A4D630-AR11-09

PROFROID INDUSTRIES DIV. CARRI

AC axial fan - HyBlade

sickle-shaped blades (S series)

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**A4D630-AR11-09**
Motor	**M4D110-IA**

Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	480	480
Wiring		Δ	Y	Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60	60	60
Method of obtaining data		ml	ml	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1260	915	1310	835	1440	960
Power consumption	W	1000	570	1320	600	1590	820
Current draw	A	1.85	1.02	2.32	1.1	2.4	1.22
Max. back pressure	Pa	90	48	90	37	110	50
Max. back pressure	in. wg	0.36	0.19	0.36	0.15	0.44	0.2
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	70	70	40	40	40	40
Starting current	A	5.6	1.7	4.8	1.5	6.1	2.0

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

At -40°C ambient temperature the electrical values are as follows:
3~DY 400 V 50 Hz 2.40/1.35 A 1300/740 W
3~DY 400 V 60 Hz 3.0/1.45 A 1720/780 W
3~DY 480 V 60 Hz 3.1/1.6 A 2070/1070 W

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	34.2	34
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40.2	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	1.14
09 Air flow q_v	m^3/h	8070
09 Pressure increase p_{fs}	Pa	175
10 Speed (rpm) n	min^{-1}	1200
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-127547

AC axial fan - HyBlade

sickle-shaped blades (S series)

Technical description

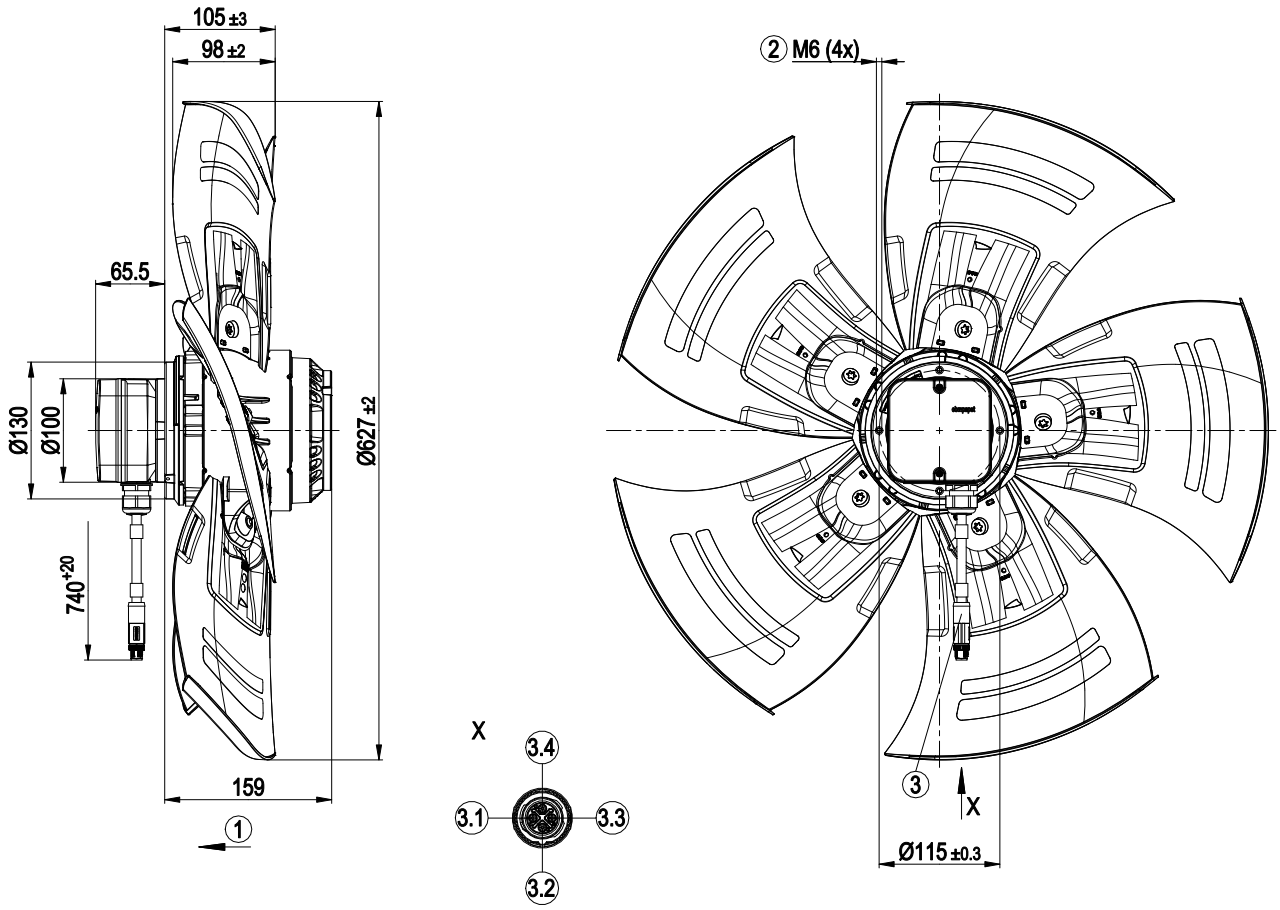
Weight	12.3 kg
Size	630 mm
Motor size	110
Rotor surface	Cast in aluminum
Terminal box material	PP plastic
Blade material	Sheet aluminum insert, sprayed with PP plastic
Number of blades	5
Blade pitch	-10°
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1 (2010); CE
Approval	EAC; VDE

