

EC centrifugal fans - RadiCal

Edition 2018-05

ebmpapst

The engineer's choice



EC centrifugal fans - RadiCal

RadiCal impellers are made of high-tech composite material. Optimized flow control combined with high-efficiency GreenTech EC motors – not only for ventilation and air conditioning.

Those are the main features of the backward-curved centrifugal fans in the RadiCal series. The small RadiCal fans installed in an aerodynamically optimized 3D scroll housing are the latest addition.

This enhancement includes increased efficiency and added functionality such as measurement of air flow, air temperature or humidity.

So that this data can also be used, there is an optional serial MODBUS-RTU interface.

The impellers for the sizes from 133 to 560 mm are made of special composite material. This enables high rotational velocity and high power density for the fan.

The shape of the impellers was refined with complex simulation models in combination with measurements made on prototypes. The result is optimized low-loss flow through the impeller; there are no cross-section changes to cause losses in the impeller.

A uniform flow profile without laminar separation results in fewer sources of noise and better acoustics.

Changes and additions worth mentioning in this catalog are:

RadiCal with M3G150 Gen III:

In addition to the previous versions, sizes 500 and 560 are now available with the new EC motors in size M3G150 Gen III.

“In addition” because the motors in combination with the known impellers deliver significantly increased air performance.

To illustrate the air performance benefits compared with the previous fans, their characteristic curves are shown in curve families for each size.

Active PFC with RadiCal:

Sizes 500 and 560 are now available with the new three-phase 3 kW motor with integrated active PFC.

With these products, we can now fulfill the increasingly frequent requests for total harmonic distortion of no more than 5%.

Their characteristic curves are shown with those of the standard fans in a curve family.

That makes it easy to find comparable types.

Small RadiCals with more of what you need:

A new addition to the catalog is size 175, with various motor/impeller combinations.

Also new are RadiCals in sizes from 175 to 250 in a version with MODBUS-RTU and a basic PWM version.

Sizes 190 and 225 are the first innovative RadiCals in a scroll housing. The various designs from basic control to smart and autonomous open up whole new possibilities.

The new RadiPacs stand out with the following features:

- Best overall efficiency
- Comfortable noise level
- Compact design
- Fast availability
- Easy startup with uncomplicated configuration of control electronics
- Finely tuned system with pre-configured motor / control electronics / impeller unit
- Plug & play: fully pre-assembled unit ready to install
- Single source: one contact for everything
- Logistic advantages due to complete unit
- Complete product line without gaps
- No magnets with rare earths

Subject to technical changes.

Contents

EC centrifugal fans - RadiCal	2	Technology:	
About ebm-papst	4	- Tender specifications	130
Product- & characteristic curves overview	6	- Accessories	132
EC centrifugal fans RadiCal Ø 133-250 (Compact)	10	- Connection diagrams	142
EC centrifugal fans RadiCal Ø 250-560	76	- FanScout product selection program	160
		- Technical parameters & scope	162
		ebm-papst agents	166



About ebm-papst

As technological leader for ventilation and drive engineering, ebm-papst is in demand as an engineering partner in many industries. With over 15,000 different products, we provide the right solution for just about any challenge. Our fans and drives are reliable, quiet and energy-efficient.

Six reasons that make us the ideal partner:

Our systems expertise.

You want the best solution for every project. The interrelationships between ventilation and drive engineering must thus be considered as a whole. And that's what we do – with **motor technology** that sets standards, sophisticated **electronics** and **aerodynamic designs** – all from a single source and perfectly matched. These system solutions release unique synergies worldwide. And in particular – they relieve you of a lot of work, so that you can concentrate on your core competency.

The ebm-papst spirit of invention.

In addition to our wide range of products, we are always able to develop customized solutions for you. A diversified team of 600 engineers and technicians works at our three locations in Germany: Mulfingen, Landshut and St. Georgen. Contact us to discuss your next project.

Our lead in technology.

As pioneer and trail-blazer for developing highly efficient EC technology, we are way ahead of other motor manufacturers. Almost all our products are also available with GreenTech EC technology. The list of benefits is long: higher efficiency, maintenance-free, longer service life, sound reduction, intelligent control characteristics and unrivalled energy efficiency with savings of up to 80% compared to conventional AC technology. Let our technology be your competitive advantage as you lead in your industry.

Closeness to our customers.

ebm-papst has 25 production locations worldwide (including facilities in Germany, China and the USA), together with 49 sales offices, each of which has a dense network of sales representatives. You will always have a local contact, someone who speaks your language and knows your market.

Our standard of quality.

Of course you can rely on the highest standards of quality with our products. Our quality management is uncompromising, at every step in every process. This is underscored by our certification according to international standards including DIN EN ISO 9001, TS declaration of conformity and DIN EN ISO 14001.

Our sustainable approach.

Assuming responsibility for the environment, for our employees and for society is an integral part of our corporate philosophy. We develop products with an eye to maximum environmental compatibility, in particular resource-preserving production methods. We promote environmental awareness among our young staff and are actively involved in sports, culture and education. That's what makes us a leading company – and an ideal partner for you.



The story of our success to market and technology pioneer.

- 1963** Founding of **Elektrobau Mulfingen GmbH & Co. KG** by Gerhard Sturm and Heinz Ziehl.
- 1965** First tubeaxial fan developed in EC/DC technology.
- 1966** ebm's success takes off with the new 68 motor.
- 1972** The first ebm foreign subsidiary is established in Sweden.
- 1988** Gerhard Sturm is awarded the Federal Cross of Merit.
- 1990** The sixty-millionth external-rotor fan is produced.
- 1992** Acquisition of **PAPST Motoren GmbH** in St. Georgen.
- 1997** Buyout of the **Landshut (mvl)** plant.
- 1998** Development of first fans with integrated electronics.
- 2003** Change of name to **ebm-papst**.
- 2008** The **HyBlade®** range of fans sets new efficiency standards.
- 2010** **GreenTech** – our sign for energy efficiency and resource preservation.
- 2011** **RadiCal** defines a new standard for EC centrifugal fans.
- 2013** ebm-papst takes over the gearbox specialist Zeitlauf and wins the **German Sustainability Award**.
- 2014** Team partnership with Mercedes AMG PETRONAS Formula 1 team.
- 2015** **RadiPac** pushes the limits of efficiency.
- 2016** **AxiBlade** sets new standards in ventilation, refrigeration and air-conditioning.



Product overview – EC-RadiCal




Ø 133 - Ø 250 (Compact)

Ø	Motor	Nominal voltage range VAC	Max. Input power W	Centrifugal fan 	Centrifugal module with support basket 	Technical features Speed regulation	Page ff.
133	M3G 045-AI	1~200-240	27	R3G 133-RA01 -03	K3G 133-RA01 -03	0-10 V / PWM	12
	M3G 055-BI	1~200-240	85	R3G 175-RC05 -01	K3G 175-RC05 -01	2 Speed stages	
	M3G 055-CF	1~200-240	166	R3G 175-RD53 -01	K3G 175-RD53 -01	2 Speed stages	
	M3G 055-BI	1~200-240	85	R3G 175-RC05 -03	K3G 175-RC05 -03	0-10 V / PWM	
	M3G 055-BI	1~200-240	85	R3G 175-RC05 -07	K3G 175-RC05 -07	PWM	
	M3G 055-CF	1~200-240	115	R3G 175-RG19 -05	K3G 175-RG19 -05	0-10 V / PWM	
	M3G 055-CF	1~200-240	115	R3G 175-RG19 -09	K3G 175-RG19 -09	PWM	
	M3G 055-CF	1~200-240	166	R3G 175-RD53 -03	K3G 175-RD53 -03	0-10 V / PWM	
	M3G 055-CF	1~200-240	166	R3G 175-RD53 -07	K3G 175-RD53 -07	PWM	
175	M3G 055-CF	1~200-240	166	R3G 175-RD53 -08	K3G 175-RD53 -08	MODBUS-RTU	16
	M3G 055-BD	1~200-240	57	R3G 190-RB01 -01	K3G 190-RB01 -01	2 Speed stages	
	M3G 055-CF	1~200-240	169	R3G 190-RD45 -01	K3G 190-RD45 -01	2 Speed stages	
	M3G 055-BI	1~200-240	83	R3G 190-RC05 -03	K3G 190-RC05 -03	0-10 V / PWM	
	M3G 055-BI	1~200-240	83	R3G 190-RC05 -05	K3G 190-RC05 -05	PWM	
	M3G 055-CF	1~200-240	115	R3G 190-RG19 -01	K3G 190-RG19 -01	0-10 V / PWM	
	M3G 055-CF	1~200-240	115	R3G 190-RG19 -05	K3G 190-RG19 -05	PWM	
	M3G 055-CF	1~200-240	169	R3G 190-RD45 -03	K3G 190-RD45 -03	0-10 V / PWM	
	M3G 055-CF	1~200-240	169	R3G 190-RD45 -05	K3G 190-RD45 -05	PWM	
190	M3G 055-CF	1~200-240	169	R3G 190-RD45 -08	K3G 190-RD45 -08	MODBUS-RTU	24
	M3G 055-BI	1~200-240	85	R3G 220-RC05 -01	K3G 220-RC05 -01	2 Speed stages	
	M3G 055-CF	1~200-240	168	R3G 220-RD53 -01	K3G 220-RD53 -01	2 Speed stages	
	M3G 055-BI	1~200-240	85	R3G 220-RC05 -03	K3G 220-RC05 -03	0-10 V / PWM	
	M3G 055-BI	1~200-240	85	R3G 220-RC05 -05	K3G 220-RC05 -05	PWM	
	M3G 055-CF	1~200-240	115	R3G 220-RG19 -01	K3G 220-RG19 -01	0-10 V / PWM	
	M3G 055-CF	1~200-240	115	R3G 220-RG19 -05	K3G 220-RG19 -05	PWM	
	M3G 055-CF	1~200-240	168	R3G 220-RD53 -03	K3G 220-RD53 -03	0-10 V / PWM	
	M3G 055-CF	1~200-240	168	R3G 220-RD53 -05	K3G 220-RD53 -05	PWM	
220	M3G 055-CF	1~200-240	168	R3G 220-RD53 -08	K3G 220-RD53 -08	MODBUS-RTU	38
	M3G 055-CF	1~200-240	82	R3G 225-RD05 -01	K3G 255-RD05 -01	2 Speed stages	
	M3G 055-DF	1~200-240	170	R3G 225-RE07 -01	K3G 255-RE07 -01	2 Speed stages	
	M3G 055-CF	1~200-240	82	R3G 225-RD05 -03	K3G 255-RD05 -03	0-10 V / PWM	
	M3G 055-CF	1~200-240	82	R3G 225-RD05 -05	K3G 255-RD05 -05	PWM	
	M3G 055-CF	1~200-240	107	R3G 225-RH19 -01	K3G 255-RH19 -01	0-10 V / PWM	
	M3G 055-CF	1~200-240	107	R3G 225-RH19 -05	K3G 255-RH19 -05	PWM	
	M3G 055-DF	1~200-240	170	R3G 225-RE07 -03	K3G 255-RE07 -03	0-10 V / PWM	
	M3G 055-DF	1~200-240	170	R3G 225-RE07 -05	K3G 255-RE07 -05	PWM	
225	M3G 055-DF	1~200-240	170	R3G 225-RE07 -22	K3G 255-RE07 -22	MODBUS-RTU	46

Subject to technical changes.

Product overview – EC-RadiCal



Ø 133 - Ø 250 (Compact)

Ø	Motor	Nominal voltage range VAC	Max. Input power W	Centrifugal fan 	Centrifugal module with support basket 	Technical features Speed regulation	Page ff.
250	M3G 055-CF	1~200-240	80	R3G 250-RD17 -01	K3G 250-RD17 -01	2 Speed stages	60
	M3G 055-DF	1~200-240	170	R3G 250-RE07 -05	K3G 250-RE07 -05	2 Speed stages	
	M3G 055-CF	1~200-240	80	R3G 250-RD17 -03	K3G 250-RD17 -03	0-10 V / PWM	
	M3G 055-CF	1~200-240	80	R3G 250-RD17 -05	K3G 250-RD17 -05	PWM	
	M3G 055-DF	1~200-240	115	R3G 250-RH13 -01	K3G 250-RH13 -01	0-10 V / PWM	
	M3G 055-DF	1~200-240	115	R3G 250-RH13 -05	K3G 250-RH13 -05	PWM	
	M3G 055-DF	1~200-240	170	R3G 250-RE07 -07	K3G 250-RE07 -07	0-10 V / PWM	
	M3G 055-DF	1~200-240	170	R3G 250-RE07 -21	K3G 250-RE07 -21	PWM	
	M3G 055-DF	1~200-240	170	R3G 250-RE07 -22	K3G 250-RE07 -22	MODBUS-RTU	
175	M1G 055-CF	1~200-240	100	R1G 175-RF04 -01	K1G 175-RF04 -01	PWM	68
190	M1G 055-CF	1~200-240	100	R1G 190-RF04 -01	K1G 190-RF04 -01	PWM	
220	M1G 055-CF	1~200-240	100	R1G 220-RF01 -01	K1G 220-RF01 -01	PWM	
225	M1G 055-DF	1~200-240	100	R1G 225-RG04 -01	K1G 225-RG04 -01	PWM	
250	M1G 055-DF	1~200-240	100	R1G 250-RG01 -01	K1G 250-RG01 -01	PWM	
Ø	Motor	Nominal voltage range VAC	Max. Input power W	Centrifugal fan with housing 	Technical features Speed regulation Sensor regulation ⁽¹⁾	Page ff.	
190	M3G 055-BI	1~200-240	72	G3G 190-RP03 -04	MODBUS-RTU ⁽¹⁾	32	
	M3G 055-BI	1~200-240	83	G3G 190-RC05 -02	0-10 V / PWM		
	M3G 055-BI	1~200-240	83	G3G 190-RC05 -05	PWM		
	M3G 055-CF	1~200-240	115	G3G 190-RG19 -01	0-10 V / PWM		
	M3G 055-CF	1~200-240	115	G3G 190-RG19 -05	PWM		
	M3G 055-CF	1~200-240	170	G3G 190-RD45 -03	0-10 V / PWM		
	M3G 055-CF	1~200-240	170	G3G 190-RD45 -05	PWM		
	M3G 055-CF	1~200-240	170	G3G 190-RD45 -08	MODBUS-RTU		
	M3G 055-CF	1~200-240	170	G3G 190-RQ45 -04	MODBUS-RTU ⁽¹⁾		
225	M3G 055-CF	1~200-240	85	G3G 225-RD05 -02	0-10 V / PWM	54	
	M3G 055-CF	1~200-240	85	G3G 225-RD05 -05	PWM		
	M3G 055-CF	1~200-240	105	G3G 225-RH19 -01	0-10 V / PWM		
	M3G 055-CF	1~200-240	105	G3G 225-RH19 -05	PWM		
	M3G 055-DF	1~200-240	165	G3G 225-RE07 -03	0-10 V / PWM		
	M3G 055-DF	1~200-240	165	G3G 225-RE07 -05	PWM		
	M3G 055-DF	1~200-240	165	G3G 225-RE07 -22	MODBUS-RTU		
	M3G 055-DF	1~200-240	165	G3G 225-RR07 -04	MODBUS-RTU ⁽¹⁾		

Subject to technical changes.

