WZD990-CD01-83

AC axial fan

sickle-shaped blades (S series)

with round full nozzle

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	**WZD990-CD01-83**
Motor	**MZD138-LA**

Phase		3~	3~	3~
Nominal voltage	VAC	230	400	400
Wiring		Δ	Δ	Y
Frequency	Hz	50	50	50
Method of obtaining data		fa	fa	fa
Valid for approval/standard		-	-	-
Speed	min^{-1}	400	460	400
Power consumption	W	290	490	290
Current draw	A	1.2	1.75	0.67
Max. back pressure	Pa	29	45	29
Min. ambient temperature	°C	-40	-40	-40
Max. ambient temperature	°C	70	70	70
Starting current	A	2.3	4.0	1.34

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

AC axial fan

sickle-shaped blades (S series)

with round full nozzle

Technical description

Weight	58 kg
Fan size	990 mm
Rotor surface	Painted black
Terminal box material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert (painted black), sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with gray-white plastic (RAL 9002)
Guard grille material	Steel, coated with gray-white plastic (RAL 9002)
Number of blades	5
Blade pitch	0°
Airflow direction	"A"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-2
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	(Transportation) -40 °C / (storage) -45 °C
Installation position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensation drainage holes	On stator side
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box
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); EN 61800-5-1
Approval	EAC; VDE

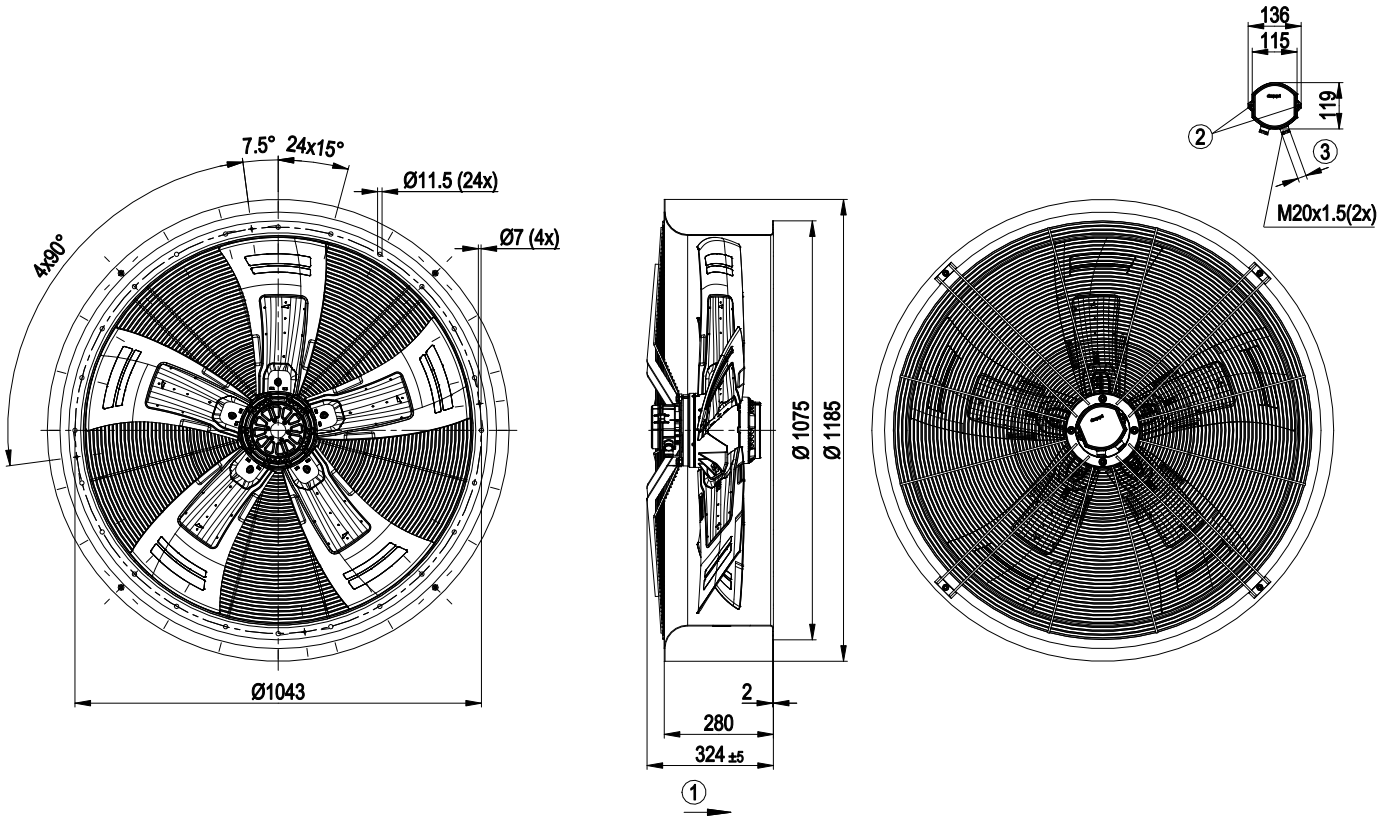
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with round full nozzle

