S3G420-BO03-11

EC axial fan

sickled blades (S series)

with guard grille for full nozzle

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Nominal data

Type	**S3G420-BO03-11**
Motor	**M3G074-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	1090
Power input	W	165
Current draw	A	1.35
Max. back pressure	Pa	70
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	38	28.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		49.4	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	3205
09 Pressure increase p_{fs}	Pa	62
10 Speed (rpm) n	min^{-1}	1095
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

LU-139132

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Technical features

Mass	4.5 kg
Size	420 mm
Surface of rotor	Galvanised
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	"A"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	None, open rotor
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Output limit - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Over-temperature protected electronics / motor - Line undervoltage detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	PTC resistor
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE

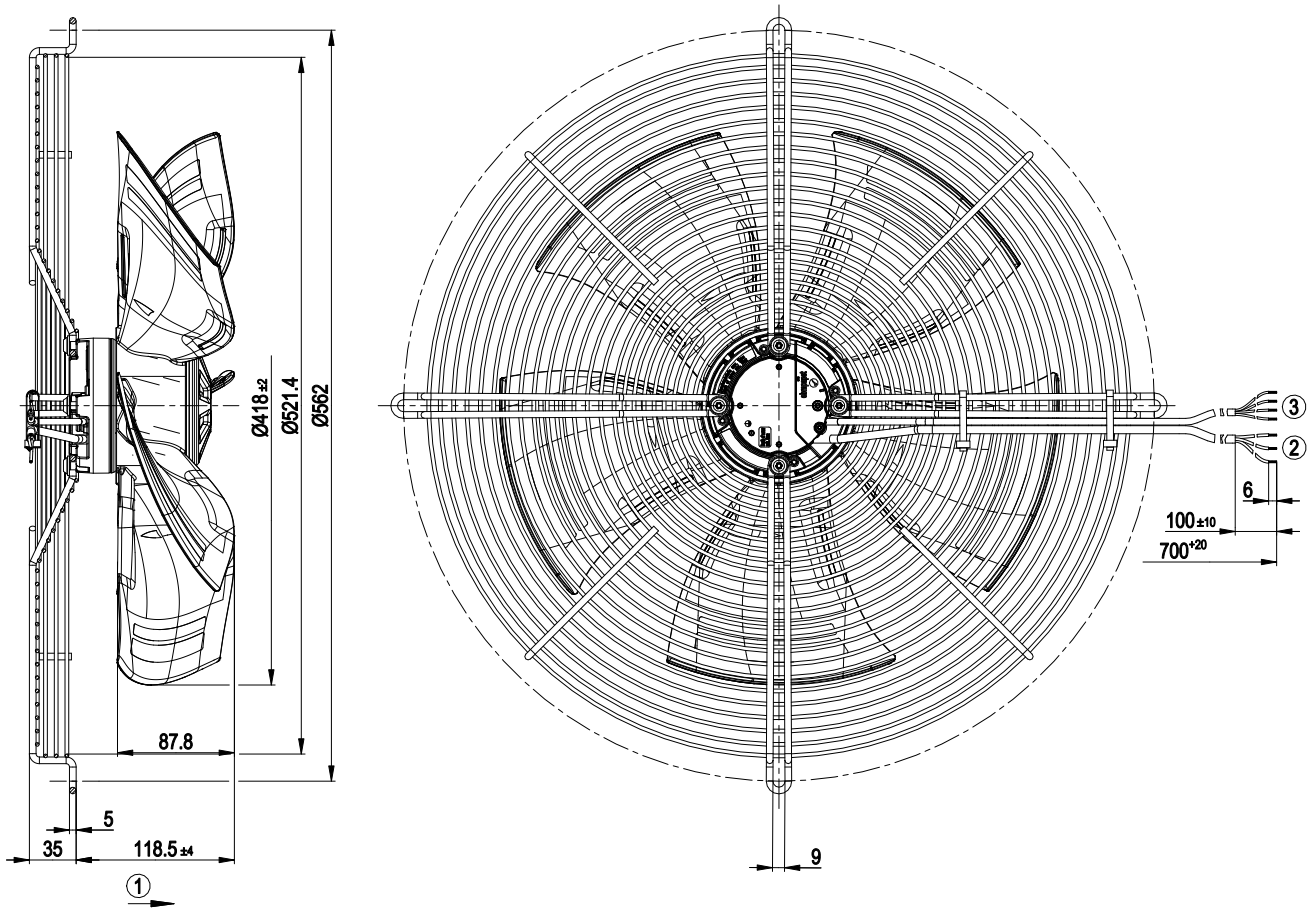
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Product drawing



1	Direction of air flow "A"
2	Connection line PVC AWG20, 3x lead tips crimped
3	Connection line PVC AWG22, 4x lead tips crimped

