AC axial fan - HyBlade

sickled blades (S series)

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**A6D560-AK03-01**
Motor	**M6D110-EF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	480	480
Connection		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Type of data definition		ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	895	715	1045	765
Power input	W	380	260	610	390
Current draw	A	0.81	0.45	0.98	0.57
Max. back pressure	Pa	75	48	105	57
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	65	65
Starting current	A	2.57	0.8	2.84	0.88

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	30.9	30.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.37
09 Air flow q_v	m^3/h	4600
09 Pressure increase p_{fs}	Pa	88
10 Speed (rpm) n	min^{-1}	895
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-164286

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Technical features

Mass	8.3 kg
Size	560 mm
Surface of rotor	Cast in aluminium
Material of terminal box	PP plastic
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Number of blades	5
Blade angle	-5°
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) brought out, basic insulation
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CCC; VDE; EAC

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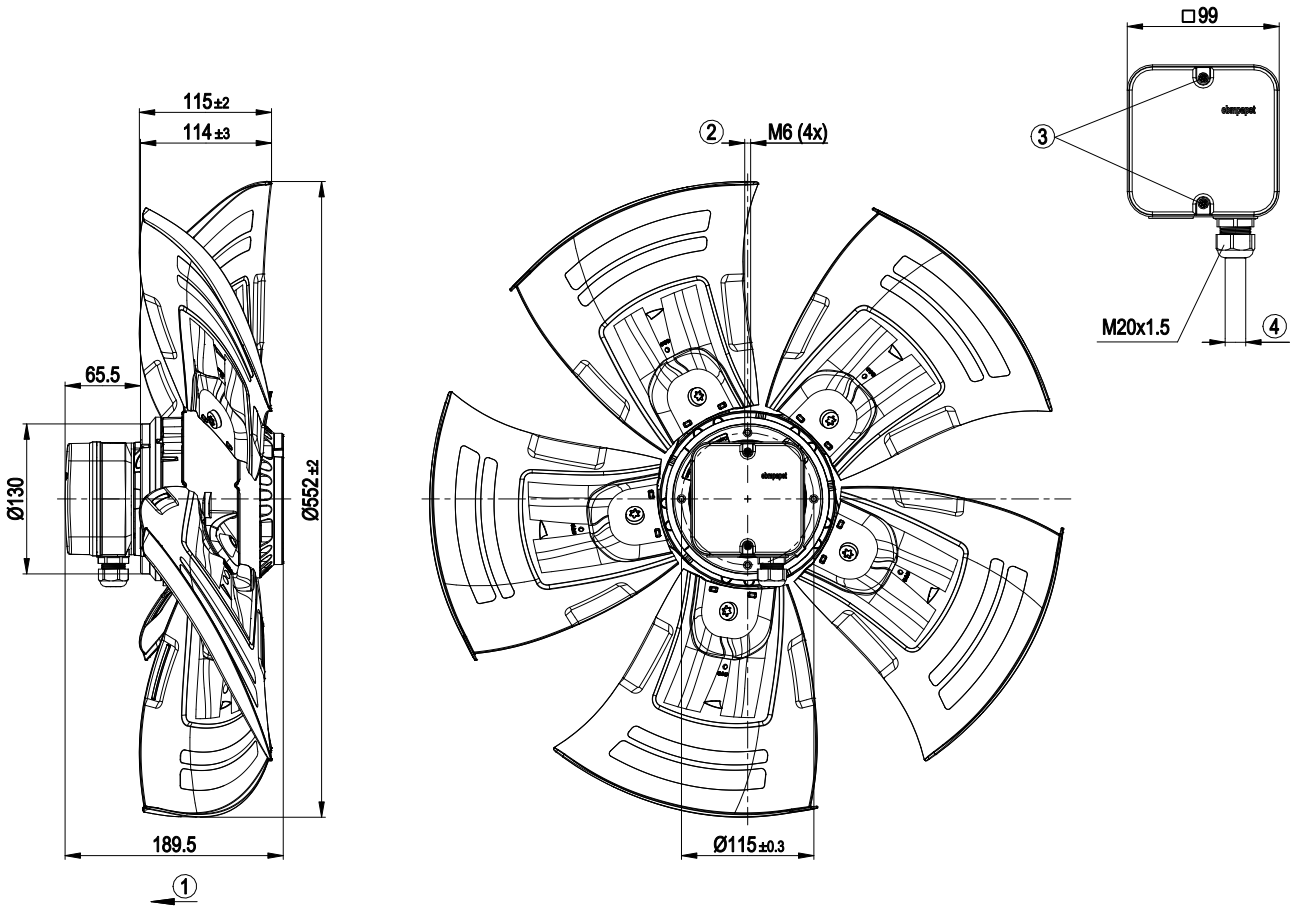
Product drawing



