

S4D400-AP12-70

# AC axial fan

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



S4D400-AP12-70 ebmpapst Datasheet  
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Amtsgericht (court of registration) Stuttgart · HRA 590344  
General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen  
Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

<b>Type</b>	<b>S4D400-AP12-70</b>				
<b>Motor</b>	<b>M4D074-EI</b>				
Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	230	400	400
Wiring		$\Delta$	$\Delta$	Y	Y
Frequency	Hz	50	60	50	60
Method of obtaining data		fa	fa	fa	fa
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min <sup>-1</sup>	1450	1690	1450	1690
Power consumption	W	135	185	135	185
Current draw	A	0.76	0.68	0.44	0.39
Max. back pressure	Pa	105	120	105	120
Max. back pressure	in. wg	0.42	0.48	0.42	0.48
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	40	40	40	40
Starting current	A	3.0	3.0	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 Commission Regulation (EU) 327/2011

		Actual	Req. 2015		
01 Overall efficiency $\eta_{es}$	%	32.7	29.1	09 Power consumption $P_e$	kW 0.19
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h 2595
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa 91
04 Efficiency grade N		43.6	40	10 Speed (rpm) n	min <sup>-1</sup> 1415
05 Variable speed drive		No		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 =  $1 + p_{fs} / 100\,000\text{ Pa}$

LU-27622



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sickle-shaped blades (S series), single-intake  
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## Technical description

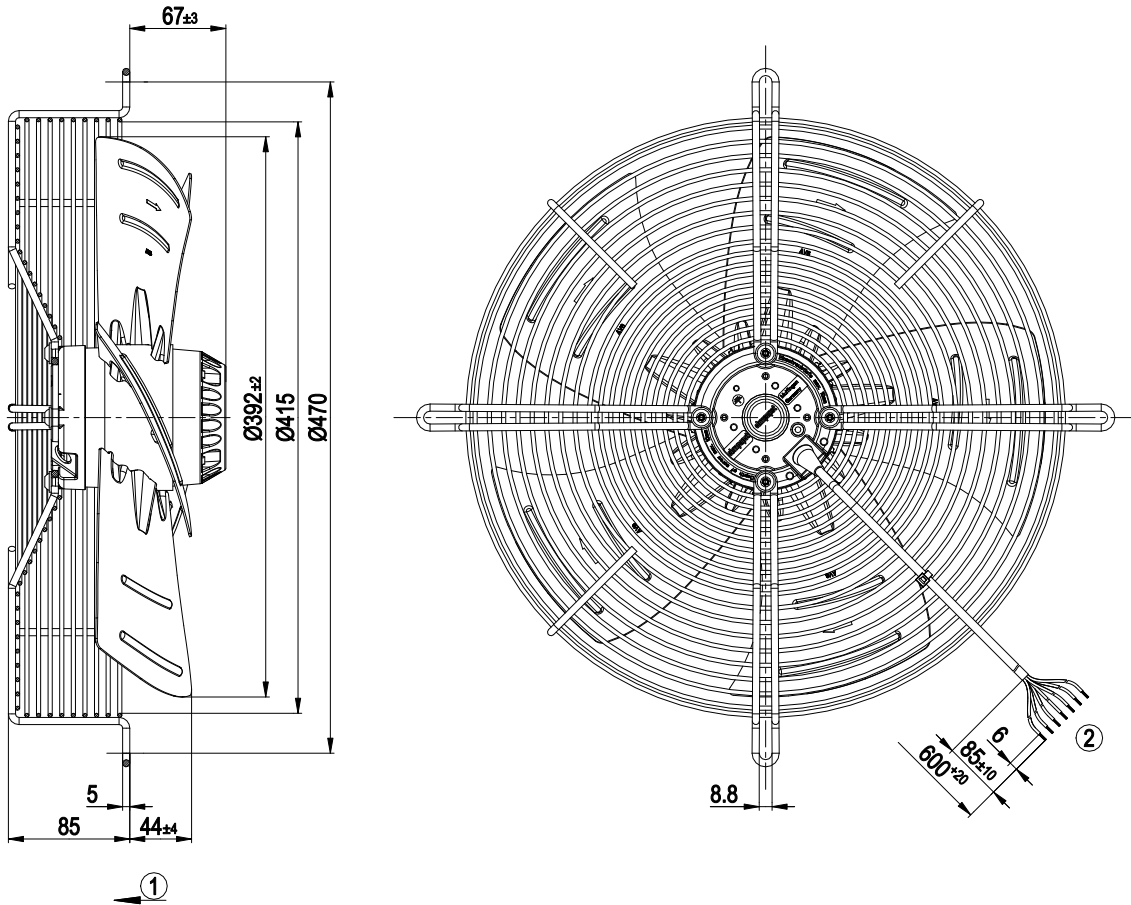
<b>Weight</b>	6 kg
<b>Fan size</b>	400 mm
<b>Rotor surface</b>	Painted black
<b>Blade material</b>	Sheet steel, painted black
<b>Guard grille material</b>	Steel, coated with black plastic (RAL 9005)
<b>Number of blades</b>	5
<b>Airflow direction</b>	"V"
<b>Direction of rotation</b>	Counterclockwise, viewed toward rotor
<b>Degree of protection</b>	IP44; installation- and position-dependent as per EN 60034-5
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	H1
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+ 80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	- 40 °C
<b>Installation position</b>	Shaft horizontal or rotor on bottom; rotor on top on request
<b>Condensation drainage holes</b>	On rotor side
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	< 0.75 mA
<b>With cable</b>	Variable
<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 60335-1, motor does not have factory-installed overheating protection
<b>Approval</b>	CSA C22.2 No. 100; UL 1004-1



