

D3G146-AH50-11

# 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	D3G146-AH50-11	
Motor	M3G074-CF	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50
Type of data definition		fa
Speed	min <sup>-1</sup>	1700
Power input	W	165
Current draw	A	1.2
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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

\* Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$

	Actual	Request 2013	Request 2015
Overall efficiency $\eta_{es}$	43.4	25.6	32.6
Efficiency grade N	54.8	37	44
Power input $P_{ed}$	kW	0.16	
Air flow $q_v$	m <sup>3</sup> /h	645	
Pressure increase $p_{fs}$	Pa	350	
Speed n	min <sup>-1</sup>	2400	

Data established at point of optimum efficiency



# EC centrifugal fan

forward curved, dual inlet  
with housing (flange)

## Technical features

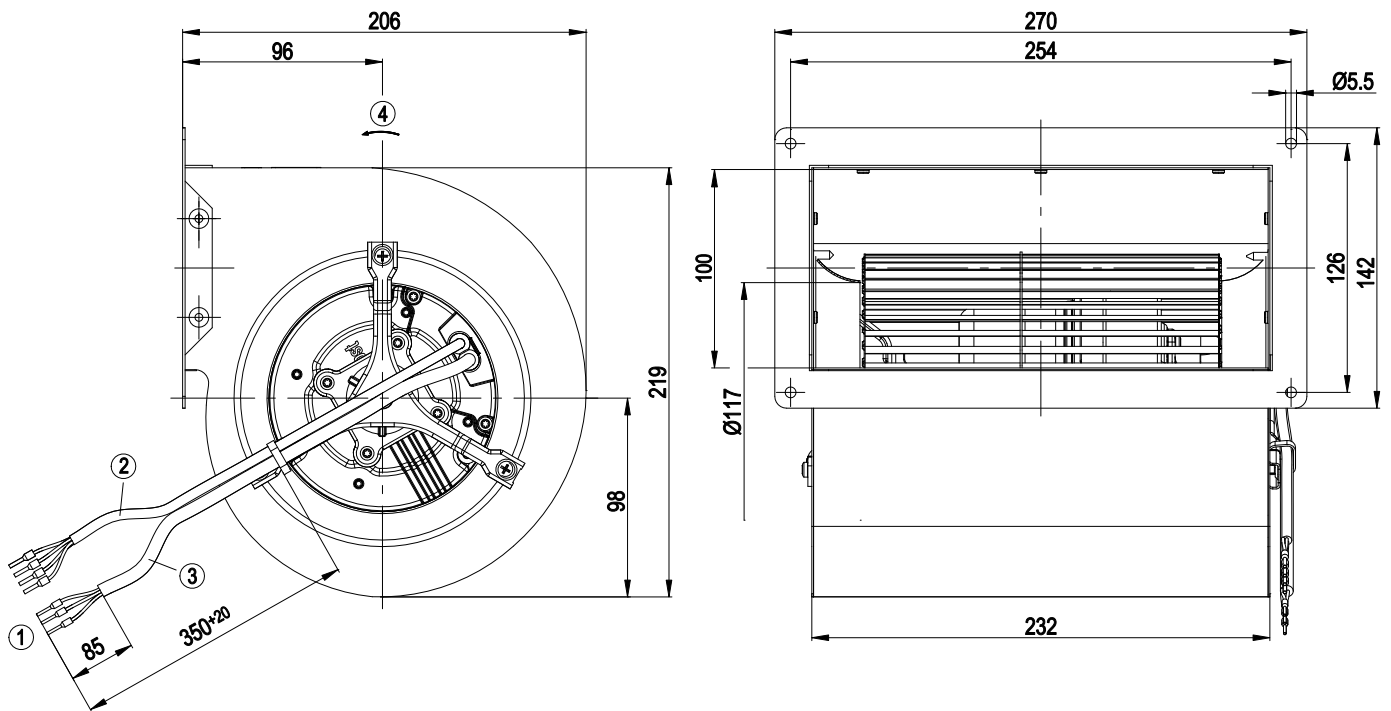
<b>Mass</b>	4.2 kg
<b>Size</b>	146 mm
<b>Surface of rotor</b>	Coated in black
<b>Material of electronics housing</b>	Die-cast aluminum
<b>Material of impeller</b>	Sheet steel, sendzimir galvanized
<b>Housing material</b>	Sheet steel, galvanised
<b>Motor suspension</b>	Motor mounted with anti-vibration on both sides
<b>Direction of rotation</b>	Clockwise, seen on rotor
<b>Type of protection</b>	IP 44
<b>Insulation class</b>	"B"
<b>Humidity class</b>	F3-1
<b>Max. permissible ambient motor temp. (transp./ storage)</b>	+80 °C
<b>Min. permissible ambient motor temp. (transp./storage)</b>	-40 °C
<b>Mounting position</b>	Shaft horizontal
<b>Condensate discharge holes</b>	None
<b>Operation mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Control input 0-10 VDC / PWM</li> <li>- Output 10 VDC max. 1.1 mA</li> <li>- Speed output</li> <li>- Over-temperature protected electronics / motor</li> </ul>
<b>EMC interference immunity</b>	Acc. to EN 61000-6-1
<b>EMC harmonics</b>	Acc. to EN 61000-3-2/3
<b>EMC interference emission</b>	Acc. to EN 61000-6-3
<b>Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)</b>	<= 3.5 mA
<b>Motor protection</b>	Thermal overload protector (TOP) wired internally
<b>Cable exit</b>	Variable
<b>Protection class</b>	I (if protective earth is connected by customer)
<b>Product conforming to standard</b>	EN 60950-1; EN 60335-1; EN 61800-5-1; CE
<b>Approval</b>	CSA C22.2 Nr.77; UL 2111



# EC centrifugal fan

forward curved, dual inlet  
with housing (flange)

## Product drawing

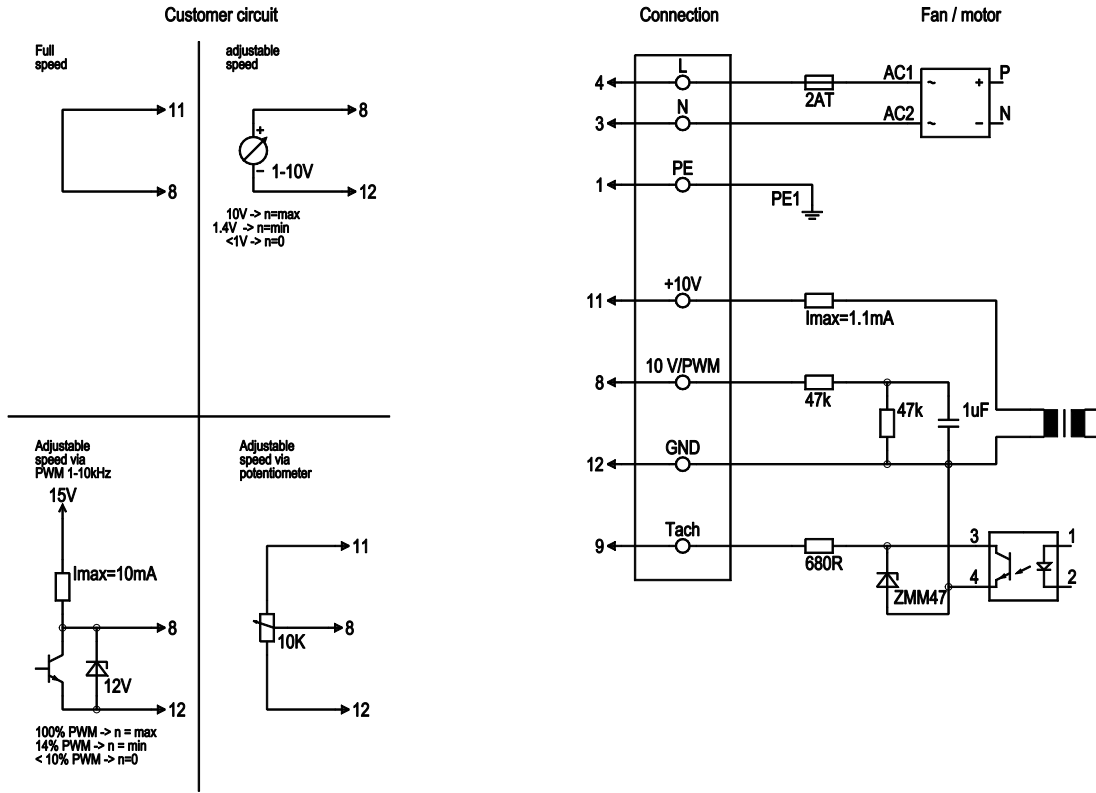


1	Core-end sleeves
2	Connection line 4 x AWG22
3	Connection line 3 x AWG18
4	Direction of rotation clockwise, seen on rotor

# EC centrifugal fan

forward curved, dual inlet  
with housing (flange)

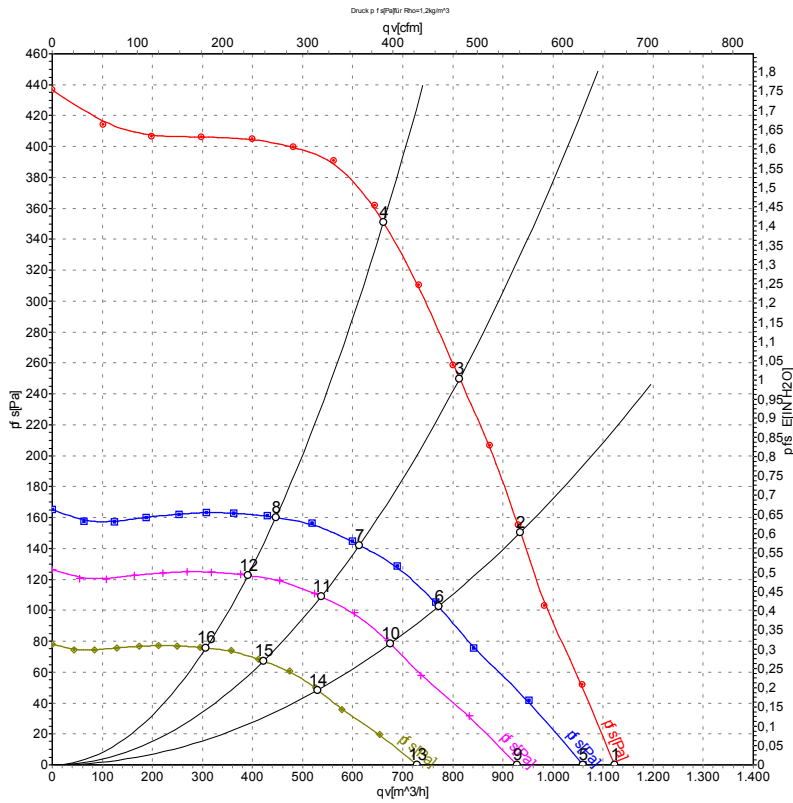
## Connection screen



Line	No.	Signal	Colour	Function / assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see type plate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated
	11	10V / max 1.1 mA	red	Voltage output 10 V / max. 1.1 mA, electrically isolated
	12	GND	blue	GND - Connection for control interface



## Charts: Air flow 50 Hz



Measurement: LU-105178

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 <sub>ed</sub>	I	qv	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa
1	230	50	1700	165	1.20	1125	0
2	230	50	1935	165	1.21	935	150
3	230	50	2120	166	1.22	815	250
4	230	50	2370	165	1.22	660	350
5	230	50	1600	139	1.00	1060	0
6	230	50	1600	93	0.68	770	103
7	230	50	1600	71	0.53	615	142
8	230	50	1600	51	0.38	445	160
9	230	50	1400	93	0.67	930	0
10	230	50	1400	62	0.45	675	79
11	230	50	1400	48	0.35	535	109
12	230	50	1400	34	0.25	390	123
13	230	50	1100	45	0.33	730	0
14	230	50	1100	30	0.22	530	49
15	230	50	1100	23	0.17	420	67
16	230	50	1100	17	0.12	305	76

U = Supply voltage · f = Frequency · n = Speed · P<sub>ed</sub> = Power input · I = Current draw · qv = Air flow · P<sub>fs</sub> = Pressure increase

