D3G404-BB02-03

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

D3G404-BB02-03 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**D3G404-BB02-03**
Motor	**M3G150-NA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	1000
Power input	W	3000
Current draw	A	4.8
Min. back pressure	Pa	375
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+40

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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		54.8	32.1	39.1
Efficiency grade N		59.7	37	44
Power input P_{ed}	kW	1.71		
Air flow q_v	m^3/h	6450		
Pressure increase p_{fs}	Pa	491		
Speed n	min^{-1}	1000		

Data established at point of optimum efficiency

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Technical features

Mass	56 kg
Size	404 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, galvanised
Housing material	Sheet steel, galvanised
Motor suspension	Motor anti-vibration mounted on one side via brackets
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- PFC, passive - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Alarm relay - Integrated PID controller - Input for sensor 0-10 V or 4-20 mA - Output for slave 0-10 V - RS485 ebmBUS - Motor current limit - Soft start - Line undervoltage / phase failure detection - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	UL 2111

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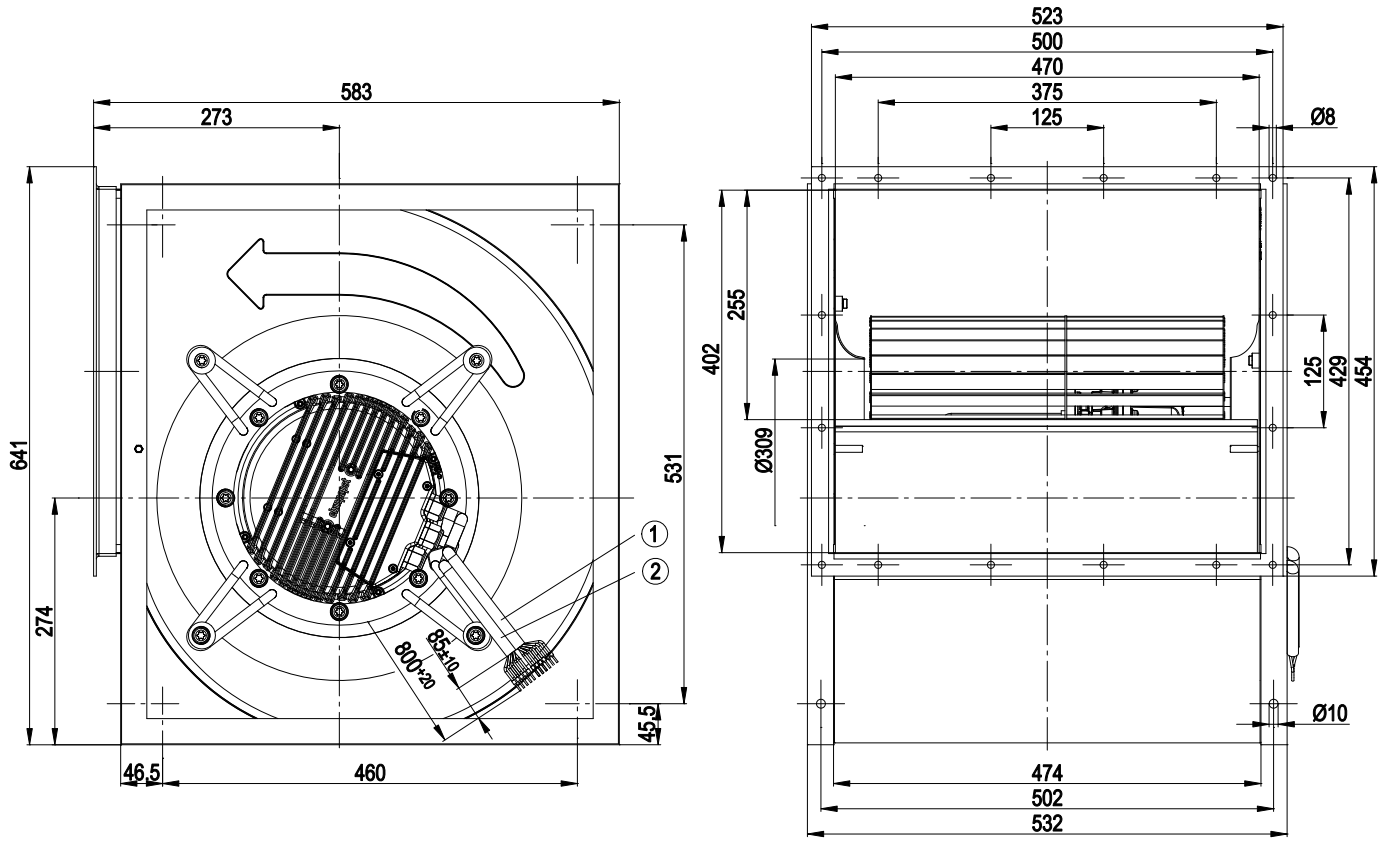
Product drawing



