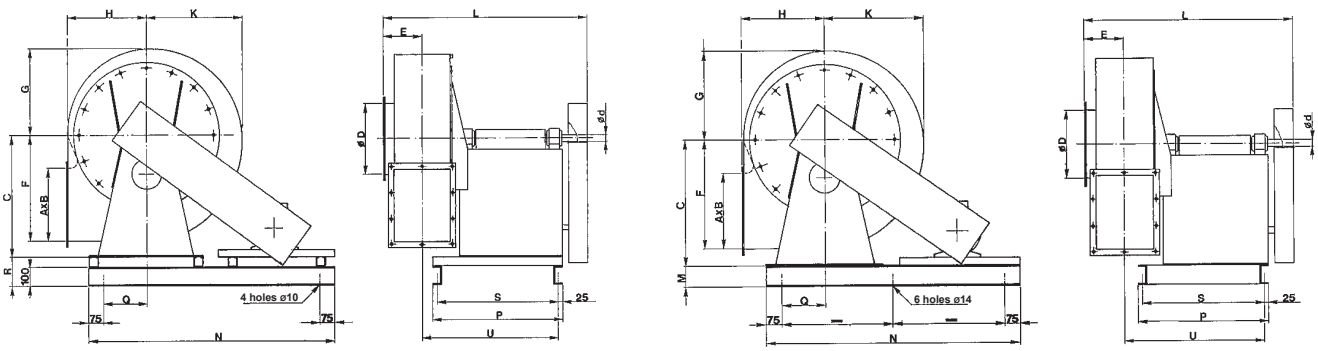
FAM (B,P,R) -1	A	B	C	D	E	F	G	H	K	L_{max}	M	N	P	Q	R	Motor max.	Weight [kg] excluding motor
012	125	100	351	125	102	231	189	173	209	400	220	260	200	114	160	71	21
016	160	125	351	160	115	231	189	173	209	425	220	260	200	126	160	71	23
020	200	160	370	200	132	290	236	216	262	495	220	260	200	145	160	90S	33
025	250	200	450	250	153	364	296	270	328	630	250	290	250	166	210	132M*	52
031	315	250	540	315	178	460	376	343	416	800	500	540	380	191	340	160L	94
040	400	315	660	400	211	576	469	428	519	990	500	540	416	223	376	200M	148

FAM (B,P,R) -1	A	B	C_1	C_2	C_3	C_4	D	E	F	G	H	K	L_{max}	M	N	P	Q	R	Motor max.	Weight [kg] excluding motor
050	500	400	820	750	670	536	500	263	723	589	536	653	1,080	600	660	600	269	540	250S/M	215
063	630	500	1,005	915	825	677	630	314	913	745	678	825	1,379	900	960	625	359	565	250S/M	x
071	710	560	1,115	1,005	915	757	700	384	1,021	833	757	923	1,479	900	960	625	389	565	250S/M	x

* Motor size <112M according to table. Drawing of FAM 025 for motor size 132M available upon request.

Blow-off forms





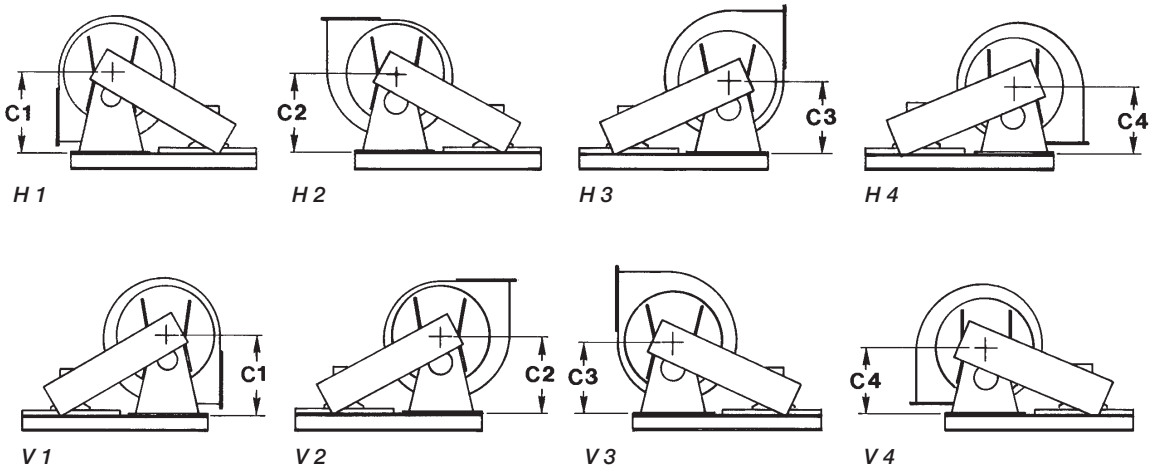
Dimensions

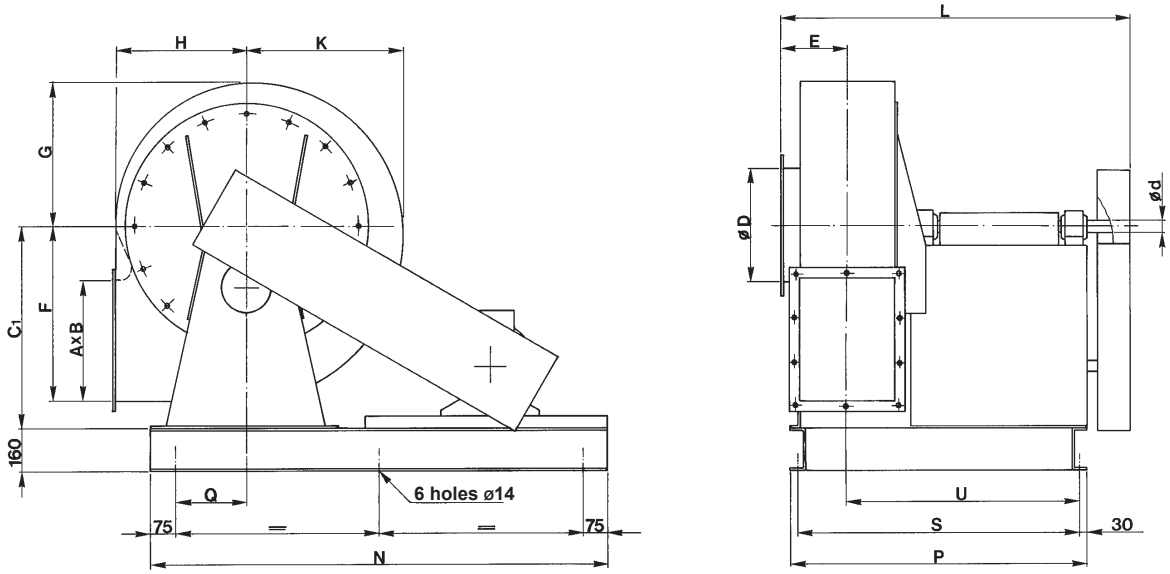
FAM (B,P,R) -3	A	B	C	D	E	F	G	H	K	L_{max}	M	N ≤180	N 200–225	P H1 H2 H3 V1 V2 V3	P H4 V4	Q
012	125	100	370	125	102	231	189	173	209	655		1,000		400	250	75
016	160	125	370	160	115	231	189	173	209	670		1,000		400	250	75
020	200	160	370	200	132	290	236	216	262	705		1,000		400	250	75
025	250	200	450	250	153	364	296	270	328	825		1,120		530	330	75
031	315	250	540	315	178	460	376	343	416	955	100	1,410	1,410	530	330	215
040	400	315	660	400	211	576	469	428	519	1,050	160	1,410	1,500	700	415	215

FAM (B,P,R) -3	R H1 H2 H3 V1 V2 V3	R H4 V4	S H1 H2 H3 V1 V2 V3	S H4 V4	U	d*	Motor max.	Weight [kg} excluding motor ≤180	Weight [kg} excluding motor 200–225
012	150	100	350	200	337	35	160	54	
016	150	100	350	200	349	35	160	56	
020	150	100	350	200	367	40	160	66	
025	150	100	480	280	463	40	180	92	
031	150	100	480	280	483	40	225	138	160
040	150	100	650	365	630	55	225	230	285

d* Shaft diameter for belt-drive

Blow-off forms





Dimensions

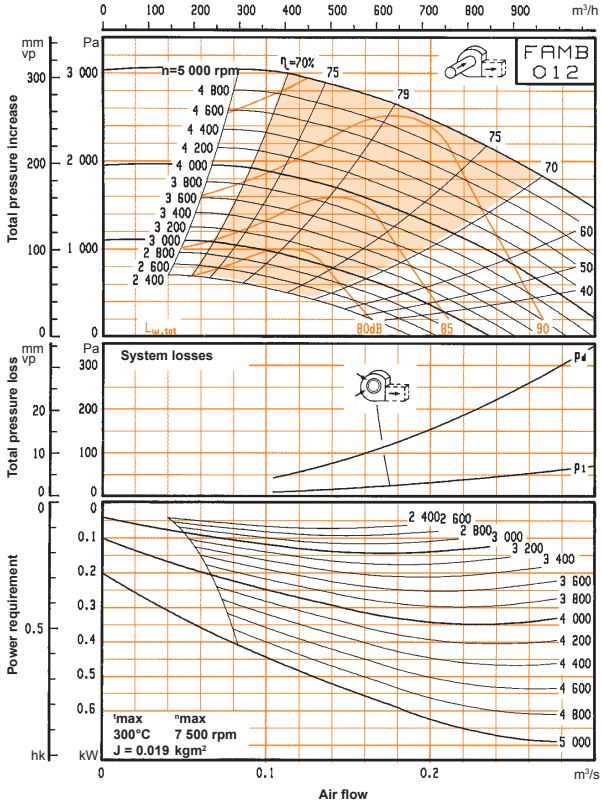
FAM (B,P,R) -3	A	B	C1	C2	C3	D	E	F	G	H	K	LMAX	N ≤225	N 250–280	P	Q	S
050	500	400	820	750	670	500	263	723	589	536	653	1,240	1,650	2,000	1,046	285	986
063	630	500	1,005	915	825	630	314	913	745	678	825	1,460	1,850	2,300	1,265	435	1,205
071	710	560	1,115	1,005	915	710	384	1,021	833	757	923	1,560	1,850	2,500	1,328	435	1,268
080	800	630	1,230	1,115	1,005	800	419	1,107	901	819	999	1,760	1,850	2,500	1,533	455	1,473
090	900	710	1,378	1,230	1,115	900	459	1,264	1,031	936	1,141	1,840	1,850	2,500	1,613	455	1,553
100	1,000	800	1,530	1,390	1,242	1,000	504	1,425	1,162	1,055	1,288	1,925	2,300	2,850	1,703	605	1,643
112	1,120	900	1,700	1,530	1,390	1,120	554	1,601	1,306	1,187	1,446	2,025	2,300	2,850	1,803	605	1,743

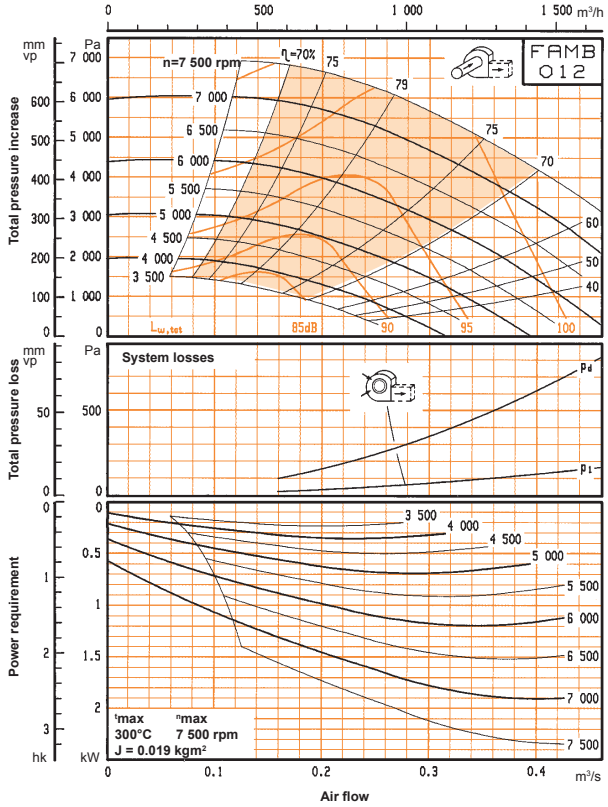
FAM (B,P,R) -3	U	d*	Weight [kg] excluding motor ≤225	Weight [kg] excluding motor 250–280
050	753	70	390	410
063	920	70	635	660
071	954	70	760	790
080	1,114	80	925	960
090	1,154	80	1,105	1,140
100	1,199	90	1,390	1,420
112	1,249	90	1,660	1,700

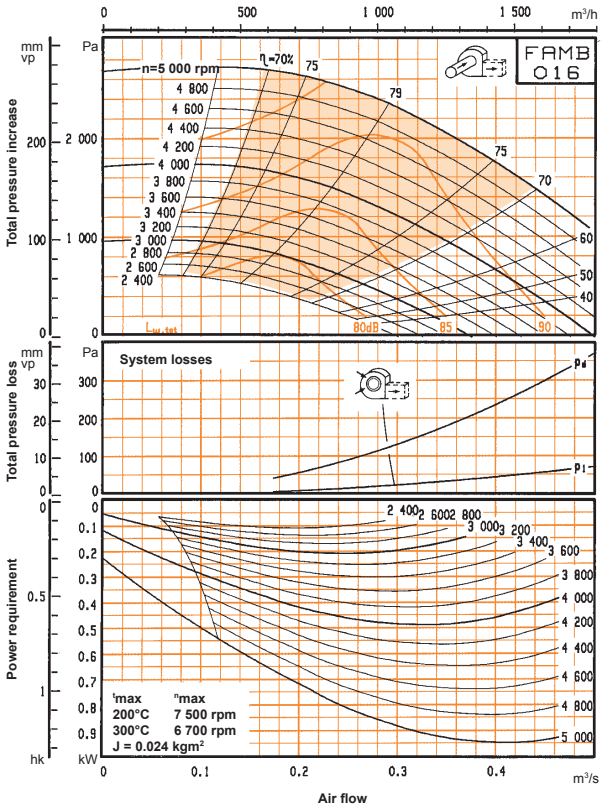
d* Shaft diameter for belt-drive.
** Dimensions for fans with blow-off form H4, V4 are available upon request.
** Dimensions for fans with motors > 280 are available upon request.

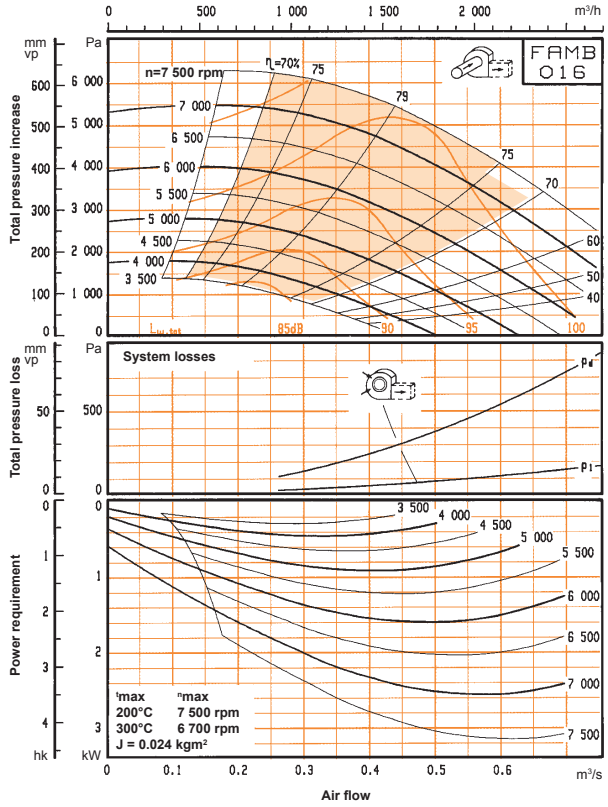
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.



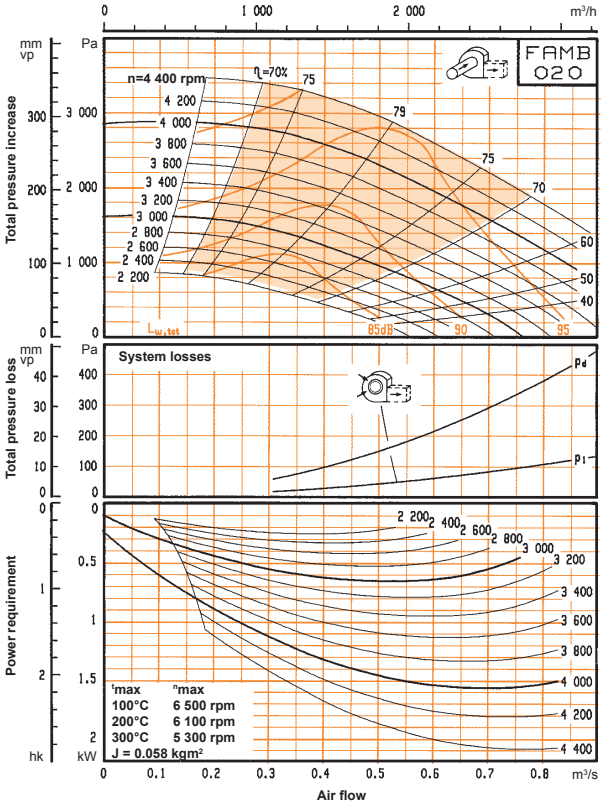


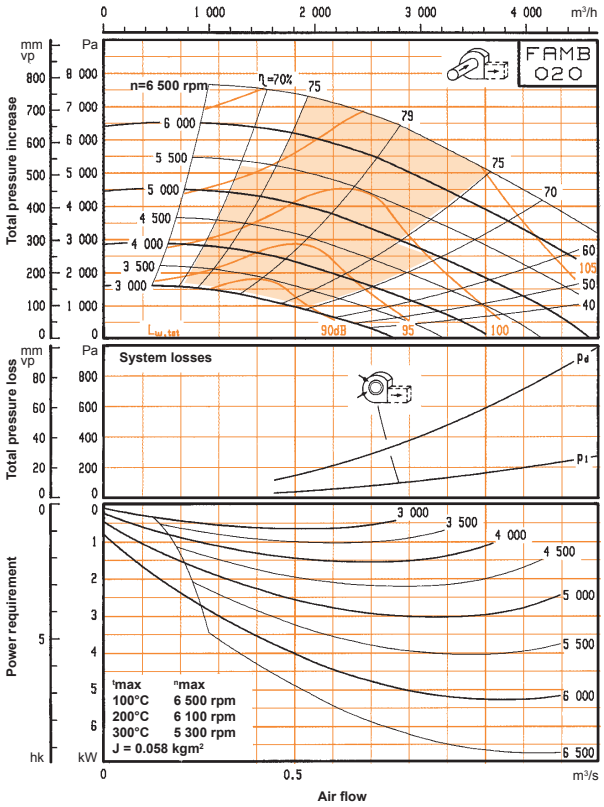


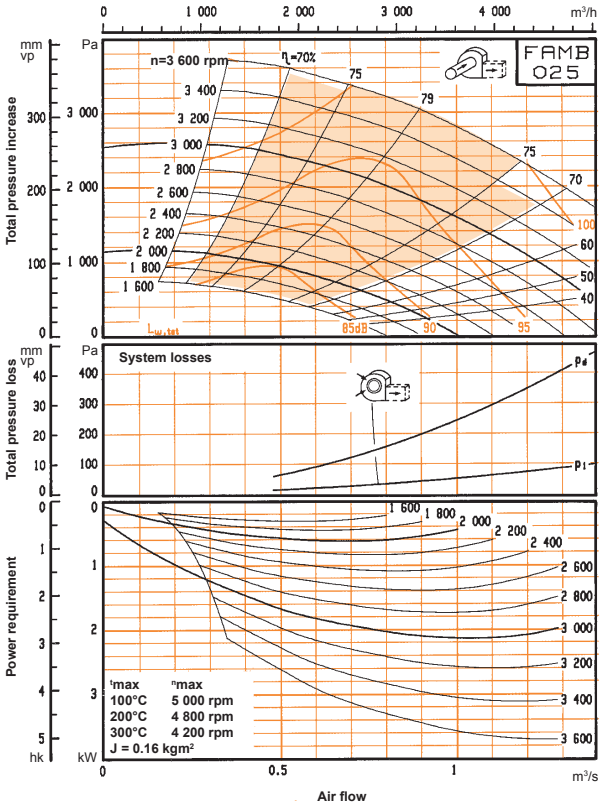


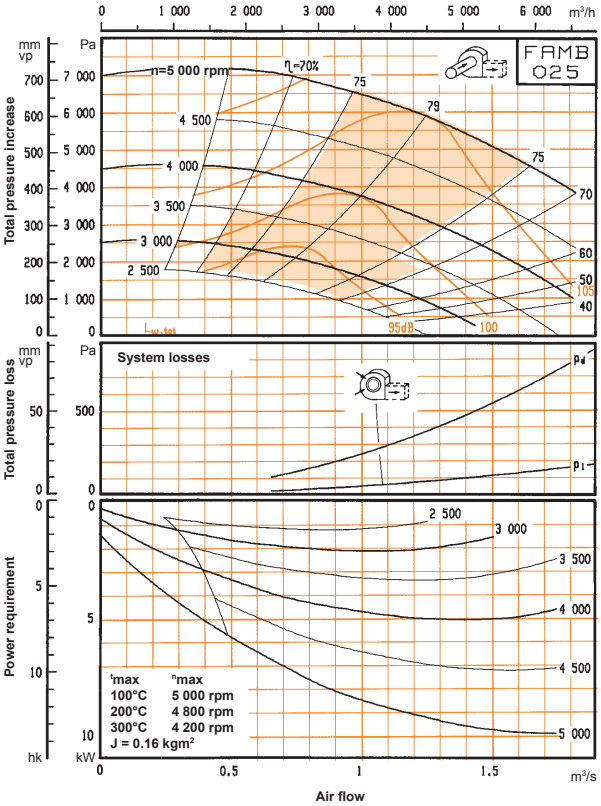
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.



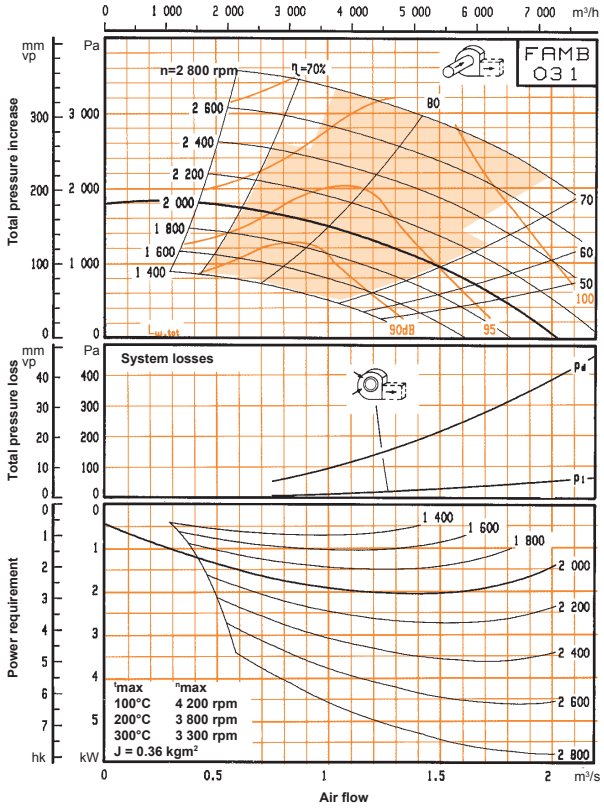


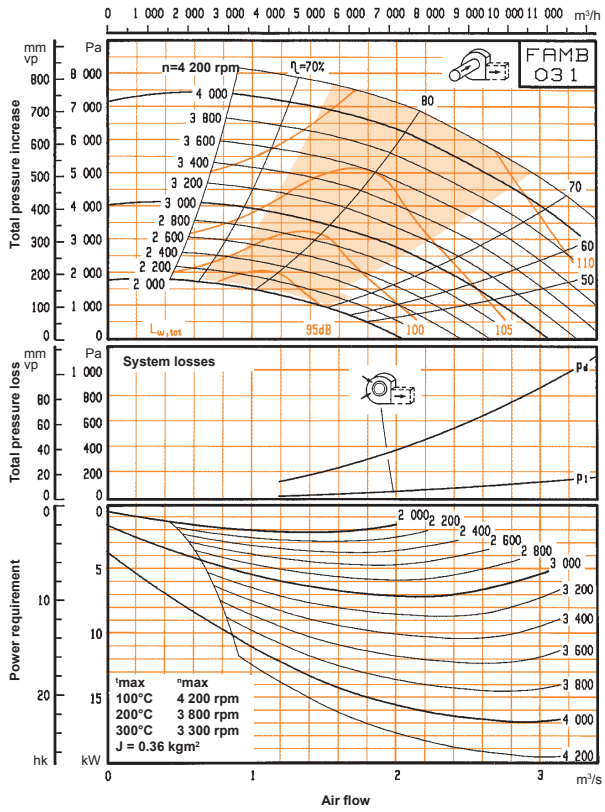


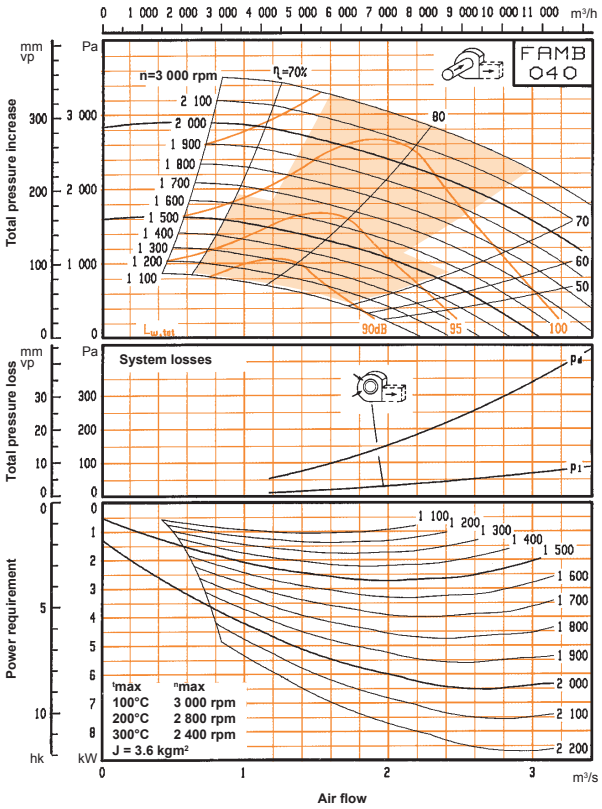


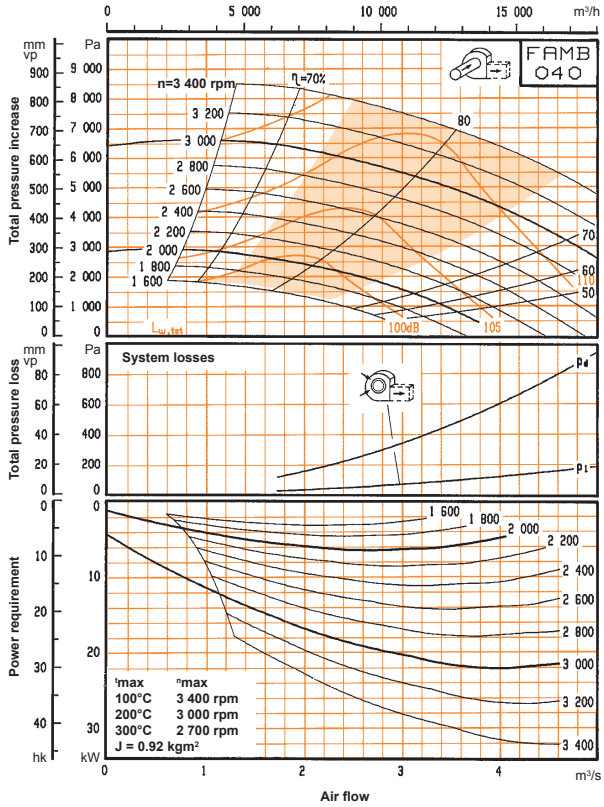
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.



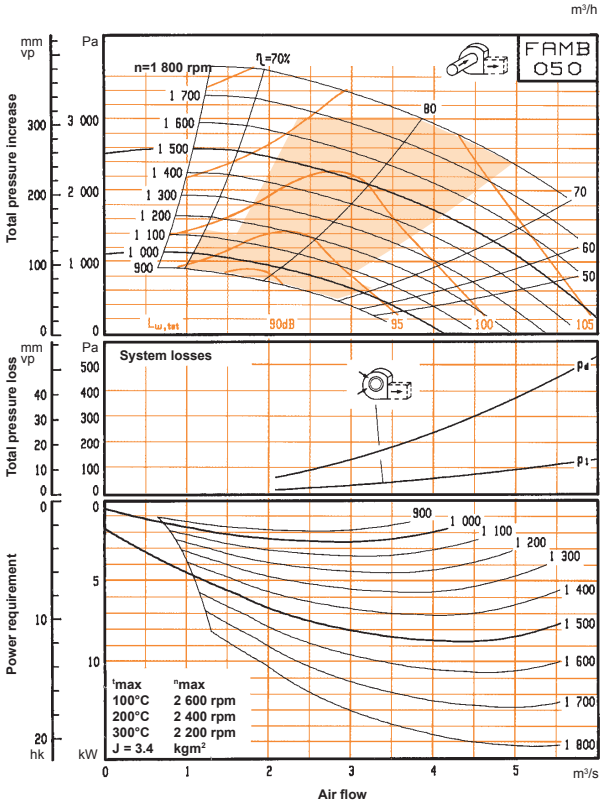


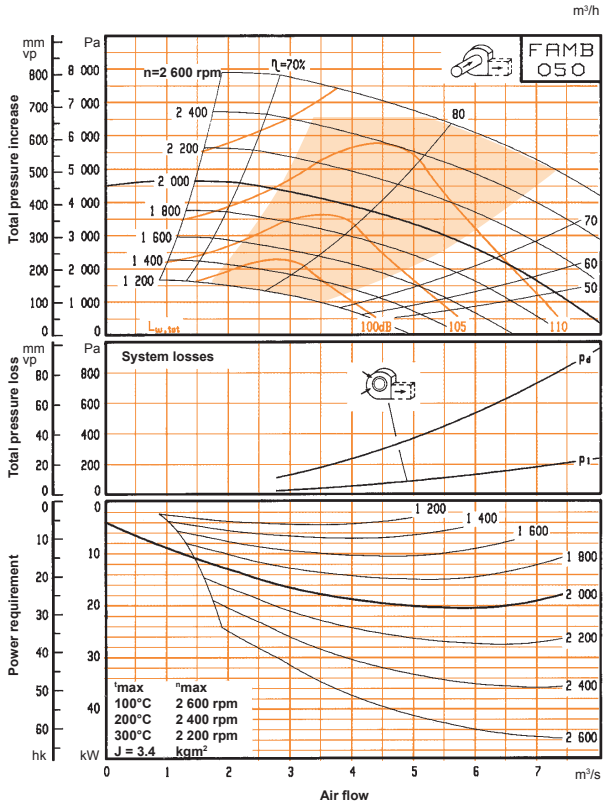


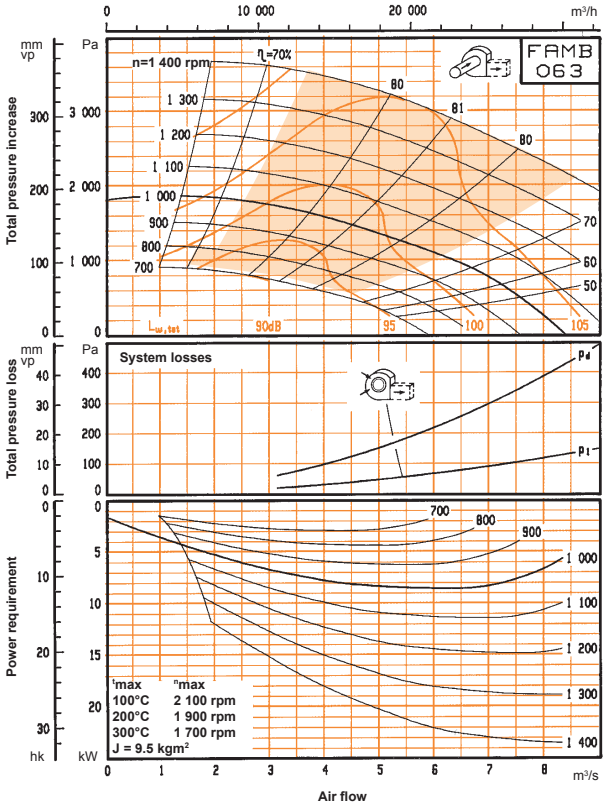


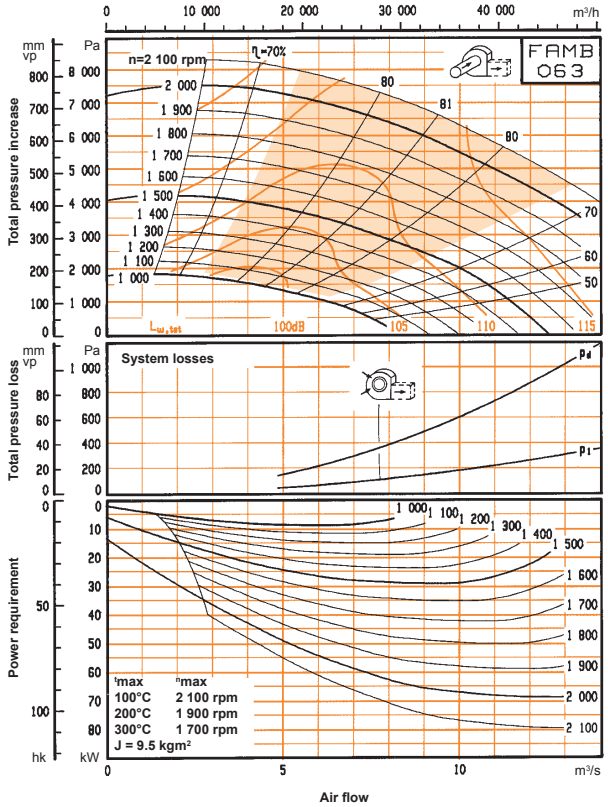
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.









