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- Производство воздуховодов и систем вентиляции
- Клапаны противопожарные
- Клапаны дымоудаления
- Вентиляторы общепром, дымоудаления, крышные

220056, г. Минск, ул. Стариновская, 15

Тел./факс: +375 17 244-67-44, 258-67-51, 347-73-56, 252-54-27

Velcom: +375 29 603-88-99

E-mail: olegaero@yandex.by

www.maxaero.by



Осевые вентиляторы Ebm-papst (Ø500–910)



New AC axial fans - HyBlade®

A new, first-of-its-kind hybrid blade design makes these ebm-papst axial fans even quieter, more powerful and more durable than ever. In designing the HyBlade® fan blades, we have developed a support structure of high-strength, corrosion-resistant aluminium alloy with a jacket of a special, fibre-reinforced plastics. Compared to conventional blades, the optimal aerodynamic shape results in an enormous noise reduction while significantly increasing efficiency. And thus it offers even more advantages for use in refrigeration, heating and ventilation technology.

Revolutionary design

In the field of refrigeration and ventilation, axial fans are widely used, e.g. to cool heat exchangers by making air pass through them. For ages, the ebm-papst external-rotor motor has proved to be the best choice as it has a compact design, with the axial blades directly mounted onto the rotor. However, fans are not only expected to have compact dimensions. Fans are also expected to offer maximum air performance at an absolute minimum of noise.

Until now, the fan blades have been conventionally manufactured of steel or aluminium sheet. To keep up with the increasing demands on efficiency and noise behaviour, ebm-papst set its sights on the development of new blade geometries. In their research, ebm-papst engineers found themselves up against limits caused by the restrictive design potential of the monolithic sheet-metal blade with uniform plate thickness.

To break these barriers and to achieve lower noise and better efficiency, they realised that entirely new principles of design, materials and component structures were necessary. And so, ebm-papst uses their revolutionary hybrid blade design to preserve seemingly incompatible properties by means of hybrid components and structures.

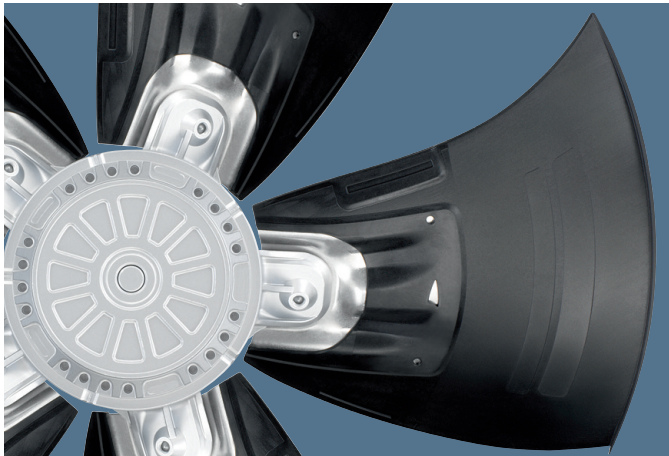
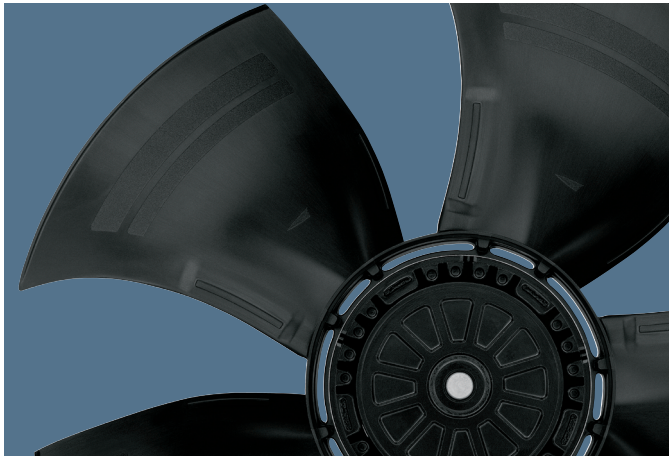
Strong connection

In designing the HyBlade® axial fan blades, ebm-papst was the first to use a support structure of high-strength, corrosion-resistant aluminium alloy with a jacket made of a special, fibre-reinforced plastics.

Using these two materials makes for an ideal combination of their individual characteristics. The aluminium inlet receives the mechanical forces and ensures a durable connection to the rotor during operation, while the plastic encapsulating the support structure gives the blade its optimised aerodynamic shape. At the same time, the plastic jacket has a positive effect on the total weight of the fan. Two aspects add to the considerable noise reduction as compared to conventional blades: The aerodynamically optimised and profiled contour, and the simple addition of "winglets" to the ends of the blades.

In meeting the ebm-papst quality standards, extensive tests and calculations were performed to guarantee the reliability of this new technology. With HyBlade®, ebm-papst has set new standards in fan technology by minimising noise and increasing maximum efficiency.

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Sustainability is at the Centre of Our Thoughts and Actions. Out of Conviction!

Eco-friendliness and sustainability have always been at the core of our thoughts and actions. For decades, we have worked according to the simple but strict creed of our co-founder Gerhard Sturm: "Each new product we develop has to be better than the last one in terms of economy and ecology." GreenTech is the ultimate expression of our corporate philosophy.





GreenTech is pro-active development.

Even in the design phase, the materials and processes we use are optimised for the greatest possible eco-friendliness, energy balance and – wherever possible – recyclability. We continually improve the material and performance of our products, as well as the flow and noise characteristics. At the same time, we significantly reduce energy consumption. Close cooperation with universities and scientific institutes and the professorship we endow in the area of power engineering and regenerative energies allows us to profit from the latest research findings in these fields – and at the same time ensure highly qualified young academics.

GreenTech is ecofriendly production.

GreenTech also stands for maximum energy efficiency in our production processes. There, the intelligent use of industrial waste heat and ground-water cooling, photovoltaics and, of course, our own cooling and ventilation technology are of the utmost importance. Our most modern plant, for instance, consumes 91% less energy than currently specified and required. In this way, our products contribute to protecting the environment, from their origin to their recyclable packaging.

GreenTech is acknowledged and certified.

Every step in our chain of production meets the stringent standards of environmental specialists and the public. The 2008 Environmental Prize of Baden-Wuerttemberg, the Green Award 2009, the Energy Efficiency Award 2009 of the dena – to give just a few examples – testify to this. The environmental advantage gained in the performance of the products developed from our GreenTech philosophy can also be measured in the fulfilment of the most stringent energy and environmental standards. In many instances, our products are already well below the thresholds energy legislation will impose a few years from now – several times over.

Our customers profit from this every day.

The heart of GreenTech is ebm-papst EC technology. The EC technology at the core of our most efficient motors and fans allows efficiency of up to 90%, saves energy at a very high level, significantly extends service life and makes our products maintenance-free. These values pay off not only for the environment, but every cent also pays off for the user! All ebm-papst products – even those for which EC technology does not (yet) make sense from an application viewpoint – feature the greatest possible connection of economy and ecology.

AC axial fans - HyBlade®

Ø 500



- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Pressed-on round sheet steel plate, extrusion-coated in PP plastics
Rotor: Coated in black
- **Number of blades:** 5
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharge holes:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings
- **Motor protection:** Design with thermal overload protector

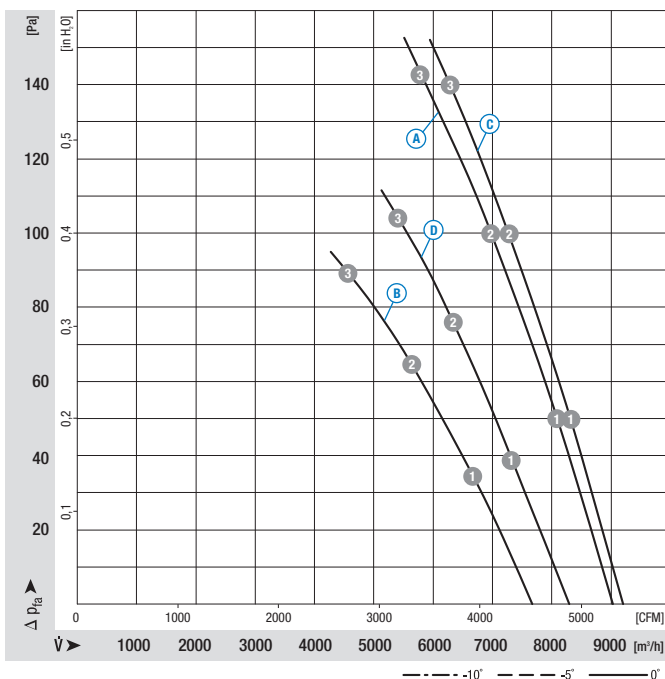
Nominal data

Type	Motor	Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
				VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*4D 500	M4D 110-EF	0°	(A)	3~400 Δ	50	1340	0,71	1,40	—	140	-40..+60	F1b)/F2b)
			(B)	3~400 Y	50	1060	0,48	0,80	—	87	-40..+60	
*4D 500	M4D 110-GF	0°	(C)	3~400 Δ	50	1390	0,72	1,41	—	140	-40..+65	F1b)/F2b)
			(D)	3~400 Y	50	1180	0,55	0,95	—	100	-40..+65	
*6D 500	M6D 110-EF	0°	(E)	3~400 Δ	50	930	0,27	0,69	—	75	-40..+65	F1b)/F2b)
			(F)	3~400 Y	50	800	0,19	0,40	—	55	-40..+65	
*8D 500	M8D 110-EF	0°	(G)	3~400 Δ	50	680	0,15	0,40	—	40	-40..+65	F1b)/F2b)
			(H)	3~400 Y	50	560	0,09	0,18	—	28	-40..+65	

subject to alterations

(1) Nominal data in operating point 3 with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

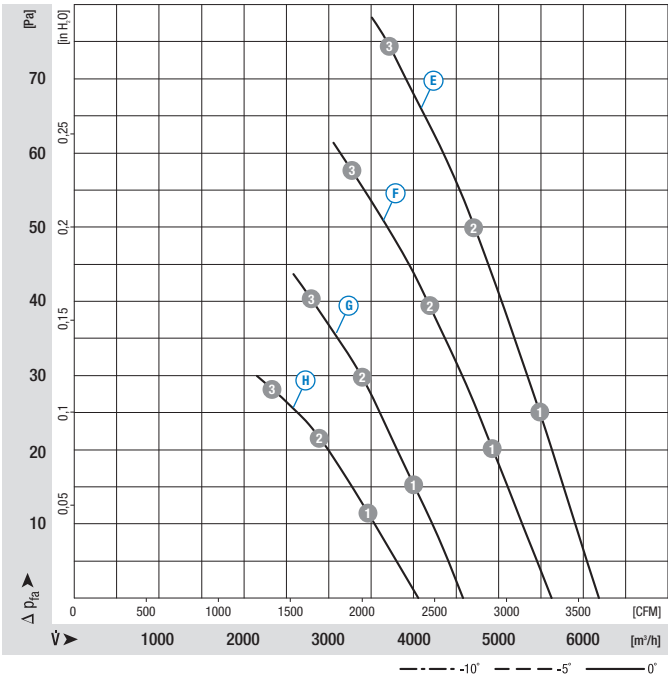
		n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
(A)	1	1375	0,60	1,30	72
(A)	2	1360	0,66	1,34	71
(A)	3	1340	0,71	1,40	71
(B)	1	1135	0,43	0,71	68
(B)	2	1095	0,46	0,76	66
(B)	3	1060	0,48	0,80	65
(C)	1	1410	0,60	1,28	72
(C)	2	1400	0,66	1,34	71
(C)	3	1390	0,72	1,41	71
(D)	1	1245	0,48	0,78	70
(D)	2	1215	0,52	0,84	68
(D)	3	1180	0,55	0,95	68

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow	 < "V"  < "V"  < "V"		
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A4D 500-AJ03 -01	W4D 500-GJ03 -01	S4D 500-AJ03 -01
"V"	A4D 500-AM03 -01	W4D 500-GM03 -01	S4D 500-AM03 -01
"V"	A6D 500-AJ03 -01	W6D 500-GJ03 -01	S6D 500-AJ03 -01
"V"	A8D 500-AJ03 -01	W8D 500-GJ03 -01	S8D 500-AJ03 -01