Product drawing



1	Direction of air flow "A"
2	Tightening torque 2.5 ± 0.4 Nm
3	Cable diameter: min. 10 mm, max. 12 mm, tightening torque 4 ± 0.4 Nm

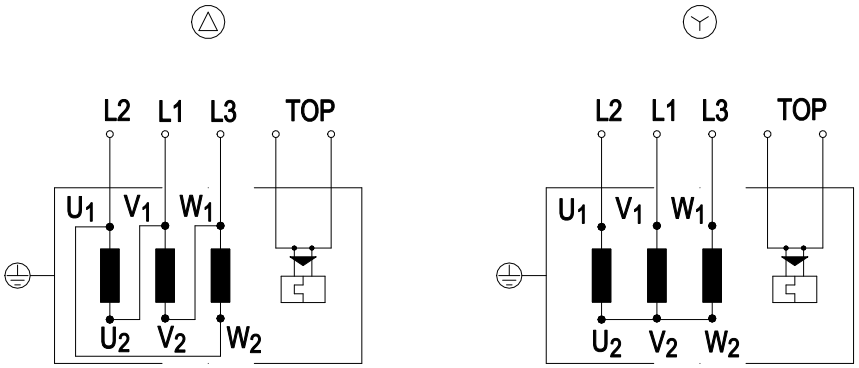
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with round full nozzle

Connection diagram



Change of rotation direction by reversing two phases

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

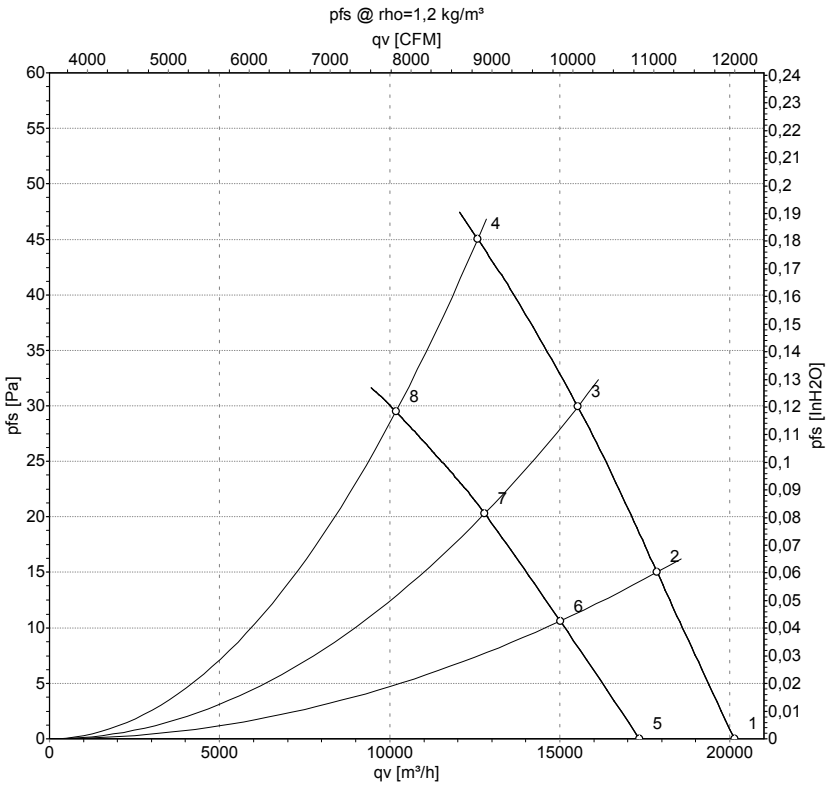
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with round full nozzle

Curves: Air performance 50 Hz



Measurement: LU-150478-1
Measurement: LU-151937-1

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}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	Δ	400	50	460	490	1.75	57	64	64	20135	0
2	Δ	400	50	455	537	1.76	55	63	62	17860	15
3	Δ	400	50	450	574	1.77	54	61	61	15530	30
4	Δ	400	50	440	620	1.80	55	62	62	12585	45
5	Y	400	50	400	290	0.67	54	61	60	17345	0
6	Y	400	50	385	317	0.69	51	58	58	15010	11
7	Y	400	50	370	341	0.73	49	56	56	12790	21
8	Y	400	50	360	360	0.76	49	56	56	10180	29

Wired = Wiring · U = Power supply · f = Frequency · n = Speed · 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 · qv = 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