Product overview – EC-RadiCal

Ø 250 - Ø 560

Ø	Motor	Nominal voltage range VAC	Max. Input power W	Centrifugal fan 	Centrifugal module with support bracket 	Page ff.
250	M3G 084-DF	1~200-277	500	R3G 250-RR01 -H1	K3G 250-RR01 -H2	76
	M3G 084-DF	1~200-277	750	R3G 250-RR02 -I1	K3G 250-RR02 -I2	
280	M3G 074-CF	1~200-240	168	R3G 280-RB02 -03	K3G 280-RB02 -03	80
	M3G 084-DF	1~200-277	500	R3G 280-RR03 -H1	K3G 280-RR03 -H2	
	M3G 084-DF	1~200-277	660	R3G 280-RR04 -I1	K3G 280-RR04 -I2	
310	M3G 074-CF	1~200-240	150	R3G 310-RB01 -03	K3G 310-RB01 -03	86
	M3G 084-DF	1~200-277	500	R3G 310-RR05 -H1	K3G 310-RR05 -H2	
	M3G 084-FA	1~200-277	730	R3G 310-RS01 -I1	K3G 310-RS01 -I2	
	M3G 084-FA	3~380-480	790	R3G 310-RS05 -J1	K3G 310-RS05 -J2	
355	M3G 074-DF	1~200-240	168	R3G 355-RB03 -03	K3G 355-RB03 -03	92
	M3G 084-DF	1~200-277	250	R3G 355-RR06 -G1	K3G 355-RR06 -G2	
	M3G 084-FA	1~200-277	500	R3G 355-RS02 -H1	K3G 355-RS02 -H2	
	M3G 084-GF	1~200-277	750	R3G 355-RT01 -I1	K3G 355-RT01 -I2	
	M3G 084-EA	3~380-480	1100	R3G 355-RJ75 -01	K3G 355-RJ75 -01	
400	M3G 084-DF	1~200-277	1170	R3G 400-RR07 -G1	K3G 400-RR07 -G2	100
	M3G 084-FA	1~200-277	1500	R3G 400-RS03 -H1	K3G 400-RS03 -H2	
	M3G 084-GF	1~200-277	1700	R3G 400-RT02 -I1	K3G 400-RT02 -I2	
	M3G 112-EA	3~380-480	2060	R3G 400-RJ75 -01	K3G 400-RJ75 -01	
450	M3G 084-FA	1~200-277	1000	R3G 450-RS04 -G1	K3G 450-RS04 -G2	106
	M3G 084-GF	1~200-277	1260	R3G 450-RT03 -H1	K3G 450-RT03 -H2	
	M3G 112-EA	1~200-277	1440	R3G 450-RJ74 -21	K3G 450-RJ74 -21	
	M3G 112-GA	3~380-480	1550	R3G 450-RK56 -01	K3G 450-RK56 -01	
500	M3G 084-FA	1~200-277	250	R3G 500-RS06 -G1	K3G 500-RS06 -G2	112
	M3G 084-GF	1~200-277	460	R3G 500-RT04 -H1	K3G 500-RT04 -H2	
	M3G 112-GA	1~200-277	750	R3G500-RK55 -21	K3G500-RK55 -21	
	M3G 112-IA	3~380-480	1320	R3G 500-RL96 -01	K3G 500-RL96 -01	
	M3G 150-FF	3~380-480	2600	R3G 500-RA24 -71	K3G 500-RA24 -71	
	M3G 150-FF	3~380-480	3190	R3G 500-RA26 -C1*	K3G 500-RA26 -C1*	
	M3G 150-FF	3~380-480	3650	R3G 500-RA28 -03	K3G 500-RA28 -03	
560	M3G 150-FF	1~200-277	1500	R3G 560-RA25 -21	K3G 560-RA25 -21	122
	M3G 150-FF	3~380-480	2360	R3G 560-RA25 -71	K3G 560-RA25 -71	
	M3G 150-IF	3~380-480	2900	R3G 560-RB31 -71	K3G 560-RB31 -71	
	M3G 150-IF	3~380-480	3190	R3G 560-RB27 -C1*	K3G 560-RB27 -C1*	
	M3G 150-FF	3~380-480	3700	R3G 560-RA24 -03	K3G 560-RA24 -03	

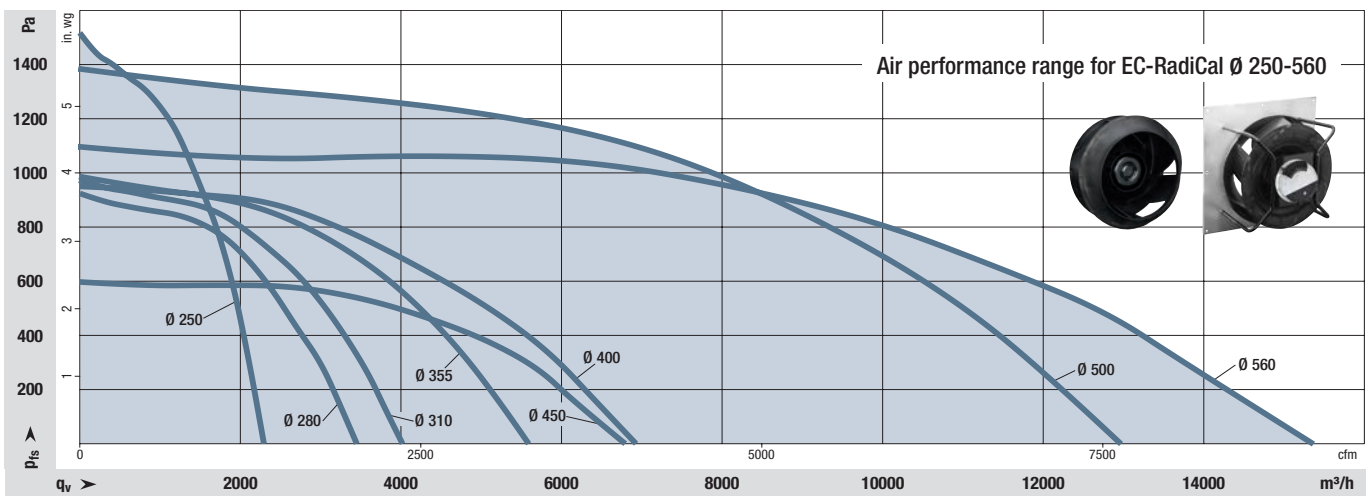
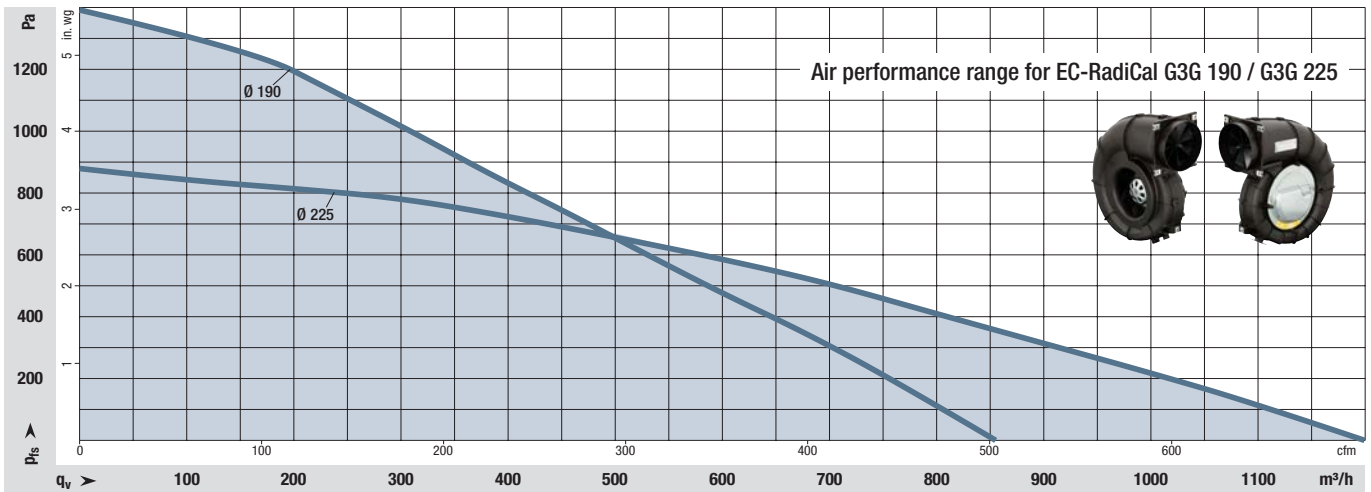
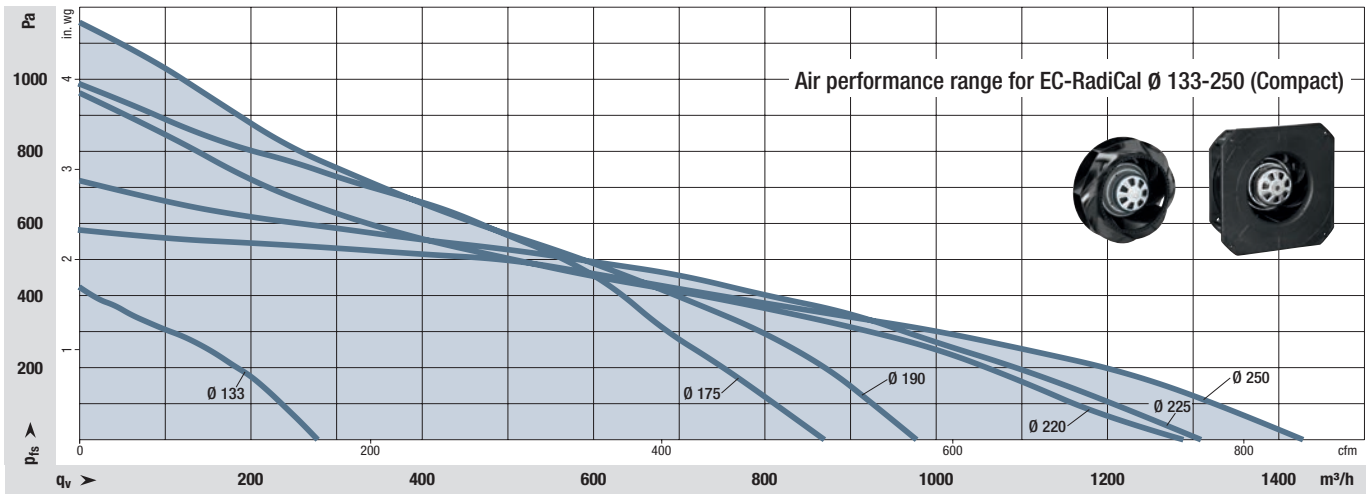
* with active-PFC

* with active-PFC

Subject to technical changes.

Characteristic curves overview – EC-RadiCal

Ø 133 - Ø 560



The graphics shows the maximum air performance for each size. If less performance is required, variants with smaller motors can be used. This saves additional costs. The right fan for every application!

Subject to technical changes.

EC centrifugal fans – RadiCal

Ø 133 - 560



EC centrifugal fans – RadiCal

backward curved, Ø 133

- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings



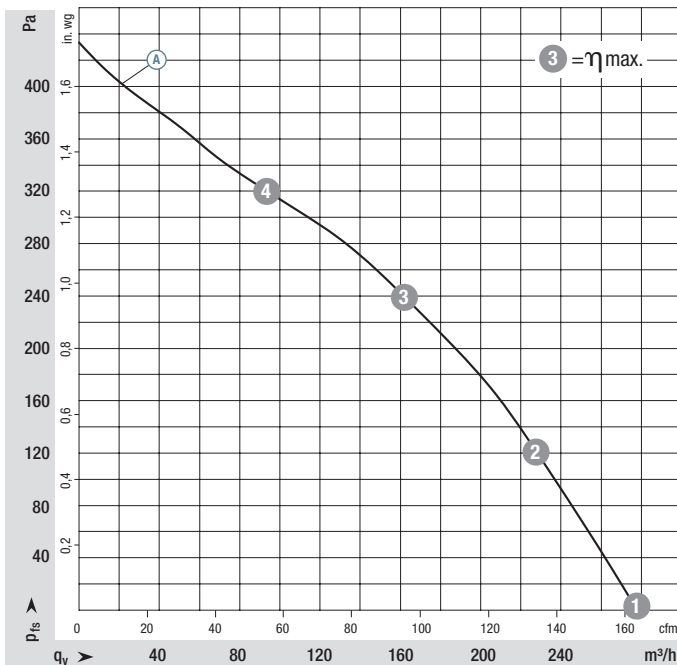
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
		VAC	Hz	rpm	W	A	°C		
*3G 133	M3G 045-AI	Ⓐ 1~200-240	50/60	3770	27	0,27	-25..+60	P. 146 / RC3)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves: Speed-controlled 0-10 V / PWM



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ 1	3930	24	0,23	66
Ⓐ 2	3800	26	0,26	63
Ⓐ 3	3770	27	0,27	61
Ⓐ 4	3850	25	0,25	66

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

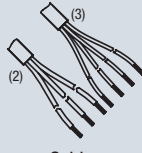
- **Technical features:** See connection diagram P. 146
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC are applied for
- **Efficiency:** Ecodesign EU regulation EU 327/2011



Weight
Centrifugal fan



Weight
Centrifugal module
w. support basket



Cables

Centrifugal fan	kg	Centrifugal module w. support basket	kg	Speed-controlled 0-10 V / PWM
R3G 133-RA01 -03	0,50	K3G 133-RA01 -03	0,75	X

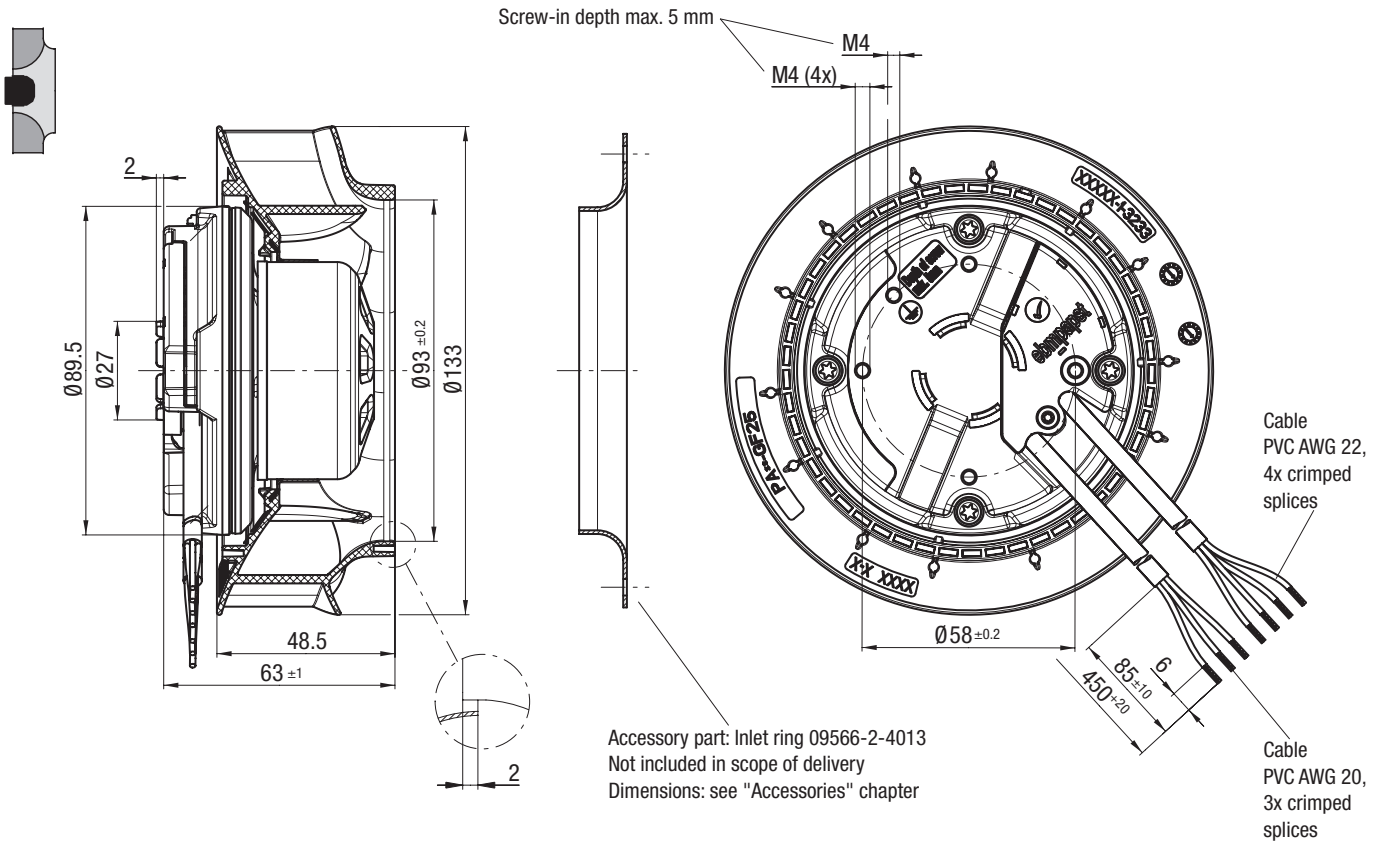
(2) PVC AWG 20, 3x splices
(3) PVC AWG 22, 4x splices

EC centrifugal fans – RadiCal

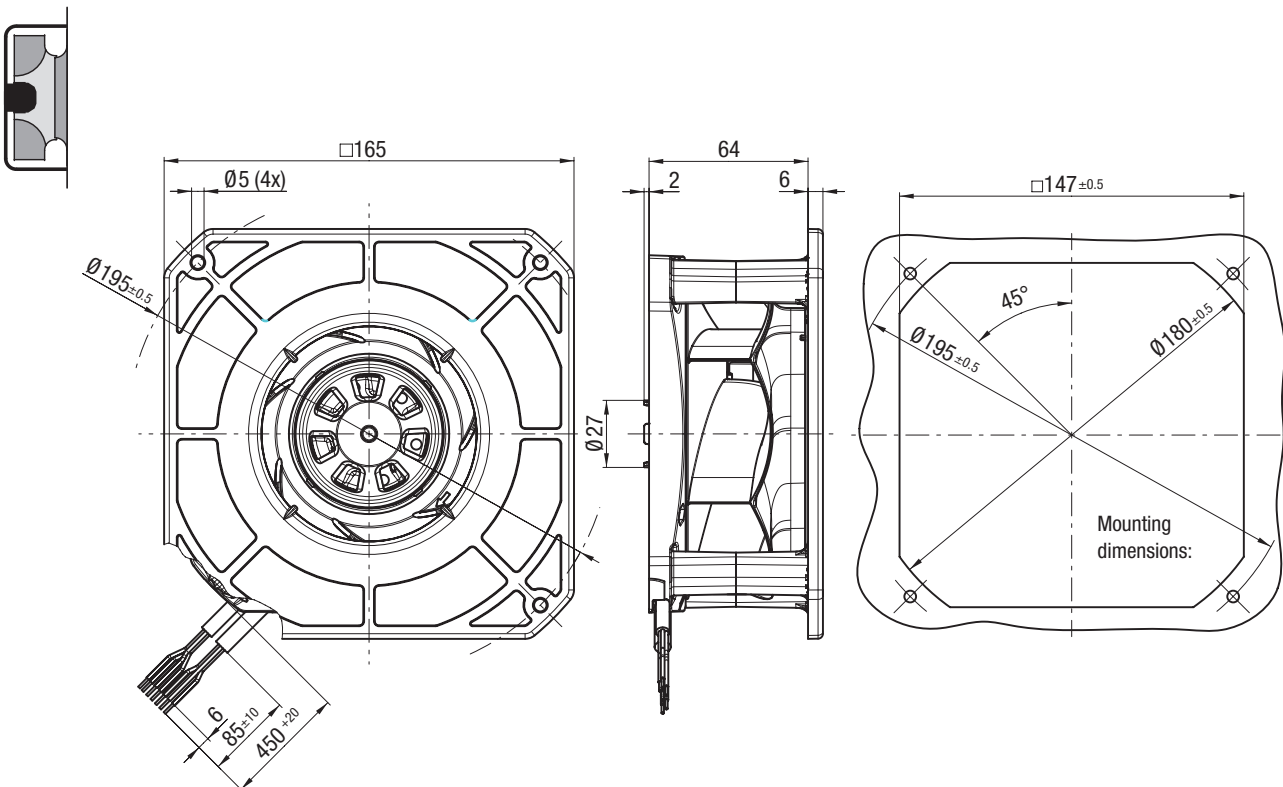
backward curved, Ø 133, Speed-controlled



