S4D400-AP12-83

AC axial fan

sickle-shaped blades (S series), single-intake

with guard grille for short 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	**S4D400-AP12-83**
Motor	**M4D074-EI**

Phase		3~	3~	3~
Nominal voltage	VAC	400	400	400
Wiring		Y	Y	Y
Frequency	Hz	50	60	60
Method of obtaining data		fa	fa	fa
Valid for approval/standard		CE	CE	UL 2111
Speed (rpm)	min^{-1}	1450	1690	1690
Power consumption	W	135	185	185
Current draw	A	0.44	0.39	0.39
Max. back pressure	Pa	105	120	120
Max. back pressure	inH2O	0.42	0.48	0.48
Min. ambient temperature	°C	-25	-25	-25
Max. ambient temperature	°C	60	60	60
Starting current	A	1.7	1.7	1.7

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

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	32.7	29.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		43.6	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.19
09 Air flow q_v	m^3/h	2595
09 Pressure increase p_{fs}	Pa	91
10 Speed (rpm) n	min^{-1}	1415
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-27622

AC axial fan

sickle-shaped blades (S series), single-intake
with guard grille for short nozzle

Technical description

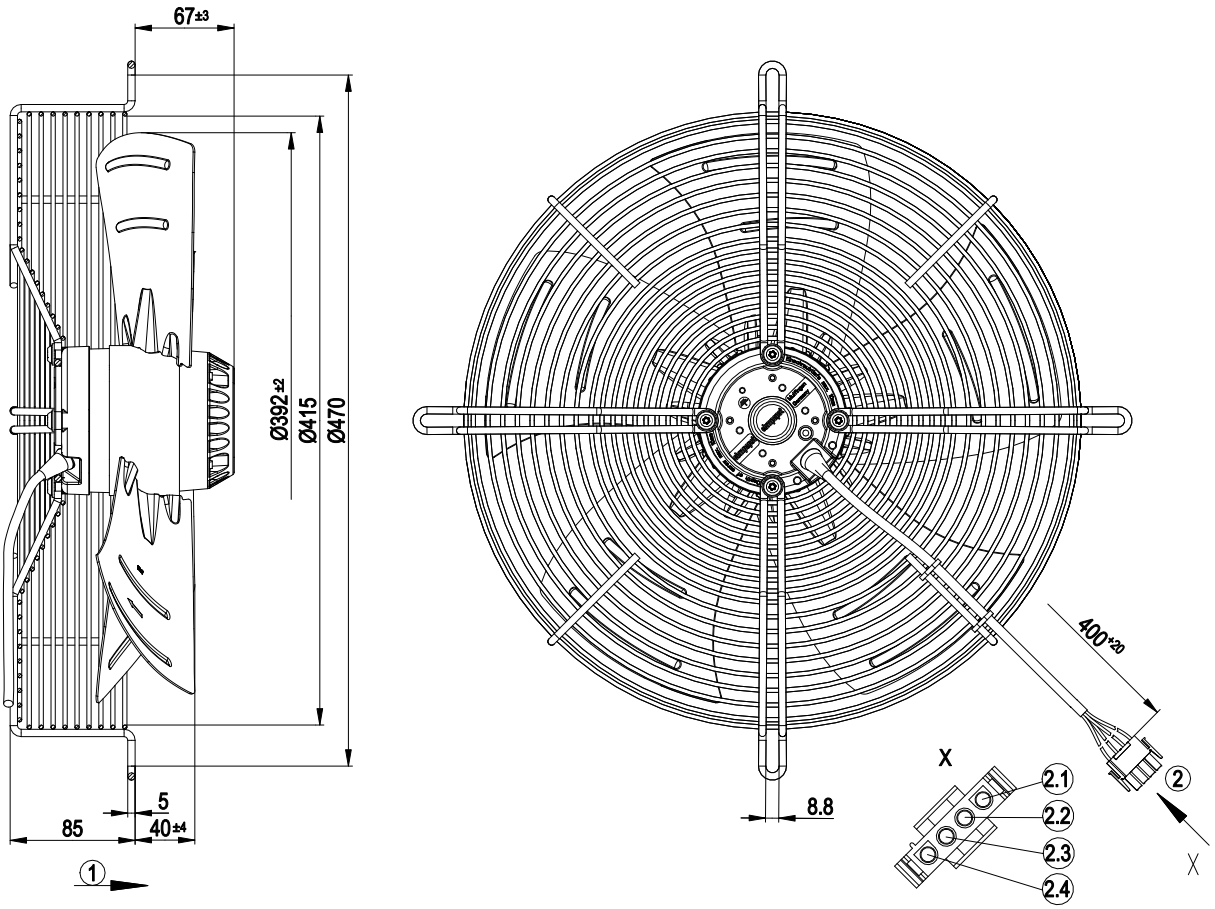
Weight	5.9 kg
Fan size	400 mm
Rotor surface	Painted black
Blade material	Sheet steel, painted black
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent as per EN 60034-5
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F2-2
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)	< 0.75 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	UL 2111; CSA C22.2 No. 77

