EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G225-RH53-27 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

Nominal data

Type	**R3G225-RH53-27**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2150
Power consumption	W	80
Current draw	A	1.25
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

EC centrifugal fan - RadiCal

backward-curved, single-intake

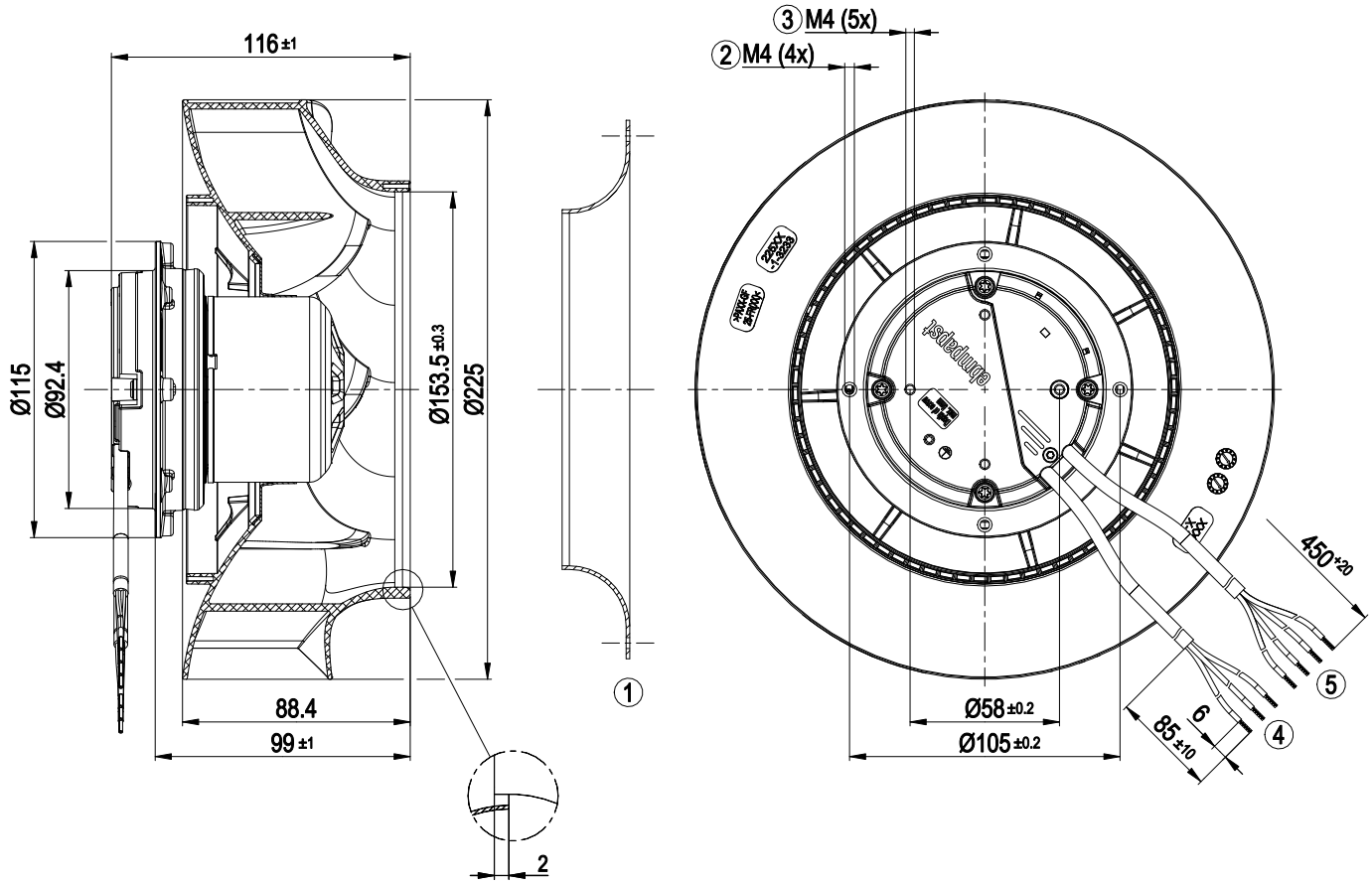
Technical description

Weight	1.5 kg
Size	225 mm
Motor size	55
Rotor surface	Thick-film passivated
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	UL 1004-7 + 60730

