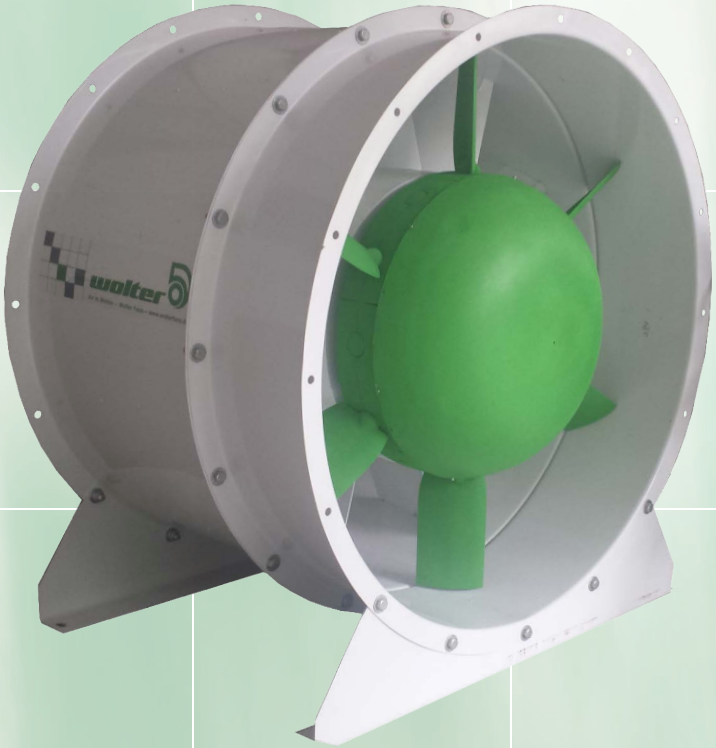
Vane Axial Flow Fans

- Direct Driven
- Belt Driven



Dongguan Wolter Chemco Ventilation 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

wolter

Table of Content

Vane Axial Fans
Technical information

Fan type code

AXV-F 1400 / 20°

- Pitch angle
- AXV-F: impeller-Ø
  500 ... 2800
- Axial impeller blade type

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 500 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

Fan 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 dynamical 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 500 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 Δp_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 LwiA or outlet sound power levels LwoA are shown on the performance curves.

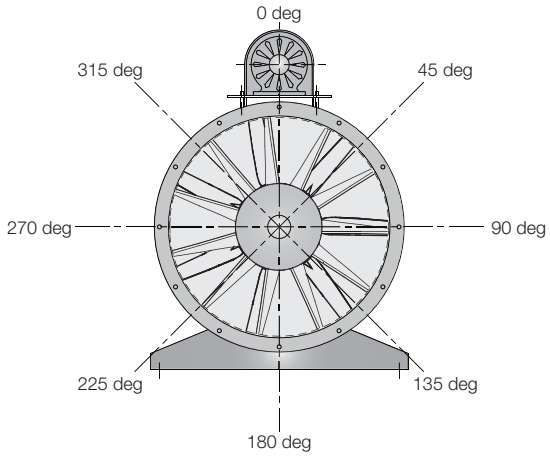
Belt driven design

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.

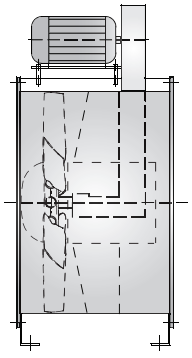
Ordering designations

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



Motor Mounting Position - Specify in degree



Motor Mounting
at Zero Position

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.

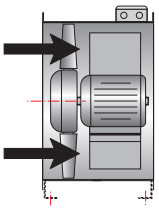
› When installing fans in a ducted system, adequate distance to other structural parts such as bends, filters and silencers should be provided for. A sharp bond radius of the duct near the suction or pressure side of the fan is to be avoided. Flexible connections are to be installed in a way that does 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.

D



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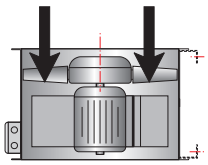

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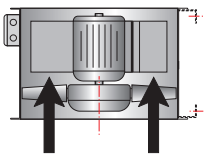

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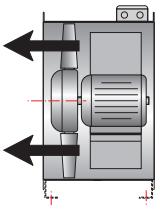

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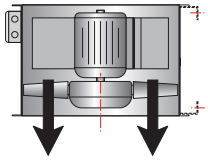

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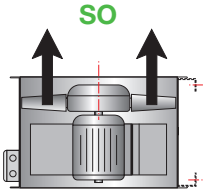
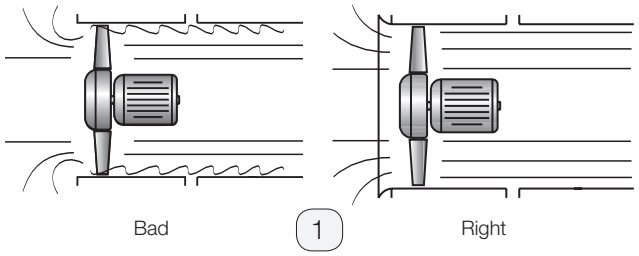
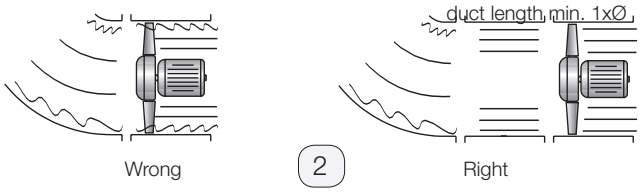
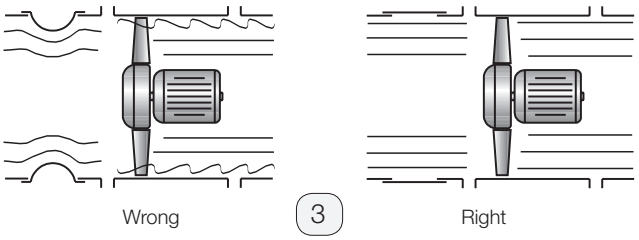
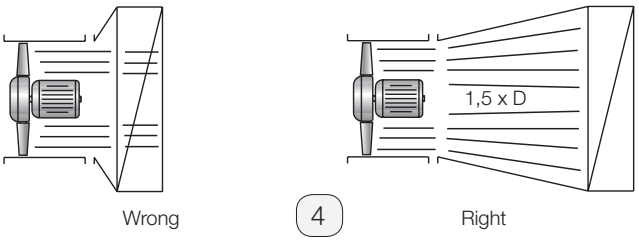










Selection example

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:

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

   Motor power: 22 kW

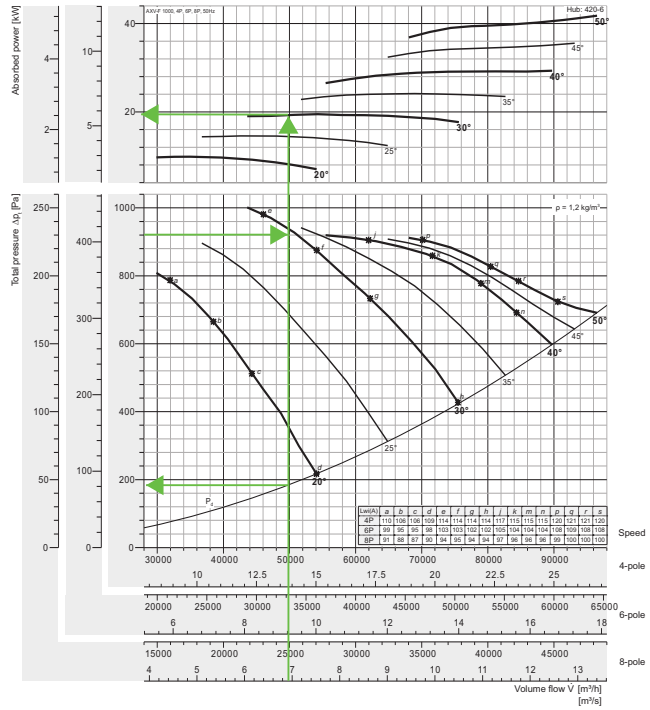
2) Calculation according to peak absorbed power, see table below the fan curve: 19,49 kW

   Motor power: 22 kW

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

Performance Curve

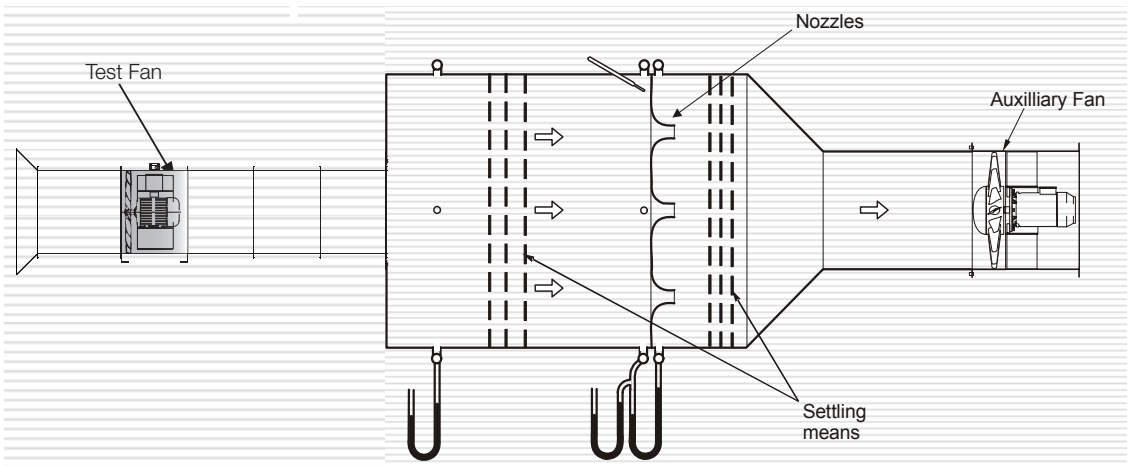
AXV-F 1000, 50 Hz



Peak absorbed power [kW]

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

N	Pitch angle [°]						
Poles	20	25	30	35	40	45	50
4P	9,853	14,61	19,49	24,16	29,32	35,55	41,77
motor	11	15	22	30		37	45
6P	2,919	4,330	5,776	7,159	8,688	10,53	12,38
motor	3	5,5	7,5		11		15



AMCA 210 Figure 12
ISO 5801 Figure 73b

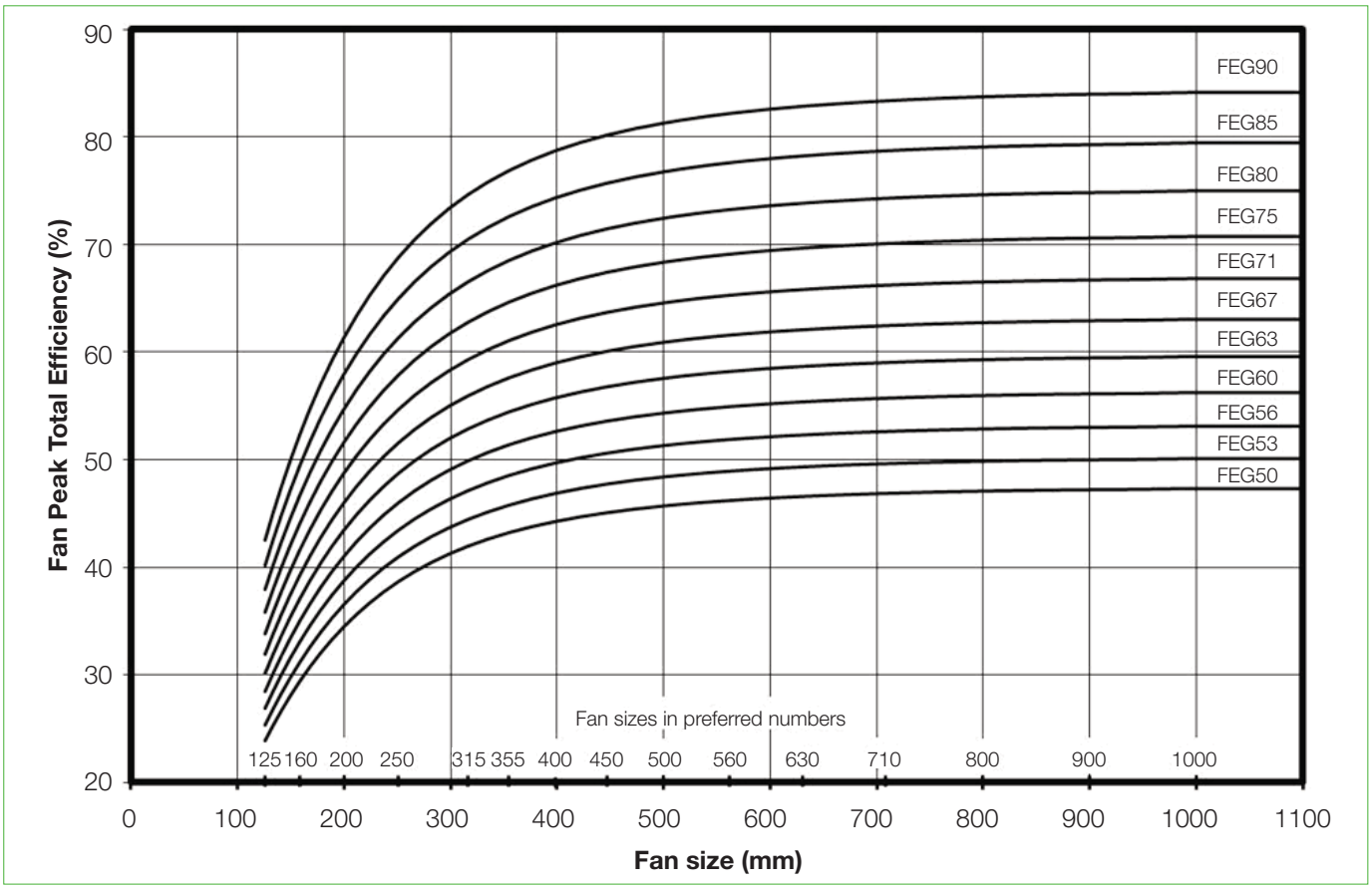
AMCA - FEG rating

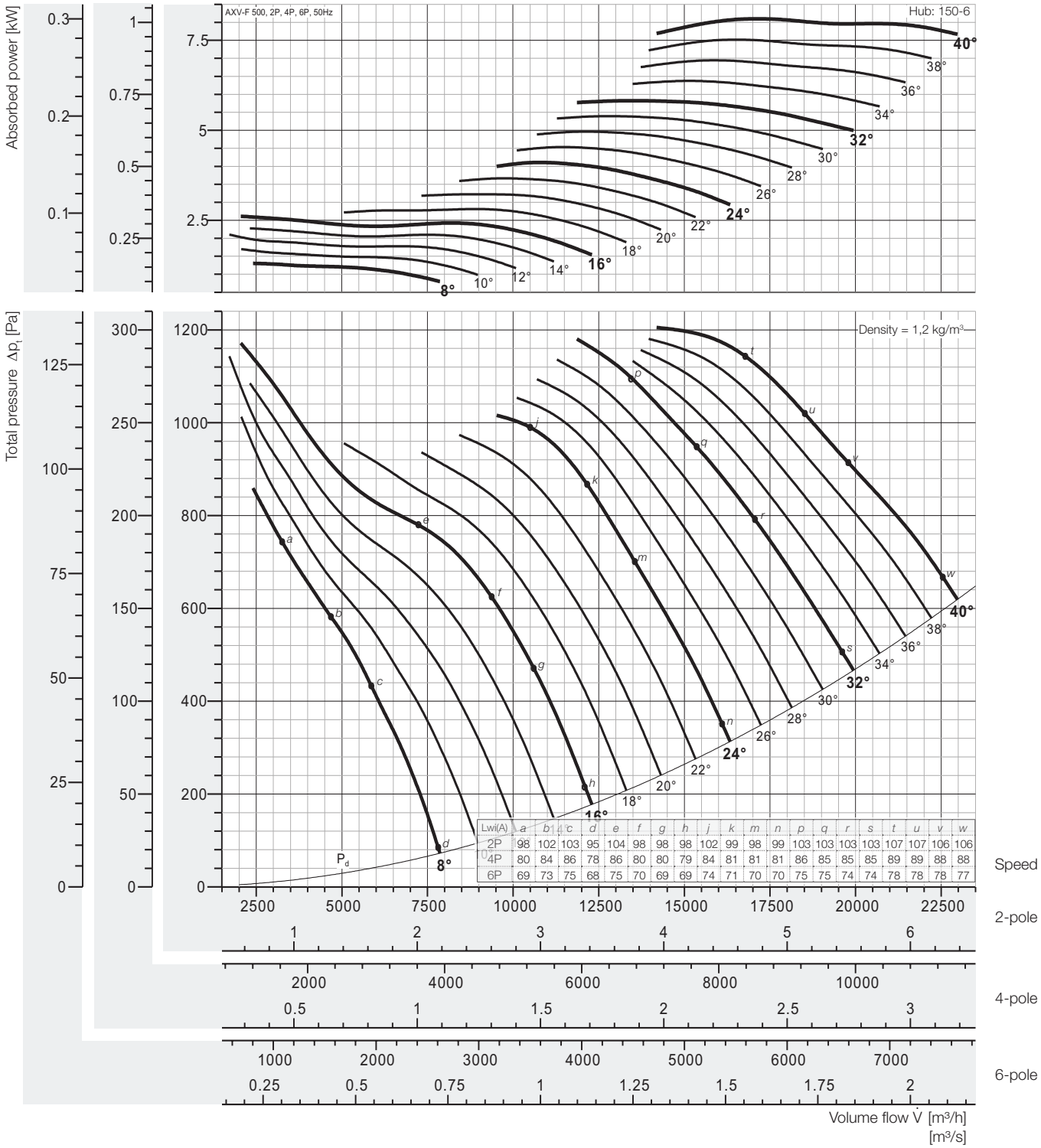
Fan Efficiency Grade: AXV-F

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 500 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 500	3000/1500/1000	0,1987	FEG 80	AXV-F 1400	1500/1000/750	1,5504	FEG 80
AXV-F 560	3000/1500/1000	0,2507	FEG 75	AXV-F 1600	1500/1000/750	2,0232	FEG 80
AXV-F 630	3000/1500/1000	0,3157	FEG 75	AXV-F 1800	1000/750/600	2,5588	FEG 80
AXV-F 710	3000/1500/1000	0,3970	FEG 75	AXV-F 2000	1000/750/600	3,1573	FEG 80
AXV-F 800	1500/1000/750	0,4989	FEG 75	AXV-F 2200	750/600/500	3,8186	FEG 80
AXV-F 900	1500/1000/750	0,6277	FEG 75	AXV-F 2400	750/600/500	4,5428	FEG 80
AXV-F 1000	1500/1000/750	0,7901	FEG 75	AXV-F 2500	750/600/500	4,9284	FEG 80
AXV-F 1120	1500/1000/750	0,9940	FEG 75	AXV-F 2600	750/600/500	5,3297	FEG 80
AXV-F 1250	1500/1000/750	1,2272	FEG 75	AXV-F 2800	750/600/500	6,1795	FEG 80





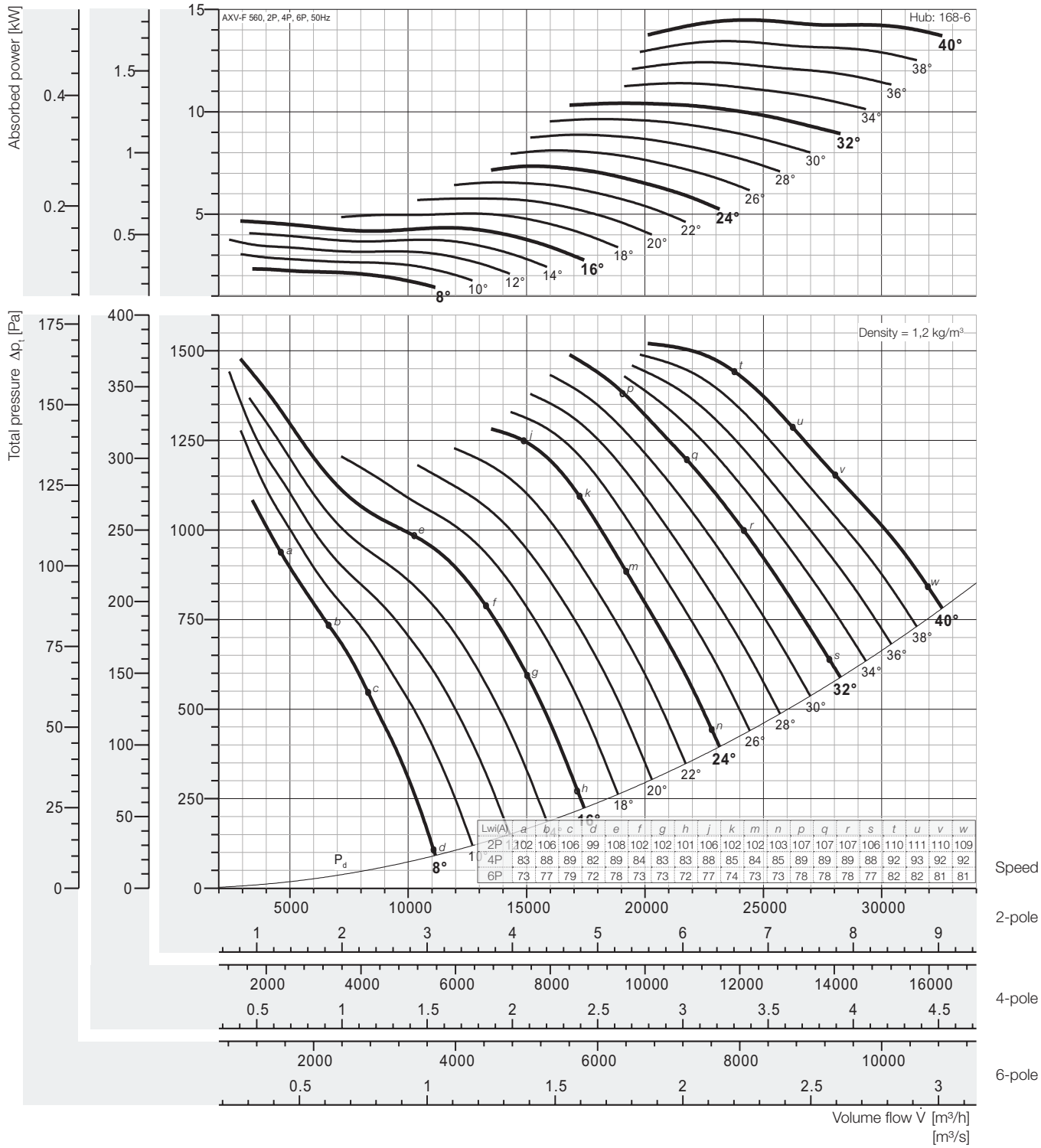
Peak absorbed power [kW]

2-pole = 3000 rpm; 4-pole = 1500 rpm; 6-pole = 1000 rpm;

N	Pitch angle [°]																	
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
2P	1,302	1,703	2,103	2,278	2,610	2,812	3,224	3,665	4,108	4,536	4,965	5,395	5,825	6,372	6,946	7,522	8,100	
motor	1,5	2,2		3,0			4,0		-*									
4P	0,163	0,213	0,263	0,285	0,326	0,352	0,403	0,458	0,514	0,567	0,621	0,674	0,728	0,797	0,868	0,940	1,012	
motor	0,25			0,37			0,55			0,75				1,1				
6P	0,048	0,063	0,078	0,084	0,097	0,104	0,119	0,136	0,152	0,168	0,184	0,200	0,216	0,236	0,257	0,279	0,300	
motor	0,25														0,37			

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Peak absorbed power [kW]

2-pole = 3000 rpm; 4-pole = 1500 rpm; 6-pole = 1000 rpm;

N	Pitch angle [°]																
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
2P	2,329	3,045	3,761	4,073	4,667	5,028	5,765	6,553	7,345	8,111	8,878	9,646	10,42	11,39	12,42	13,45	14,48
motor	3,0	4,0		5,5			7,5			11				15			
4P	0,291	0,381	0,470	0,509	0,583	0,629	0,721	0,819	0,918	1,014	1,110	1,206	1,302	1,424	1,552	1,681	1,810
motor	0,37	0,55			0,75			1,1			1,5				2,2		
6P	0,086	0,113	0,139	0,151	0,173	0,186	0,214	0,243	0,272	0,300	0,329	0,357	0,386	0,422	0,460	0,498	0,536
motor	0,25								0,37				0,55				

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.