1	Connecting line AWG16, 6 x crimped core-end sleeves
2	Connection line AWG20, 5 x crimped core-end sleeves

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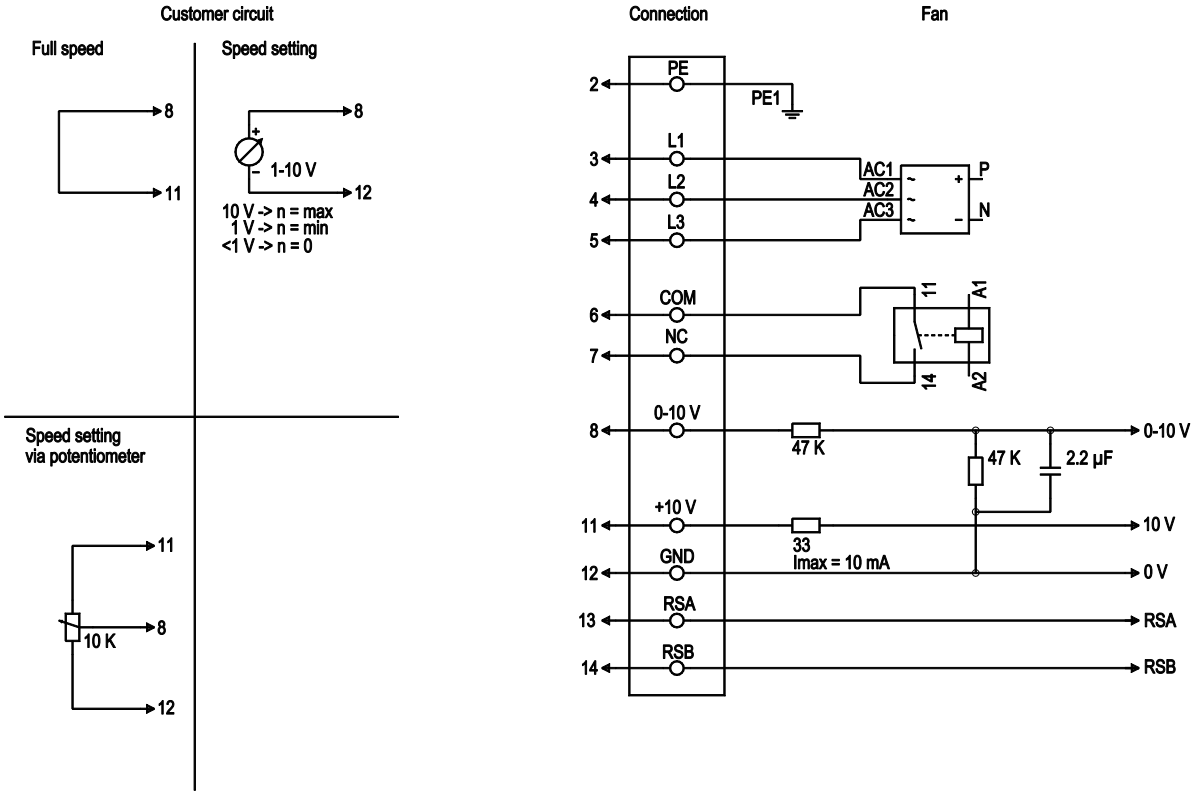
Connection screen



