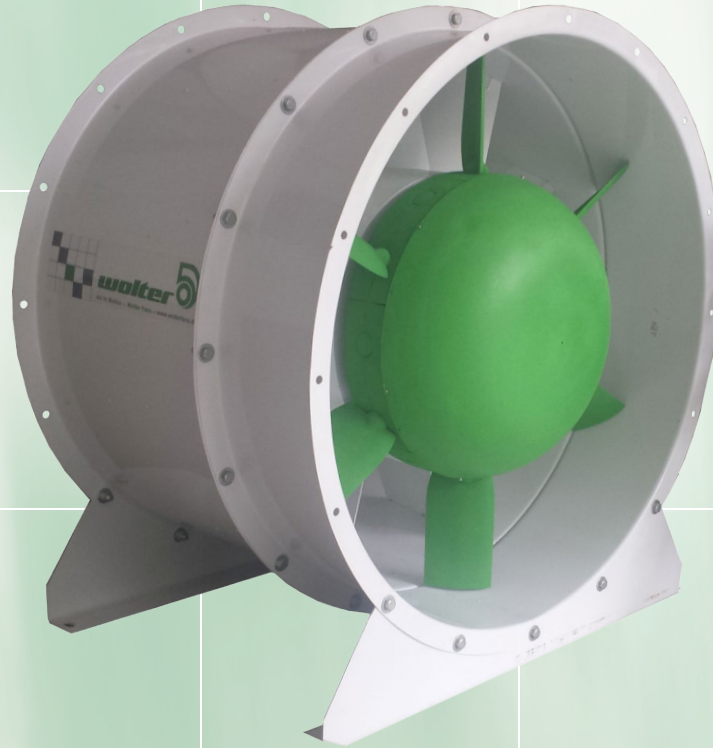


Vane Axial Flow Fans

- Direct Driven
- Belt Driven



Wolter Ventilation Co., LTD. certifies that the series AXV-F shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Air in Motion.
Wolter Fans.

A09-F(TH)

wolter

Contents	Page 1
Fan Type Code	Page 2
Design Features	Page 2
Fan Installation, Forms of Running	Page 3
Selection Sample	Page 4
AMCA FEG Rating	Page 5
Fan Performance Curves - 50Hz	Page 6~17
AMCA FEG Rating	Page 18
Fan Performance Curves - 60Hz	Page 19~30
Dimensions	Page 31~33
Accessories	Page 33
Sound Information	Page 34~35
Tubular sound attenuator for AXV-F	Page 36~37

Subject to change without prior notice.

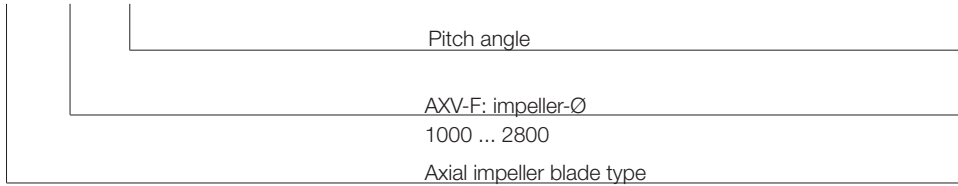
Vane Axial Fans

Technical information

AXV-F

Fan type code

AXV-F 1400 / 20°



Design features

Types and duty range

Wolter vane axial high pressure fans can be used for various applications in ventilation and process air technology. Standard diameters range from 1000 to 2,800 mm, with airflow rates of up to 260 m³/s at static pressure increases of up to 2,500 Pa. The high efficiencies and high pressures are achieved by the use of the aerodynamically designed guide vanes.

Application

The AXV-F range of vane axial fans is designed, tested and certified to operate at standard temperatures as well as at elevated temperatures of maximum up to 600deg/C for 240 minutes inclusive of F600 (600deg/120mins), F400 (400deg/120mins) and F300 (300deg/60mins) according to EN 12101-3:2015. The following fan curves are valid for standard temperatures and 300°/60(120) minutes operation. To select a fan for 400°C/120 minutes and 600°C/240 minutes operation, please contact our technical support. For F600, fans come in bifurcated and belt driven configuration with motor out of air flow.

Well suited for industrial applications, ventilation, smoke exhaust, stair case pressurisation and for conveying clean and dusty air where medium to high pressures are required with high airflow volume and fan efficiency.

Casing

Fans are made of steel, with flanges rolled on both sides. The pitch circles of holes are in accordance with DIN 24 154, R2. The fan casings are hot dipped galvanised as standard. Optional: Optimal corrosion protection by powder-coating.

If motors require additional lubrication, tubes and grease-nipples are fitted to the outside of the fan casing. An inspection hole, closed by a rubber plug, allows controlling the direction of rotation.

Impellers

Hubs and impeller blades are made of highly corrosion resistant pressure-cast aluminium alloy. Optional: Hub and aerofoil profiled blades made of steel for F600. The aero profile of the impeller blades guarantees a high level of efficiency and low noise. The blade angle is adjustable during standstill. The variable number of blades expands the performance range. Dynamically balanced according to DIN ISO 1940-1, balancing quality G6.3.

Motors

Wolter uses closed squirrel cage motors according to IEC 34, if required also in accordance with EPACT. Standard motors are class F with IP 55 protection class. Multi speed versions with 2 or 3 speeds (Dahlander circuit or separate windings) are also available, as well as explosion-proof versions or specific industrial executions such as marine-type fans. The motor bearings have a L 10 life. For high temperature applications, three phase motor according to EN 12101-3 in protection class IP55, insulation class H.

Fan performance curves

The performance curves for size 1000 to 1250 have been established in installation type - D (according to AMCA 210, ducted inlet and ducted outlet) while installation type A (free inlet and free outlet) is for size 1400 to 2800 and represent the total pressure increase p_t as a function of the volume flow. The dynamic pressure p_{d2} refers to the outlet area of the fan.

Sound levels

The ascertaining of sound level follows the Reverberant Room Method according to AMCA 300. The A-weighted inlet sound power levels L_{wIA} or outlet sound power levels L_{wOA} are shown on the performance curves.

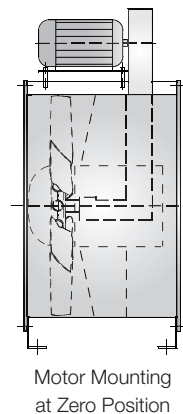
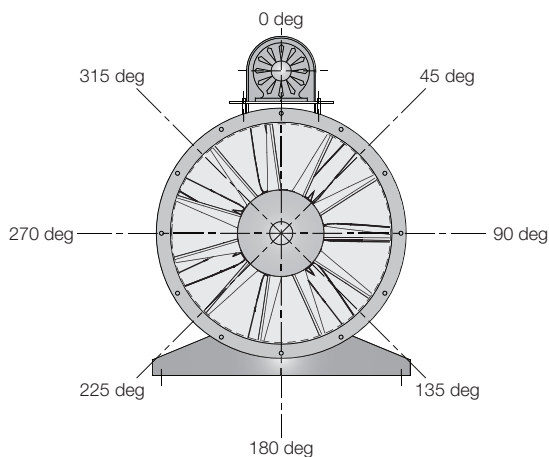
Belt driven design

Belt driven fan with single / dual motors can be mounted in various positions to suit the actual site condition. Belt driven fans are used for applications to extract more heavily polluted air i.e. presence of corrosive or hazardous fumes, or dirt-laden, moist air or hot air. Various mounting positions are illustrated.

Ordering designations

When ordering, please provide the following information:

- ▶ Fan type
- ▶ Fan code and type
- ▶ Quantity required
- ▶ Duty required at standard air and temperature (air volume in m³/h at static pressure in Pa).
- ▶ Motor power rating in kW
- ▶ Electrical supply
- ▶ Ancillaries required





AXV-F

Fan selection and installation

Fan selection

Please select fans according to the nearest performance curve above the required duty point. The middle range of each fan curve is the area of highest efficiency. Do not select fans at the upper end of the fan curve, as this might cause the fan to work in stall. In order to avoid motor overloading, please select motors according to the peak power of the respective performance curve. Please refer to the selection example on the following page.

Fan installation

When installing the fan, please consider the following instructions:

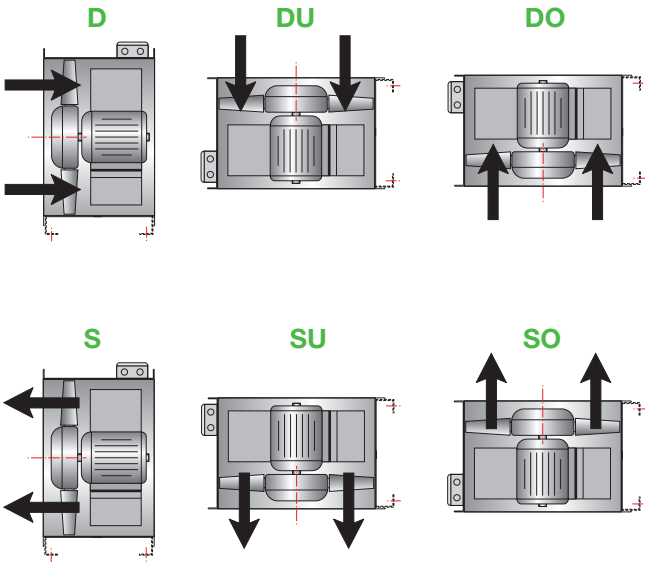
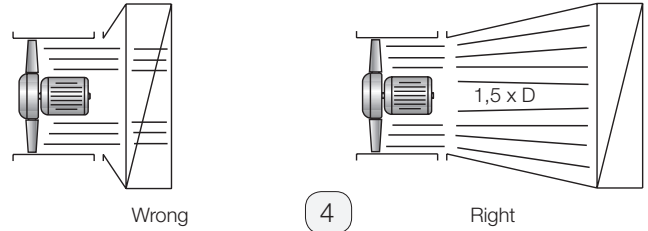
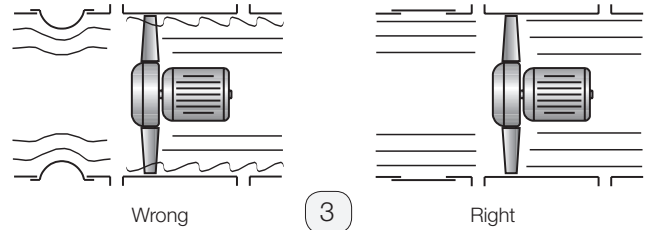
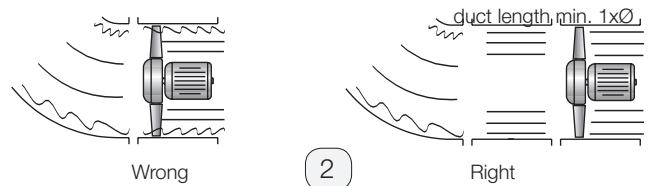
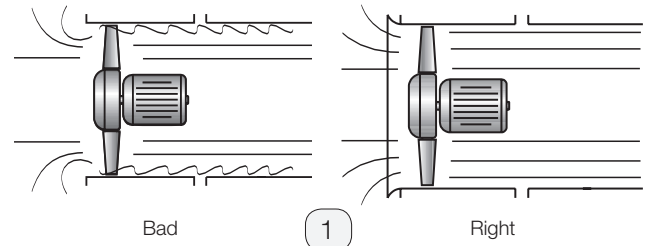
► Fans with free inlet and outlet should be installed with an unobstructed distance of at least 1,5 x fan diameter on suction and pressure sides. Fans should have a bellmouth on the inlet side in order to assure optimal incoming flow. A diffusor mounted on the pressure side will increase efficiency.

► When installing fans in a ducted system, adequate distance to other structural parts such as bends, filters and silencers should be provided for. A sharp bend radius of the duct near the suction or pressure side of the fan is to be avoided. Flexible connections are to be installed in a way that does not obstruct the outlet cross section of the fan (see following page).

Forms of running

Wolter axial flow fans are available for all forms of running. The chart below shows all standard forms of running. Please indicate the required configuration when ordering. Arrows outside the fan casing indicates the correct direction of rotation and airflow.

Form S, SU and SO are not licensed by AMCA International.



Selection example

Required duty point

- Volume flow: 50000 m³/h
- Static pressure: 735 Pa

In order to calculate the total pressure, please add velocity pressure to static pressure (185 Pa dynamic pressure + 735 Pa static pressure = 920 Pa total pressure)

- Fan speed: 1.500 1/min (4-pole)

Using the fan curve

Having chosen a fan with adequate performance range for the required duty point, plot volume flow and pressure.

At the point of intersection, the following data can be read:

- Motor speed or number of poles 1.500 1/min - 4-pole
- Pitch angle: 30 degrees
- Absorbed power: 19,30 kW
- Sound Power Level: 114 dBA

Calculation of motor power

There are two possibilities to calculate the motor power:

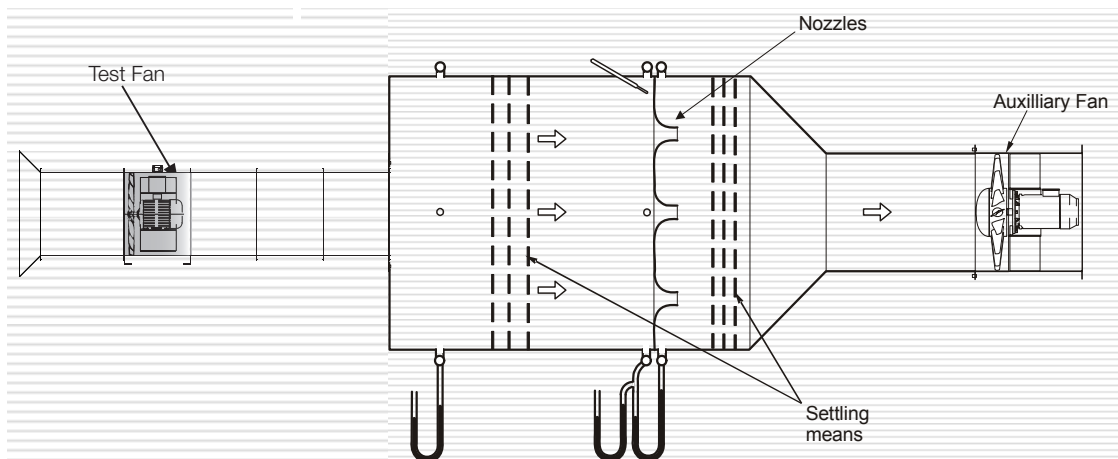
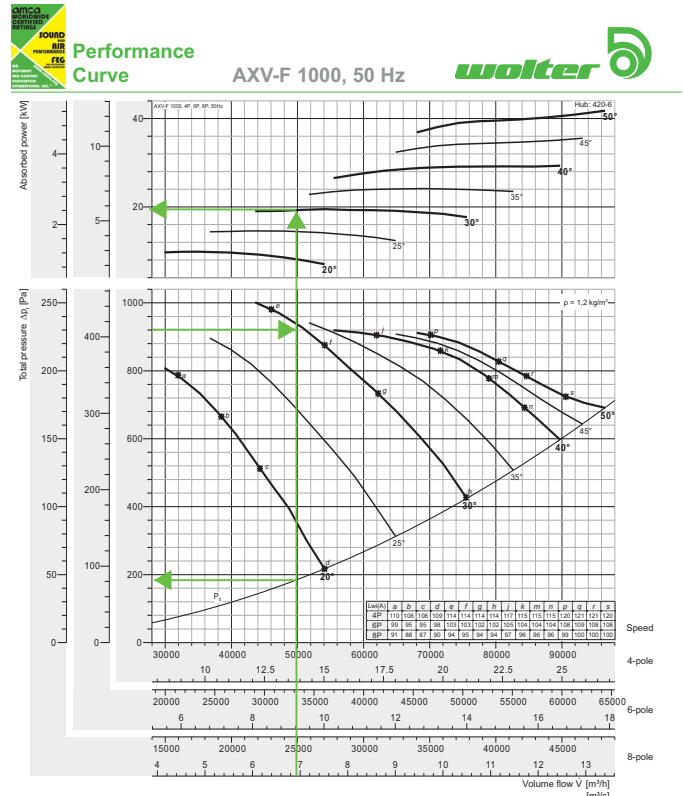
- Calculation of absorbed power by using the fan curve in duty point: 19,30 kW

Motor power: 22 kW

- Calculation according to peak absorbed power, see table below the fan curve: 19,49 kW

Motor power: 22 kW

The given peak absorbed power is the maximum shaft absorbed power over the whole pitch angle curve in.



AMCA 210 Figure 12
ISO 5801 Figure 73b

AMCA - FEG rating

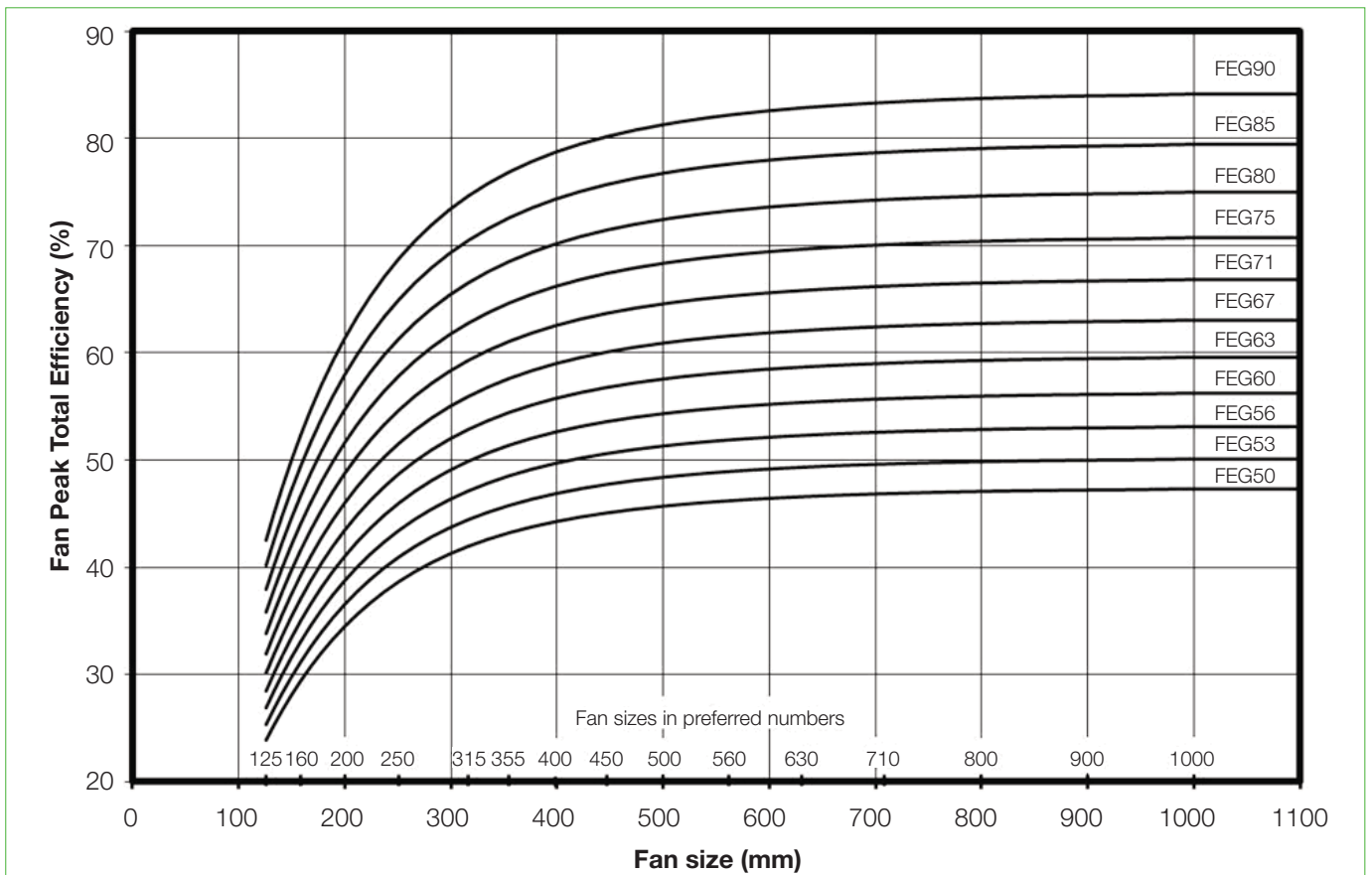
Fan Efficiency Grade: AXV-F



Certified FEGs are determined in accordance with AMCA 205-12 Energy Efficiency Classification for fans. In conjunction with AMCA 211-13 (Rev. 2015) Certified Ratings Program, Product Rating Manual for Fan Air Performance. This classification is based on fan peak (optimum) total efficiency for a given fan speed, fan size and application category. For the purpose of energy classification, the peak efficiency can be determined at a speed not higher than the maximum design speed of the fan.