Direction of air flow "A" on request

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: Lw_A as per ISO 13347, Lp_A measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

		n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
Ⓔ	1	945	0,23	0,65	64
Ⓔ	2	935	0,25	0,66	62
Ⓔ	3	930	0,27	0,69	63
Ⓕ	1	850	0,16	0,29	62
Ⓕ	2	830	0,17	0,30	59
Ⓕ	3	800	0,19	0,40	59
Ⓖ	1	700	0,13	0,37	58
Ⓖ	2	695	0,13	0,38	55
Ⓖ	3	680	0,15	0,40	54
Ⓗ	1	610	0,08	0,16	55
Ⓗ	2	590	0,08	0,16	51
Ⓗ	3	560	0,09	0,18	50

AC axial fans - HyBlade®

Ø 500

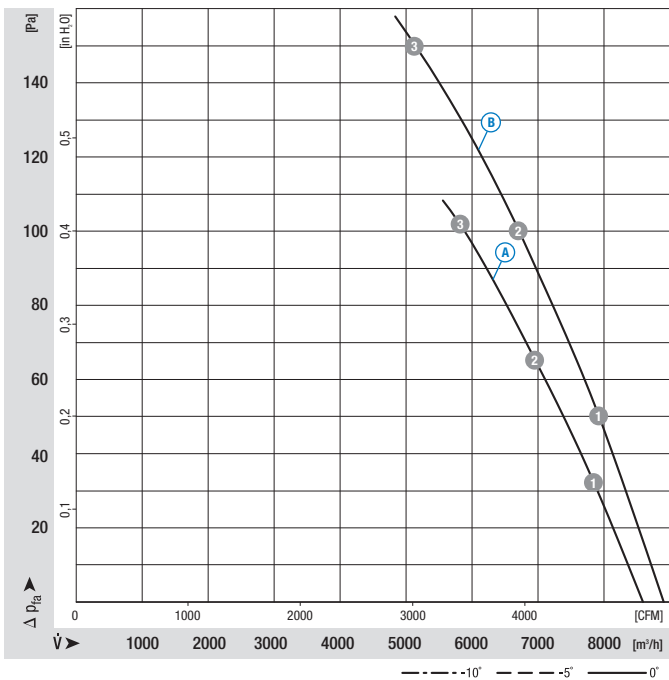


- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Pressed-on round sheet steel plate, extrusion-coated in PP plastics
Rotor: Coated in black
- **Number of blades:** 5
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharge holes:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings
- **Motor protection:** Design with thermal overload protector

Nominal data		Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
Type	Motor			VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*4E 500	M4E 110-EF	0°	A	1~ 230	50	1225	0,60	2,62	10,0/400	100	-40..+55	A2b)
*4E 500	M4E 110-GF	0°	B	1~ 230	50	1300	0,68	3,00	12,0/450	150	-40..+65	A2b)
*6E 500	M6E 110-EF	0°	C	1~ 230	50	915	0,27	1,18	8,0/400	70	-40..+65	A2b)
*8E 500	M8E 110-EF	0°	D	1~ 230	50	665	0,13	0,59	3,0/400	35	-40..+65	A2b)

subject to alterations (1) Nominal data in operating point 3 with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

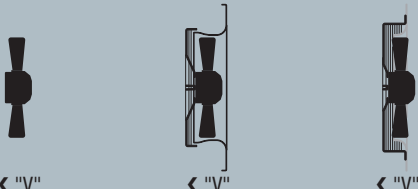
The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

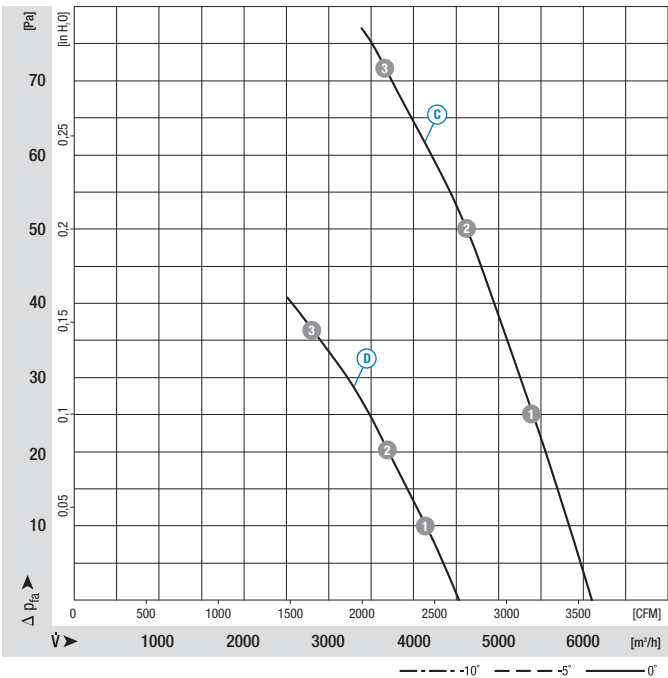
	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
A 1	1295	0,53	2,30	71
A 2	1270	0,56	2,44	69
A 3	1225	0,60	2,62	68
B 1	1355	0,57	2,50	72
B 2	1330	0,62	2,73	70
B 3	1300	0,68	3,00	72

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow			
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A4E 500-AJ01 -01	W4E 500-GJ01 -01	S4E 500-AJ01 -01
"V"	A4E 500-AM03 -01	W4E 500-GM03 -01	S4E 500-AM03 -01
"V"	A6E 500-AJ03 -01	W6E 500-GJ03 -01	S6E 500-AJ03 -01
"V"	A8E 500-AJ03 -01	W8E 500-GJ03 -01	S8E 500-AJ03 -01

Direction of air flow "A" on request

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: Lw_A as per ISO 13347, Lp_A measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and re-viewed once installed or fitted!

For detailed information see page 36 ff.

	n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
Ⓒ ①	935	0,24	1,03	64
Ⓒ ②	925	0,25	1,10	62
Ⓒ ③	915	0,27	1,16	63
Ⓓ ①	690	0,11	0,54	59
Ⓓ ②	680	0,12	0,56	56
Ⓓ ③	665	0,13	0,59	54

AC axial fans - HyBlade®

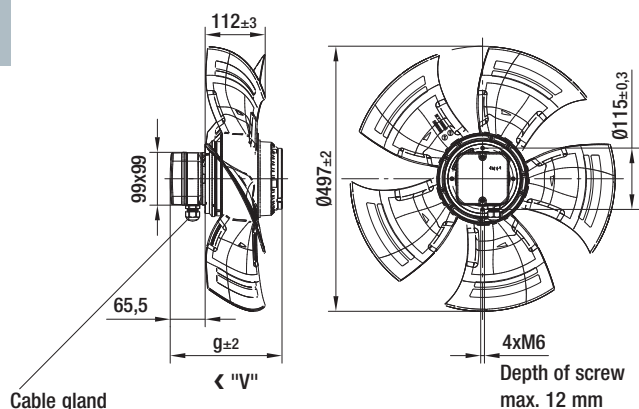
Ø 500 with motor M**110, drawings for direction of air flow "V"



Without attachments

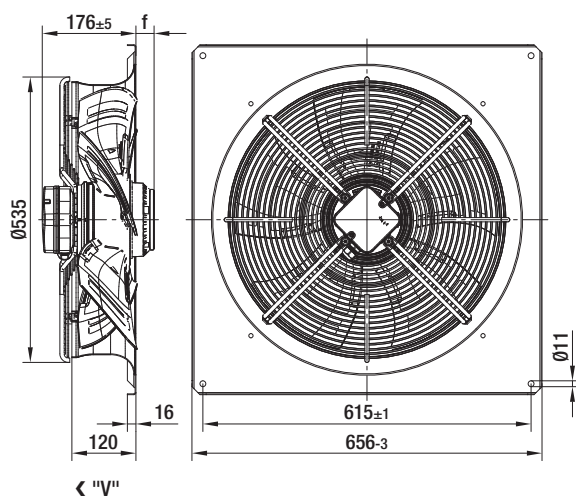
Type	Mass [kg]	g
A4D 500-AJ03 -01	8,5	189,5
A4D 500-AM03 -01	10,5	209,5
A6D 500-AJ03 -01	8,5	189,5
A8D 500-AJ03 -01	8,5	189,5
A4E 500-AJ01 -01	8,5	189,5
A4E 500-AM03 -01	10,5	209,5
A6E 500-AJ03 -01	8,5	189,5
A8E 500-AJ03 -01	8,5	189,5

Internal diameter of the
wall ring at least 503 mm



With full square nozzle

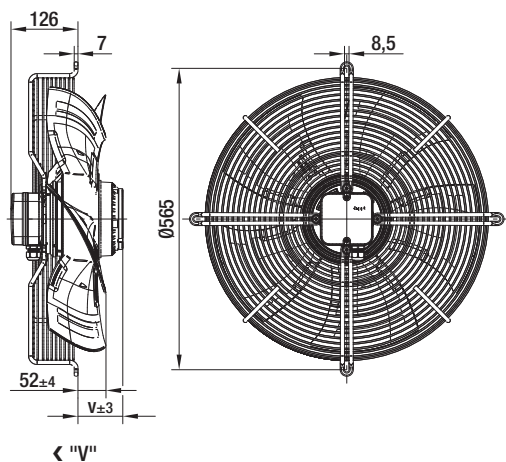
Type	Mass [kg]	f
W4D 500-GJ03 -01	16,0	13,5
W4D 500-GM03 -01	18,0	33,5
W6D 500-GJ03 -01	16,0	13,5
W8D 500-GJ03 -01	16,0	13,5
W4E 500-GJ01 -01	16,0	13,5
W4E 500-GM03 -01	18,0	33,5
W6E 500-GJ03 -01	16,0	13,5
W8E 500-GJ03 -01	16,0	13,5



With guard grille for short nozzle

Type	Mass [kg]	v
S4D 500-AJ03 -01	11,8	64,0
S4D 500-AM03 -01	13,8	84,0
S6D 500-AJ03 -01	11,8	64,0
S8D 500-AJ03 -01	11,8	64,0
S4E 500-AJ01 -01	11,8	64,0
S4E 500-AM03 -01	13,8	84,0
S6E 500-AJ03 -01	11,8	64,0
S8E 500-AJ03 -01	11,8	64,0

Internal diameter of the
wall ring at least 503 mm



AC axial fans - HyBlade®

Ø 560

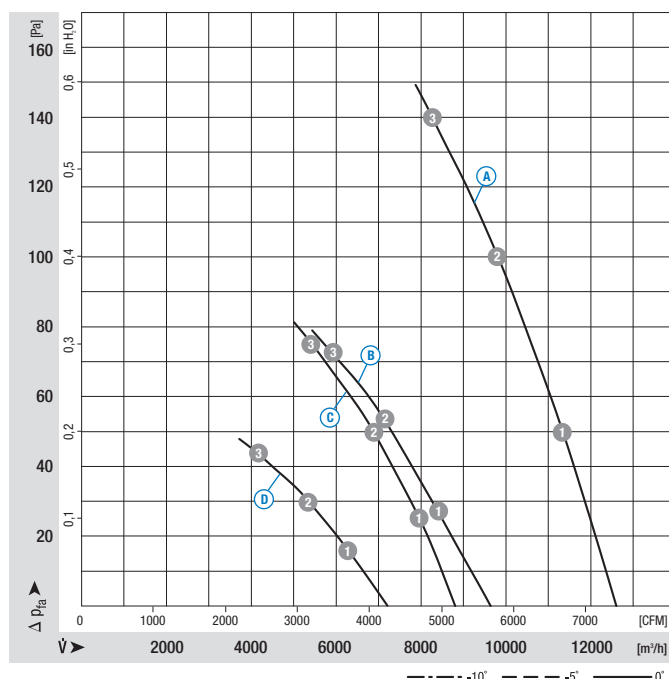


- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Encased in aluminium
- **Number of blades:** 5
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharge holes:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings
- **Motor protection:** Design with thermal overload protector

