

AC axial fan

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

S4D420-AP02-30 ebmpapst Datasheet

sales@fansco.com

www.fansco.com

Limited partnership · Headquarters Muldingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Muldingen GmbH · Headquarters Muldingen

Amtsgericht (court of registration) Stuttgart · HRB 590142



Nominal data

Type	S4D420-AP02-30				
Motor	M4D074-GA				
Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	230	400	400
Wiring		Δ	Δ	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 ⁻¹	1430	1660	1430	1660
Power consumption	W	160	235	160	235
Current draw	A	0.76	0.78	0.44	0.45
Max. back pressure	Pa	160	120	160	120
Max. back pressure	inH ₂ O	0.64	0.48	0.64	0.48
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	65	40	65	40

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}	%	34.5	29.5	09 Power consumption P_e	kW 0.22
02 Measurement category		A		09 Air flow q_v	m ³ /h 3540
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa 81
04 Efficiency grade N		45	40	10 Speed (rpm) n	min ⁻¹ 1395
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 = $1 + p_g / 100\,000\text{ Pa}$

LU-29817



AC axial fan

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

Technical description

Weight	6.8 kg
Fan size	420 mm
Rotor surface	Painted black
Blade material	Sheet steel, painted black
Guard grille material	Steel, phosphated and coated with black plastic
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent as per EN 60034-5
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0+
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
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
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE

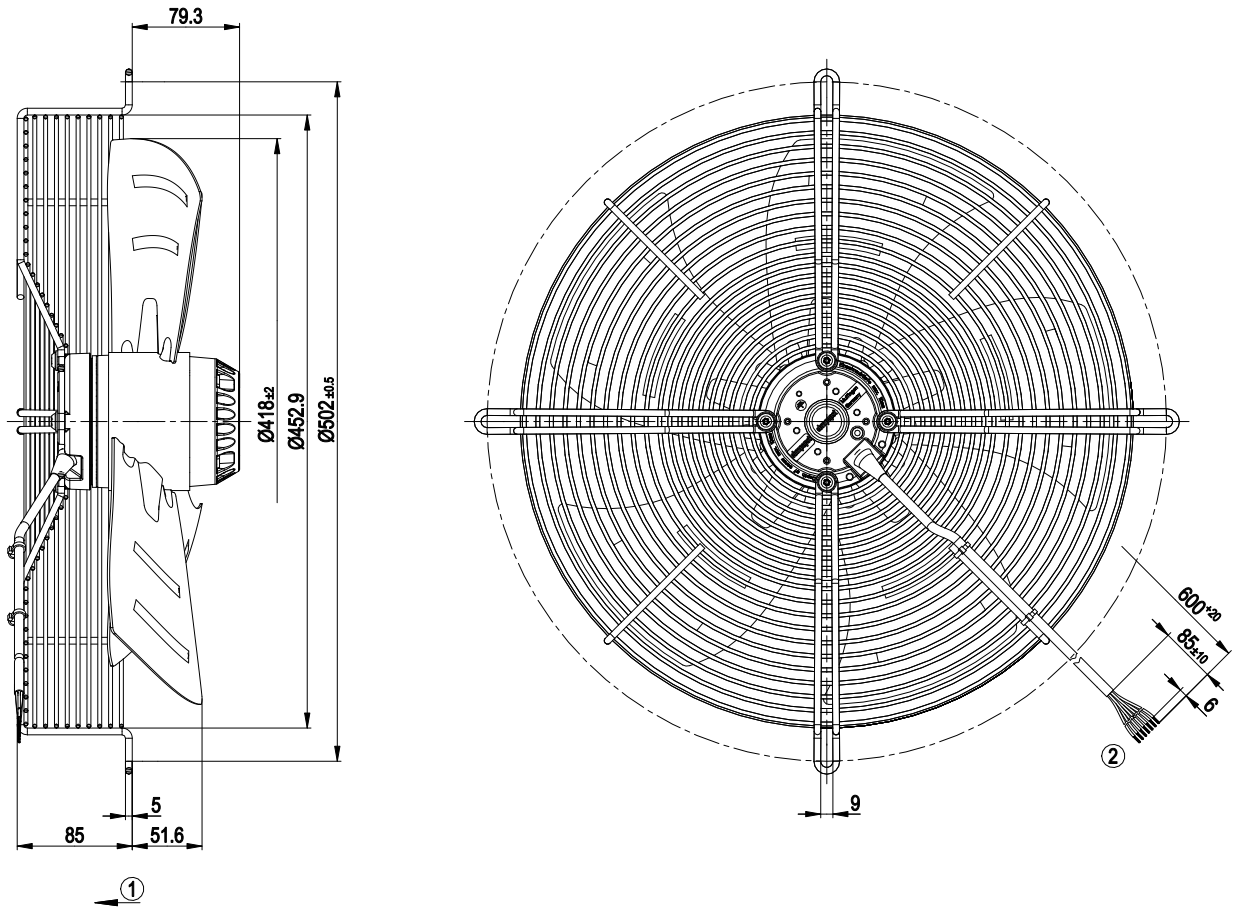


S4D420-AP02-30

AC axial fan

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

Product drawing



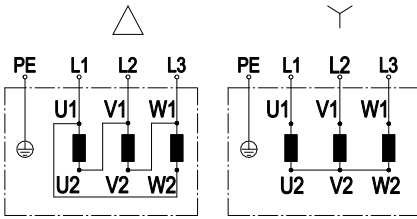
- | | |
|---|--|
| 1 | Direction of air flow "V" |
| 2 | Cable A03VV-F7G0.5, 7x crimped splices |