Line	No.	Signal	Colour	Function / assignment
1	2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Supply voltage, 50/60 Hz
1	6	COM	white 1	Floating status message contact, normally closed for error (2 A, max. 250 VAC, min. 10 mA, AC1)
1	7	NC	white 2	Floating status message contact, normally closed for error
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	11	+10 V	red	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference mass for control interface, SELV
2	13	RSA	orange	RS485 interface for ebmBUS; RSA, SELV
2	14	RSB	black	RS485 interface for ebmBUS, RSB, SELV

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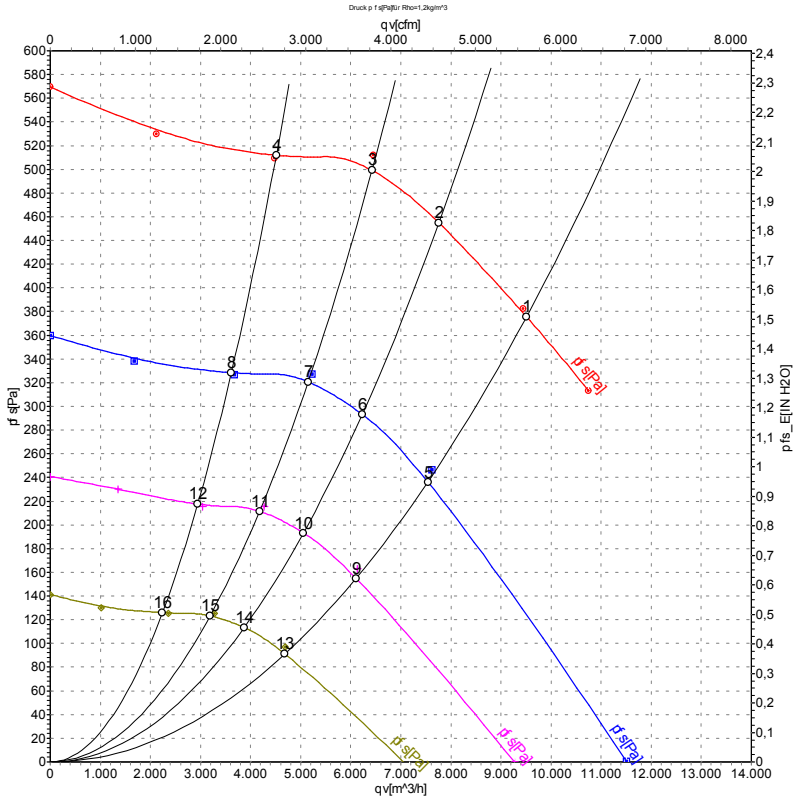
Charts: Air flow 50 Hz



Measurement: LU-121132
Measurement: LU-108742
Measurement: LU-108743
Measurement: LU-108744

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}	LwA_{out}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	400	50	1000	3000	4.80	79	88	91	9510	375
2	400	50	1000	2251	3.43	77	85	89	7760	450
3	400	50	1000	1712	2.61	75	83	87	6425	500
4	400	50	1000	1199	1.84	72	80	83	4515	510
5	400	50	800	1436	2.19	73	82	85	7540	249
6	400	50	800	1127	1.74	70	79	82	6230	293
7	400	50	800	876	1.38	68	76	81	5150	327
8	400	50	800	613	1.00	66	74	77	3615	327
9	400	50	650	782	1.24	68	76	79	6105	164
10	400	50	650	609	1.01	64	73	76	5055	193
11	400	50	650	469	0.82	62	71	74	4180	215
12	400	50	650	344	0.64	60	69	71	2945	216
13	400	50	500	358	0.68	60	70	71	4685	97
14	400	50	500	288	0.56	58	67	69	3875	113
15	400	50	500	231	0.47	56	65	67	3190	125
16	400	50	500	172	0.37	54	63	64	2240	126

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