R3G280-AB54-11

EC centrifugal fan

backward-curved, single-intake

R3G280-AB54-11 ebmpapst Datasheet
sales@fansco.com
www.fansco.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

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-AB54-11**	
Motor	**M3G074-CF**	
Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2100
Power consumption	W	165
Current draw	A	1.2
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	53.5	42.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.7	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.15
09 Air flow q_v	m^3/h	1070
09 Pressure increase p_{fs}	Pa	251
10 Speed (rpm) n	min^{-1}	2095
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-117716

EC centrifugal fan

backward-curved, single-intake

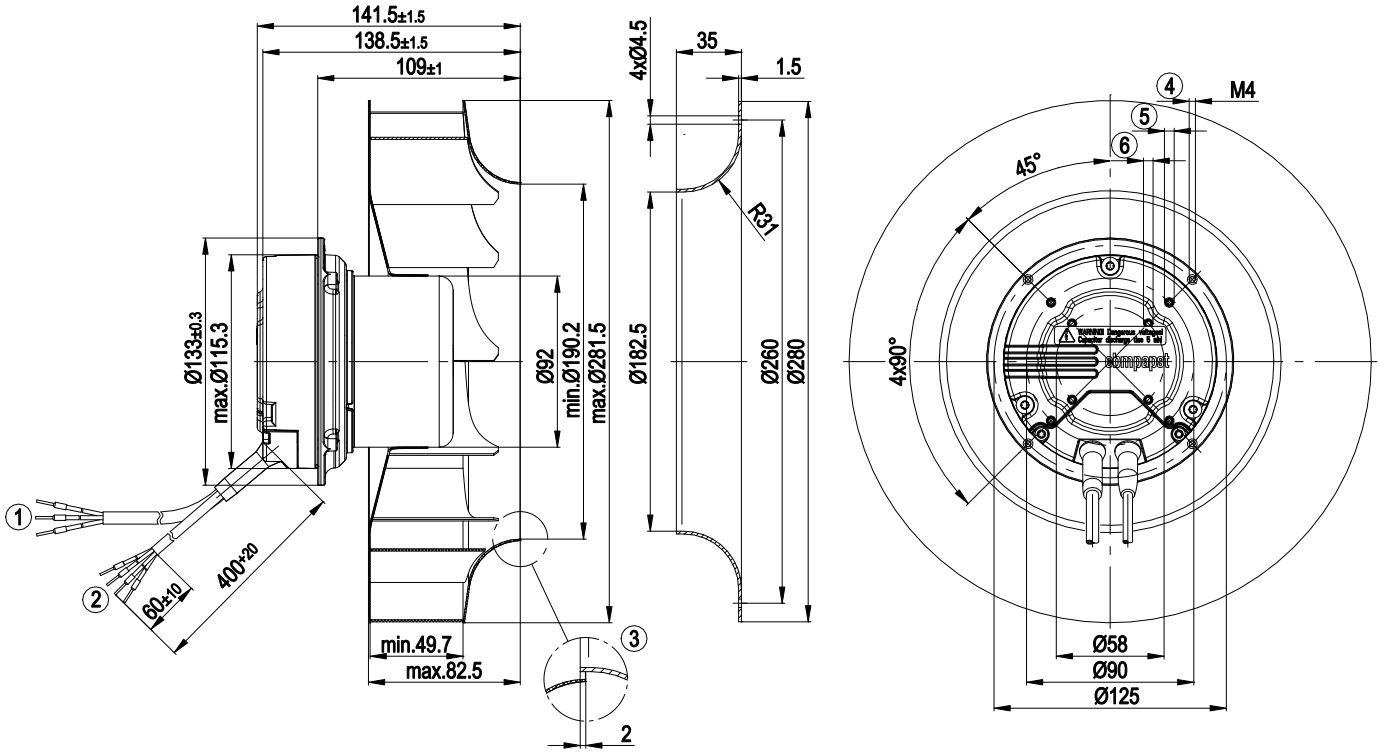
Technical description

Weight	3.35 kg
Fan size	280 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, galvanized
Number of blades	11
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
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 top; rotor on bottom on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Control input 0-10 VDC/PWM - Output 10 VDC max. 1.1 mA - Tach output - Thermal overload protection for electronics/motor
EMC immunity to interference	According to EN 61000-6-2
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 61800-5-1; EN 60950-1
Approval	CSA C22.2 No. 77