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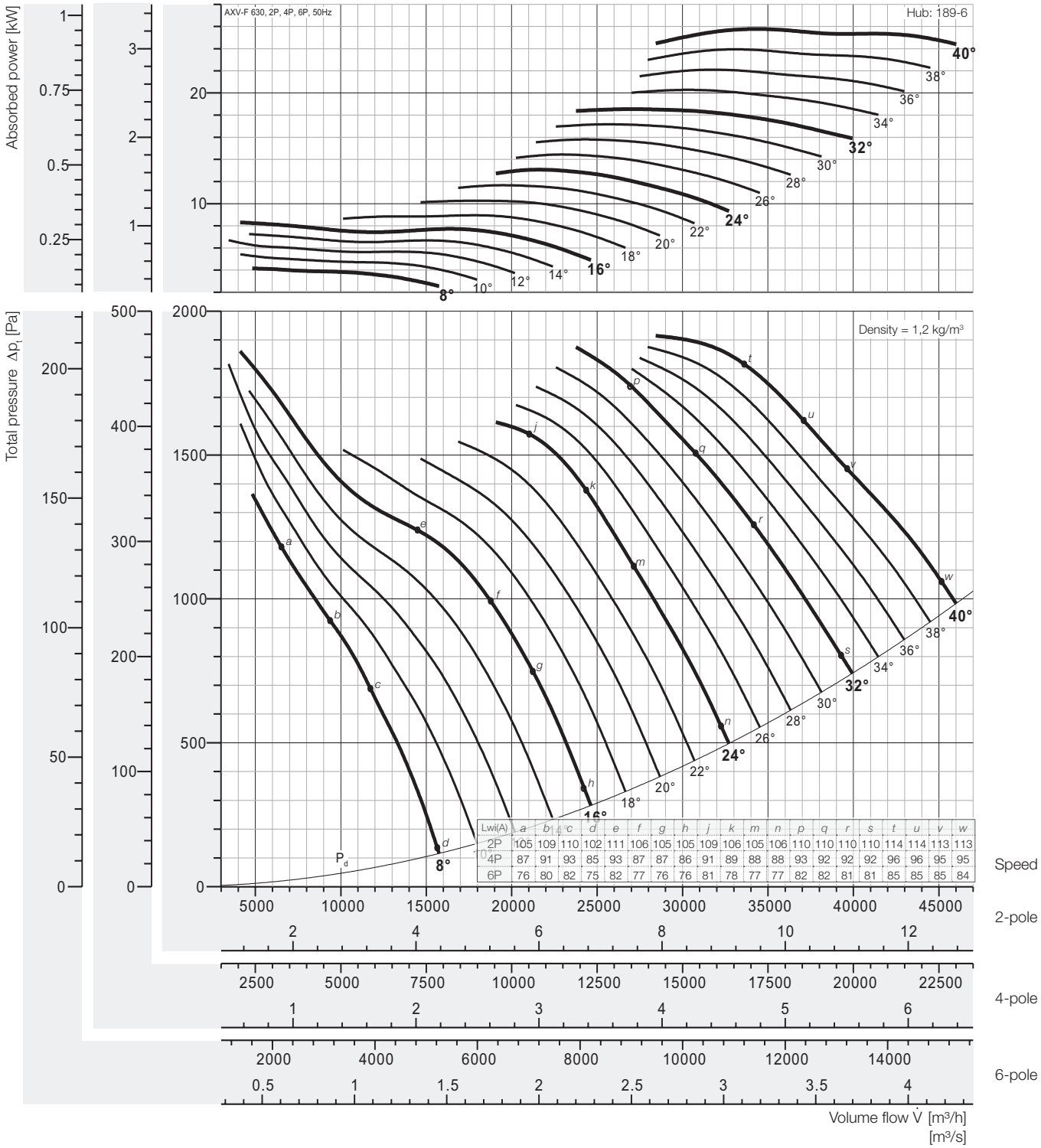

Lwi(A)	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w
2P	105	109	110	102	111	106	105	105	109	106	105	106	110	110	110	110	114	114	113	113
4P	87	91	93	85	93	87	87	86	91	89	88	88	93	92	92	92	96	96	95	95
6P	76	80	82	75	82	77	76	76	81	78	77	77	82	82	81	81	85	85	85	84

Peak absorbed power [kW]

2-pole = 3000 rpm; 4-pole = 1500 rpm; 6-pole = 1000 rpm;

N	Pitch angle [°]																	
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
2P	4,145	5,419	6,693	7,248	8,307	8,949	10,26	11,66	13,07	14,44	15,80	17,17	18,54	20,28	22,10	23,94	25,78	
motor	5,5		7,5		11			15			18,5		-*					
4P	0,518	0,677	0,837	0,906	1,038	1,119	1,283	1,458	1,634	1,805	1,975	2,146	2,317	2,535	2,763	2,992	3,222	
motor	0,55	0,75	1,1			1,5			2,2				3,0				4,0	
6P	0,154	0,201	0,248	0,268	0,308	0,331	0,380	0,432	0,484	0,535	0,585	0,636	0,687	0,751	0,819	0,887	0,955	
motor	0,25			0,37			0,55				0,75				1,1			

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.

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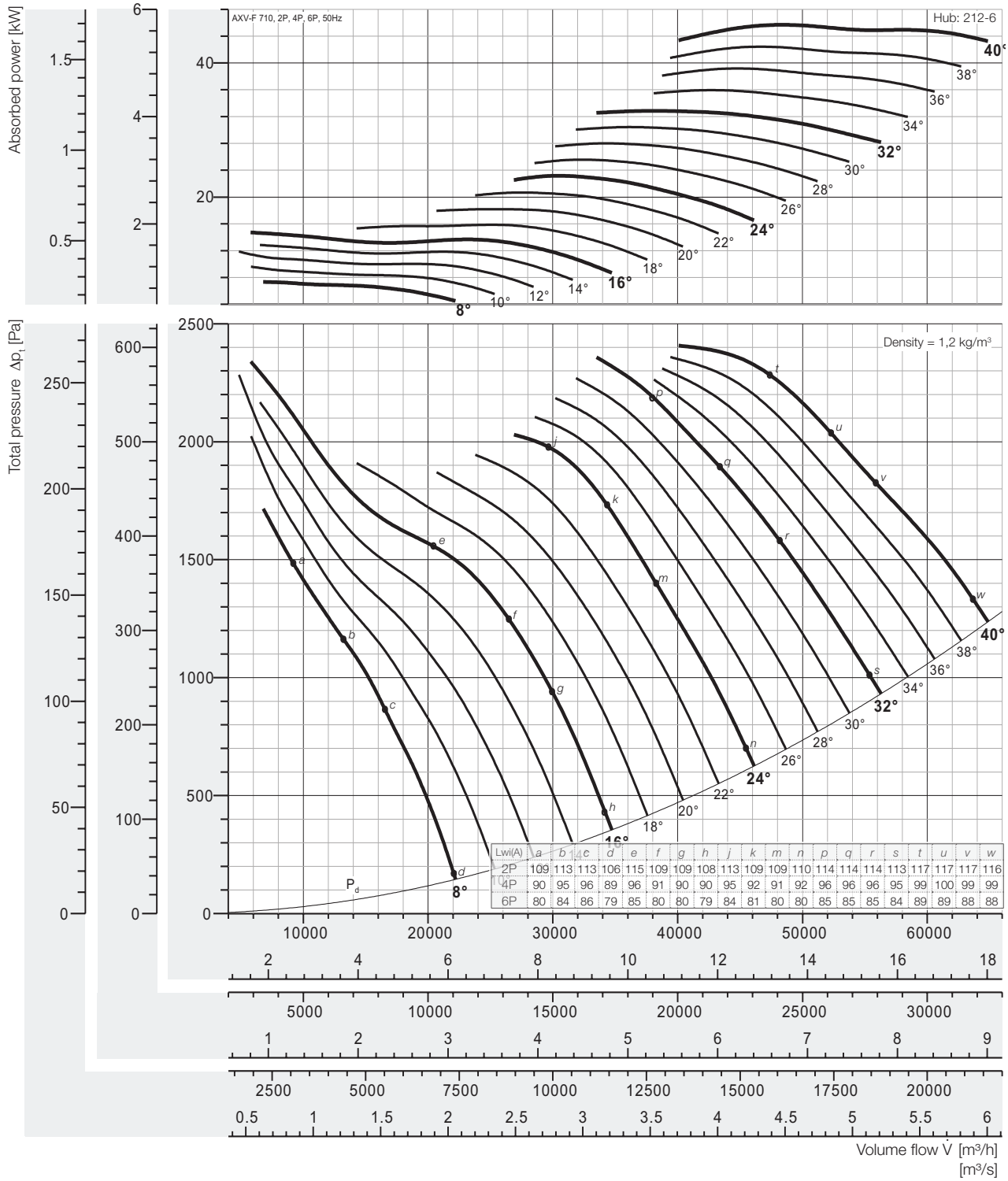

Peak absorbed power [kW]

2-pole = 3000 rpm; 4-pole = 1500 rpm; 6-pole = 1000 rpm;

N	Pitch angle [°]																	
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
2P	7,347	9,606	11,86	12,85	14,73	15,86	18,19	20,67	23,17	25,59	28,01	30,43	32,86	35,95	39,18	42,43	45,69	
motor	7,5	11	15			18,5		22	-*									
4P	0,918	1,201	1,483	1,606	1,841	1,983	2,274	2,584	2,897	3,199	3,501	3,804	4,107	4,494	4,898	5,304	5,711	
motor	1,1	1,5		2,2			3,0			4,0			5,5				7,5	
6P	0,272	0,356	0,439	0,476	0,545	0,588	0,674	0,766	0,858	0,948	1,037	1,127	1,217	1,331	1,451	1,572	1,692	
motor	0,37		0,55			0,75		1,1				1,5				2,2		

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.

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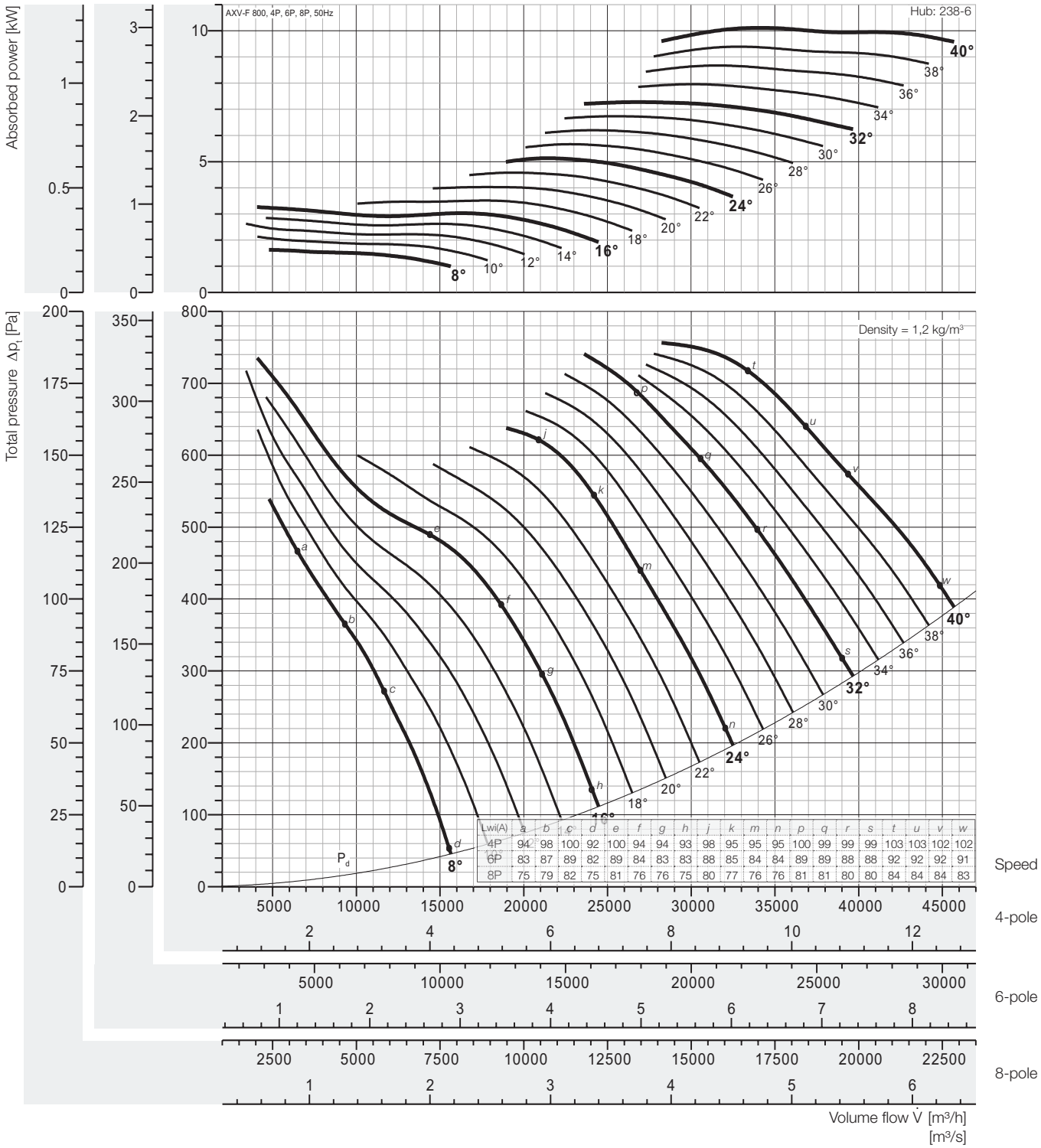

Peak absorbed power [kW]

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

N	Pitch angle [°]																	
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
4P	1,626	2,126	2,626	2,844	3,260	3,512	4,026	4,576	5,130	5,665	6,200	6,737	7,274	7,957	8,673	9,393	10,11	
motor	2,2		3,0		4,0		5,5			7,5				11				
6P	0,482	0,630	0,778	0,843	0,966	1,040	1,193	1,356	1,520	1,678	1,837	1,996	2,155	2,358	2,570	2,783	2,997	
motor	0,55	0,75	1,1				1,5		2,2					3,0				
8P	0,203	0,266	0,328	0,356	0,407	0,439	0,503	0,572	0,641	0,708	0,775	0,842	0,909	0,995	1,084	1,174	1,264	
motor	0,37				0,55			0,75			1,1					1,5		

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.

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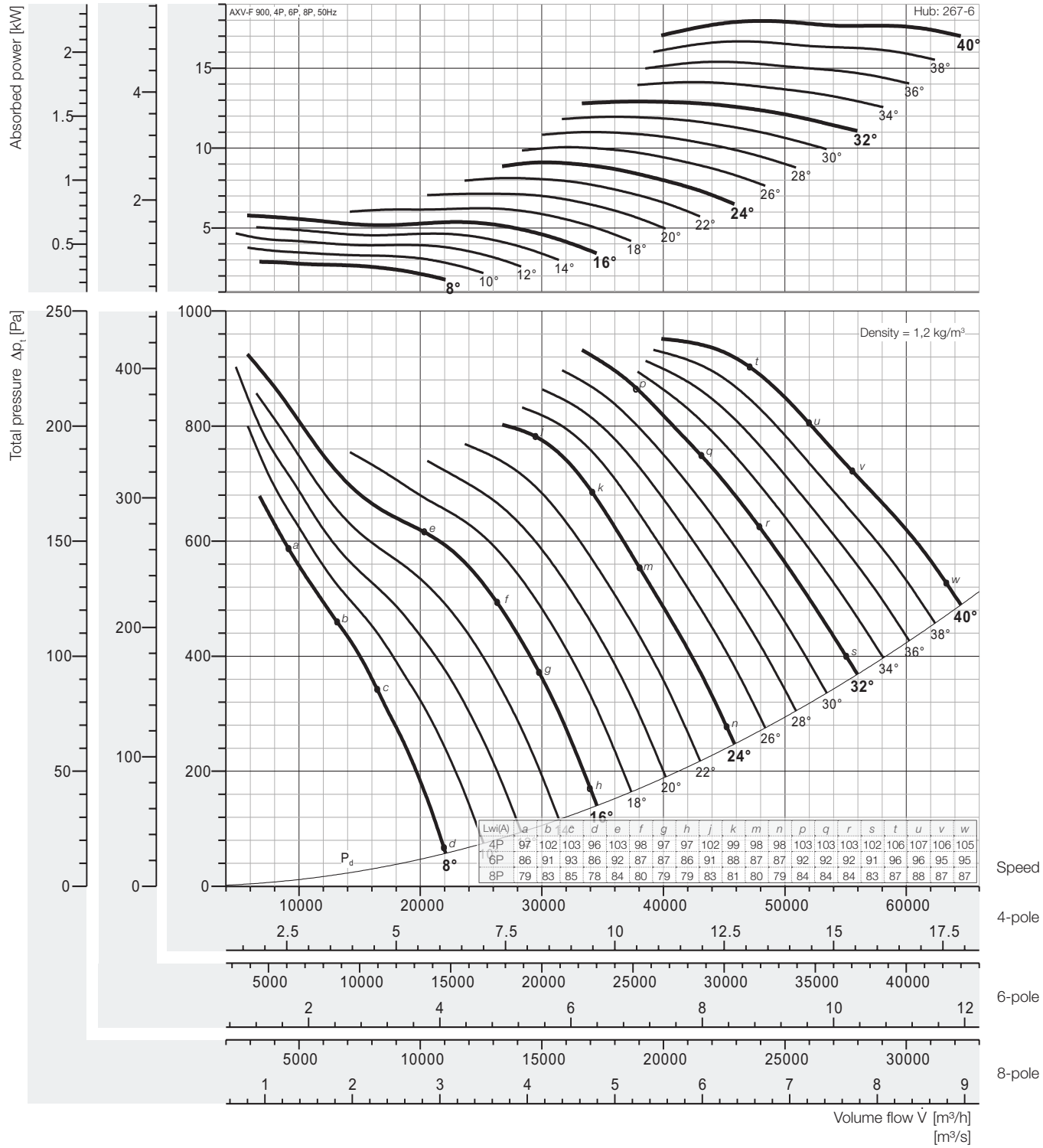

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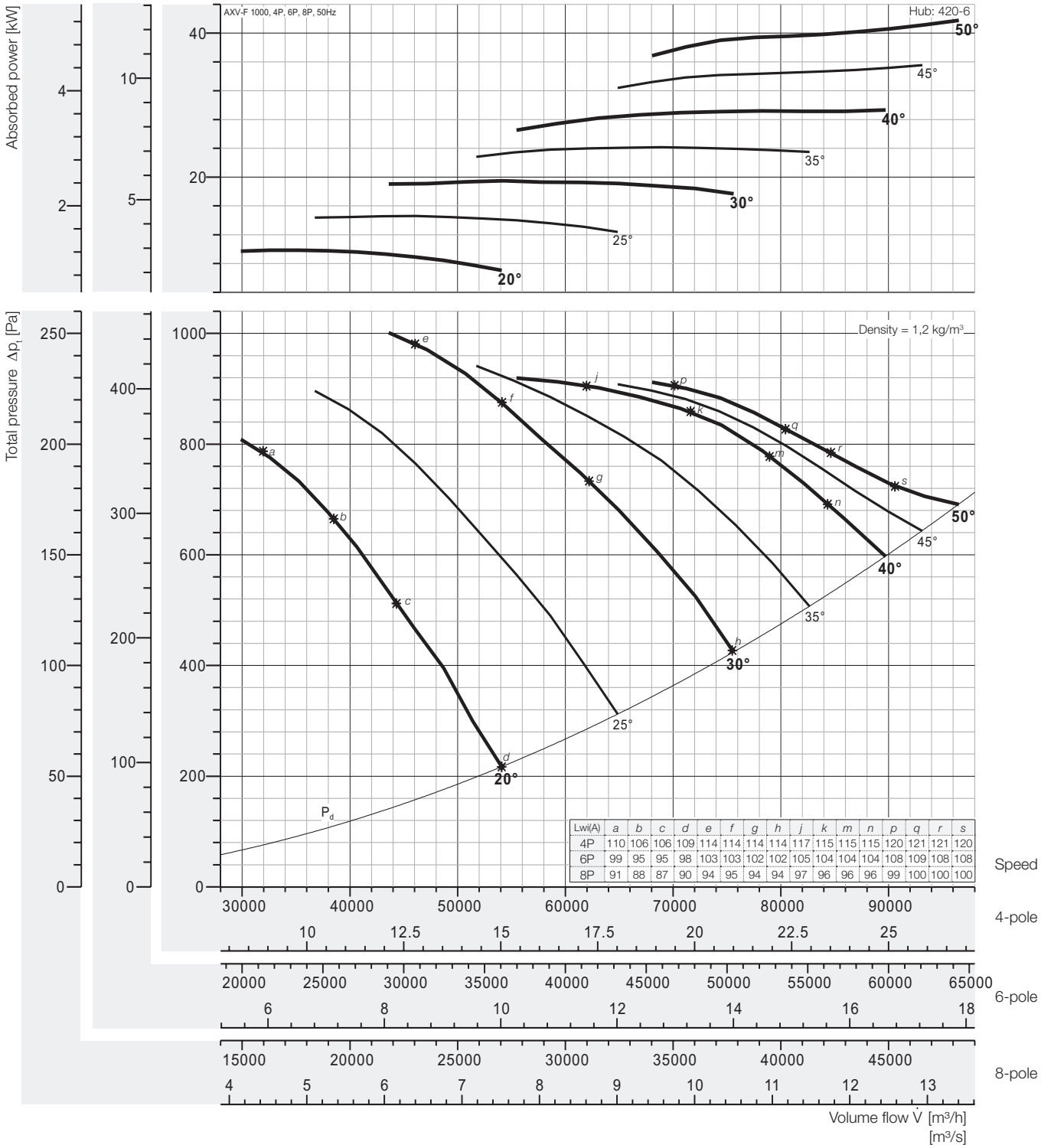
4-pole = 1500 rpm; 6-pole = 1000 rpm; 8-pole = 750 rpm;

N	Pitch angle [°]																
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
4P	2,888	3,775	4,663	5,050	5,787	6,235	7,149	8,125	9,108	10,06	11,00	11,96	12,91	14,13	15,40	16,68	17,96
motor	3,0	4,0	5,5		7,5			11				15			18,5		
6P	0,856	1,119	1,382	1,496	1,715	1,847	2,118	2,407	2,699	2,980	3,262	3,544	3,826	4,186	4,563	4,941	5,321
motor	1,1	1,5			2,2			3,0			4,0			5,5			
8P	0,361	0,472	0,583	0,631	0,723	0,779	0,894	1,016	1,138	1,257	1,376	1,495	1,614	1,766	1,925	2,085	2,245
motor	0,37	0,55	0,75			1,1			1,5				2,2				3,0

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Lwi(A)	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s
4P	110	106	106	109	114	114	114	114	117	115	115	115	120	121	121	120
6P	99	95	95	98	103	103	102	102	105	104	104	104	108	109	108	108
8P	91	88	87	90	94	95	94	94	97	96	96	96	99	100	100	100

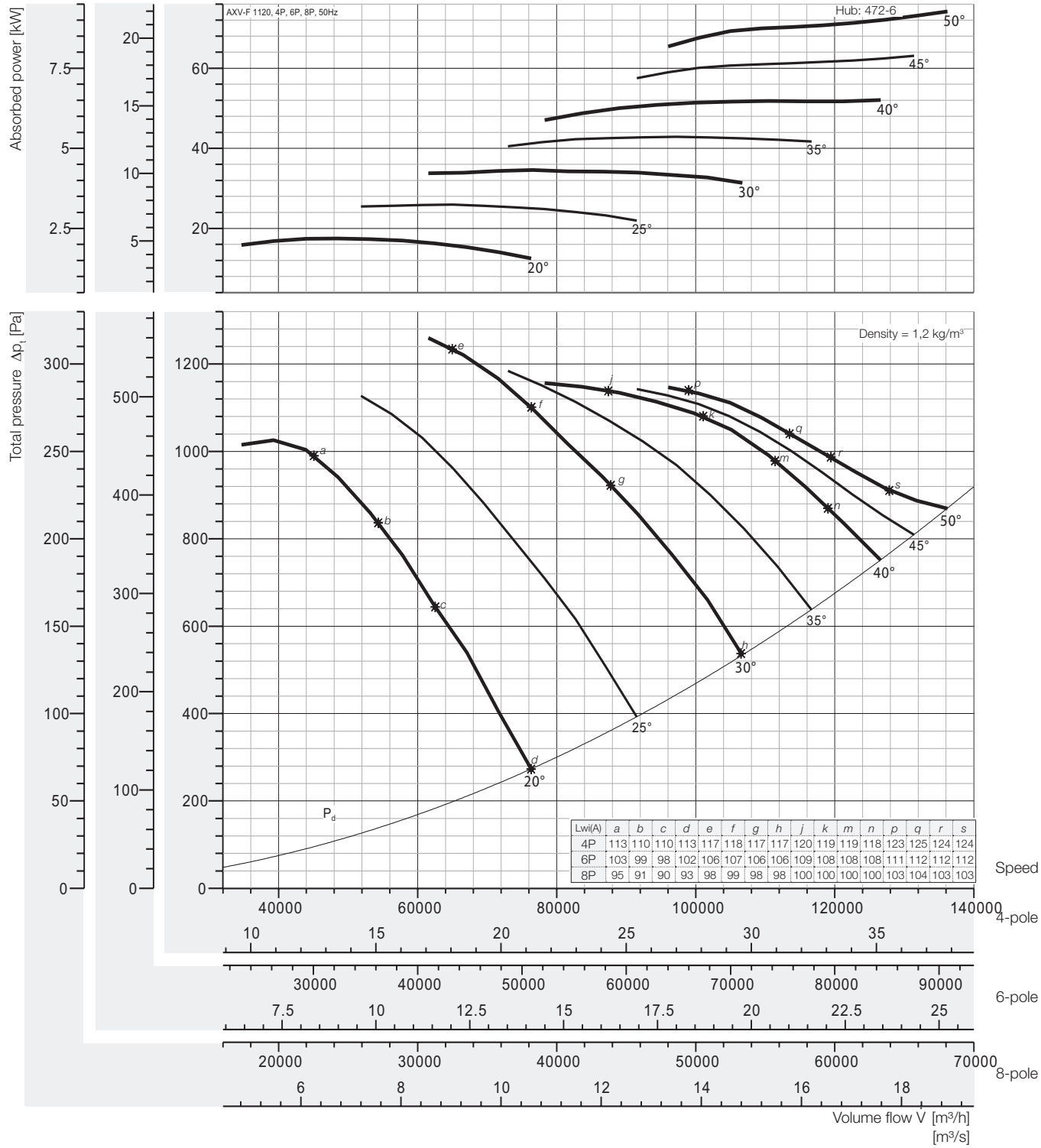
Peak absorbed power [kW]