Nominal data		Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
Type	Motor			VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*4D 560	M4D 110-GF	0°	(A)	3~ 400 Δ	50	1220	1,16	1,95	—	140	-40..+50	F1b)/F2b)
			(B)	3~ 400 Y	50	870	0,65	1,10	—	72	-40..+50	
*6D 560	M6D 110-EF	0°	(C)	3~ 400 Δ	50	870	0,45	0,88	—	75	-40..+65	F1b)/F2b)
			(D)	3~ 400 Y	50	660	0,28	0,48	—	43	-40..+65	
*4E 560	M4E 110-IA	-5°	(E)	1~ 230	50	1275	1,09	4,76	20,0/450	160	-40..+55	A2b)
*6E 560	M6E 110-EF	-5°	(F)	1~ 230	50	895	0,41	1,80	10,0/400	85	-40..+65	A2b)

subject to alterations (1) Nominal data in operating point 3 with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

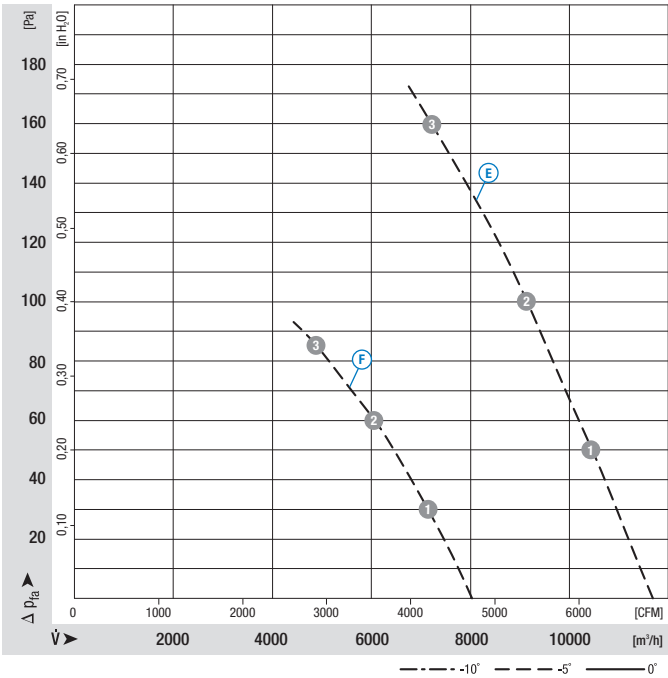
For detailed information see page 36 ff.

	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
(A) 1	1270	1,03	1,78	73
(A) 2	1250	1,09	1,87	72
(A) 3	1220	1,16	1,95	77
(B) 1	930	0,62	1,03	65
(B) 2	900	0,64	1,06	65
(B) 3	870	0,65	1,10	67
(C) 1	895	0,39	0,81	65
(C) 2	880	0,42	0,83	65
(C) 3	870	0,45	0,88	69
(D) 1	700	0,26	0,44	58
(D) 2	680	0,27	0,46	59
(D) 3	660	0,28	0,48	61

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow			
	◀ "V"	◀ "V"	◀ "V"
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A4D 560-AM03 -01	W4D 560-GM03 -01	S4D 560-AM03 -01
"V"	A6D 560-AJ03 -01	W6D 560-GJ03 -01	S6D 560-AJ03 -01
"V"	A4E 560-AQ01 -01	W4E 560-GQ01 -01	S4E 560-AQ01 -01
"V"	A6E 560-AK01 -01	W6E 560-GK01 -01	S6E 560-AK01 -01
Direction of air flow "A" on request			

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

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With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

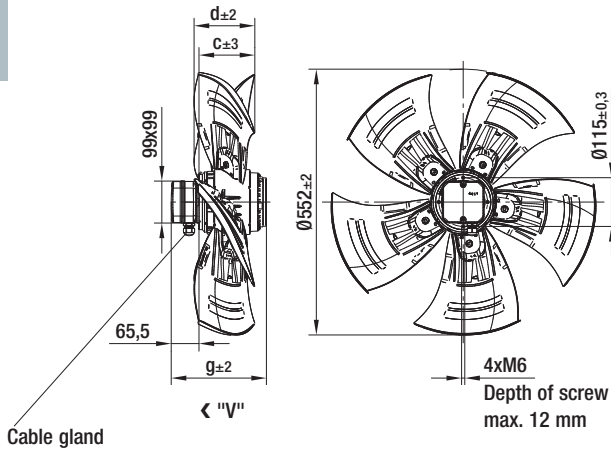
	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
Ⓔ ①	1340	0,95	4,15	75
Ⓔ ②	1315	1,02	4,44	73
Ⓔ ③	1275	1,09	4,76	76
Ⓕ ①	920	0,36	1,60	65
Ⓕ ②	910	0,39	1,72	65
Ⓕ ③	895	0,41	1,80	68

AC axial fans - HyBlade®

Ø 560 with motor M**110, drawings for direction of air flow "V"



Without attachments

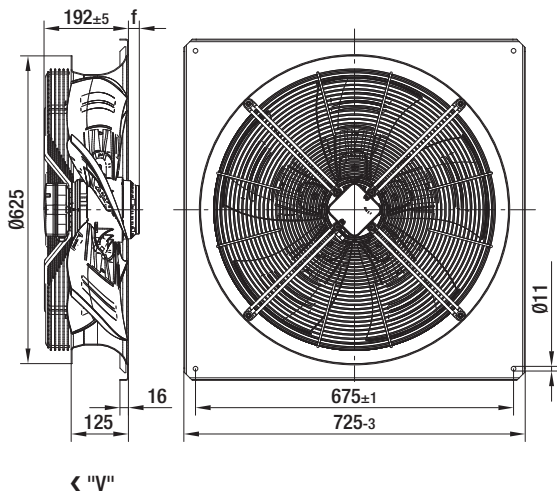


Type	Mass [kg]	c	d	g
A4D 560-AM03 -01	10,5	124,0	134,0	209,5
A6D 560-AJ03 -01	8,5	124,0	134,0	189,5
A4E 560-AQ01 -01	12,5	113,0	115,0	224,5
A6E 560-AK01 -01	8,5	113,0	115,0	189,5

Internal diameter of the wall ring at least 559 mm



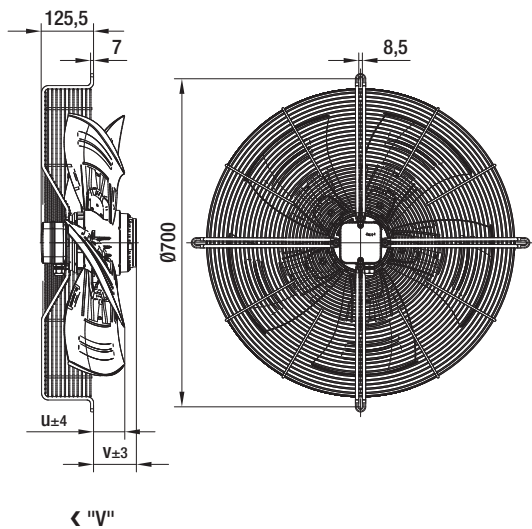
With full square nozzle



Type	Mass [kg]	f
W4D 560-GM03 -01	24,0	17,5
W6D 560-GJ03 -01	22,0	---
W4E 560-GQ01 -01	26,0	32,5
W6E 560-GK01 -01	22,0	---



With guard grille for short nozzle

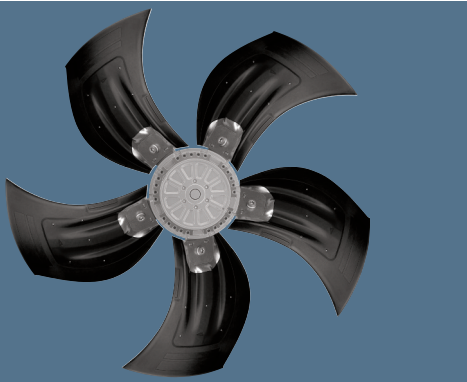


Type	Mass [kg]	u	v
S4D 560-AM03 -01	15,0	88,0	108,0
S6D 560-AJ03 -01	13,0	88,0	88,0
S4E 560-AQ01 -01	17,0	77,0	123,0
S6E 560-AK01 -01	13,0	77,0	88,0

Internal diameter of the wall ring at least 559 mm

AC axial fans - HyBlade®

Ø 630

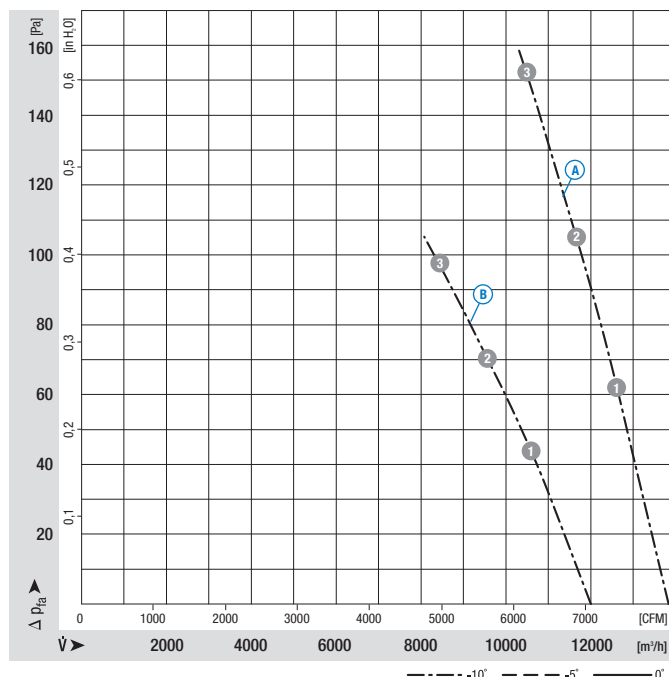


- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Encased in aluminium
- **Number of blades:** 5
- **Direction of rotation:** **A** **B** counter-clockwise, **C** **D** **E** **F** clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharge holes:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings
- **Motor protection:** Design with thermal overload protector

Nominal data		Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
Type	Motor			VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*4D 630	M4D 110-IA	-10°	A	3~400 Δ	50	1330	1,25	2,48	—	150	-40..+55	F1b)/F2b)
			B	3~400 Y	50	1070	0,84	1,42	—	100	-40..+55	
*4D 630	M4D 138-LA	0°	C	3~400 Δ	50	1320	2,63	4,78	—	220	-40..+60	F1b)/F2b)
			D	3~400 Y	50	1050	1,75	2,95	—	140	-40..+60	
*4D 630	M4D 138-HF	-5°	E	3~400 Δ	50	1310	1,97	3,40	—	200	-40..+60	F1b)/F2b)
			F	3~400 Y	50	1000	1,29	2,10	—	115	-40..+60	

subject to alterations (1) Nominal data in operating point **3** with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

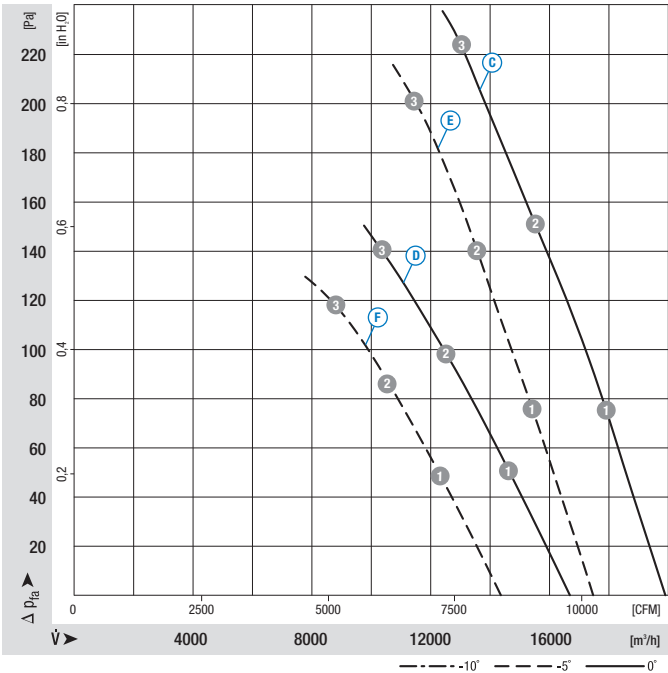
	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
A 1	1370	1,03	2,21	77
A 2	1355	1,14	2,32	75
A 3	1330	1,25	2,48	75
B 1	1140	0,74	1,23	72
B 2	1105	0,78	1,31	71
B 3	1070	0,84	1,42	70