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), single-intake
with guard grille for short nozzle

Product drawing



1	Direction of air flow "A"
2	Cable silicone 4G 0.5 mm², 4-pole connector housing tyco 926298-7, 4x plug pin tyco 926885-1
2.1	green/yellow
2.2	brown
2.3	blue
2.4	black

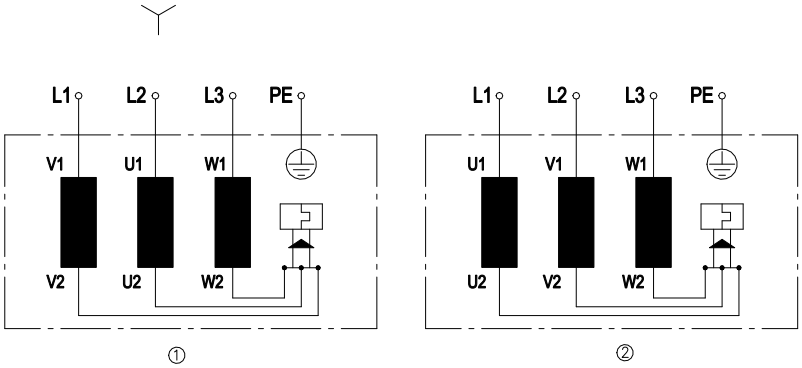
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series), single-intake

with guard grille for short nozzle

Connection diagram



Change of rotation direction by reversing two phases

	Three-phase motor
Y	Star connection
1	Counterclockwise operation
L1	= V1 = blue
L2	= U1 = black
L3	= W1 = brown
2	Clockwise operation
L1	=U1=black
L2	=V1=blue
L3	=W1=brown
PE	green/yellow

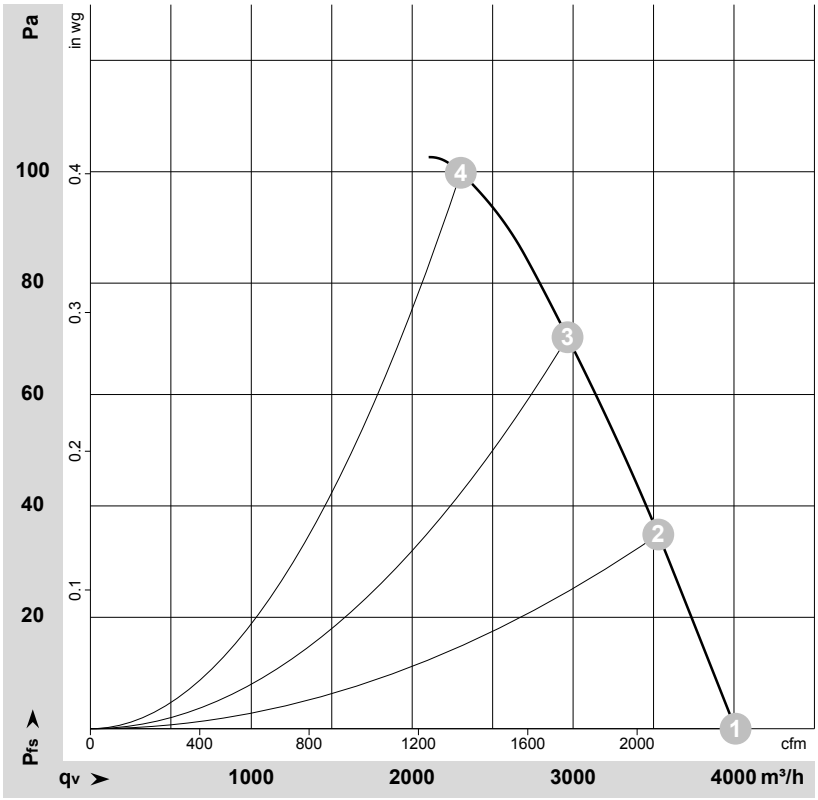
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series), single-intake