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

N	Pitch angle [°]						
Poles	20	25	30	35	40	45	50
4P	9,853	14,61	19,49	24,16	29,32	35,55	41,77
motor	11	15	22	30		37	45
6P	2,919	4,330	5,776	7,159	8,688	10,53	12,38
motor	3	5,5	7,5		11		15
8P	1,232	1,827	2,437	3,020	3,665	4,443	5,222
motor	1,5	2,2	3	4		5,5	

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



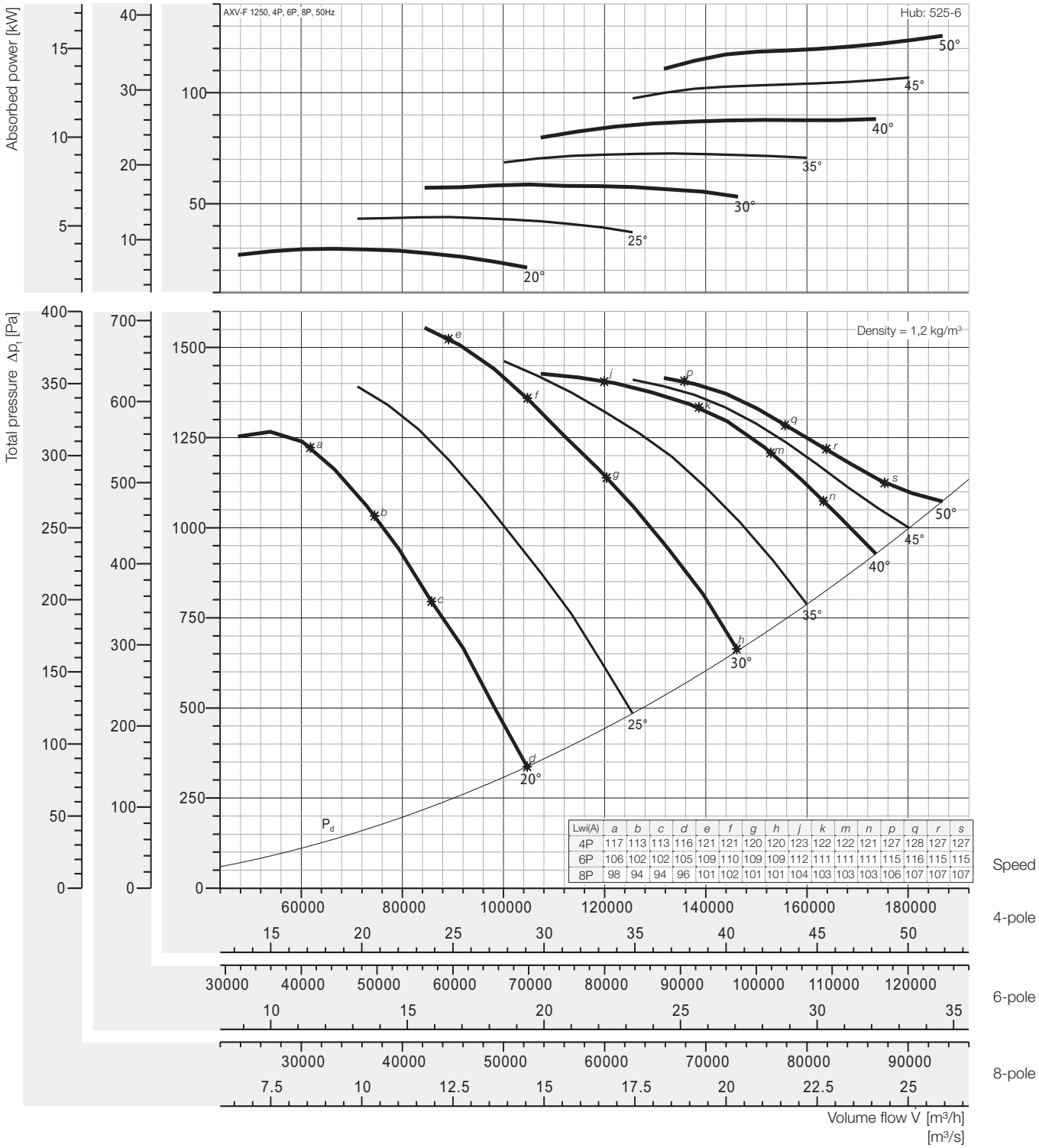
Peak absorbed power [kW]

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

N	Pitch angle [°]						
Poles	20	25	30	35	40	45	50
4P	17,51	25,94	34,60	42,89	52,05	63,11	74,16
motor	18,5	30	37	45	55	75	
6P	5,187	7,686	10,25	12,71	15,42	18,70	21,97
motor	5,5	11		15	18,5	22	
8P	2,188	3,243	4,326	5,361	6,506	7,888	9,270
motor	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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Lwi(A)	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s
4P	117	113	113	116	121	121	120	120	123	122	122	121	127	128	127	127
6P	106	102	102	105	109	110	109	109	112	111	111	111	115	116	115	115
8P	98	94	94	96	101	102	101	101	104	103	103	103	106	107	107	107

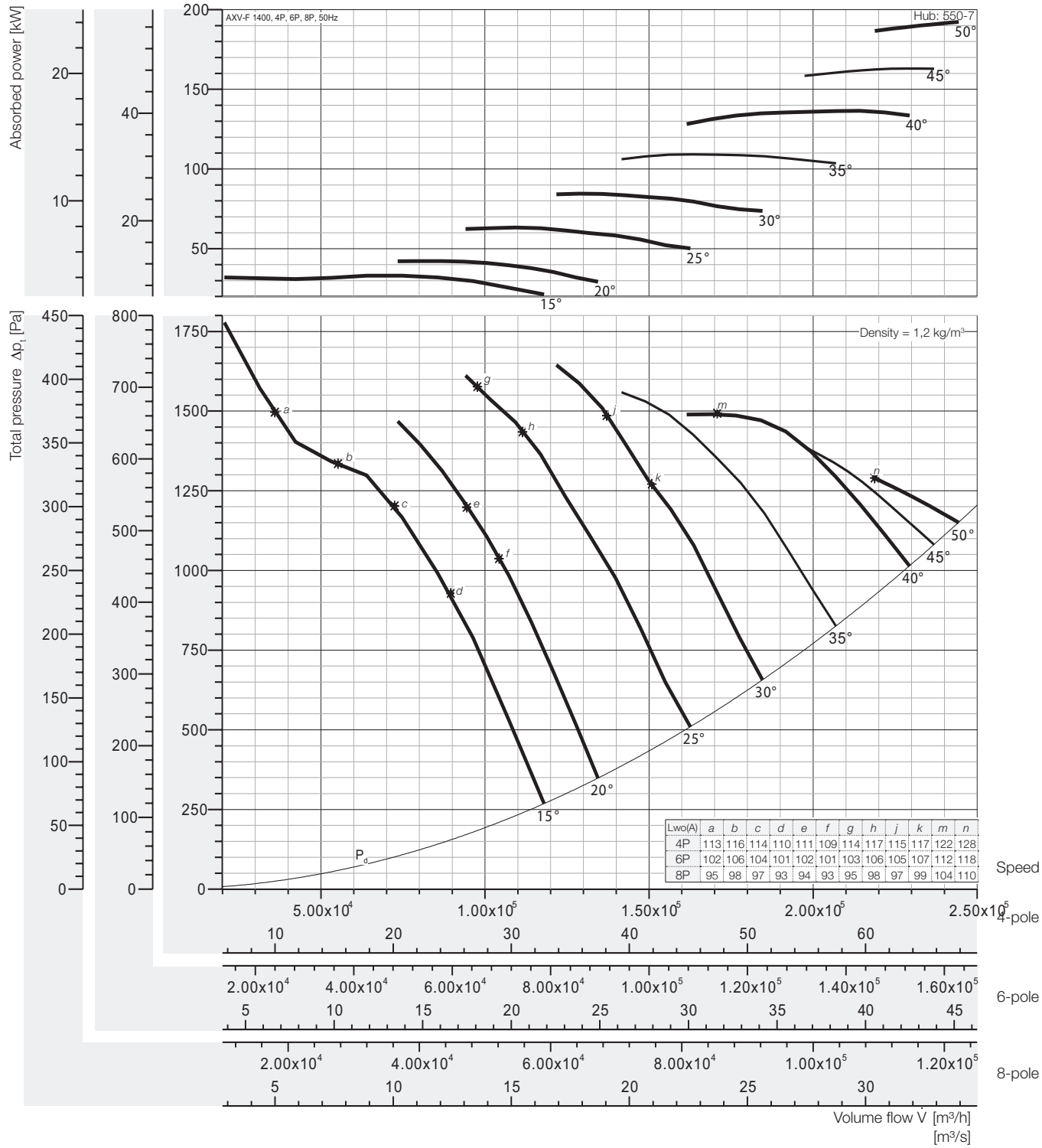
Peak absorbed power [kW]

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

N	Pitch angle [°]						
Poles	20	25	30	35	40	45	50
4P	29,65	43,93	58,60	72,64	88,15	106,9	125,6
motor	30	45	75		90	-	-
6P	8,78	13,02	17,36	21,52	26,12	31,66	37,21
motor	11	15	18,5	22	30	37	45
8P	3,706	5,492	7,325	9,080	11,02	13,36	15,70
motor	4	5,5	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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



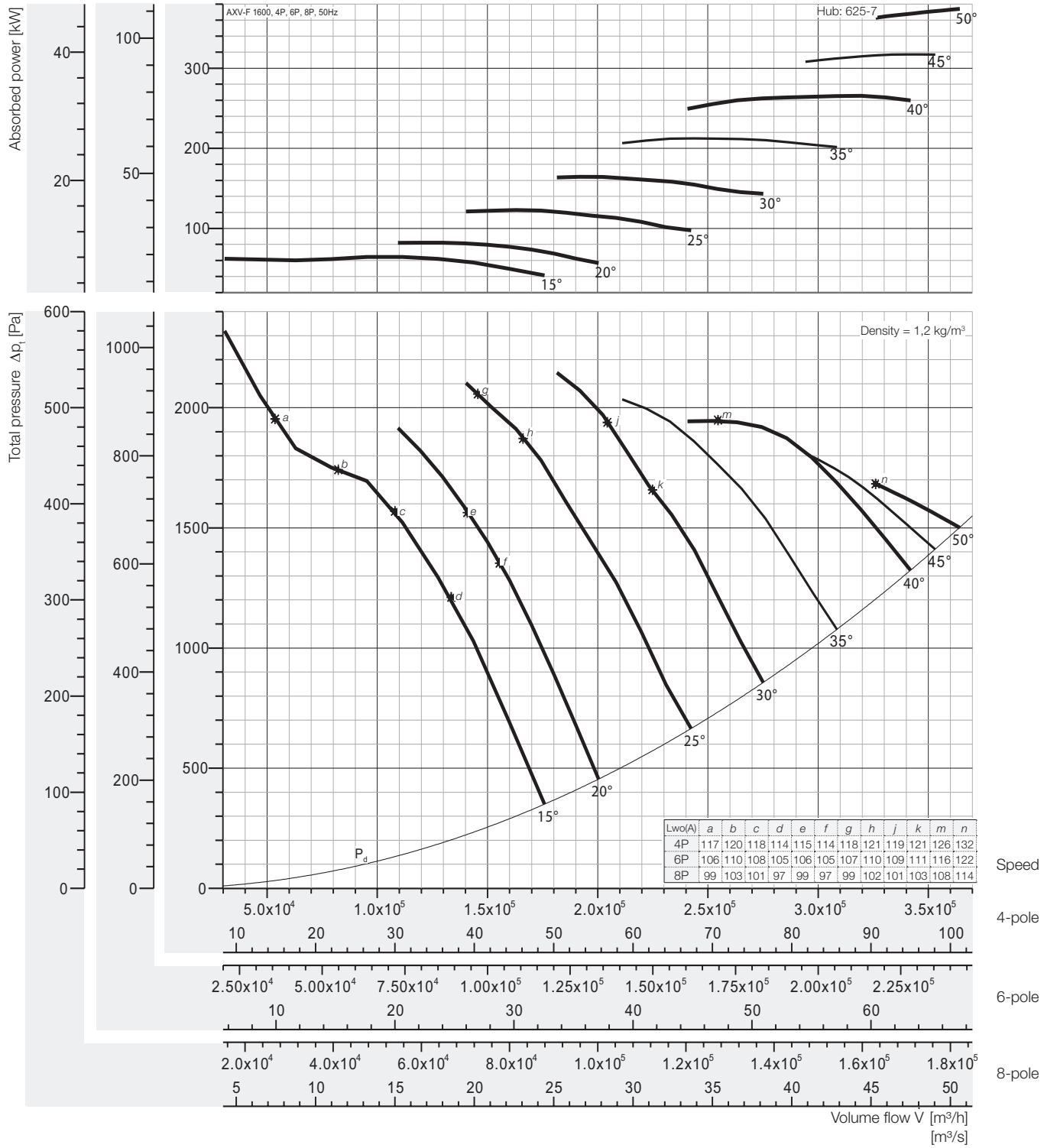
Peak absorbed power [kW]

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

N	Pitch angle [°]							
Poles	15	20	25	30	35	40	45	50
4P	33,14	42,28	63,27	84,50	109,2	136,5	163,1	192,3
motor	37	45	75	90	110	160	200	
6P	9,819	12,53	18,75	25,04	32,36	40,45	48,32	56,98
motor	11	15	22	30	37	45	55	75
8P	4,142	5,285	7,908	10,56	13,65	17,06	20,38	24,04
motor	5,5		11		15	18,5	22	30

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.



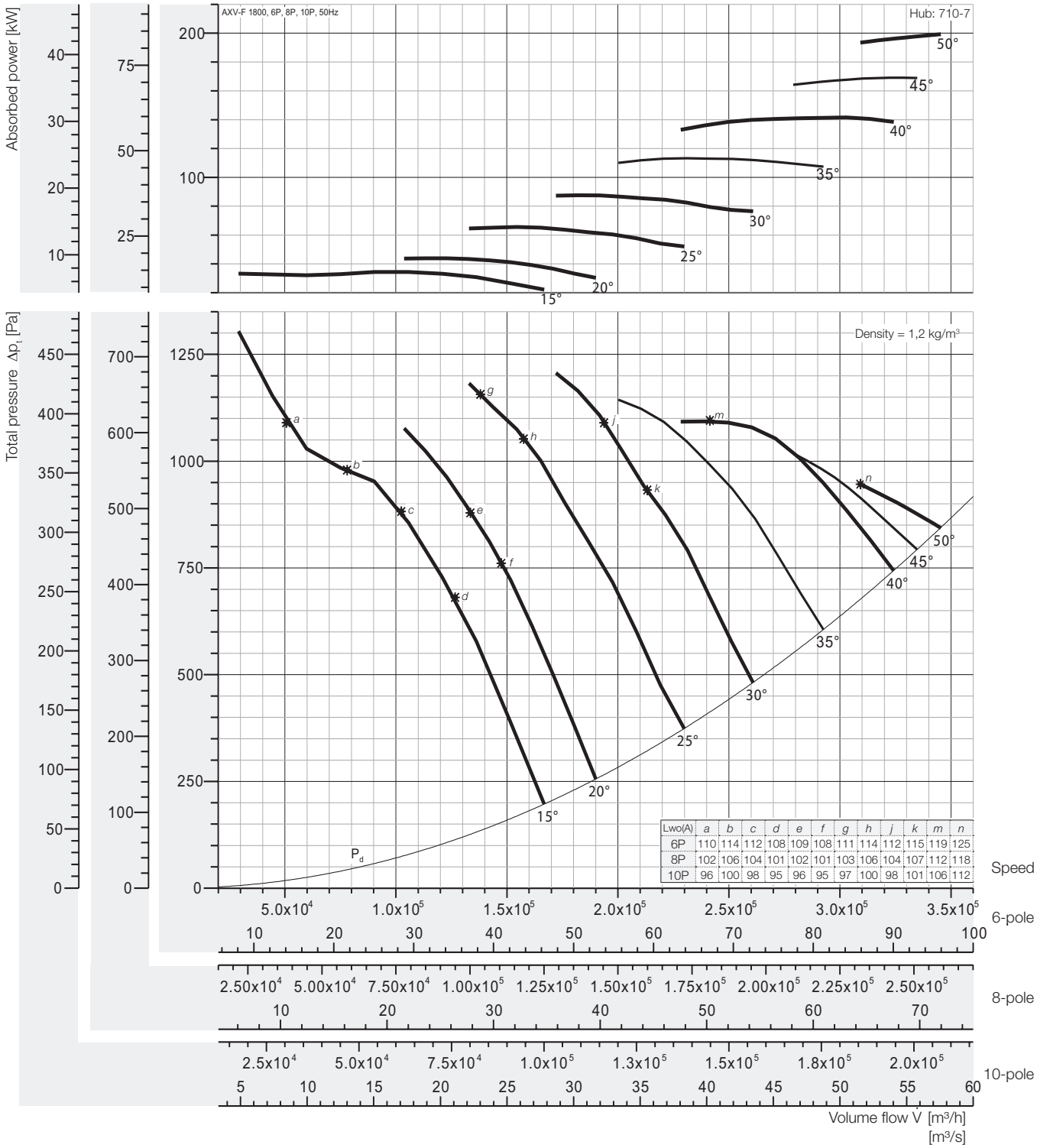
Peak absorbed power [kW]

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

N	Pitch angle [°]							
Poles	15	20	25	30	35	40	45	50
4P	64,46	82,25	123,1	164,4	212,4	265,6	317,2	374,1
motor	75	90	132	200	250	315	355	400
6P	19,10	24,37	36,47	48,71	62,94	78,68	93,99	110,8
motor	22	30	37	55	75	90	110	132
8P	8,058	10,28	15,38	20,55	26,55	33,19	39,65	46,76
motor	11		18,5	22	30	37	45	55

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.



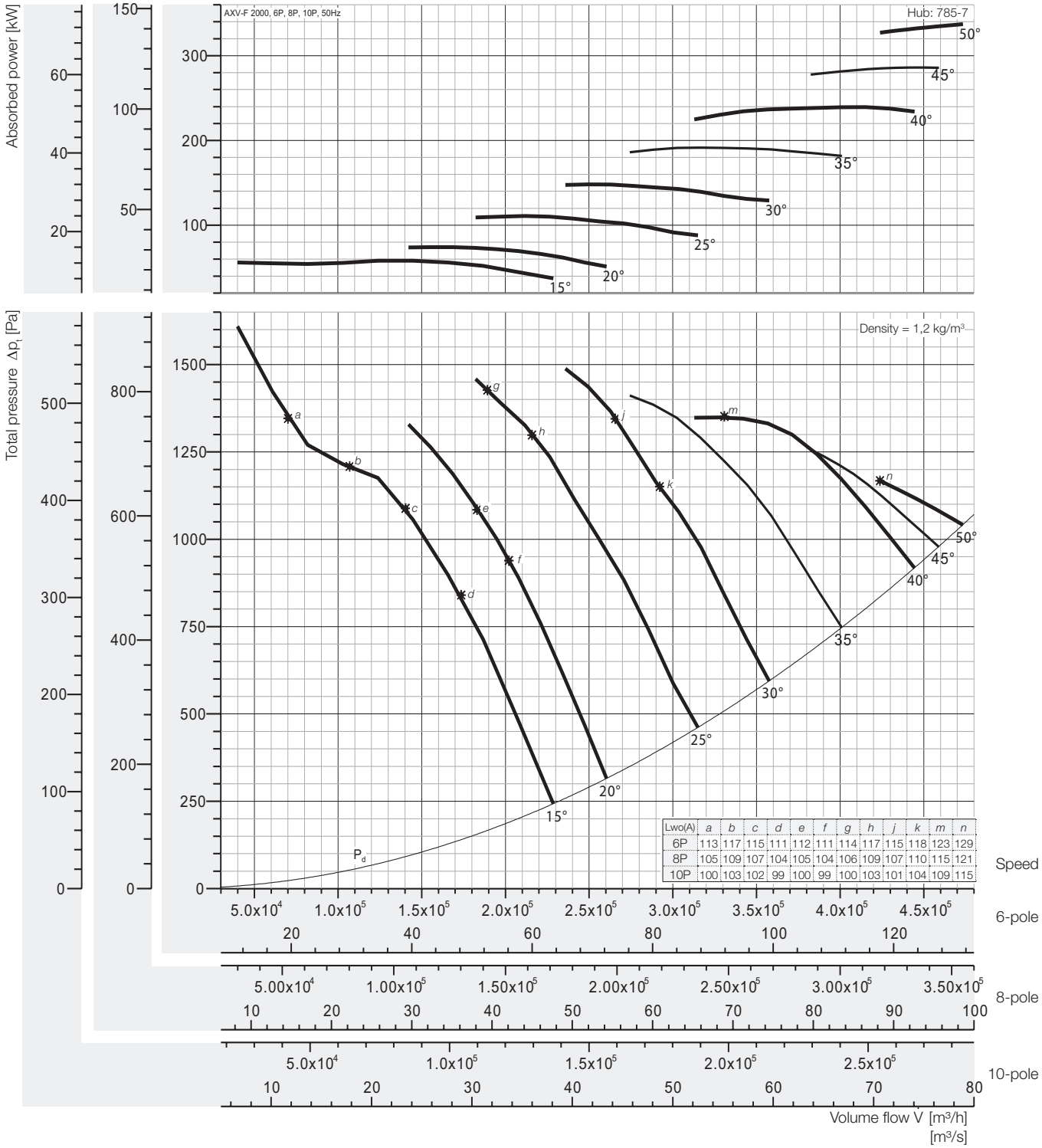
Peak absorbed power [kW]

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

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



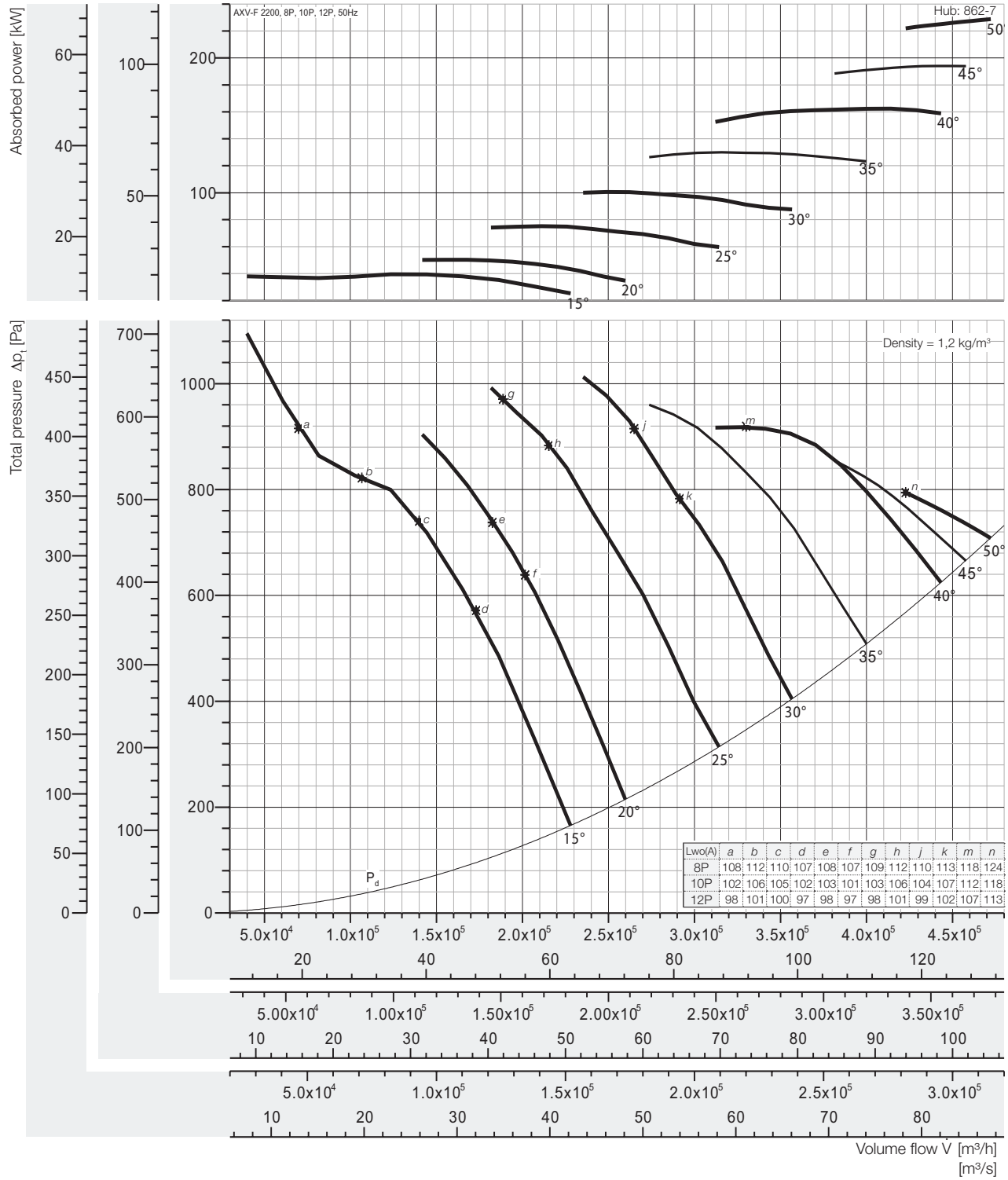
Peak absorbed power [kW]