R3G 133-RA01-03 (Centrifugal fan)



K3G 133-RA01-03 (Centrifugal module with support basket)



EC centrifugal fans – RadiCal

backward curved, Ø 175



- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

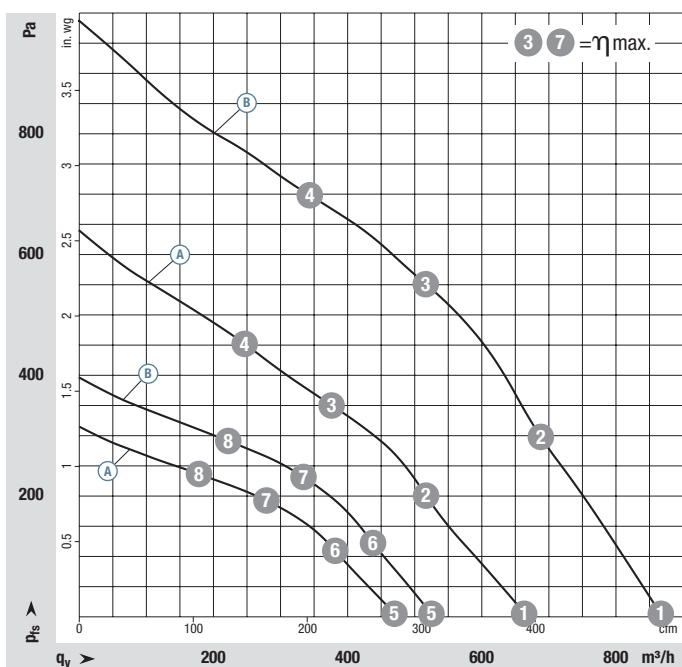
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 175	M3G 055-BI	Ⓐ	1~200-240	50/60	3740	85	0,80	-25..+60	P. 145 / RC2)
*3G 175	M3G 055-CF	Ⓑ	1~200-240	50/60	4720	166	1,40	-25..+60	P. 145 / RC2)
*3G 175	M3G 055-BI	Ⓒ	1~200-240	50/60	3740	85	0,80	-25..+60	P. 146 / RC3)
*3G 175	M3G 055-BI	Ⓓ	1~200-240	50/60	3740	85	0,80	-25..+60	P. 154 / RC10)
*3G 175	M3G 055-CF	Ⓔ	1~200-240	50/60	4200	115	1,00	-25..+60	P. 144 / RC1)
*3G 175	M3G 055-CF	Ⓕ	1~200-240	50/60	4200	115	1,00	-25..+60	P. 154 / RC10)
*3G 175	M3G 055-CF	Ⓖ	1~200-240	50/60	4720	166	1,40	-25..+60	P. 152 / RC8)
*3G 175	M3G 055-CF	Ⓗ	1~200-240	50/60	4720	166	1,40	-25..+60	P. 154 / RC10)
*3G 175	M3G 055-CF	Ⓘ	1~200-240	50/60	4720	166	1,40	-25..+60	P. 155 / RC11)

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves: 2 Speed stages



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	3955	81	0,71	78
Ⓐ ②	3735	85	0,75	70
Ⓐ ③	3700	85	0,75	68
Ⓐ ④	3835	85	0,75	71
Ⓐ ⑤	2810	33	0,33	70
Ⓐ ⑥	2760	36	0,36	62
Ⓐ ⑦	2750	36	0,37	59
Ⓐ ⑧	2780	34	0,35	61
Ⓑ ①	4925	139	1,14	81
Ⓑ ②	4730	158	1,28	76
Ⓑ ③	4700	165	1,35	75
Ⓑ ④	4755	155	1,25	78
Ⓑ ⑤	3130	43	0,38	69
Ⓑ ⑥	3075	48	0,42	65
Ⓑ ⑦	3070	49	0,43	64
Ⓑ ⑧	3090	47	0,41	67

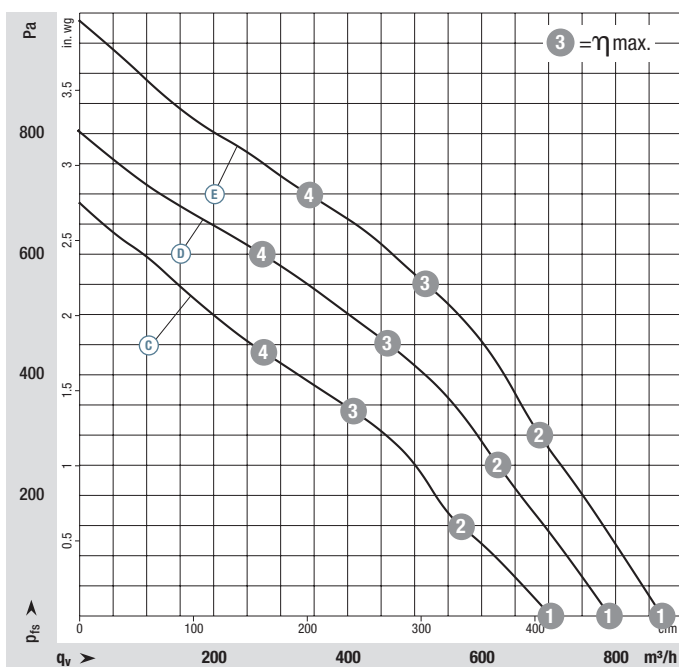
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 144 ff.
- **Touch current:** <= 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** CE
- **Approvals:** UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Centrifugal fan	kg	Centrifugal module w. support basket	kg	2 Speed stages	Speed-controlled 0-10 V / PWM	Speed-controlled PWM	Speed-controlled MODBUS-RTU
R3G 175-RC05 -01	1,10	K3G 175-RC05 -01	1,40	X			
R3G 175-RD53 -01	1,40	K3G 175-RD53 -01	1,60	X			
R3G 175-RC05 -03	1,10	K3G 175-RC05 -03	1,40		X		
R3G 175-RC05 -07	1,10	K3G 175-RC05 -07	1,40			X	
R3G 175-RG19 -05	1,40	K3G 175-RG19 -05	1,60		X		
R3G 175-RG19 -09	1,40	K3G 175-RG19 -09	1,60			X	
R3G 175-RD53 -03	1,40	K3G 175-RD53 -03	1,50		X		
R3G 175-RD53 -07	1,40	K3G 175-RD53 -07	1,50			X	
R3G 175-RD53 -08	1,40	K3G 175-RD53 -08	1,50				X

(2) PVC AWG 20, 4x splices (3) PVC AWG 20, 3x splices
(4) PVC AWG 22, 4x splices (5) PVC AWG 20, 3x splices
(6) PVC AWG 22, 3x splices (7) PVC AWG 20, 3x splices
(8) PVC AWG 22, 5x splices

Curves:
Speed-controlled
0-10 V / PWM
PWM
MODBUS-RTU



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓒ 1	4050	85	0,80	77
Ⓒ 2	3815	85	0,80	72
Ⓒ 3	3740	85	0,80	67
Ⓒ 4	3825	85	0,80	70
Ⓓ 1	4445	106	0,89	79
Ⓓ 2	4230	115	0,99	74
Ⓓ 3	4200	115	1,00	70
Ⓓ 4	4315	114	0,96	74
Ⓔ 1	4925	139	1,14	81
Ⓔ 2	4730	158	1,28	76
Ⓔ 3	4720	166	1,40	75
Ⓔ 4	4755	155	1,25	78

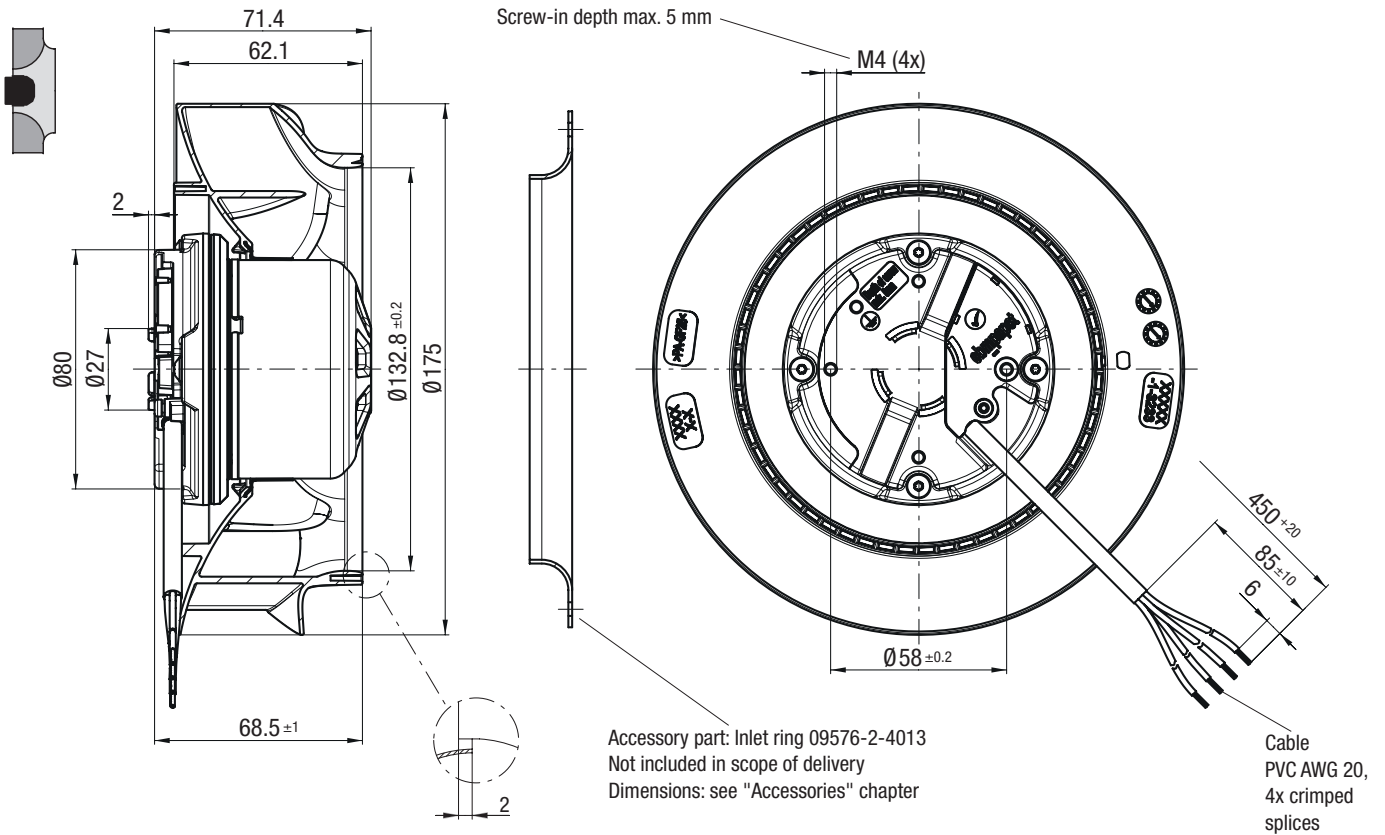
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

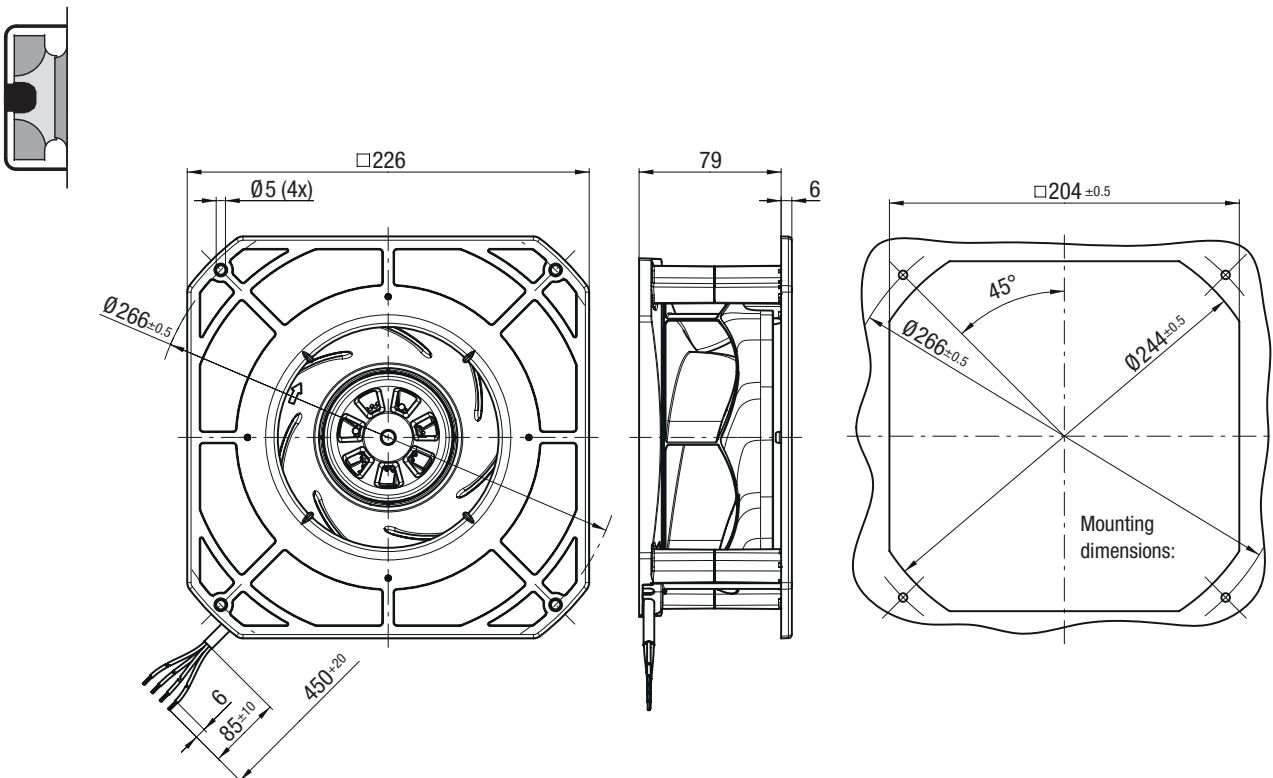
backward curved, Ø 175, 2 Speed stages, 85 W - Electronics



R3G 175-RC05-01 (Centrifugal fan)



K3G 175-RC05-01 (Centrifugal module with support basket)

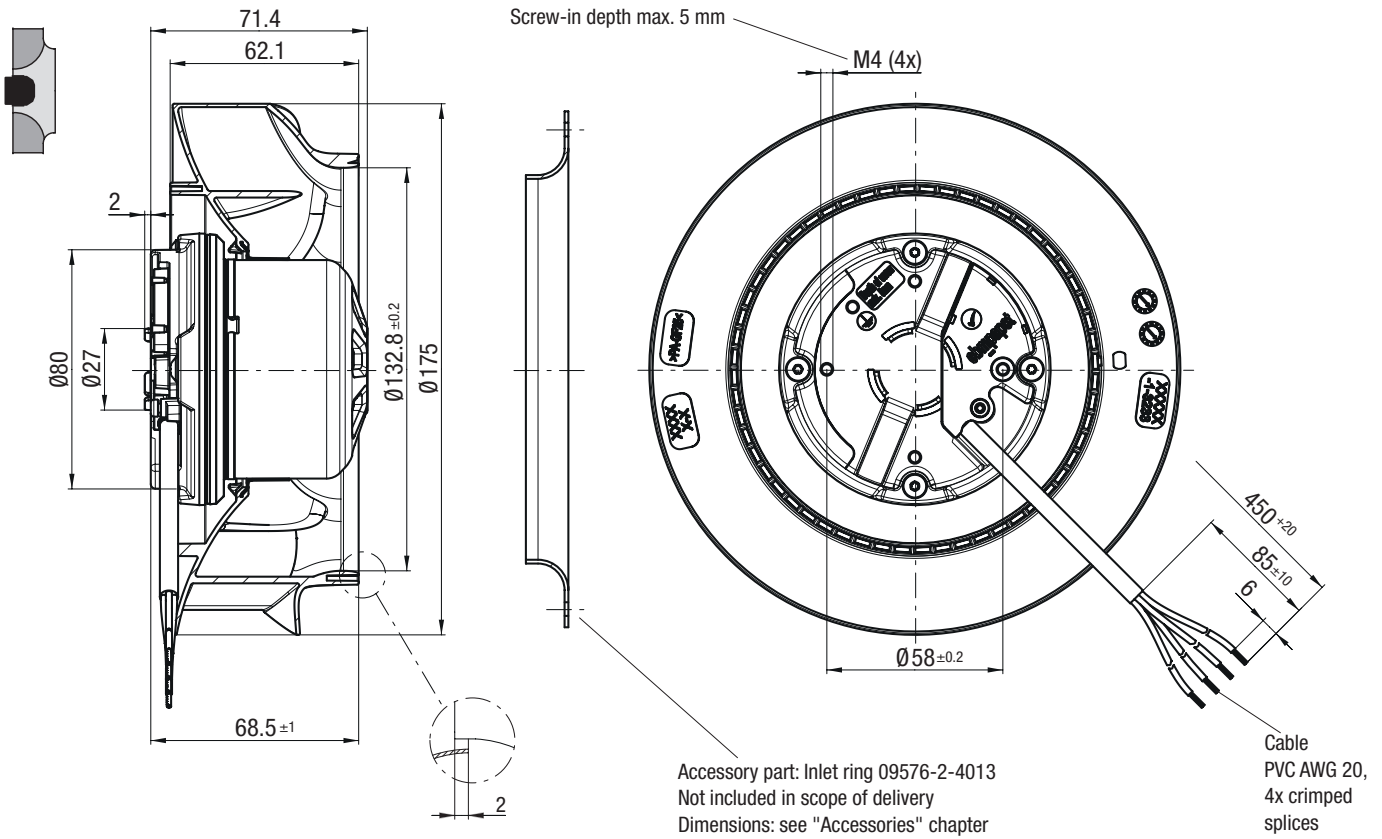


EC centrifugal fans – RadiCal

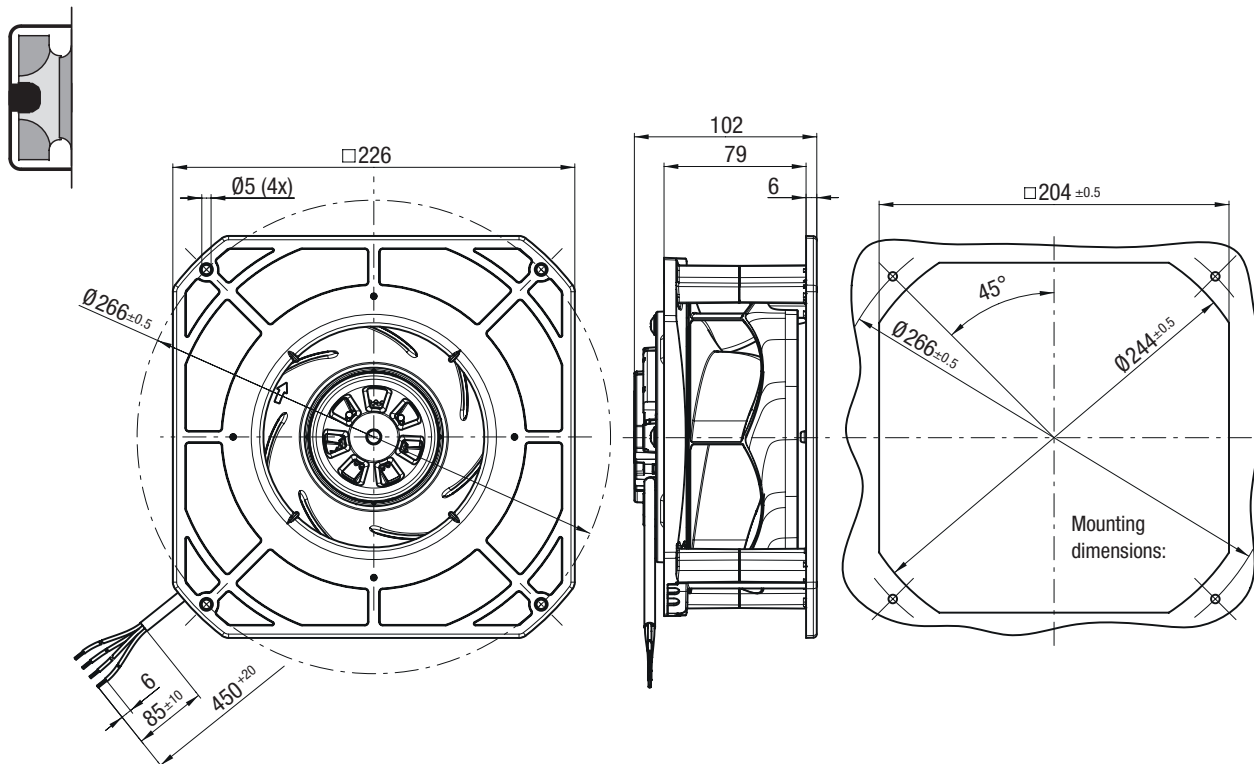
backward curved, Ø 175, 2 Speed stages, 170 W - Electronics



R3G 175-RD53-01 (Centrifugal fan)



K3G 175-RD53-01 (Centrifugal module with support basket)

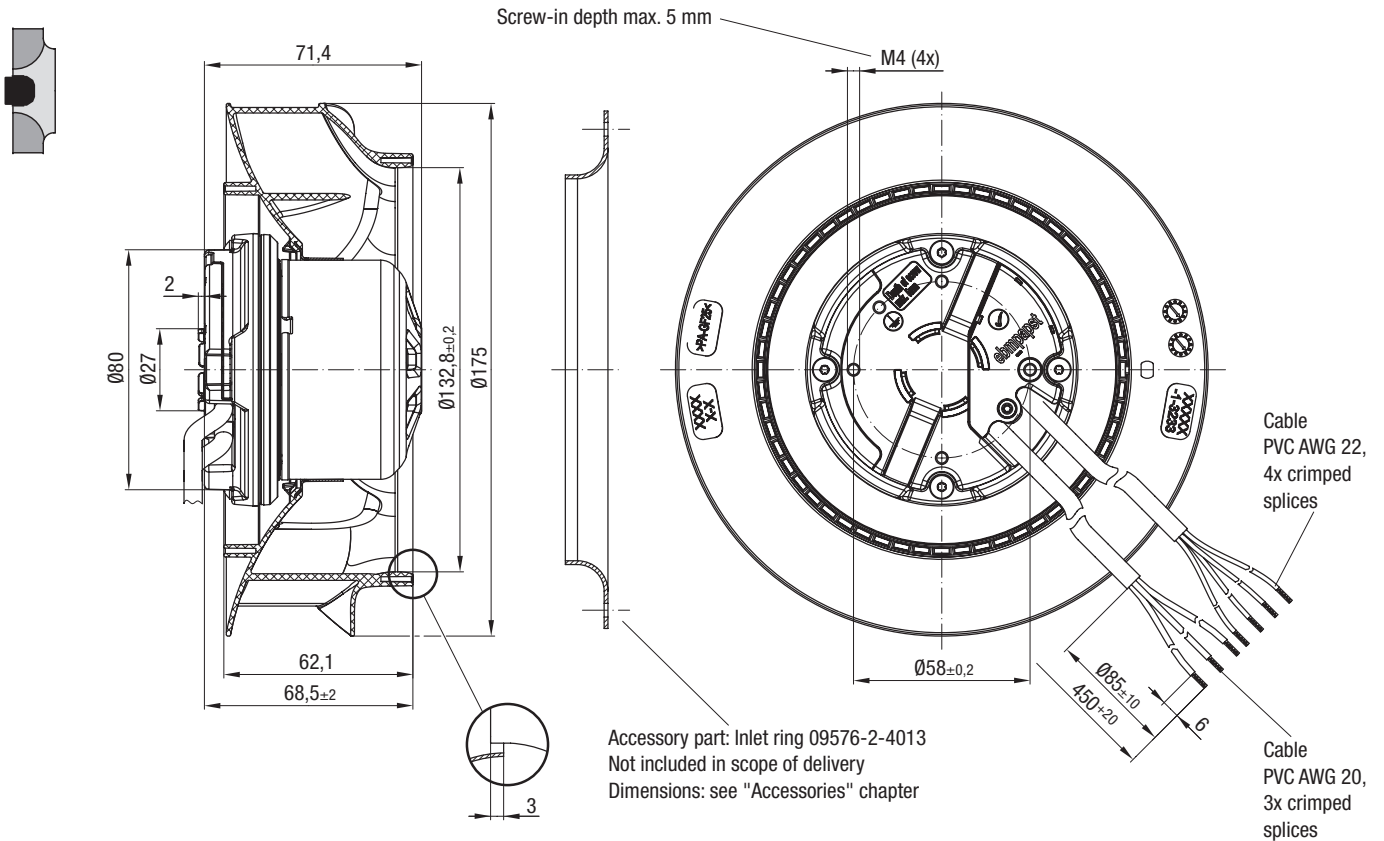


EC centrifugal fans – RadiCal

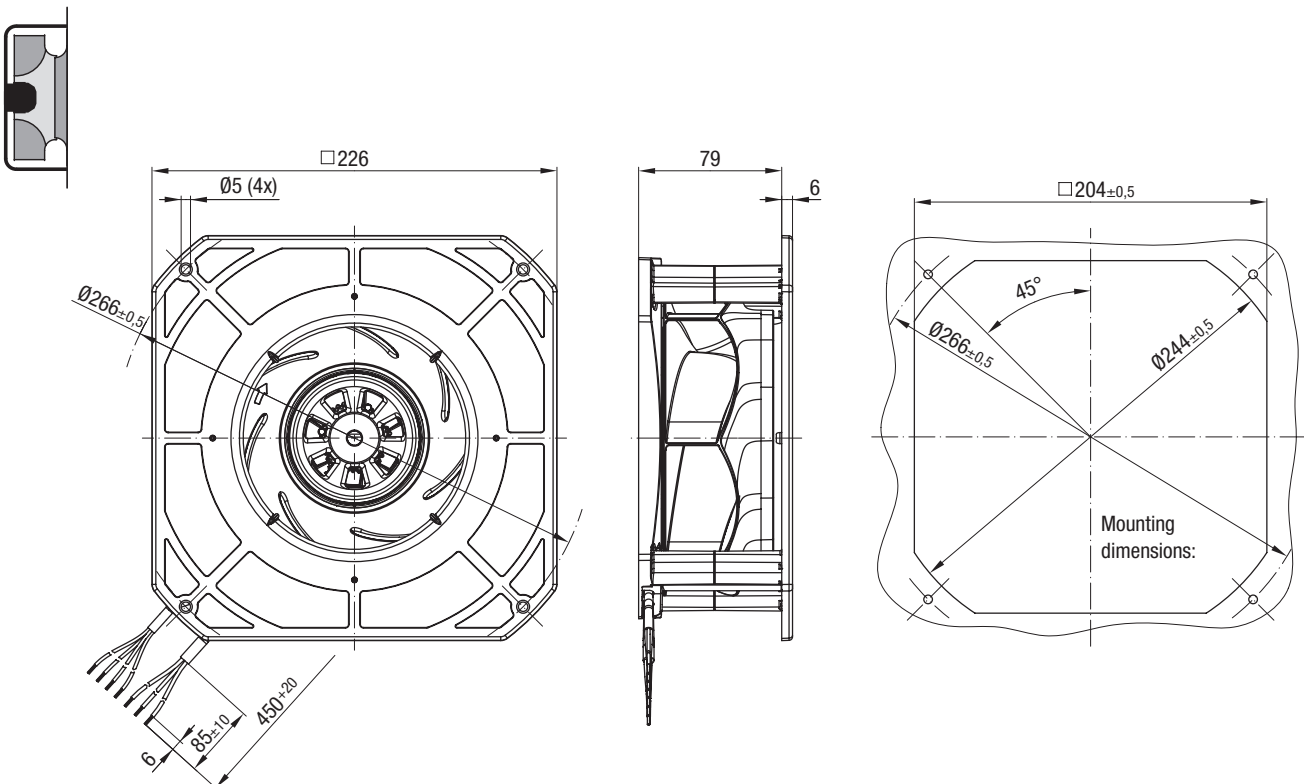
backward curved, Ø 175, Speed-controlled, 85 W - Electronics



R3G 175-RC05-03 / R3G 175-RC05-07 (Centrifugal fan)



K3G 175-RC05-03 / K3G 175-RC05-07 (Centrifugal module with support basket)



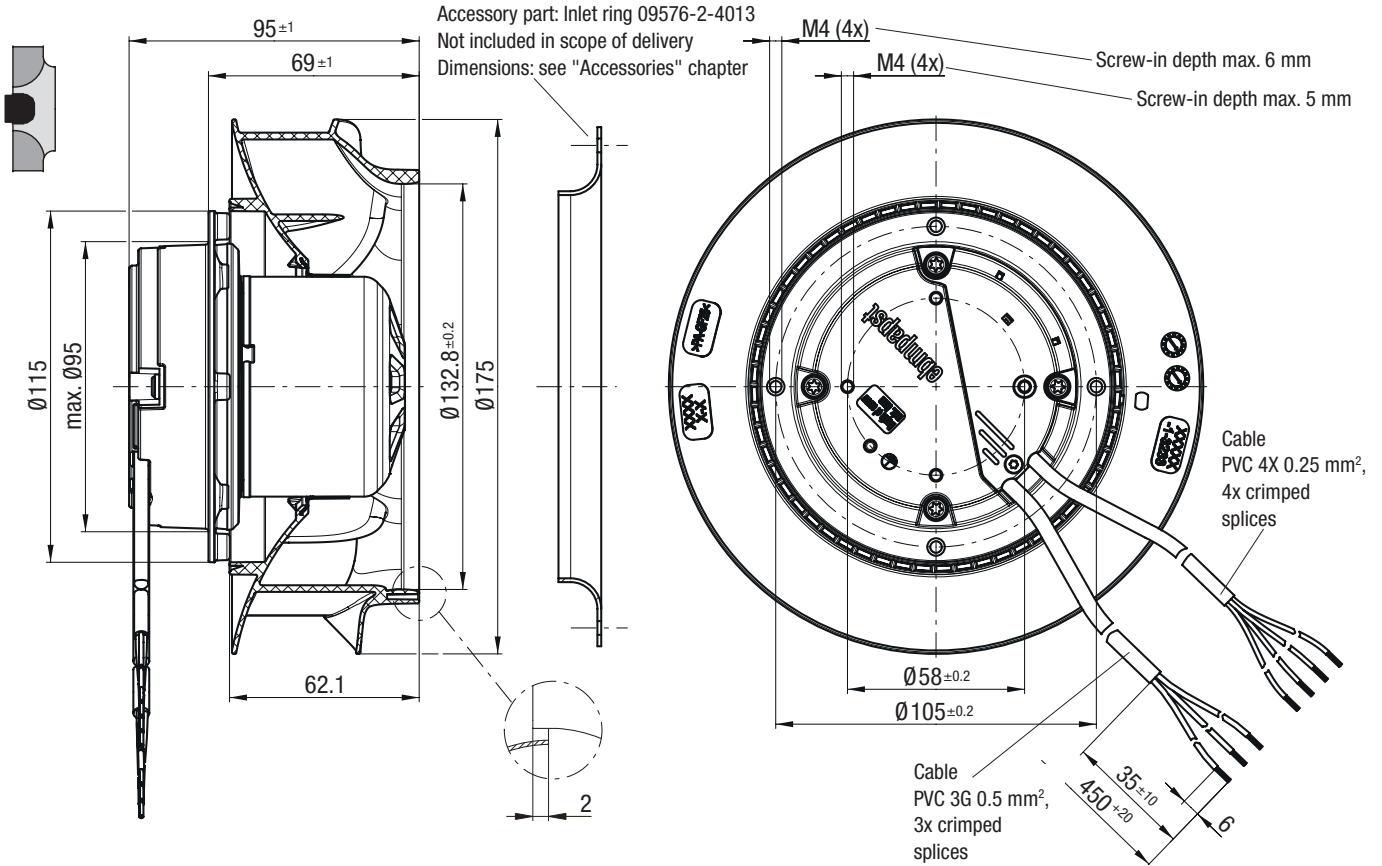
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 17.

EC centrifugal fans – RadiCal

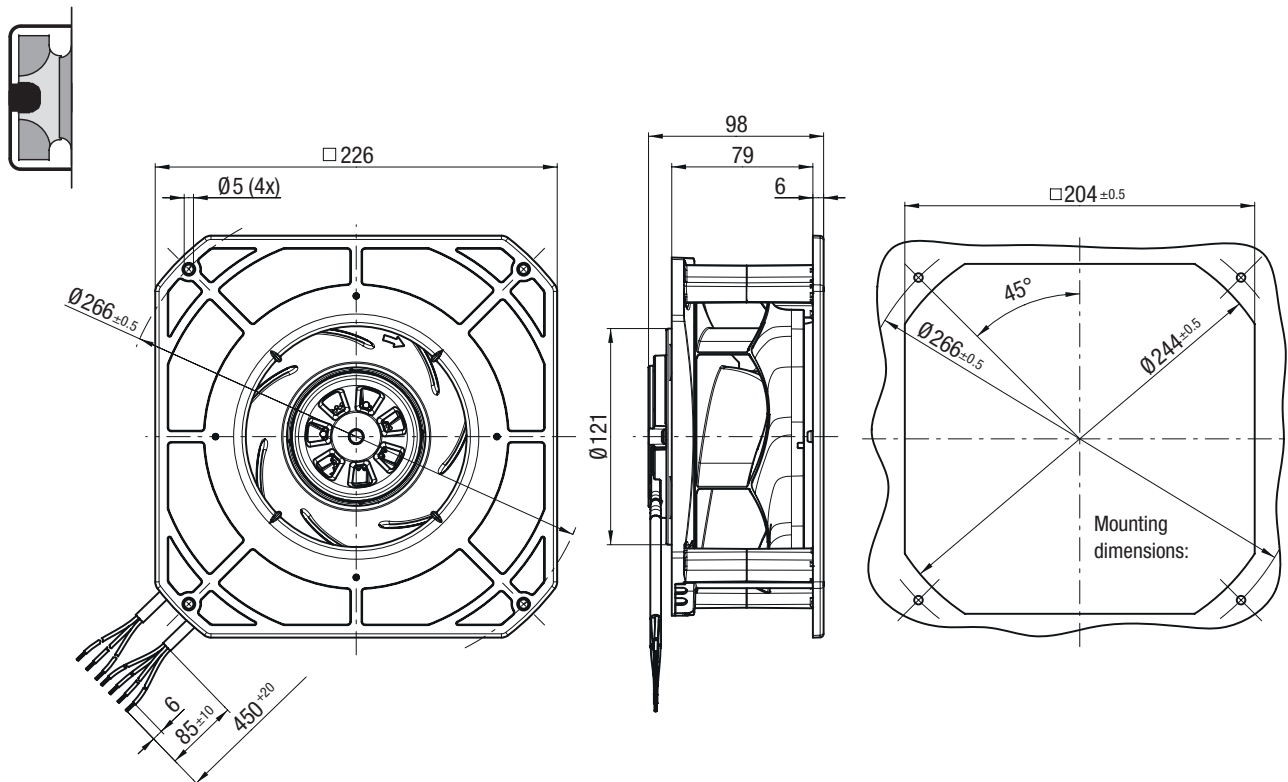
backward curved, Ø 175, Speed-controlled, 115 W - Electronics



R3G 175-RG19-05 / R3G 175-RG19-09 (Centrifugal fan)



K3G 175-RG19-05 / K3G 175-RG19-09 (Centrifugal module with support basket)



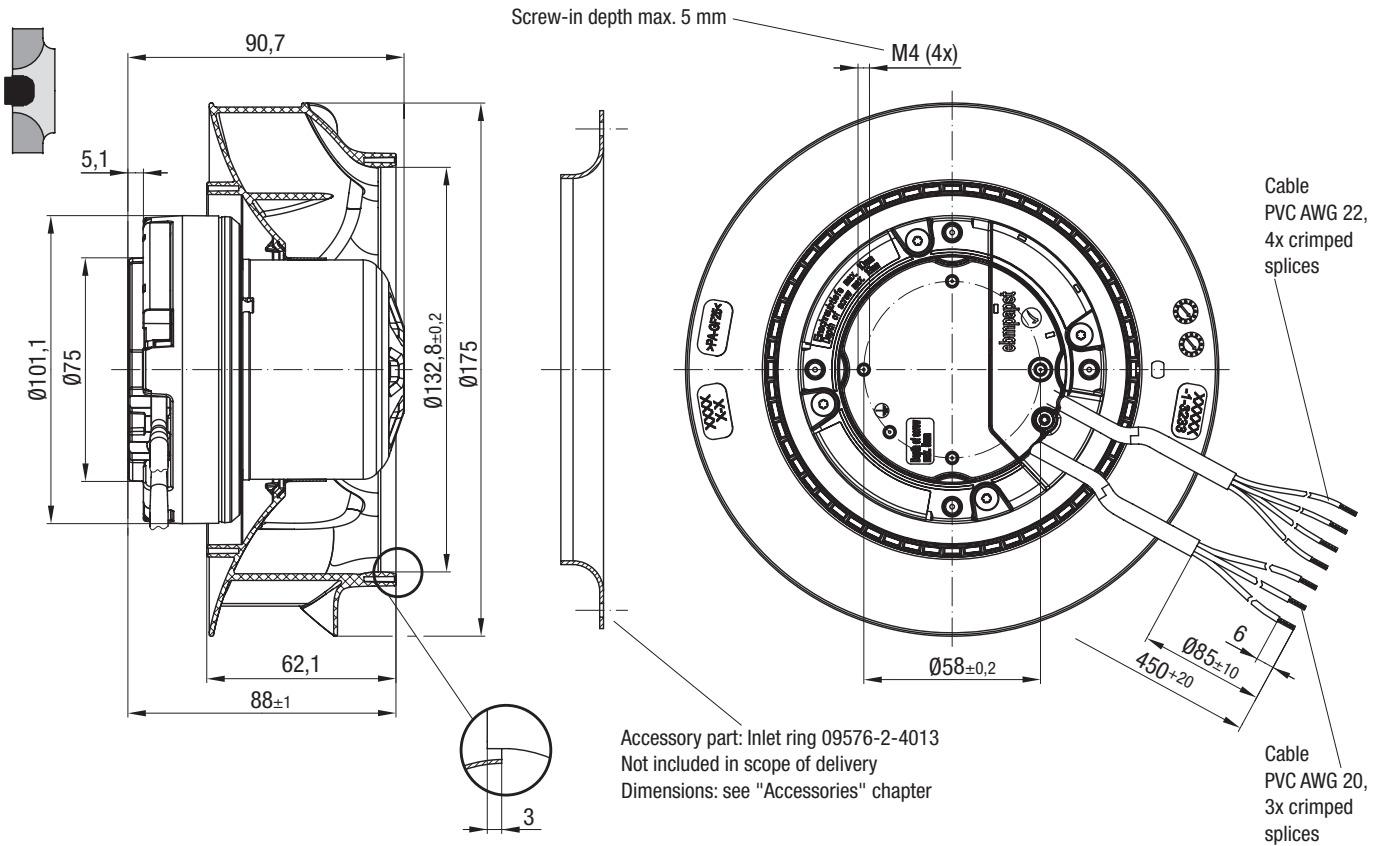
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 17.

EC centrifugal fans – RadiCal

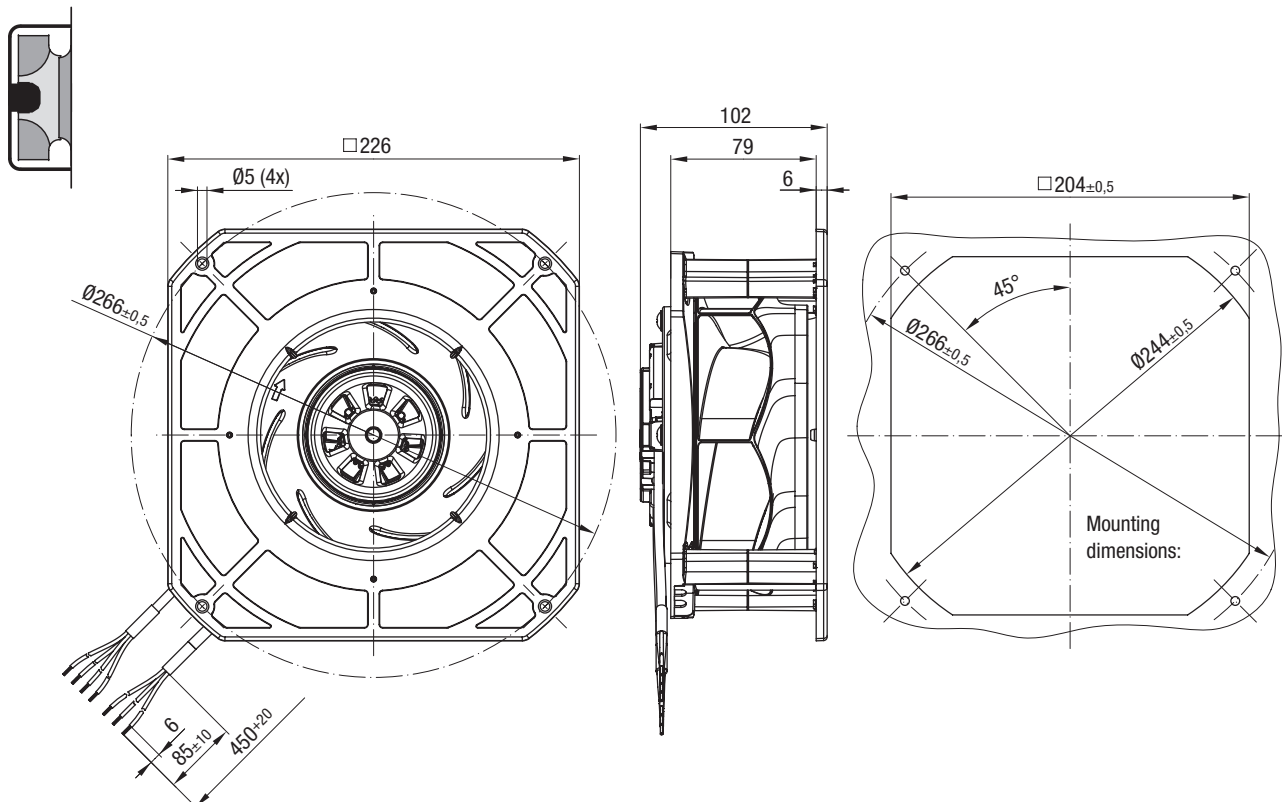
backward curved, Ø 175, Speed-controlled, 170 W - Electronics



R3G 175-RD53-03 / R3G 175-RD53-07 / R3G 175-RD53-08 (Centrifugal fan)



K3G 175-RD53-03 / K3G 175-RD53-07 / K3G 175-RD53-08 (Centrifugal module with support basket)



The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 17.

EC centrifugal fans – RadiCal

backward curved, Ø 190



- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

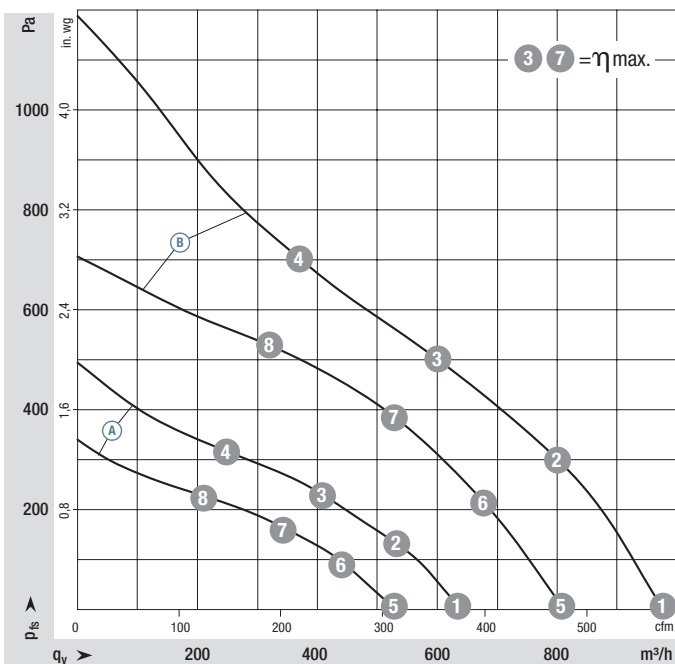
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 190	M3G 055-BD	Ⓐ 1~200-240	50/60	2710	57	0,43	-25..+60	P. 145 / RC2)	
*3G 190	M3G 055-CF	Ⓑ 1~200-240	50/60	4120	169	1,35	-25..+60	P. 145 / RC2)	
*3G 190	M3G 055-BI	Ⓒ 1~200-240	50/60	3200	83	0,75	-25..+60	P. 146 / RC3)	
*3G 190	M3G 055-BI	Ⓒ 1~200-240	50/60	3200	83	0,75	-25..+60	P. 154 / RC10)	
*3G 190	M3G 055-CF	Ⓓ 1~200-240	50/60	3635	115	0,90	-25..+55	P. 144 / RC1)	
*3G 190	M3G 055-CF	Ⓓ 1~200-240	50/60	3635	115	0,90	-25..+55	P. 154 / RC10)	
*3G 190	M3G 055-CF	Ⓔ 1~200-240	50/60	4120	169	1,35	-25..+60	P. 152 / RC8)	
*3G 190	M3G 055-CF	Ⓔ 1~200-240	50/60	4120	169	1,35	-25..+60	P. 154 / RC10)	
*3G 190	M3G 055-CF	Ⓔ 1~200-240	50/60	4120	169	1,35	-25..+60	P. 155 / RC11)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves: 2 Speed stages



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	2880	49	0,36	69
Ⓐ ②	2825	52	0,40	64
Ⓐ ③	2710	57	0,43	62
Ⓐ ④	2810	52	0,40	68
Ⓐ ⑤	2435	30	0,23	65
Ⓐ ⑥	2395	32	0,25	60
Ⓐ ⑦	2325	35	0,27	59
Ⓐ ⑧	2385	32	0,25	63
Ⓑ ①	4440	161	1,35	81
Ⓑ ②	4235	165	1,35	75
Ⓑ ③	4120	169	1,35	72
Ⓑ ④	4150	160	1,35	74
Ⓑ ⑤	3720	95	0,85	77
Ⓑ ⑥	3675	106	0,95	73
Ⓑ ⑦	3615	116	1,01	69
Ⓑ ⑧	3650	108	0,95	72

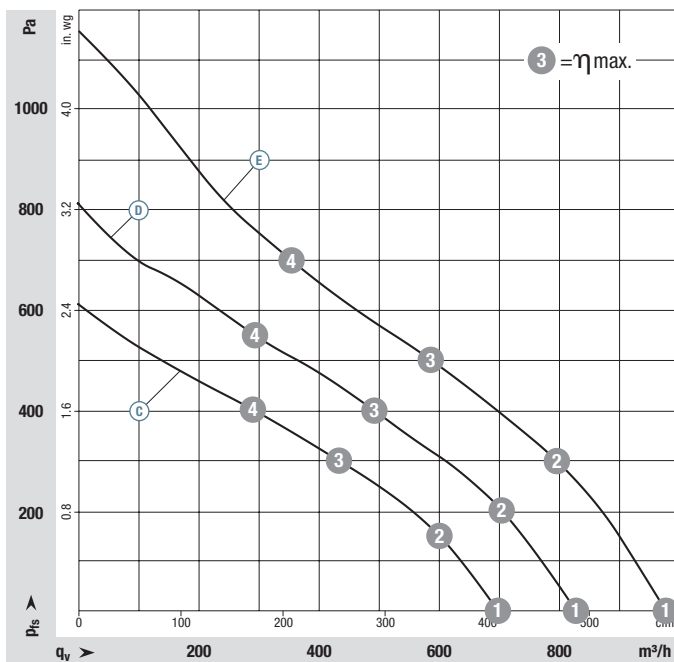
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 144 ff.
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Centrifugal fan	kg	Centrifugal module w. support basket	kg	2 Speed stages	Speed-controlled 0-10 V / PWM	Speed-controlled PWM	Speed-controlled MODBUS-RTU
R3G 190-RB01 -01	0,85	K3G 190-RB01 -01	1,40	X			
R3G 190-RD45 -01	1,35	K3G 190-RD45 -01	1,90	X			
R3G 190-RC05 -03	1,05	K3G 190-RC05 -03	1,60		X		
R3G 190-RC05 -05	1,05	K3G 190-RC05 -05	1,60			X	
R3G 190-RG19 -01	1,40	K3G 190-RG19 -01	1,60		X		
R3G 190-RG19 -05	1,40	K3G 190-RG19 -05	1,60			X	
R3G 190-RD45 -03	1,35	K3G 190-RD45 -03	1,90		X		
R3G 190-RD45 -05	1,35	K3G 190-RD45 -05	1,90			X	
R3G 190-RD45 -08	1,35	K3G 190-RD45 -08	1,90				X

(2) PVC AWG 20, 4x splices (3) PVC AWG 20, 3x splices (4) PVC AWG 22, 4x splices (5) PVC AWG 20, 3x splices (6) PVC AWG 22, 3x splices (7) PVC AWG 20, 3x splices (8) PVC AWG 22, 5x splices

Curves:
Speed-controlled
0-10 V / PWM
PWM
MODBUS-RTU



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
ⓐ 1	3420	75	0,67	73
ⓐ 2	3360	79	0,70	68
ⓐ 3	3200	83	0,75	66
ⓐ 4	3275	83	0,73	69
ⓓ 1	3960	110	0,90	77
ⓓ 2	3870	115	0,90	73
ⓓ 3	3635	115	0,90	70
ⓓ 4	3805	115	0,90	74
ⓔ 1	4440	161	1,35	81
ⓔ 2	4230	165	1,35	75
ⓔ 3	4120	169	1,35	71
ⓔ 4	4180	160	1,35	75