EC centrifugal fan - RadiCal

backward-curved, single-intake

Product drawing

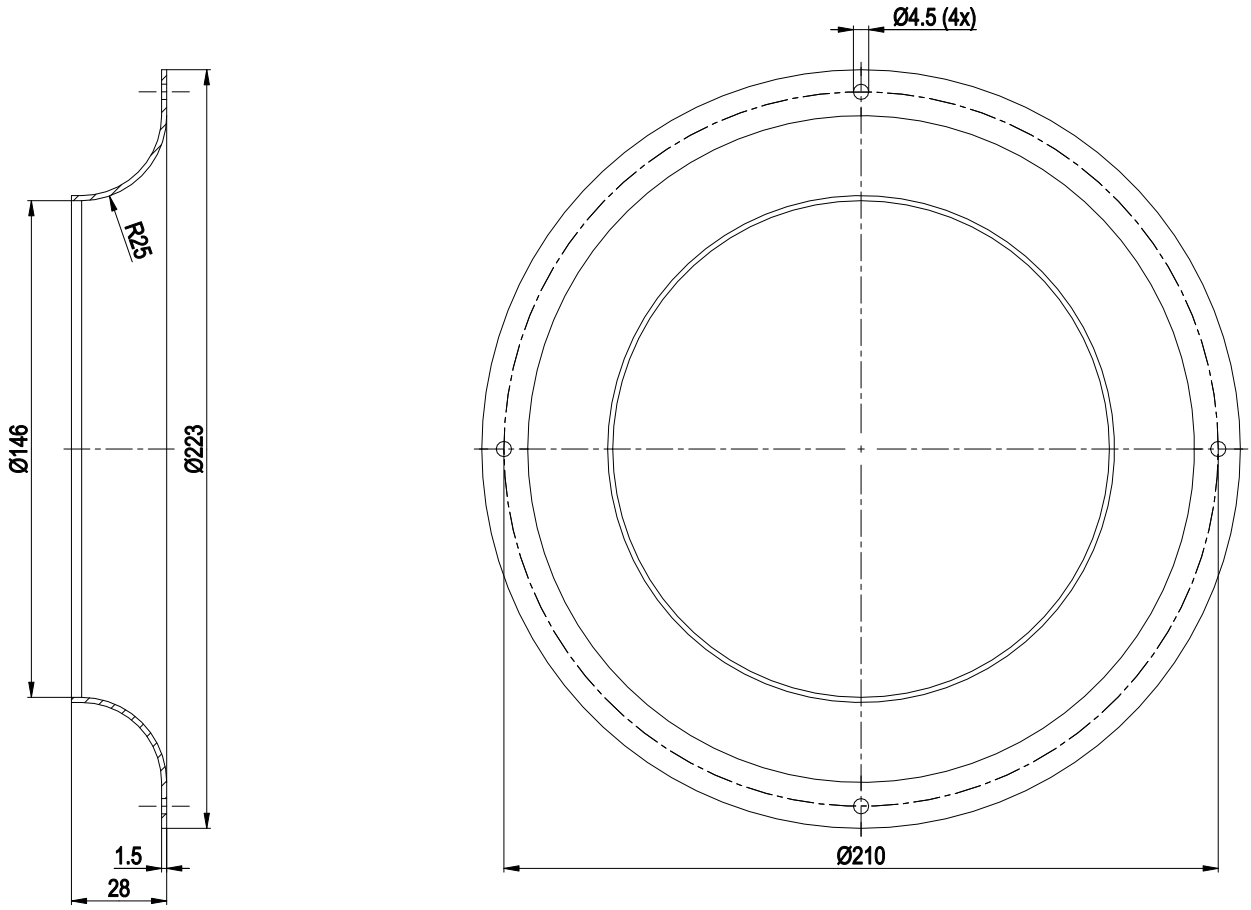


1	Accessory part: inlet ring 96358-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Max. clearance for screw 6 mm
4	Cable PVC AWG20
	3x splice
5	Cable PVC AWG22
	4x splice