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

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



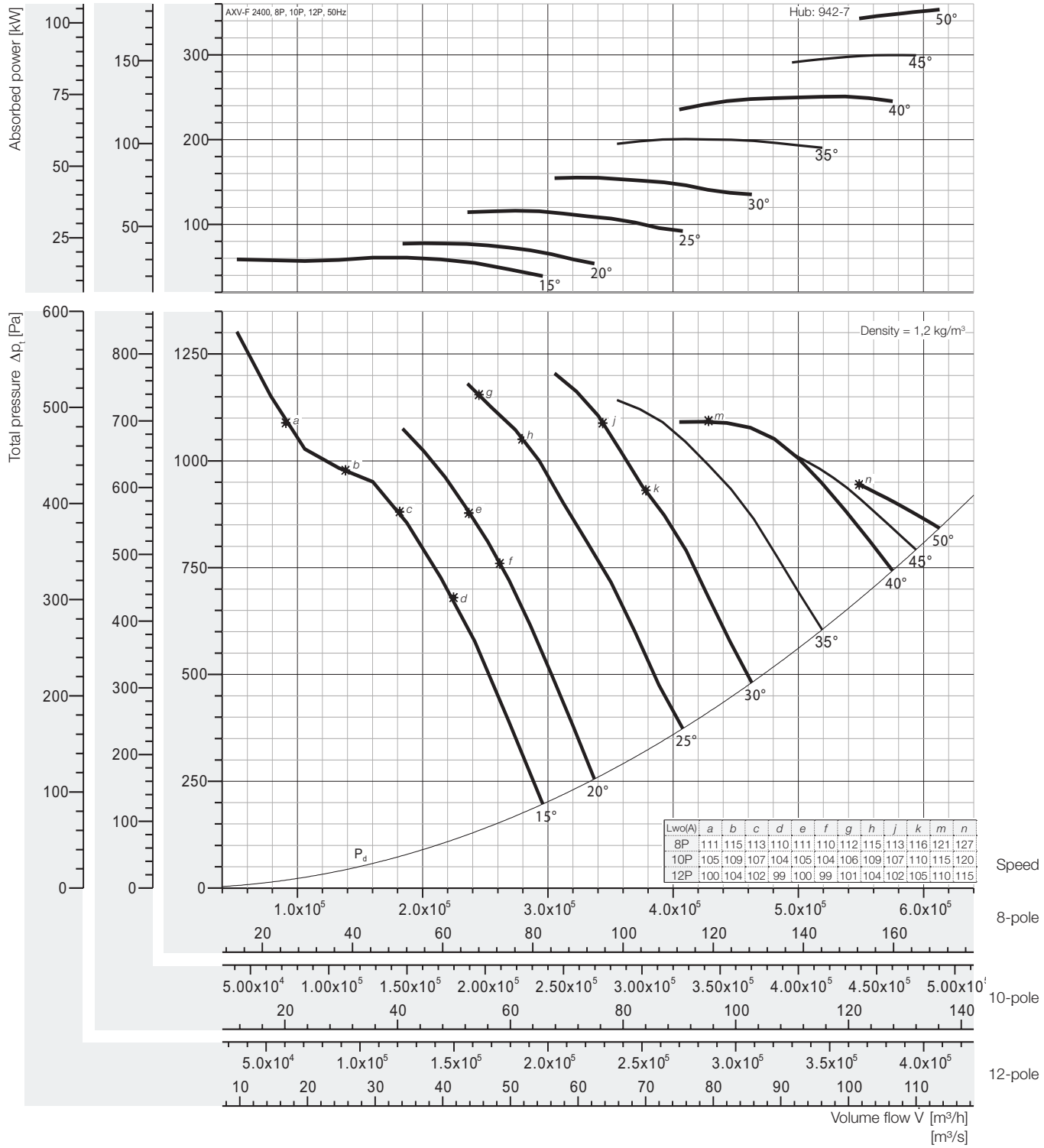
Peak absorbed power [kW]

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

N	Pitch angle [°]							
Poles	15	20	25	30	35	40	45	50
8P	39,44	50,32	75,29	100,6	130,0	162,4	194,1	228,8
motor	45	55	90	110	132	200		250
10P	20,19	25,76	38,55	51,49	66,54	83,18	99,36	117,2
motor	22	30	45	55	75	90	110	132
12P	11,68	14,91	22,31	29,80	38,51	48,14	57,5	67,81
motor	15		30		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.



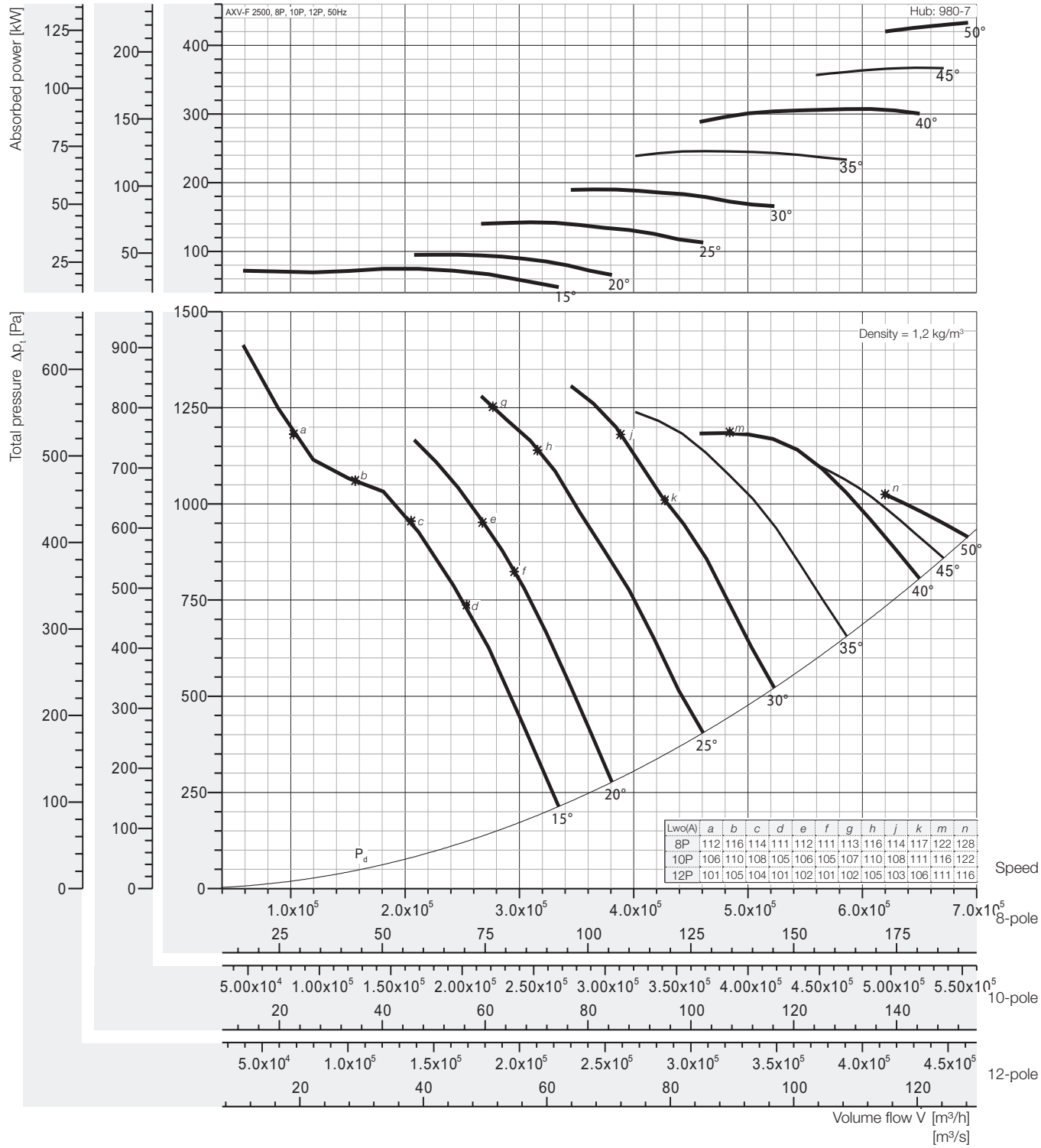
Peak absorbed power [kW]

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

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



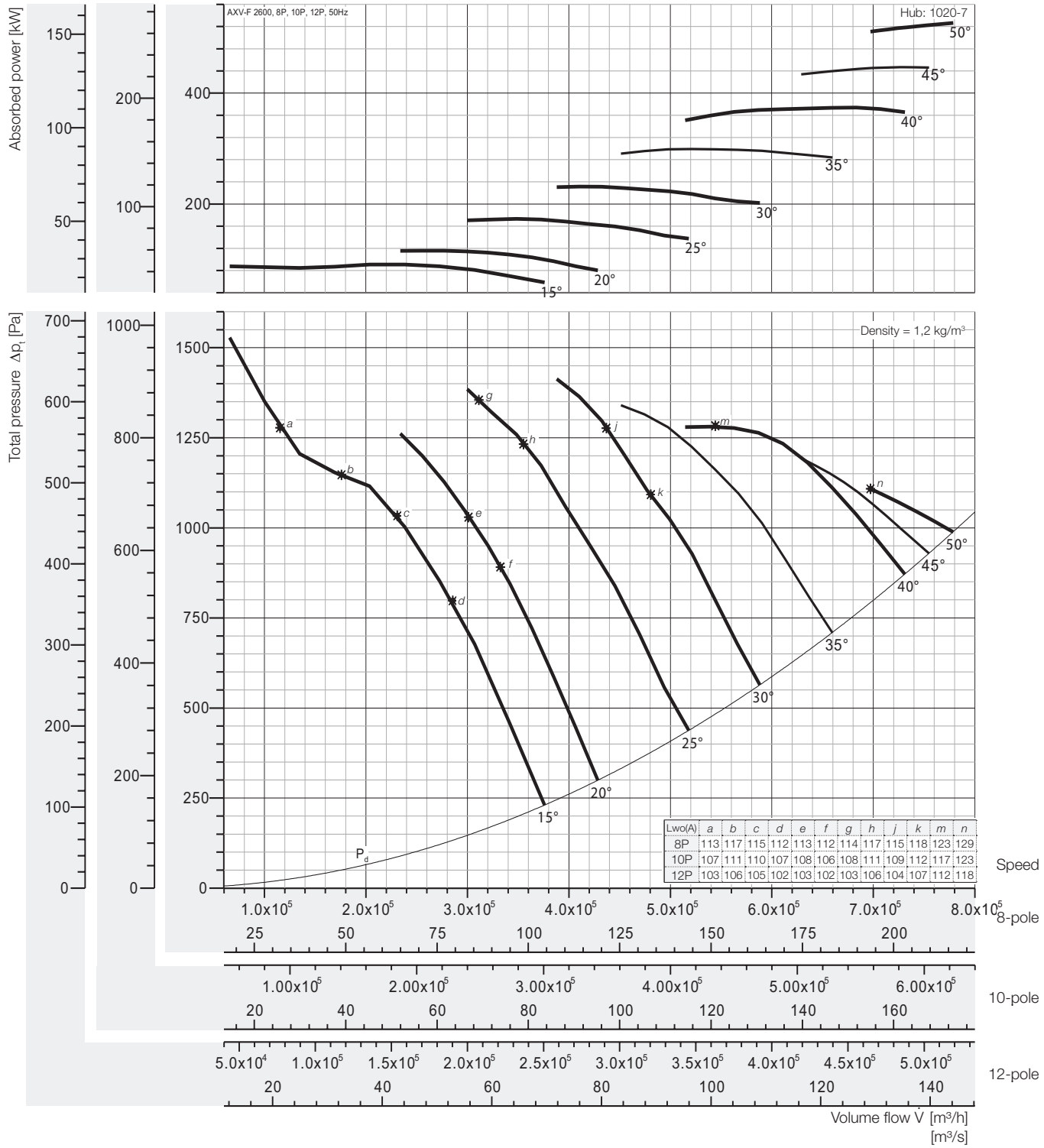
Peak absorbed power [kW]

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

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

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.



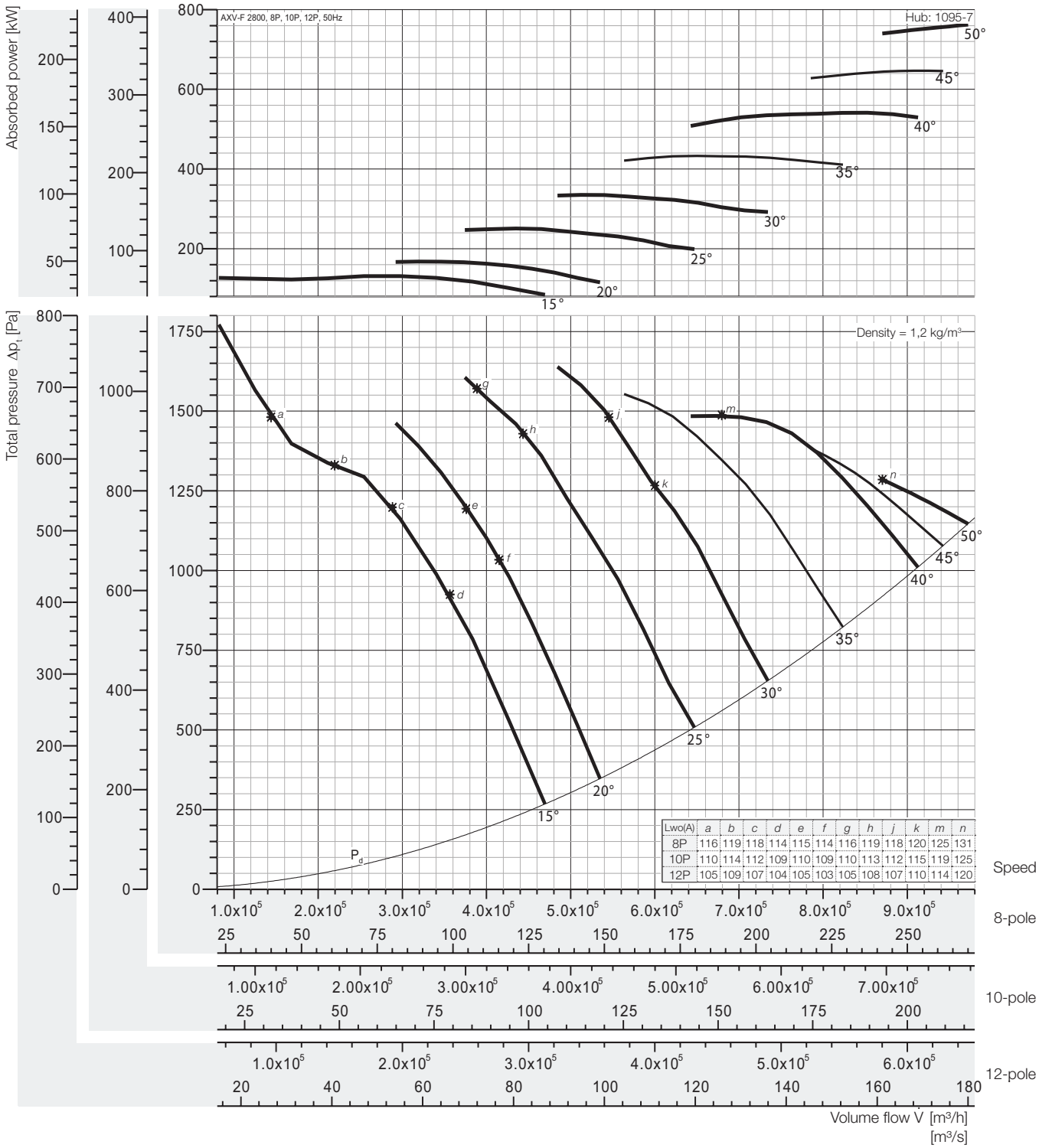
Peak absorbed power [kW]

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

N	Pitch angle [°]							
Poles	15	20	25	30	35	40	45	50
8P	90,76	115,8	173,3	231,4	299,1	373,9	446,6	526,7
motor	110	132	200	250	315	400	450	560
10P	46,47	59,29	88,72	118,50	153,13	191,4	228,7	269,6
motor	55	75	90	132	160	200	250	315
12P	26,89	34,31	51,34	68,58	88,62	110,8	132,3	156,0
motor	30	37	55	75	90	132	160	

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.



Lwo(A)	a	b	c	d	e	f	g	h	j	k	m	n
8P	116	119	118	114	115	114	116	119	118	120	125	131
10P	110	114	112	109	110	109	110	113	112	115	119	125
12P	105	109	107	104	105	103	105	108	107	110	114	120

Peak absorbed power [kW]

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

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

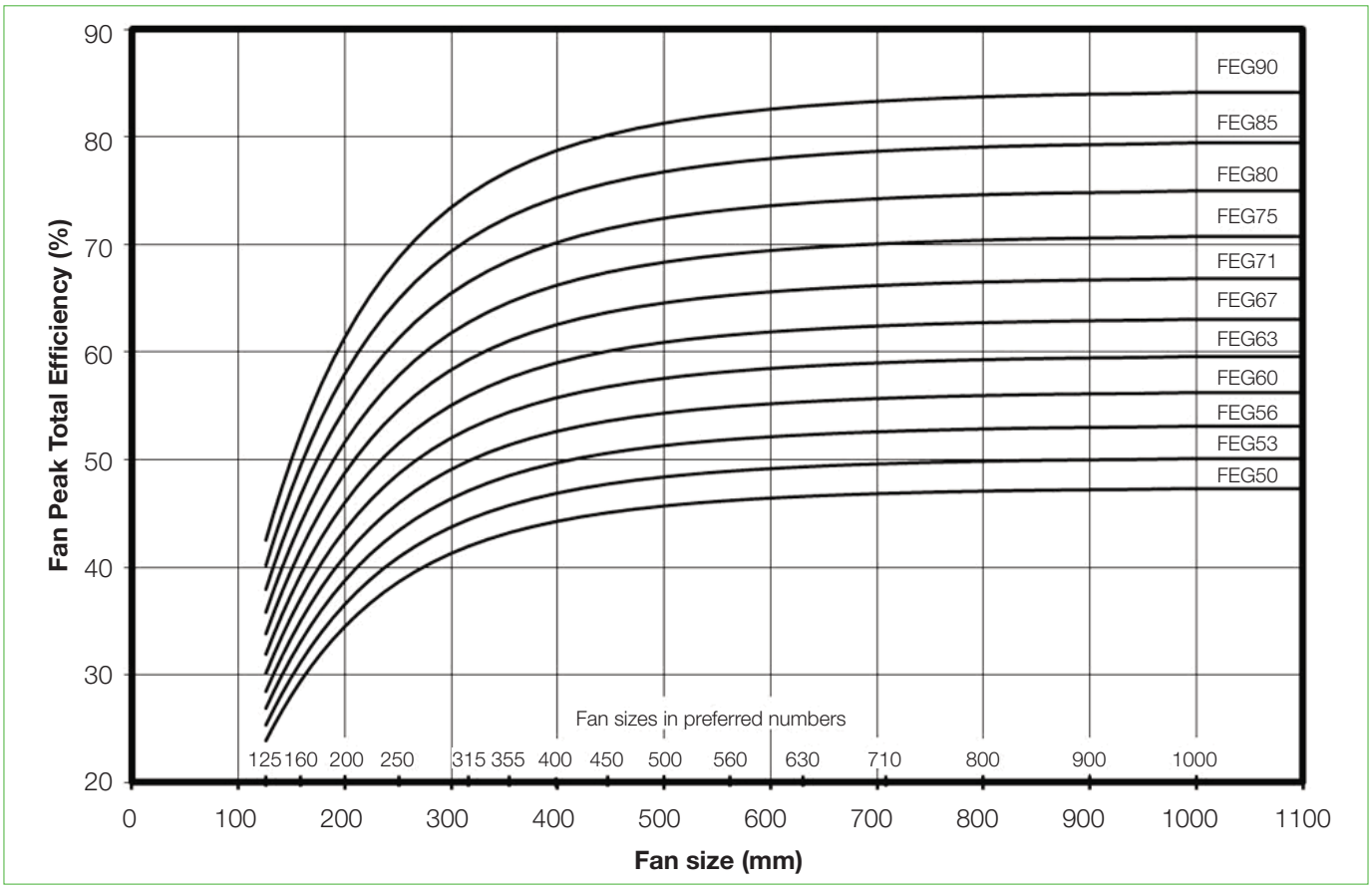
AMCA - FEG rating

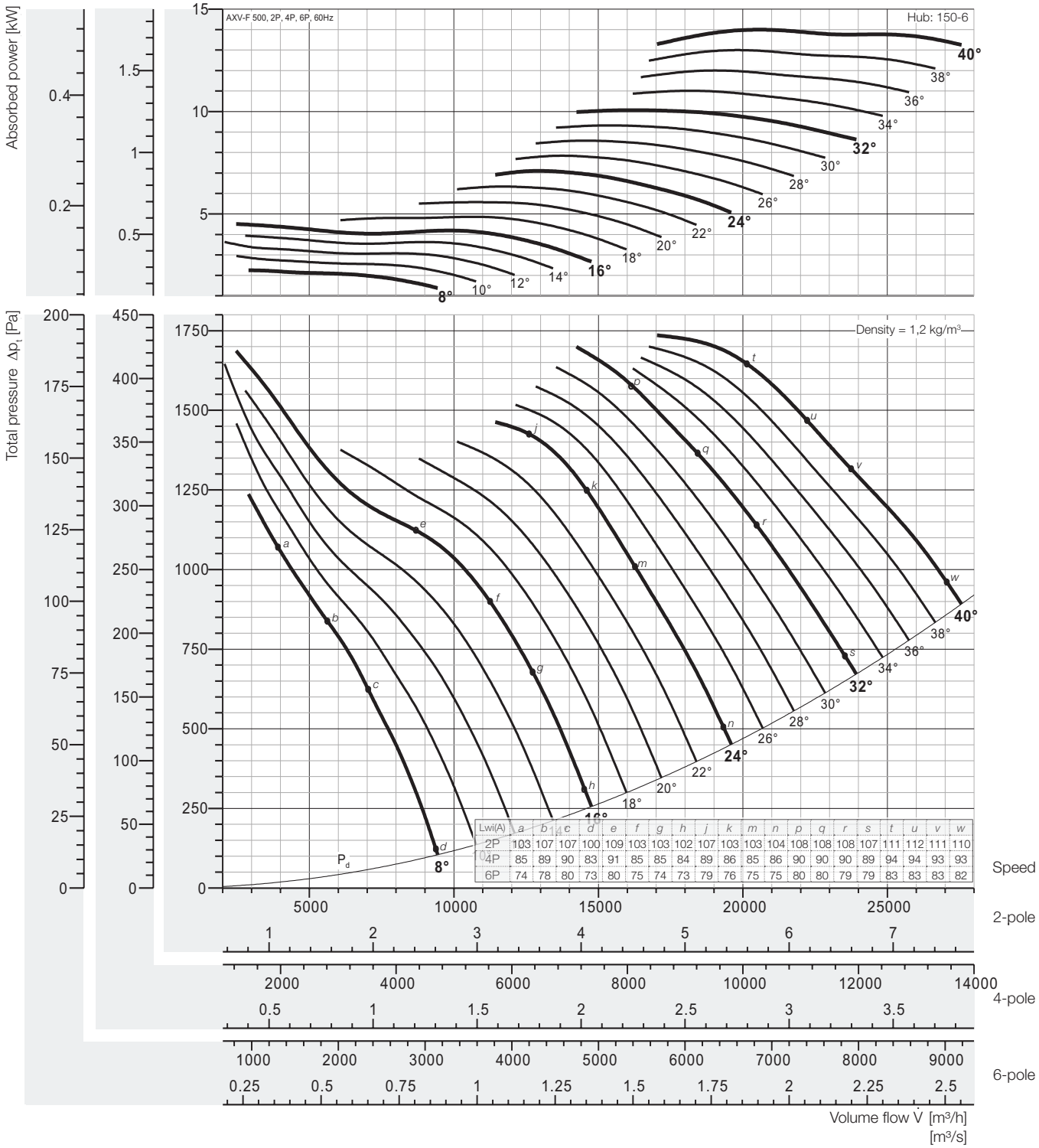
Fan Efficiency Grade: AXV-F

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 500 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 500	3600/1800/1200	0,1987	FEG 80	AXV-F 1400	1800/1200/900	1,5504	FEG 80
AXV-F 560	3600/1800/1200	0,2507	FEG 75	AXV-F 1600	1800/1200/900	2,0232	FEG 80
AXV-F 630	3600/1800/1200	0,3157	FEG 75	AXV-F 1800	1200/900/720	2,5588	FEG 80
AXV-F 710	3600/1800/1200	0,3970	FEG 75	AXV-F 2000	1200/900/720	3,1573	FEG 80
AXV-F 800	1800/1200/900	0,4989	FEG 75	AXV-F 2200	900/720/600	3,8186	FEG 80
AXV-F 900	1800/1200/900	0,6277	FEG 75	AXV-F 2400	900/720/600	4,5428	FEG 80
AXV-F 1000	1800/1200/900	0,7901	FEG 75	AXV-F 2500	900/720/600	4,9284	FEG 80
AXV-F 1120	1800/1200/900	0,9940	FEG 75	AXV-F 2600	900/720/600	5,3297	FEG 80
AXV-F 1250	1800/1200/900	1,2272	FEG 75	AXV-F 2800	900/720/600	6,1795	FEG 80