with guard grille for short nozzle

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-27622-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y	400	50	1450	135	0.44	4010	0	2360	0.00
2	Y	400	50	1435	161	0.47	3530	35	2080	0.14
3	Y	400	50	1420	183	0.49	2965	70	1745	0.28
4	Y	400	50	1410	204	0.50	2300	100	1355	0.40

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

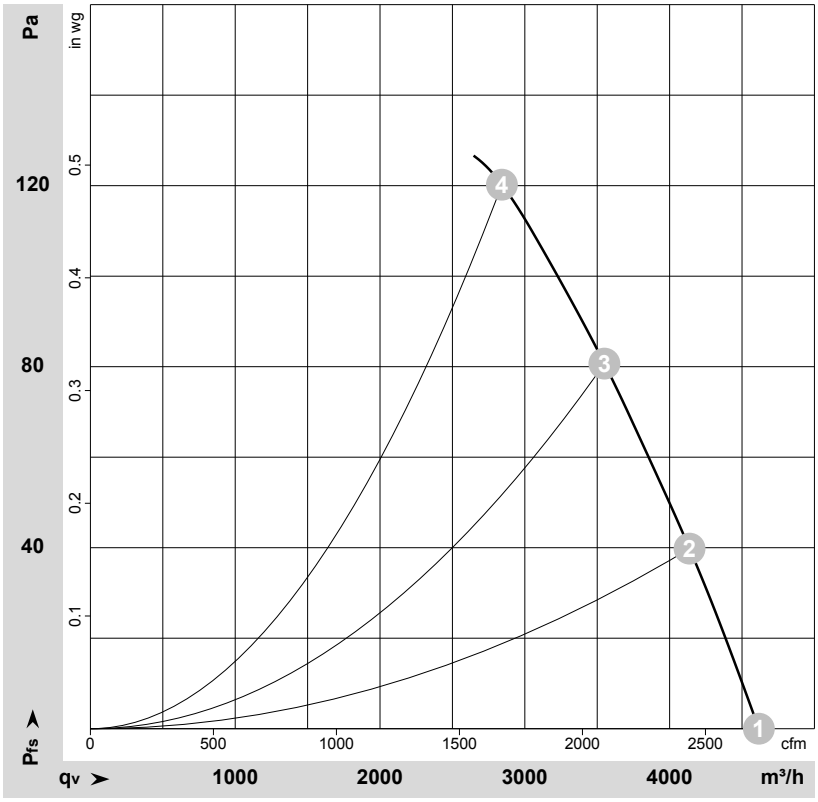
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series), single-intake

with guard grille for short nozzle

Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-27623-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y	400	60	1690	185	0.39	4615	0	2715	0.00
2	Y	400	60	1660	223	0.45	4140	40	2435	0.16
3	Y	400	60	1635	257	0.49	3550	80	2090	0.32
4	Y	400	60	1605	292	0.54	2840	120	1675	0.48

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · 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