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow	  		
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A4D 630-AR01 -01	W4D 630-GR01 -01	S4D 630-AR01 -01
"V"	A4D 630-AD01 -01	W4D 630-GD01 -01	S4D 630-AD01 -01
"V"	A4D 630-AH01 -01	W4D 630-GH01 -01	S4D 630-AH01 -01

Direction of air flow "A" on request

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: Lw_A as per ISO 13347, Lp_A measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

		n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
C	1	1360	2,30	4,29	78
C	2	1345	2,47	4,56	77
C	3	1320	2,63	4,78	80
D	1	1115	1,62	2,71	72
D	2	1080	1,68	2,83	72
D	3	1050	1,75	2,95	74
E	1	1345	1,68	2,94	75
E	2	1325	1,83	3,18	75
E	3	1310	1,97	3,40	78
F	1	1075	1,18	1,97	70
F	2	1035	1,24	2,08	68
F	3	1000	1,29	2,10	70

AC axial fans - HyBlade®

Ø 630

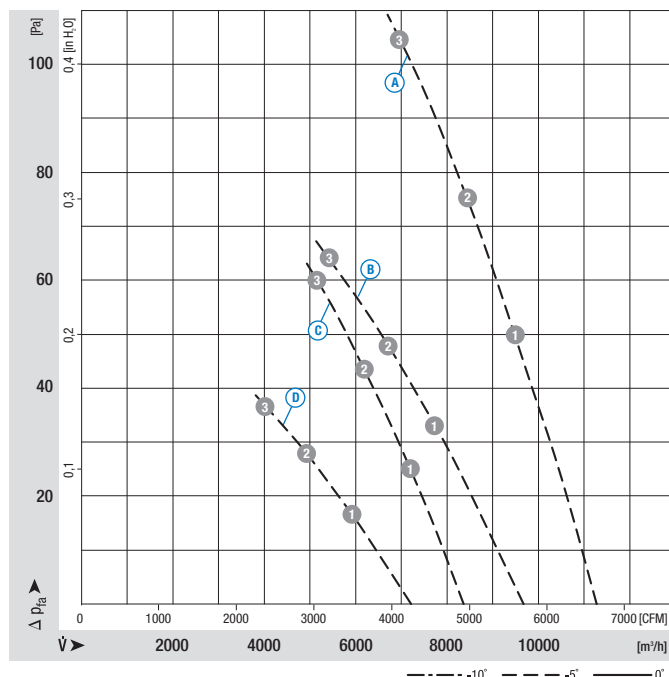


- Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Pressed-on round sheet steel plate, extrusion-coated in PP plastics
Rotor: Coated in black
- Number of blades:** 5
- Direction of rotation:** counter-clockwise, seen on rotor
- Type of protection:** IP 54 (acc. to EN 60529)
- Insulation class:** "F"
- Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- Condensate discharge holes:** Rotor-side
- Mode of operation:** Continuous operation (S1)
- Bearings:** Maintenance-free ball bearings
- Motor protection:** Design with thermal overload protector

Nominal data		Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
Type	Motor			VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*6D 630	M6D 110-GF	-5°	(A)	3~400 Δ	50	890	0,60	1,20	—	105	-40..+65	F1b)/F2b)
			(B)	3~400 Y	50	690	0,40	0,68	—	56	-40..+65	
*8D 630	M8D 110-GF	-5°	(C)	3~400 Δ	50	660	0,33	0,83	—	60	-40..+65	F1b)/F2b)
			(D)	3~400 Y	50	520	0,19	0,39	—	36	-40..+65	
*6E 630	M6E 110-GF	-5°	(E)	1~ 230	50	860	0,60	2,62	14,0/400	100	-40..+55	A2b)
*8E 630	M8E 110-GF	-5°	(F)	1~ 230	50	670	0,34	1,72	7,0/450	60	-40..+65	A2b)

subject to alterations (1) Nominal data in operating point 3 with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and re-viewed once installed or fitted!

For detailed information see page 36 ff.

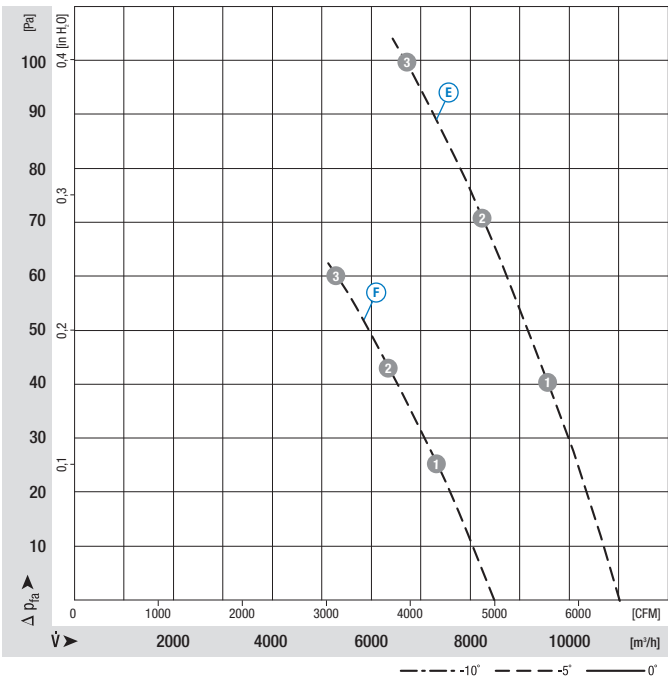
	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
(A) 1	905	0,53	1,15	66
(A) 2	895	0,57	1,19	65
(A) 3	890	0,60	1,20	67
(B) 1	730	0,36	0,63	61
(B) 2	705	0,38	0,66	60
(B) 3	690	0,40	0,68	61
(C) 1	685	0,29	0,81	60
(C) 2	675	0,31	0,82	60
(C) 3	660	0,33	0,83	61
(D) 1	560	0,18	0,35	56
(D) 2	535	0,19	0,37	55
(D) 3	520	0,19	0,39	55

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow	 < "V"  < "V"  < "V"		
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A6D 630-AN01 -01	W6D 630-GN01 -01	S6D 630-AN01 -01
"V"	A8D 630-AN01 -01	W8D 630-GN01 -01	S8D 630-AN01 -01
"V"	A6E 630-AN01 -01	W6E 630-GN01 -01	S6E 630-AN01 -01
"V"	A8E 630-AN01 -01	W8E 630-GN01 -01	S8E 630-AN01 -01

Direction of air flow "A" on request

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: Lw_A as per ISO 13347, Lp_A measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and re-viewed once installed or fitted!

For detailed information see page 36 ff.

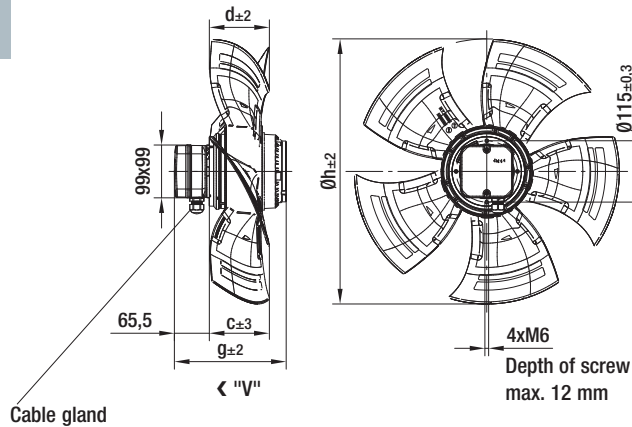
		n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
Ⓔ	1	905	0,52	2,27	67
Ⓔ	2	885	0,56	2,44	66
Ⓔ	3	860	0,60	2,62	68
Ⓕ	1	690	0,31	1,60	62
Ⓕ	2	680	0,32	1,65	61
Ⓕ	3	670	0,34	1,72	62

AC axial fans - HyBlade®

Ø 630 with motor M**110, drawings for direction of air flow "V"



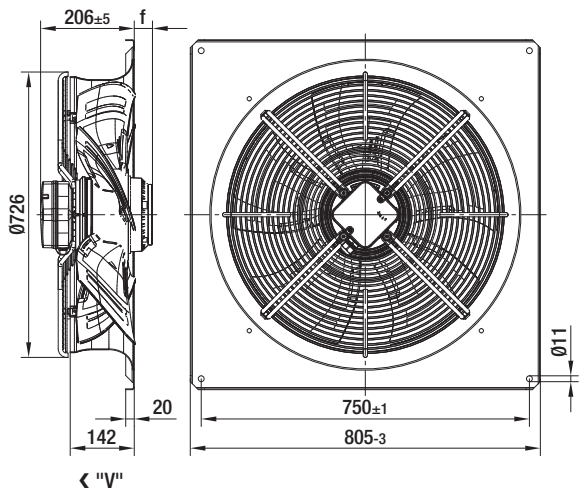
Without attachments



Type	Mass [kg]	c	d	g	h
A4D 630-AR01 -01	14,0	104,0	98,0	224,5	627,0
A6D 630-AN01 -01	12,5	118,0	123,0	209,5	626,0
A8D 630-AN01 -01	12,5	118,0	123,0	209,5	626,0
A6E 630-AN01 -01	12,5	118,0	123,0	209,5	626,0
A8E 630-AN01 -01	12,5	118,0	123,0	209,5	626,0

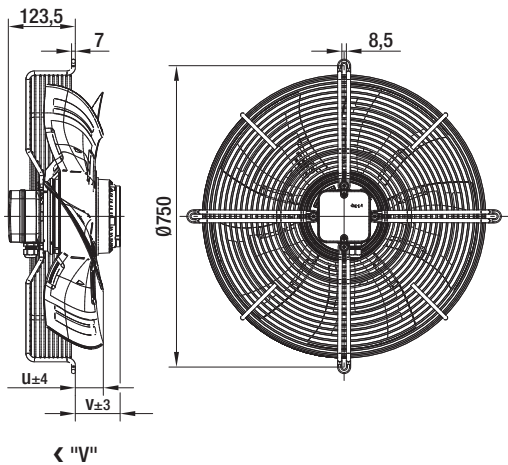
Internal diameter of the wall ring at least 634 mm

With full square nozzle



Type	Mass [kg]	f
W4D 630-GR01 -01	28,9	23,5
W6D 630-GN01 -01	27,4	3,5
W8D 630-GN01 -01	27,4	3,5
W6E 630-GN01 -01	27,4	3,5
W8E 630-GN01 -01	27,4	3,5

With guard grille for short nozzle



Type	Mass [kg]	u	v
S4D 630-AR01 -01	19,2	46,0	101,0
S6D 630-AN01 -01	17,7	60,0	86,0
S8D 630-AN01 -01	17,7	60,0	86,0
S6E 630-AN01 -01	17,7	60,0	86,0
S8E 630-AN01 -01	17,7	60,0	86,0

Internal diameter of the wall ring at least 634 mm

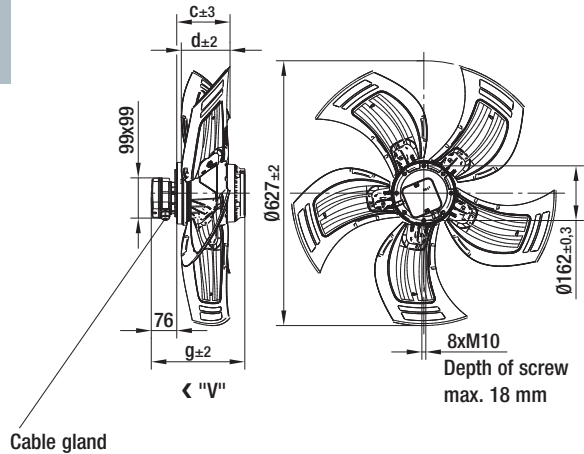
AC axial fans - HyBlade®

Ø 630 with motor M4D138, drawings for direction of air flow "V"



Without attachments

Type	Mass [kg]	c	d	g
A4D 630-AD01 -01	22,3	154,0	144,0	277,0
A4D 630-AH01 -01	18,3	149,0	130,0	252,0



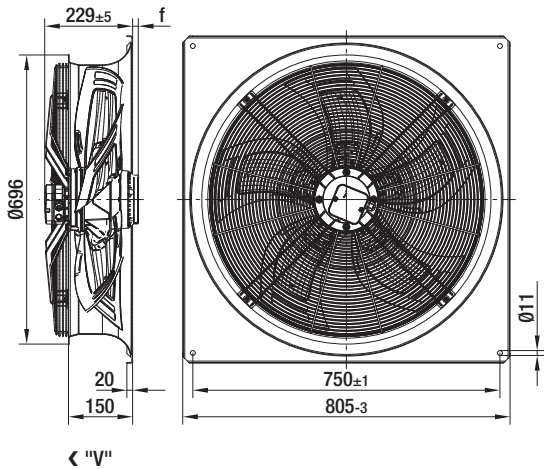
Cable gland

Internal diameter of the wall ring at least 634 mm



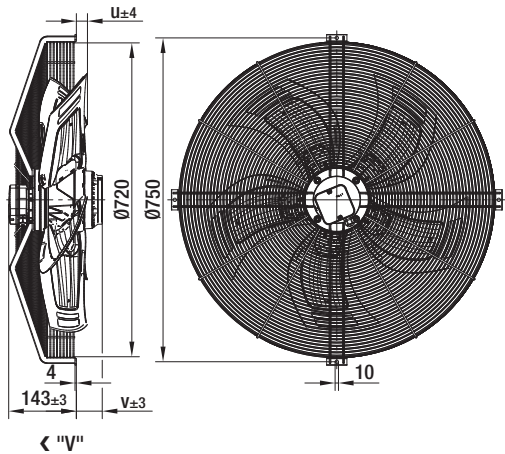
With full square nozzle

Type	Mass [kg]	f
W4D 630-GD01 -01	38,2	48,0
W4D 630-GH01 -01	34,2	23,0



With guard grille for short nozzle

Type	Mass [kg]	u	v
S4D 630-AD01 -01	28,5	87,0	134,0
S4D 630-AH01 -01	24,5	82,0	109,0



Internal diameter of the wall ring at least 634 mm

AC axial fans - HyBlade®

Ø 710



- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Encased in aluminium
- **Number of blades:** 5
- **Direction of rotation:** E F G counter-clockwise, A B C D clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharge holes:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings
- **Motor protection:** Design with thermal overload protector

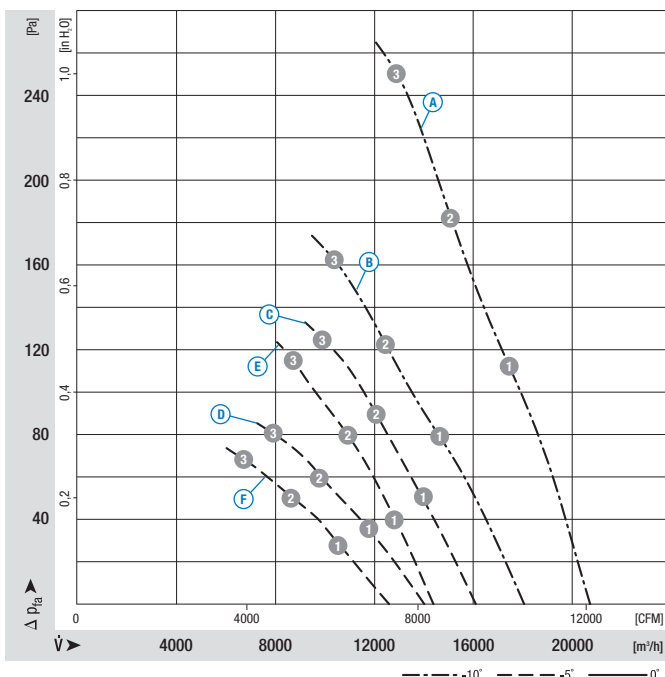
Nominal data

Type	Motor	Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
				VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*4D 710	M4D 138-LA	-10°	A	3~400 Δ	50	1350	2,38	4,50	—	250	-40..+60	F1b)/F2b)
			B	3~400 Y	50	1095	1,66	2,76	—	160	-40..+60	
*6D 710	M6D 138-HF	-5°	C	3~400 Δ	50	905	1,03	2,35	—	125	-40..+65	F1b)/F2b)
			D	3~400 Y	50	730	0,69	1,34	—	80	-40..+65	
*6D 710	M6D 110-IA	-5°	E	3~400 Δ	50	880	0,84	1,74	—	115	-40..+50	F1b)/F2b)
			F	3~400 Y	50	670	0,53	0,94	—	68	-40..+50	
*6E 710	M6E 110-IA	-10°	G	1~230	50	900	0,63	2,79	14,0/450	105	-40..+65	A2b)

subject to alterations

(1) Nominal data in operating point 3 with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

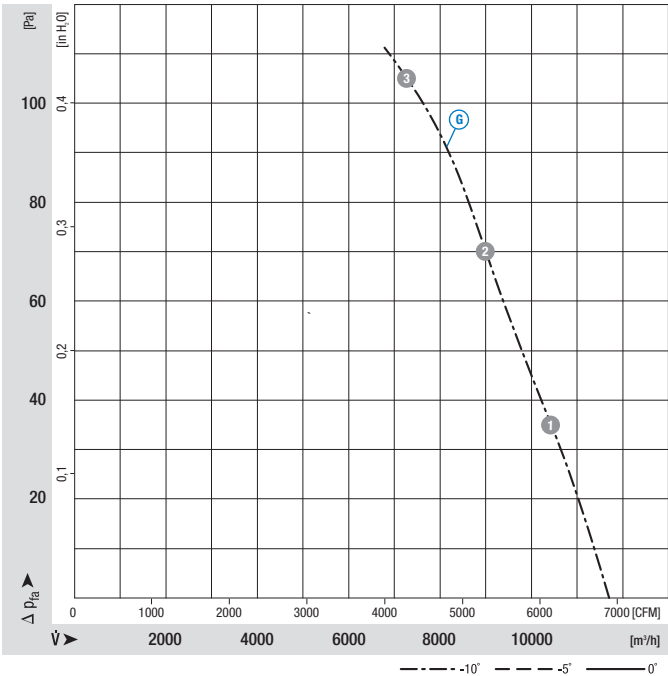
		n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
A	1	1380	2,00	3,92	81
A	2	1365	2,23	4,24	83
A	3	1350	2,38	4,50	86
B	1	1165	1,47	2,50	76
B	2	1125	1,59	2,71	78
B	3	1095	1,66	2,76	81
C	1	925	0,86	2,18	69
C	2	915	0,94	2,26	70
C	3	905	1,03	2,35	73
D	1	780	0,62	1,19	65
D	2	755	0,66	1,27	65
D	3	730	0,69	1,34	68
E	1	915	0,63	1,52	70
E	2	895	0,74	1,63	68
E	3	880	0,84	1,74	71
F	1	755	0,43	0,77	65
F	2	710	0,48	0,85	63
F	3	670	0,53	0,94	65

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow	 < "V"  < "V"  < "V"		
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A4D 710-AF01 -01	W4D 710-GF01 -01	S4D 710-AF01 -01
"V"	A6D 710-AH01 -01	W6D 710-GH01 -01	S6D 710-AH01 -01
"V"	A6D 710-AQ01 -01	W6D 710-GQ01 -01	S6D 710-AQ01 -01
"V"	A6E 710-AR03 -01	W6E 710-GR03 -01	S6E 710-AR03 -01

Direction of air flow "A" on request

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: Lw_A as per ISO 13347, Lp_A measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

	n	P ₁	I	Lw _A
	[rpm]	[kW]	[A]	[dB(A)]
③ ①	935	0,50	2,24	73
③ ②	920	0,56	2,51	73
③ ③	900	0,63	2,79	77

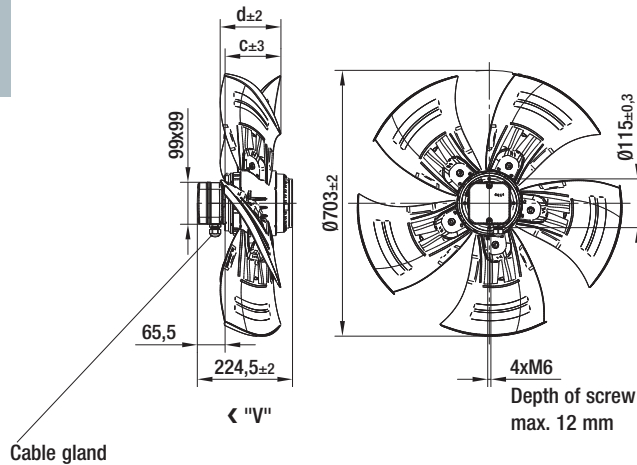
AC axial fans - HyBlade®

Ø 710 with motor M**110, drawings for direction of air flow "V"



Without attachments

Type	Mass [kg]	c	d
A6D 710-AQ01 -01	14,0	118,0	113,0
A6E 710-AR03 -01	14,0	111,0	96,0

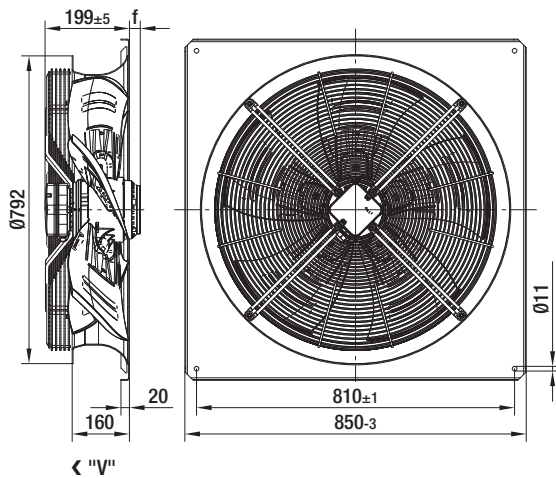


Internal diameter of the wall ring at least 710 mm



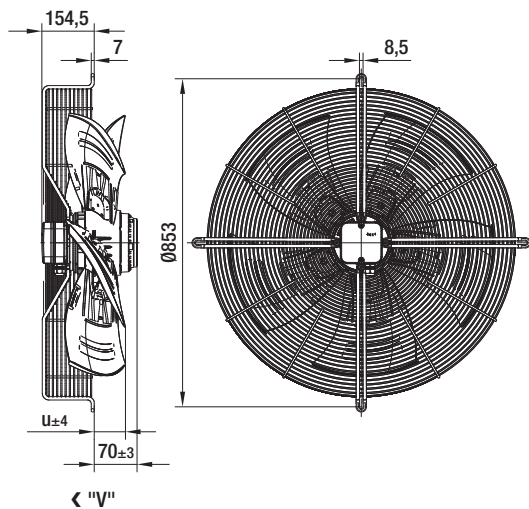
With full square nozzle

Type	Mass [kg]	f
W6D 710-GQ01 -01	29,9	25,5
W6E 710-GR03 -01	29,9	25,5



With guard grille for short nozzle

Type	Mass [kg]	u
S6D 710-AQ01 -01	20,5	29,0
S6E 710-AR03 -01	20,5	22,0



Internal diameter of the wall ring at least 710 mm

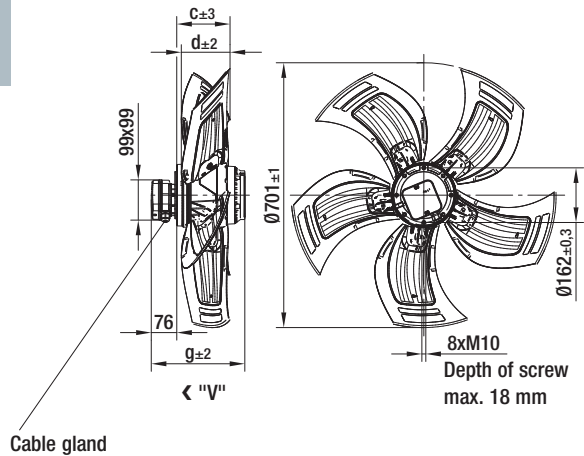
AC axial fans - HyBlade®

Ø 710 with motor M*D138, drawings for direction of air flow "V"



Without attachments

Type	Mass [kg]	c	d	g
A4D 710-AF01 -01	22,6	142,0	110,0	277,0
A6D 710-AH01 -01	18,8	148,0	126,0	252,0

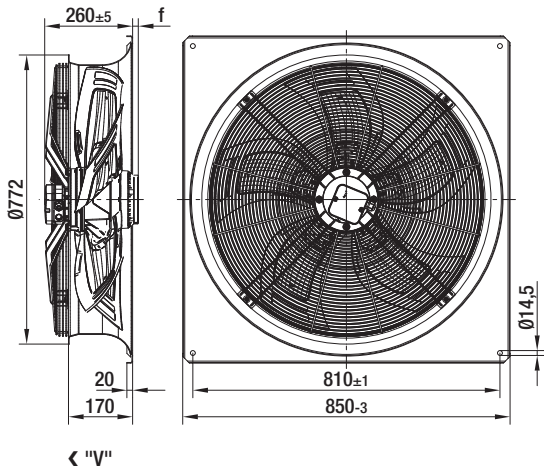


Internal diameter of the wall ring at least 710 mm



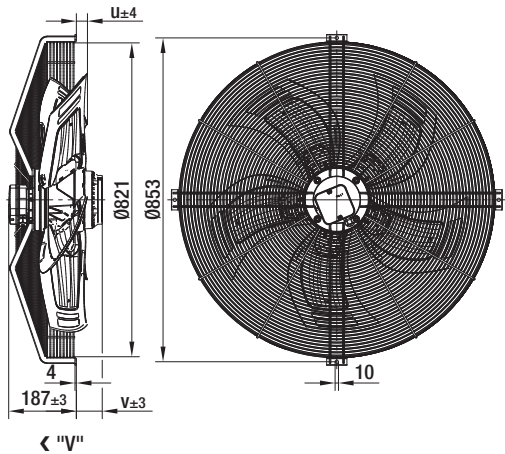
With full square nozzle

Type	Mass [kg]	f
W4D 710-GF01 -01	39,9	17,0
W6D 710-GH01 -01	36,7	---



With guard grille for short nozzle

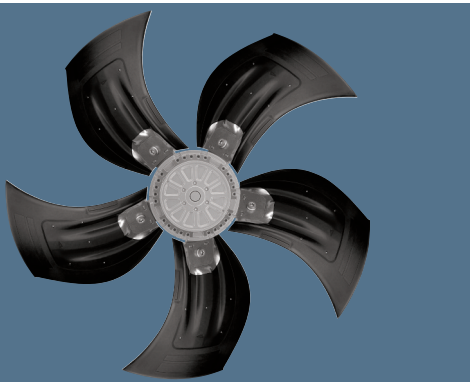
Type	Mass [kg]	u	v
S4D 710-AF01 -01	30,5	31,0	90,0
S6D 710-AH01 -01	26,6	37,0	65,0



Internal diameter of the wall ring at least 710 mm

AC axial fans - HyBlade®

Ø 800

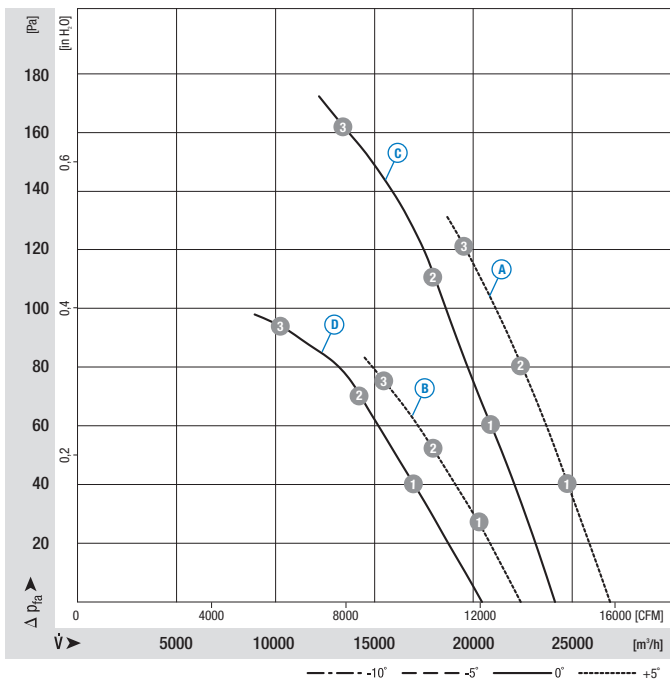


- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Encased in aluminium
- **Number of blades:** 5
- **Direction of rotation:** clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharge holes:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings
- **Motor protection:** Design with thermal overload protector

Nominal data		Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
Type	Motor			VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*6D 800	M6D 138-NA	+5°	Ⓐ	3~400 Δ	50	900	2,33	4,85	—	120	-40..+50	F1b)/F2b)
			Ⓑ	3~400 Y	50	700	1,59	2,87	—	75	-40..+50	
*6D 800	M6D 138-LA	0°	Ⓒ	3~400 Δ	50	880	1,94	3,90	—	160	-40..+60	F1b)/F2b)
			Ⓓ	3~400 Y	50	670	1,21	2,23	—	92	-40..+60	
*8D 800	M8D 138-LA	0°	Ⓔ	3~400 Δ	50	660	0,99	2,37	—	105	-40..+65	F1b)/F2b)
			Ⓕ	3~400 Y	50	485	0,58	1,21	—	54	-40..+65	
*ZD 800	MZD 138-HF	0°	Ⓖ	3~400 Δ	50	435	0,36	1,12	—	40	-40..+65	F1b)/F2b)
			Ⓗ	3~400 Y	50	340	0,20	0,47	—	23	-40..+65	

subject to alterations (1) Nominal data in operating point 3 with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_pA measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

For detailed information see page 36 ff.

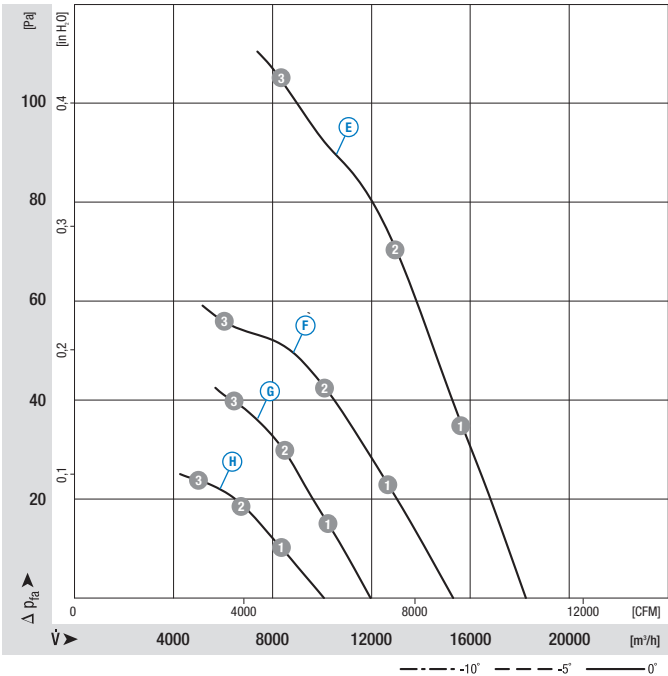
	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
Ⓐ 1	920	1,99	4,59	74
Ⓐ 2	910	2,10	4,69	74
Ⓐ 3	900	2,33	4,85	76
Ⓑ 1	750	1,39	2,58	69
Ⓑ 2	735	1,44	2,68	69
Ⓑ 3	700	1,59	2,87	70
Ⓒ 1	910	1,58	3,44	72
Ⓒ 2	900	1,72	3,60	73
Ⓒ 3	880	1,94	3,90	77
Ⓓ 1	740	1,08	1,98	66
Ⓓ 2	710	1,13	2,08	67
Ⓓ 3	670	1,21	2,23	70

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow	 < "V"  < "V"  < "V"		
	Without attachments	With full square nozzle	With guard grille for full nozzle
"V"	A6D 800-AU01 -01	W6D 800-GU01 -01	S6D 800-CU01 -01
"V"	A6D 800-AD01 -01	W6D 800-GD01 -01	S6D 800-CD01 -01
"V"	A8D 800-AD01 -01	W8D 800-GD01 -01	S8D 800-CD01 -01
"V"	AZD 800-AG03 -01	WZD 800-GG03 -01	SZD 800-CG03 -01

Direction of air flow "A" on request

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: L_{wA} as per ISO 13347, L_{pA} measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and re-viewed once installed or fitted!

For detailed information see page 36 ff.

		n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
Ⓔ	1	685	0,77	2,10	65
Ⓔ	2	675	0,85	2,20	66
Ⓔ	3	660	0,99	2,37	74
Ⓕ	1	555	0,51	1,07	60
Ⓕ	2	530	0,53	1,12	60
Ⓕ	3	485	0,58	1,21	66
Ⓖ	1	450	0,32	1,09	55
Ⓖ	2	445	0,34	1,10	55
Ⓖ	3	435	0,36	1,12	59
Ⓗ	1	365	0,18	0,43	51
Ⓗ	2	355	0,19	0,45	49
Ⓗ	3	340	0,20	0,47	52

AC axial fans - HyBlade®

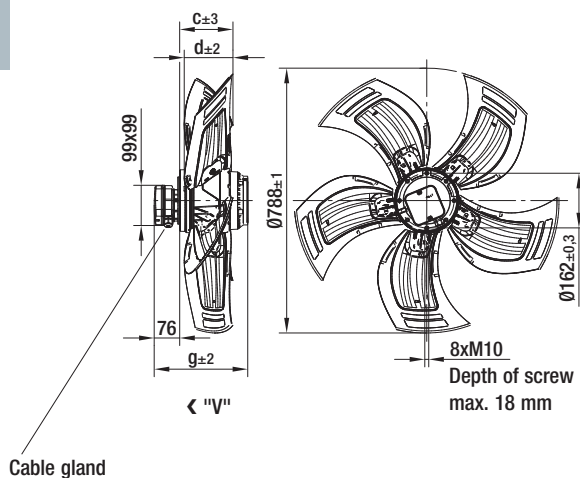
Ø 800 with motor M*D138, drawings for direction of air flow "V"



Without attachments

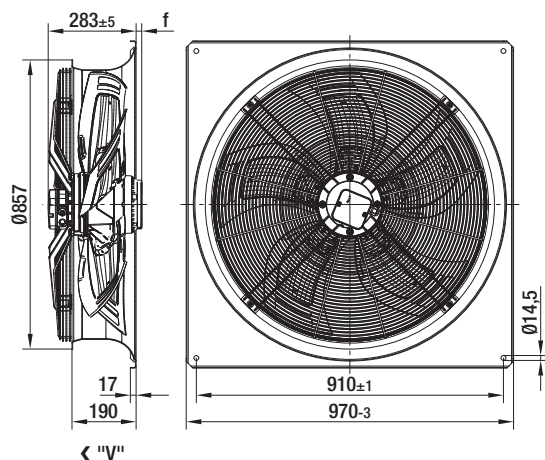
Type	Mass [kg]	c	d	g
A6D 800-AU01 -01	26,5	172,0	171,0	297,0
A6D 800-AD01 -01	23,0	159,0	149,0	277,0
A8D 800-AD01 -01	23,0	159,0	149,0	277,0
AZD 800-AG03 -01	19,0	159,0	149,0	252,0