The AMCA Certified Ratings Seal applies to the Fan Efficiency Grade (FEG) for AXV-F series Axial Fan model AXV-F 1000 to AXV-F 2800 as shown in the table below.

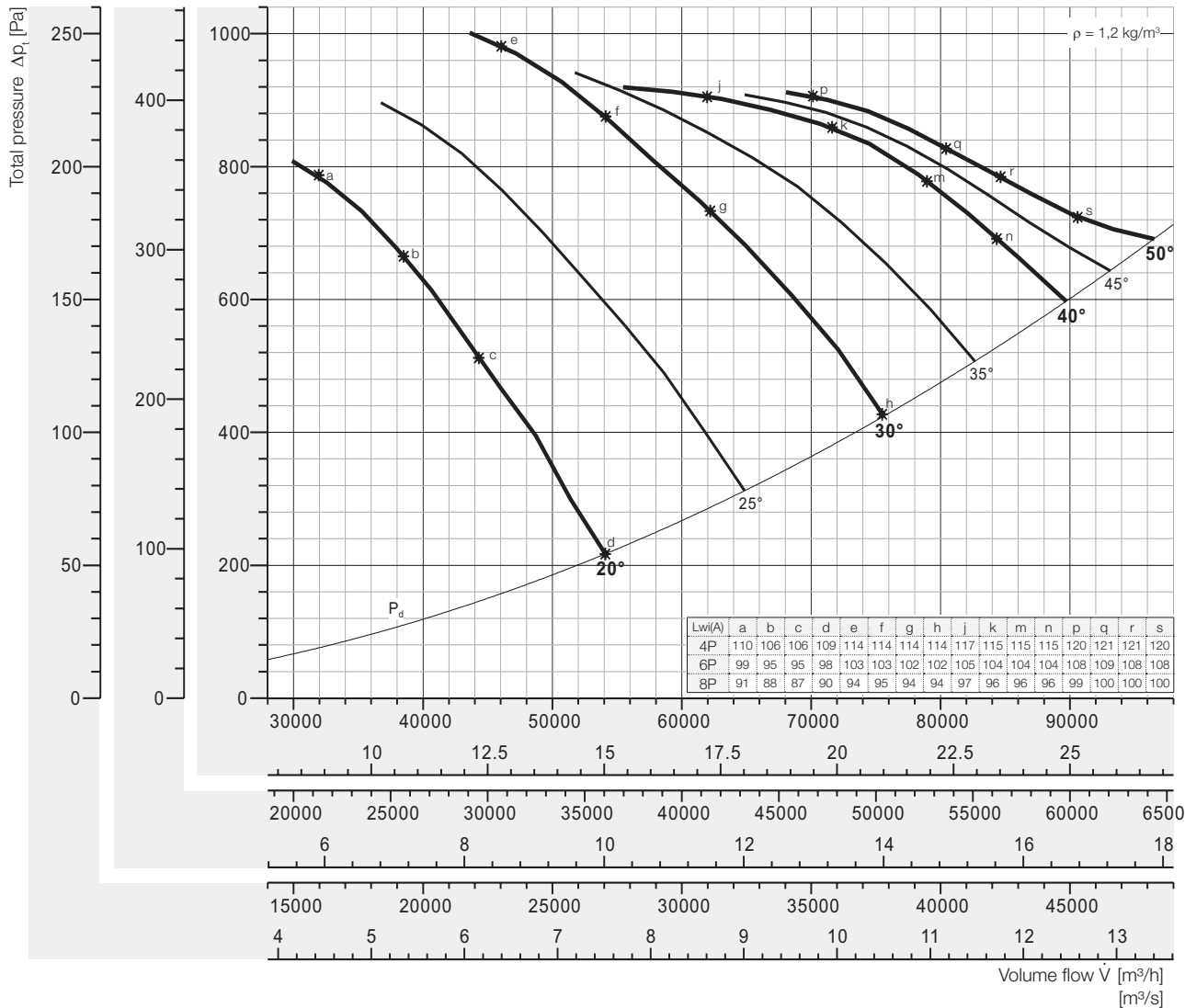
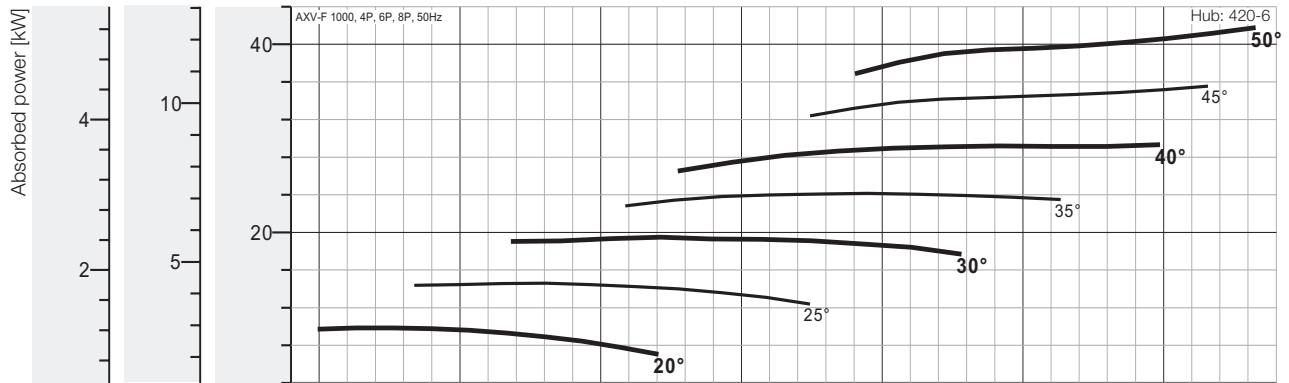
Fan Model No.	Fan Speed (rpm)	Fan Outlet Area (m2)	Fan Efficiency Grades	Fan Model No.	Fan Speed (rpm)	Fan Outlet Area (m2)	Fan Efficiency Grade
AXV-F 1000	1500/1000/750	0,7901	FEG 75	AXV-F 2000	1000/750/600	3,1573	FEG 80
AXV-F 1120	1500/1000/750	0,9940	FEG 75	AXV-F 2200	750/600/500	3,8186	FEG 80
AXV-F 1250	1500/1000/750	1,2272	FEG 75	AXV-F 2400	750/600/500	4,5428	FEG 80
AXV-F 1400	1500/1000/750	1,5504	FEG 80	AXV-F 2500	750/600/500	4,9284	FEG 80
AXV-F 1600	1500/1000/750	2,0232	FEG 80	AXV-F 2600	750/600/500	5,3297	FEG 80
AXV-F 1800	1000/750/600	2,5588	FEG 80	AXV-F 2800	750/600/500	6,1795	FEG 80





Performance Curve

AXV-F 1000, 50 Hz



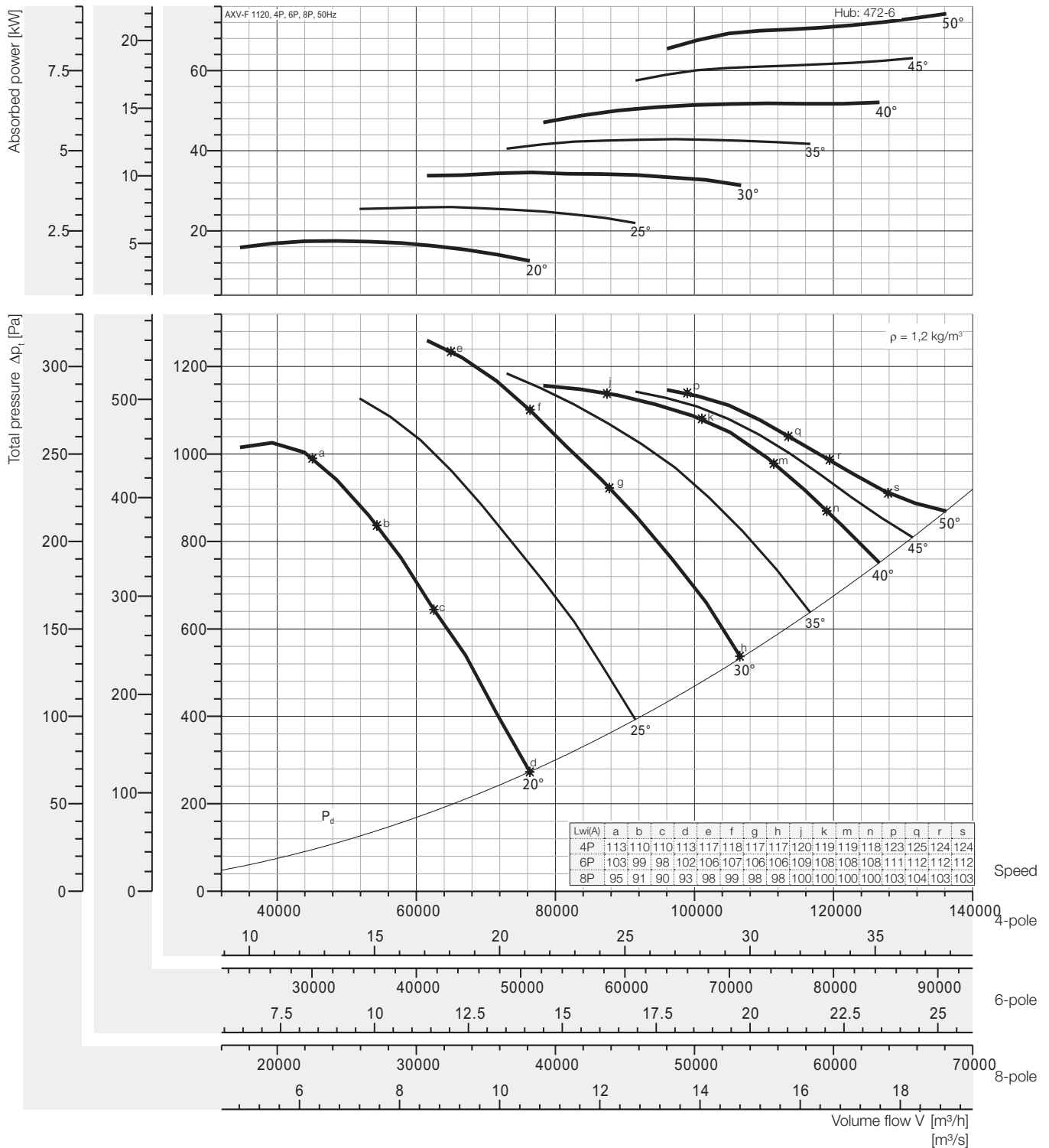
Peak absorbed power [kW]

4-pole = 1500 rpm; 6-pole = 1000 rpm; 8-pole = 750 rpm;

N Poles	Pitch angle [°]						
	20	25	30	35	40	45	50
4P motor	9,853	14,61	19,49	24,16	29,32	35,55	41,77
6P motor	2,919	4,330	5,776	7,159	8,688	10,53	12,38
8P motor	1,232	1,827	2,437	3,020	3,665	4,443	5,222

Fan test laboratory AMCA 210/99 Fig.12, Test Chamber. Performance certified is for installation type D - Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw(A) sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Peak absorbed power [kW]

4-pole = 1500 rpm; 6-pole = 1000 rpm; 8-pole = 750 rpm;

N Poles	Pitch angle [°]						
	20	25	30	35	40	45	50
4P motor	17,51	25,94	34,60	42,89	52,05	63,11	74,16
	18,5	30	37	45	55	75	
6P motor	5,187	7,686	10,25	12,71	15,42	18,70	21,97
	5,5	11		15	18,5	22	
8P motor	2,188	3,243	4,326	5,361	6,506	7,888	9,270
	2,2	4	5,5		7,5	11	

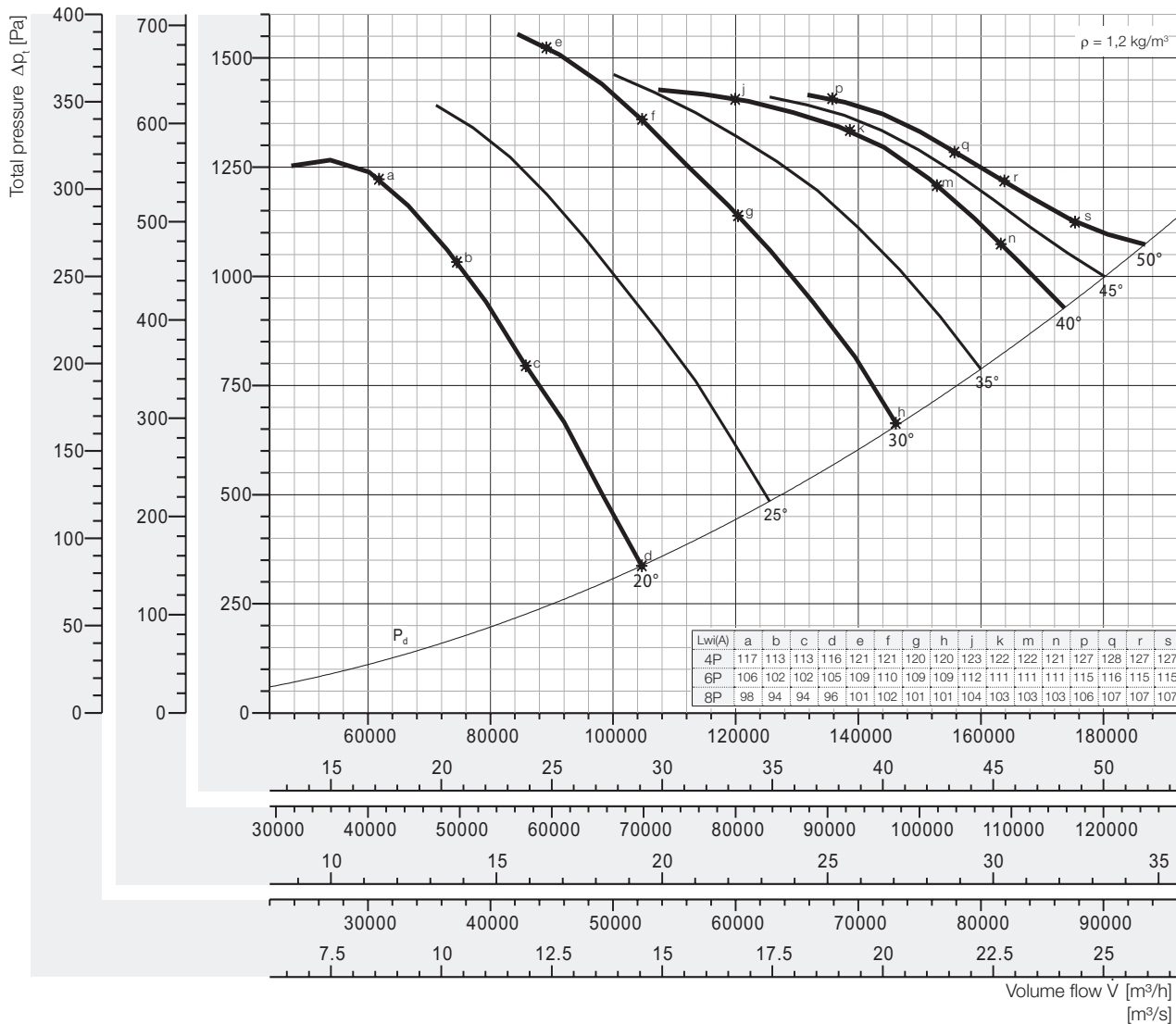
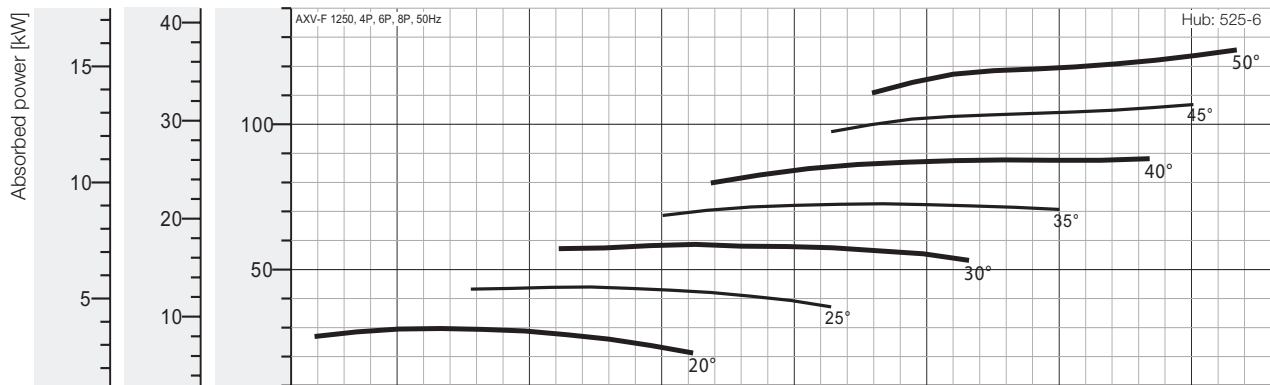
Fan test laboratory AMCA 210/99 Fig.12, Test Chamber. Performance certified is for installation type D - Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw(A) sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Performance Curve

AXV-F 1250, 50 Hz



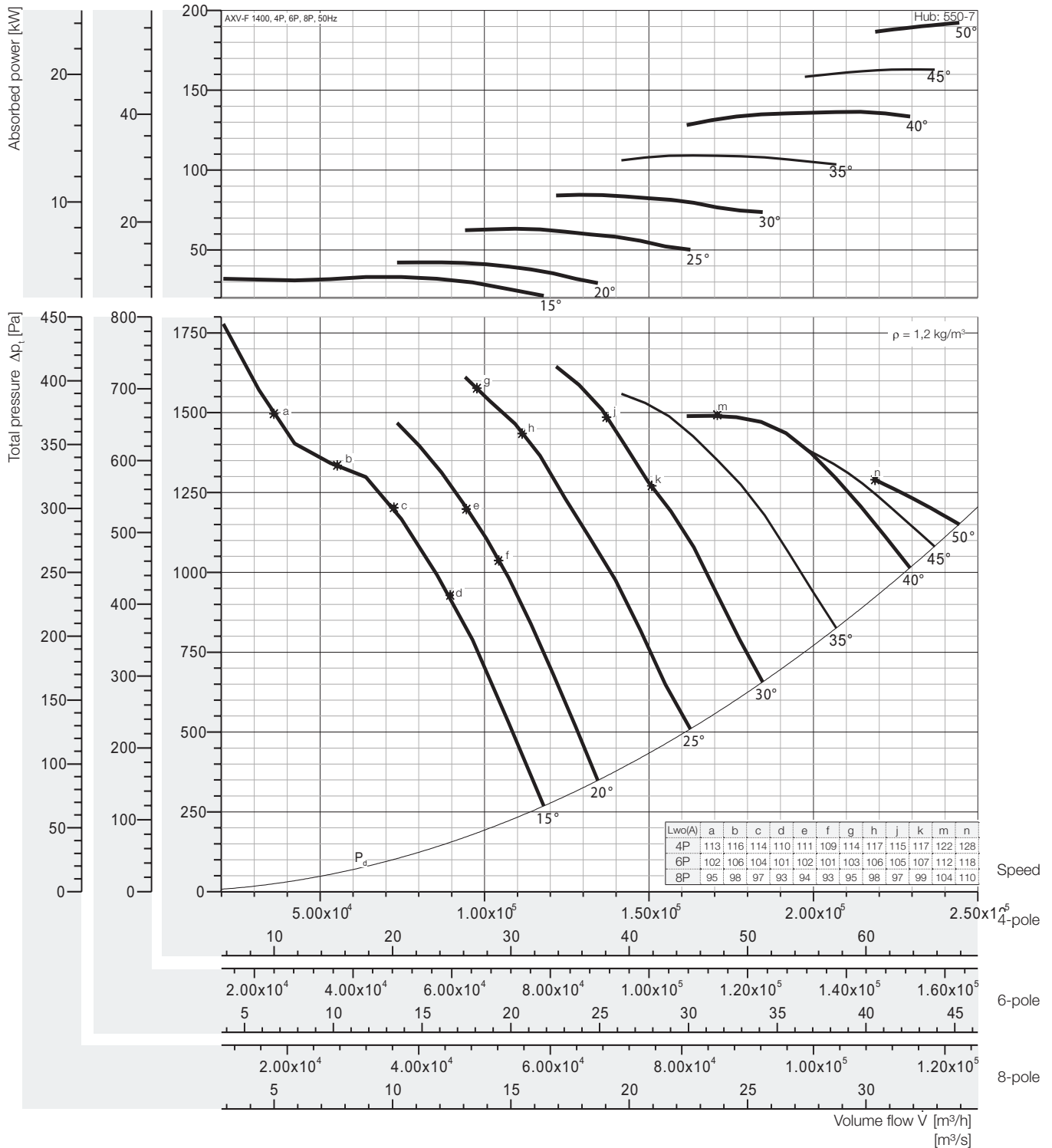
Peak absorbed power [kW]