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

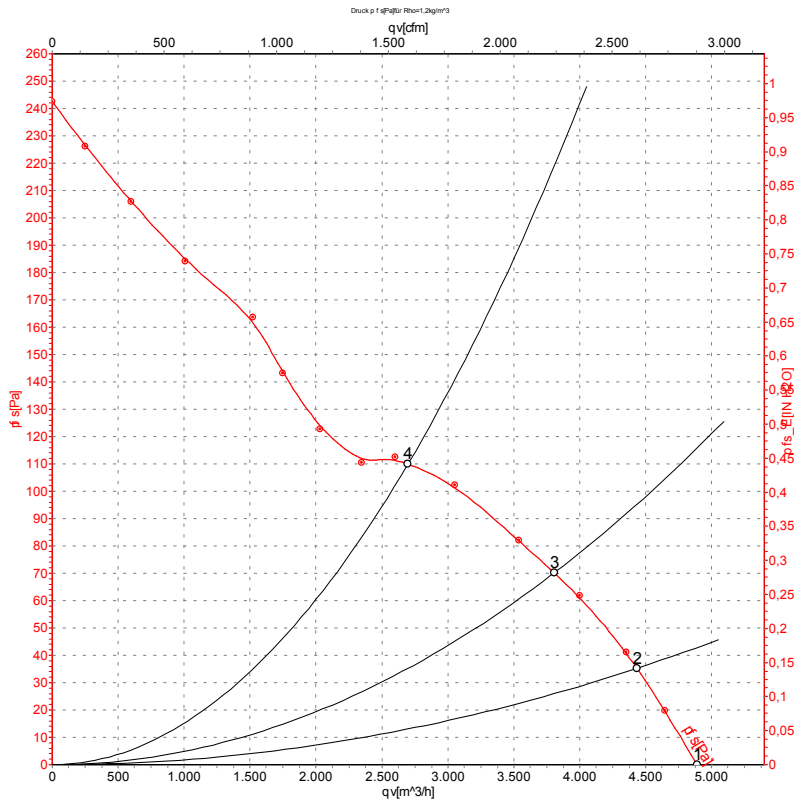
	Three-phase motor	Δ	Delta connection	Y	Star connection
L1	= U1 = black	L2	= V1 = blue	L3	= W1 = brown
U2	green	V2	white	W2	yellow
PE	green/yellow				



AC axial fan

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

Curves: Air performance 50 Hz



Measurement: LU-29817-1

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

	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	inH ₂ O
1	400	50	1430	160	0.44	4890	0	2880	0.00
2	400	50	1420	188	0.48	4435	35	2610	0.14
3	400	50	1400	218	0.51	3805	70	2240	0.28
4	400	50	1375	256	0.55	2700	110	1590	0.44

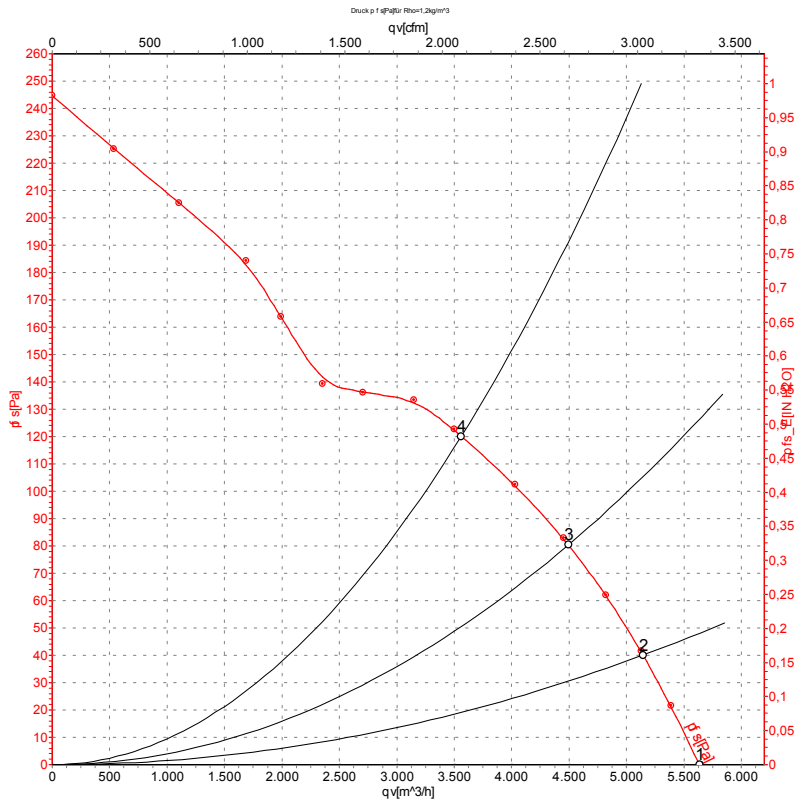
U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase



AC axial fan

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

Curves: Air performance 60 Hz



Measurement: LU-29818-1

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

	U	f	n	P _e	I	qv	p _{fs}	qv	p _{fs}
	V	Hz	min ⁻¹	W	A	m ³ /h	Pa	CFM	inH ₂ O
1	400	60	1660	235	0.45	5635	0	3315	0.00
2	400	60	1635	271	0.52	5145	40	3025	0.16
3	400	60	1595	315	0.57	4495	80	2645	0.32
4	400	60	1550	365	0.65	3560	120	2095	0.48

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