EC centrifugal fan

backward-curved, single-intake

Product drawing

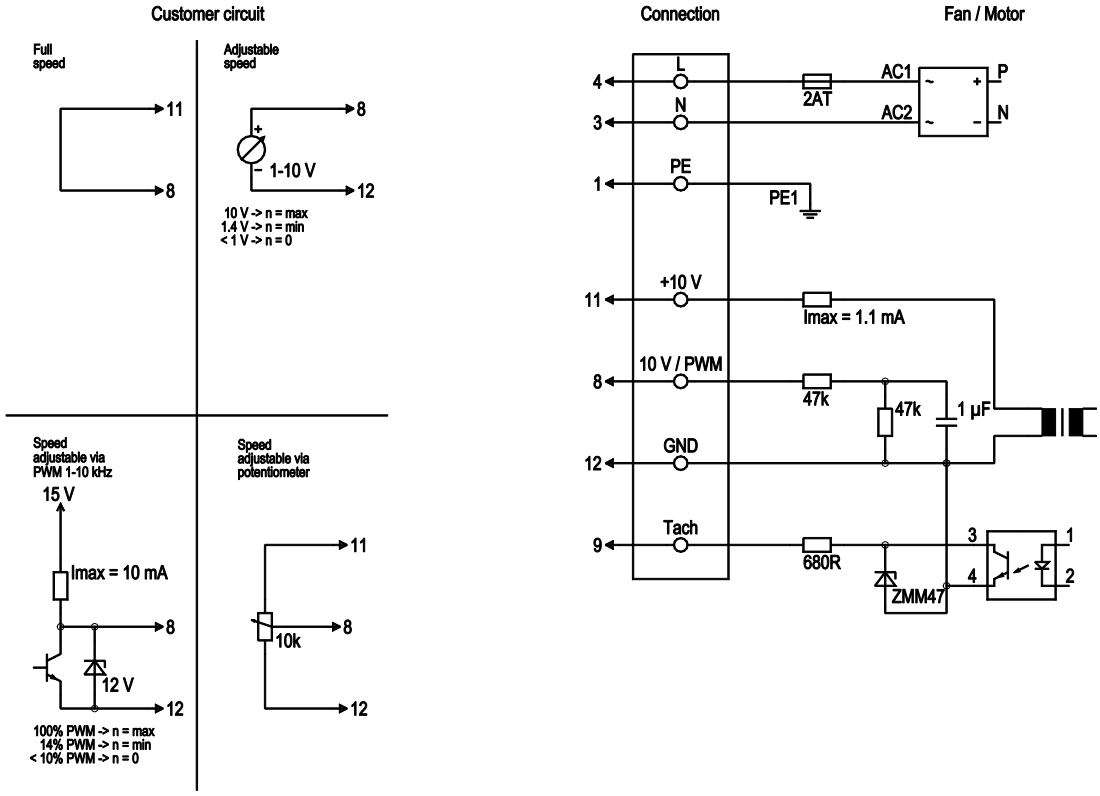


1	Cable AWG18, 3 x crimped ferrules
2	Cable AWG22, 4 x crimped ferrules
3	Accessory part: Inlet ring 96360-2-4013 not included in scope of delivery, other inlet rings on request
4	Clearance for screw 8 - 10 mm
5	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm
6	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm

EC centrifugal fan

backward-curved, single-intake

Connection diagram

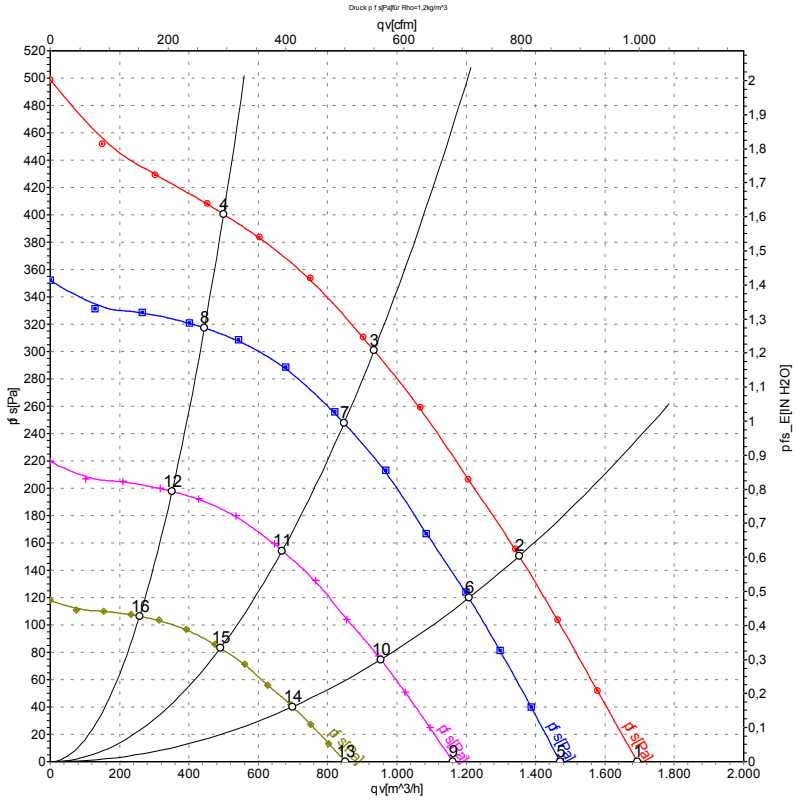


No.	Conn.	Designation	Color	Function/assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 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

EC centrifugal fan

backward-curved, single-intake

Curves: Air performance 50 Hz



Measurement: LU-117716-1

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	f	n	P_{ed}	I	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	50	2190	110	0.81	1695	0	995	0.00
2	230	50	2130	141	1.02	1355	150	795	0.60
3	230	50	2100	165	1.20	935	300	550	1.20
4	230	50	2135	145	1.06	500	400	295	1.61
5	230	50	1900	72	0.53	1470	0	865	0.00
6	230	50	1900	100	0.73	1210	120	710	0.48
7	230	50	1900	122	0.88	845	248	500	1.00
8	230	50	1900	102	0.75	445	317	260	1.27
9	230	50	1500	35	0.26	1160	0	685	0.00
10	230	50	1500	49	0.36	955	75	560	0.30
11	230	50	1500	60	0.43	670	155	395	0.62
12	230	50	1500	50	0.37	350	198	205	0.79
13	230	50	1100	14	0.10	850	0	500	0.00
14	230	50	1100	19	0.14	700	40	410	0.16
15	230	50	1100	24	0.17	490	83	290	0.33
16	230	50	1100	20	0.15	260	106	150	0.43

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase