D3G180-HE09-02

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

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
County court Stuttgart · HRA 590344

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

Nominal data

Type	**D3G180-HE09-02**
Motor	**M3G084-FA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	2110
Power input	W	750
Current draw	A	3.3
Min. back pressure	Pa	240
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60
Starting current	A	3.1

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}	%	47.6	36.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		55.3	44
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.6
09 Air flow q_v	m^3/h	1405
09 Pressure increase p_{fs}	Pa	665
10 Speed (rpm) n	min^{-1}	2600
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

LU-169969

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

Technical features

Mass	10.1 kg
Size	180 mm
Surface of rotor	Coated in black
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	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+85 °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	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Tach output - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
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	With plug
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Degree of soiling	2
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	CE
Remark	Norm conformity as per EN 61800-5-1 and EN 60335-1 in preparation

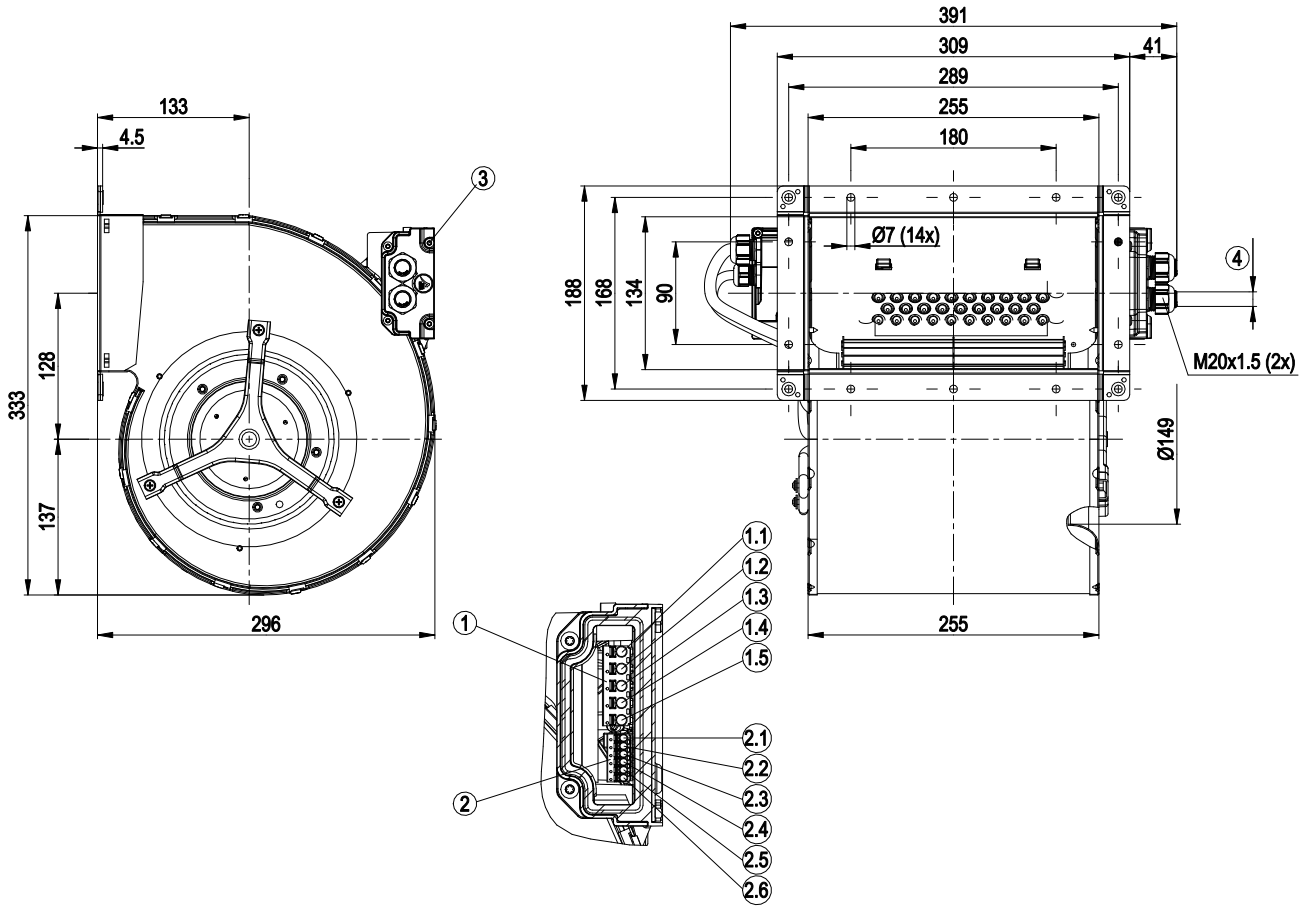
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

Product drawing



1	Terminal 1
1.1	PE
1.2	L
1.3	N
1.4	NC
1.5	COM
2	Terminal 2
2.1	0-10 V
2.2	+10 V
2.3	GND
2.4	RSA
2.5	RSB
2.6	Tach
3	Tightening torque 3±0.5 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0.4 Nm Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)

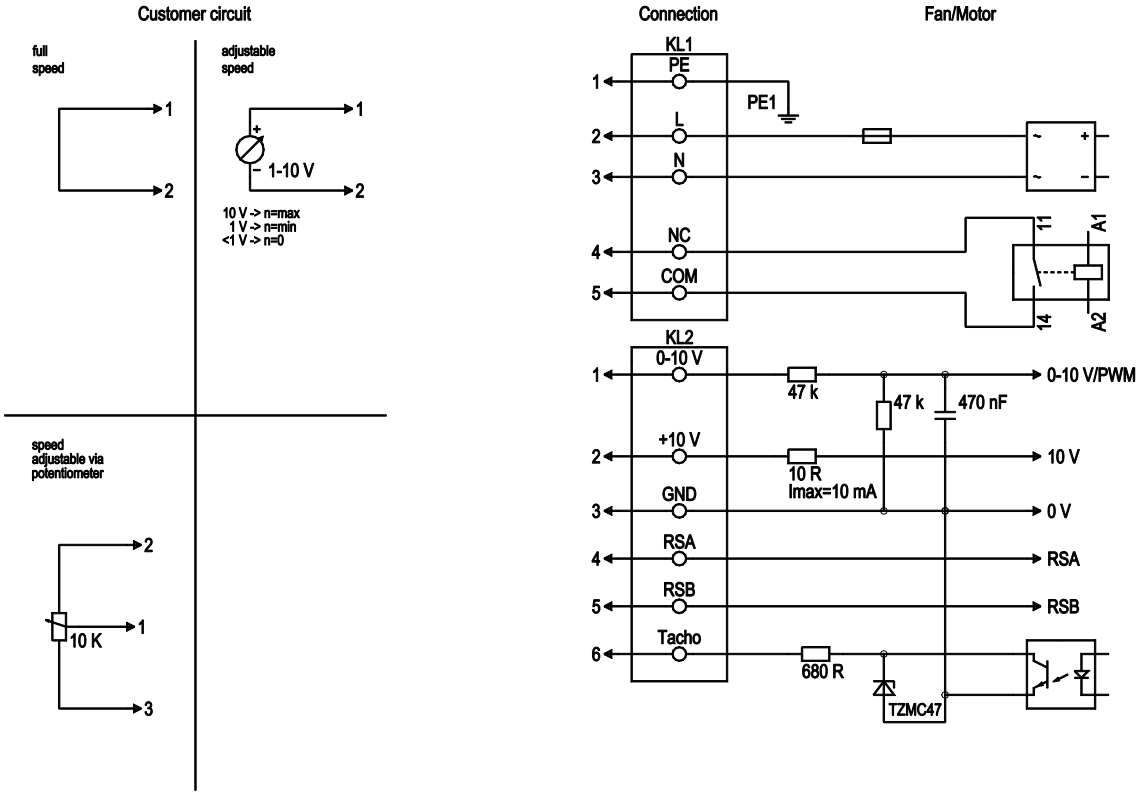
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

Connection screen



No.	Conn.	Designation	Function / assignment
KL1	1	PE	Protective earth
KL1	2	L	Power supply, phase, 50/60 Hz
KL1	3	N	Power supply, neutral conductor, 50/60 Hz
KL1	4	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC/2 A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
KL1	5	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
KL2	1	0-10 V	Analogue input (set value), 0-10 V, Ri=100 kΩ, parametrisable curve, SELV
KL2	2	+10 V	Fixed voltage output 10 VDC, SELV
KL2	3	GND	Signal ground for control interface, SELV
KL2	4	RSA	RS-485 interface for MODBUS, RSA; SELV
KL2	5	RSB	RS-485 interface for MODBUS, RSB; SELV
KL2	6	Tacho	Speed monitoring output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV

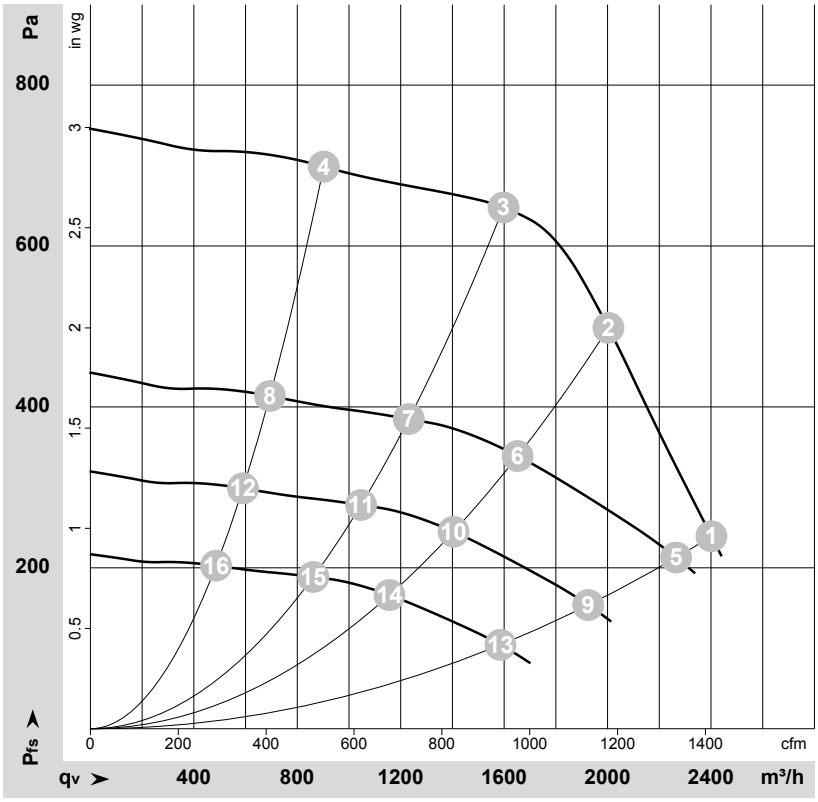
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

Charts: Air flow 50 Hz



ρ = 1.175 kg/m³ ± 2 %

Measurement: LU-169969-1

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

	Conn.	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	Y	230	50	2110	750	3.30	72	84	2400	240	1415	0.96
2	Y	230	50	2425	750	3.30	71	83	2005	500	1180	2.01
3	Y	230	50	2600	675	2.96	71	82	1600	650	940	2.61
4	Y	230	50	2600	434	1.92	69	80	900	700	530	2.81
5	Y	230	50	2000	629	2.75	70	82	2265	216	1335	0.87
6	Y	230	50	2000	419	1.83	66	78	1650	341	970	1.37
7	Y	230	50	2000	308	1.35	64	75	1230	385	725	1.55
8	Y	230	50	2000	198	0.88	62	74	695	414	410	1.66
9	Y	230	50	1700	386	1.69	66	78	1925	156	1135	0.63
10	Y	230	50	1700	257	1.13	62	74	1405	246	825	0.99
11	Y	230	50	1700	189	0.83	60	71	1045	278	615	1.12
12	Y	230	50	1700	121	0.54	58	70	590	299	345	1.20
13	Y	230	50	1400	216	0.94	61	73	1585	106	935	0.43
14	Y	230	50	1400	144	0.63	57	69	1155	167	680	0.67
15	Y	230	50	1400	106	0.46	55	66	860	189	505	0.76
16	Y	230	50	1400	68	0.30	53	65	485	203	285	0.81

Conn. = Connection · 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

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com