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## Product drawing



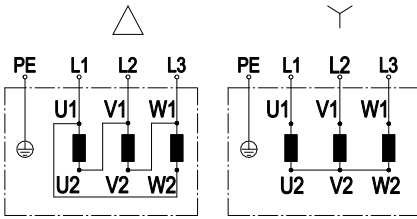
1	Airflow direction "V"
2	Cable PVC AWG20
	7x splice



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## Connection diagram



Change of rotation direction by reversing two phases

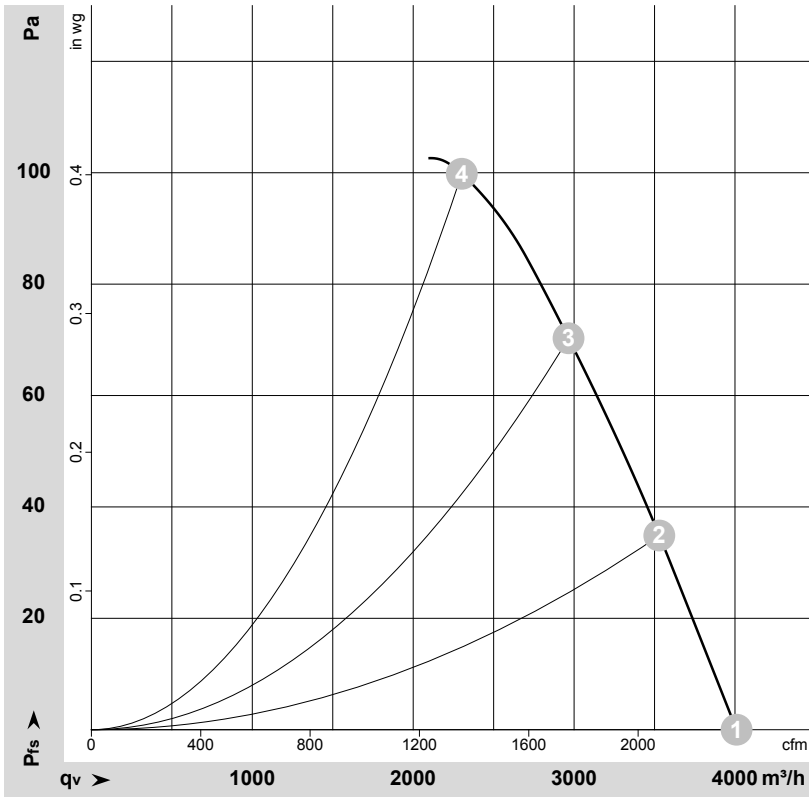
	Three-phase motor	Δ	Delta connection	Y	Star connection
L1	= U1 = black	L2	= V1 = blue	L3	= W1 = brown
U2	green	V2	white	W2	yellow
PE	green/yellow				



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## Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-27622-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>e</sub>	I	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	in. wg
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

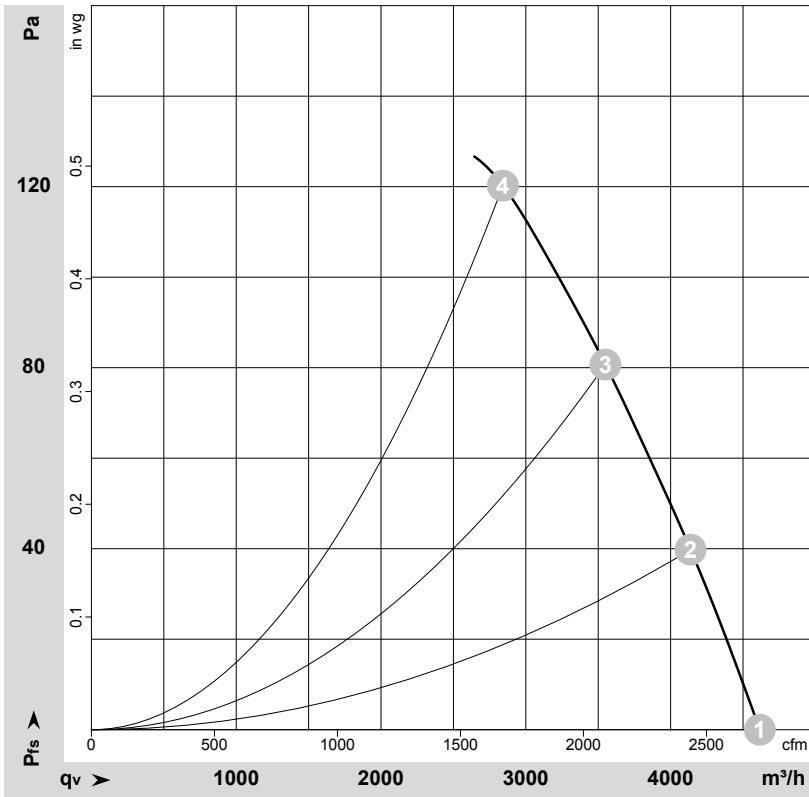
Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase



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## Curves: Air performance 60 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-27623-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>e</sub>	I	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	in. wg
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<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>s</sub> = Pressure increase