1	Direction of air flow "V"
2	Thread reach max. 12 mm
3	Tightening torque 1.5±0.2 Nm
4	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2±0.3 Nm

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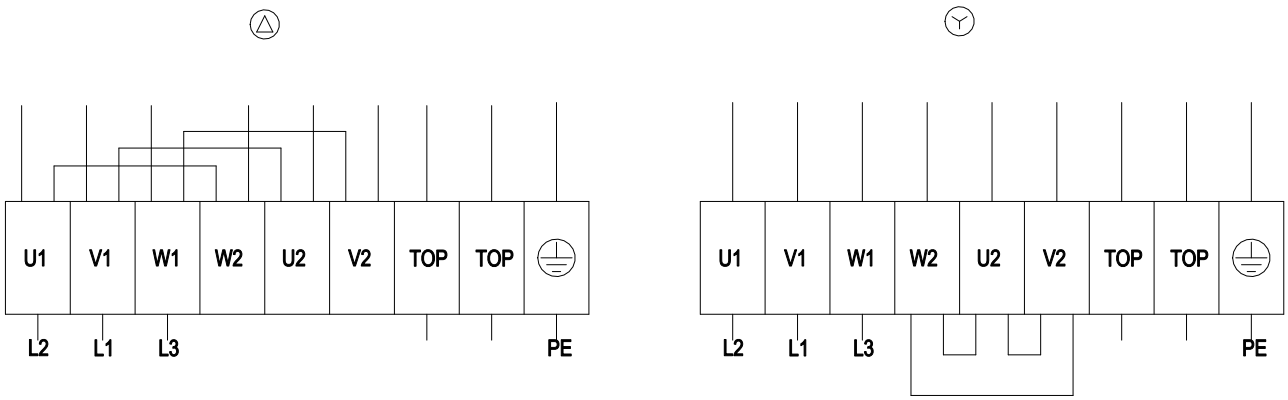
Connection screen



Δ	Delta connection	Y	Star connection	L1	= V1 = blue
L2	= U1 = black	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2 x grey
PE	green/yellow				

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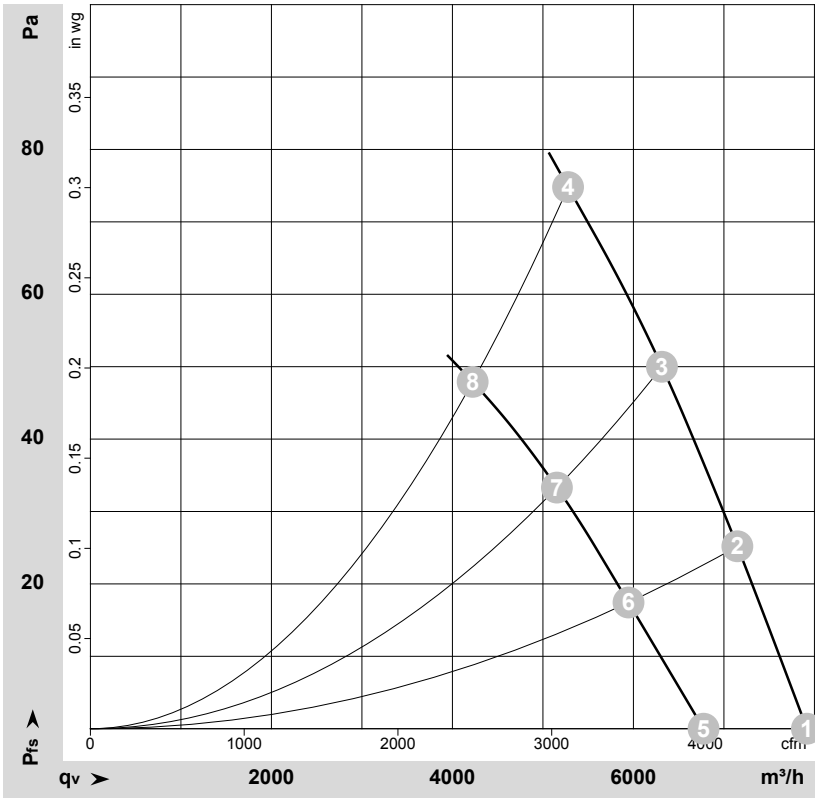
Charts: Air flow 50 Hz



ρ = 1.176 kg/m³ ± 2 %

Measurement: LU-129189-1
Measurement: LU-129398-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_e	I	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	Δ	400	50	930	291	0.74	59	66	66	7915	0	4660	0.00
2	Δ	400	50	915	326	0.76	58	65	64	7150	25	4205	0.10
3	Δ	400	50	905	352	0.78	58	65	64	6315	50	3715	0.20
4	Δ	400	50	895	380	0.81	57	65	64	5280	75	3105	0.30
5	Y	400	50	795	211	0.37	56	62	62	6775	0	3990	0.00
6	Y	400	50	760	229	0.40	54	61	60	5945	17	3500	0.07
7	Y	400	50	735	245	0.43	53	59	58	5155	34	3035	0.14
8	Y	400	50	715	260	0.45	52	59	58	4225	48	2485	0.19

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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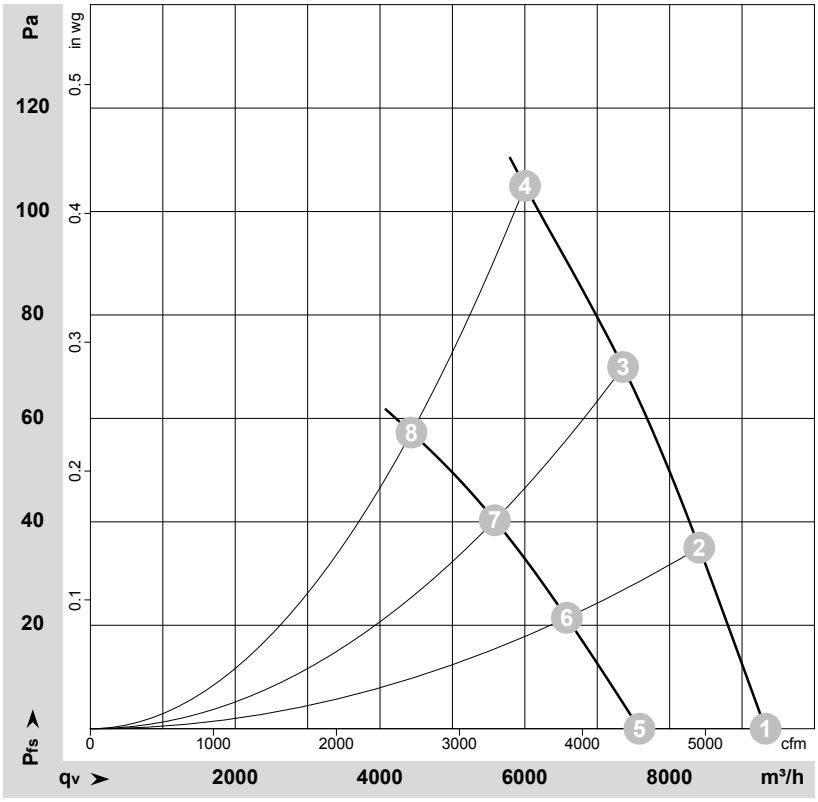
Charts: Air flow 60 Hz



ρ = 1.174 kg/m³ ± 2 %

Measurement: LU-129197-1
Measurement: LU-129399-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_e	I	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	Δ	480	60	1100	458	0.84	63	70	70	9325	0	5490	0.00
2	Δ	480	60	1080	514	0.88	62	68	68	8410	35	4950	0.14
3	Δ	480	60	1060	565	0.93	63	70	68	7355	70	4330	0.28
4	Δ	480	60	1045	610	0.98	62	69	68	6005	105	3535	0.42
5	Y	480	60	895	330	0.48	58	65	65	7585	0	4465	0.00
6	Y	480	60	845	354	0.52	57	63	63	6580	22	3875	0.09
7	Y	480	60	800	373	0.55	55	62	61	5585	41	3285	0.16
8	Y	480	60	765	390	0.57	54	61	61	4435	58	2610	0.23

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase