EC centrifugal fan

forward curved, single inlet

with housing (flange)

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**G3G160-DZ09-19**
Motor	**M3G055-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		fa
Speed (rpm)	min^{-1}	2000
Power input	W	165
Current draw	A	1.3
Min. back pressure	Pa	0
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}	%	46.9	32.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		58.8	44
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.13
09 Air flow q_v	m^3/h	350
09 Pressure increase p_{fs}	Pa	569
10 Speed (rpm) n	min^{-1}	2760
11 Specific ratio*		1.01

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

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Technical features

Mass	3.1 kg
Size	160 mm
Surface of rotor	Thick layer passivated
Material of impeller	Sheet steel, galvanised
Housing material	Die-cast aluminium
Material of inlet nozzle	Sheet steel, galvanised
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
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
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 0.25 mA
Motor protection	Locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Approval	VDE

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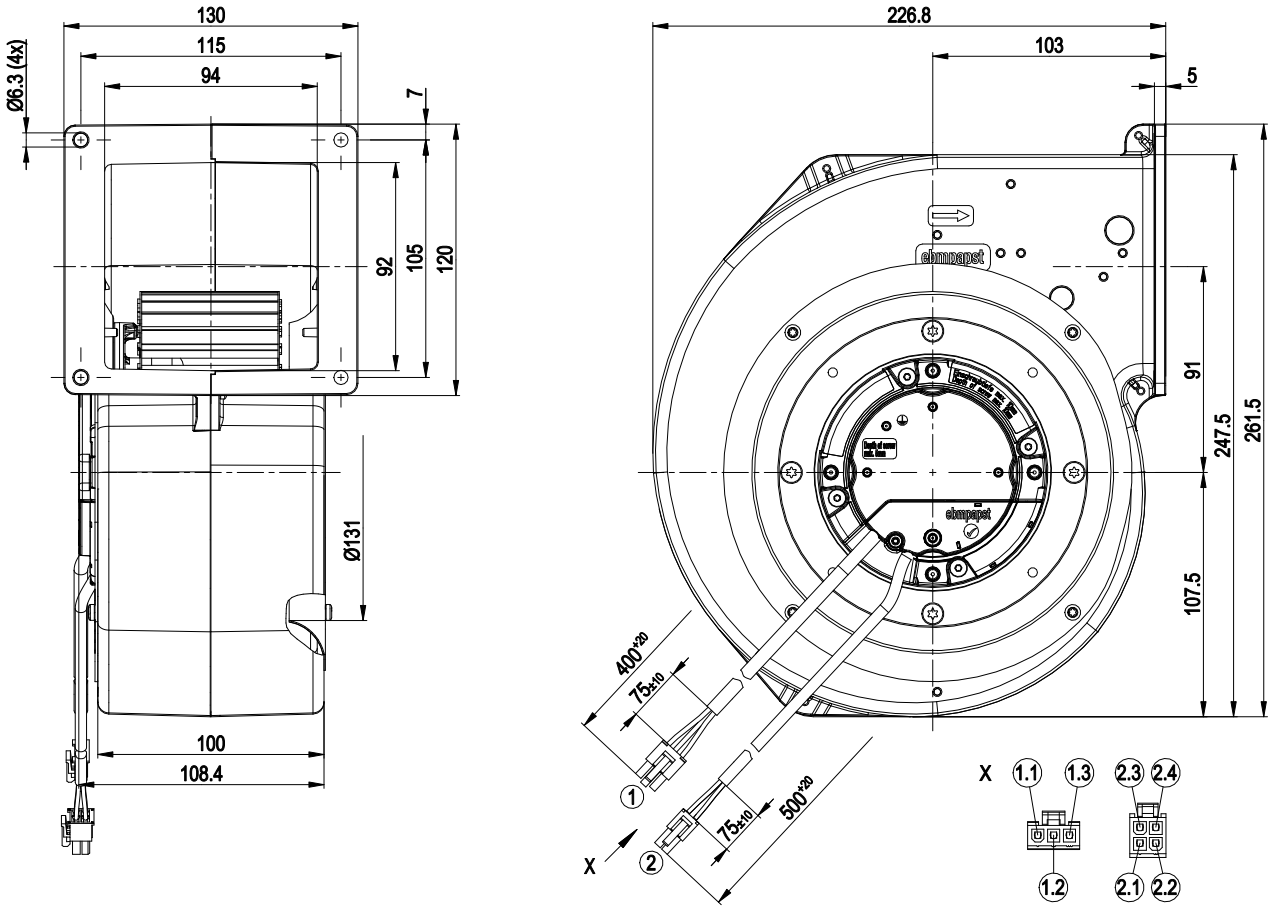
Product drawing



1	Connection line PVC AWG20, connector housing 3-pole Molex 50-29-1662, 3x female connector Molex 39-00-0038
1.1	black
1.2	green/yellow
1.3	blue
2	Connection line PVC AWG22, connector housing 4-pole Molex 46992-0410, 4x female connector Molex 39-00-0059
2.1	blue
2.2	yellow
2.3	white
2.4	red

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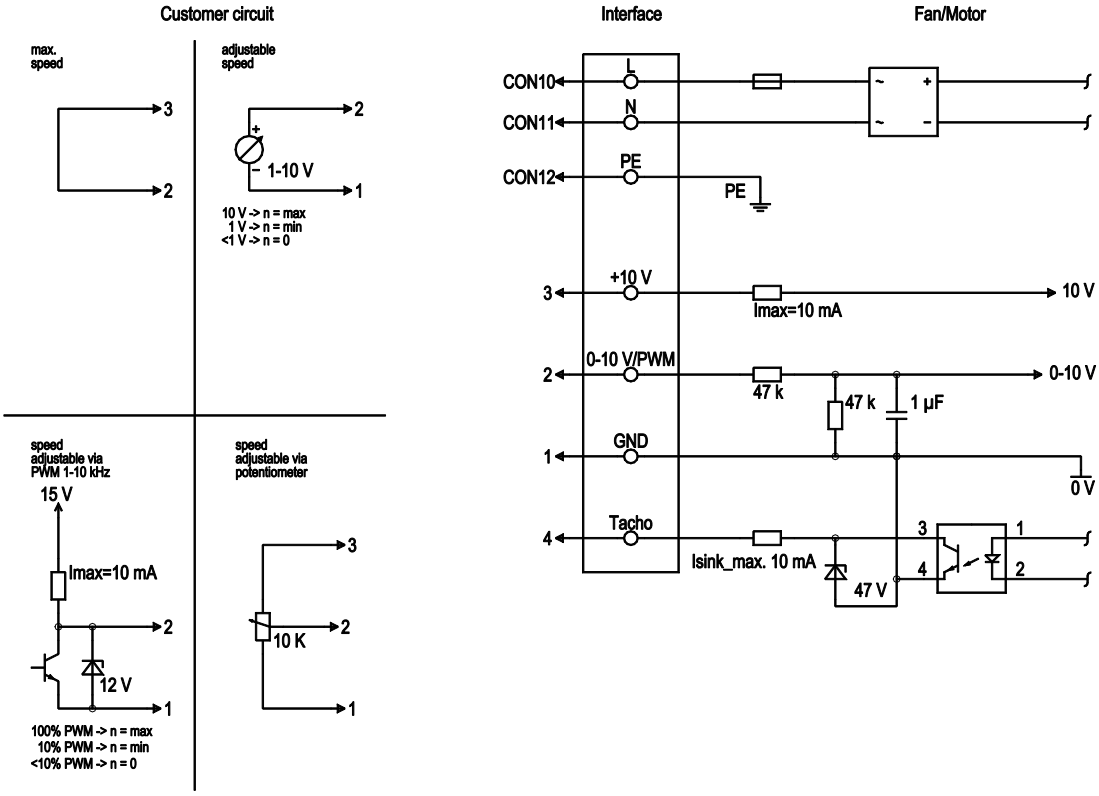
Connection screen



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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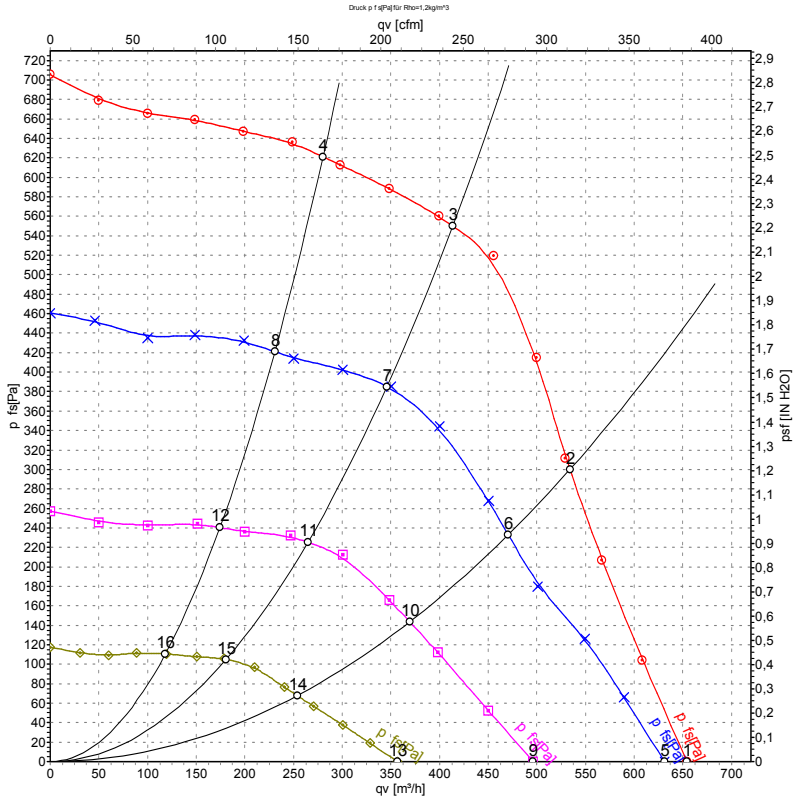
Charts: Air flow 50 Hz



Measurement: LU-138657-1
Measurement: LU-138670-1
Measurement: LU-138672-1
Measurement: LU-138673-1

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	2000	165	1.30	69	76	655	0	385	0.00
2	230	50	2370	165	1.30	69	75	535	300	315	1.20
3	230	50	2665	155	1.22	68	74	415	550	245	2.21
4	230	50	2845	116	0.96	69	76	280	620	165	2.49
5	230	50	1925	154	1.24			630	0	370	0.00
6	230	50	2110	117	0.99			470	233	275	0.94
7	230	50	2240	91	0.78			345	387	205	1.55
8	230	50	2350	70	0.62			230	421	135	1.69
9	230	50	1535	76	0.65			495	0	290	0.00
10	230	50	1665	57	0.51			370	144	220	0.58
11	230	50	1745	43	0.38			265	226	155	0.91
12	230	50	1800	34	0.30			175	240	100	0.96
13	230	50	1105	29	0.31			355	0	210	0.00
14	230	50	1160	22	0.21			255	68	150	0.27
15	230	50	1205	17	0.17			180	106	105	0.43
16	230	50	1240	13	0.14			120	111	70	0.45

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