Capacity

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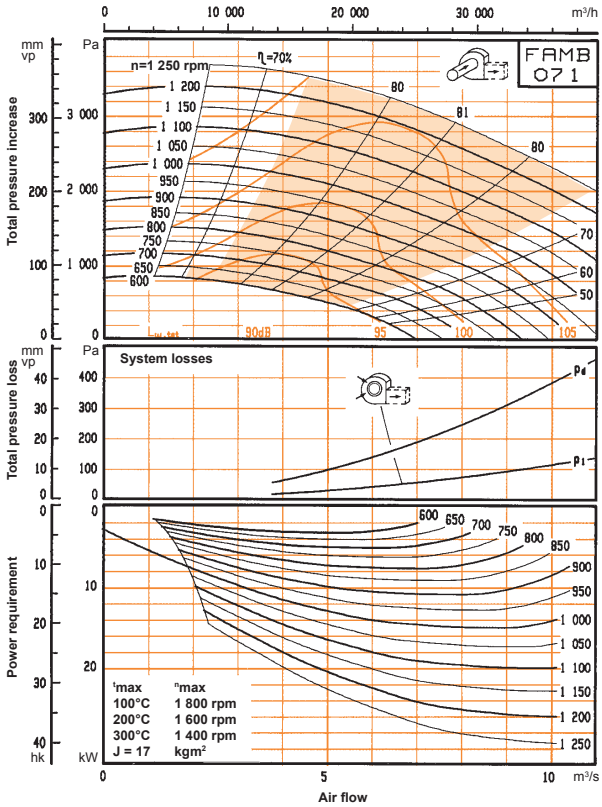

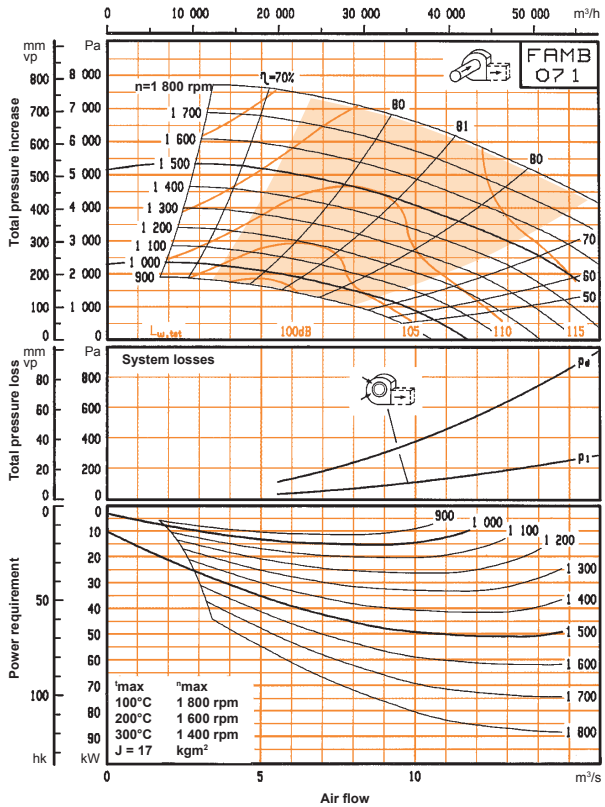

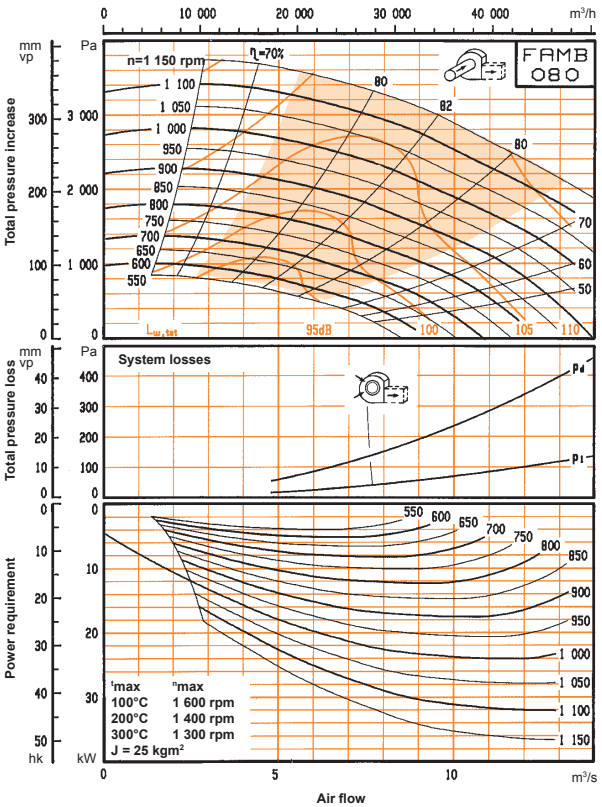

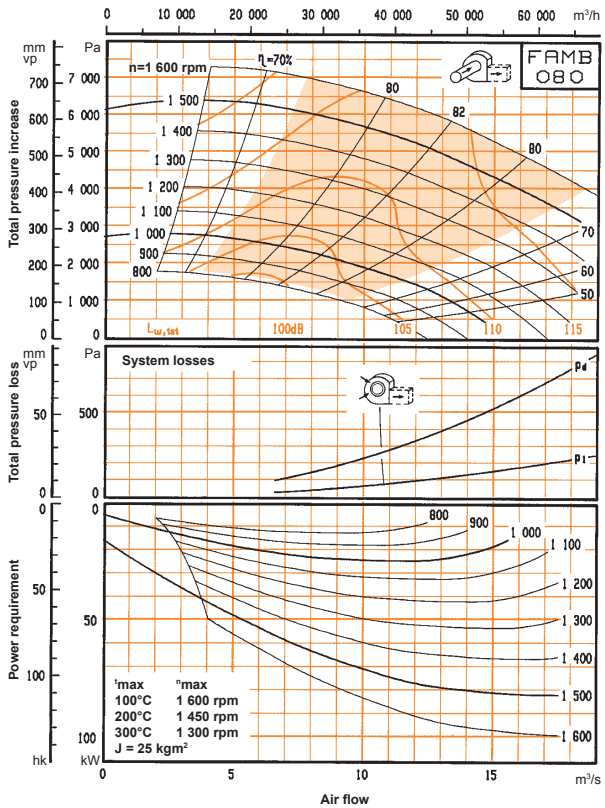

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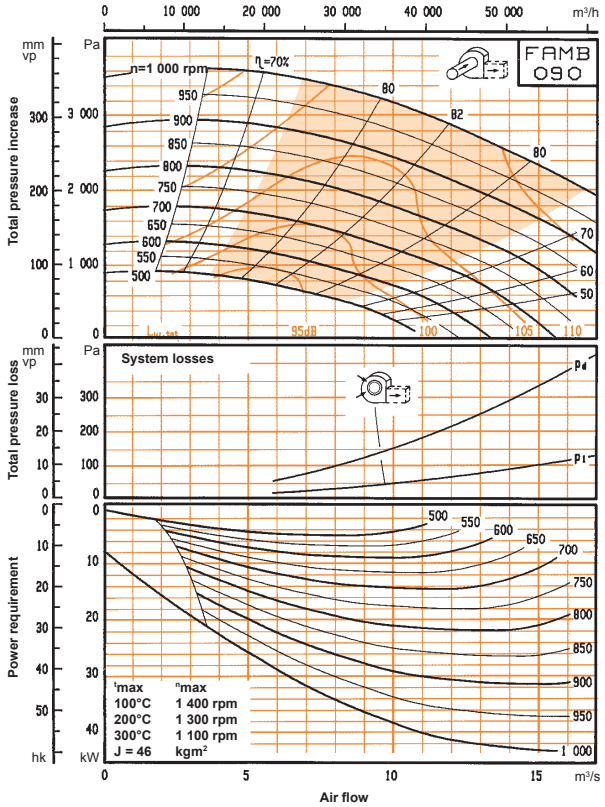

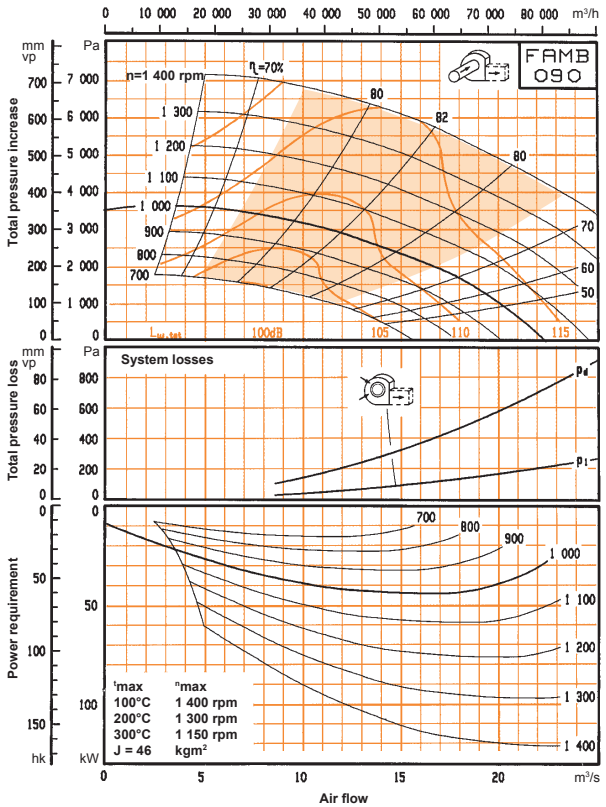

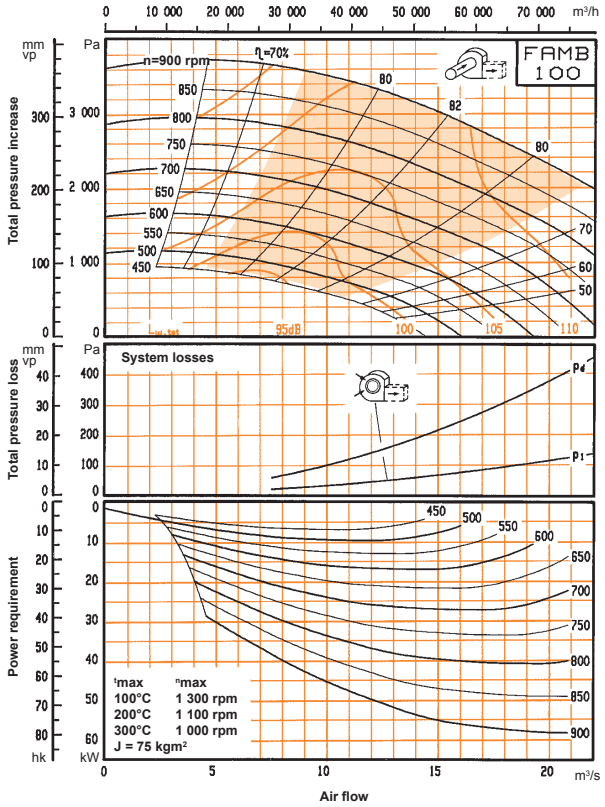

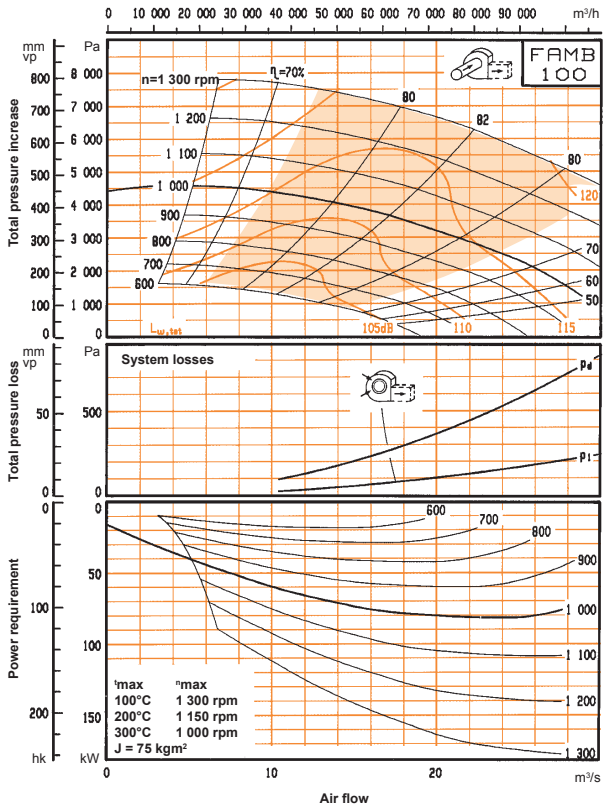

Capacity

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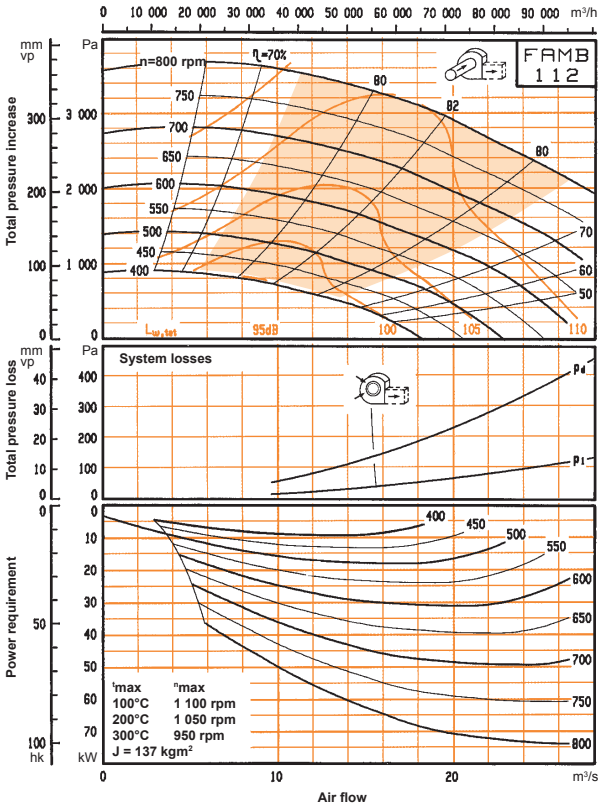
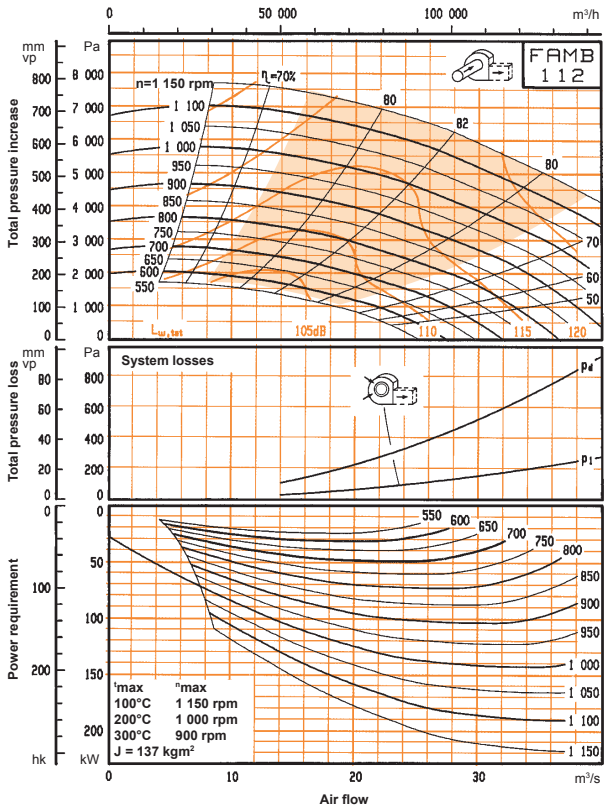