EC centrifugal fan - RadiCal

backward-curved, single-intake

Accessory part

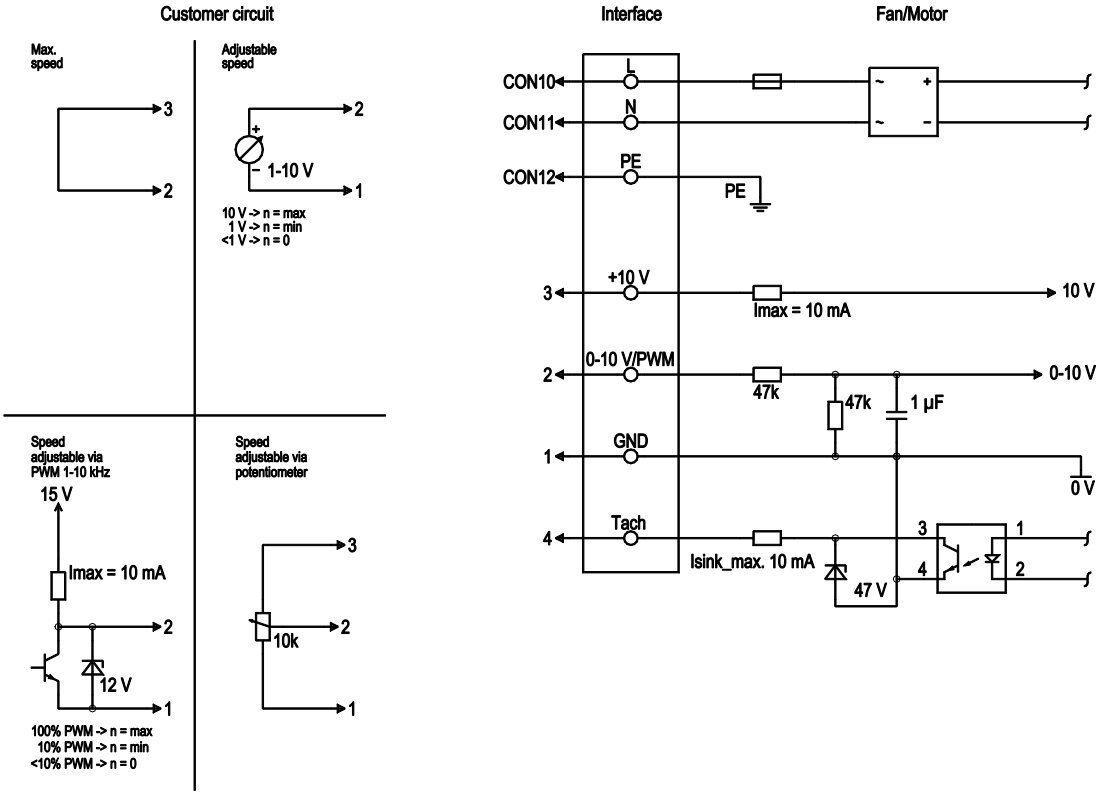


Inlet ring 96358-2-4013 not included in scope of delivery

EC centrifugal fan - RadiCal

backward-curved, single-intake

Connection diagram

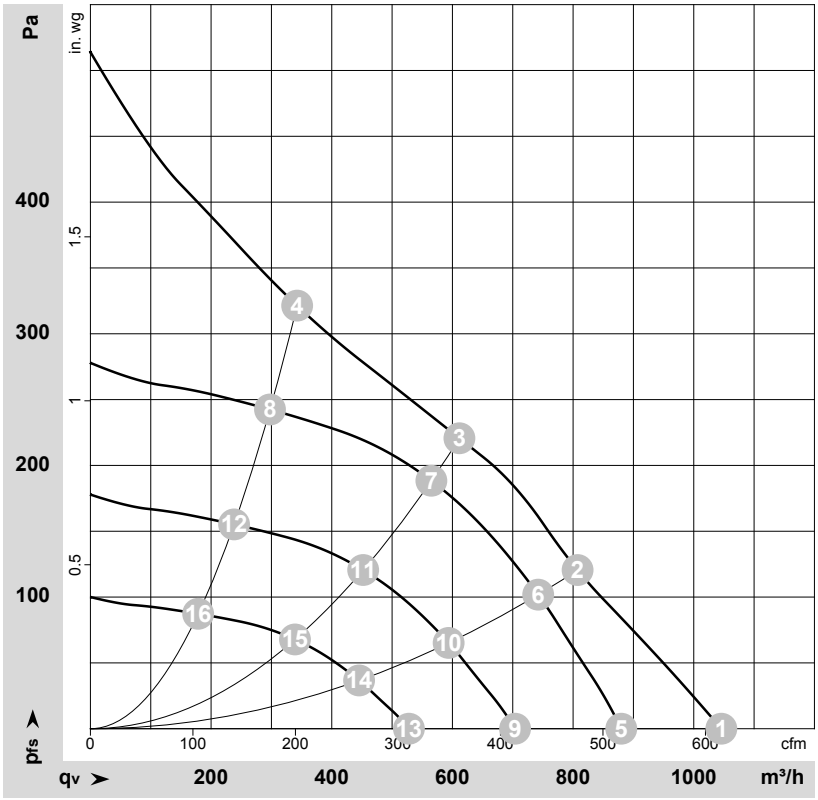


No.	Conn.	Designation	Color	Function/assignment
	CON10	L	brown	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Tach 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. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

EC centrifugal fan - RadiCal

backward-curved, single-intake

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-181427-1

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

	Wired	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	in. wg
1	1~	115	50	2375	80	1.25	62	70	1045	0	615	0.00
2	1~	115	50	2170	80	1.25	58	65	805	120	475	0.48
3	1~	115	50	2150	80	1.25	53	61	610	220	360	0.88
4	1~	115	50	2300	80	1.25	59	67	345	320	200	1.28
5	1~	115	50	2000	49	0.77	58	66	880	0	520	0.00
6	1~	115	50	2000	65	1.00	55	63	740	103	435	0.41
7	1~	115	50	2000	64	0.99	51	58	565	189	335	0.76
8	1~	115	50	2000	53	0.82	58	66	300	243	175	0.98
9	1~	115	50	1600	25	0.39	52	60	705	0	415	0.00
10	1~	115	50	1600	33	0.51	50	57	595	66	350	0.26
11	1~	115	50	1600	33	0.51	45	53	450	121	265	0.49
12	1~	115	50	1600	27	0.42	52	60	240	155	140	0.62
13	1~	115	50	1200	11	0.17	45	53	530	0	310	0.00
14	1~	115	50	1200	14	0.22	42	50	445	37	260	0.15
15	1~	115	50	1200	14	0.21	38	46	340	68	200	0.27
16	1~	115	50	1200	11	0.18	45	53	180	87	105	0.35

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_V = Air flow · p_{fs} = Pressure increase