4-pole = 1500 rpm; 6-pole = 1000 rpm; 8-pole = 750 rpm;

N Poles	Pitch angle [°]						
	20	25	30	35	40	45	50
4P motor	29,65	43,93	58,60	72,64	88,15	106,9	125,6
	30	45	75	90	-	-	-
6P motor	8,78	13,02	17,36	21,52	26,12	31,66	37,21
	11	15	18,5	22	30	37	45
8P motor	3,706	5,492	7,325	9,080	11,02	13,36	15,70
	4	5,5	7,5	11	15	-	-

Fan test laboratory AMCA 210/99 Fig.12, Test Chamber. Performance certified is for installation type D - Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw(A) sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Peak absorbed power [kW]

4-pole = 1500 rpm; 6-pole = 1000 rpm; 8-pole = 750 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
4P motor	33,14	42,28	63,27	84,50	109,2	136,5	163,1	192,3
6P motor	9,819	12,53	18,75	25,04	32,36	40,45	48,32	56,98
8P motor	4,142	5,285	7,908	10,56	13,65	17,06	20,38	24,04

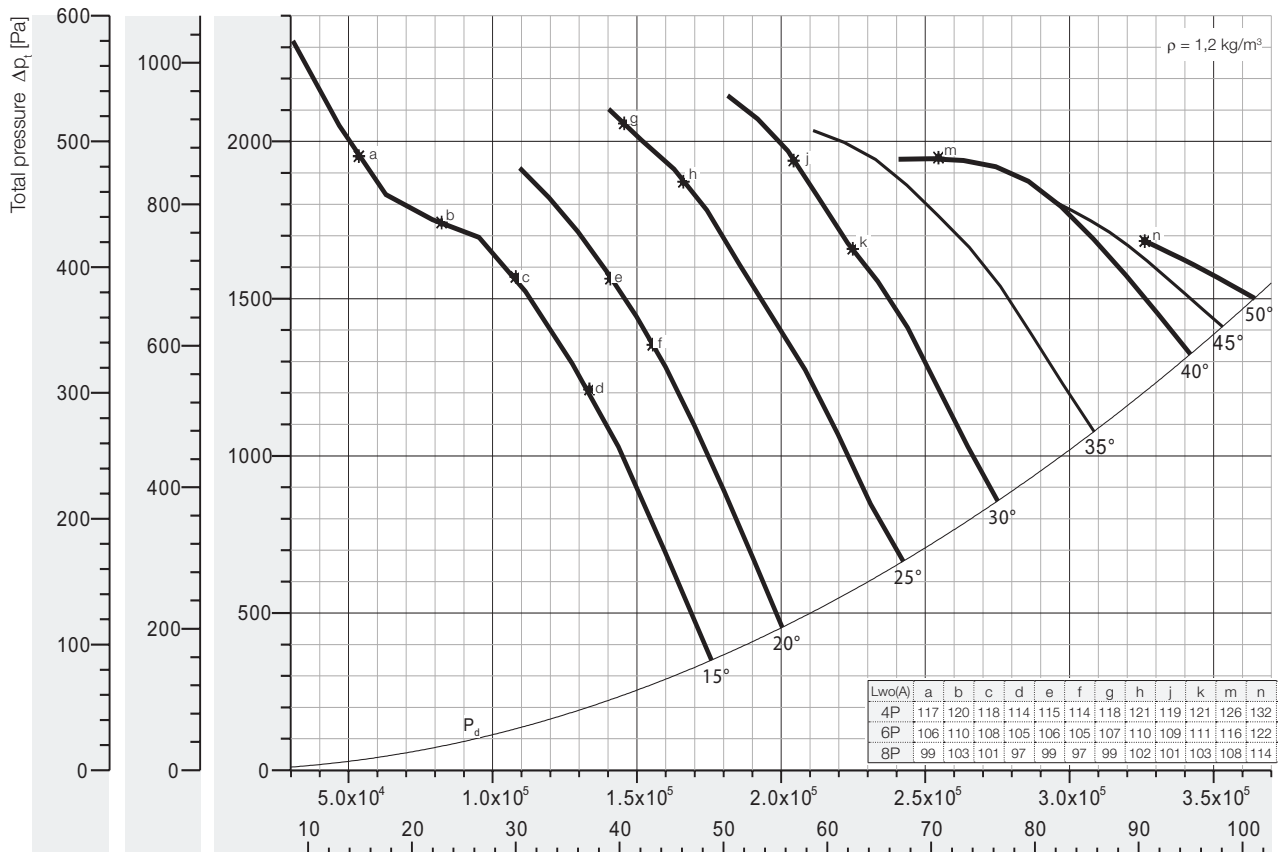
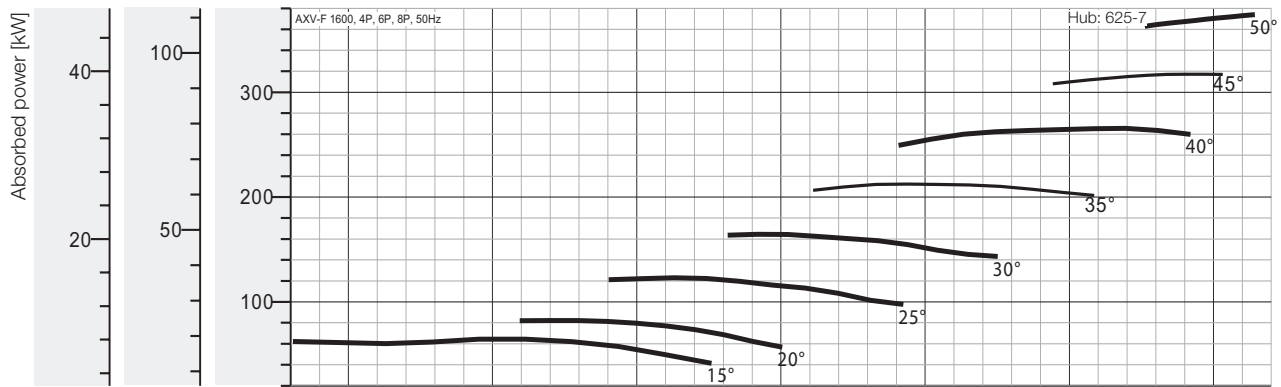
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.

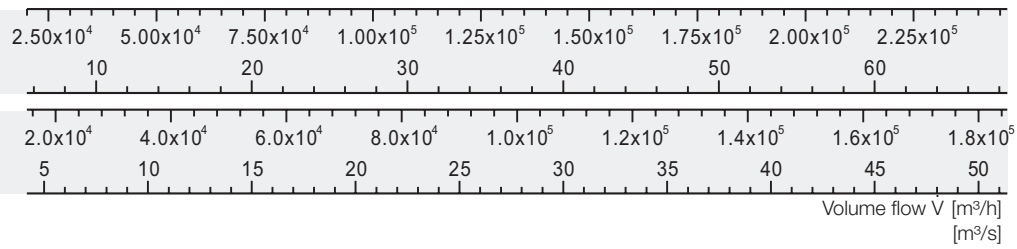


Performance Curve

AXV-F 1600, 50 Hz



Lwo(A)	a	b	c	d	e	f	g	h	j	k	m	n
4P	117	120	118	114	115	114	118	121	119	121	126	132
6P	106	110	108	105	106	105	107	110	109	111	116	122
8P	99	103	101	97	99	97	99	102	101	103	108	114



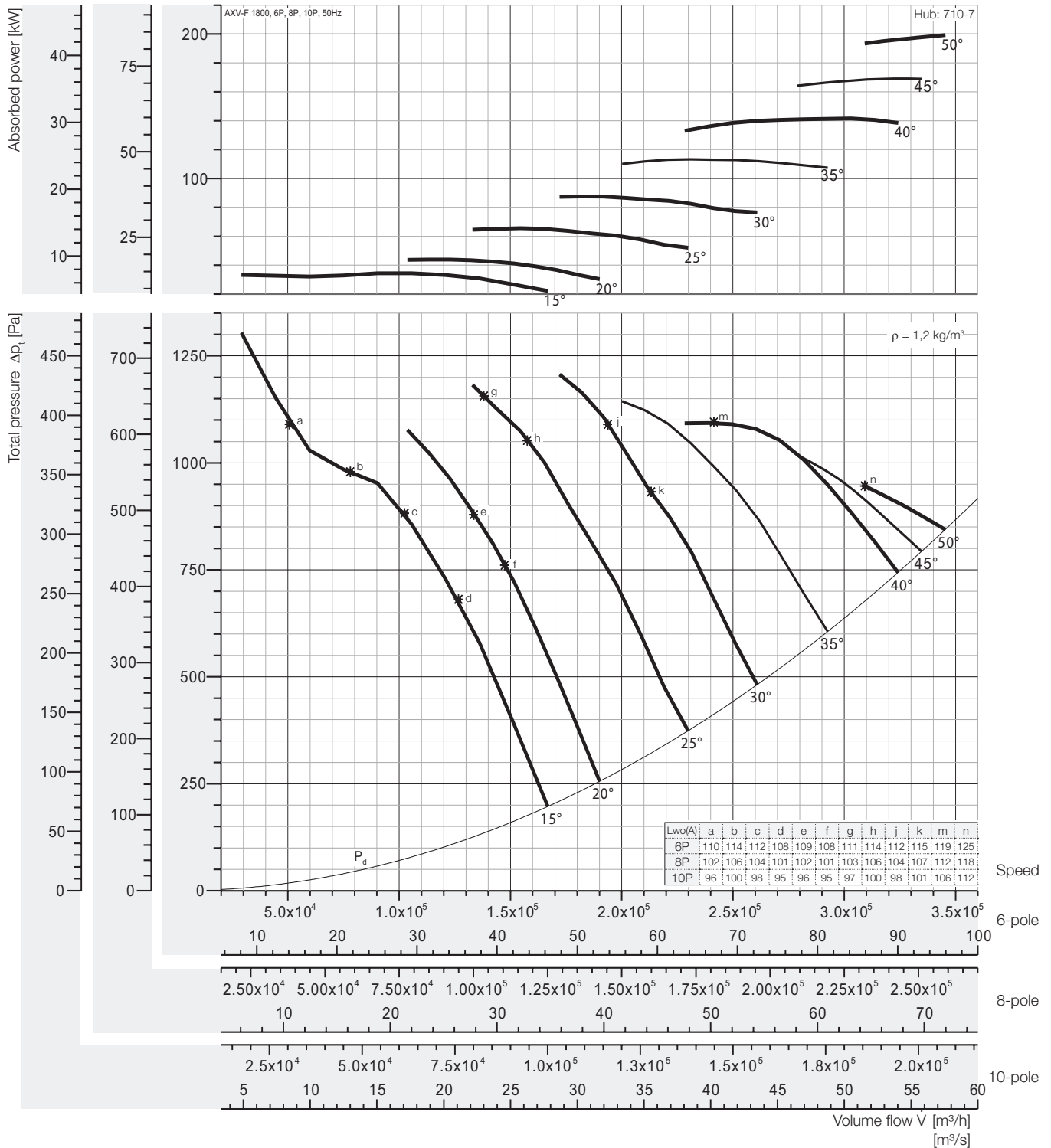
Peak absorbed power [kW]

4-pole = 1500 rpm; 6-pole = 1000 rpm; 8-pole = 750 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
4P motor	64,46	82,25	123,1	164,4	212,4	265,6	317,2	374,1
6P motor	19,10	24,37	36,47	48,71	62,94	78,68	93,99	110,8
8P motor	8,058	10,28	15,38	20,55	26,55	33,19	39,65	46,76

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Peak absorbed power [kW]

6-pole = 1000 rpm; 8-pole = 750 rpm; 10-pole = 600 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
6P motor	34,36	43,84	65,60	87,62	113,2	141,5	169,1	199,4
	37	45	75	90	132	160	200	
8P motor	14,50	18,49	27,68	36,96	47,77	59,71	71,33	84,12
	15	18,5	30	37	55	75	90	
10P motor	7,422	9,470	14,17	18,93	24,46	30,57	36,52	43,07
	7,5	11	15	22	30	37	45	

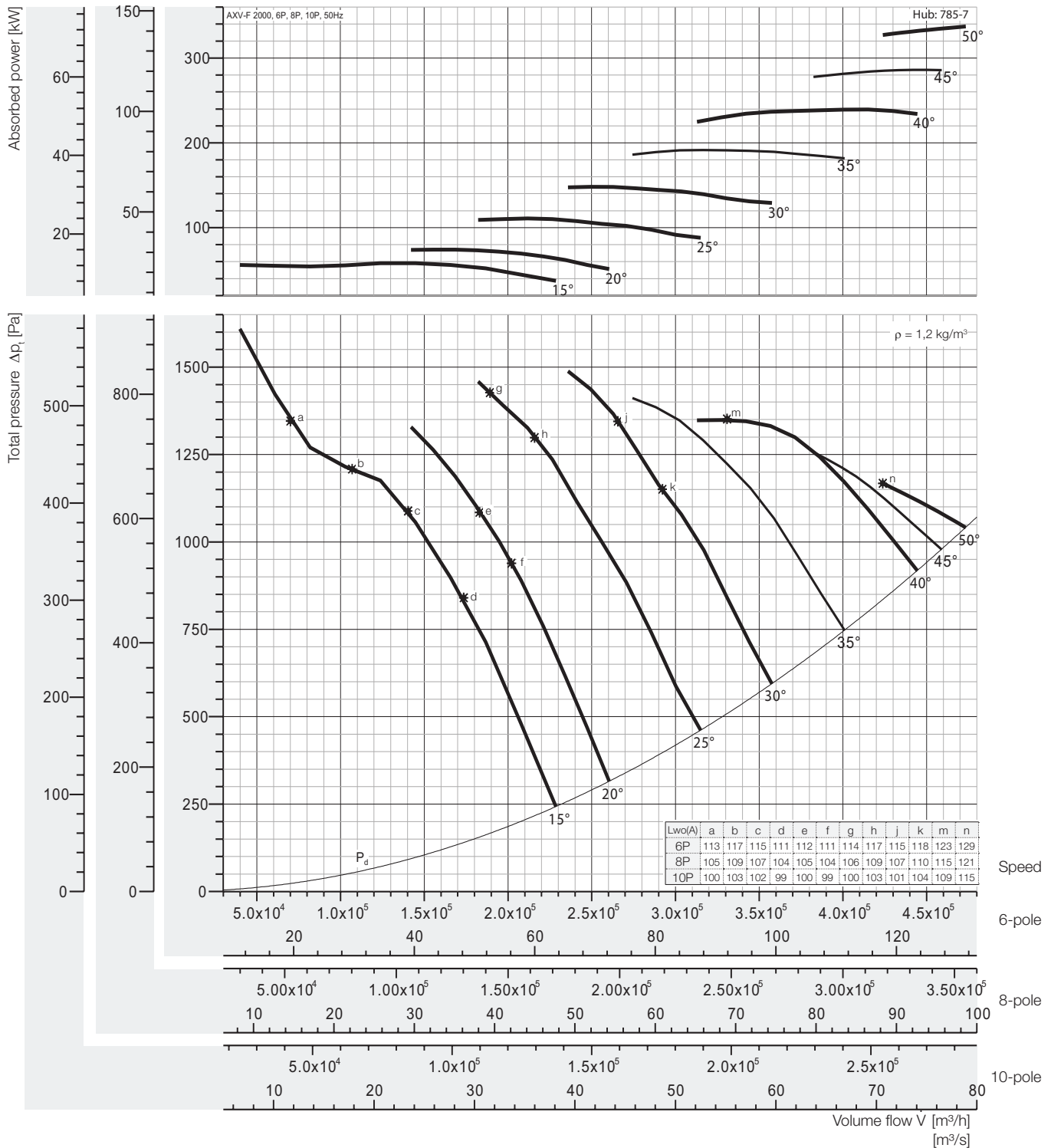
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 2000, 50 Hz



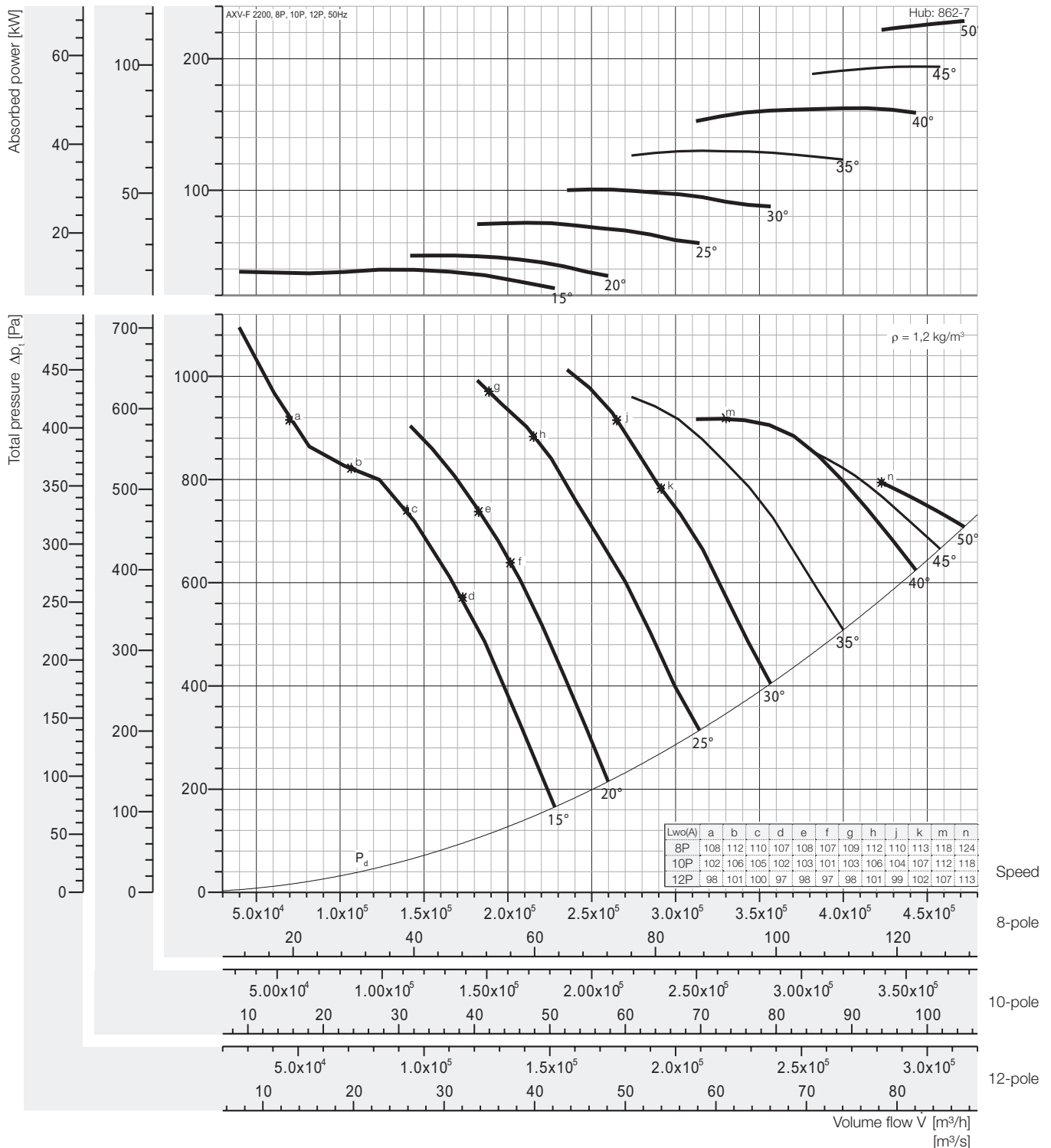
Peak absorbed power [kW]

6-pole = 1000 rpm; 8-pole = 750 rpm; 10-pole = 600 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
6P motor	58,11	74,14	110,9	148,2	191,5	239,4	285,9	337,2
	75		132	160	200	250	315	355
8P motor	24,51	31,28	46,80	62,51	80,79	101,0	120,6	142,2
	30	37	55	75	90	110	132	160
10P motor	12,55	16,01	23,96	32,01	41,36	51,71	61,76	72,84
	15	18,5	30	37	45	55	75	

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Peak absorbed power [kW]