Audio data

Total acoustic power level to outlet duct $L_{W\ tot}$ can be read in each fan diagram. For dividing into different audio paths and octave bands, the following formula is used:

$$L_{W,\ ok} = L_{W\ tot} + K_{ok}$$

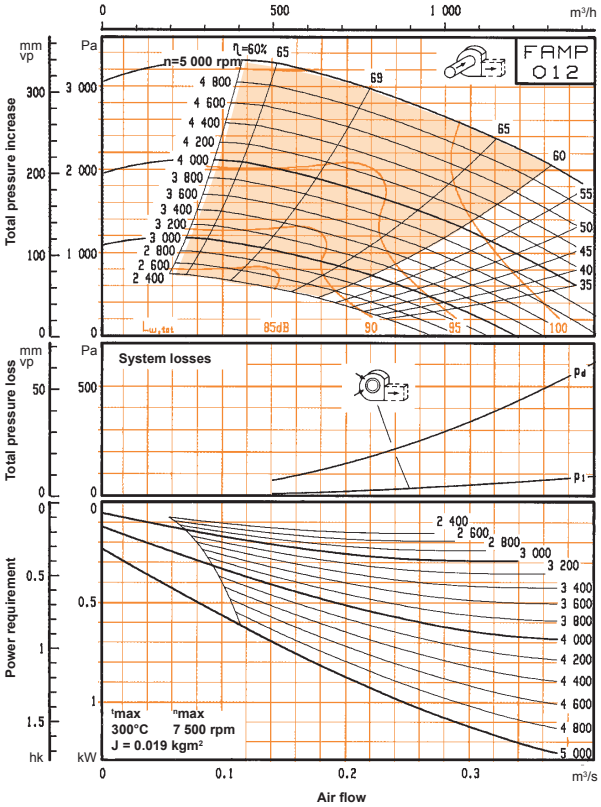
where K_{ok} is obtained from the following tables:

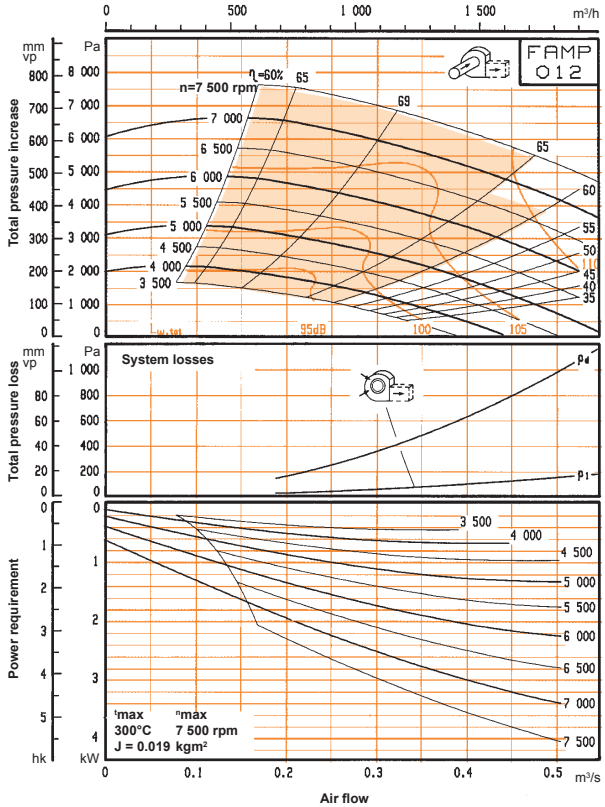
Correction factor K_{ok} for different audio paths and octave bands

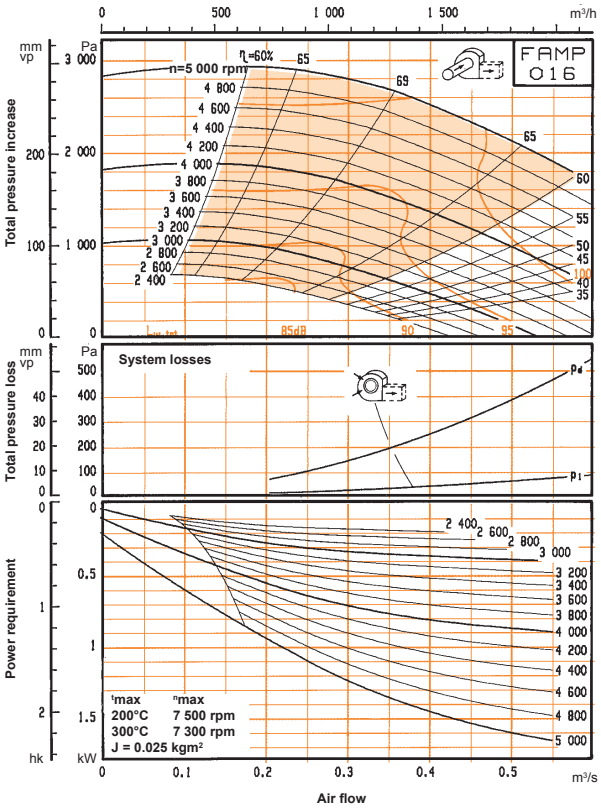
	Rotational speed range [rpm]								
Octave band No.		1	2	3	4	5	6	7	8
Mean frequency, [Hz]		63	125	250	500	1,000	2,000	4,000	8,000
Audio path to outlet duct	400-670	+6	-1	-8	-19	-28	-36	-43	-60
	671-1,350	-5	-2	-6	-16	-27	-34	-41	-57
	1,351-2,650	-3	-8	-3	-8	-23	-31	-37	-52
	2,651-5,300	0	-5	-11	-4	-8	-22	-30	-42
	5,301-7,500	0	-4	-8	-12	-5	-9	-19	-28
Audio path to inlet duct	400-670	+5	-5	-19	-25	-31	-39	-48	-56
	671-1,350	-6	-8	-16	-23	-28	-35	-46	-54
	1,351-2,650	-4	-12	-7	-17	-24	-30	-41	-51
	2,651-5,300	-1	-6	-13	-8	-17	-24	-30	-42
	5,301-7,500	0	-5	-9	-14	-9	-16	-23	-28
Audio path to surrounding at free-standing fan	400-670	-7	-8	-11	-15	-18	-22	-26	-31
	671-1,350	-13	-8	-11	-12	-16	-19	-24	-28
	1,351-2,650	-16	-14	-8	-11	-14	-16	-19	-24
	2,651-5,300	-15	-19	-13	-8	-12	-14	-17	-21
	5,301-7,500	-13	-16	-20	-13	-8	-12	-14	-17
Audio path to surrounding at duct-connected fan	400-670	-11	-13	-16	-18	-22	-25	-28	-31
	671-1,350	-14	-13	-14	-16	-20	-23	-26	-29
	1,351-2,650	-17	-15	-14	-15	-18	-21	-24	-27
	2,651-5,300	-17	-21	-16	-14	-15	-18	-21	-25
	5,301-7,500	-15	-18	-21	-16	-14	-15	-19	-22

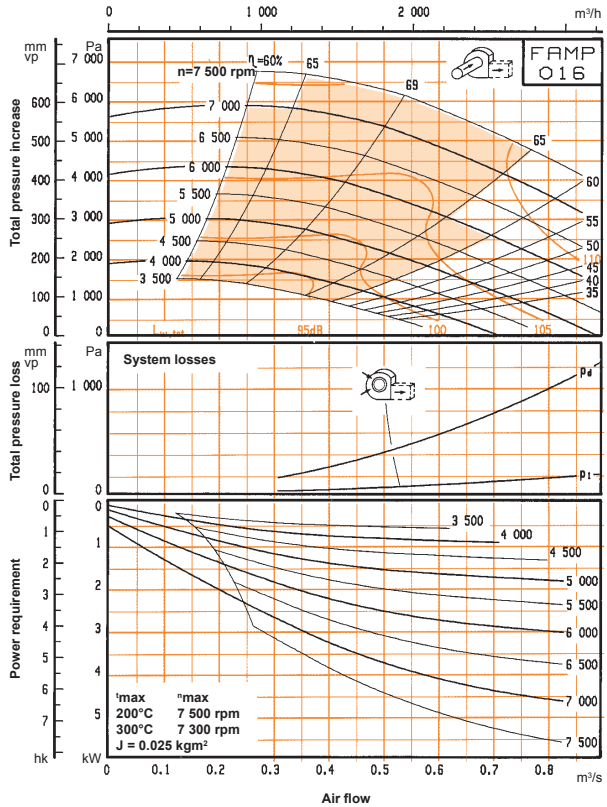
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.



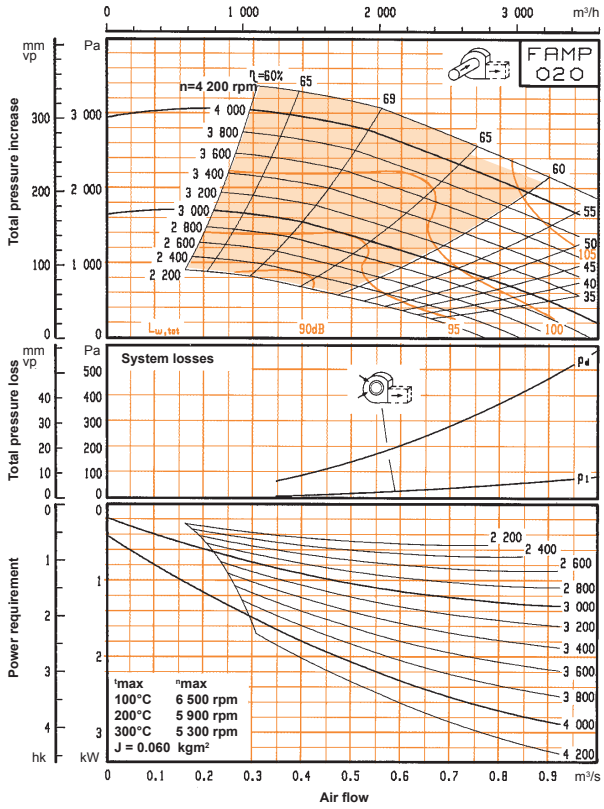


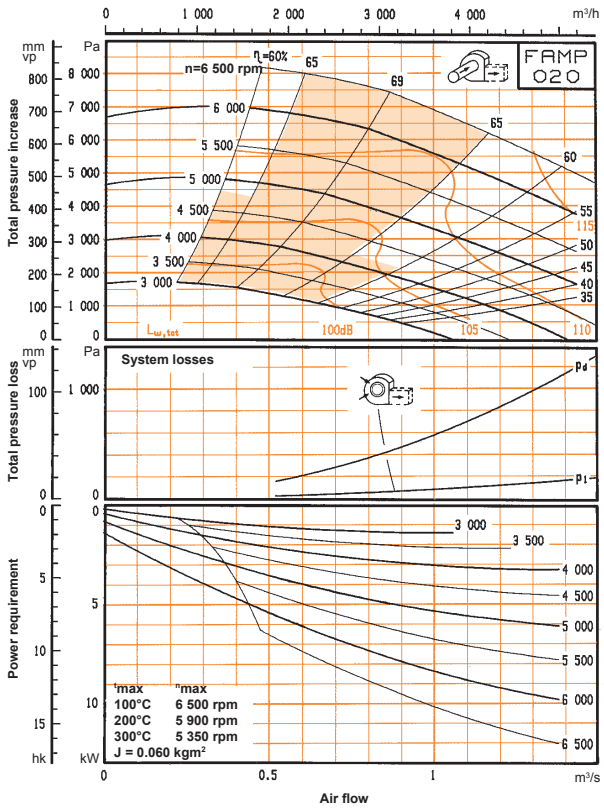


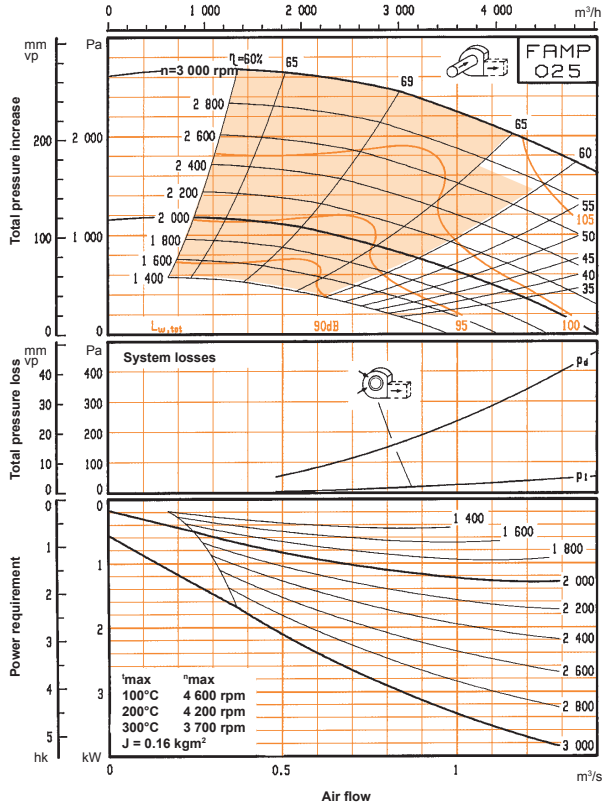


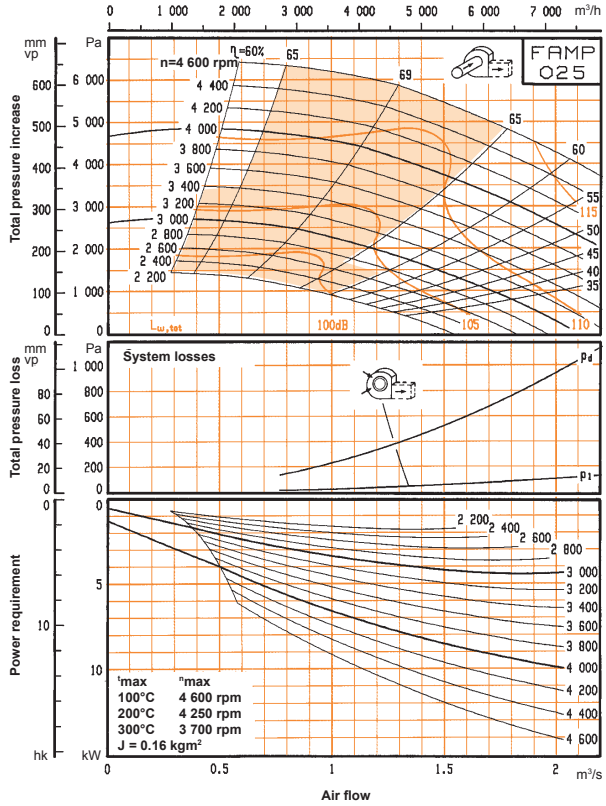
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.