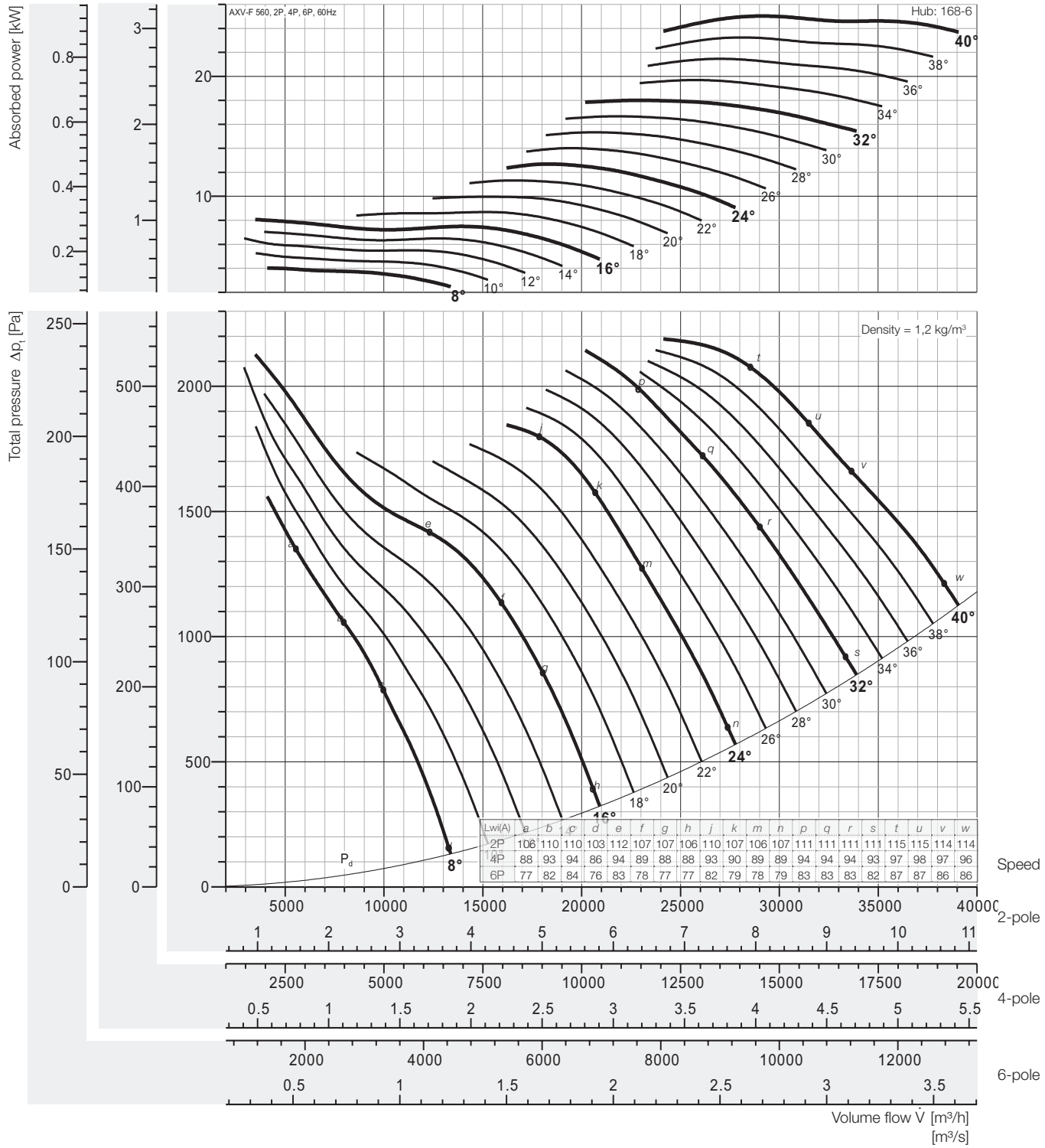
Peak absorbed power [kW]

2-pole = 3600 rpm; 4-pole = 1800 rpm; 6-pole = 1200 rpm;

N	Pitch angle [°]																
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
2P	2,251	2,943	3,634	3,936	4,511	4,859	5,572	6,333	7,099	7,839	8,580	9,322	10,06	11,01	12,00	13,00	14,00
motor	3,0		4,0		-*												
4P	0,281	0,368	0,454	0,492	0,564	0,607	0,696	0,792	0,887	0,980	1,072	1,165	1,258	1,376	1,500	1,625	1,749
motor	0,37		0,55		0,75			1,1				1,5				2,2	
6P	0,083	0,109	0,135	0,146	0,167	0,180	0,206	0,235	0,263	0,290	0,318	0,345	0,373	0,408	0,445	0,481	0,518
motor	0,25								0,37				0,55				

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



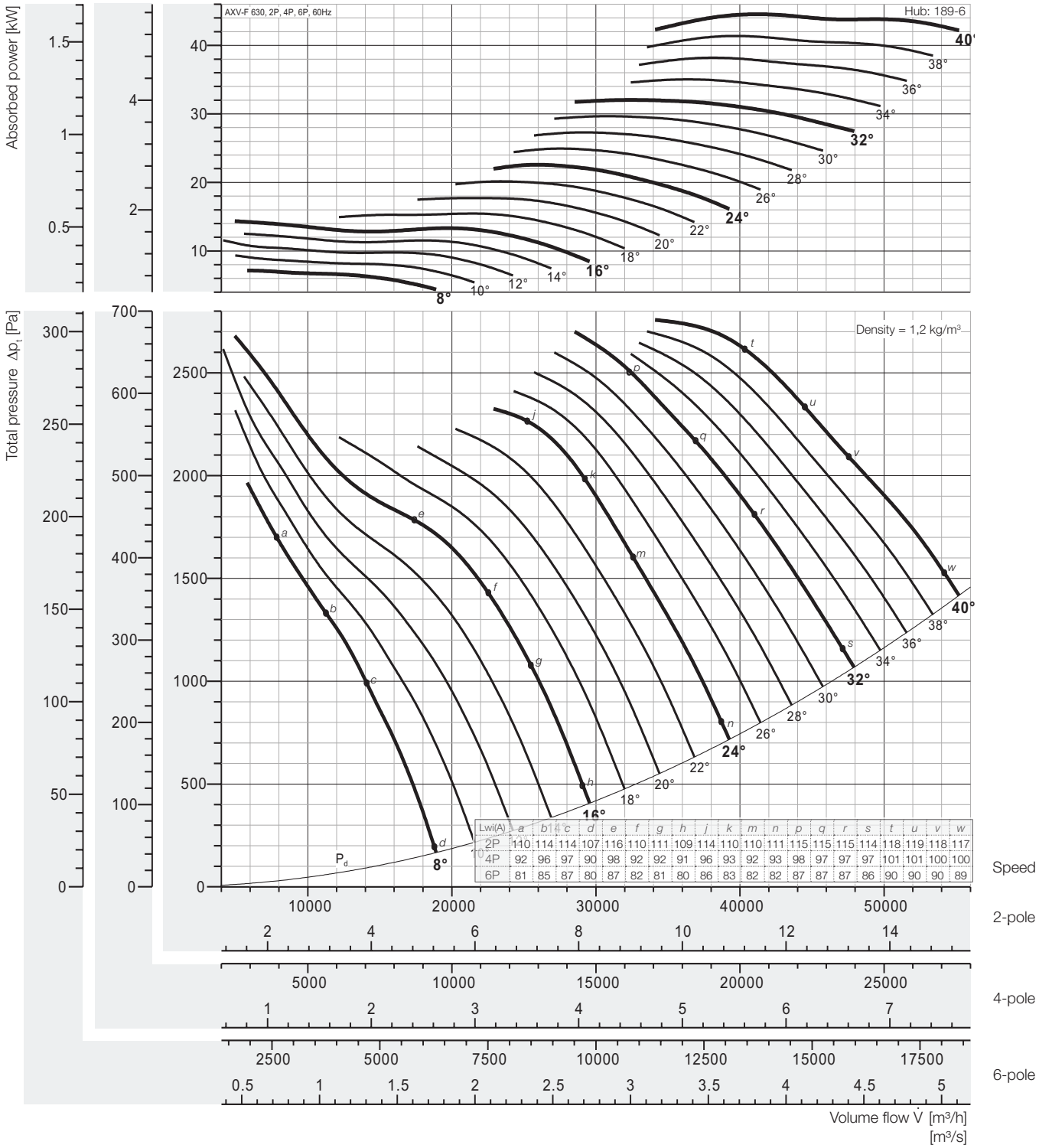
Peak absorbed power [kW]

2-pole = 3600 rpm; 4-pole = 1800 rpm; 6-pole = 1200 rpm;

N	Pitch angle [°]																	
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
2P	4,024	5,261	6,499	7,037	8,065	8,689	9,962	11,32	12,69	14,02	15,34	16,67	18,00	19,69	2,146	23,24	25,03	
motor	5,5		7,5		11			15			18,5			-*				
4P	0,503	0,658	0,812	0,880	1,008	1,086	1,245	1,415	1,587	1,752	1,918	2,084	2,250	2,461	2,682	2,905	3,128	
motor	0,55	0,75	1,1				1,5		2,2				3,0				4,0	
6P	0,149	0,195	0,241	0,261	0,299	0,322	0,369	0,419	0,470	0,519	0,568	0,617	0,667	0,729	0,795	0,861	0,927	
motor	0,25			0,37				0,55			0,75				1,1			

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



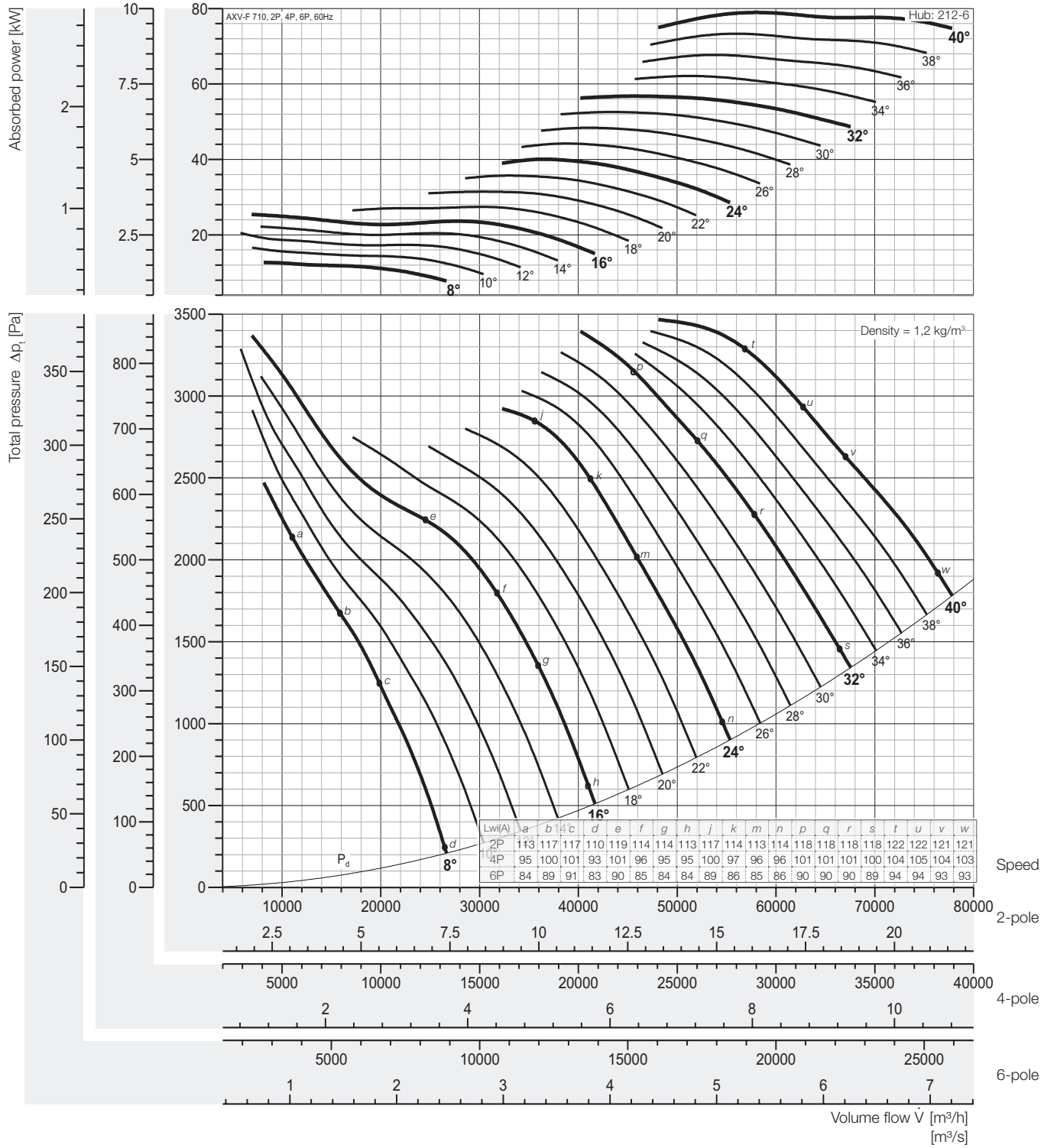
Peak absorbed power [kW]

2-pole = 3600 rpm; 4-pole = 1800 rpm; 6-pole = 1200 rpm;

N	Pitch angle [°]																	
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
2P	7,163	9,364	11,57	12,53	14,36	15,46	17,73	20,15	22,59	24,95	27,31	29,67	32,03	35,04	38,19	41,36	44,54	
motor	7,5	11	15			18,5		-*										
4P	0,895	1,171	1,446	1,566	1,794	1,933	2,216	2,519	2,824	3,118	3,413	3,708	4,004	4,038	4,774	5,170	5,568	
motor	1,1	1,5		2,2			3,0			4,0			5,5				7,5	
6P	0,265	0,347	0,428	0,464	0,532	0,573	0,657	0,746	0,837	0,924	1,011	1,099	1,186	1,298	1,415	1,532	1,650	
motor	0,37		0,55			0,75			1,1				1,5			2,2		

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



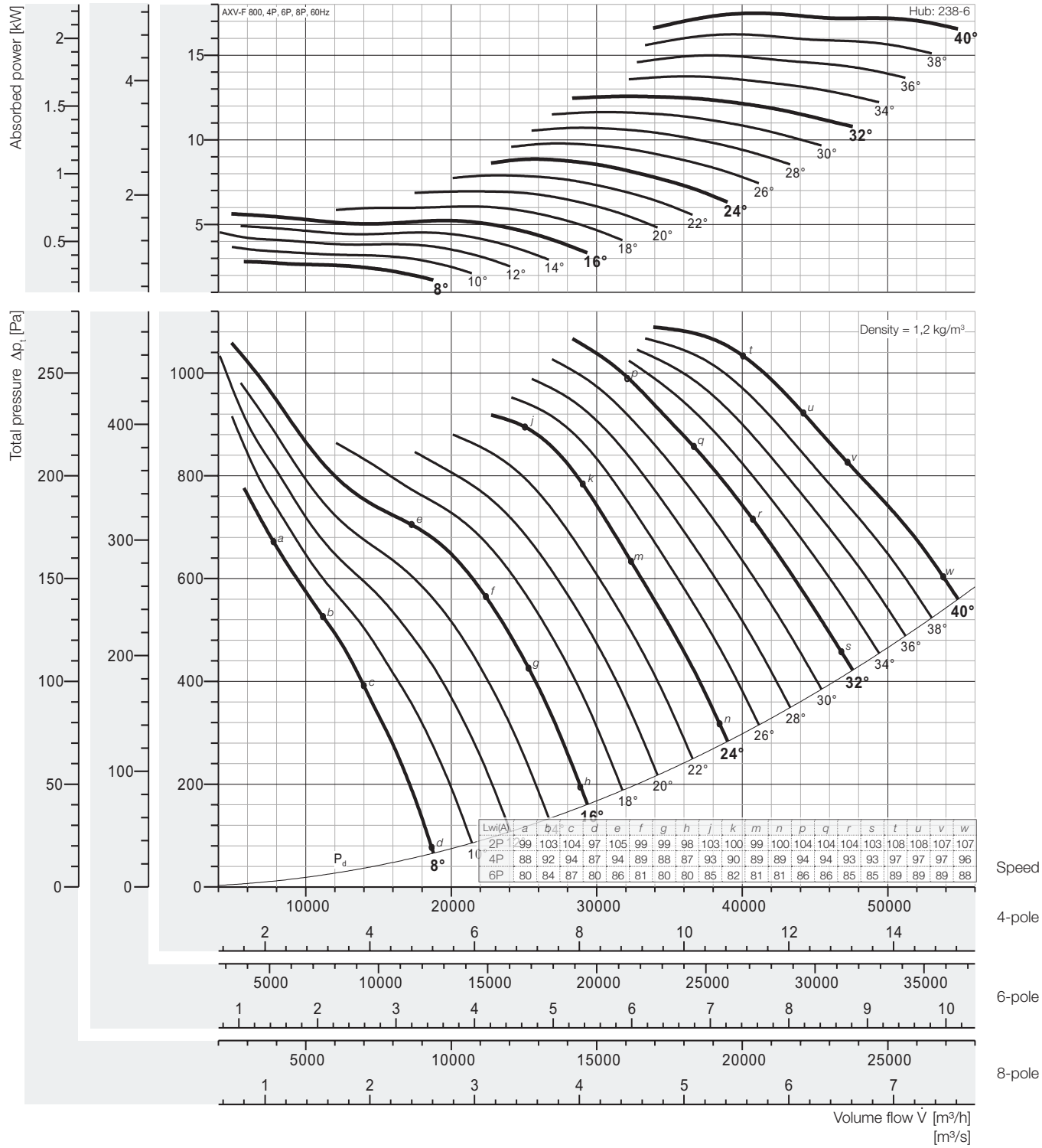
Peak absorbed power [kW]

2-pole = 3600 rpm; 4-pole = 1800 rpm; 6-pole = 1200 rpm;

N	Pitch angle [°]																
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
2P	12,70	16,60	20,50	22,20	25,45	27,41	31,43	35,72	40,05	44,,22	48,40	52,59	56,78	62,12	67,71	73,32	78,95
motor	15	18,5	22	-*													
4P	1,587	2,075	2,563	2,775	3,181	3,427	3,929	4,465	5,006	5,527	6,050	6,574	7,098	7,765	8,463	9,165	9,87
motor	2,2		3,0		4,0			5,5		7,5				11			
6P	0,470	0,615	0,759	0,822	0,942	1,015	1,164	1,323	1,483	1,638	1,793	1,948	2,103	2,301	2,508	2,716	2,92
motor	0,55	0,75	1,1				1,5			2,2				3,0			

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



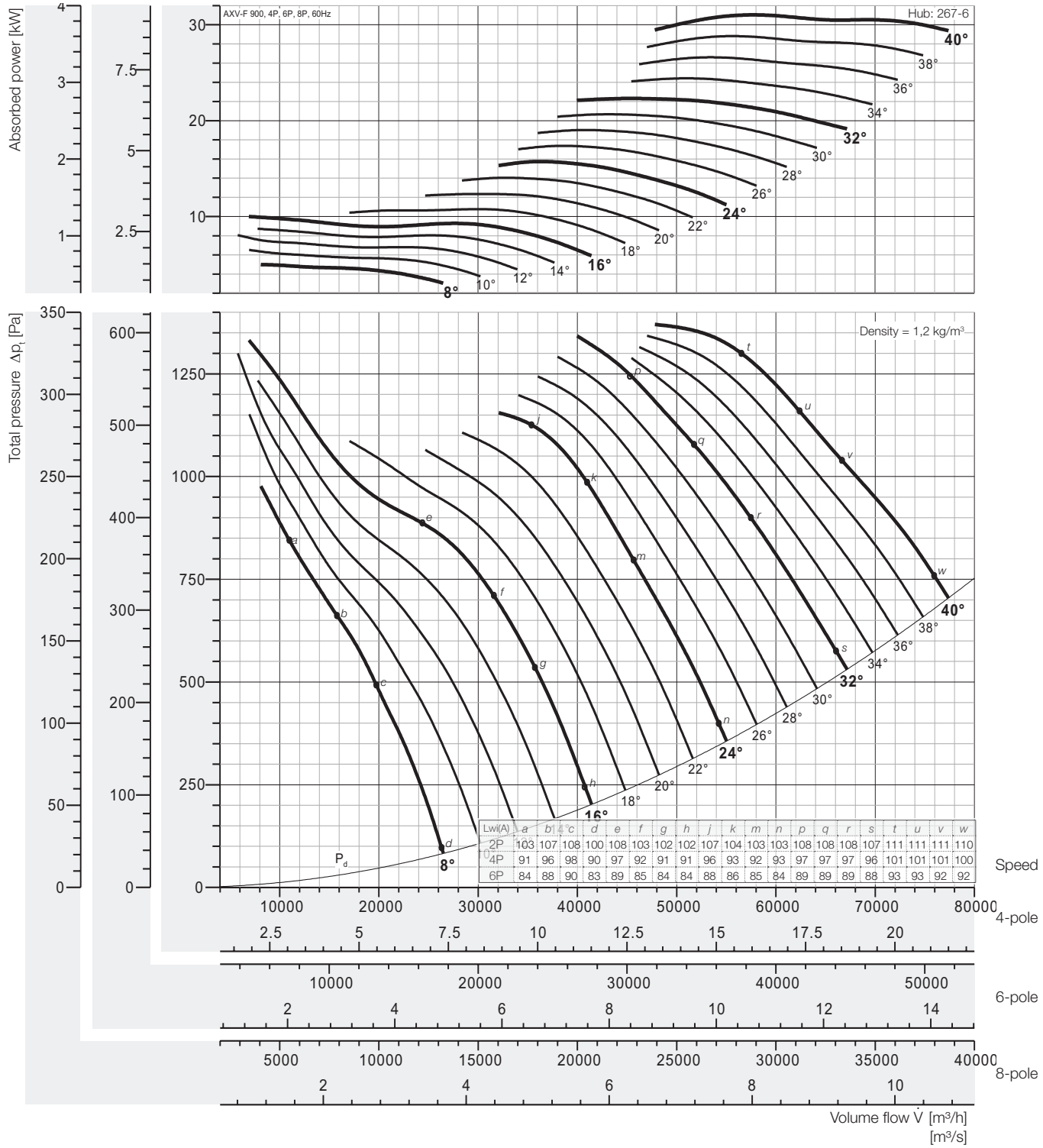
Peak absorbed power [kW]

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

N	Pitch angle [°]																
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
4P	2,810	3,674	4,538	4,915	5,633	6,068	6,957	7,908	8,864	9,788	10,71	11,64	12,57	13,75	14,99	16,23	17,48
motor	3,0	4,0	5,5		7,5			11				15				18,5	
6P	0,833	1,089	1,345	1,456	1,669	1,798	2,061	2,343	2,626	2,900	3,175	3,449	3,724	4,074	4,441	4,809	5,178
motor	1,1		1,5		2,2			3,0			4,0			5,5			
8P	0,351	0,459	0,567	0,614	0,704	0,759	0,870	0,988	1,108	1,224	1,339	1,455	1,571	1,719	1,873	2,029	2,185
motor	0,37	0,55	0,75			1,1			1,5				2,2				

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Lwi(A)	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w
2P	103	107	108	100	108	103	102	102	107	104	103	103	108	108	108	107	111	111	111	110
4P	91	96	98	90	97	92	91	91	96	93	92	93	97	97	97	96	101	101	101	100
6P	84	88	90	83	89	85	84	84	88	86	85	84	89	89	89	88	93	93	92	92

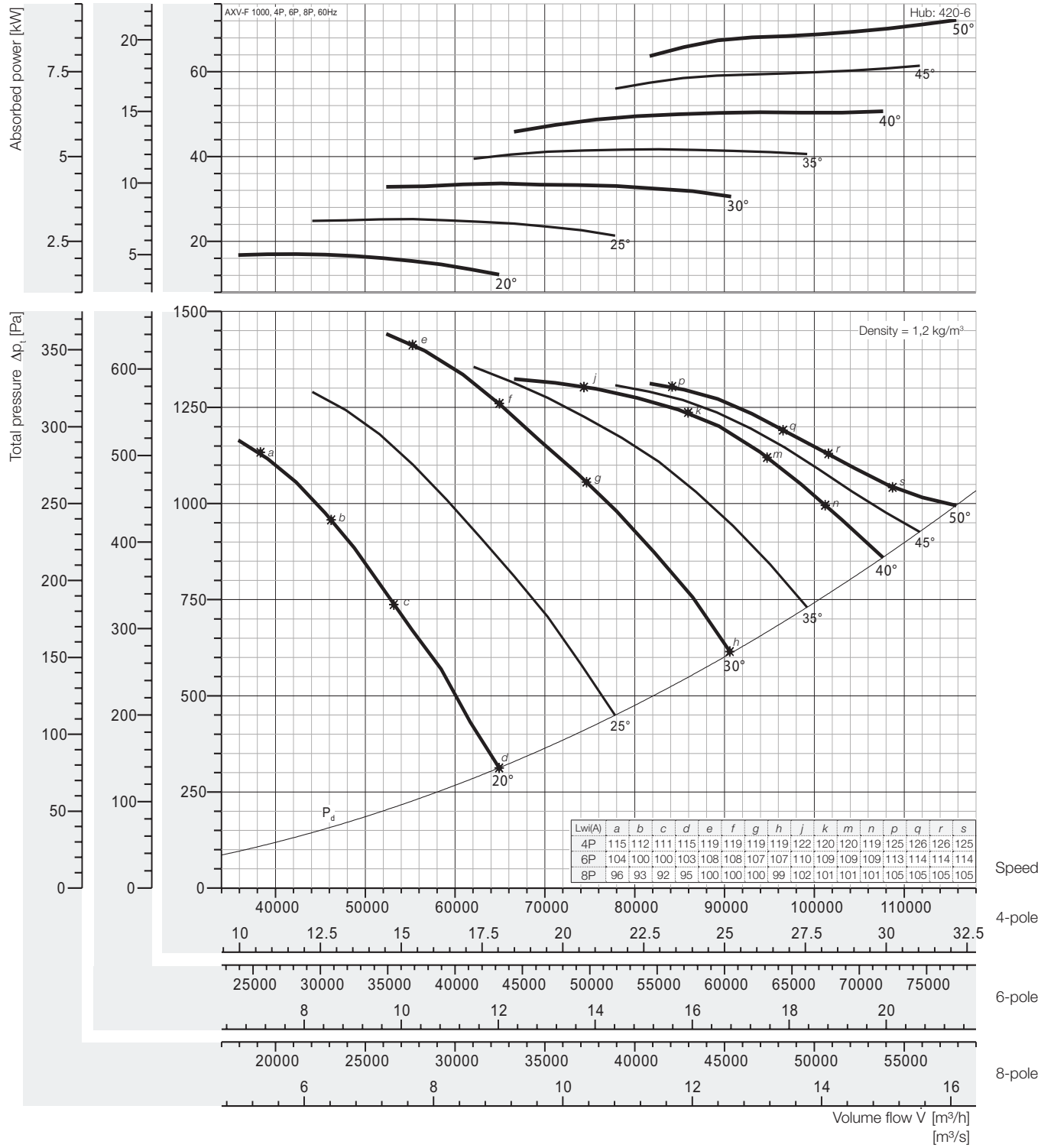
Peak absorbed power [kW]

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

N	Pitch angle [°]																
Poles	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
4P	4,990	6,524	8,058	8,726	10,00	10,77	12,35	14,04	15,74	17,38	19,02	20,67	22,32	24,41	26,61	28,82	31,03
motor	5,5	7,5	11				15		18,5		22		30				37
6P	1,478	1,933	2,388	2,585	2,963	3,192	3,660	4,160	4,663	5,149	5,636	6,124	6,612	7,234	7,884	8,538	9,194
motor	1,5	2,2	3,0			4,0		5,5			7,5				11		
8P	0,624	0,815	1,007	1,091	1,250	1,347	1,544	1,755	1,967	2,172	2,378	2,584	2,789	3,052	3,326	3,602	3,879
motor	0,75	1,1			1,5		2,2				3,0			4,0			

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



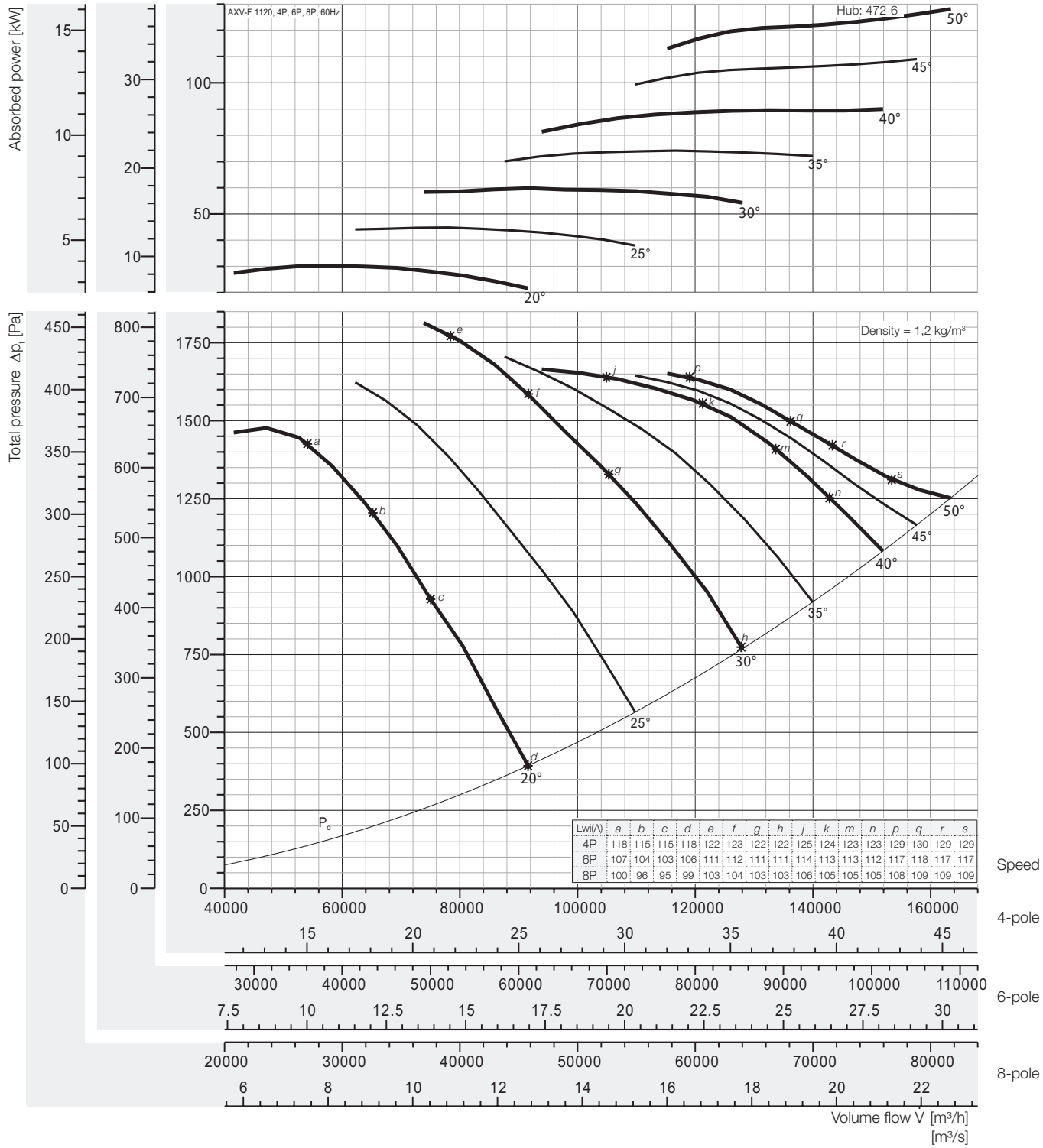
Peak absorbed power [kW]

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

N	Pitch angle [°]						
Poles	20	25	30	35	40	45	50
4P	17,03	25,25	33,68	41,75	50,67	61,43	72,19
motor	18,5	30	37	45	55	75	
6P	5,045	7,482	9,980	12,37	15,01	18,20	21,39
motor	5,5	7,5	11	15	18,5		22
8P	2,128	3,156	4,210	5,219	6,333	7,678	9,023
motor	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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



Lwi(A)	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s
4P	118	115	115	118	122	123	122	122	125	124	123	123	129	130	129	129
6P	107	104	103	106	111	112	111	111	114	113	113	112	117	118	117	117
8P	100	96	95	99	103	104	103	103	106	105	105	105	108	109	109	109

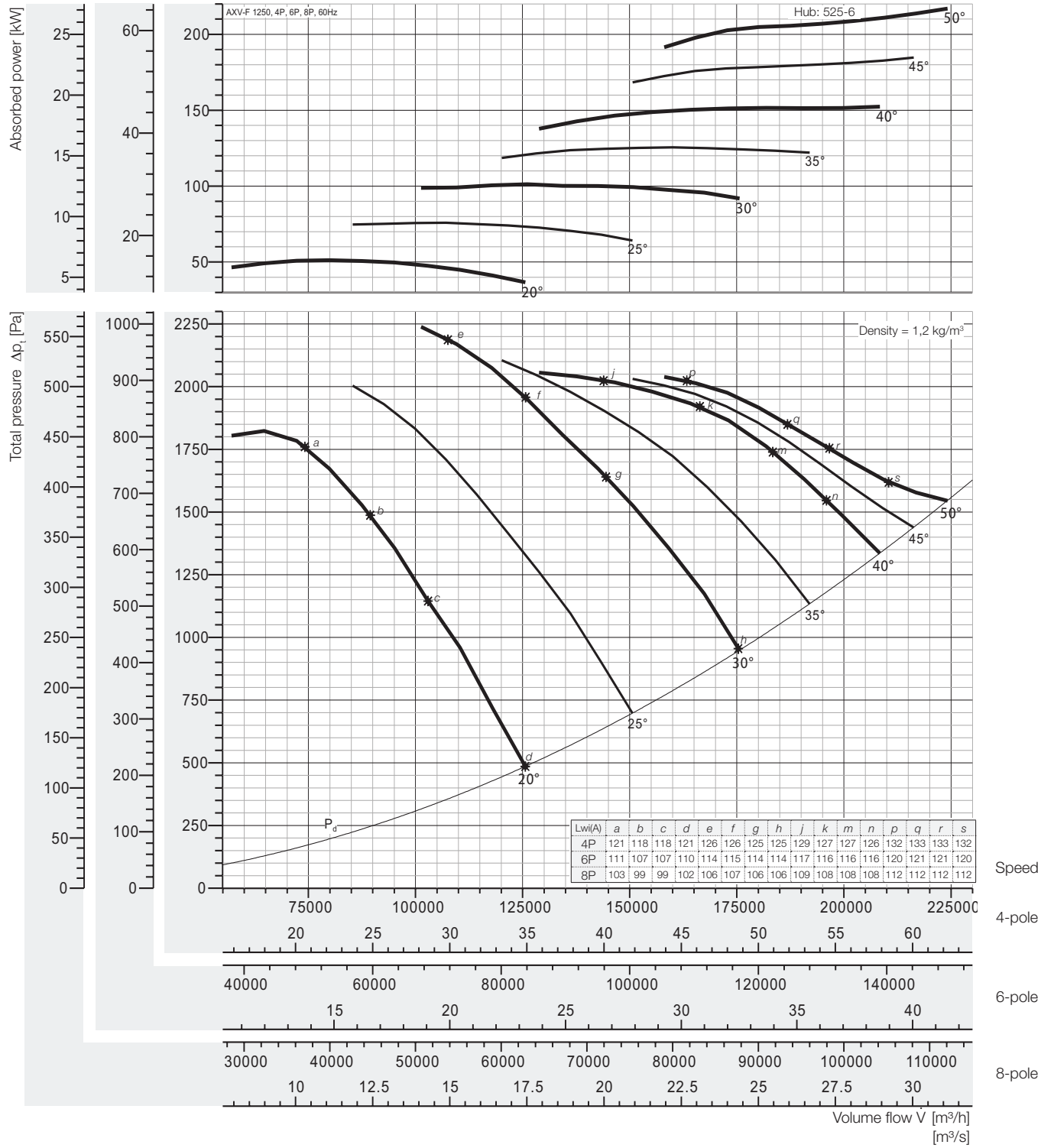
Peak absorbed power [kW]

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

N	Pitch angle [°]						
Poles	20	25	30	35	40	45	50
4P	30,25	44,83	59,80	74,12	89,94	109,0	128,1
motor	37	45	75		90	110	132
6P	8,964	13,28	17,72	21,96	26,65	32,31	37,97
motor	11	15	18,5	22	30	37	45
8P	3,782	5,603	7,475	9,265	11,24	13,63	16,02
motor	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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



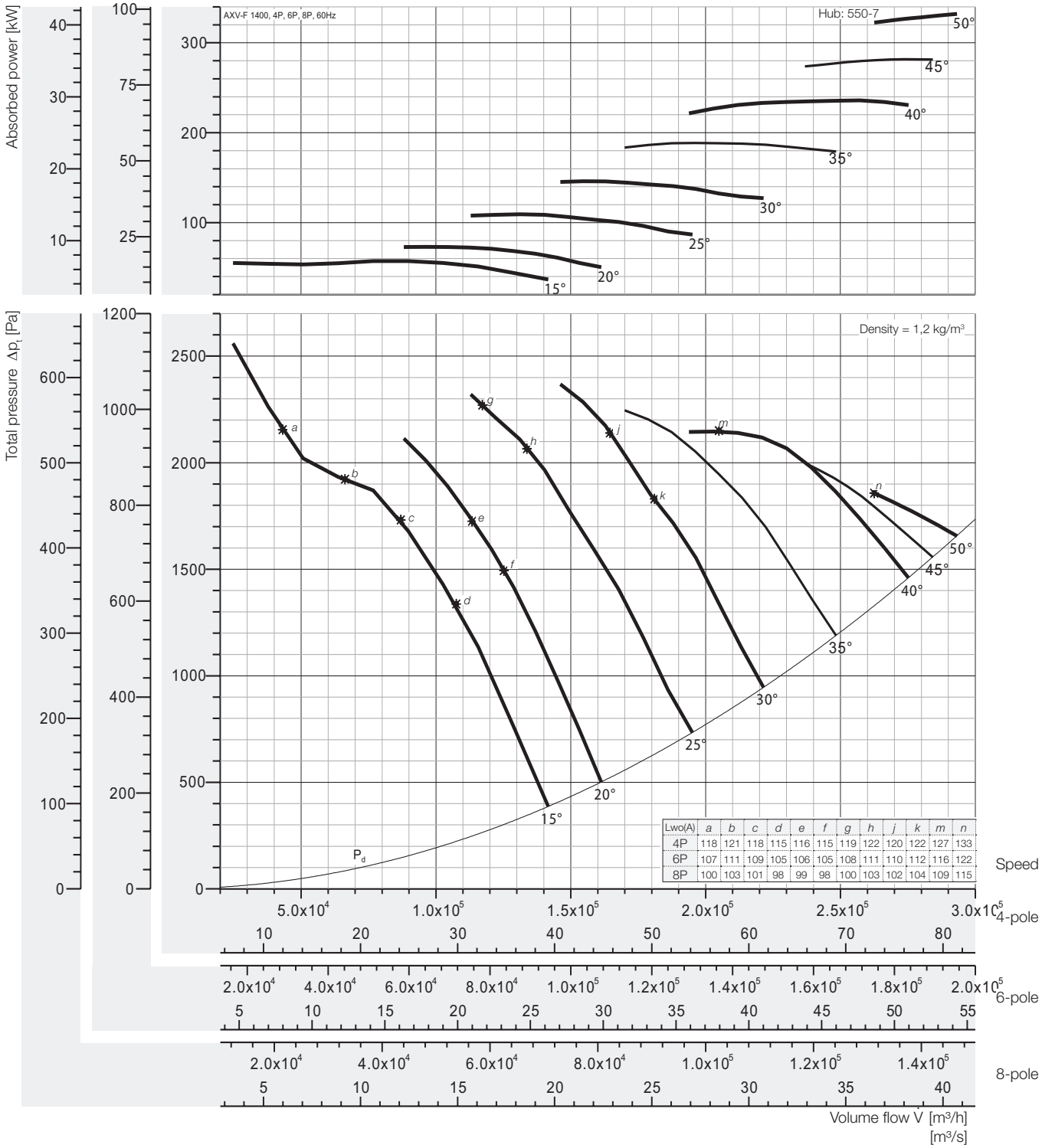
Peak absorbed power [kW]

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

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

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 LwiA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.



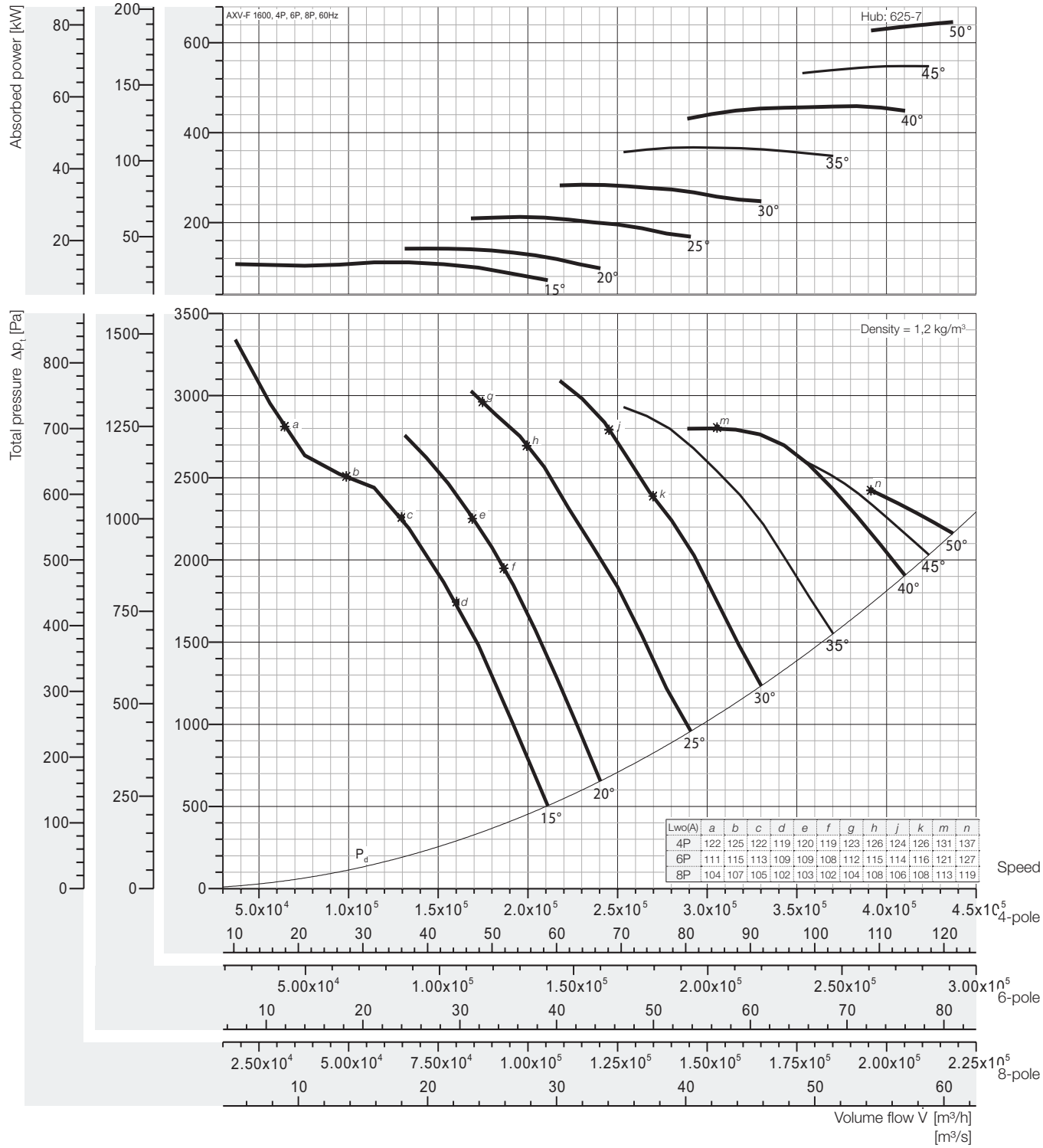
Peak absorbed power [kW]

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

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



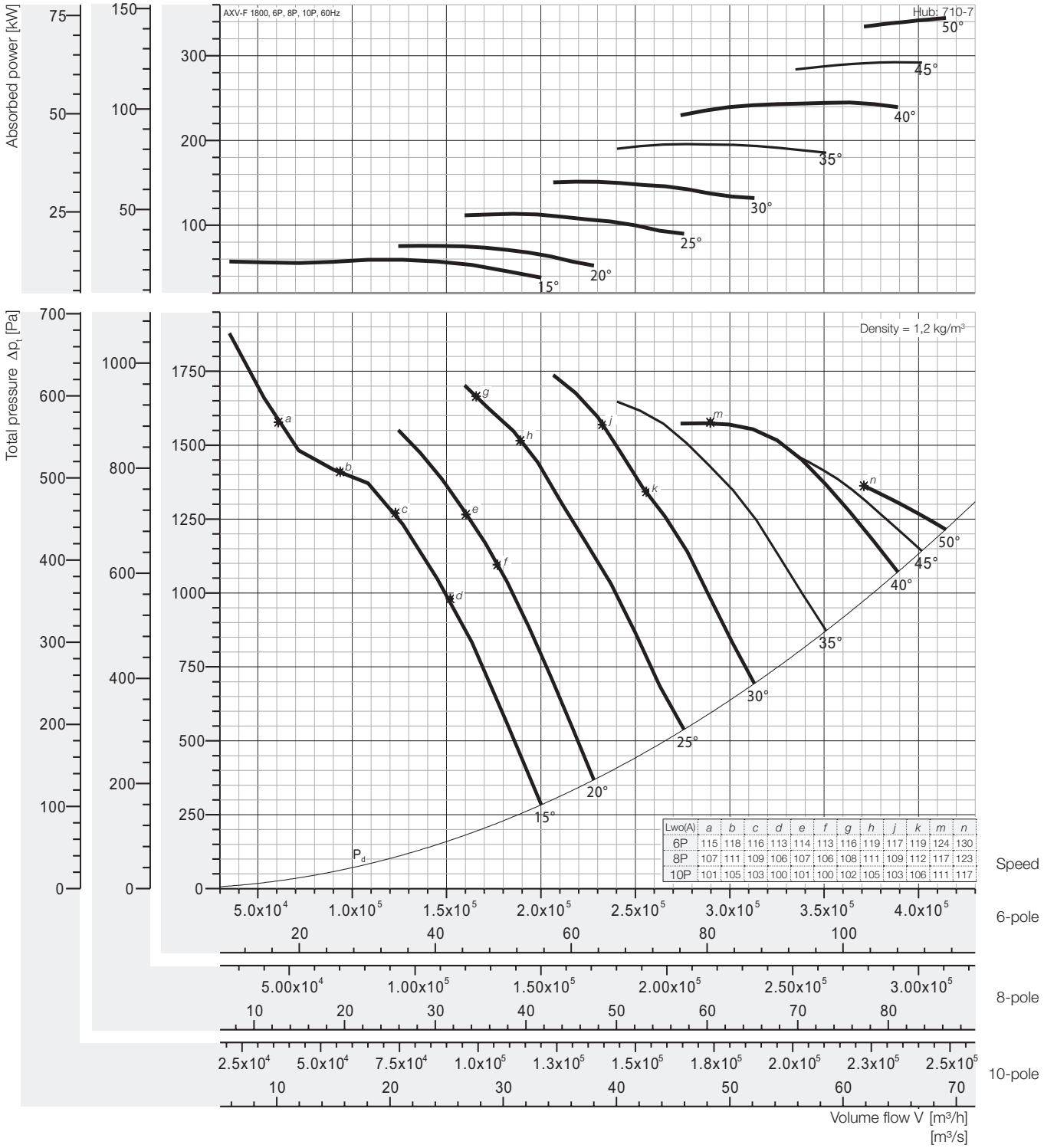
Peak absorbed power [kW]

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

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



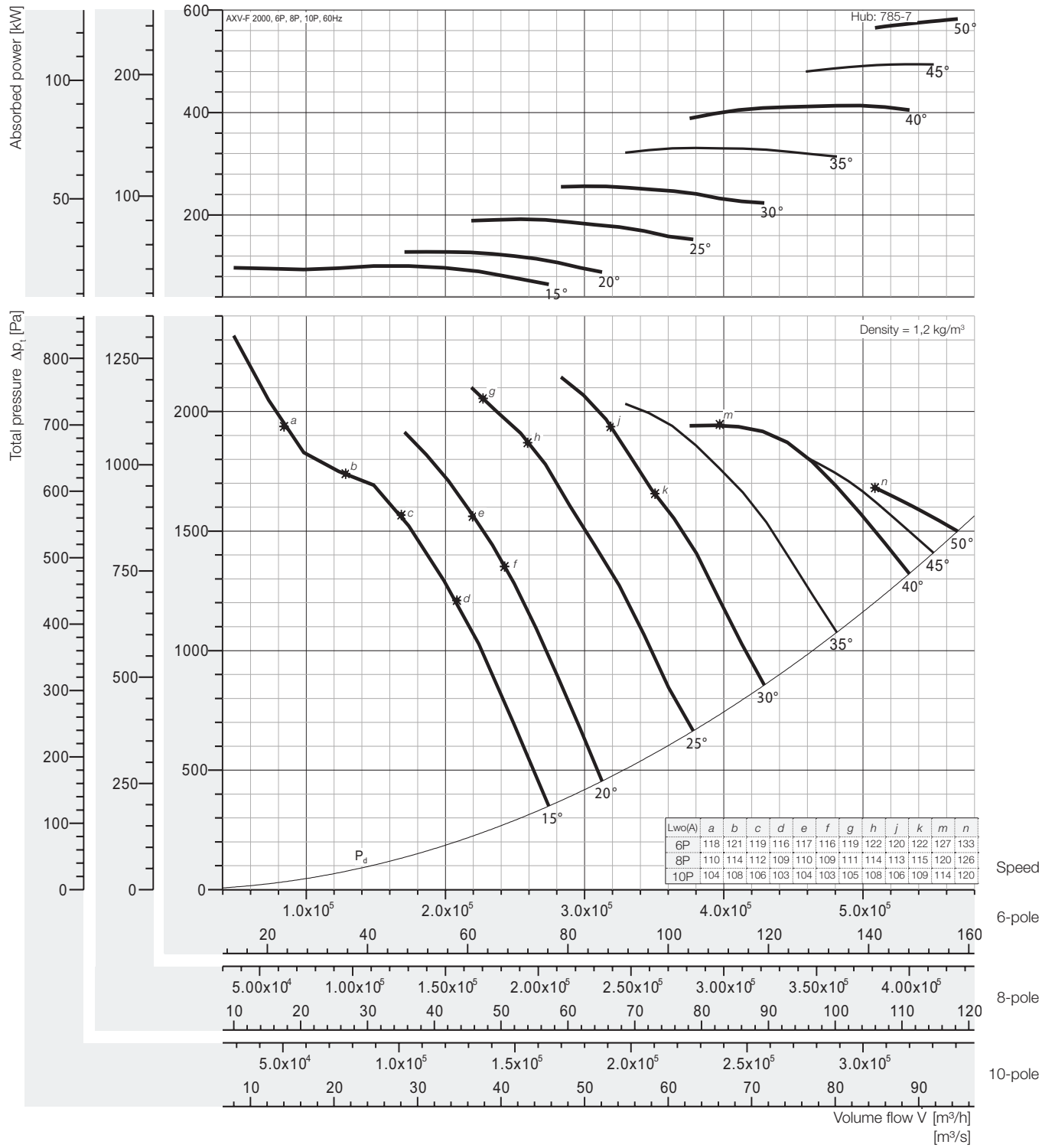
Peak absorbed power [kW]

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

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



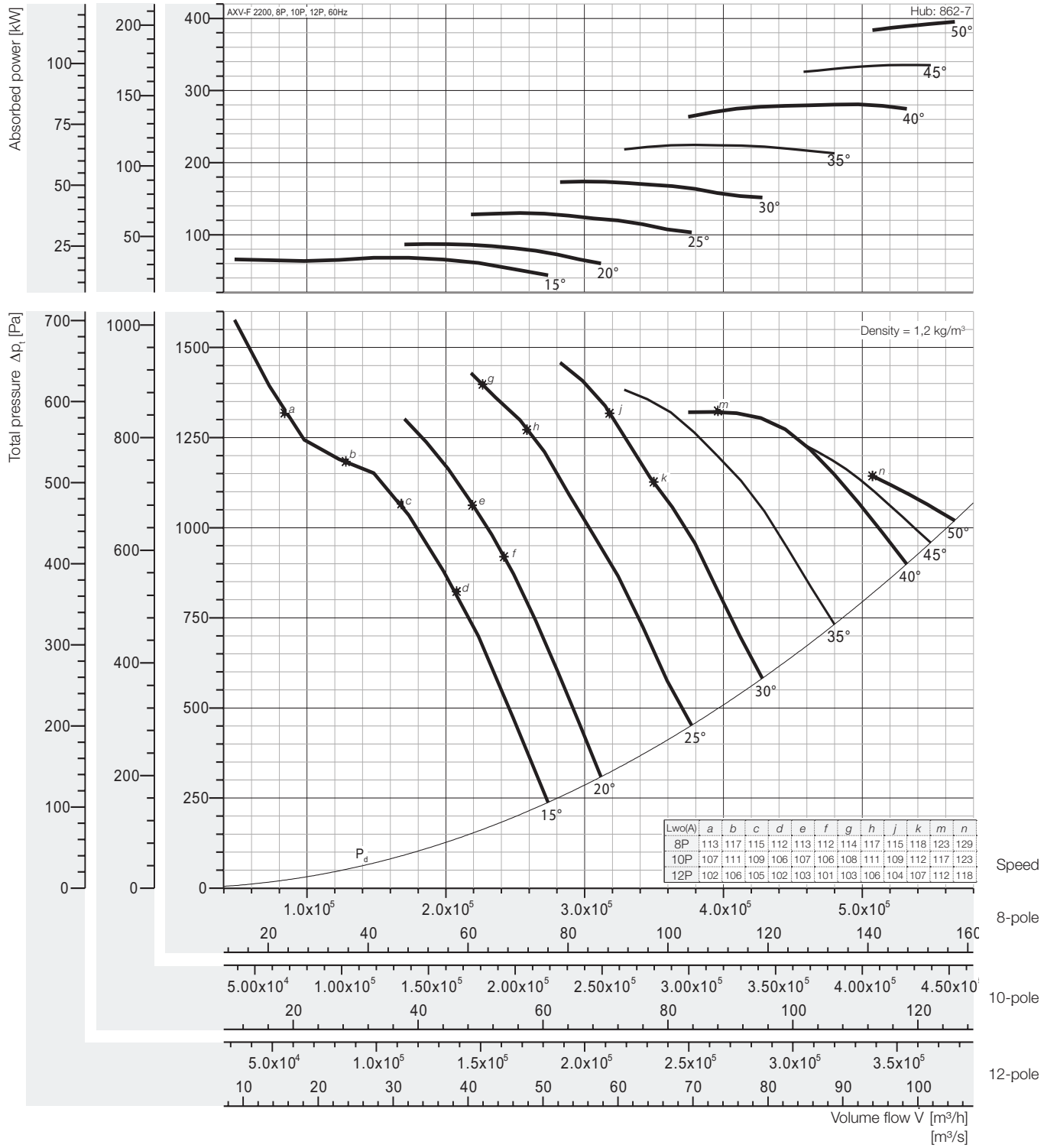
Peak absorbed power [kW]

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

N	Pitch angle [°]							
Poles	15	20	25	30	35	40	45	50
6P	100,4	128,1	191,7	256,1	330,9	413,6	494,1	582,7
motor	110	132	200	315	355	450	500	-
8P	42,36	54,05	80,88	108,0	139,6	174,5	208,4	245,8
motor	45	55	90	110	160	200	250	
10P	21,69	27,67	41,41	55,31	71,47	89,35	106,7	125,9
motor	22	30	45	75		90	110	132

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.



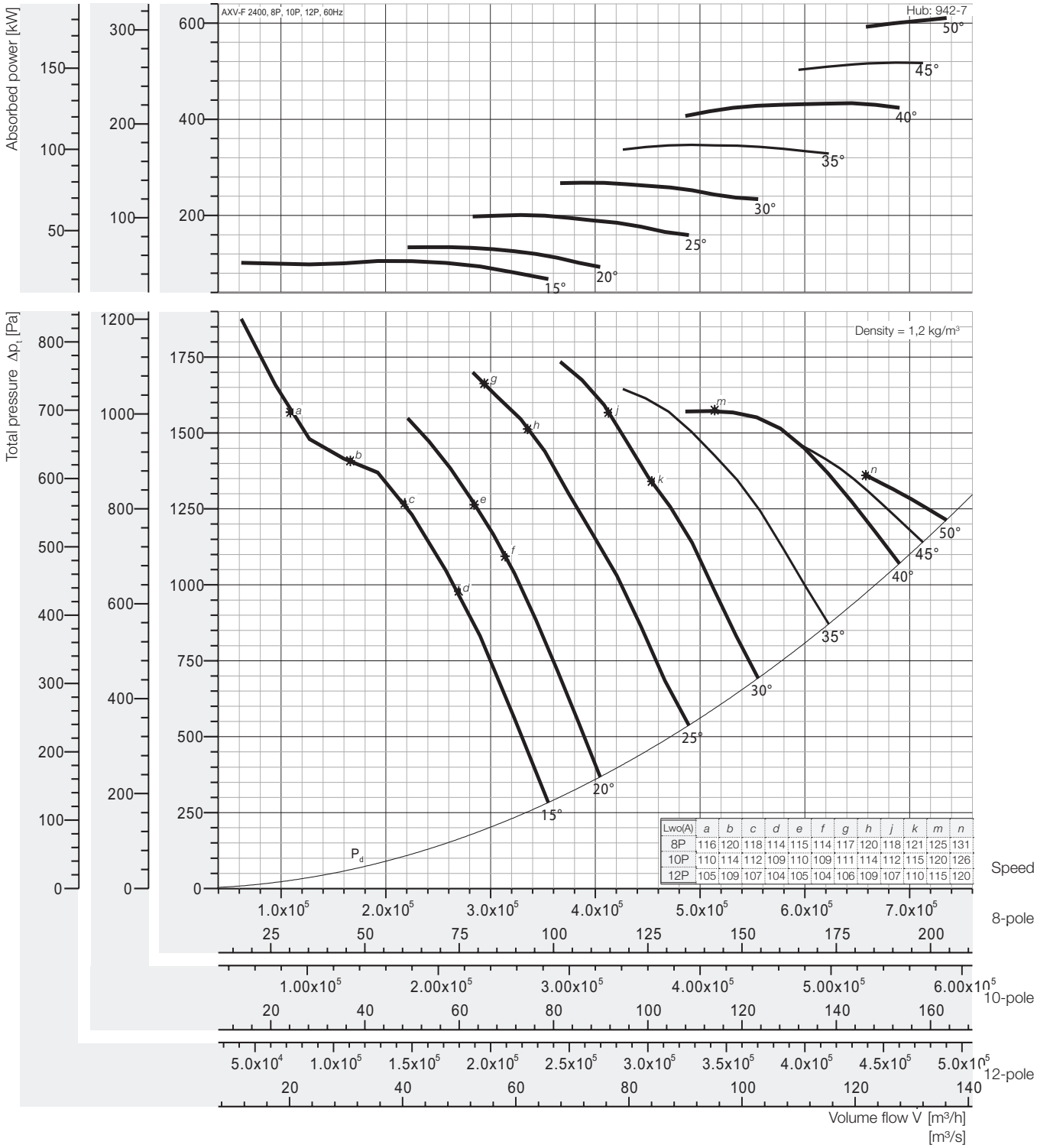
Peak absorbed power [kW]

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

N	Pitch angle [°]							
Poles	15	20	25	30	35	40	45	50
8P	68,45	86,95	130,1	173,8	224,6	280,7	335,3	395,4
motor	75	90	132	200	250	315	355	400
10P	34,89	44,52	66,61	88,97	115,0	143,7	171,7	202,5
motor	37	45	75	90	132	160	200	250
12P	20,19	25,76	38,55	51,49	66,54	83,18	99,36	117,2
motor	22	30	45	55	75	90	110	132

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.



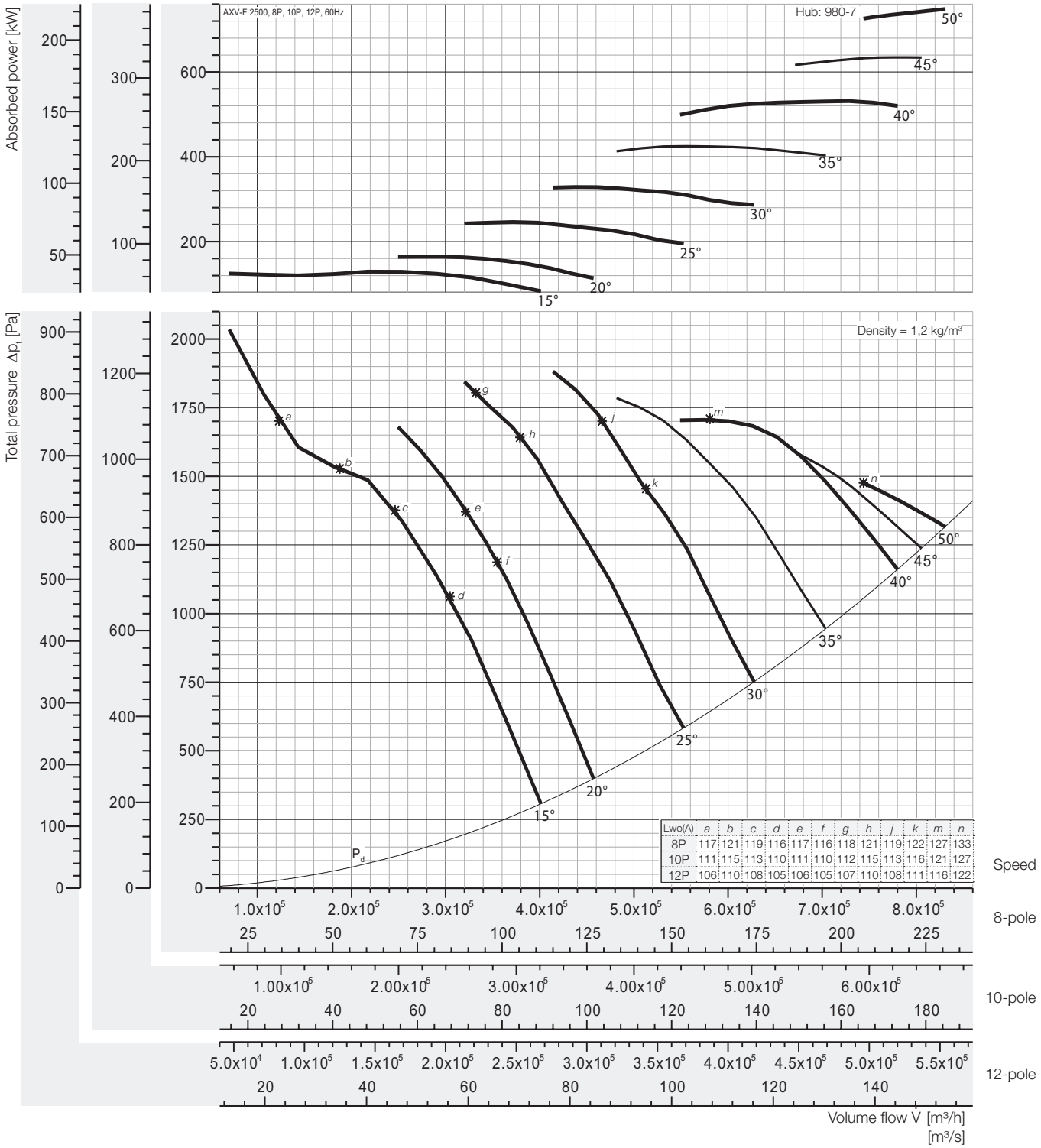
Peak absorbed power [kW]

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

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

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.



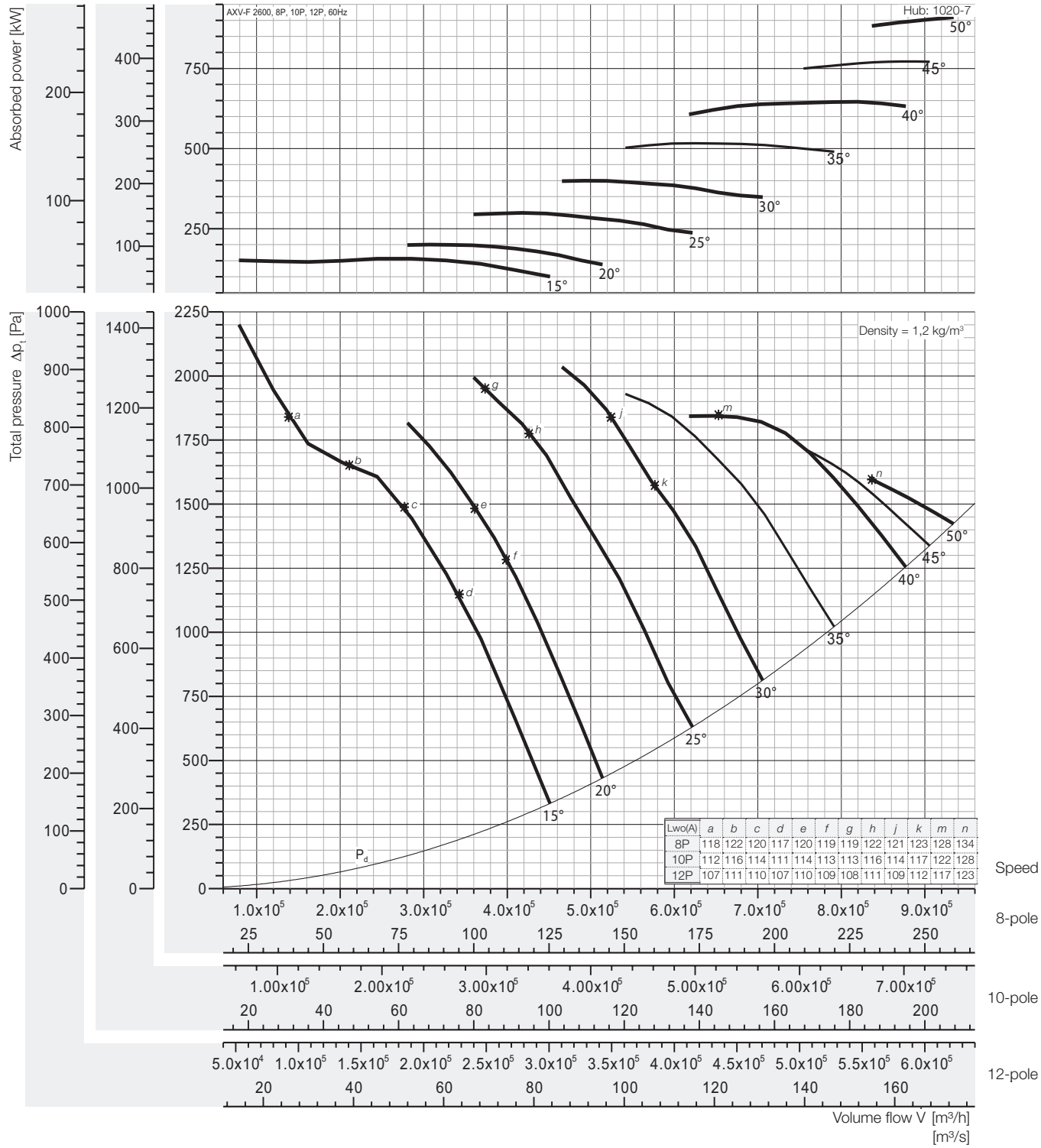
Peak absorbed power [kW]

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

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



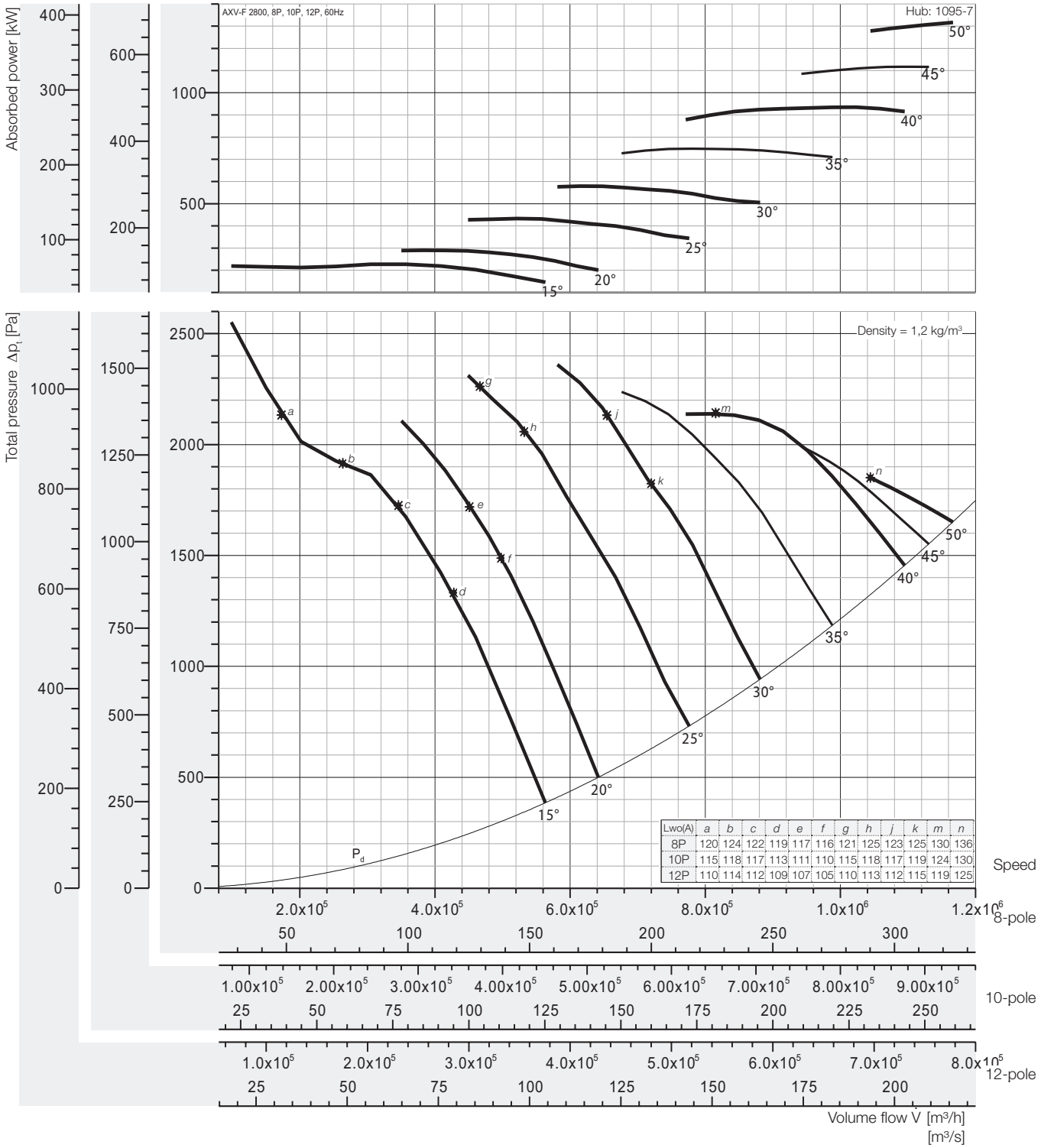
Peak absorbed power [kW]

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

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



Peak absorbed power [kW]

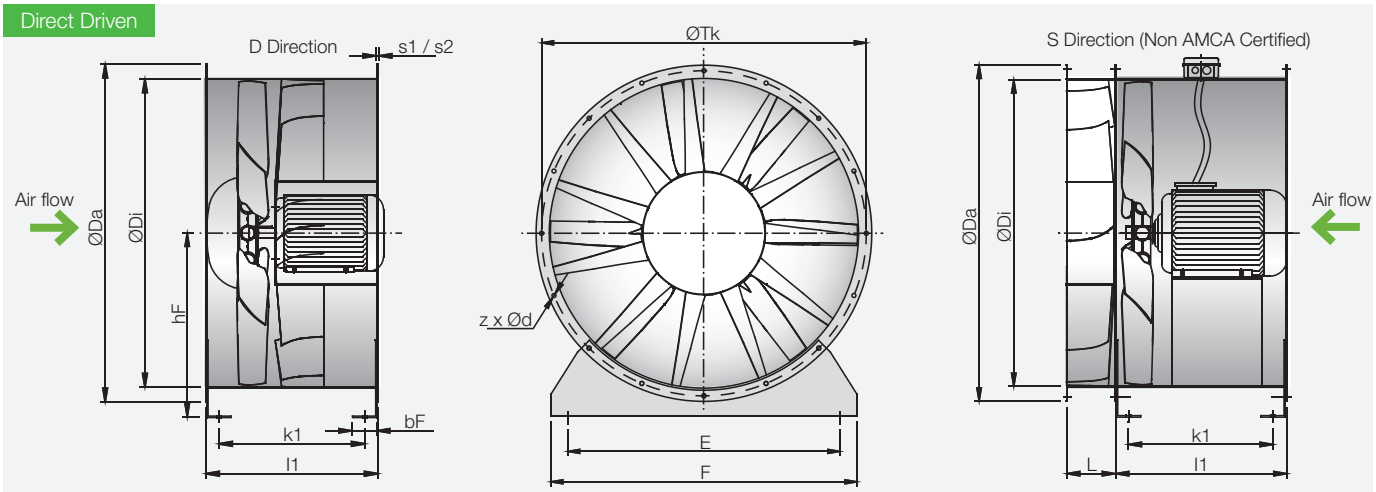
8-pole = 900 rpm; 10-pole = 720 rpm; 12-pole = 600 rpm;

N	Pitch angle [°]							
Poles	15	20	25	30	35	40	45	50
8P	227,0	289,6	433,4	578,9	748,1	935,2	1117	1317
motor	250	315	450	630	-	-	-	-
10P	116,2	148,3	221,9	296,4	383,0	478,8	572,0	674,5
motor	132	160	250	315	400	500	630	710
12P	67,26	85,82	128,4	171,5	221,7	277,1	331,0	390,3
motor	75	90	132	200	250	315	355	400

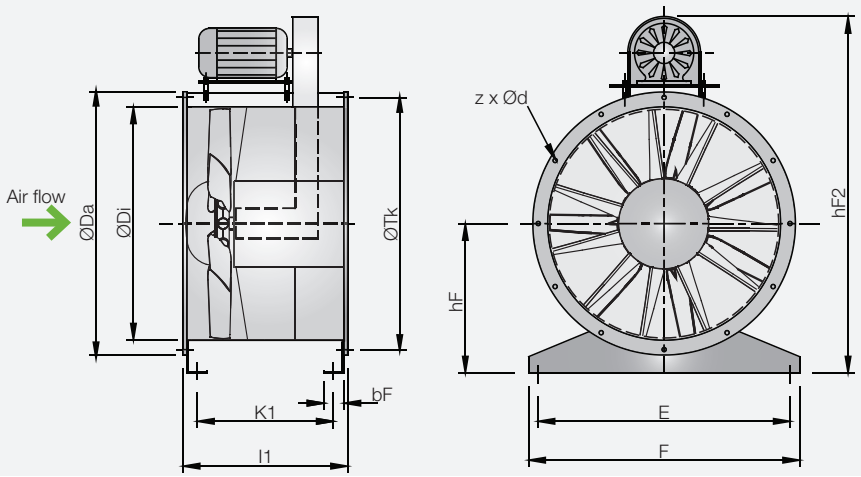
Fan test laboratory AMCA 210/99 Fig.15, Test Chamber. Performance certified is for installation type A - Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories-belt cover, pulley & belt).Power rating (kW) does not include transmission losses.

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.

Direct Driven



Belt Driven



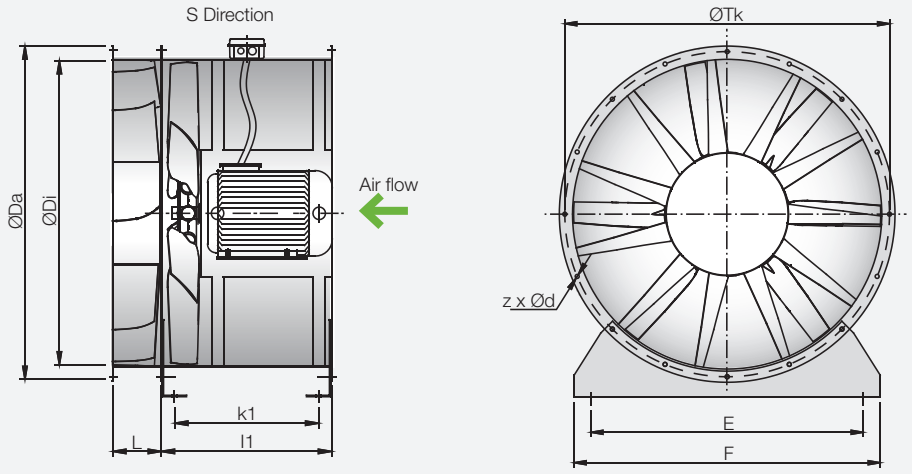
Model size	Da [mm]	Di [mm]	hF [mm]	hF2 [mm]	z x d [mm]	Tk [mm]	E [mm]	F [mm]	L [mm]	bF [mm]
500	584	504	315	910	12 x 12	551	440	500	140	70
560	664	565	345	998	16 x 14	629	500	560	150	70
630	734	634	400	1156	16 x 14	698	570	630	160	70
710	814	711	450	1300	16 x 14	775	650	710	180	70
800	904	797	500	1445	12* x 14	861	730	800	200	80
900	1004	894	580	1676	12* x 14	958	830	900	210	80
1000	1105	1003	630	1821	12* x 14	1067	930	990	280	80
1120	1245	1125	690	1990	16* x 18	1200	1050	1110	300	100
1250	1370	1250	750	2175	16* x 18	1337	1180	1240	330	100
1400	1525	1405	830	2362	16* x 18	1475	1330	1390	370	100
1600	1725	1605	930	2550	20* x 18	1675	1530	1590	420	100

LH/1 size	k1 [mm]	l1 [mm]	s1 [mm]	motor max.	s2 [mm]	motor max.
500	326	400	2	132	2	112
560	326	400	2	132	2	112
630	326	400	2	160	2	132
710	326	400	2,5	160	2	132
800	326	400	2,5	160	2	132
900	444	530	3	225	2	200
1000	444	530	3	225	2	200
1120	522	630	4	225	3	200
1250	522	630	4	250	3	225

LH/2 size	k1 [mm]	l1 [mm]	s1 [mm]	motor max.	s2 [mm]	motor max.
560	624	700	3	160	-	-
630	624	700	3	160	-	-
710	490	565	2,5	180	-	-
800	614	700	3	180	-	-
900	612	700	4	180	3	160
1000	692	780	4	250	3	225
1120	892	1000	4	250	3	225
1250	892	1000	4	280	3	250
1400	892	1000	4	315	3	280
1600	892	1000	4	315	3	280

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

Bifurcated



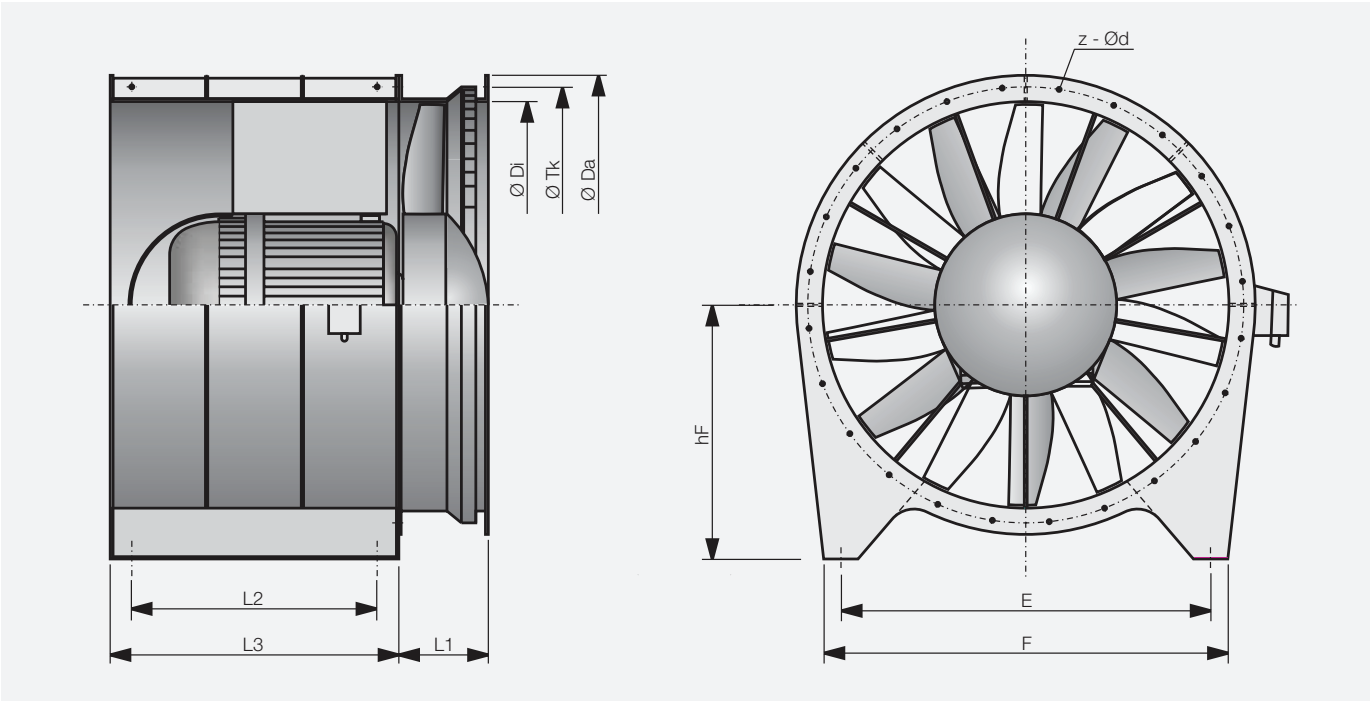
Model size	Da [mm]	Di [mm]	z x d [mm]	Tk [mm]	E [mm]	F [mm]	L [mm]
500	584	504	12 x 12	551	440	500	140
560	664	565	16 x 14	629	500	560	150
630	734	634	16 x 14	698	570	630	160
710	814	711	16 x 14	775	650	710	180
800	904	797	12* x 14	861	730	800	200
900	1004	894	12* x 14	958	830	900	210
1000	1105	1003	12* x 14	1067	930	990	280
1120	1245	1125	16* x 18	1200	1050	1110	300
1250	1370	1250	16* x 18	1337	1180	1240	330
1400	1525	1405	16* x 18	1475	1330	1390	370
1600	1725	1605	20* x 18	1675	1530	1590	420

LH/1 size	k1 [mm]	l1 [mm]	s1 [mm]	motor max.	s2 [mm]	motor max.
500	326	400	2	132	2	112
560	326	400	2	132	2	112
630	326	400	2	160	2	132
710	326	400	2,5	160	2	132
800	326	400	2,5	160	2	132
900	444	530	3	225	2	200
1000	444	530	3	225	2	200
1120	522	630	4	225	3	200
1250	522	630	4	250	3	225

LH/2 size	k1 [mm]	l1 [mm]	s1 [mm]	motor max.	s2 [mm]	motor max.
560	624	700	3	160	-	-
630	624	700	3	160	-	-
710	490	565	2,5	180	-	-
800	614	700	3	180	-	-
900	612	700	4	180	3	160
1000	692	780	4	250	3	225
1120	892	1000	4	250	3	225
1250	892	1000	4	280	3	250
1400	892	1000	4	315	3	280
1600	892	1000	4	315	3	280

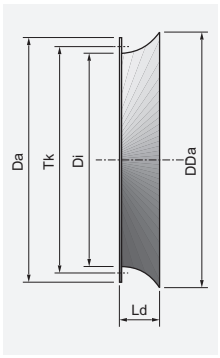
The Bifurcated Vane Axial Fan are not licensed by AMCA International.

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

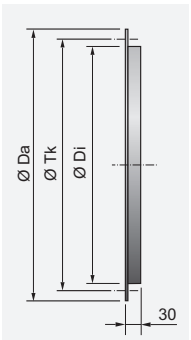


Model size	Da [mm]	Di [mm]	hF [mm]	z x d [mm]	Tk [mm]	E [mm]	F [mm]	L1 [mm]	L2 [mm]	L3 [mm]
1800	2010	1805	1120	24x18	1920	1660	1800	400	1200	1400
2000	2210	2005	1165	32x18	2120	1820	2000	445	1300	1500
2200	2440	2205	1265	32x18	2340	2020	2200	490	1400	1650
2400	2630	2405	1370	32x18	2530	2220	2400	550	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

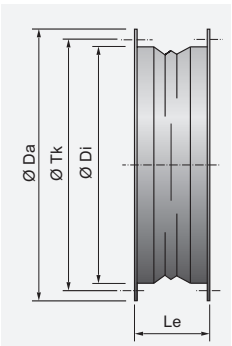
ED
Bellmouth inlet



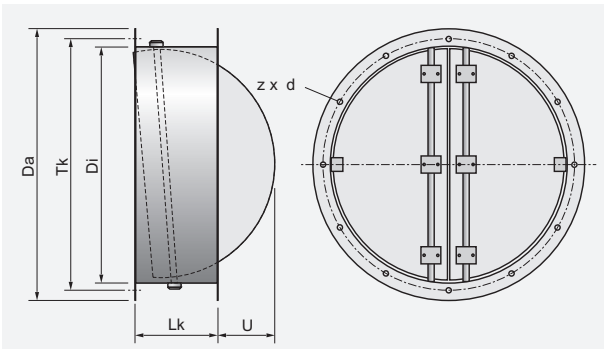
GL-AXV
Matching flange



EV-AXV
Flexible connector



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]
500	584	504	551	12 x 12	617	165	250	130	45
560	664	565	629	16 x 14	667	165	250	130	80
630	734	634	698	16 x 14	757	165	250	130	120
710	814	711	775	16 x 14	816	170	350	130	60
800	904	797	861	12* x 14	915	250	350	130	110
900	1004	894	958	12* x 14	1015	250	350	130	170
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

Sound power levels

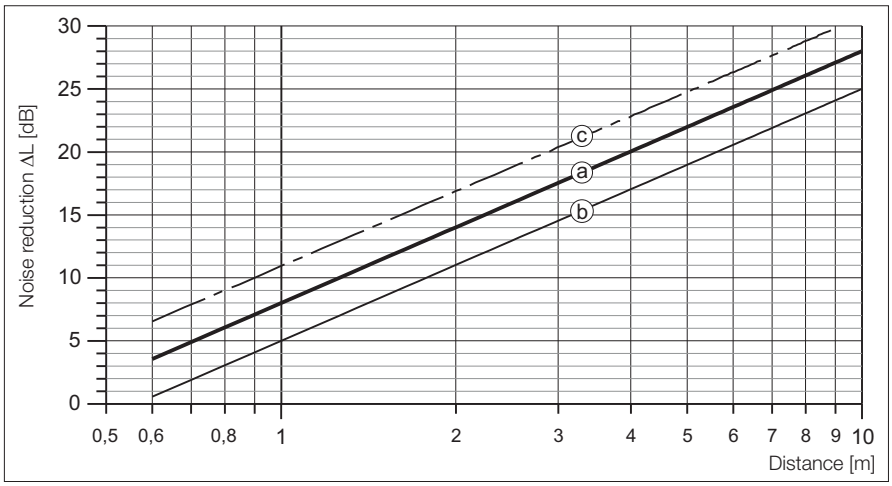
This term refers to the power which a source radiates as sound. Sound power levels are expressed in decibels with a reference level of 1 picoWatt. The sound power level of a source remains the same regardless of its environment and the distance to the listener.

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 µPa. 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

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

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]
500	2	-11	-8	-10	-7	-8	-12	-16	-21
	4	-8	-10	-6	-8	-11	-16	-21	-26
	6	-8	-8	-5	-10	-13	-18	-23	-28
560	2	-11	-8	-10	-7	-8	-12	-16	-21
	4	-8	-10	-6	-8	-11	-16	-21	-26
	6	-8	-8	-5	-10	-13	-18	-23	-28
630	2	-11	-8	-10	-7	-8	-12	-16	-21
	4	-8	-10	-6	-8	-11	-16	-21	-26
	6	-8	-8	-5	-10	-13	-18	-23	-28
710	2	-11	-8	-10	-7	-8	-12	-16	-21
	4	-8	-10	-6	-8	-11	-16	-21	-26
	6	-8	-8	-5	-10	-13	-18	-23	-28
800	4	-8	-10	-6	-8	-11	-16	-21	-26
	6	-8	-8	-5	-10	-13	-18	-23	-28
	8	-9	-5	-6	-10	-15	-19	-24	-30
900	4	-7	-10	-6	-8	-11	-16	-21	-26
	6	-8	-8	-5	-10	-13	-18	-23	-28
	8	-9	-5	-6	-10	-15	-19	-24	-30
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

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

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]
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.*

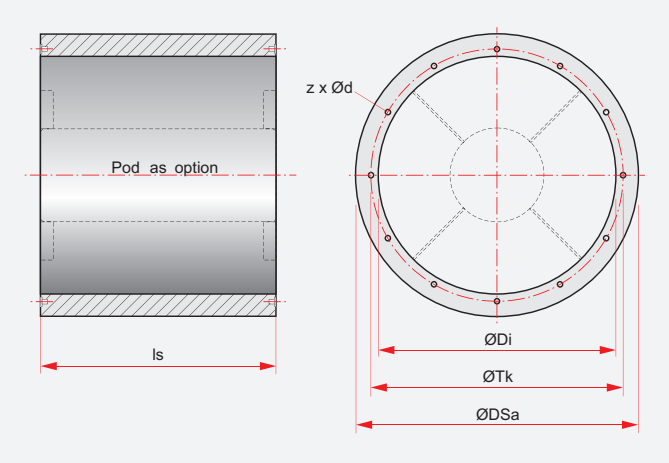
Tubular Sound Attenuator for AXV-F

SA, SPA

SPA 1000 -1D

- Length
- Size
  355...1600
- Sound attenuator
  SA - without pod
  SPA - with pod

Attenuators made of galvanised sheet steel. Connecting flanges correspond to those of the axial fan series.

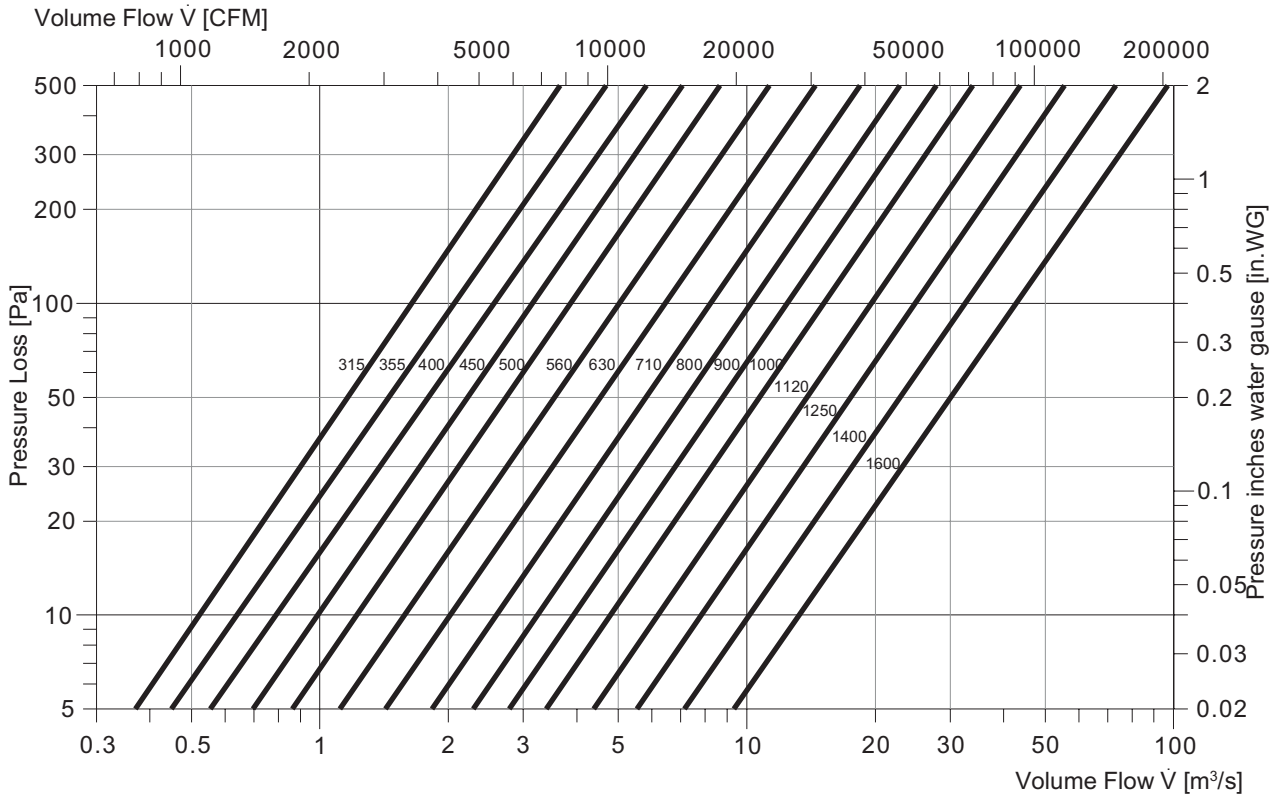


Size	DSa	Tk	Di	ls						Length	Type	Pitch angle	Octave band mid-frequency [Hz]							
				x 1D	x 2D	SA-1D	SPA-1D	SA-2D	SPA-2D											
	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	[kg]	[kg]	[kg]			setting	63	125	250	500	1k	2k	4k	8k
										1D	SA-1D	all	2	4	6	10	14	10	7	8
355	459	405	359	355	710	12	18	16	23		SPA-1D	low	4	6	8	13	20	21	18	16
400	601	448	401	400	800	14	23	19	29			med	4	6	8	12	18	19	18	14
450	650	497	450	450	900	18	29	23	36			high	4	6	8	11	13	16	16	11
										2D	SA-2D	low	4	7	12	18	22	17	12	13
												med	4	7	11	17	21	17	13	12
												high	4	7	10	15	19	16	13	10
											SPA-2D	low	7	10	15	24	32	35	30	28
												med	7	10	15	21	26	26	24	22
												high	7	10	15	16	15	17	13	13
500	704	551	504	500	1000	22	36	28	43	1D	SA-1D	all	3	4	8	14	14	9	8	7
560	765	629	565	560	1120	25	41	31	50		SPA-1D	low	4	6	9	17	26	21	18	12
630	834	698	634	630	1260	29	47	37	59			med	4	6	9	17	23	20	18	11
710	911	775	711	710	1420	37	60	47	75			high	4	6	9	16	17	16	14	11
800	997	861	797	800	1600	69	108	90	141	2D	SA-2D	low	6	8	14	23	24	15	13	10
												med	6	8	13	22	22	14	13	9
												high	6	8	12	20	18	13	11	9
											SPA-2D	low	8	11	16	30	39	35	32	22
												med	8	11	16	27	32	32	29	19
												high	8	11	16	24	23	23	24	17
900	1094	958	894	900	1800	86	135	112	176	1D	SA-1D	all	3	4	9	14	12	8	7	7
1000	1203	1067	1003	1000	2000	125	190	156	234		SPA-1D	low	4	6	11	22	21	16	14	11
1120	1325	1200	1125	1120	2240	132	210	169	260			med.	4	6	11	20	19	15	13	11
1250	1450	1337	1250	1250	2500	146	234	185	294			high	4	6	11	17	17	14	12	11
										2D	SA-2D	low	6	8	14	22	20	13	12	10
												med.	6	8	13	21	18	12	11	10
												high	6	8	12	19	15	11	10	9
											SPA-2D	low	8	11	19	30	32	30	24	17
												med.	8	11	19	26	27	26	22	17
												high	8	11	19	21	20	22	20	16
1400	1605	1475	1405	1400	2800	197	316	250	397	1D	SA-1D	all	4	5	10	14	11	7	6	6
1600	1805	1675	1605	1600	3200	275	540	348	682		SPA-1D	low	5	7	12	21	20	14	12	9
												med.	5	7	12	19	18	13	11	9
												high	5	7	12	15	16	12	10	8
										2D	SA-2D	low	8	9	15	20	19	12	11	9
												med.	8	9	14	20	17	11	10	9
												high	8	9	13	19	14	10	9	9
											SPA-2D	low	10	14	22	28	31	29	18	15
												med.	10	14	22	25	27	25	16	15
												high	10	14	22	21	21	21	15	14

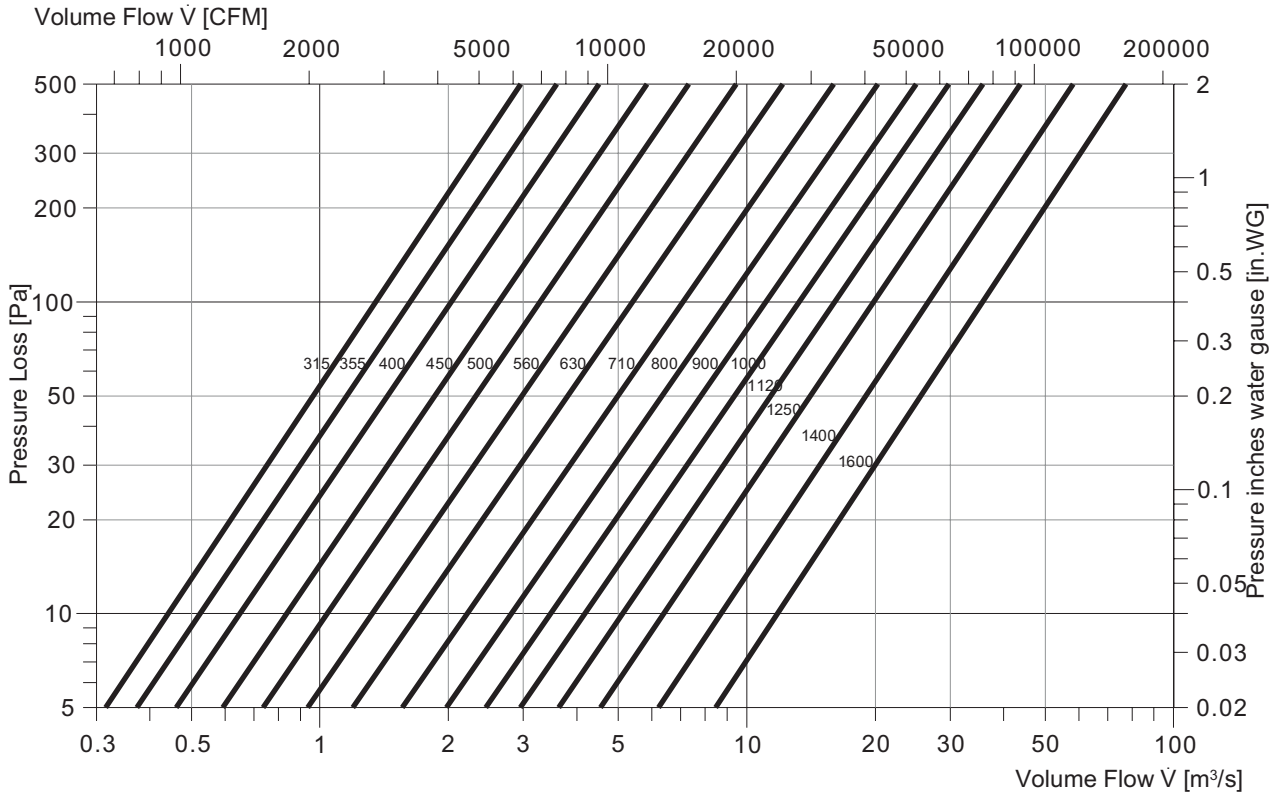
• Low, Medium and High Pitch Angle setting correspond to 10°, 22° and 35° pitch angle approximately: for other pitch angles use interpolation.

• Sizes 1800 - 2800 TBA.

Pressure Loss SPA - 1D



Pressure Loss SPA - 2D



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

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