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan - HyBlade

sickle-shaped blades (S series)

Product drawing



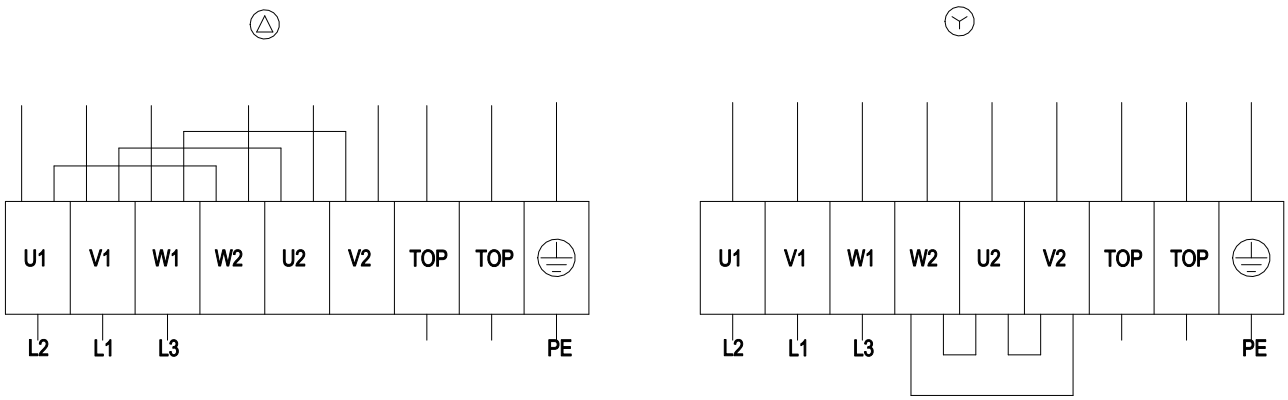
1	Airflow direction "V"
2	Max. clearance for screw 12 mm
3	Cable PUR 4x 1.5 mm²
	Connector M12 Phoenix, 4-pole (s-coded)
3.1	L1
3.2	L2
3.3	L3
3.4	PE

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan - HyBlade

sickle-shaped blades (S series)

Connection diagram



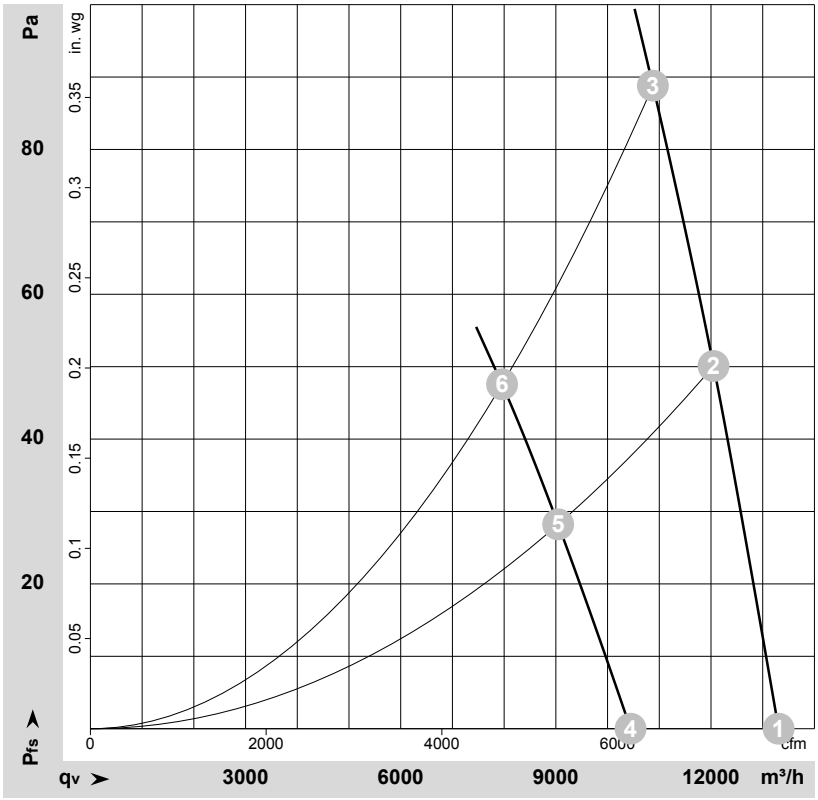
Δ	Delta connection	Y	Star connection	L1	= V1 = blue
L2	= U1 = black	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan - HyBlade

sickle-shaped blades (S series)