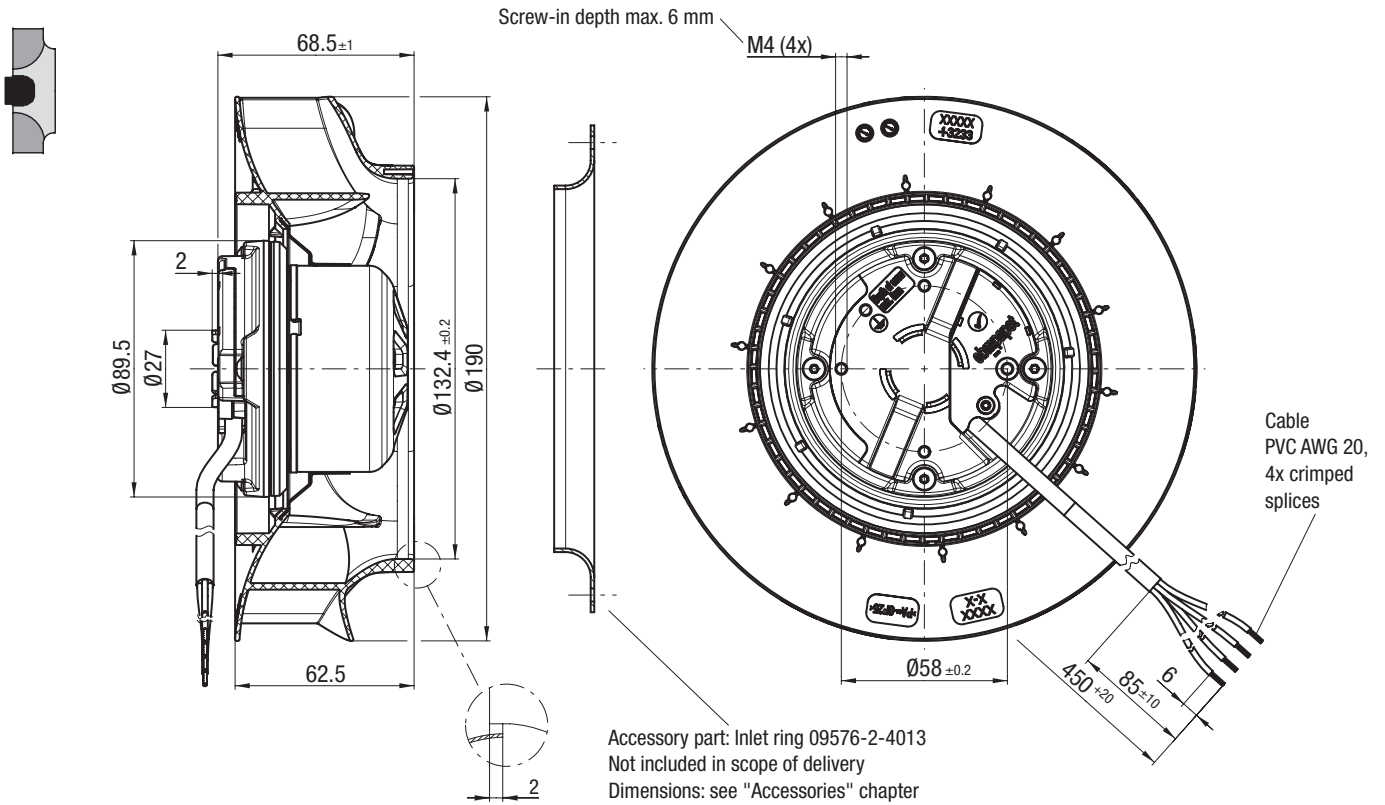
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

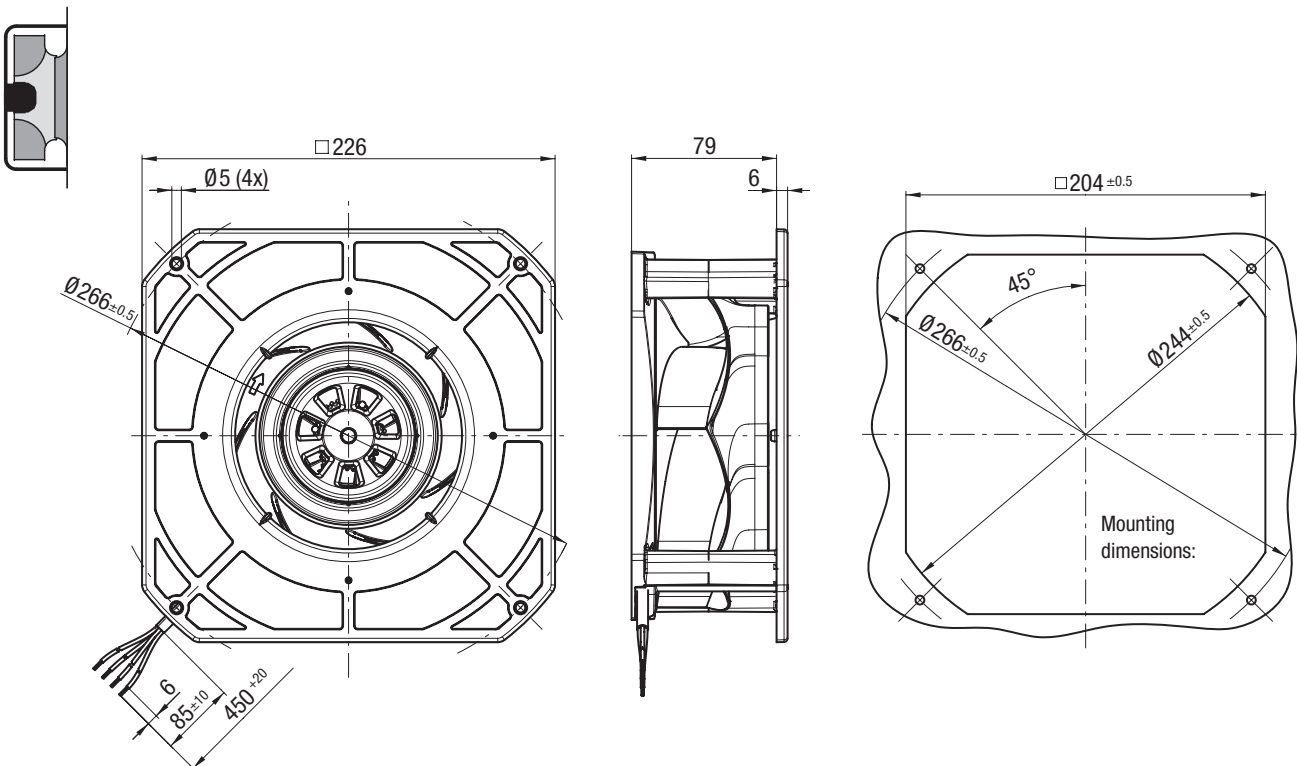
backward curved, Ø 190, 2 Speed stages, 85 W - Electronics



R3G 190-RB01-01 (Centrifugal fan)



K3G 190-RB01-01 (Centrifugal module with support basket)

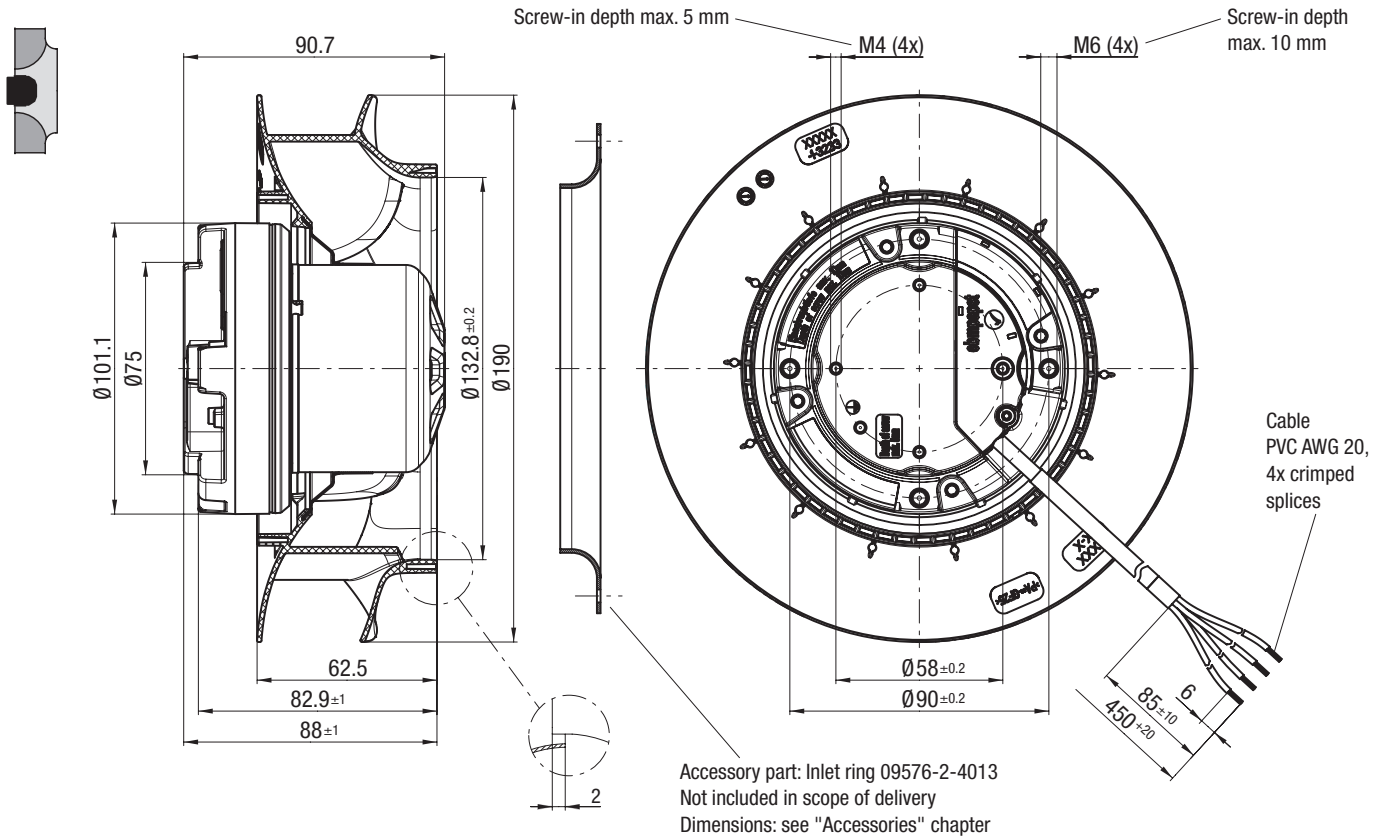


EC centrifugal fans – RadiCal

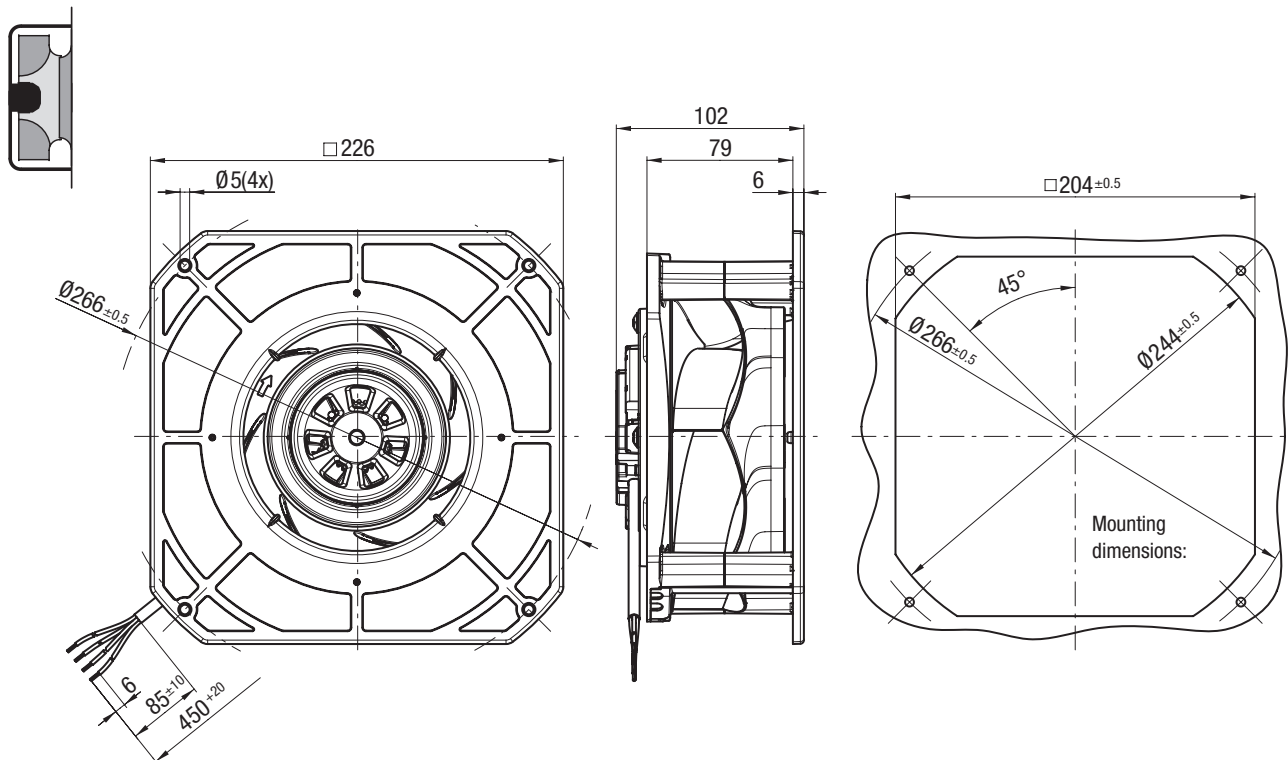
backward curved, Ø 190, 2 Speed stages, 170 W - Electronics



R3G 190-RD45-01 (Centrifugal fan)



K3G 190-RD45-01 (Centrifugal module with support basket)

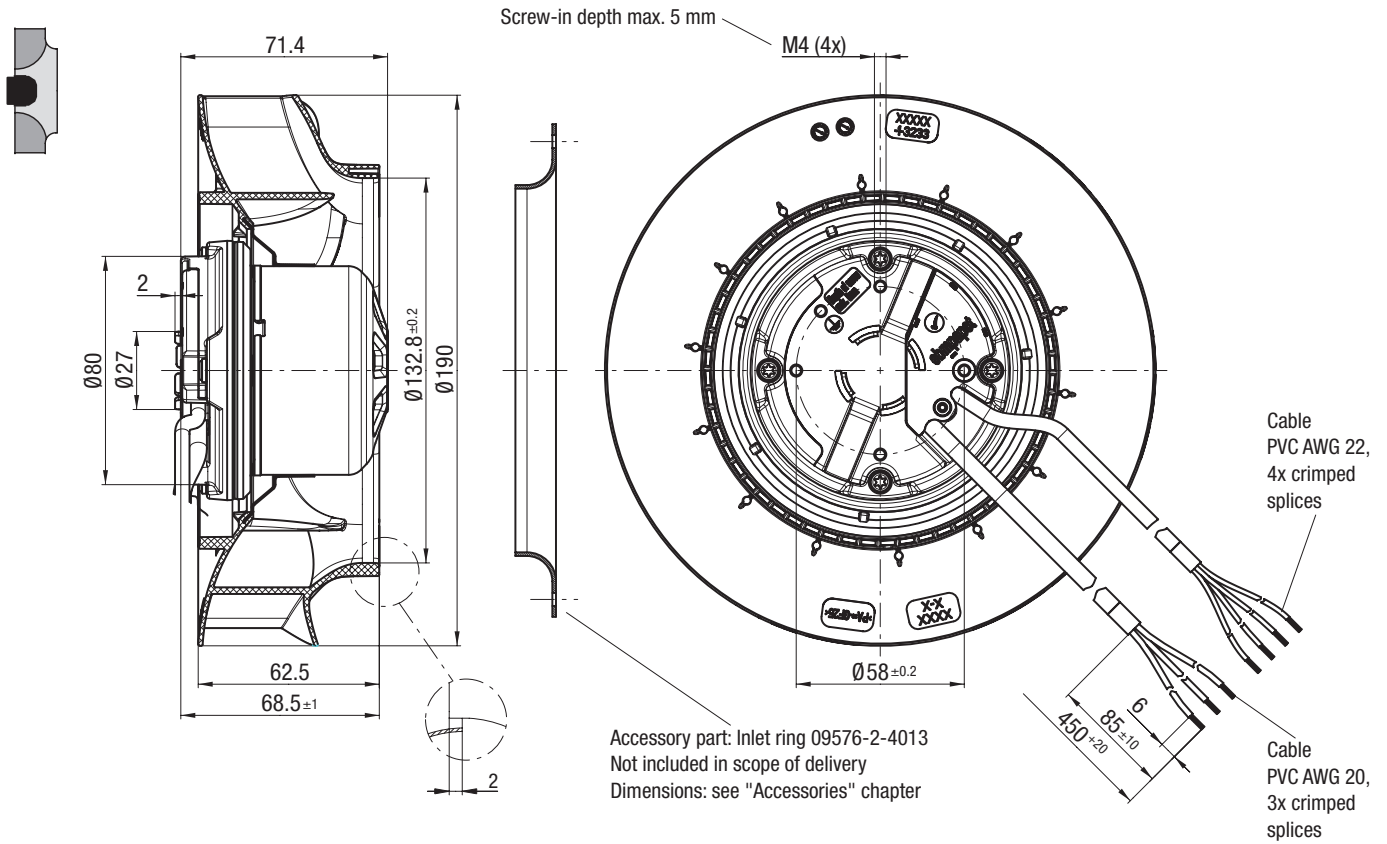


EC centrifugal fans – RadiCal

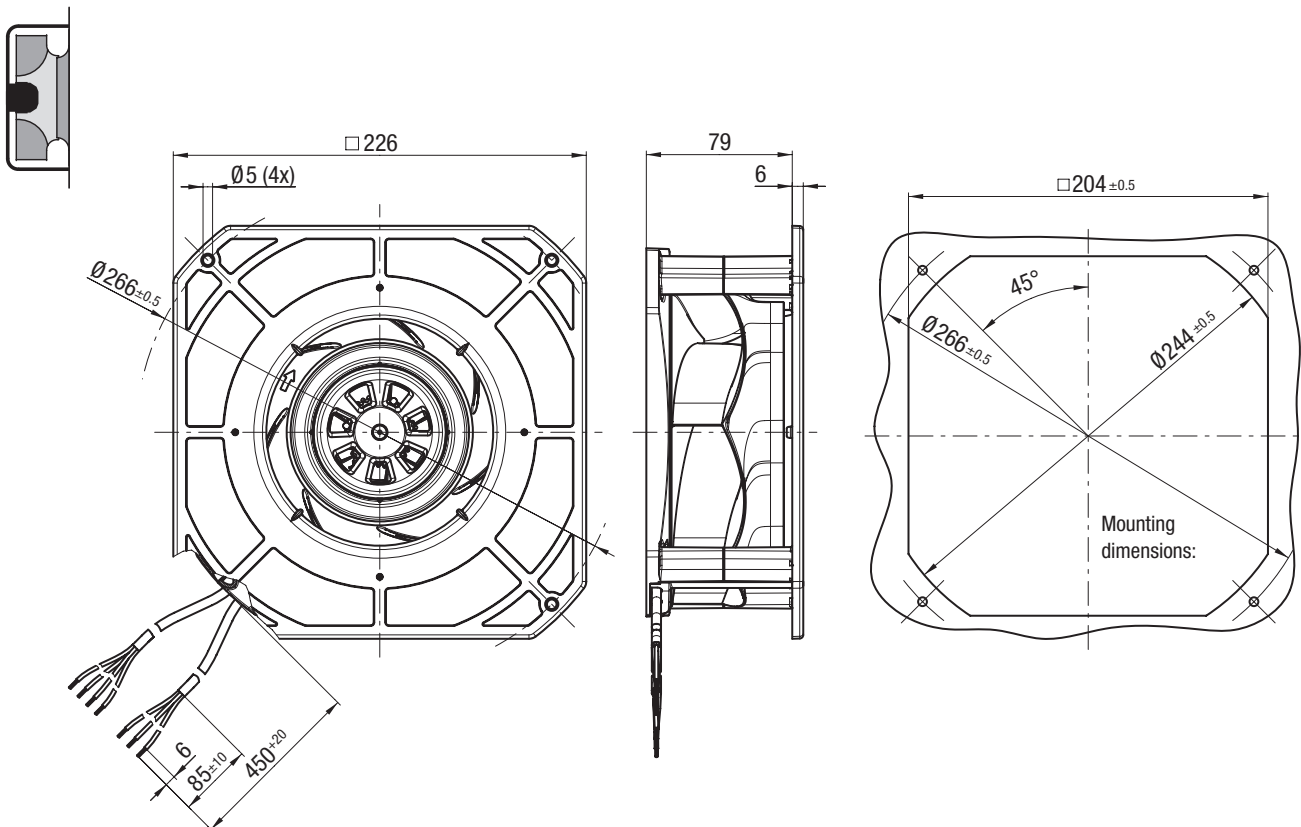
backward curved, Ø 190, Speed-controlled, 85 W - Electronics



R3G 190-RC05-03 / R3G 190-RC05-05 (Centrifugal fan)



K3G 190-RC05-03 / K3G 190-RC05-05 (Centrifugal module with support basket)



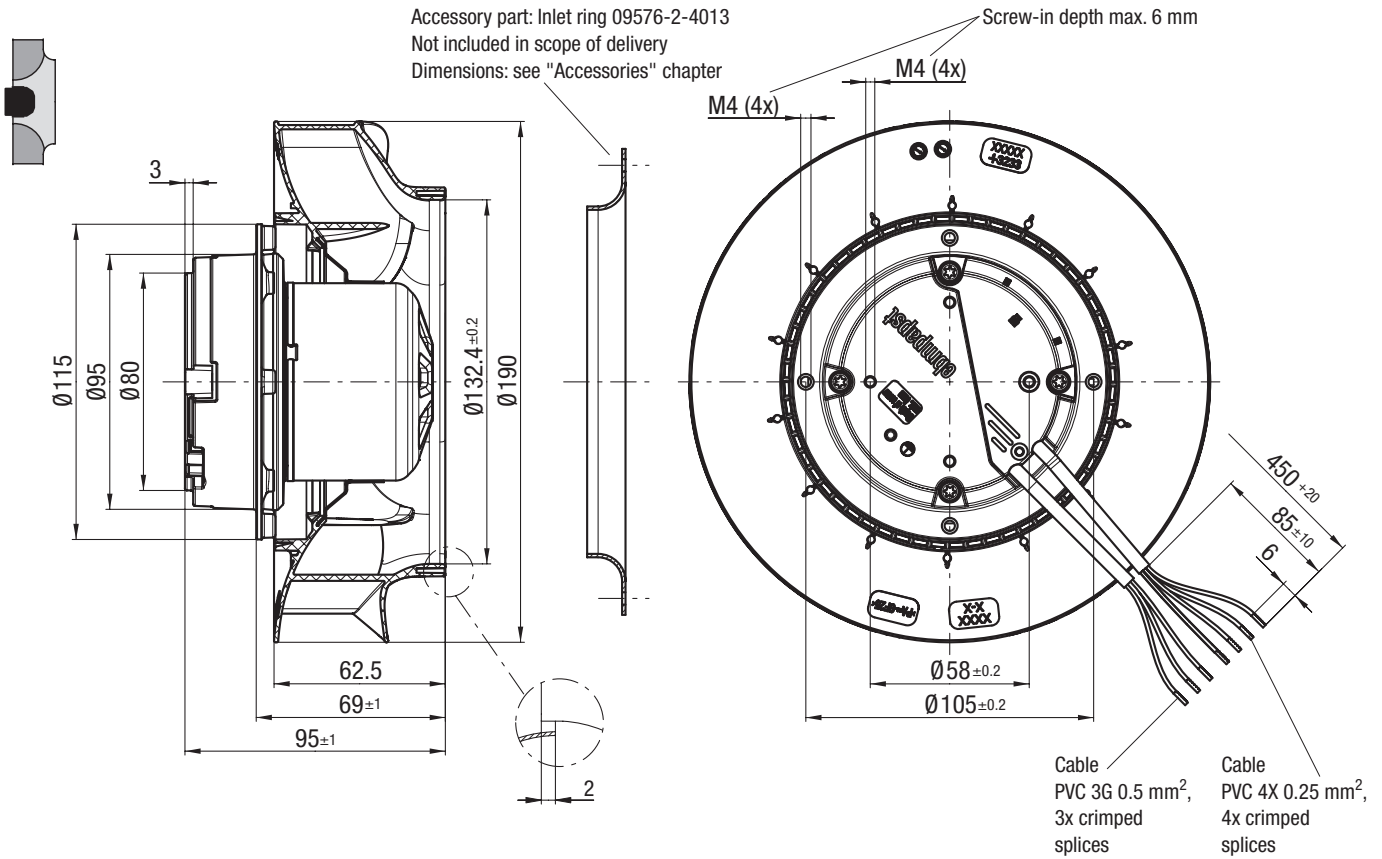
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 25.

EC centrifugal fans – RadiCal

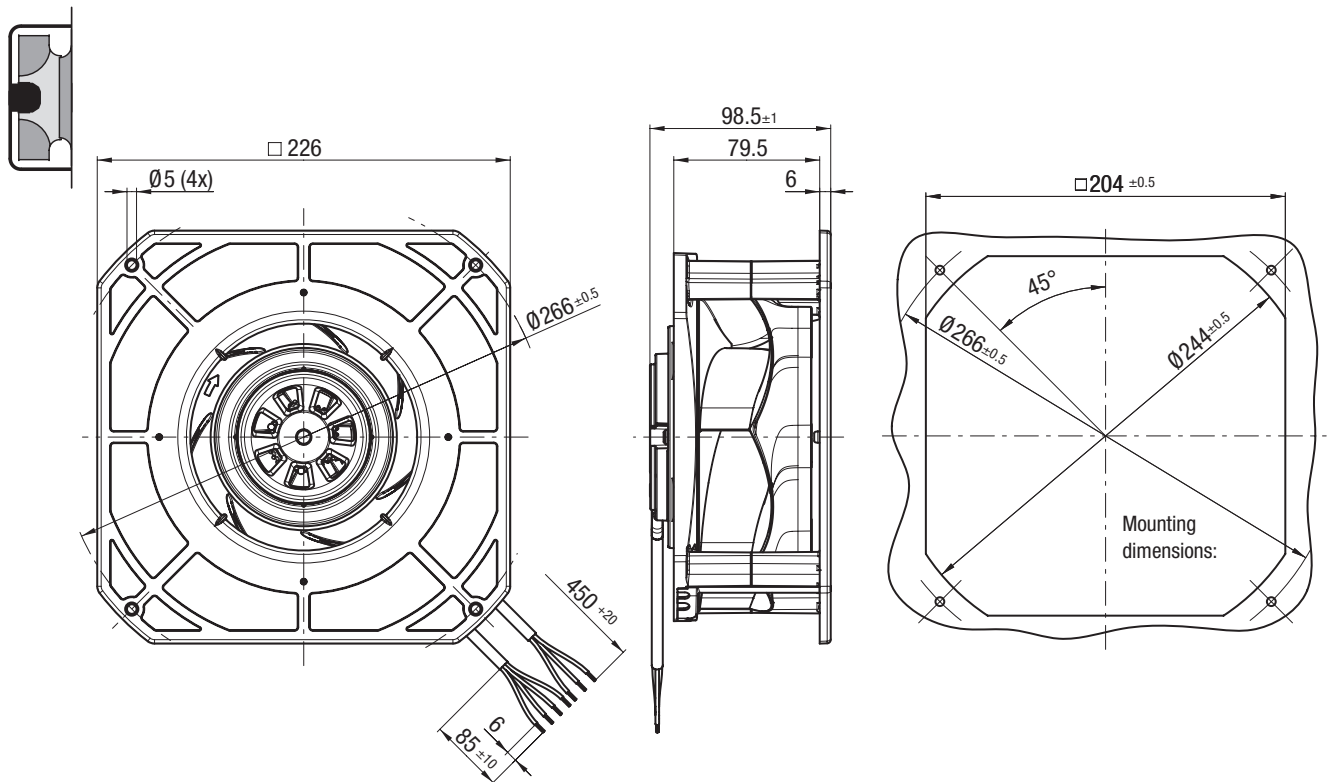
backward curved, Ø 190, Speed-controlled, 115 W - Electronics



R3G 190-RG19-01 / R3G 190-RG19-05 (Centrifugal fan)



K3G 190-RG19-01 / K3G 190-RG19-05 (Centrifugal module with support basket)



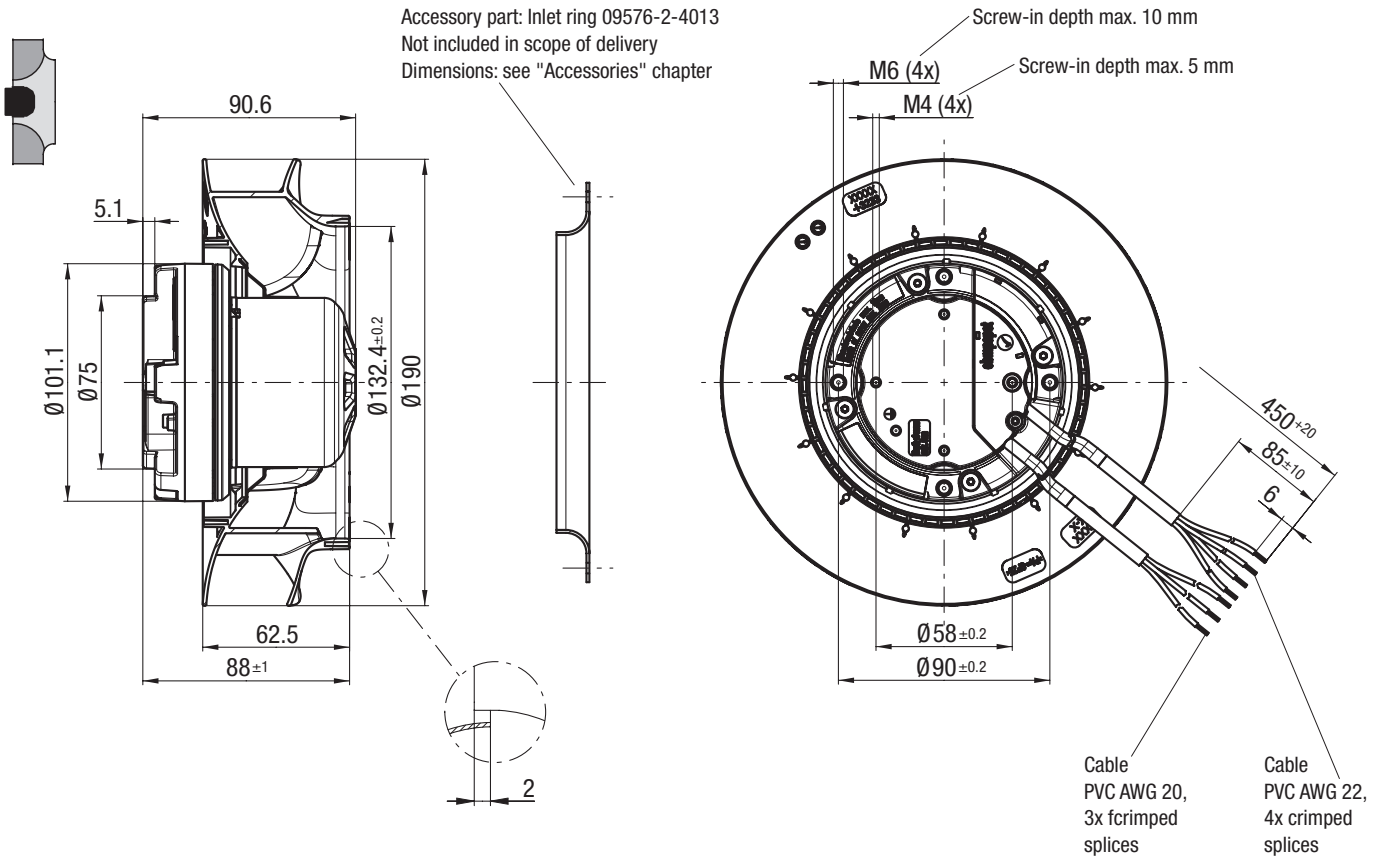
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 25.