Internal diameter of the wall ring at least 795 mm



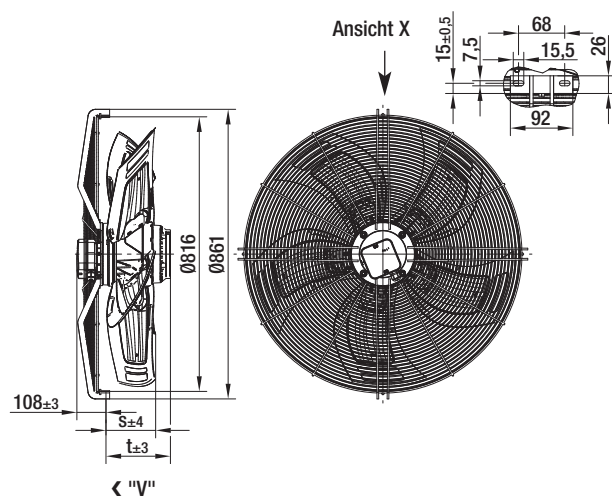
With full square nozzle

Type	Mass [kg]	f
W6D 800-GU01 -01	46,6	36,0
W6D 800-GD01 -01	44,2	---
W8D 800-GD01 -01	44,2	---
WZD 800-GG03 -01	40,2	---



With guard grille for full nozzle

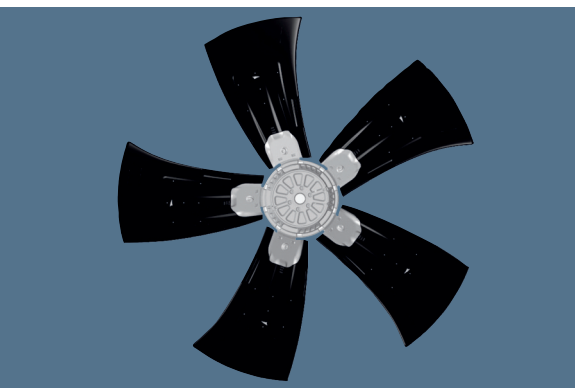
Type	Mass [kg]	s	t
S6D 800-CU01 -01	33,3	162,0	211,0
S6D 800-CD01 -01	30,1	127,0	169,0
S8D 800-CD01 -01	30,1	127,0	169,0
SZD 800-CG03 -01	26,2	127,0	144,0



Internal diameter of the wall ring at least 795 mm

AC axial fans - HyBlade®

Ø 910



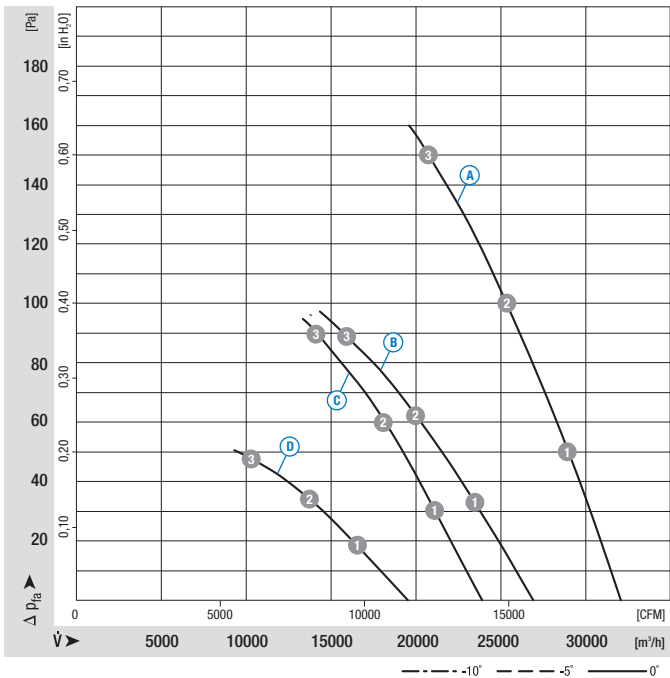
- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Encased in aluminium
- **Number of blades:** 5
- **Direction of rotation:** clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharge holes:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings
- **Motor protection:** Design with thermal overload protector

Nominal data		Blade angle	Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Capacitor	Max. operative range	Perm. amb. temp.	Electr. connection
Type	Motor			VAC	Hz	rpm	kW	A	µF/VDB	Pa	°C	p. 34
*6D 910	M6D 138-NA	0°	(A)	3~400 Δ	50	885	2,48	5,15	—	150	-40..+50	F1b)/F2b)
			(B)	3~400 Y	50	685	1,57	2,90	—	90	-40..+50	
*8D 910	M8D 138-LA	0°	(C)	3~400 Δ	50	650	1,15	2,78	—	90	-40..+65	F1b)/F2b)
			(D)	3~400 Y	50	475	0,64	1,36	—	47	-40..+65	
*ZD 910	MZD 138-HF	0°	(E)	3~400 Δ	50	420	0,41	1,13	—	38	-40..+65	F1b)/F2b)
			(F)	3~400 Y	50	305	0,21	0,48	—	20	-40..+65	

subject to alterations

(1) Nominal data in operating point 3 with maximum load

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: Lw_A as per ISO 13347, Lp_A measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

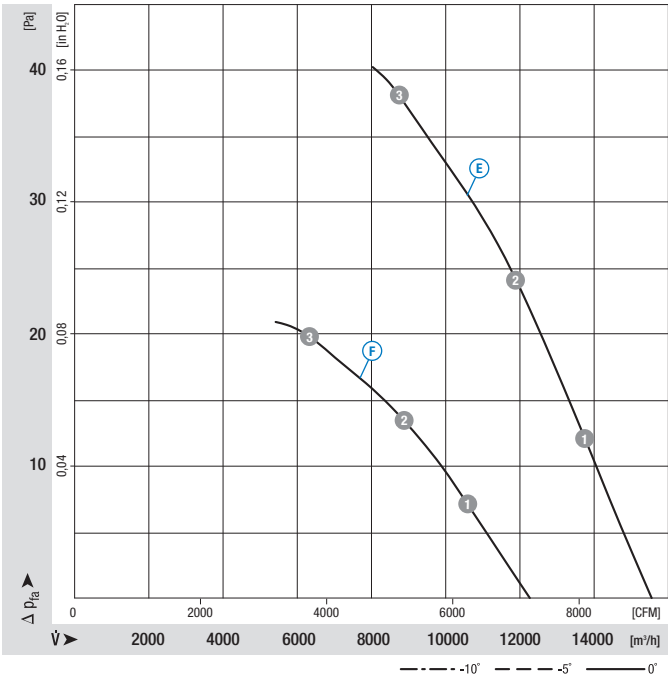
For detailed information see page 36 ff.

- **Cable exit:** Via terminal box
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standard:** CE
- **Approvals:** VDE (acc. to EN 60034)

Direction of air flow	  		
	Without attachments	With full square nozzle	With guard grille for full nozzle
"V"	A6D 910-AA01 -01	W6D 910-GA01 -01	S6D 910-CA01 -01
"V"	A8D 910-AD03 -01	W8D 910-GD03 -01	S8D 910-CD03 -01
"V"	AZD 910-AG03 -01	WZD 910-GG03 -01	SZD 910-CG03 -01

Direction of air flow "A" on request

Curves



Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle and without protection against accidental contact

Suction-side noise levels: Lw_A as per ISO 13347, Lp_A measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurement conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and re-viewed once installed or fitted!

For detailed information see page 36 ff.

		n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
Ⓔ	1	440	0,34	1,08	57
Ⓔ	2	430	0,37	1,10	56
Ⓔ	3	420	0,41	1,13	59
Ⓕ	1	340	0,19	0,44	51
Ⓕ	2	325	0,20	0,46	49
Ⓕ	3	305	0,21	0,48	50

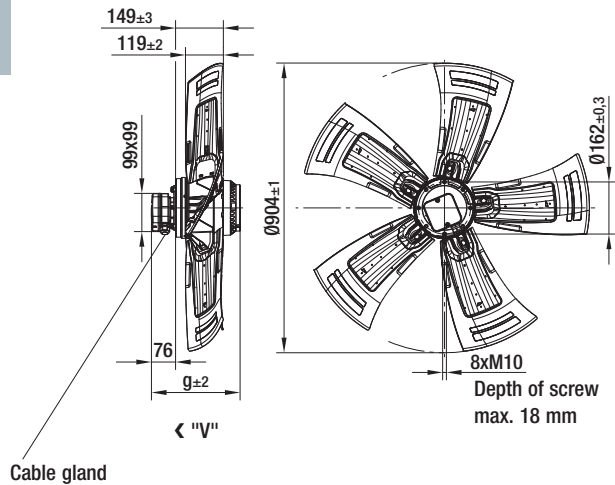
AC axial fans - HyBlade®

Ø 910 with motor M*D138, drawings for direction of air flow "V"



Without attachments

Type	Mass [kg]	g
A6D 910-AA01 -01	26,9	297,0
A8D 910-AD03 -01	23,7	277,0
AZD 910-AG03 -01	19,8	252,0

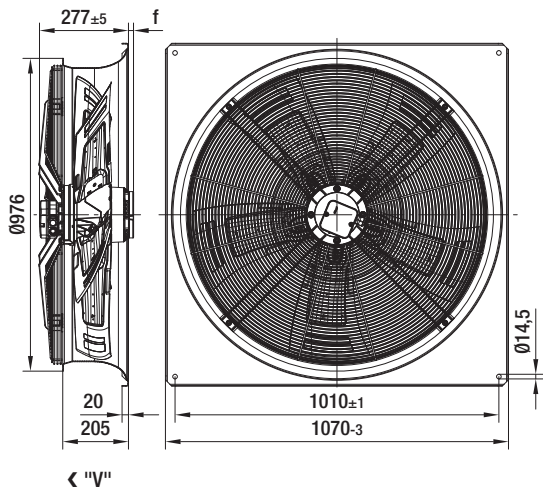


Internal diameter of the wall ring at least 913 mm



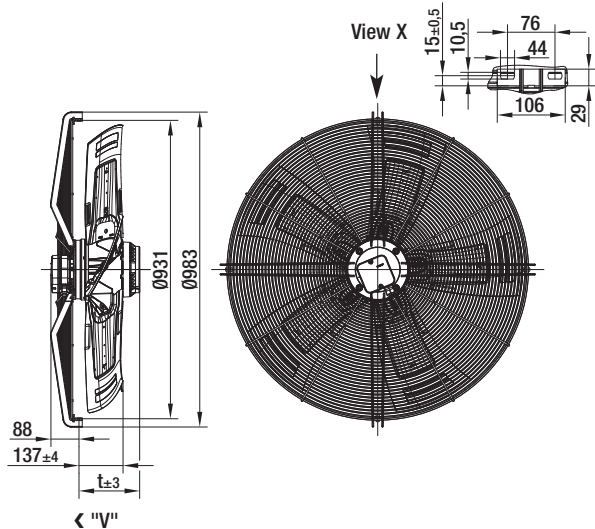
With full square nozzle

Type	Mass [kg]	f
W6D 910-GA01 -01	51,6	19,0
W8D 910-GD03 -01	48,4	---
WZD 910-GG03 -01	44,5	---



With guard grille for full nozzle

Type	Mass [kg]	t
S6D 910-CA01 -01	34,9	209,0
S8D 910-CD03 -01	31,6	189,0
SZD 910-CG03 -01	27,8	164,0



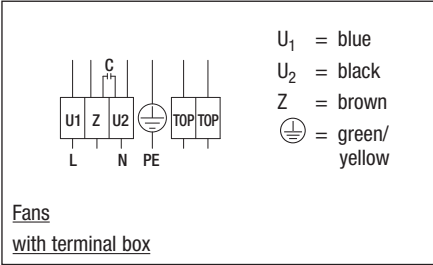
Internal diameter of the wall ring at least 913 mm

Electrical connections AC

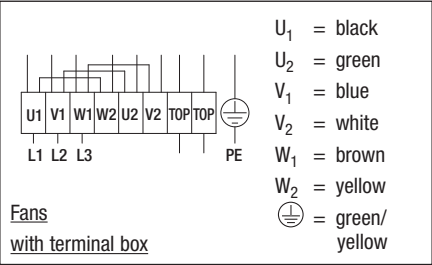
Fans (1 ~ 230 VAC power line)

Fans, 2 speeds via Δ/Y-switch (3~ 400 VAC power line)

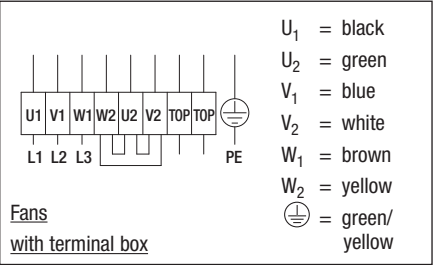
A2b) Single-phase capacitor motor
with connection for external TOP



F1b) Delta connection (high speed)
with TOP

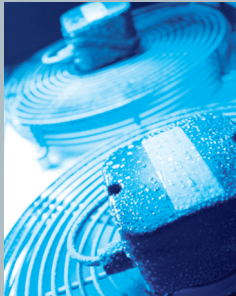


F2b) Star connection (low speed)
with TOP



Direction of rotation is reversed by swapping two line phases.