Capacity

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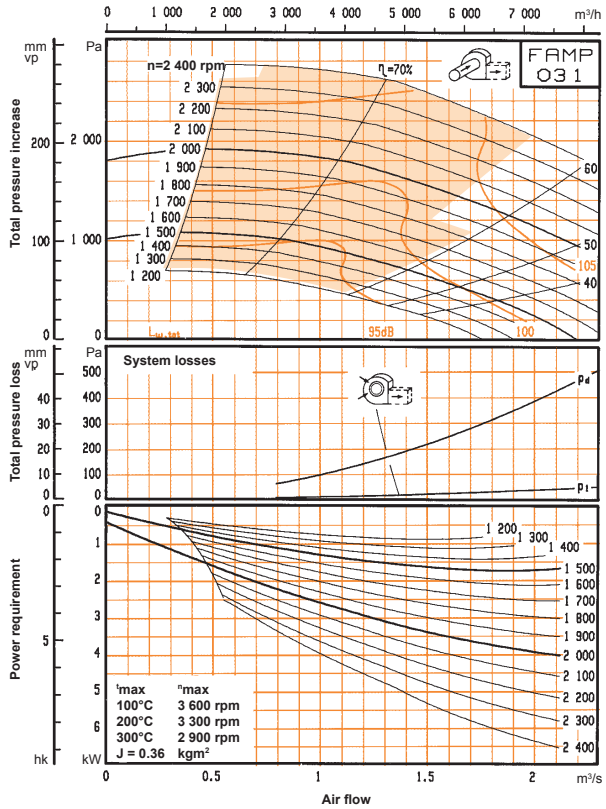

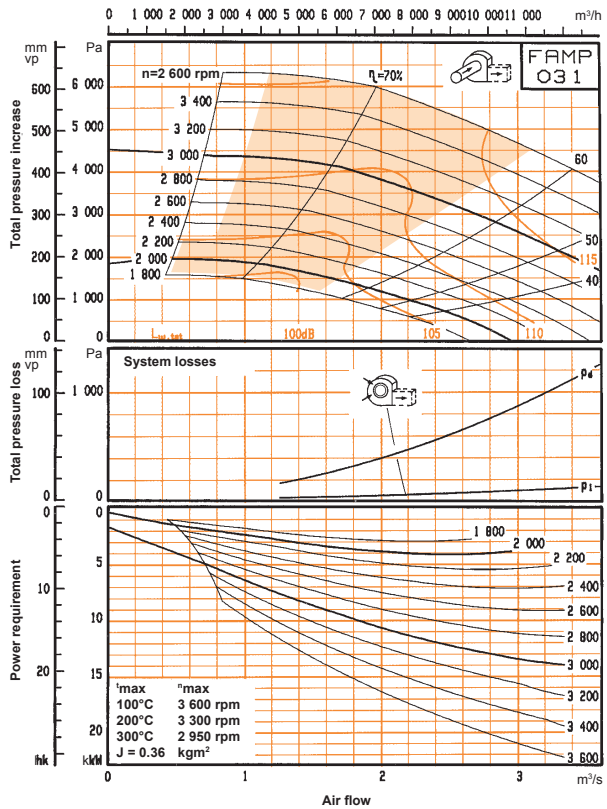

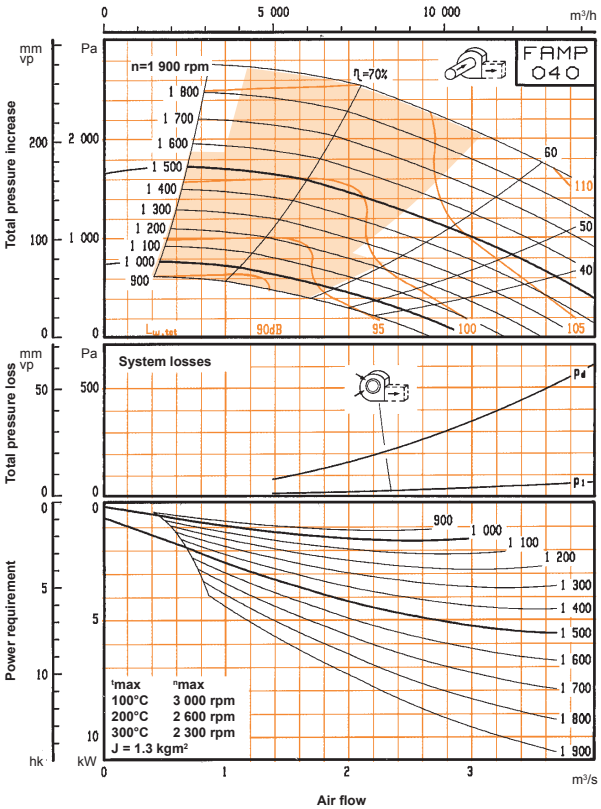

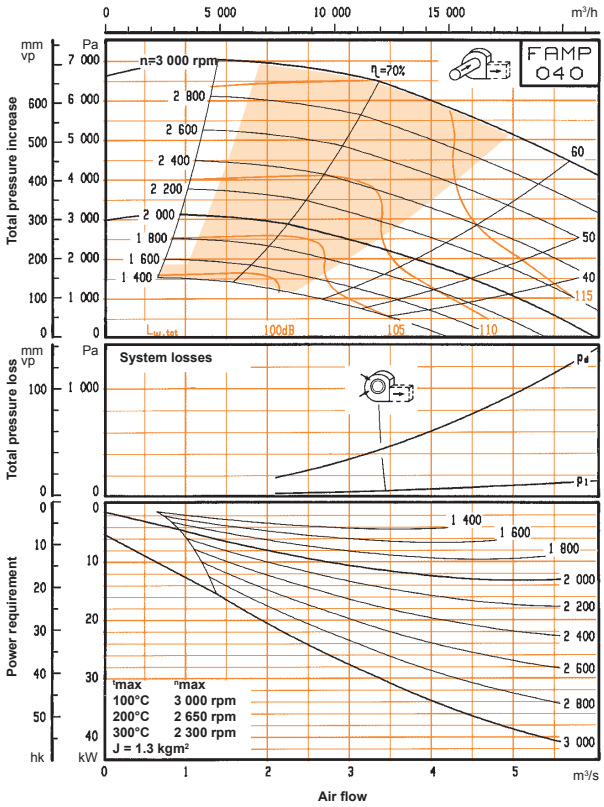

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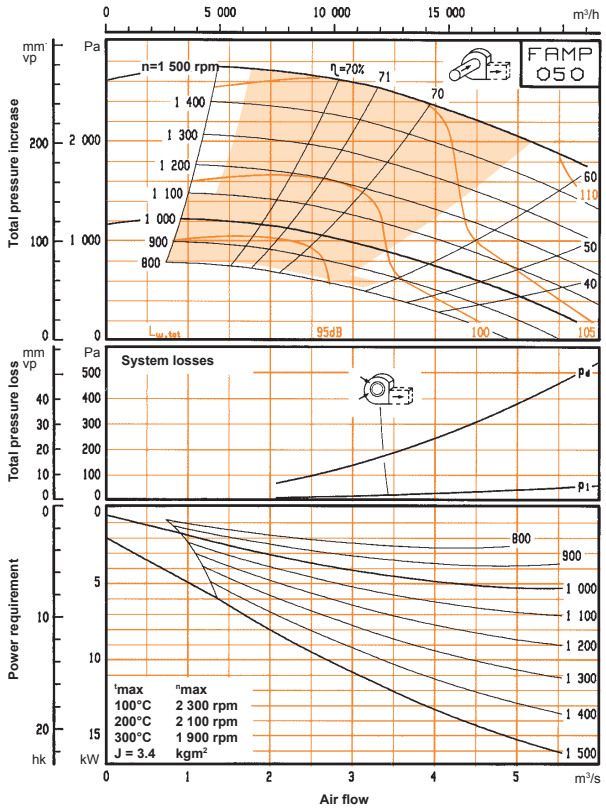

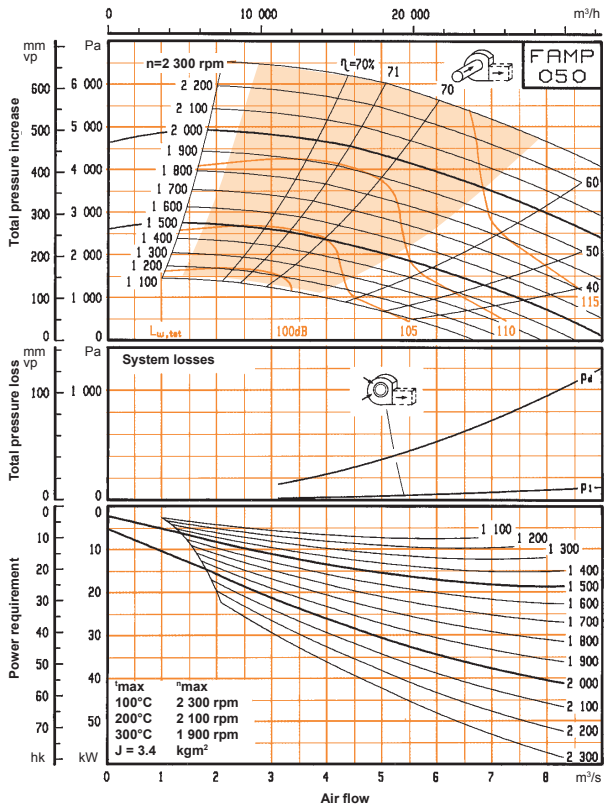

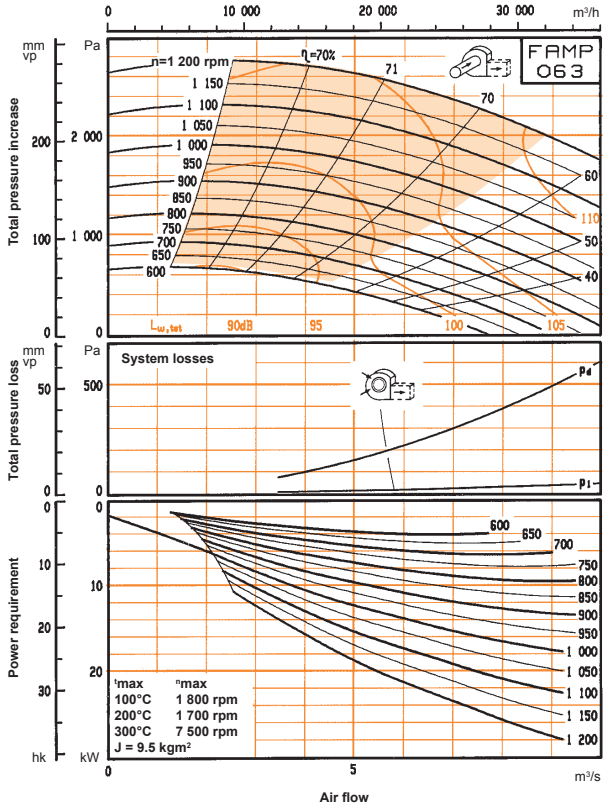

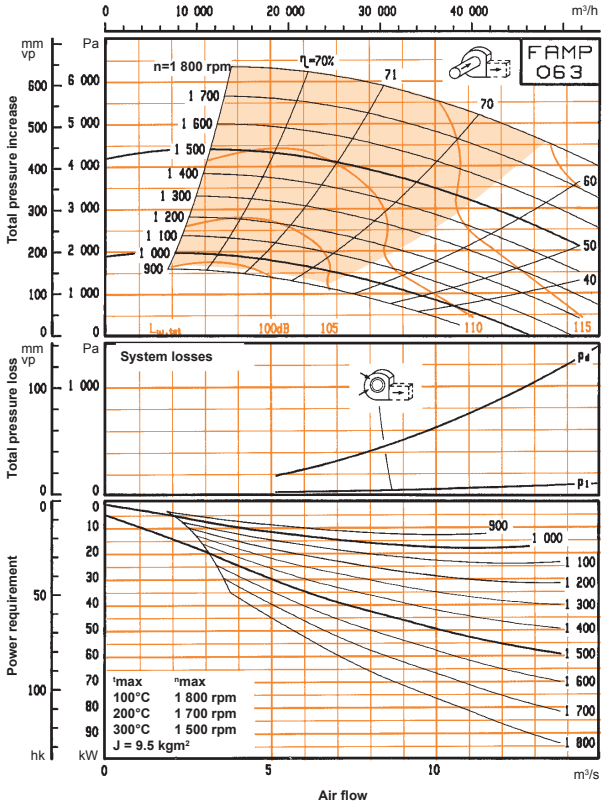

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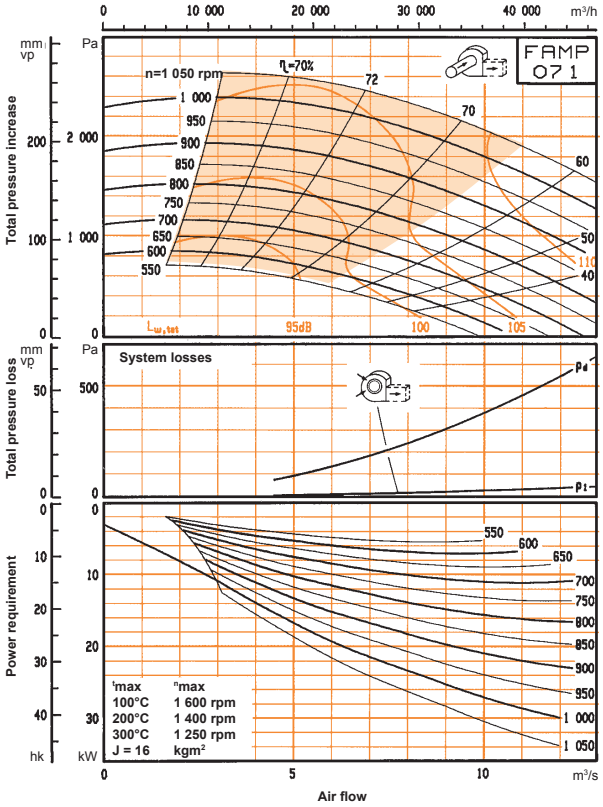

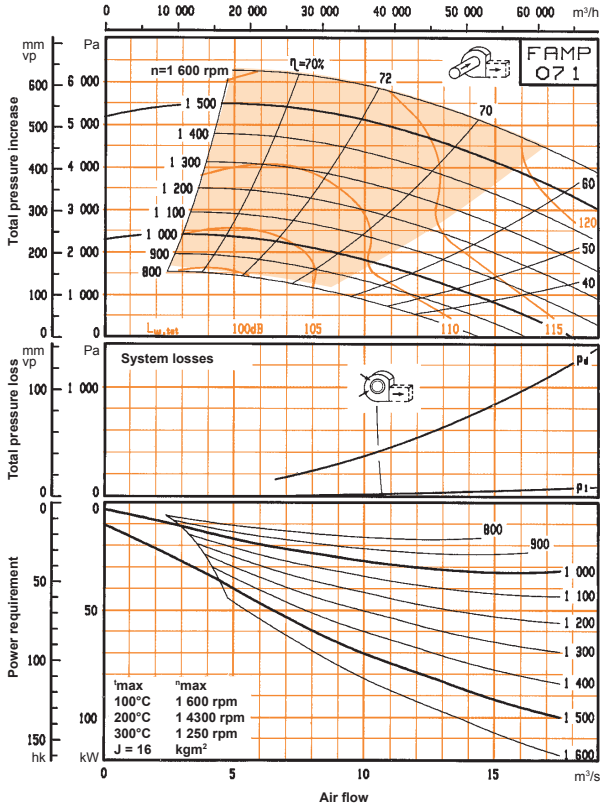

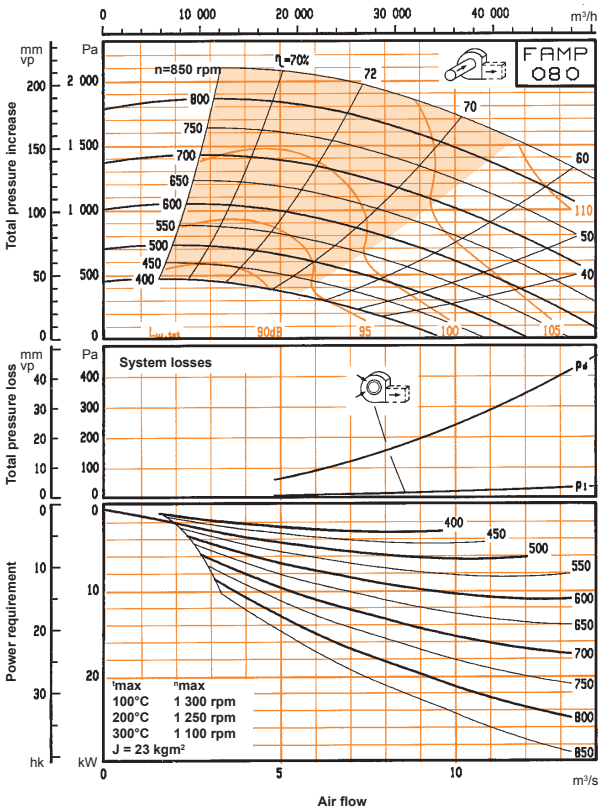

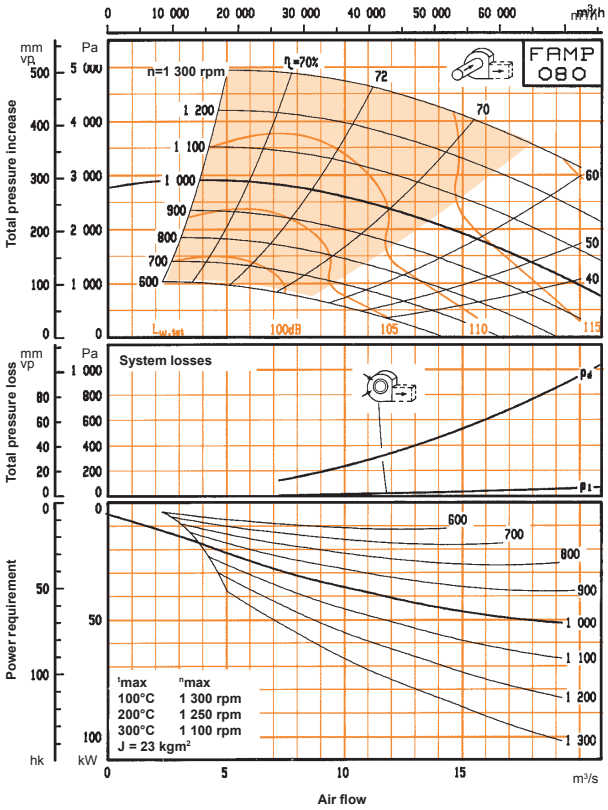

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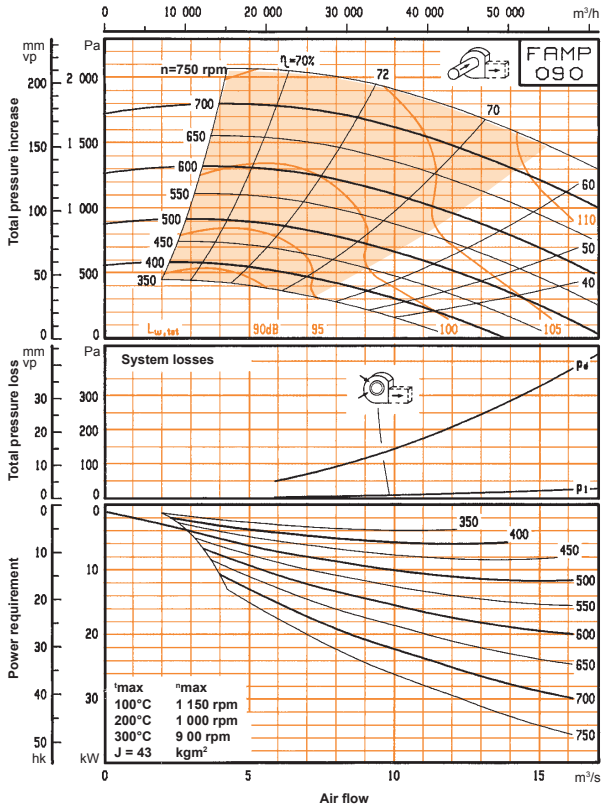