8-pole = 750 rpm; 10-pole = 600 rpm; 12-pole = 500 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	39,44	50,32	75,29	100,6	130,0	162,4	194,1	228,8
10P motor	20,19	25,76	38,55	51,49	66,54	83,18	99,36	117,2
12P motor	11,68	14,91	22,31	29,80	38,51	48,14	57,5	67,81

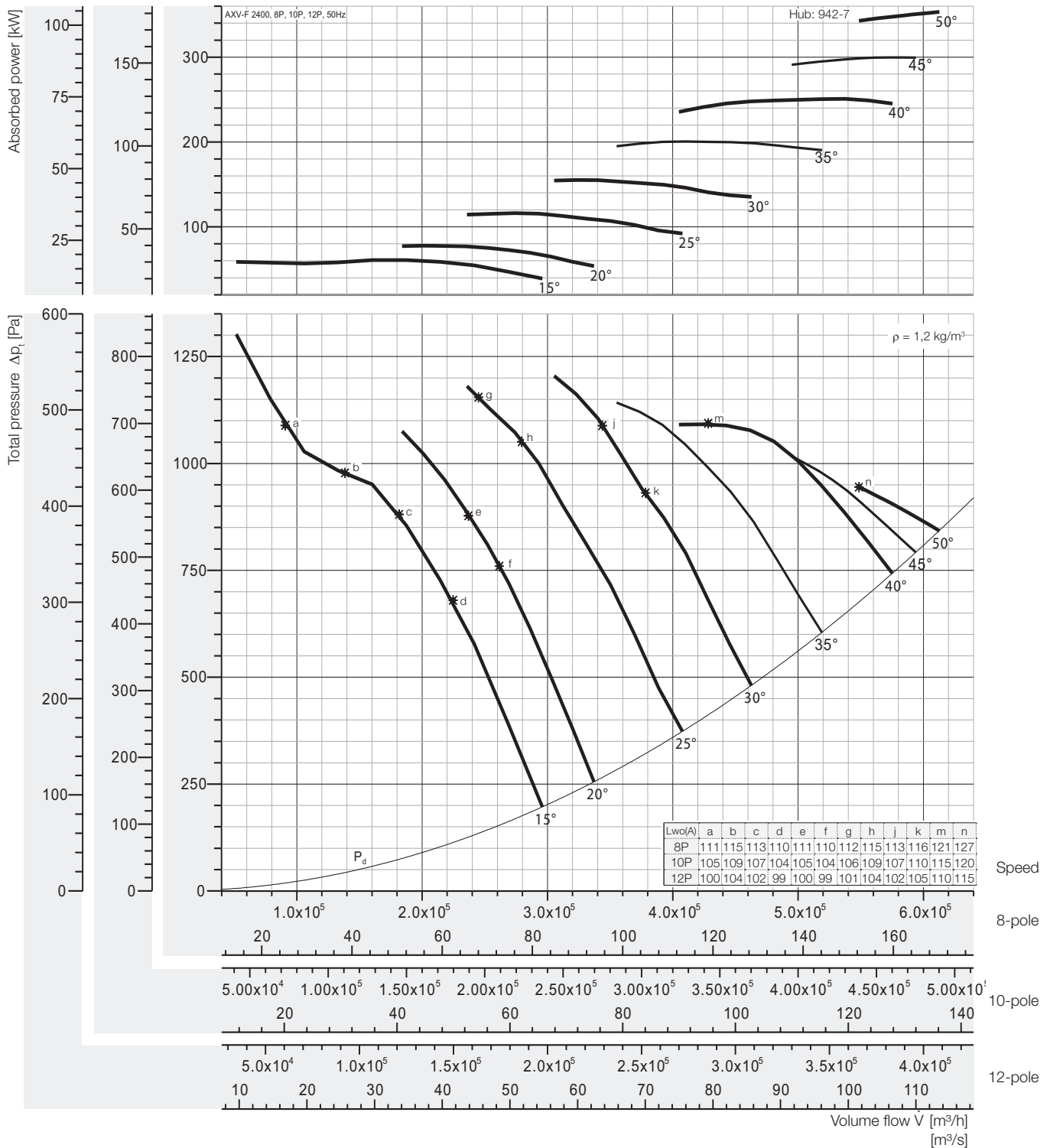
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 2400, 50 Hz



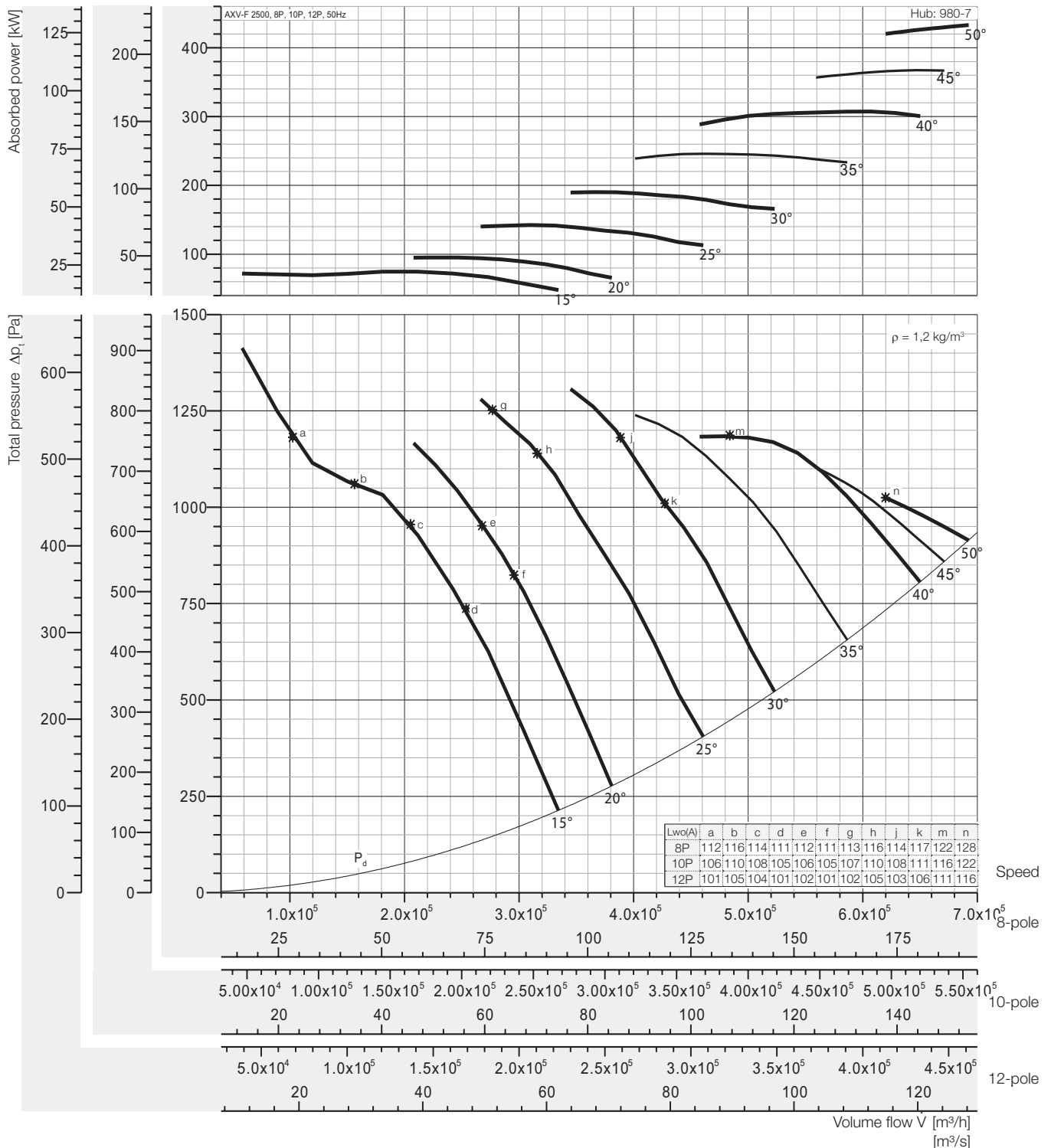
Peak absorbed power [kW]

8-pole = 750 rpm; 10-pole = 600 rpm; 12-pole = 500 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	60,87	77,67	116,2	155,2	200,6	250,8	299,5	353,2
	75	90	132	160	250	315		355
10P motor	31,17	39,77	59,50	79,48	102,7	128,4	153,4	180,9
	37	45	75	90	110	132	160	200
12P motor	18,04	23,01	34,44	45,99	59,44	74,30	88,76	104,7
	18,5	30	37	55	75		90	110

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Peak absorbed power [kW]

8-pole = 750 rpm; 10-pole = 600 rpm; 12-pole = 500 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	74,63	95,22	142,5	190,3	245,9	307,4	367,2	433,1
	75	110	160	200	250	315	400	450
10P motor	38,22	48,75	72,95	97,43	125,9	157,4	188,0	221,7
	45	55	75	110	132	160	200	250
12P motor	22,11	28,21	42,22	56,39	72,87	91,09	108,8	128,3
	30	45	75	110	132	160	200	250

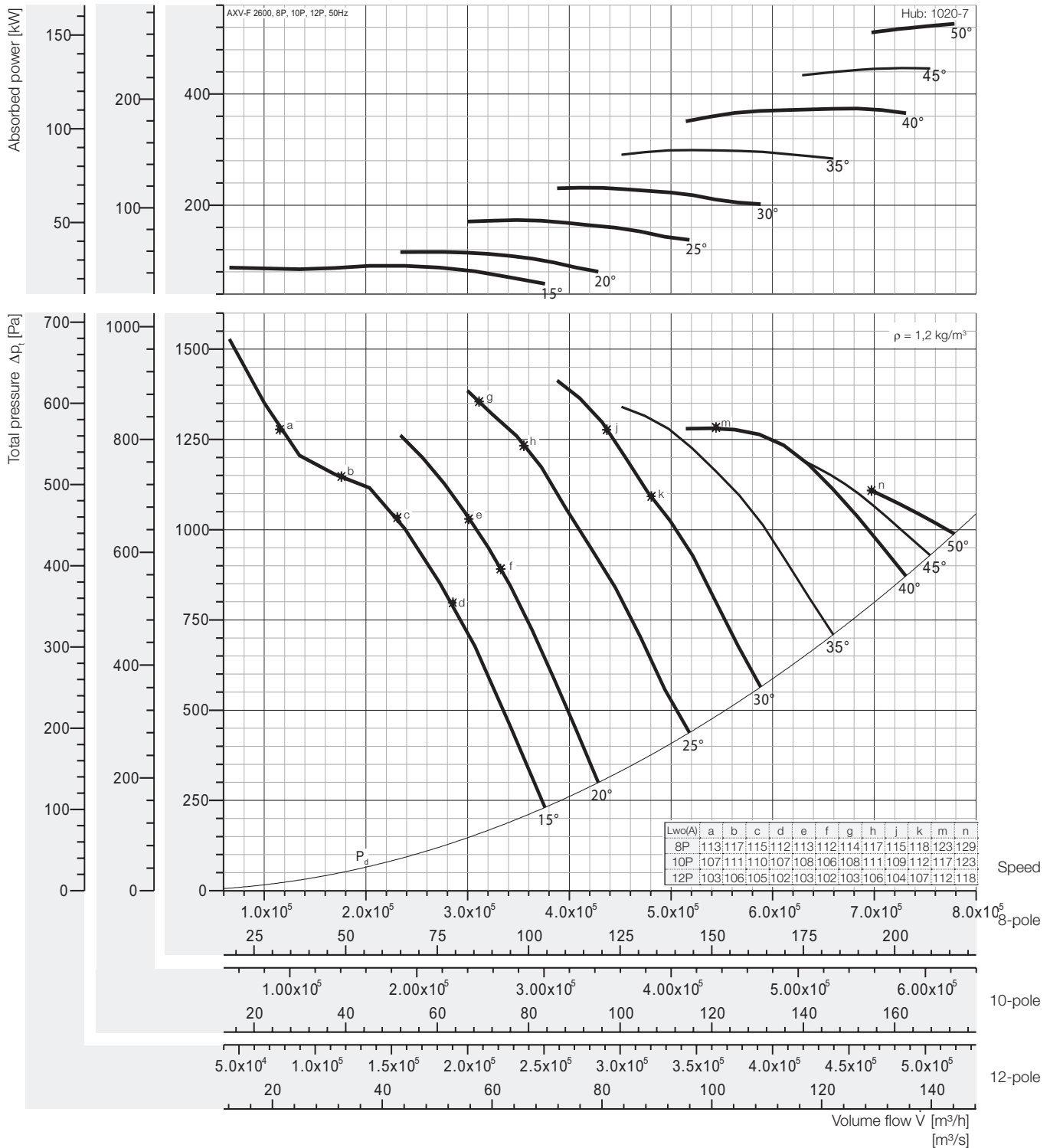
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 2600, 50 Hz



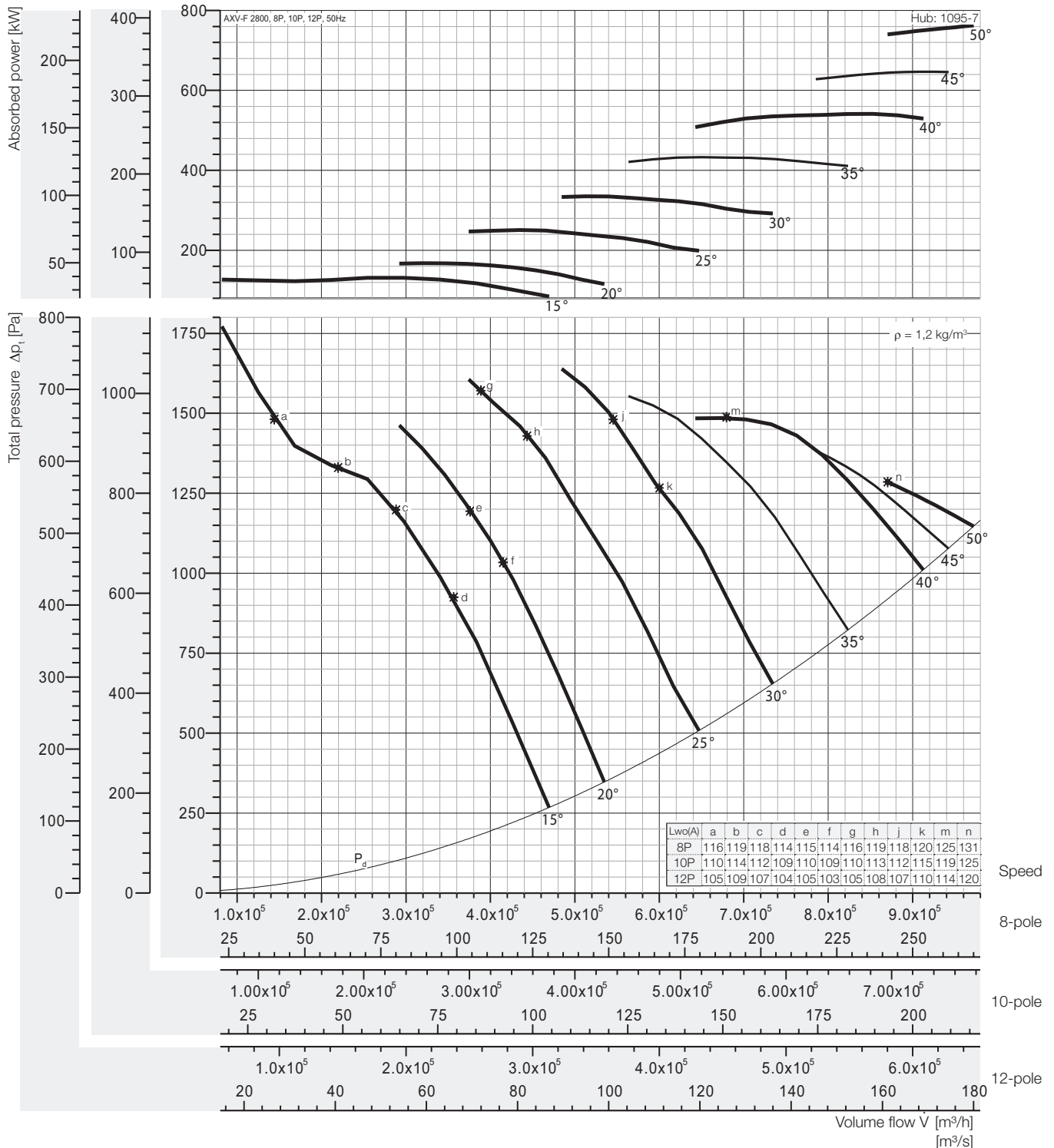
Peak absorbed power [kW]

8-pole = 750 rpm; 10-pole = 600 rpm; 12-pole = 500 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	90,76	115,8	173,3	231,4	299,1	373,9	446,6	526,7
10P motor	46,47	59,29	88,72	118,50	153,13	191,4	228,7	269,6
12P motor	26,89	34,31	51,34	68,58	88,62	110,8	132,3	156,0

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Peak absorbed power [kW]

8-pole = 750 rpm; 10-pole = 600 rpm; 12-pole = 500 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	131,4	167,6	250,8	335,0	432,9	541,2	646,5	762,4
	132	200	315	355	450	560	710	-
10P motor	67,26	85,82	128,4	171,5	221,7	277,1	331,0	390,3
	75	90	132	200	250	315	355	400
12P motor	38,93	49,67	74,32	99,26	128,3	160,3	191,5	225,9
	45	55	75	110	132	200	-	250

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

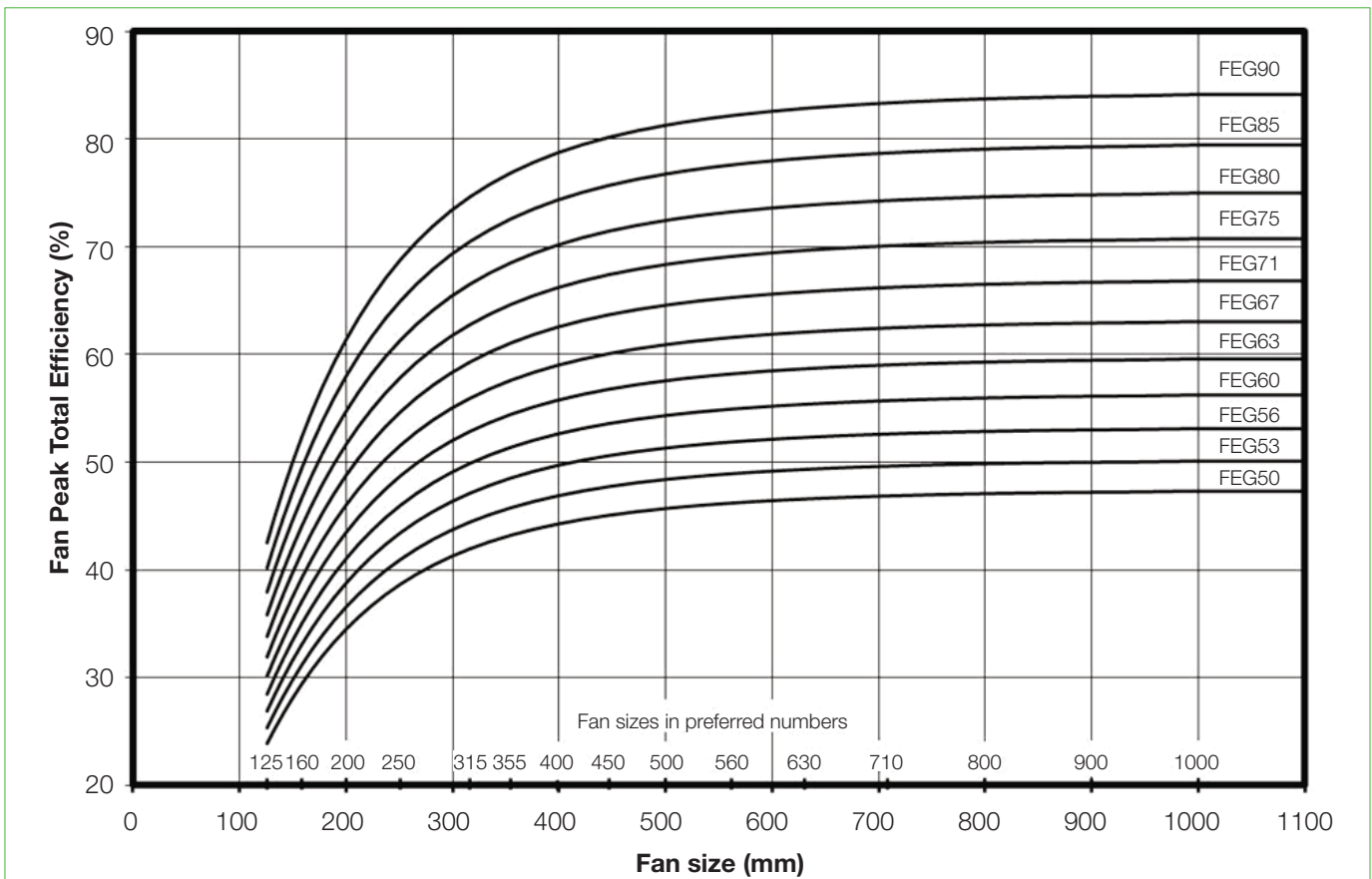
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.

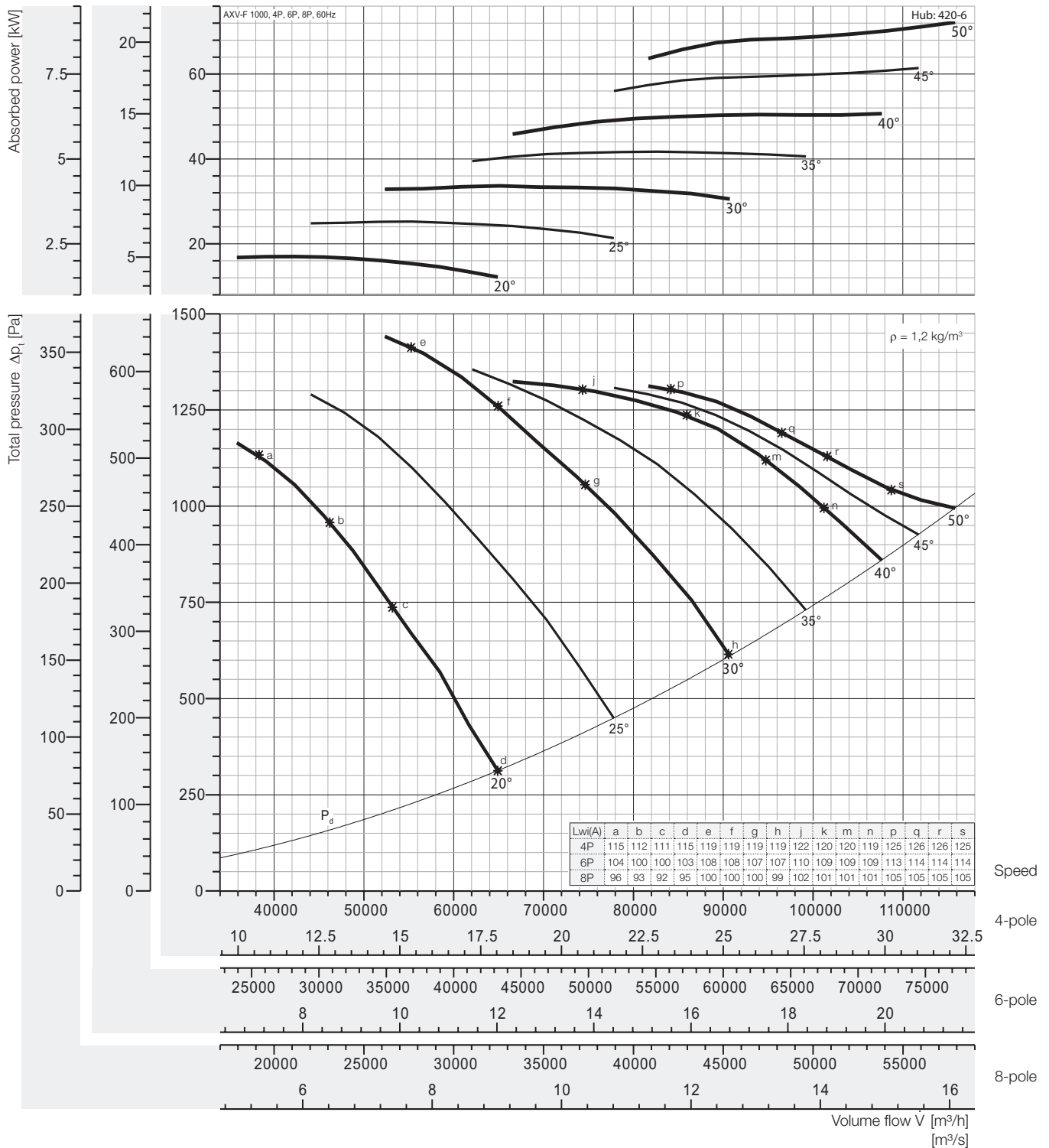


Certified FEGs are determined in accordance with AMCA 205-12 Energy Efficiency Classification for fans. In conjunction with AMCA 211-13 (Rev. 2015) Certified Ratings Program, Product Rating Manual for Fan Air Performance. This classification is based on fan peak (optimum) total efficiency for a given fan speed, fan size and application category. For the purpose of energy classification, the peak efficiency can be determined at a speed not higher than the maximum design speed of the fan.

The AMCA Certified Ratings Seal applies to the Fan Efficiency Grade (FEG) for AXV-F series Axial Fan model AXV-F 1000 to AXV-F 2800 as shown in the table below.

Fan Model No.	Fan Speed (rpm)	Fan Outlet Area (m ²)	Fan Efficiency Grades	Fan Model No.	Fan Speed (rpm)	Fan Outlet Area (m ²)	Fan Efficiency Grade
AXV-F 1000	1800/1200/900	0,7901	FEG 75	AXV-F 2000	1200/900/720	3,1573	FEG 80
AXV-F 1120	1800/1200/900	0,9940	FEG 75	AXV-F 2200	900/720/600	3,8186	FEG 80
AXV-F 1250	1800/1200/900	1,2272	FEG 75	AXV-F 2400	900/720/600	4,5428	FEG 80
AXV-F 1400	1800/1200/900	1,5504	FEG 80	AXV-F 2500	900/720/600	4,9284	FEG 80
AXV-F 1600	1800/1200/900	2,0232	FEG 80	AXV-F 2600	900/720/600	5,3297	FEG 80
AXV-F 1800	1200/900/720	2,5588	FEG 80	AXV-F 2800	900/720/600	6,1795	FEG 80





Peak absorbed power [kW]

4-pole = 1800 rpm; 6-pole = 1200 rpm; 8-pole = 900 rpm;

N Poles	Pitch angle [°]						
	20	25	30	35	40	45	50
4P motor	17,03	25,25	33,68	41,75	50,67	61,43	72,19
	18,5	30	37	45	55	75	
6P motor	5,045	7,482	9,980	12,37	15,01	18,20	21,39
	5,5	7,5	11	15	18,5		22
8P motor	2,128	3,156	4,210	5,219	6,333	7,678	9,023
	2,2	4	5,5		7,5	11	

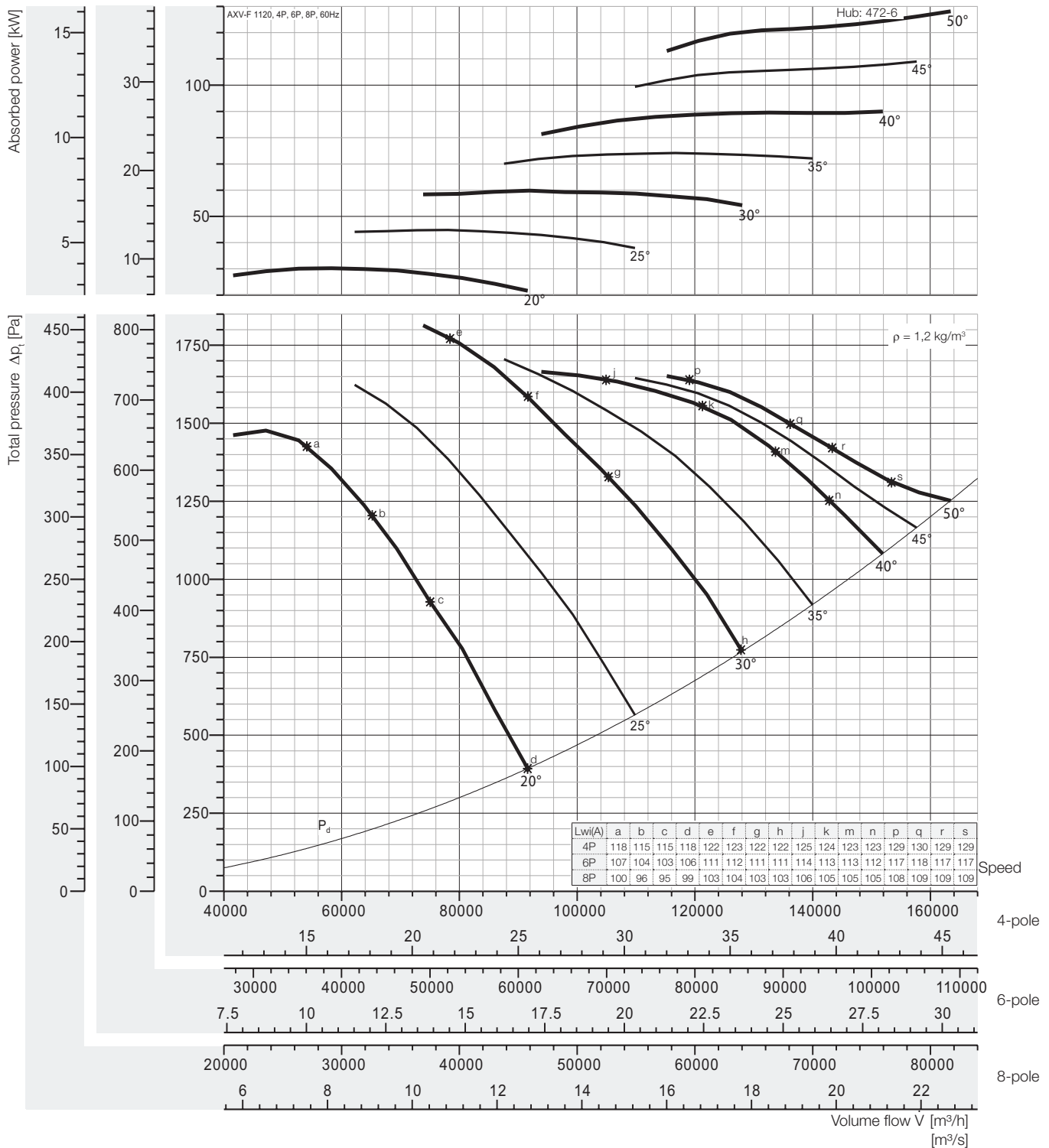
Fan test laboratory AMCA 210/99 Fig.12, Test Chamber. Performance certified is for installation type D - Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw_iA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Performance Curve

AXV-F 1120, 60 Hz



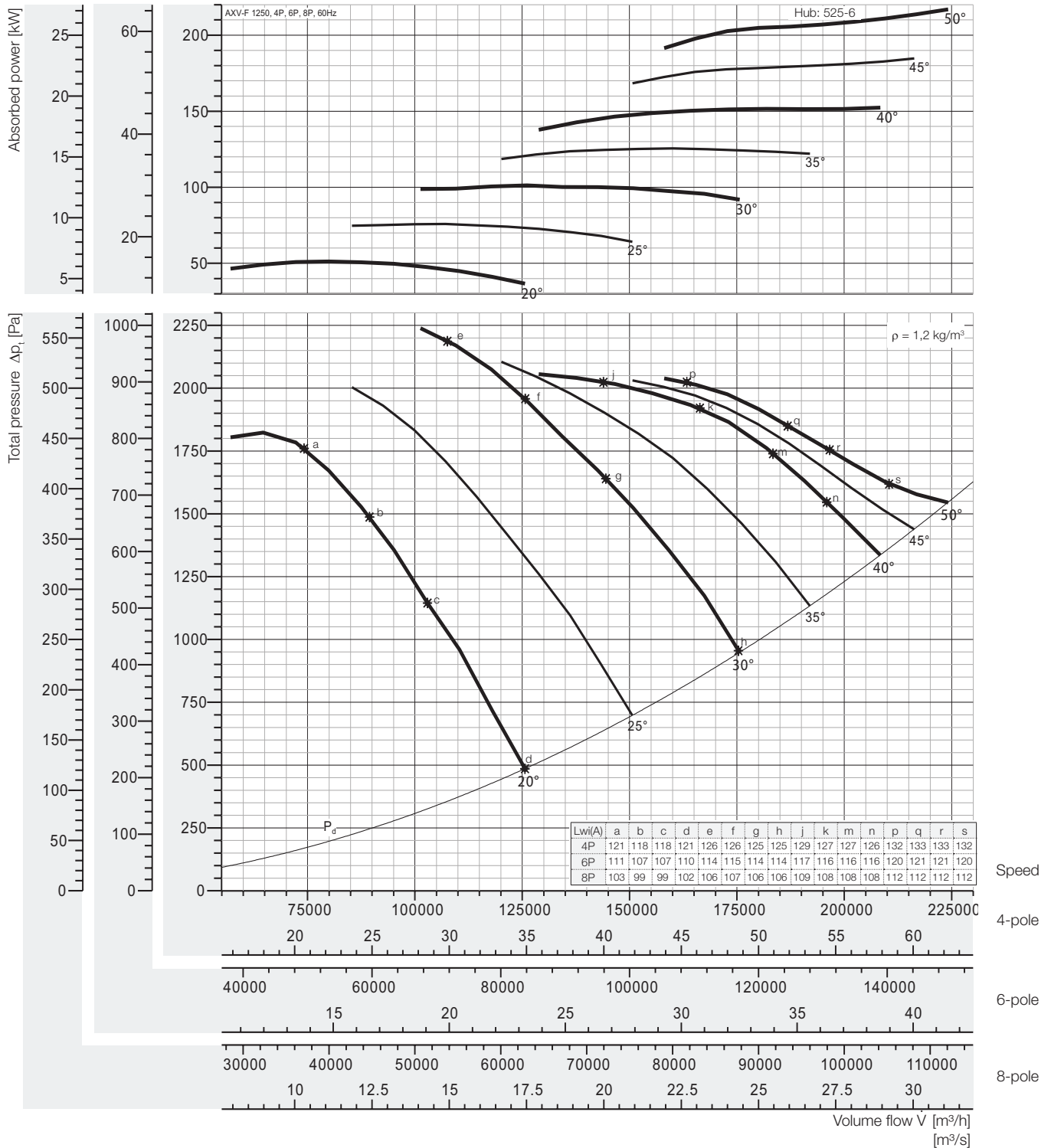
Peak absorbed power [kW]

4-pole = 1800 rpm; 6-pole = 1200 rpm; 8-pole = 900 rpm;

N Poles	Pitch angle [°]						
	20	25	30	35	40	45	50
4P motor	30,25	44,83	59,80	74,12	89,94	109,0	128,1
	37	45	75		90	110	132
6P motor	8,964	13,28	17,72	21,96	26,65	32,31	37,97
	11	15	18,5	22	30	37	45
8P motor	3,782	5,603	7,475	9,265	11,24	13,63	16,02
	4	7,5		11	15		18,5

Fan test laboratory AMCA 210/99 Fig.12, Test Chamber. Performance certified is for installation type D - Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw(A) sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



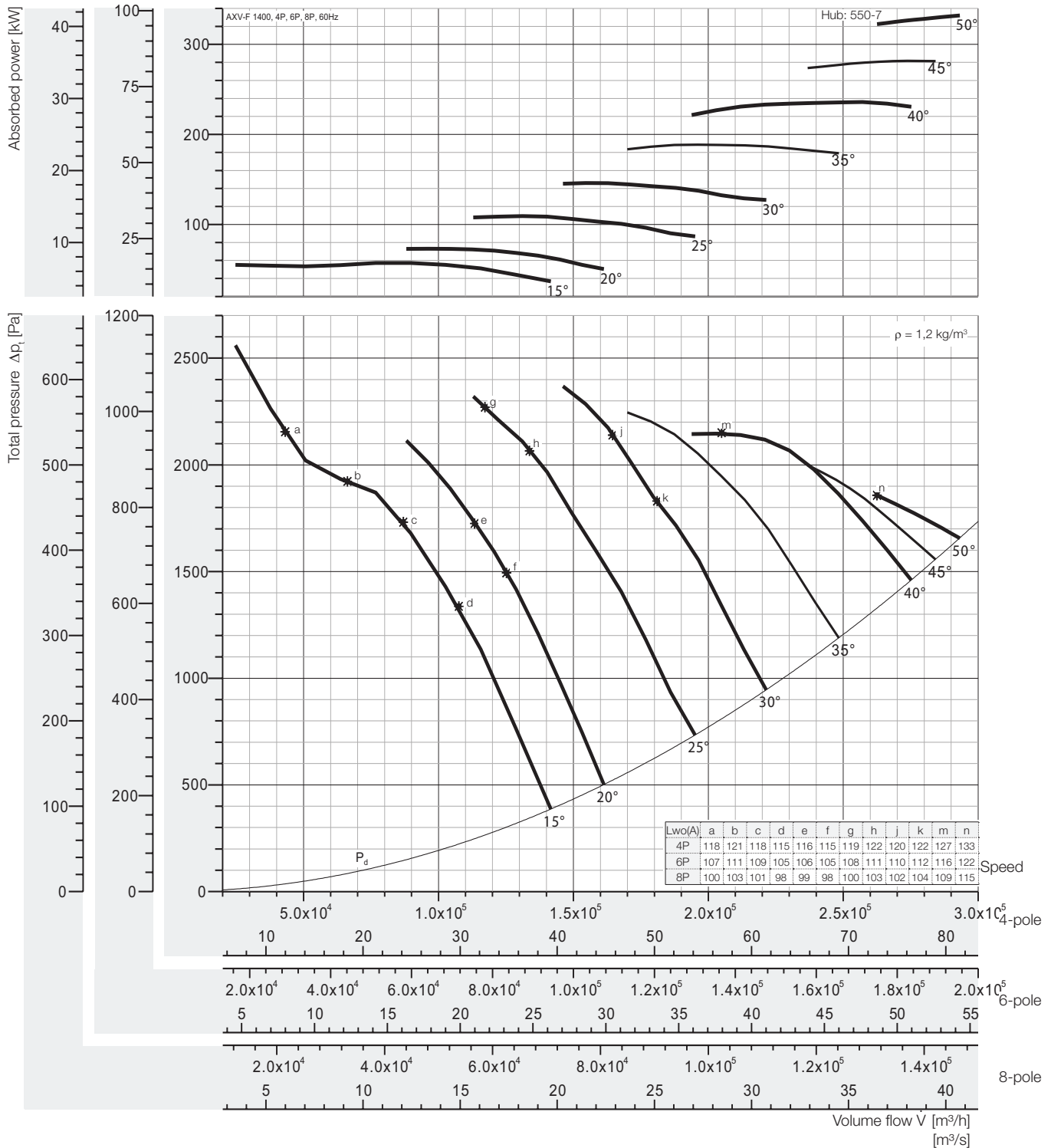
Peak absorbed power [kW]

4-pole = 1800 rpm; 6-pole = 1200 rpm; 8-pole = 900 rpm;

N Poles	Pitch angle [°]						
	20	25	30	35	40	45	50
4P motor	51,23 55	75,91 90	101,3 -	125,5 -	152,3 -	184,7 -	217,0 -
6P motor	15,18 18,5	22,49 30	30,00	37,19 45	45,13 55	54,72	64,30 75
8P motor	6,404 7,5	9,489 11	12,66 15	15,69 18,5	19,04 22	23,08 30	27,13

Fan test laboratory AMCA 210/99 Fig.12, Test Chamber. Performance certified is for installation type D - Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw_iA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Peak absorbed power [kW]

4-pole = 1800 rpm; 6-pole = 1200 rpm; 8-pole = 900 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
4P motor	57,26	73,06	109,3	146,0	188,7	235,9	281,8	332,3
	75		110	160	200	250	315	355
6P motor	16,97	21,65	32,39	43,27	55,91	69,89	83,49	98,46
	18,5	22	37	45	75		90	110
8P motor	7,158	9,133	13,67	18,25	23,59	29,49	35,22	41,54
	7,5	11	15	18,5	30		37	45

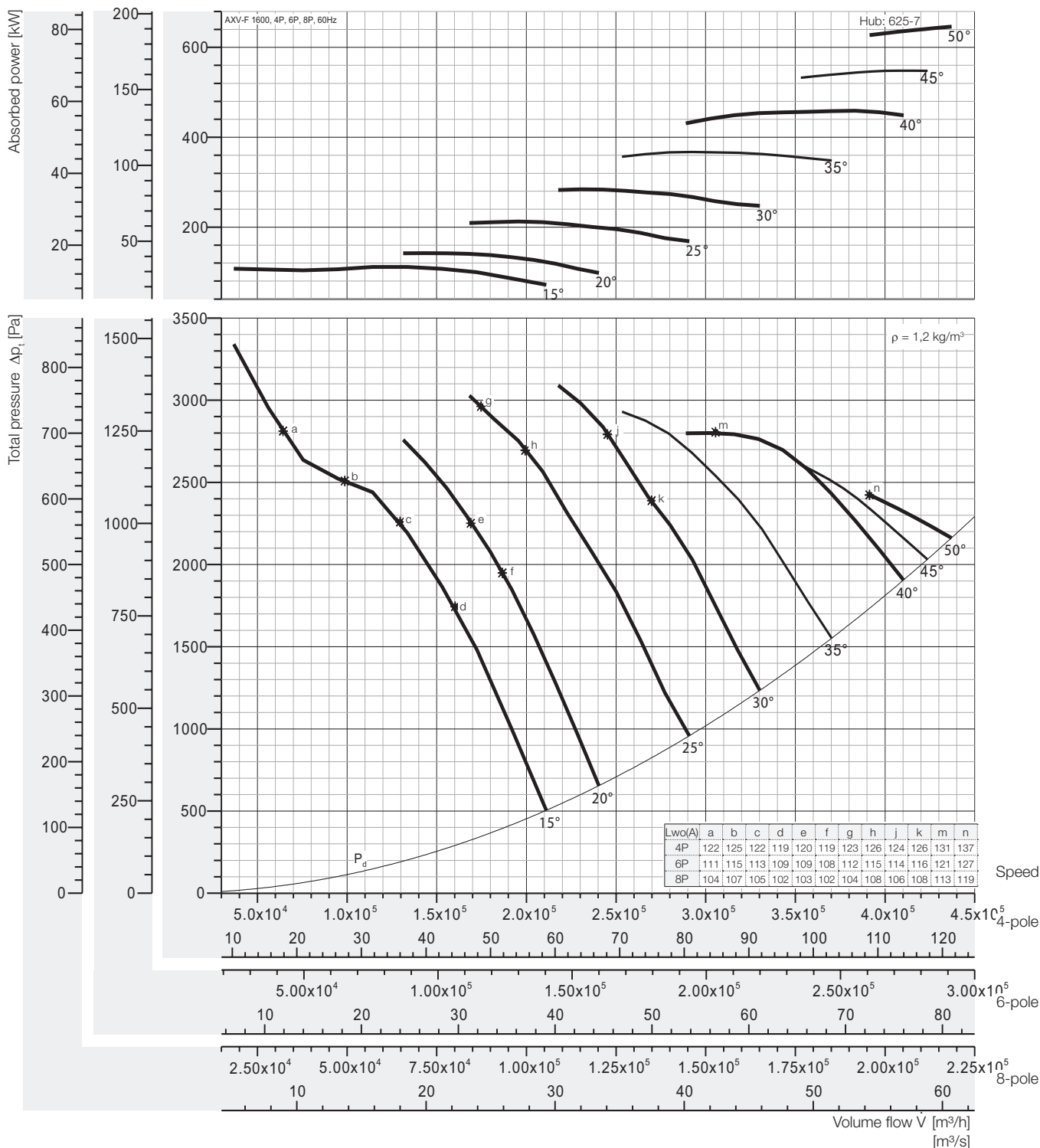
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 1600, 60 Hz



Peak absorbed power [kW]

4-pole = 1800 rpm; 6-pole = 1200 rpm; 8-pole = 900 rpm;

N Poles	Pitch angle [°]								
	15	20	25	30	35	40	45	50	
4P motor	111,4 132	142,1 160	212,7 250	284,1 315	367,1 400	458,9 -	548,2 -	646,4 -	
6P motor	33,01 37	42,11 45	63,01 75	84,17 90	108,8 110	136,0 160	162,4 200	191,5	
8P motor	13,92 15	17,77 18,5	26,58 30	35,51 37	45,89 55	57,36 75	68,52	80,80 90	

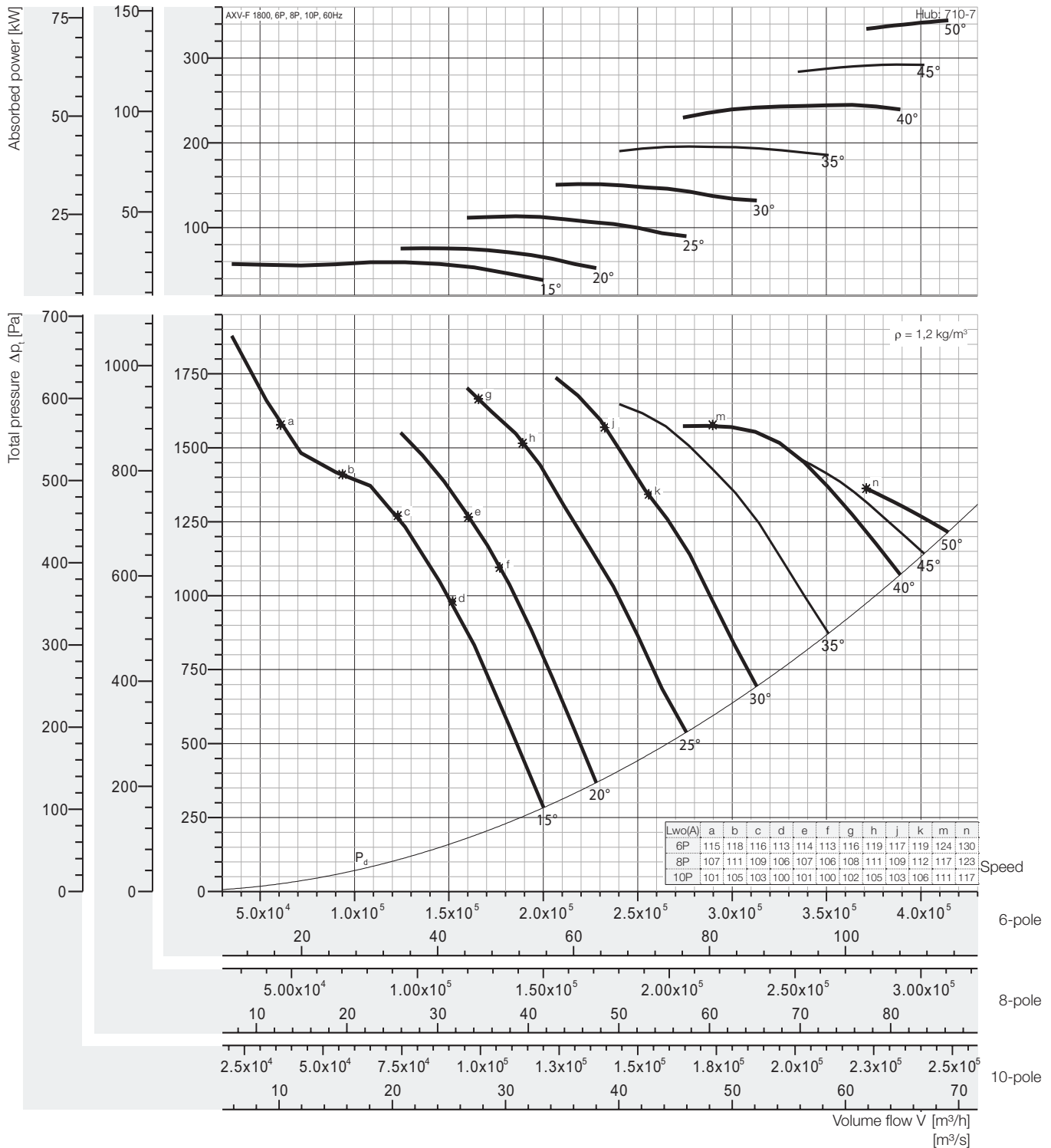
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 1800, 60 Hz



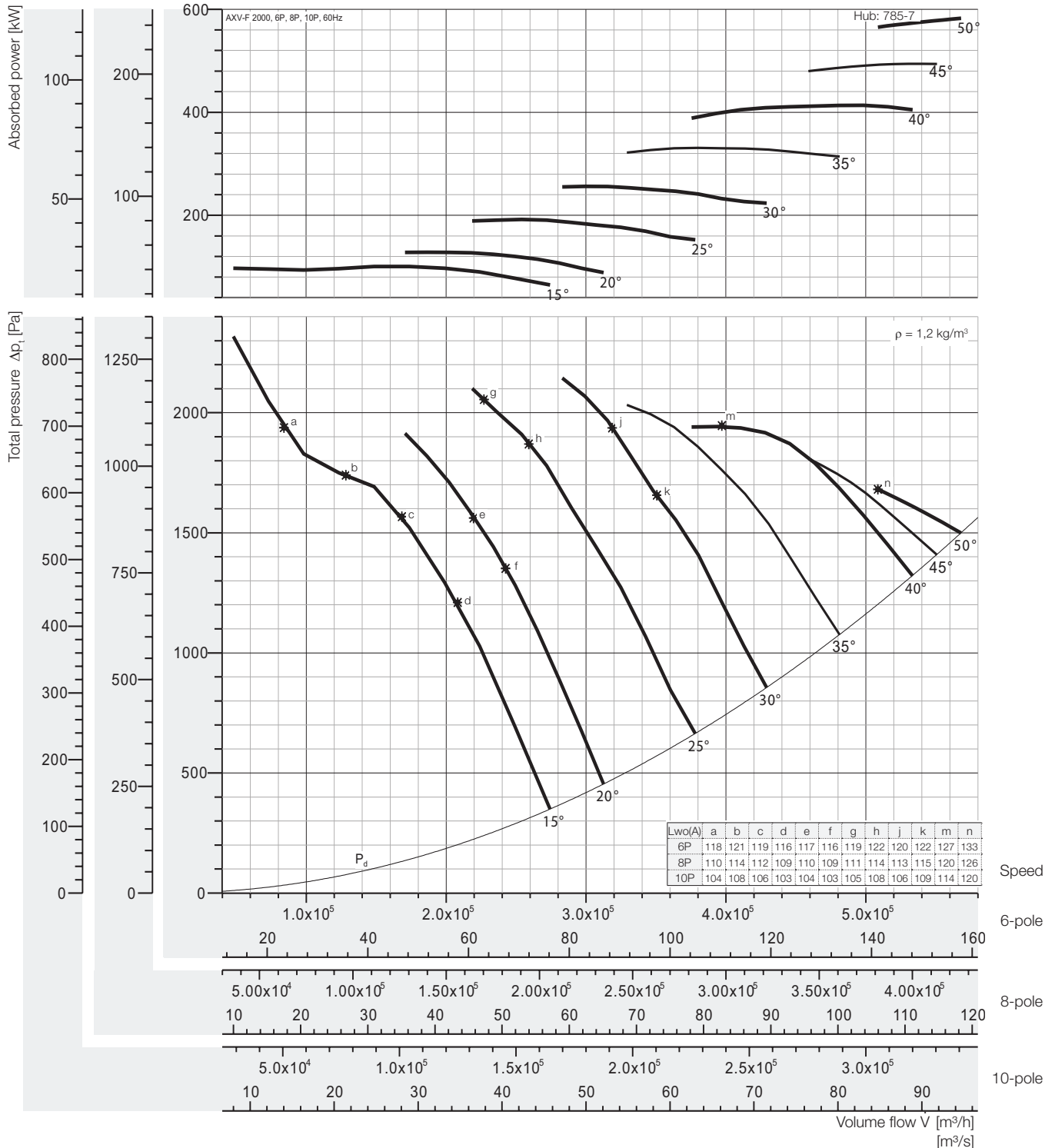
Peak absorbed power [kW]

6-pole = 1200 rpm; 8-pole = 900 rpm; 10-pole = 720 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
6P motor	59,37	75,76	113,3	151,4	195,7	244,6	292,2	344,5
	75	90	132	160	200	250	315	-
8P motor	25,05	31,96	47,82	63,88	82,55	103,2	123,3	145,3
	30	37	55	75	90	110	132	160
10P motor	12,82	16,36	24,49	32,70	42,26	52,83	63,11	74,42
	15	18,5	30	37	45	55	75	

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Peak absorbed power [kW]

6-pole = 1200 rpm; 8-pole = 900 rpm; 10-pole = 720 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
6P motor	100,4	128,1	191,7	256,1	330,9	413,6	494,1	582,7
8P motor	42,36	54,05	80,88	108,0	139,6	174,5	208,4	245,8
10P motor	21,69	27,67	41,41	55,31	71,47	89,35	106,7	125,9

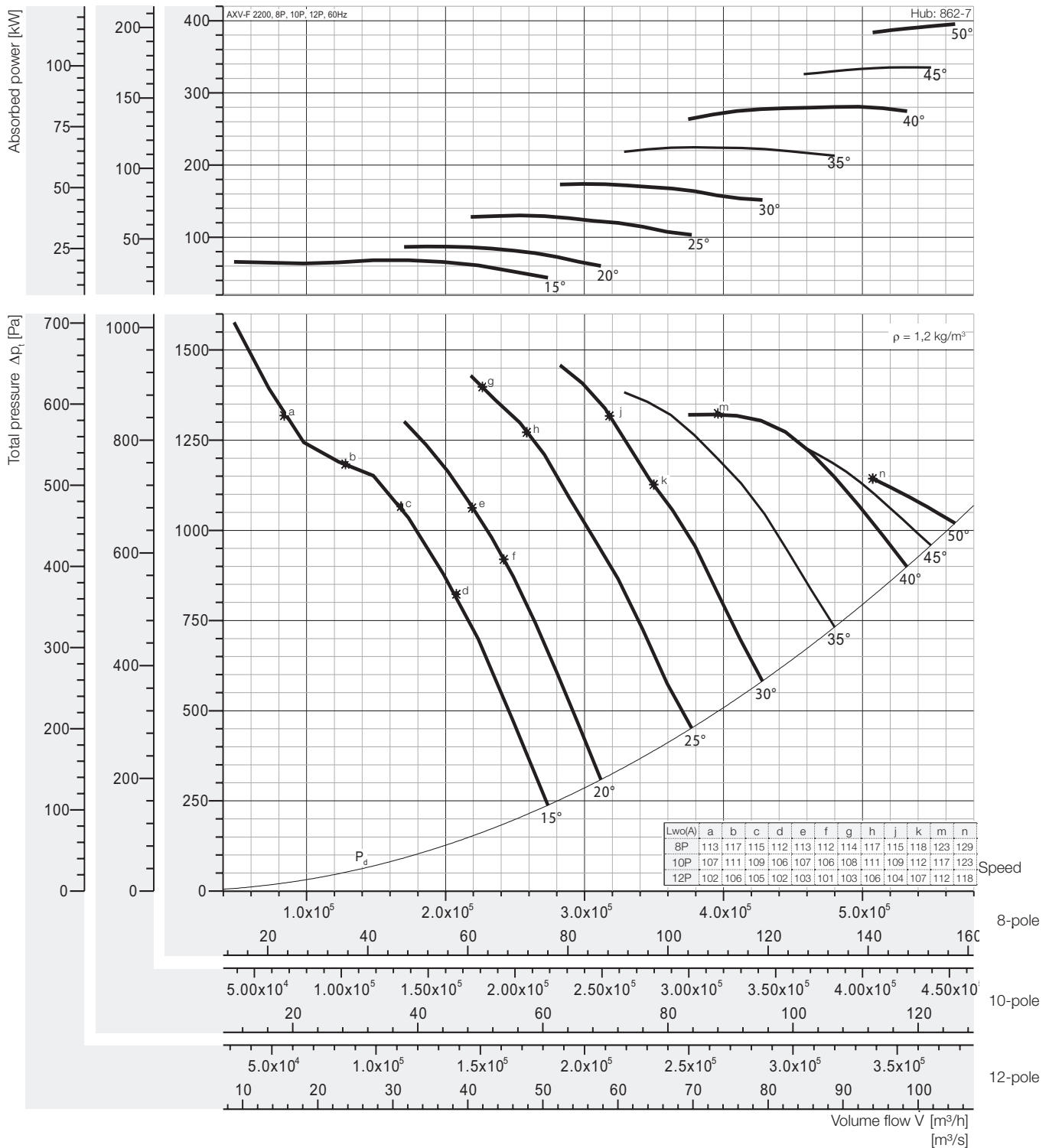
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 2200, 60 Hz



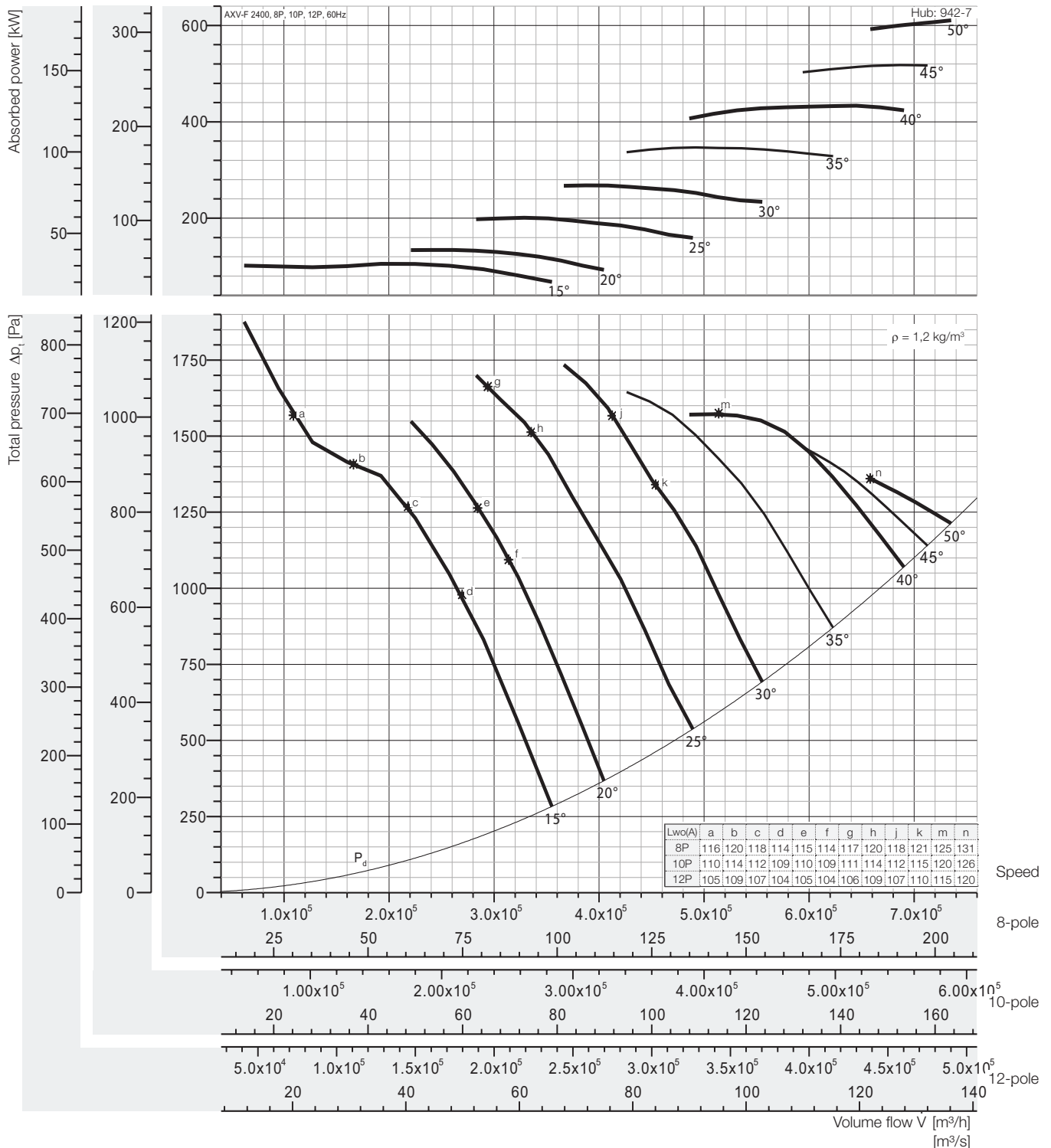
Peak absorbed power [kW]

8-pole = 900 rpm; 10-pole = 720 rpm; 12-pole = 600 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	68,45	86,95	130,1	173,8	224,6	280,7	335,3	395,4
10P motor	34,89	44,52	66,61	88,97	115,0	143,7	171,7	202,5
12P motor	20,19	25,76	38,55	51,49	66,54	83,18	99,36	117,2

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Peak absorbed power [kW]

8-pole = 900 rpm; 10-pole = 720 rpm; 12-pole = 600 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	105,2 110	134,2 160	200,8 250	268,2 315	346,6 355	433,3 450	517,6 560	610,4 630
10P motor	53,86 55	68,72 75	102,8 110	137,3 160	177,5 200	221,9 250	265,0 315	312,5
12P motor	31,17 37	39,77 45	59,50 75	79,48 90	102,7 110	128,4 132	153,4 160	180,9 200

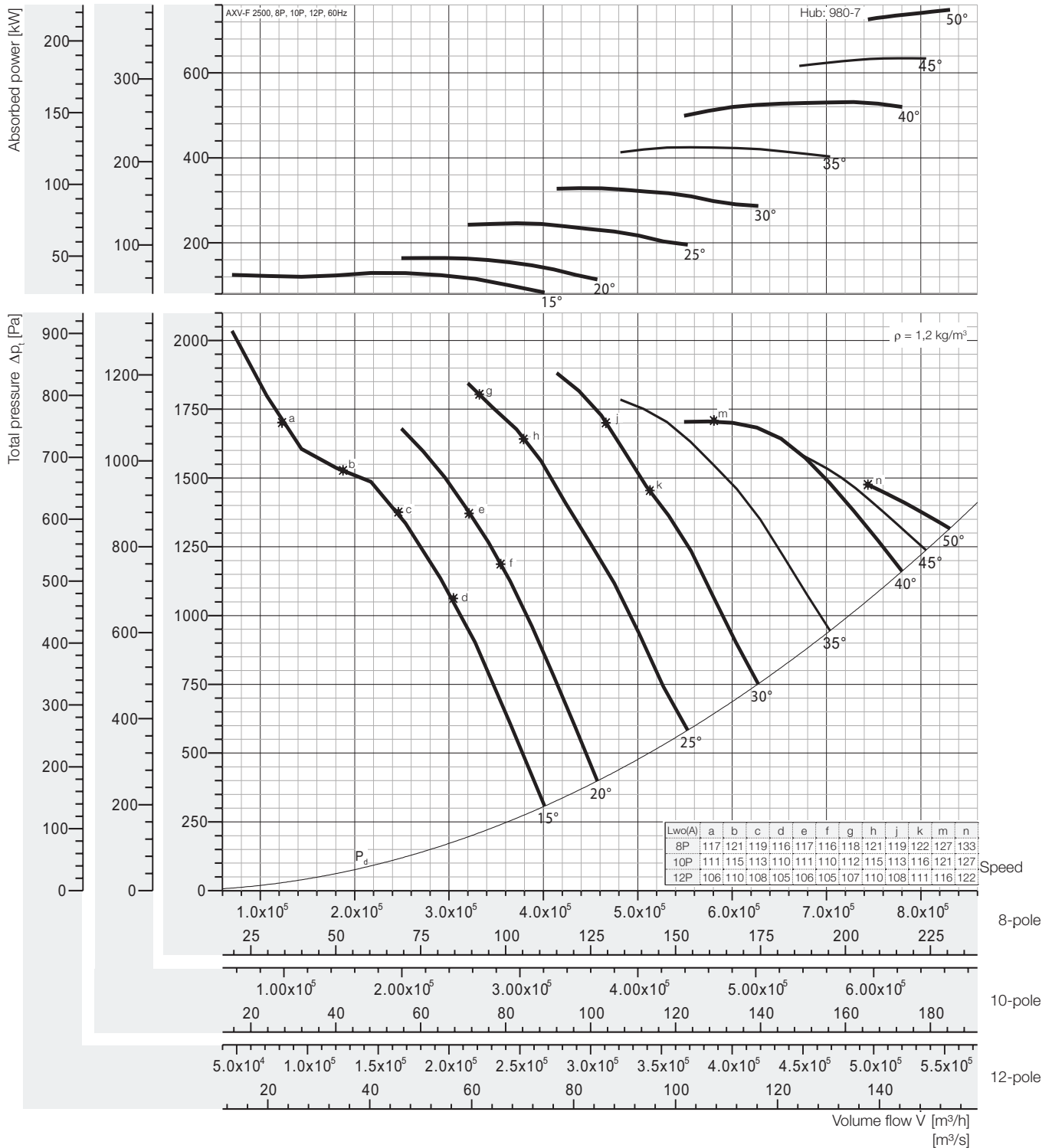
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 2500, 60 Hz



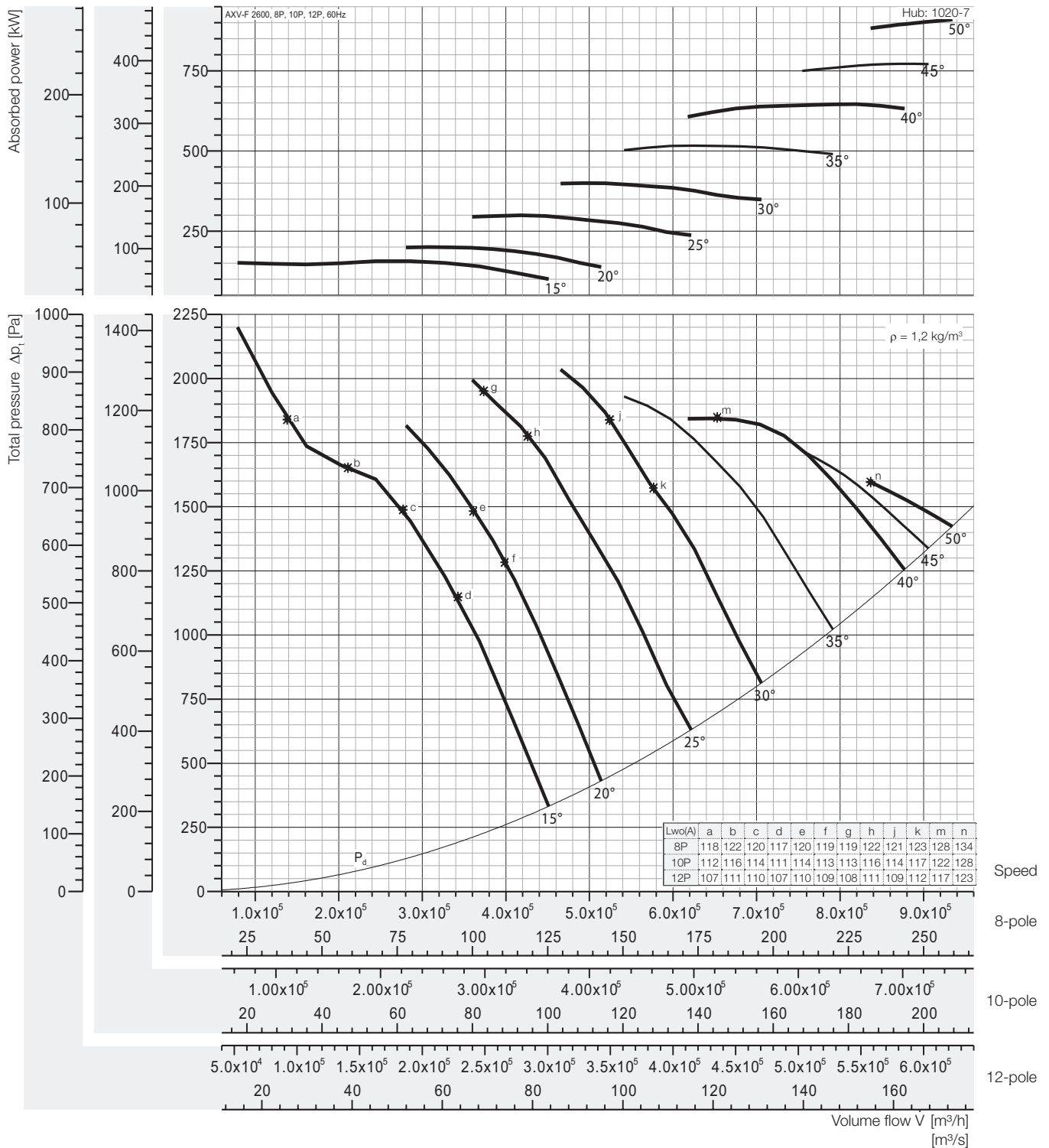
Peak absorbed power [kW]

8-pole = 900 rpm; 10-pole = 720 rpm; 12-pole = 600 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	128,9 132	164,5 200	246,2 250	328,8 355	425,0 450	531,2 560	634,6 710	748,3 -
10P motor	66,02 75	84,24 90	126,0 132	168,4 200	217,6 250	272,0 315	324,9 355	383,1 400
12P motor	38,21 45	48,75 55	72,95 75	97,43 110	125,9 132	157,4 160	188,0 200	221,7 250

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Peak absorbed power [kW]

8-pole = 900 rpm; 10-pole = 720 rpm; 12-pole = 600 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	156,8 160	200,1 250	299,4 315	399,9 400	516,8 560	646,1 710	771,8	910,1
10P motor	80,30 90	102,4 110	153,3 160	204,8 250	264,6 315	330,8 355	395,1 400	466,0 500
12P motor	46,47 55	59,29 75	88,72 90	118,5 132	153,1 160	191,4 200	228,7 250	269,6 315

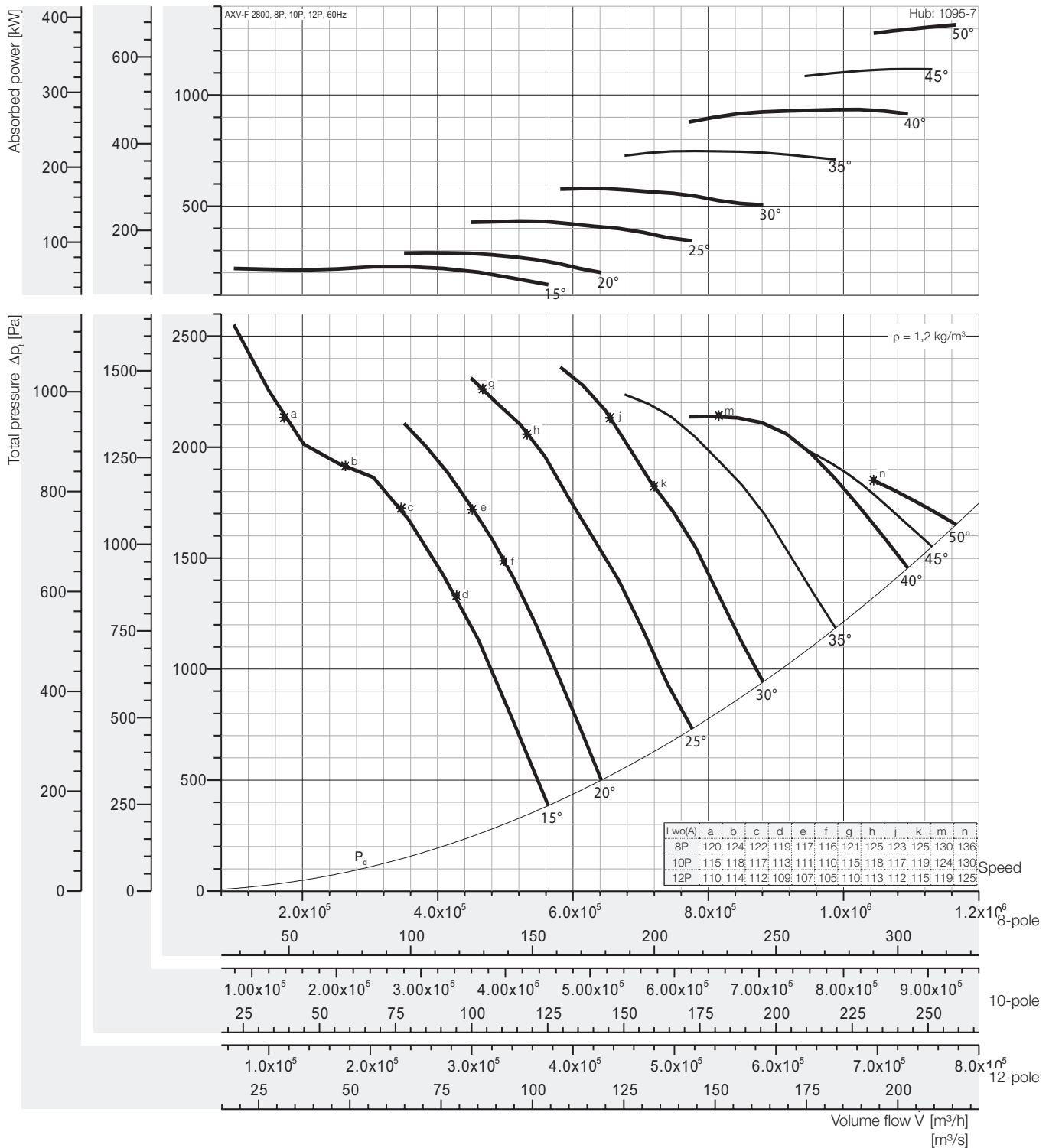
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.



Performance Curve

AXV-F 2800, 60 Hz



Peak absorbed power [kW]

8-pole = 900 rpm; 10-pole = 720 rpm; 12-pole = 600 rpm;

N Poles	Pitch angle [°]							
	15	20	25	30	35	40	45	50
8P motor	227,0	289,6	433,4	578,9	748,1	935,2	1117	1317
10P motor	116,2	148,3	221,9	296,4	383,0	478,8	572,0	674,5
12P motor	67,26	85,82	128,4	171,5	221,7	277,1	331,0	390,3

Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt). Power rating (kW) does not include transmission losses.

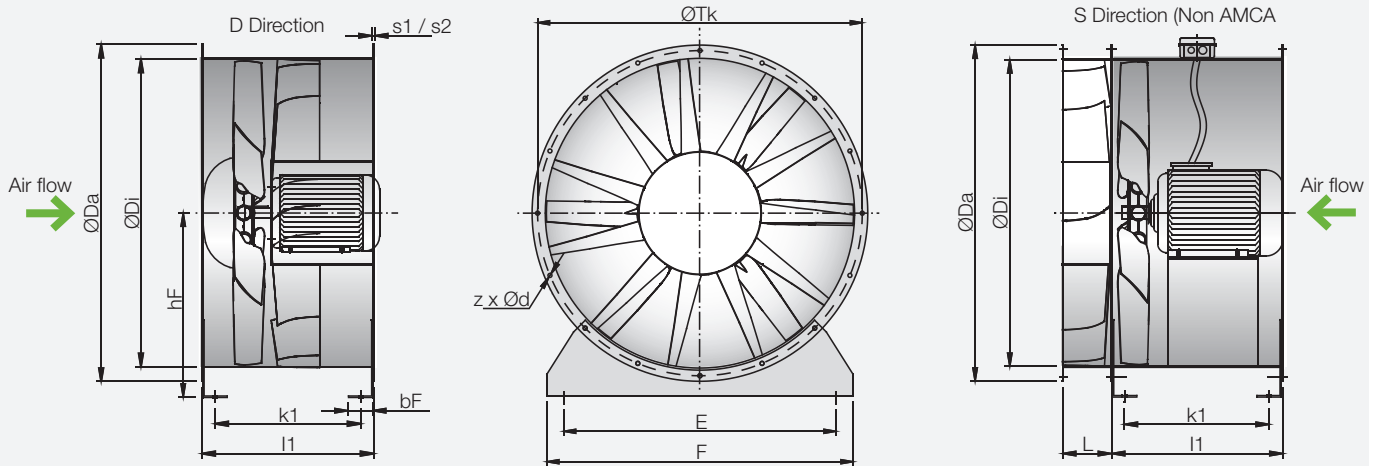
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for outlet LwoA sound power levels for installation Type A: free inlet, free outlet.

Vane Axial Flow Fans

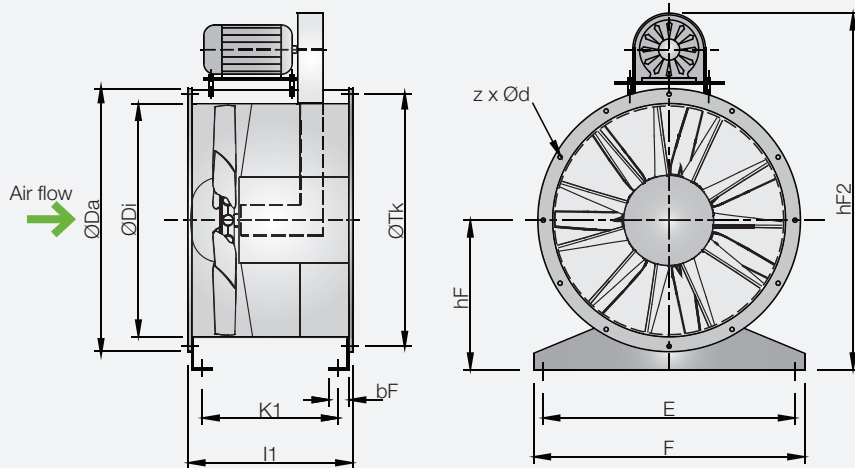
Dimensions



Direct Driven



Belt Driven



Model size	Da [mm]	Di [mm]	hF [mm]	hF2 [mm]	z x d [mm]	Tk [mm]	E [mm]	F [mm]	L [mm]	bF [mm]
1000	1105	1003	630	1821	12* x 14	1067	930	990	200	80
1120	1245	1125	690	1990	16* x 18	1200	1050	1110	240	100
1250	1370	1250	750	2175	16* x 18	1337	1180	1240	240	100
1400	1525	1405	830	2362	16* x 18	1475	1330	1390	260	100
1600	1725	1605	930	2550	20* x 18	1675	1530	1590	260	100

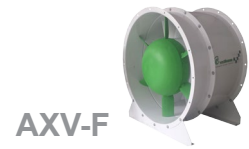
Model size	LH/1							
	s1 [mm]	k1 [mm]	l1 [mm]	motor max.	s2 [mm]	k1 [mm]	l1 [mm]	motor max.
1000	3	429	515	225	2	429	515	200
1120	4	522	630	225	2	522	630	200
1250	4	522	630	250	3	522	630	225

Model size	LH/2							
	s1 [mm]	k1 [mm]	l1 [mm]	motor max.	s2 [mm]	k1 [mm]	l1 [mm]	motor max.
1000	4	692	780	250	2	692	780	225
1120	4	892	1000	250	2	892	1000	225
1250	4	892	1000	280	3	892	1000	250
1400	4	892	1000	315	3	892	1000	280
1600	4	892	1000	315	3	892	1000	280

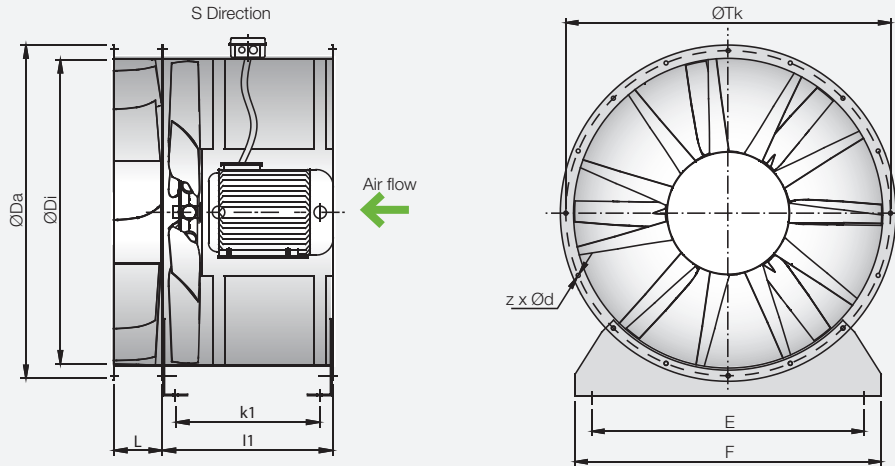
We reserve the right to alter measurements without notice in case of technical improvements.