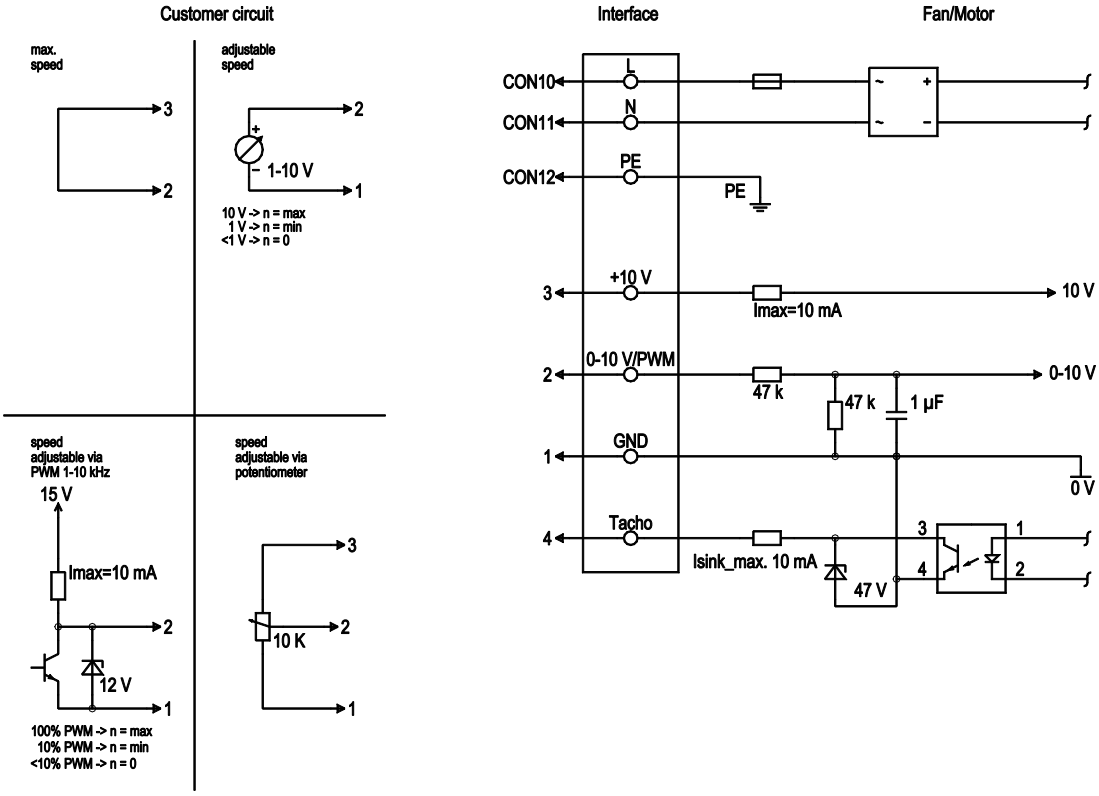
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
	CON10	L	black	Mains connection, power supply, phase, see type plate for voltage range
	CON11	N	blue	Mains connection, power supply, neutral conductor, see type plate for voltage range
	CON12	PE	green/yellow	Earth connection
	2	0- 10V PWM	yellow	0-10 V/PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Speed monitoring output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer), SELV
	1	GND	blue	Signal ground for control interface, SELV

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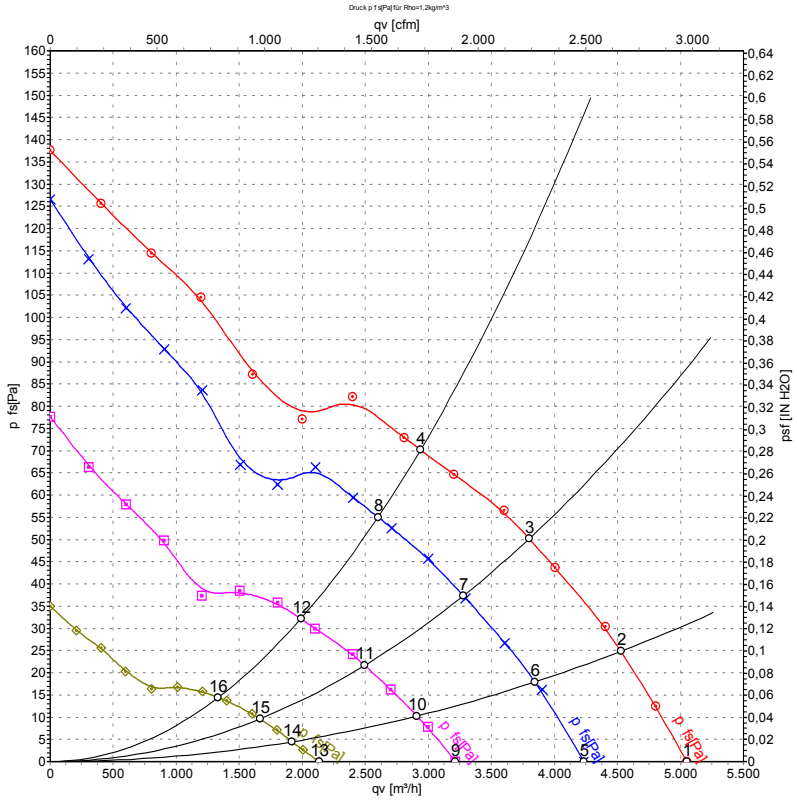
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Charts: Air flow 50 Hz



Measurement: LU-139132-1
Measurement: LU-139137-1
Measurement: LU-139138-1
Measurement: LU-139141-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	230	50	1185	152	1.24	60	67	5050	0	2970	0.00
2	230	50	1170	162	1.32	59	65	4525	25	2665	0.10
3	230	50	1130	165	1.35	56	63	3800	50	2235	0.20
4	230	50	1090	165	1.35	54	62	2935	70	1730	0.28
5	230	50	1000	93	0.80			4235	0	2490	0.00
6	230	50	990	100	0.86			3845	18	2265	0.07
7	230	50	980	106	0.92			3275	37	1930	0.15
8	230	50	960	114	0.96			2600	55	1530	0.22
9	230	50	760	42	0.38			3215	0	1890	0.00
10	230	50	755	46	0.41			2910	10	1715	0.04
11	230	50	745	49	0.44			2495	22	1470	0.09
12	230	50	740	53	0.48			1990	32	1170	0.13
13	230	50	510	15	0.15			2135	0	1255	0.00
14	230	50	505	16	0.16			1920	4	1130	0.02
15	230	50	500	17	0.17			1665	10	980	0.04
16	230	50	495	18	0.18			1330	14	785	0.06

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow
p_{fs} = Pressure increase

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