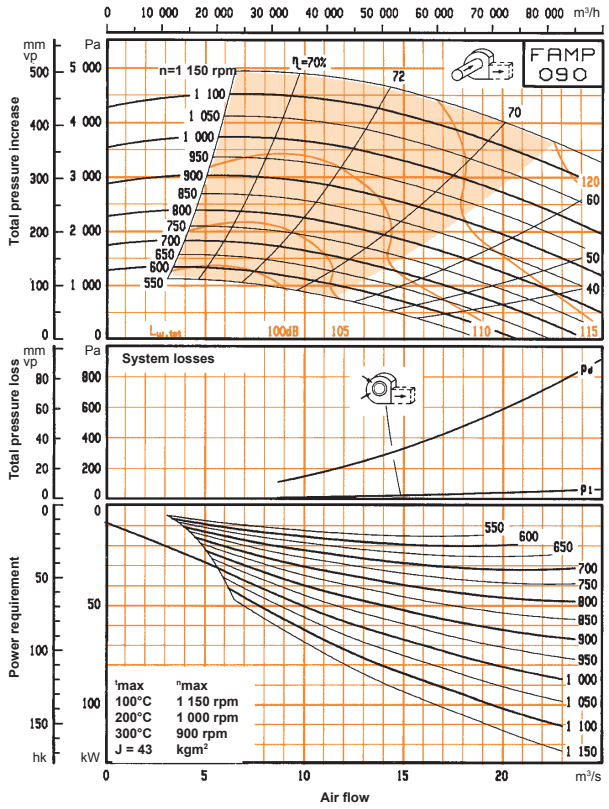

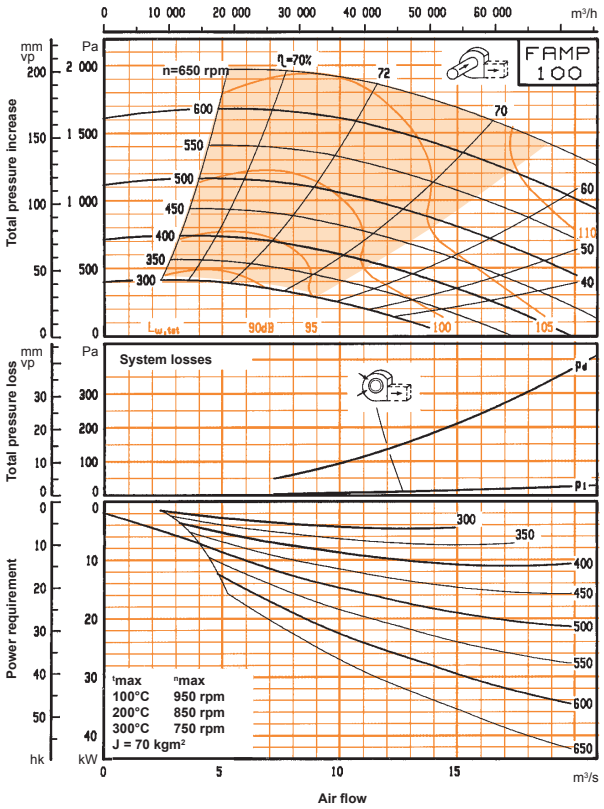

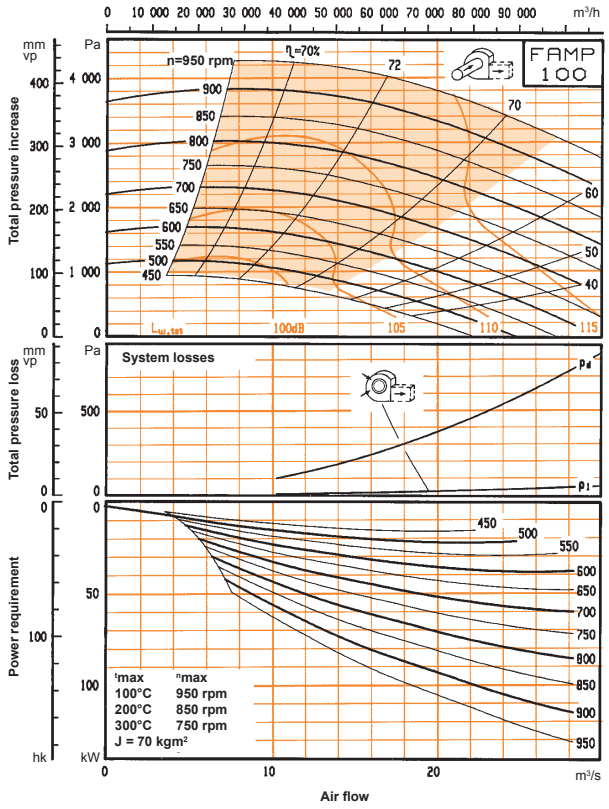

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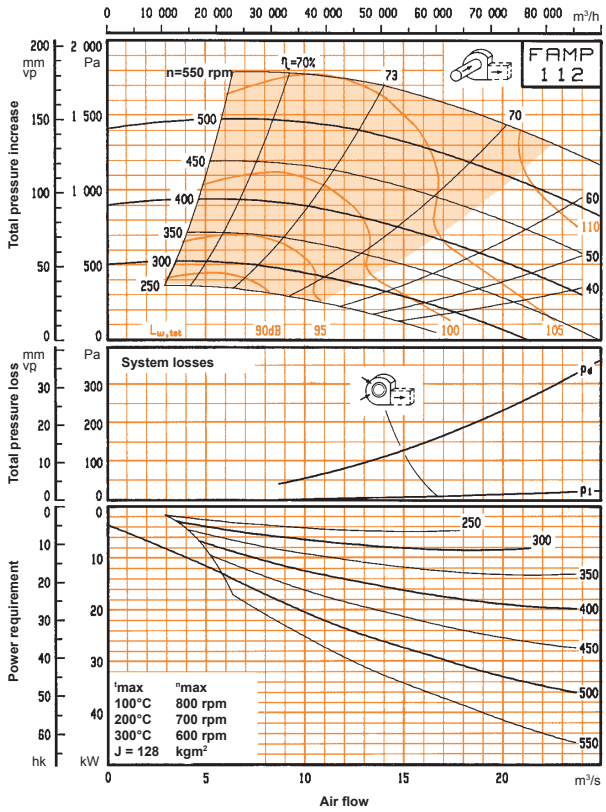

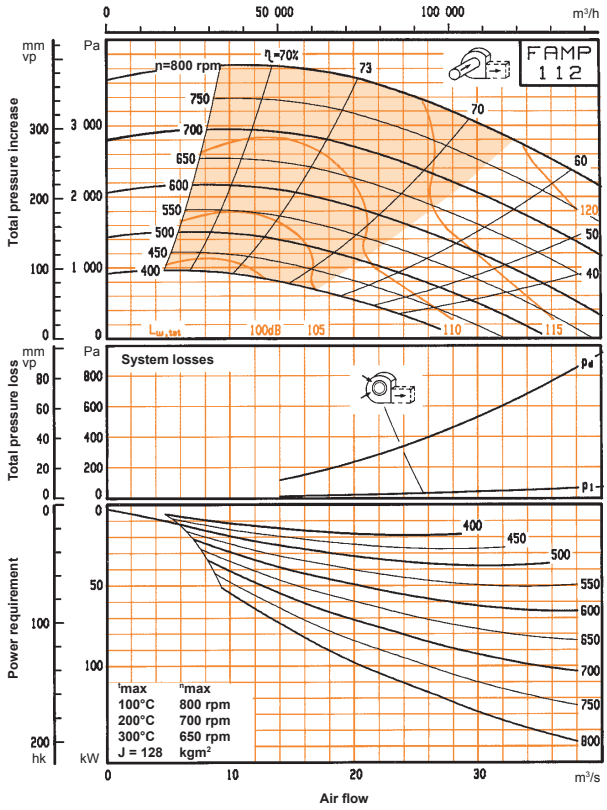

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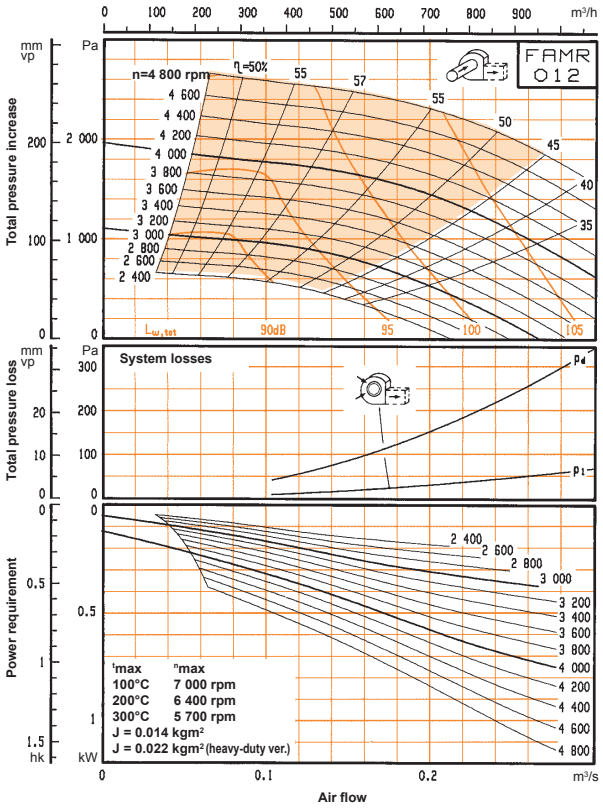
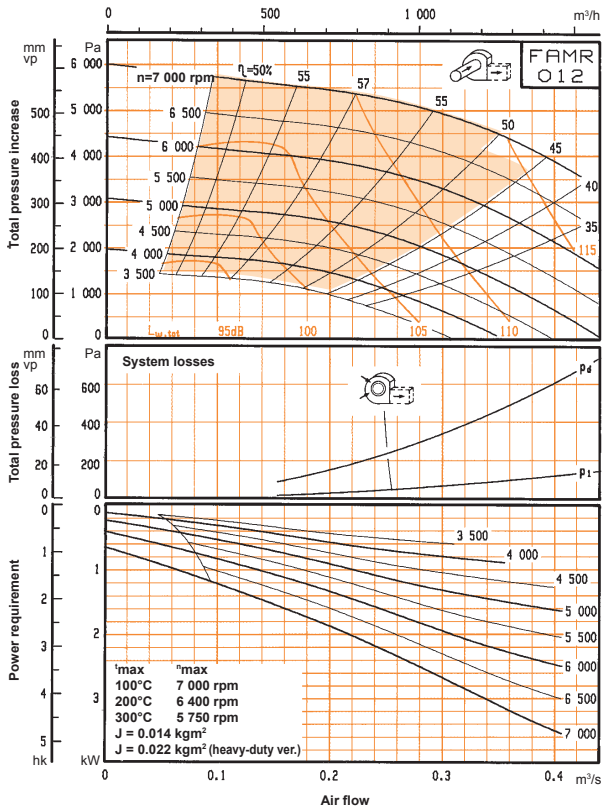
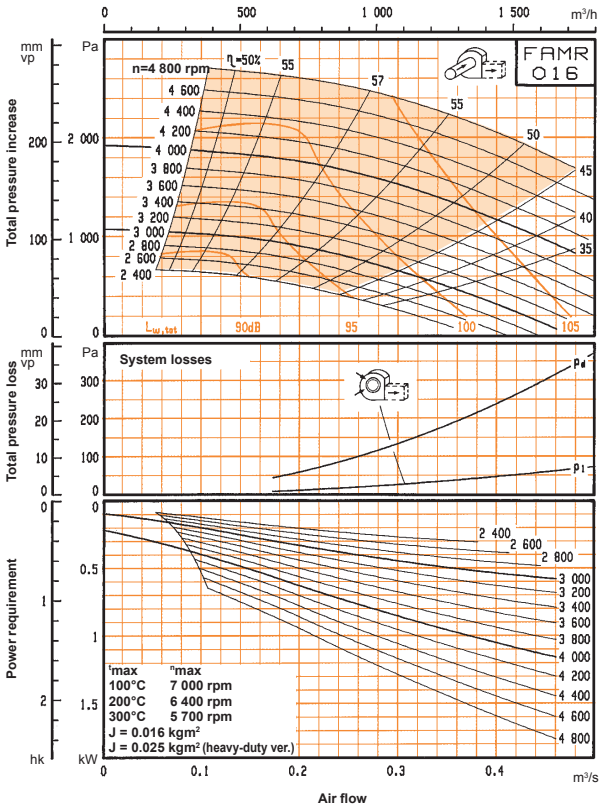
	2,651-5,300	-17	-21	-20	-20	-21	-25	-28	-32
	5,301-7,500	-16	-20	-22	-21	-21	-23	-26	-30

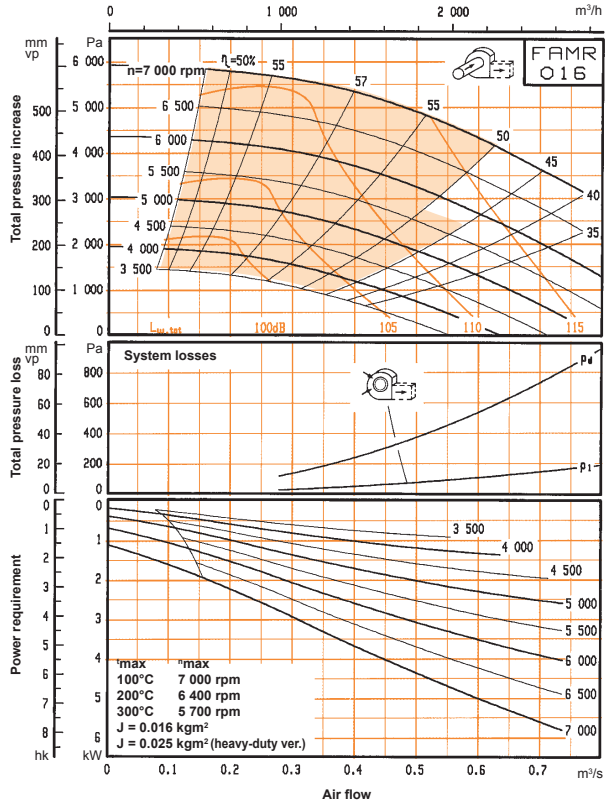
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.