Technical parameters & scope



High standards for all ebm-papst products

Here at ebm-papst, we constantly strive to further improve our products in order to be able to offer you the best possible product for your application. Careful monitoring of the market ensures that technical innovations are reflected in the improvements of our products.

Based on the technical parameters listed below and the ambience you want our product to operate in, we here at ebm-papst can always work out the best solution for your specific application.

General performance parameters

Any deviations from the technical data and parameters described here are listed on the product-specific data sheet.

Type of protection

The type of protection is specified in the product-specific data sheets.

Insulation class

The insulation class is specified in the product-specific data sheets.

Mounting position

The mounting position is specified in the product-specific data sheets.

Condensate discharge holes

Information on the condensate discharge holes is provided in the product-specific data sheets.

Mode of operation

The mode of operation is specified in the product-specific data sheets.

Protection class

The protection class is specified in the product-specific data sheets..

Service life

The service life of ebm-papst products depends on two major factors:

- The service life of the insulation system
- The service life of the bearing system

The service life of the insulation system mainly depends on voltage level, temperature and ambient conditions, such as humidity and condensation. The service life of the bearing system depends mainly on the thermal load on the bearing.

The majority of our products use maintenance-free ball bearings for any mounting position possible. As an option, sleeve bearings can be used, which is indicated on the product-specific data sheet wherever applicable.

The service life L10 of the ball bearings can be taken as approx. 40,000 operating hours at an ambient temperature of 40 °C, yet this estimate can vary according to the actual ambient conditions.

We will gladly provide you with a lifetime calculation taking into account your specific operating conditions.

Motor protection / thermal protection

Information on motor protection and thermal protection is provided in the product-specific data sheets.

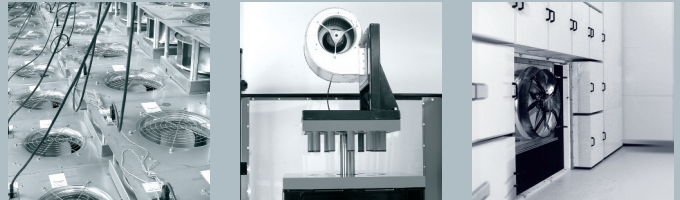
Depending on motor type and field of application, the following protective features are realised:

- Thermal overload protection (TOP), either in-circuit or external
- PTC with electronic diagnostics
- Impedance protection
- Thermal overload protection (TOP) with electronic diagnostics
- Current limitation via electronics

If an external TOP is connected, the customer has to make sure to connect a conventional trigger device for switching it off.

Products without fitted TOP and without protection against improper use, a motor protection complying with the valid standards has to be installed.

*Left: Endurance test room
Middle: Shock test
Right: Chamber test rig*



■ Mechanical strain / performance parameters

All ebm-papst products are subjected to comprehensive tests complying with the normative specifications. In addition to this, the tests also reflect the vast experience and expertise of ebm-papst.

Vibration test

Vibration tests are carried out in compliance with

- Vibration test in operation according to DIN IEC 68, parts 2-6
- Vibration test at standstill according to DIN IEC 68, parts 2-6

Shock load

Shock load tests are carried out in compliance with

- Shock load according to DIN IEC 68, parts 2-27

Balancing quality

Testing the balancing quality is carried out in compliance with

- Residual imbalance according to DIN ISO 1940
- Standard balancing quality level G 6.3

Should you require a higher balancing quality level for your specific application, please let us know and specify this when ordering your product.

■ Chemo-physical strain / performance parameters

Should you have questions about chemo-physical strain, please direct them to your ebm-papst contact.

■ Fields of application, industries and applications

Our products are used in various industries and applications:

Ventilation, air-conditioning and refrigeration technology, clean room technology, automotive and rail technology, medical and laboratory technology, electronics, computer and office technology, telecommunications, household appliances, heating, machines and plants, drive engineering. Our products are not designed for use in the aviation and aerospace industry!

■ Legal and normative directives

The products described in this catalogue are designed, developed and produced in keeping with the standards in place for the relevant product and, if known, the conditions governing the relevant fields of application.

Standards

Information on standards is provided in the product-specific data sheets.

EMC

Information on EMC standards is provided in the product-specific data sheets.

Complying with the EMC standards has to be established on the final appliance, as different mounting situations can result in changed EMC properties.

Leakage current

Information on the leakage current is provided in the product-specific data sheets.

Measuring is according to IEC 60990.

Approvals

In case you require a specific approval for your ebm-papst product (VDE, UL, GOST, CCC, CSA, etc.) please let us know.

Most of our products can be supplied with the relevant approval.

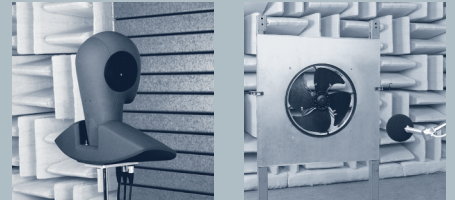
Information on existing approvals is provided in the product-specific data sheets.

■ Air performance measurements

All air performance measurements are carried out on suction side and on chamber test beds conforming to the specifications as per ISO 5801 and DIN 24163. The fans under test are installed in the measuring chamber at free air intake and exhaust (installation category A) and are operated at nominal voltage, with AC also at nominal frequency, and without any additional components such as guard grilles.

As required by the standard, the air performance curves correspond to an air density of 1.2 kg/m³.

Room for precision noise measuring



Measurement conditions for air and noise measurement

ebm-papst products are measured under the following conditions:

- Axial and diagonal fans in direction of rotation “V” in full nozzle and without guard grille
- Backward curved centrifugal fans, free-running and with inlet nozzle
- Forward curved single and dual inlet centrifugal fans with housing

Noise measurements

All noise measurements are carried out in low-reflective test rooms with reverberant floor. Thus the ebm-papst acoustic test chambers meet the requirements of precision class 1 according to DIN EN ISO 3745. For noise measurement, the fans being tested are placed in a reverberant wall and operated at nominal voltage (for AC, also at nominal frequency) without additional attachments such as the guard grille.

Sound pressure level and sound level

All acoustic values are established according to ISO 13347, DIN 45635 and ISO 3744/3745 to accuracy class 2 and given in A-rated form.

When the sound pressure level (L_p) is measured, the microphone is on the intake side of the fan being tested, usually at a distance of 1 m on the fan axis.

To measure the sound level (L_w), 10 microphones are distributed over an enveloping surface on the intake side of the fan being tested (see graphic). The sound level measured can be roughly calculated from the sound pressure level by adding 7 dB.

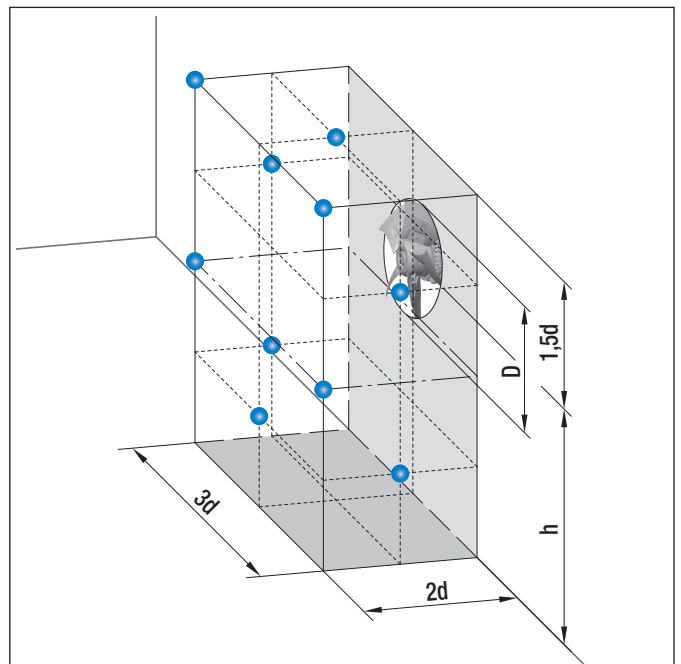
Measuring configuration as per ISO 13347-3 respectively DIN 45635-38:

- 10 measuring points

$$d \geq D$$

$$h = 1,5d \dots 4,5d$$

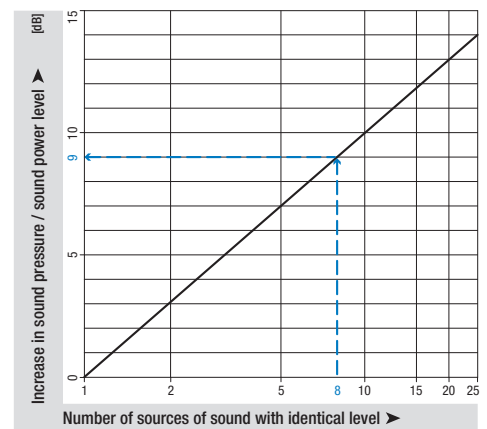
$$\text{Measurement area } S = 6d^2 + 7d(h + 1,5d)$$



Adding multiple noise sources with the same level

Adding 2 noise sources with the same volume results in a level increase of approx. 3 dB. The noise characteristics of multiple identical fans can be determined in advance based on the noise values specified in the data sheet. This is shown in the diagram opposite.

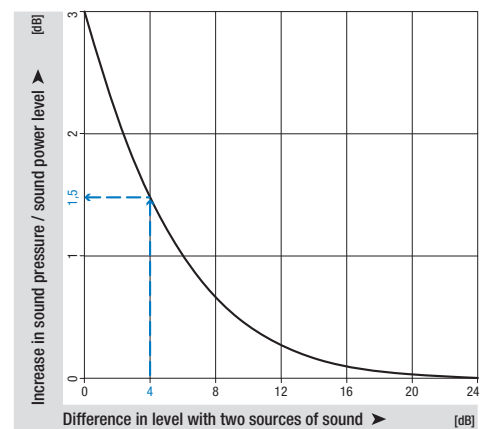
Example: 8 A3G800 axial fans are on a condenser. According to the data sheet, the sound pressure level of a fan is approximately 75 dB(A). The level increase measured from the diagram is 9 dB. Thus the overall sound level of the installation can be expected to be 84 dB(A).



Adding two noise sources with different levels

The acoustic performance of two different fans can be predetermined based on the sound levels given in the data sheet. This is shown in the diagram opposite.

Example: There is an axial fan A3G800 with a sound pressure level of 75 dB(A) at the operating point and an axial fan A3G710 with 71 dB(A) in a ventilation unit. The level difference is 4 dB. The level increase can now be read in the diagram as approx. 1.5 dB. This means that the overall sound level of the unit can be expected to be 76.5 dB(A).



Distance laws

Sound power level is independent of distance to the sound source. In contrast to this, sound pressure level decreases the further away the noise source is. The adjacent diagram shows the decrease in level under far sound field conditions. Far sound field conditions apply whenever the distance between microphone and fan is big when compared to fan diameter and wavelength to be considered. For more information on far sound field, please consult the relevant literature on this complex topic. Per doubling of distance, the level in the far sound field decreases by 6 dB. In the near field of the fan, other correlations apply and the decrease in levels can be considerably smaller. The following example only applies to far sound field conditions and can vary strongly depending on the installation effects:

With an axial fan A3G300, a sound pressure level of 65 dB(A) was measured at a distance of 1 m. According to the adjacent diagram, at a distance of 20 m we would get a reduction by 26 dB, i.e. a sound pressure level of 39 dB(A).