Vane Axial Flow Fans

Dimensions



Bifurcated



Model size	Da [mm]	Di [mm]	hF [mm]	hF2 [mm]	z x d [mm]	Tk [mm]	E [mm]	F [mm]	L [mm]	bF [mm]
1000	1105	1003	630	1821	12* x 14	1067	930	990	200	80
1120	1245	1125	690	1990	16* x 18	1200	1050	1110	240	100
1250	1370	1250	750	2175	16* x 18	1337	1180	1240	240	100
1400	1525	1405	830	2362	16* x 18	1475	1330	1390	260	100
1600	1725	1605	930	2550	20* x 18	1675	1530	1590	260	100

Model size	LH/1							
	s1 [mm]	k1 [mm]	l1 [mm]	motor max.	s2 [mm]	k1 [mm]	l1 [mm]	motor max.
1000	3	429	515	225	2	429	515	200
1120	4	522	630	225	2	522	630	200
1250	4	522	630	250	3	522	630	225

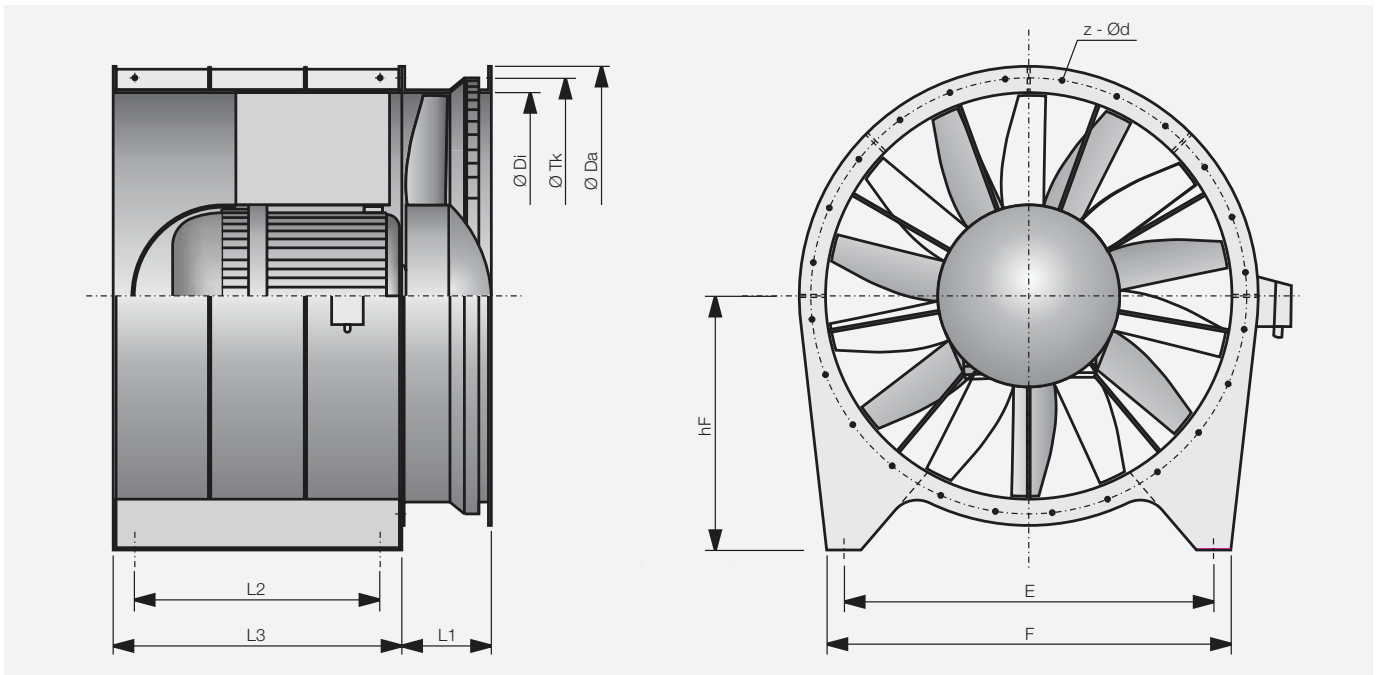
Model size	LH/2							
	s1 [mm]	k1 [mm]	l1 [mm]	motor max.	s2 [mm]	k1 [mm]	l1 [mm]	motor max.
1000	4	692	780	250	2	692	780	225
1120	4	892	1000	250	2	892	1000	225
1250	4	892	1000	280	3	892	1000	250
1400	4	892	1000	315	3	892	1000	280
1600	4	892	1000	315	3	892	1000	280

The Bifurcated Vane Axial Fan are not licensed by AMCA International.

We reserve the right to alter measurements without notice in case of technical improvements.

Vane Axial Flow Fans

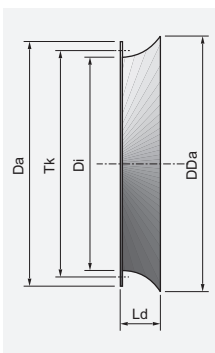
Dimensions and Accessories



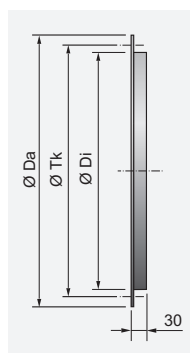
Baugröße size	Da [mm]	Di [mm]	hF [mm]	z x d [mm]	Tk [mm]	E [mm]	F [mm]	L1 [mm]	L2 [mm]	L3 [mm]
1800	2010	1805	1120	24x18	1920	1660	1800	400	1200	1400
2000	2210	2005	1165	32x18	2120	1820	2000	445	1300	1500
2200	2440	2205	1265	32x18	2340	2020	2200	490	1400	1650
2400	2630	2405	1370	32x18	2530	2220	2400	550	1500	1800
2500	2740	2505	1420	36x24	2640	2320	2500	555	1530	1820
2600	2840	2605	1470	36x24	2740	2380	2600	590	1580	1850
2800	3150	2805	1570	36x24	3000	2500	2800	1300	1680	1900

Accessories

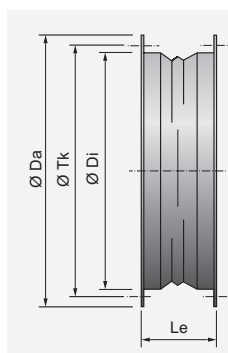
ED
Bellmouth inlet



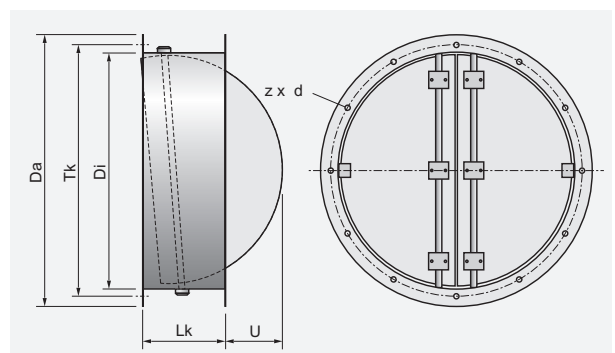
GL-AXV
Matching flange



EV-AXV
Flexible connector compl.



LRK
Air-operated damper



Model size	Da [mm]	Di [mm]	Tk [mm]	z x d [mm]	DDa [mm]	Ld [mm]	Lk [mm]	Le [mm]	U [mm]
1000	1105	1003	1067	12* x 14	1115	250	350	130	225
1120	1245	1125	1200	16* x 18	1243	250	350	130	255
1250	1370	1250	1337	16* x 18	1364	250	400	170	375
1400	1525	1405	1475	16* x 18	1523	250	400	170	450
1600	1725	1605	1675	20* x 18	1723	250	400	170	550
1800	2010	1805	1920	20* x 18	2008	280	450	170	650

We reserve the right to alter measurements without notice in case of technical improvements.

Vane Axial Flow Fans

Sound Information

Sound power levels

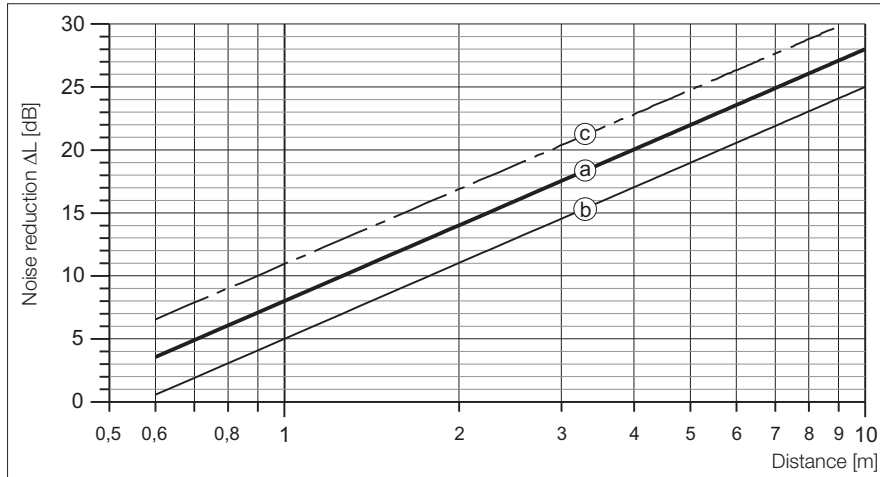
This term refers to the power which a source radiates as sound. Sound power levels are expressed in decibels with a reference level of 1 picoWatt. The sound power level of a source remains the same regardless of its environment and the distance to the listener.

If the sound power frequency spectrum is needed, for as follows: example, the design of sound attenuators, the A-weighted rated sound power levels at particular octave band frequency L_{WA} can be calculated by subtracting the relative sound L_{wrel}

$$L_{WA} = L_{wi} + L_{wrel}$$

Sound pressure level

These are pressure fluctuations generated by a source expressed in decibels with a reference level of 20 μ Pa. The sound pressure level varies with the distance of a sound source to the listener and its environment.



Sound level reduction half sphere

- a: without reflexion
- b: with reflexion
- c: full sphere without reflexion

Frequencies

Sound is split into different frequencies. Frequencies of human hearing range from about 20 cycles per second (Hz) to 20.000 cycles per second (Hz). For practical purposes, WOLTER publishes noise data in eight octave bands with the centre frequencies of (63,) 125, 250, 500, 1000, 2000, 4000 and 8000 Hz.

Each fan has its own specific correction factor which is to be deducted from sound power according to the octave band.

A-weighted sound pressure level in dB (A)

The human ear is more sensitive to sound in some frequencies than in others. The A-weighting is an attempt to reflect this natural perception of sound. The A-weighting is a set of figures which are applied to the sound pressure levels. The levels in each of the octave bands are added logarithmically to give a single figure. The A-weighting over the octave band is as follows:

Table 1)

Frequency [Hz]	63	125	250	500	1000	2000	4000	8000
A-weighting [dB]	-26,2	-16,1	-8,6	-3,2	0	+1,2	+1,0	-1,1

Table 2)
Addition of sound levels

Difference between two sound levels [dB]	Add to the higher level [dB]
0 - 1	3
2 - 3	2
4 - 9	1
≥ 10	0

$$L_{\Sigma} = 10 \cdot \lg(10^{0,1 \cdot L_1} + 10^{0,1 \cdot L_2} + \dots + 10^{0,1 \cdot L_n})$$

where:

L_1 = sound level of a source 1

L_{Σ} = resulting summation sound level

Summation of several congeneric sound levels

$$L_{\Sigma} = L_1 + 10 \cdot \lg(z)$$

where:

z = number of sources

L_1 = sound level of a single source

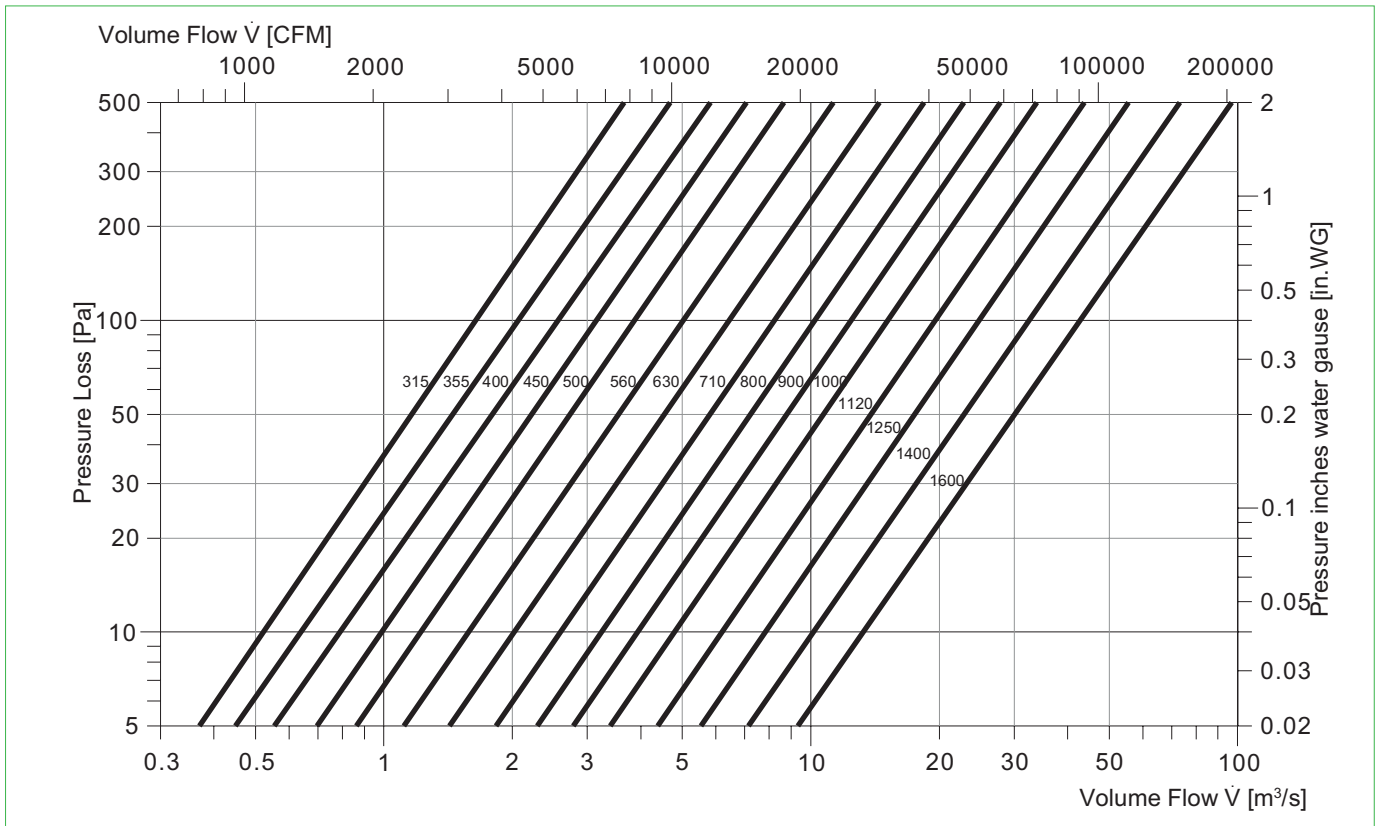
L_{Σ} = resulting summation sound level

Relative Sound Power Frequency Spectrum (L_{wrel}) [dB]

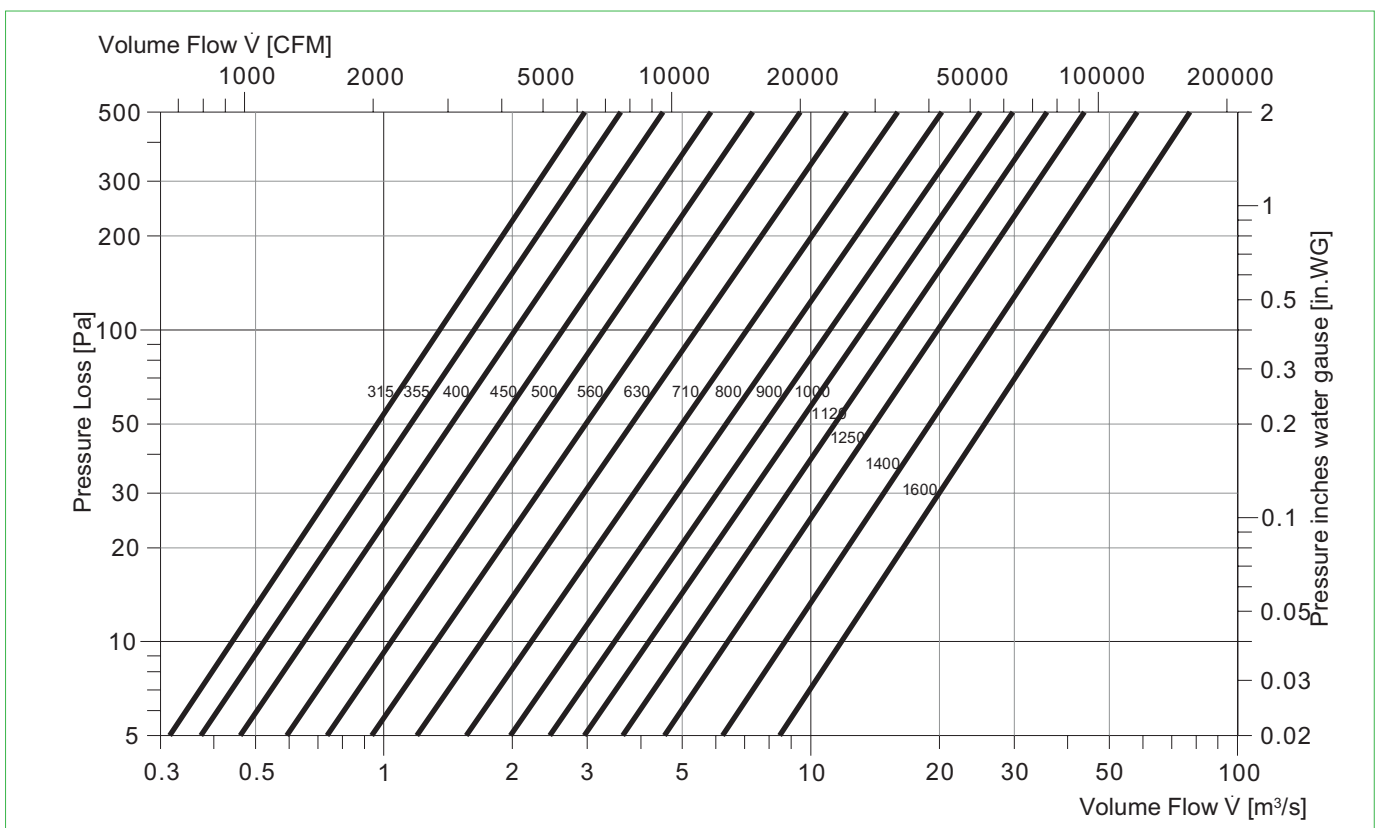
Fan Model	Poles	63	125	250	500	1000	2000	4000	8000
Size	[-]	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]
1000	4	-10	-5	-6	-8	-14	-18	-24	-29
	6	-7	-6	-5	-10	-15	-20	-26	-31
	8	-7	-5	-6	-11	-15	-21	-27	-32
1120	4	-10	-5	-6	-8	-14	-18	-24	-29
	6	-7	-6	-5	-11	-15	-20	-26	-31
	8	-6	-5	-6	-11	-16	-22	-27	-32
1250	4	-9	-5	-6	-8	-14	-18	-24	-30
	6	-6	-6	-6	-11	-15	-21	-26	-31
	8	-6	-5	-6	-12	-16	-22	-27	-32
1400	4	-9	-5	-4	-5	-7	-9	-12	-15
	6	-11	-6	-5	-6	-9	-13	-16	-20
	8	-11	-6	-6	-9	-13	-18	-22	-26
1600	4	-9	-5	-4	-5	-7	-9	-12	-15
	6	-11	-6	-6	-6	-9	-13	-16	-20
	8	-10	-6	-7	-9	-13	-18	-22	-26
1800	6	-7	-4	-4	-6	-8	-11	-13	-17
	8	-9	-5	-5	-7	-10	-14	-18	-22
	10	-8	-6	-7	-10	-15	-19	-23	-27
2000	6	-7	-4	-4	-6	-8	-11	-13	-17
	8	-8	-5	-5	-7	-10	-14	-18	-22
	10	-8	-6	-7	-10	-15	-19	-23	-27
2200	8	-6	-3	-4	-6	-9	-11	-14	-18
	10	-7	-5	-5	-8	-12	-15	-19	-23
	12	-7	-6	-7	-11	-16	-20	-24	-28
2400	8	-5	-3	-4	-6	-9	-12	-15	-18
	10	-7	-5	-5	-8	-12	-15	-19	-23
	12	-6	-6	-8	-11	-16	-20	-24	-28
2500	8	-5	-3	-4	-6	-9	-12	-15	-18
	10	-7	-5	-5	-8	-12	-15	-19	-23
	12	-6	-6	-8	-11	-16	-20	-24	-28
2600	8	-5	-3	-4	-7	-9	-12	-15	-18
	10	-7	-5	-5	-8	-12	-15	-19	-23
	12	-6	-6	-8	-11	-16	-20	-24	-28
2800	8	-5	-3	-4	-7	-9	-12	-15	-18
	10	-7	-5	-6	-8	-12	-15	-19	-23
	12	-6	-6	-8	-11	-16	-20	-24	-28

• Sound power frequency spectrum calculated with this L_{wrel} are not licensed by AMCA International.

Pressure Loss SPA - 1D



Pressure Loss SPA - 2D



• Performance of sound attenuator are not licensed by AMCA International.

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