Capacity

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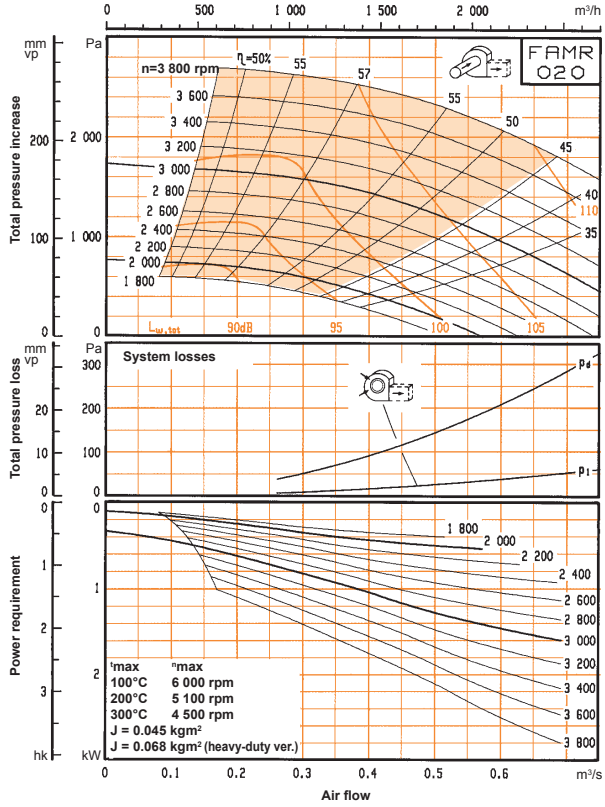
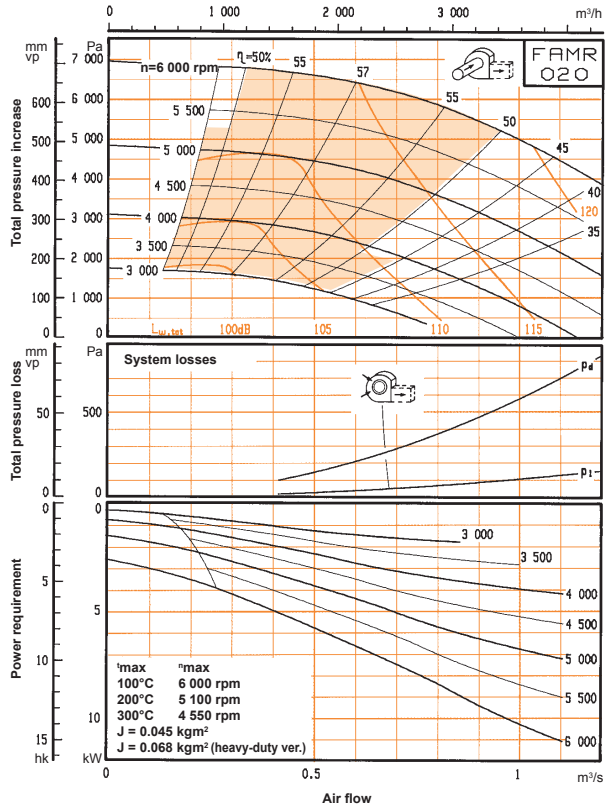
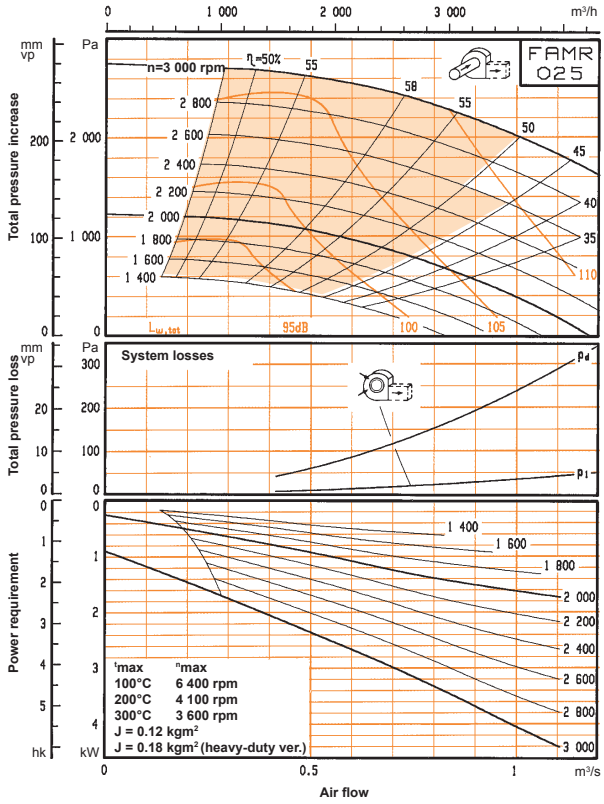
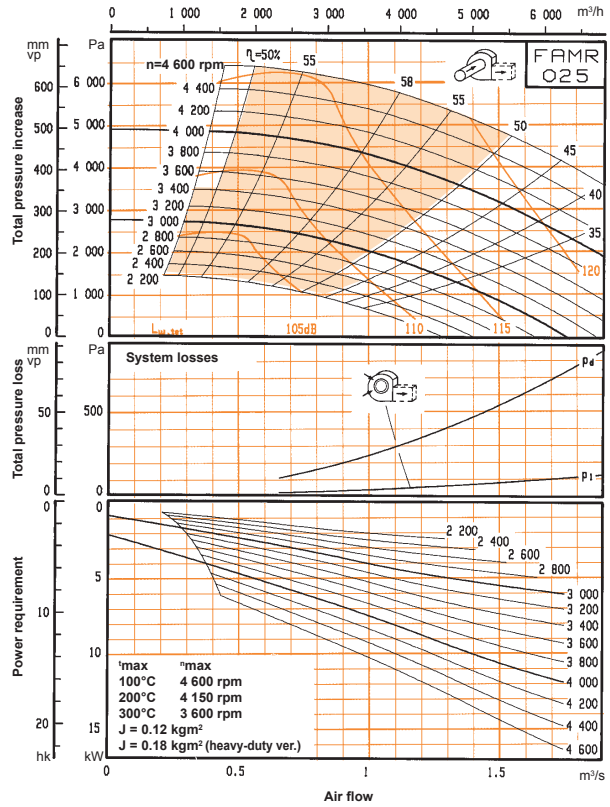


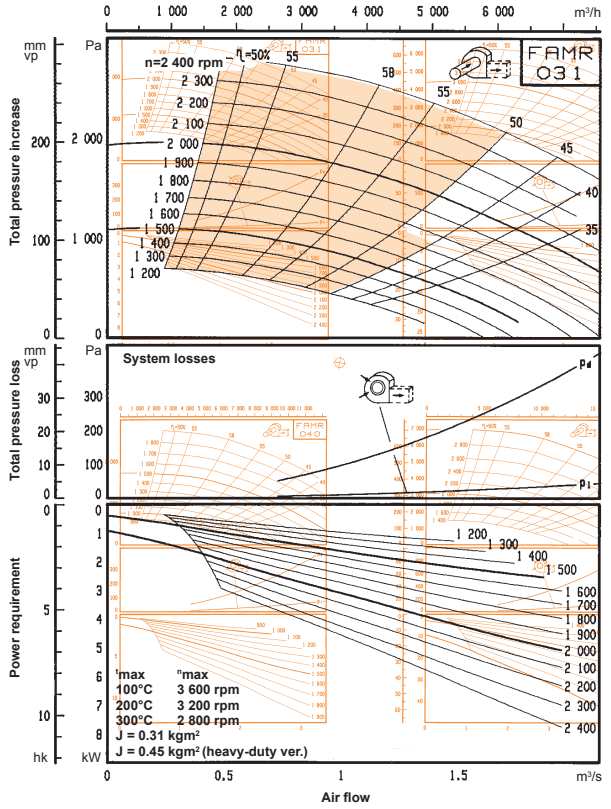


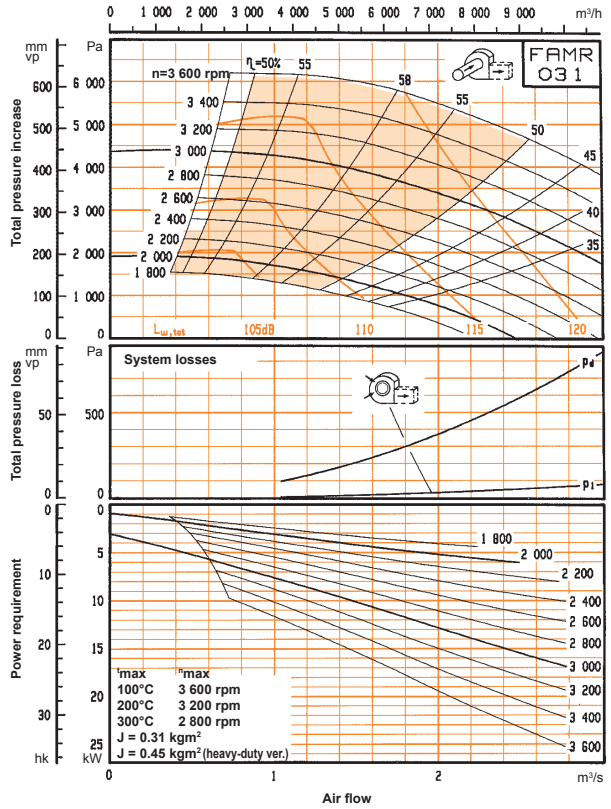


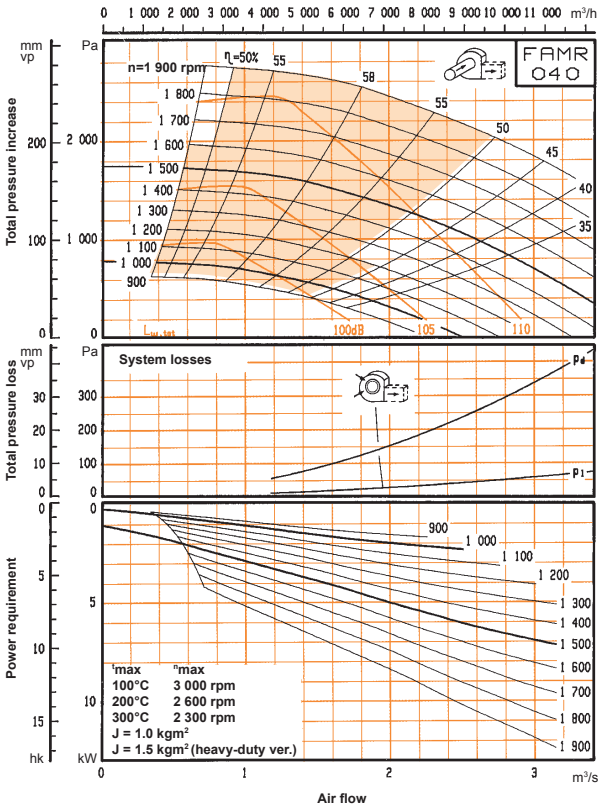


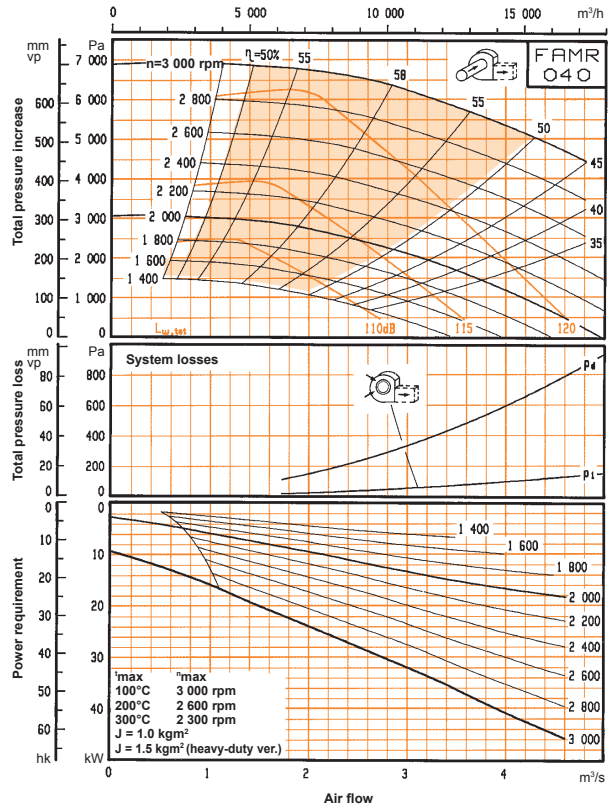
Capacity

The diagrams apply for air with a density of 1.2 kg/m³.









Capacity

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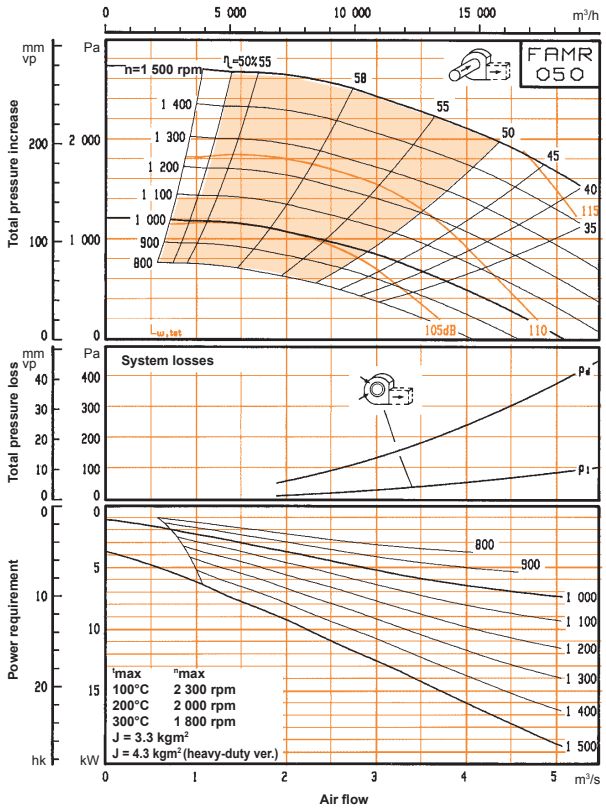

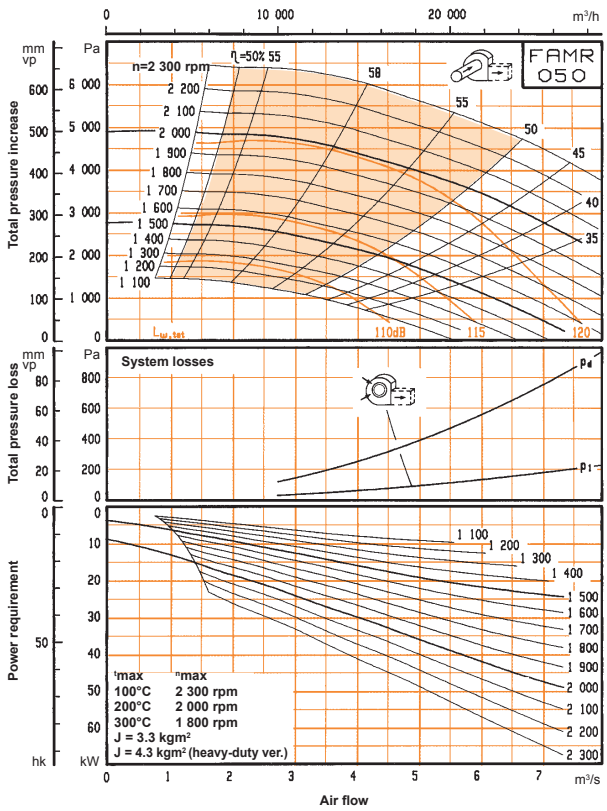

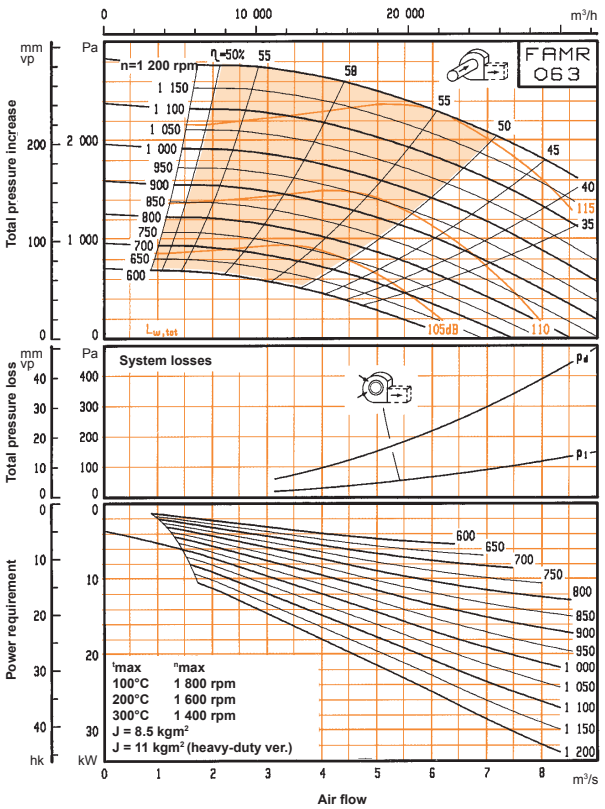

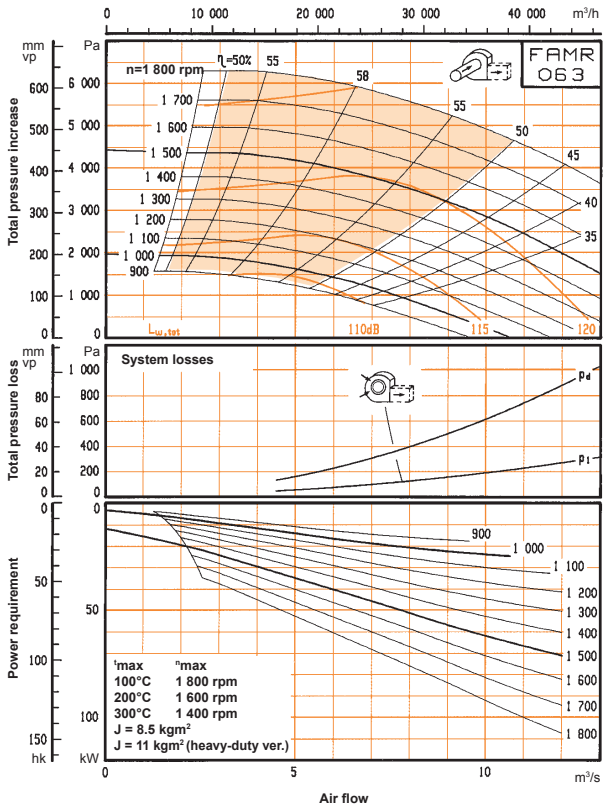

Capacity

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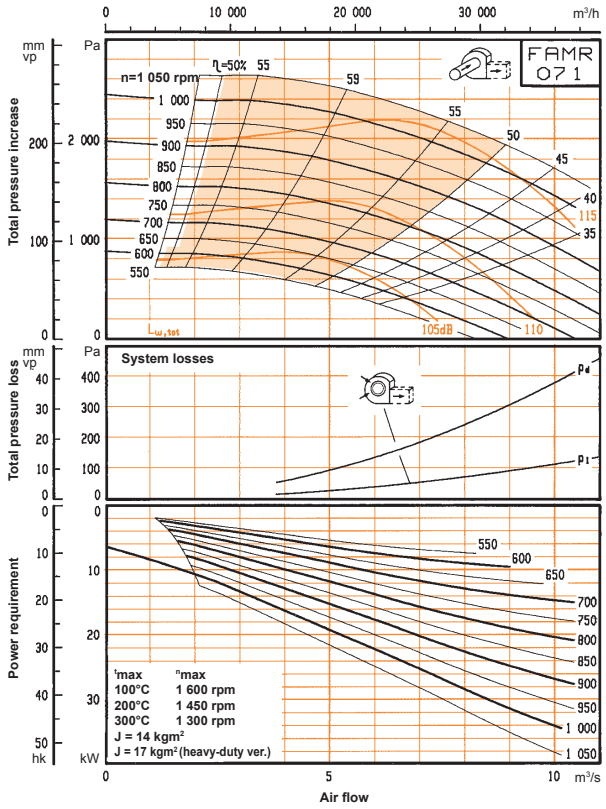

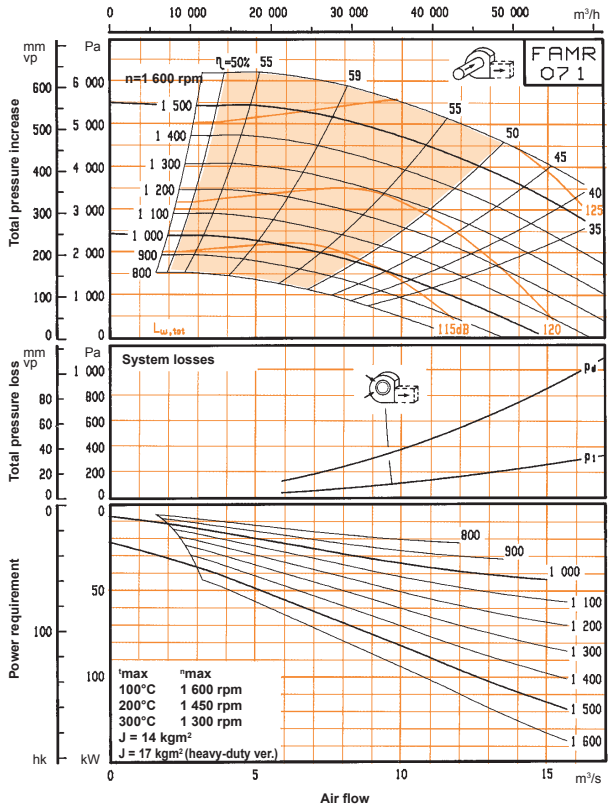

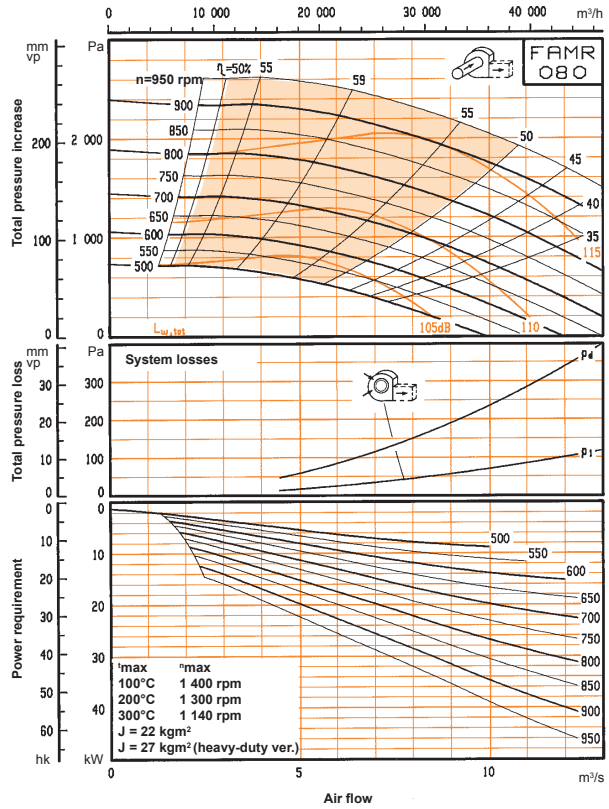

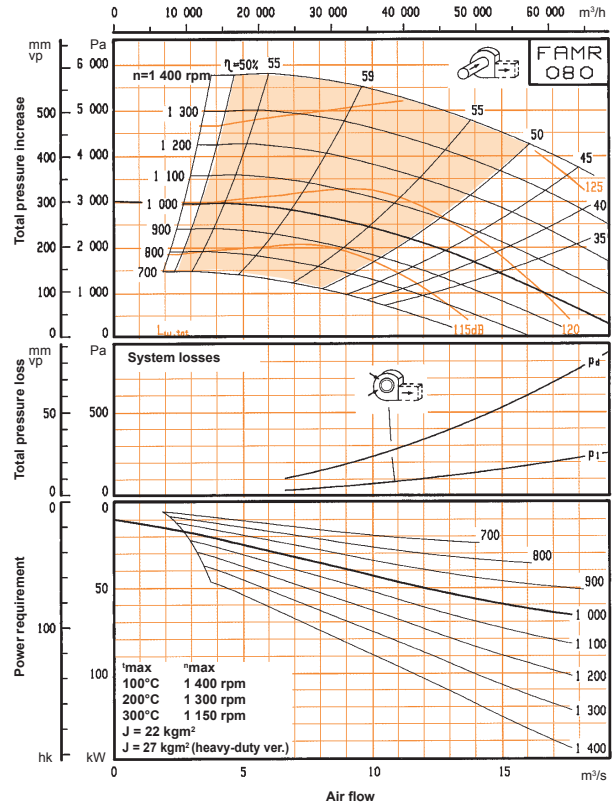

Capacity

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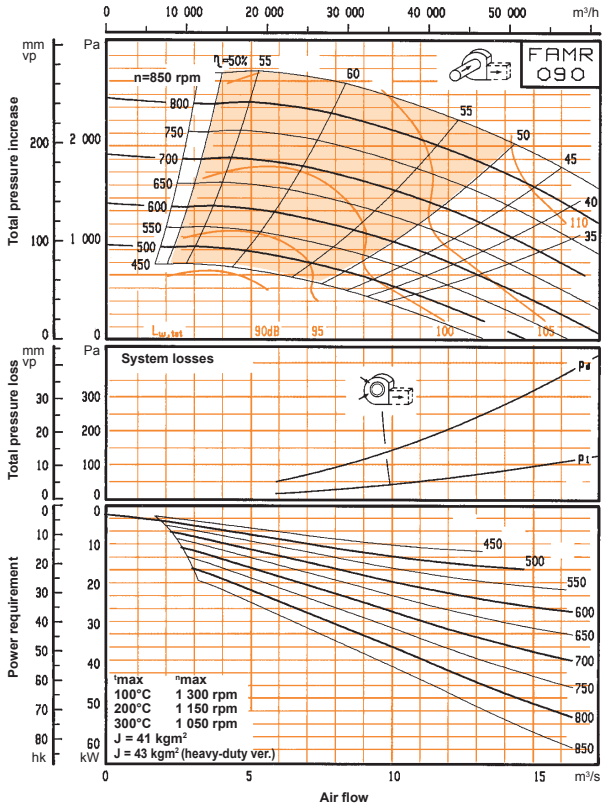

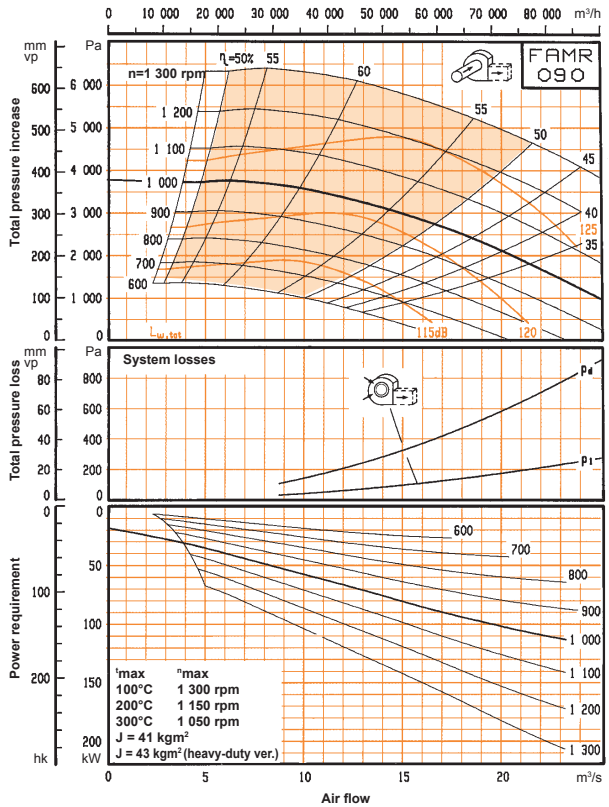

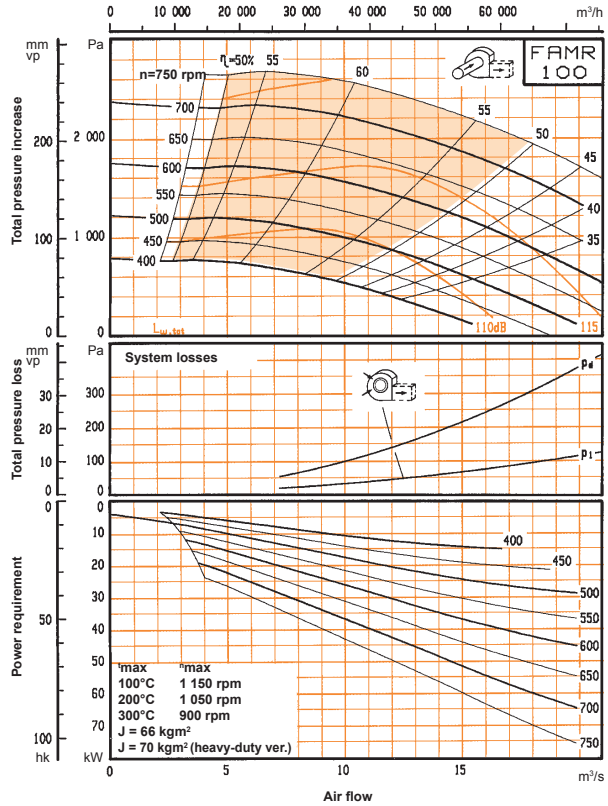

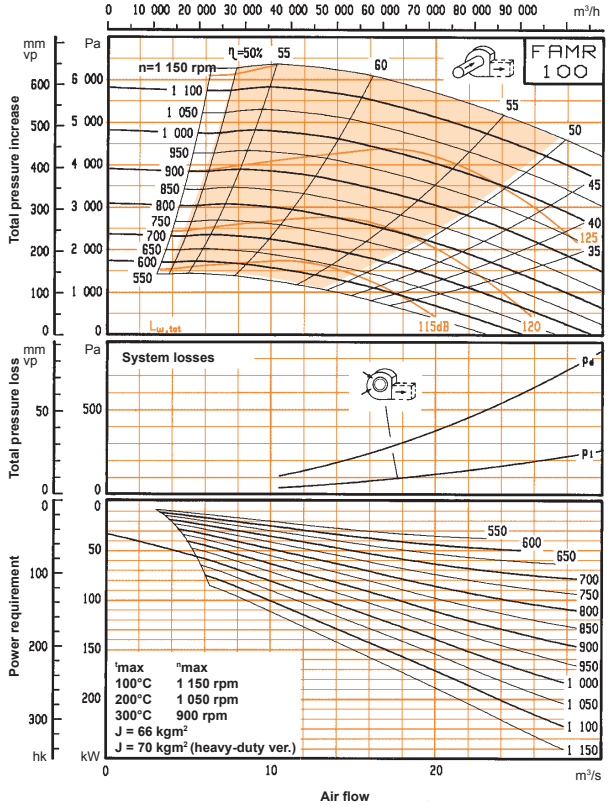

Audio data

Total acoustic power level to outlet duct $L_{W\ tot}$ can be read in each fan diagram. For dividing into different audio paths and octave bands, the following formula is used:

$$L_{W,\ ok} = L_{W\ tot} + K_{ok}$$

where K_{ok} is obtained from the following table:

Correction factor K_{ok} for different audio paths and octave bands

	Rotational speed range [rpm]								
Octave band No.		1	2	3	4	5	6	7	8
Mean frequency, [Hz]		63	125	250	500	1,000	2,000	4,000	8,000
Audio path to outlet duct	400-900	+6	0	-12	-20	-30	-38	-49	-64
	901-1,800	-3	-1	-11	-18	-28	-36	-44	-59
	1,801-3,550	-8	-7	-2	-11	-17	-26	-36	-51
	3,551-7,000	-9	-8	-6	-3	-10	-17	-25	-34
Audio path to inlet duct	400-900	-2	-10	-19	-25	-32	-39	-49	-59
	901-1,800	-10	-10	-18	-23	-29	-36	-46	-55
	1,801-3,550	-8	-12	-12	-19	-23	-30	-39	-49
	3,551-7,000	-7	-10	-14	-14	-20	-24	-32	-41
Audio path to surrounding at free-standing fan	400-900	-7	-12	-18	-24	-28	-33	-38	-44
	901-1,800	-17	-12	-17	-21	-26	-28	-34	-40
	1,801-3,550	-24	-20	-12	-18	-21	-25	-27	-34
	3,551-7,000	-25	-22	-19	-13	-18	-20	-24	-26
Audio path to surrounding at duct-connected fan	400-900	-8	-14	-21	-26	-32	-35	-42	-50
	901-1,800	-18	-13	-21	-24	-29	-32	-35	-41
	1,801-3,550	-26	-22	-14	-21	-24	-28	-31	-35
	3,551-7,000	-28	-25	-22	-15	-21	-24	-27	-30