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-127547-1
Measurement: LU-127784-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	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	in. wg
1	Δ	400	50	1330	782	1.53	71	78	77	13305	0	7830	0.00
2	Δ	400	50	1295	907	1.72	68	75	75	12050	50	7090	0.20
3	Δ	400	50	1260	1000	1.85	65	73	72	10875	90	6400	0.36
4	Y	400	50	1035	513	0.90	65	72	71	10445	0	6150	0.00
5	Y	400	50	970	552	0.97	62	68	68	9045	29	5325	0.12
6	Y	400	50	915	570	1.02	60	67	66	7960	48	4685	0.19

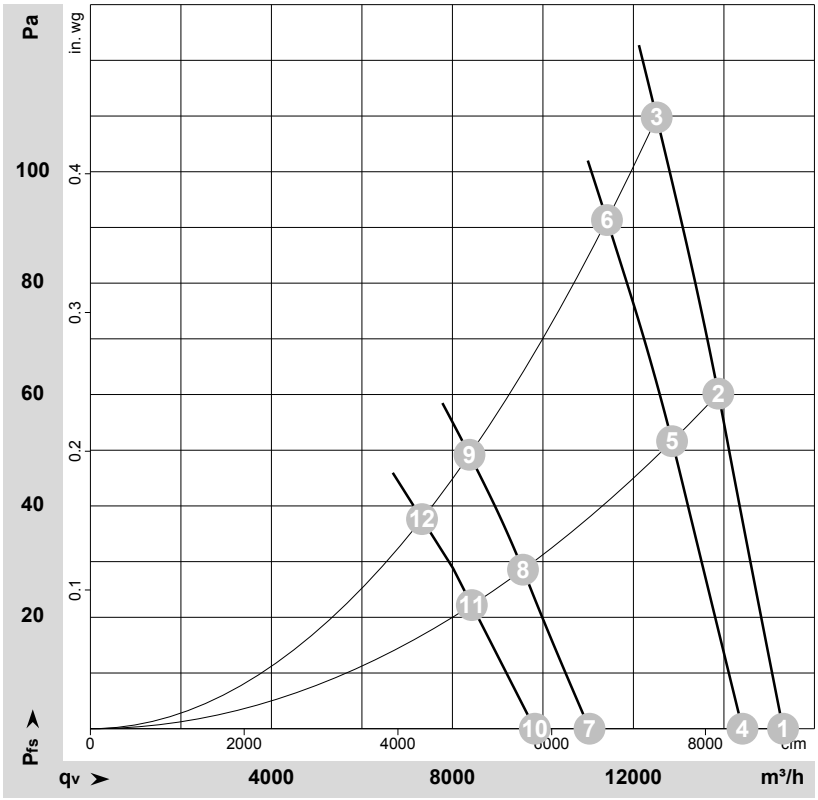
Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan - HyBlade

sickle-shaped blades (S series)

Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-137181-1
Measurement: LU-127706-1
Measurement: LU-137186-1
Measurement: LU-127783-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	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	in. wg
1	Δ	480	60	1540	1291	2.02	74	81	81	15305	0	9010	0.00
2	Δ	480	60	1485	1451	2.22	71	78	78	13875	60	8165	0.24
3	Δ	480	60	1440	1590	2.40	69	76	76	12515	110	7365	0.44
4	Δ	400	60	1440	1120	2.00	72	79	78	14410	0	8480	0.00
5	Δ	400	60	1365	1231	2.18	69	76	75	12855	52	7565	0.21
6	Δ	400	60	1310	1320	2.32	66	73	73	11415	91	6720	0.37
7	Y	480	60	1095	757	1.11	67	73	72	11030	0	6490	0.00
8	Y	480	60	1020	792	1.17	63	70	69	9560	29	5625	0.12
9	Y	480	60	960	820	1.22	60	67	67	8375	49	4930	0.20
10	Y	400	60	970	578	1.06	63	70	69	9820	0	5780	0.00
11	Y	400	60	890	590	1.09	60	67	66	8430	22	4960	0.09
12	Y	400	60	835	600	1.10	58	65	64	7330	38	4315	0.15

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com