R3G400-AD23-33

EC centrifugal fan

backward-curved, single-intake

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	**R3G400-AD23-33**
Motor	**M3G084-FA**

Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Method of obtaining data		fa
Speed (rpm)	min^{-1}	1650
Power consumption	W	380
Current draw	A	8.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	59.8	48.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		73.5	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.49
09 Air flow q_v	m^3/h	2420
09 Pressure increase p_{fs}	Pa	400
10 Speed (rpm) n	min^{-1}	1605
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-114862

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Technical description

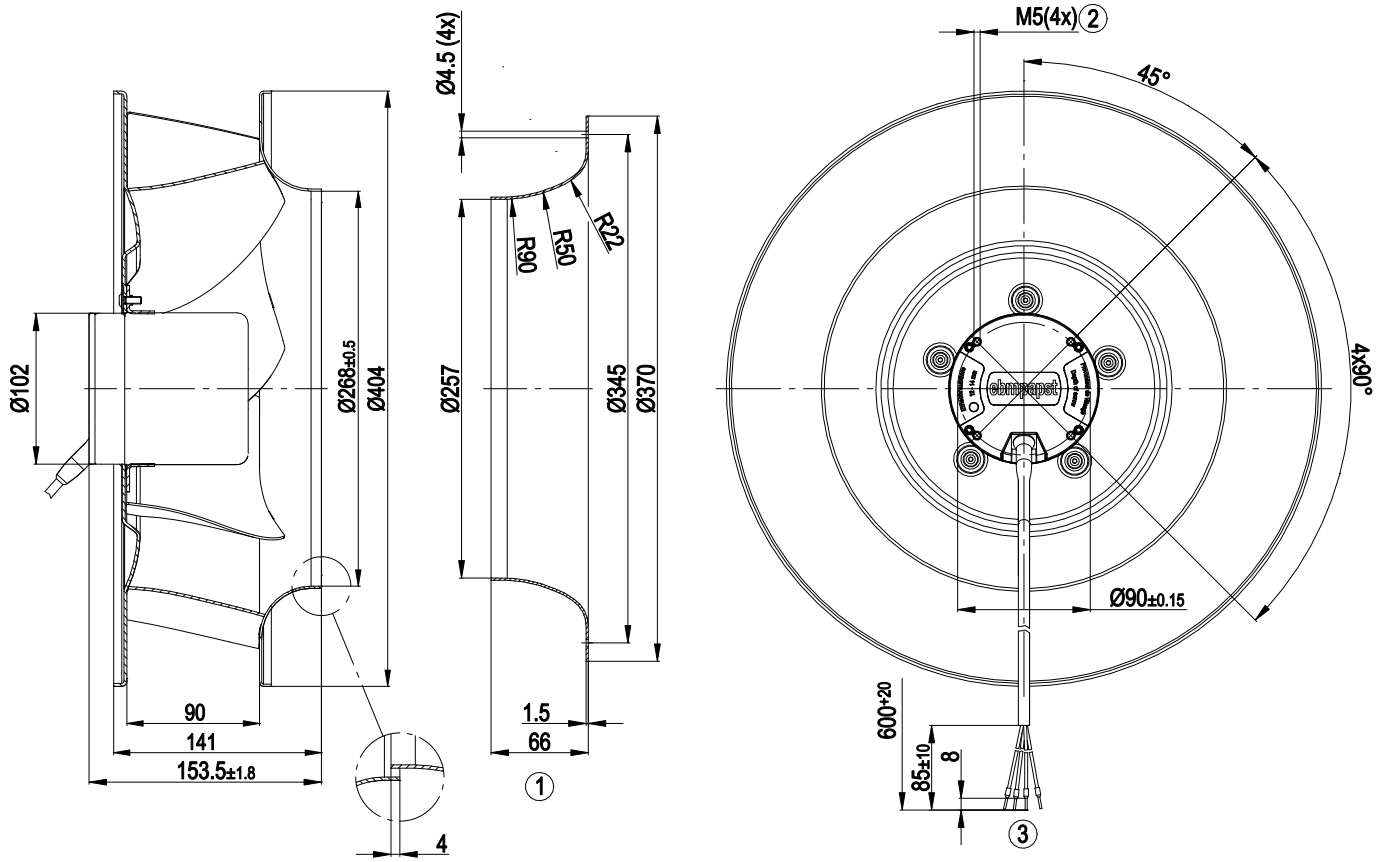
Weight	5.2 kg
Size	400 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Tach output - Cable break detection with control line - Motor current limitation - Soft start - PWM control input - Reverse polarity protection
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class assignment	Built-in component, protection class is based on the intended installation. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 62368-1; CE
Approval	VDE; CSA C22.2 No. 100; CCC; UL 1004-1

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Product drawing



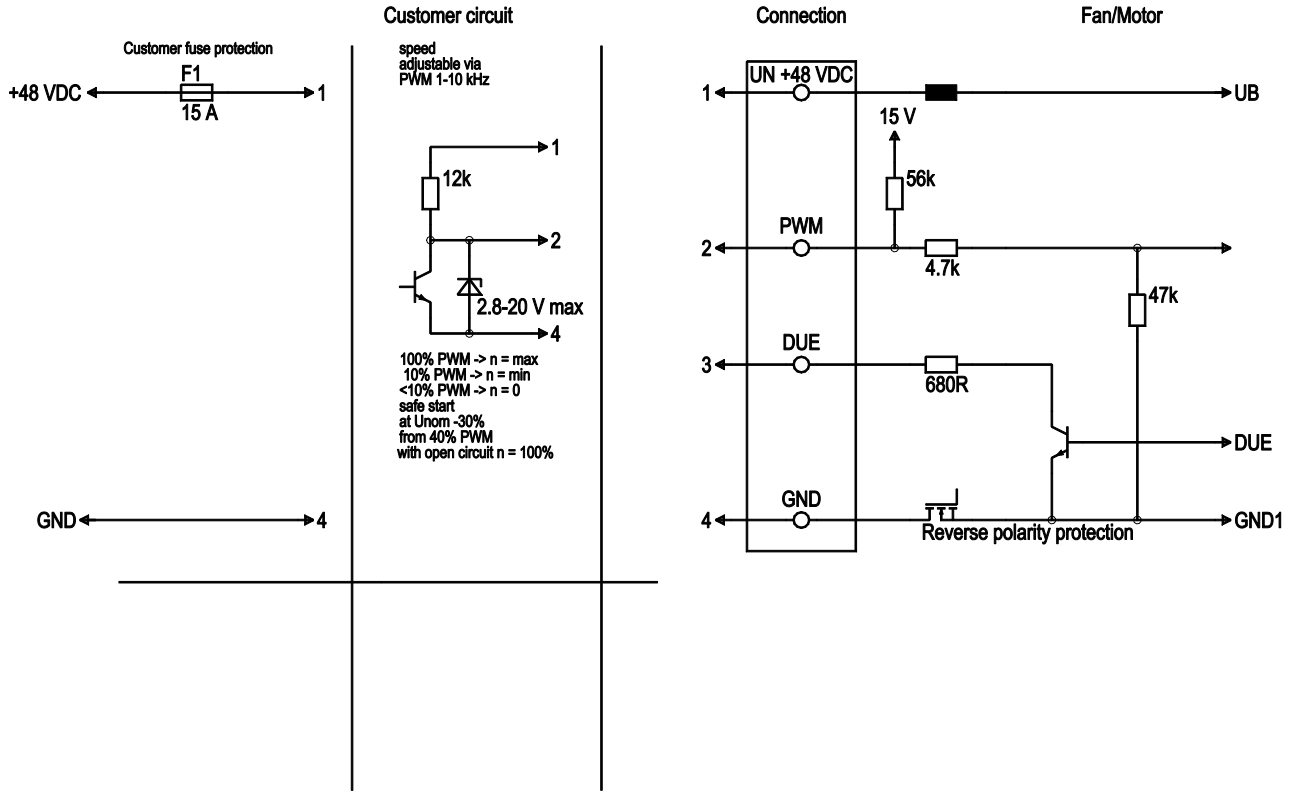
1	Accessory part: inlet ring 54476-2-4013 not included in scope of delivery
2	Max. clearance for screw 14 mm
3	Cable PVC AWG16, 4x crimped ferrules

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Connection diagram



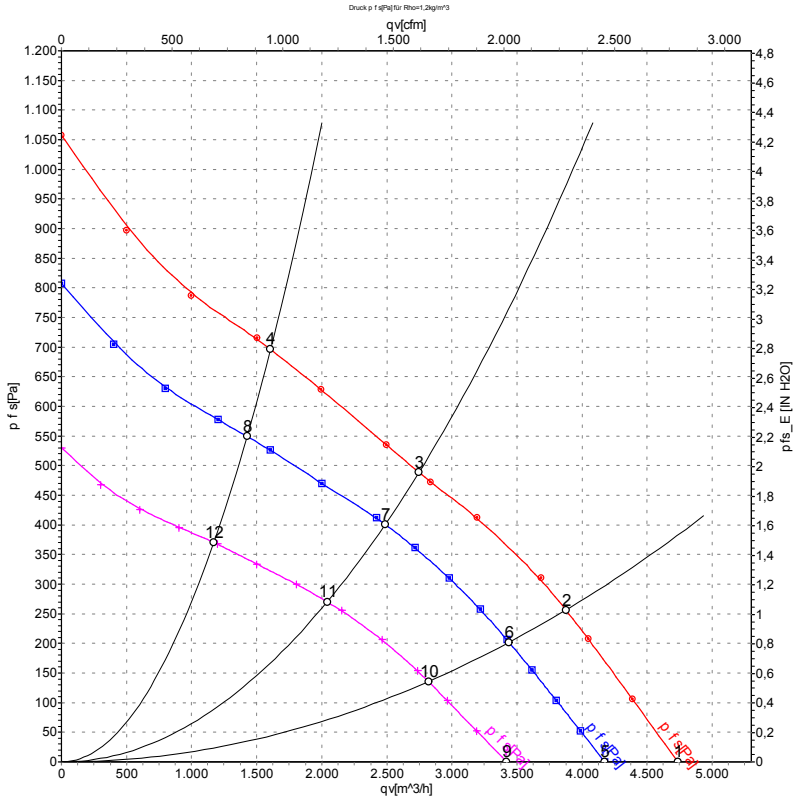
No.	Conn.	Designation	Color	Function/assignment
1	1	Un +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5%
1	2	PWM	yellow	PWM level 2.8 V-20 V/cable break detection
1	3	Tach	white	Tach output, open col. 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference ground

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Curves: Air performance



Measurement: LU-114865-1
Measurement: LU-114862-1
Measurement: LU-114868-1

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	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	57	1930	588	10.54	4735	0	2785	0.00
2	57	1850	673	12.15	3875	256	2280	1.03
3	57	1780	702	12.70	2745	488	1615	1.96
4	57	1845	671	12.10	1605	697	945	2.80
5	48	1650	380	8.00	4175	0	2455	0.00
6	48	1640	456	9.70	3440	200	2025	0.80
7	48	1605	497	10.59	2485	400	1465	1.61
8	48	1640	458	9.72	1425	550	840	2.21
9	36	1390	215	5.87	3420	0	2015	0.00
10	36	1350	251	6.87	2820	136	1660	0.55
11	36	1320	274	7.50	2040	270	1200	1.08
12	36	1345	252	6.88	1170	371	690	1.49

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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