EC centrifugal fans – RadiCal

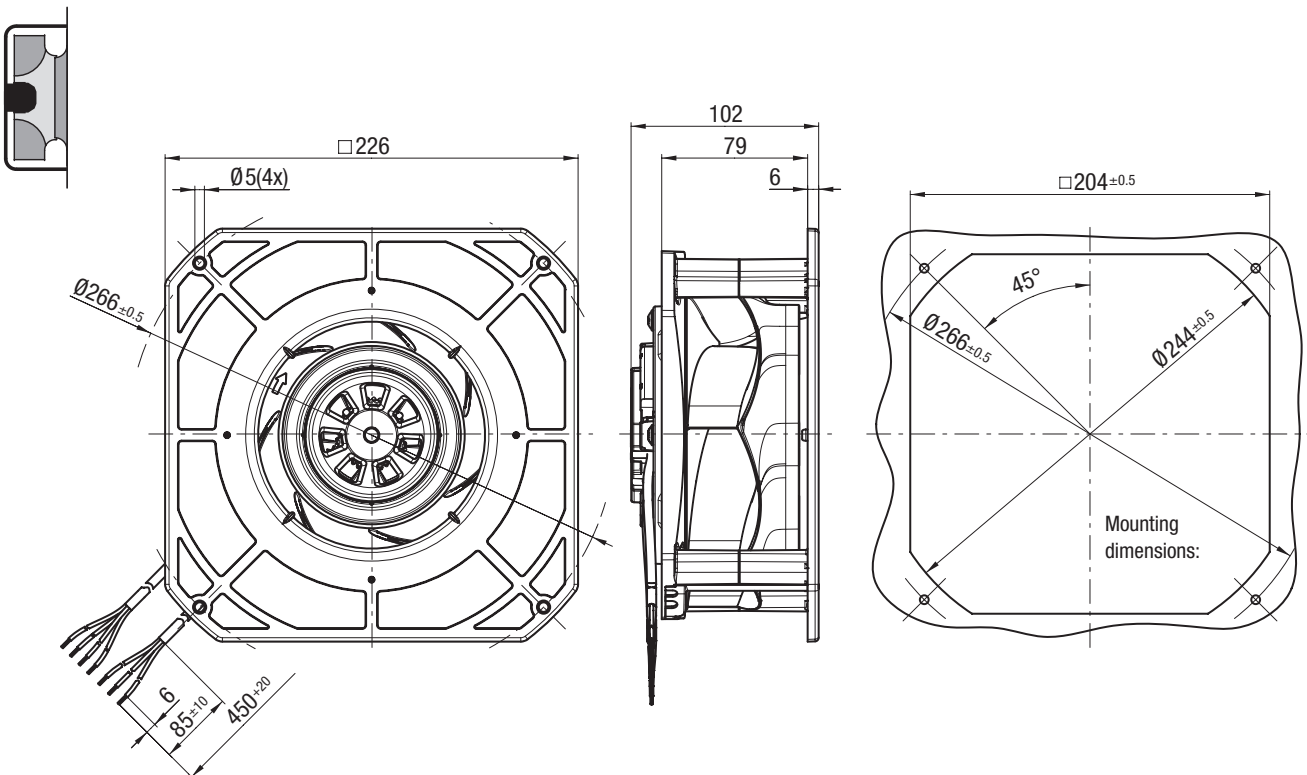
backward curved, Ø 190, Speed-controlled, 170 W - Electronics



R3G 190-RD45-03 / R3G 190-RD45-05 / R3G 190-RD45-08 (Centrifugal fan)



K3G 190-RD45-03 / K3G 190-RD45-05 / K3G 190-RD45-08 (Centrifugal module with support basket)



The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 25.

EC centrifugal fans – RadiCal

backward curved, with housing, Ø 190



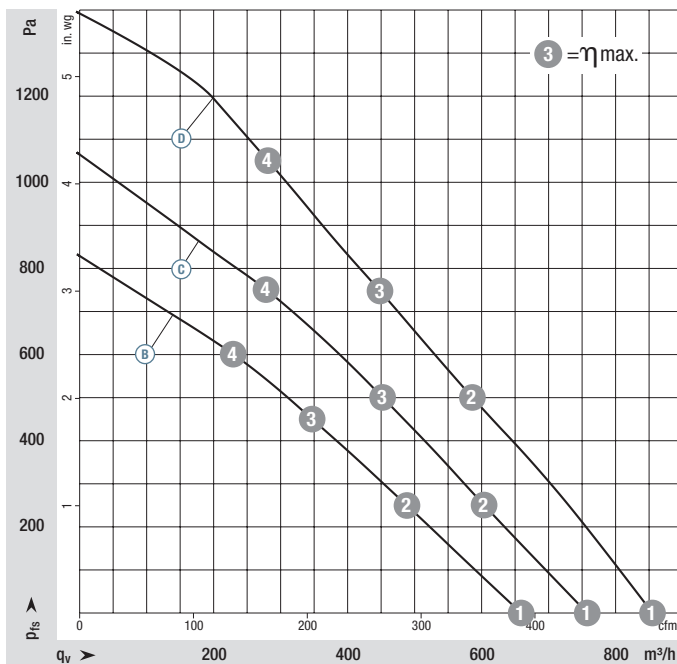
- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
 - ⓑ ⓐ ⓓ Electronics housing: Die-cast aluminium
 - ⓐ ⓔ Electronics cap: Sheet steel, hot-dip aluminized
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** ⓑ ⓐ ⓓ IP 54, ⓐ ⓔ IP 20; depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 190	M3G 055-BI	ⓐ 1~200-240	50/60	3050	72	0,70	-25..+60	P. 156 / RC12)	
*3G 190	M3G 055-BI	ⓑ 1~200-240	50/60	3200	83	0,75	-25..+60	P. 146 / RC3)	
*3G 190	M3G 055-BI	ⓑ 1~200-240	50/60	3200	83	0,75	-25..+60	P. 154 / RC10)	
*3G 190	M3G 055-CF	ⓒ 1~200-240	50/60	3650	115	0,90	-25..+55	P. 144 / RC1)	
*3G 190	M3G 055-CF	ⓒ 1~200-240	50/60	3650	115	0,90	-25..+55	P. 154 / RC10)	
*3G 190	M3G 055-CF	ⓓ 1~200-240	50/60	4100	170	1,35	-25..+60	P. 152 / RC8)	
*3G 190	M3G 055-CF	ⓓ 1~200-240	50/60	4100	170	1,35	-25..+60	P. 154 / RC10)	
*3G 190	M3G 055-CF	ⓓ 1~200-240	50/60	4100	170	1,35	-25..+60	P. 155 / RC11)	
*3G 190	M3G 055-CF	ⓔ 1~200-240	50/60	4150	170	1,35	-25..+50	P. 156 / RC12)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves:
Speed-controlled
0-10 V / PWM
PWM
MODBUS-RTU



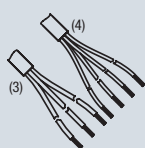
	n rpm	P _{ed} W	I A	L _{wA} dB(A)
ⓑ ①	3355	83	0,75	73
ⓑ ②	3200	83	0,75	68
ⓑ ③	3230	83	0,75	68
ⓑ ④	3380	83	0,75	71
ⓒ ①	3805	115	0,90	76
ⓒ ②	3650	115	0,90	71
ⓒ ③	3660	115	0,90	70
ⓒ ④	3815	115	0,90	73
ⓓ ①	4335	170	1,35	80
ⓓ ②	4100	170	1,35	74
ⓓ ③	4165	170	1,35	74
ⓓ ④	4440	170	1,35	79

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

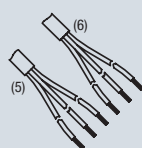
- **Technical features:** See connection diagram P. 144 ff.
- **Touch current:** $\leq 3,5$ mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1; CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011



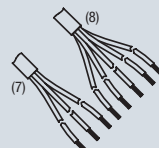
Weight Centrifugal fan with housing



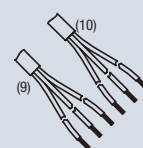
Cables



Cables



Cables



Cables

Centrifugal fan with housing	kg	Speed-controlled 0-10 V / PWM	Speed-controlled PWM	Speed-controlled MODBUS-RTU	Sensor-controlled MODBUS-RTU
G3G 190-RP03 -04 ⁽¹¹⁾	2,00				X
G3G 190-RC05 -02	2,10	X			
G3G 190-RC05 -05	2,10		X		
G3G 190-RG19 -01	2,00	X			
G3G 190-RG19 -05	2,00		X		
G3G 190-RD45 -03	2,10	X			
G3G 190-RD45 -05	2,10		X		
G3G 190-RD45 -08	2,10			X	
G3G 190-RQ45 -04 ⁽¹¹⁾	2,20				X

(11) Freely programmable volume flows (constant air flow volume with tolerance related $\pm 1\%$ of final value)

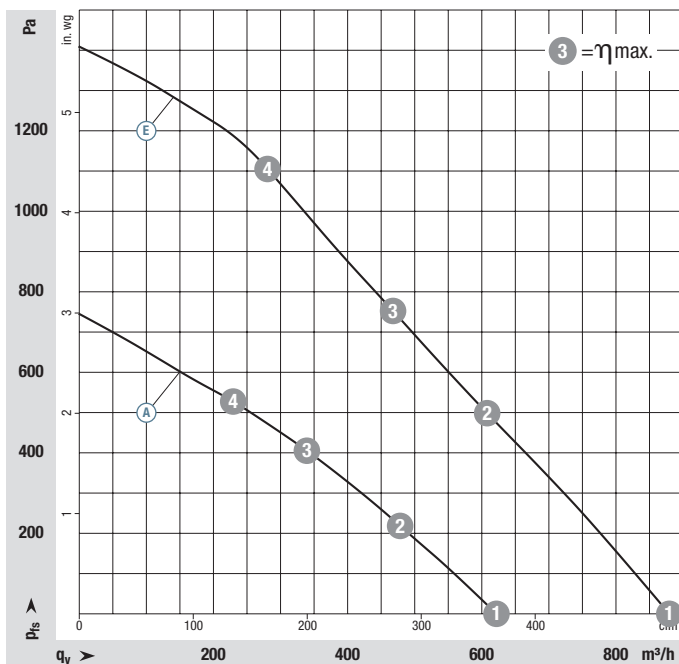
(3) PVC AWG 20, 3x splices
(4) PVC AWG 22, 4x splices

(5) PVC AWG 20, 3x splices
(6) PVC AWG 22, 3x splices

(7) PVC AWG 20, 3x splices
(8) PVC AWG 22, 5x splices

(9) PVC AWG 20, 3x splices
(10) PVC AWG 22, 3x splices

Curves:
Sensor-controlled
MODBUS-RTU



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
(A) 1	3125	70	0,66	74
(A) 2	3050	72	0,70	69
(A) 3	3095	71	0,67	66
(A) 4	3200	65	0,61	70
(E) 1	4345	170	1,35	82
(E) 2	4150	170	1,35	75
(E) 3	4210	170	1,35	74
(E) 4	4535	170	1,35	79

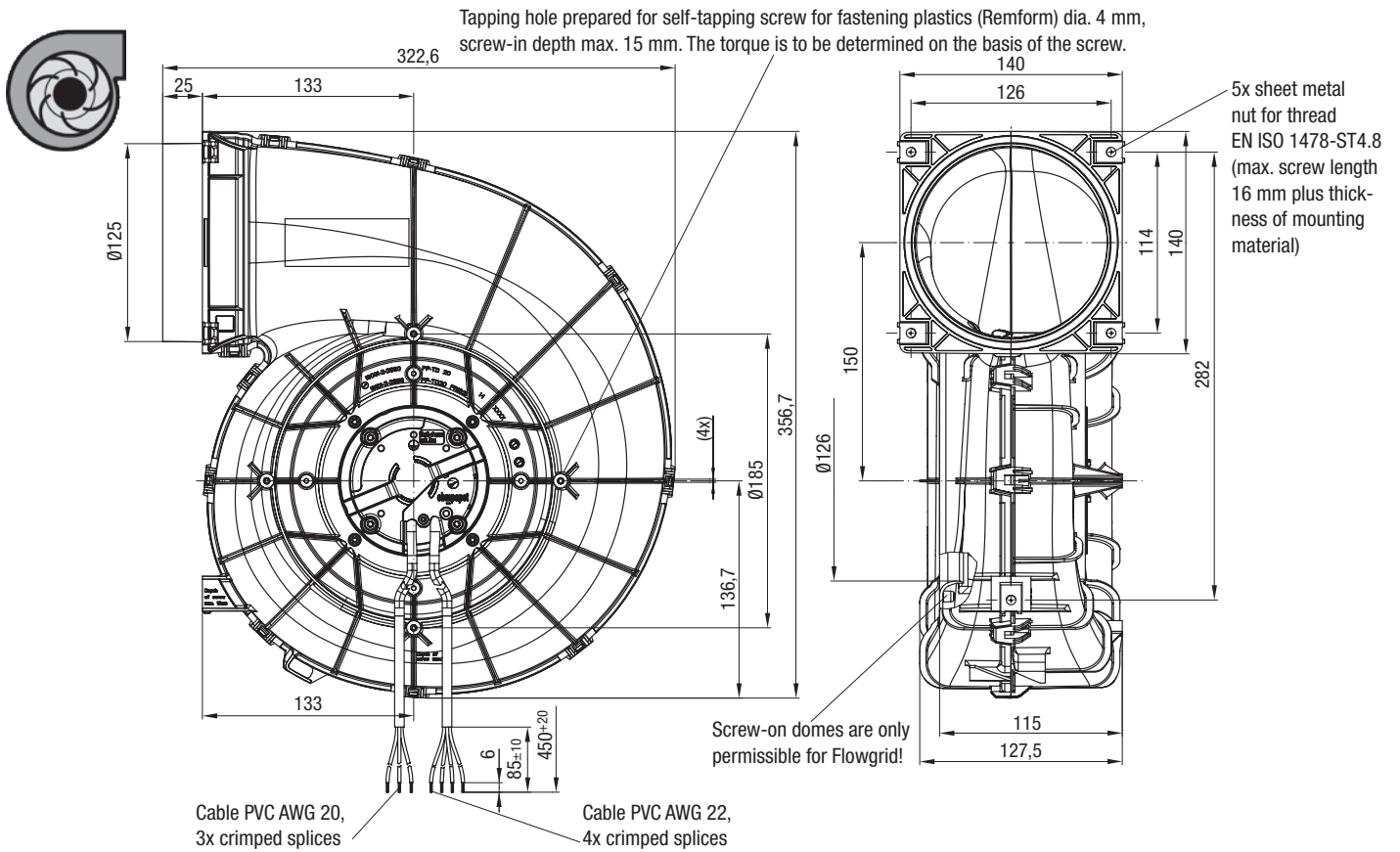
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

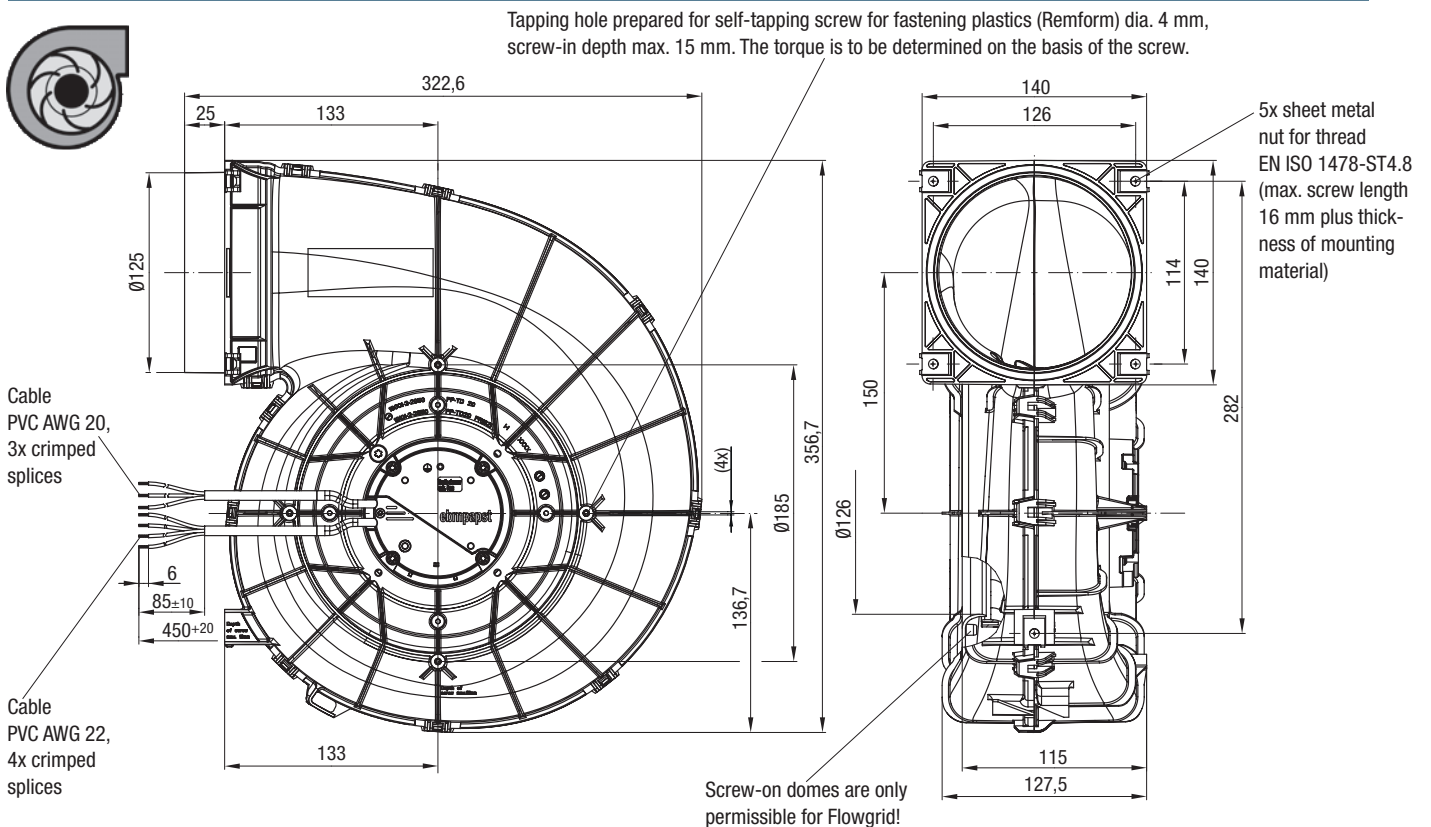
backward curved, with housing, Ø 190



G3G 190-RC05-02 / G3G 190-RC05-05 (Centrifugal fan with housing) / Speed-controlled, 85 W - Electronics



G3G 190-RG19-01 / G3G 190-RG19-05 (Centrifugal fan with housing) / Speed-controlled, 115 W - Electronics



The cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 33.

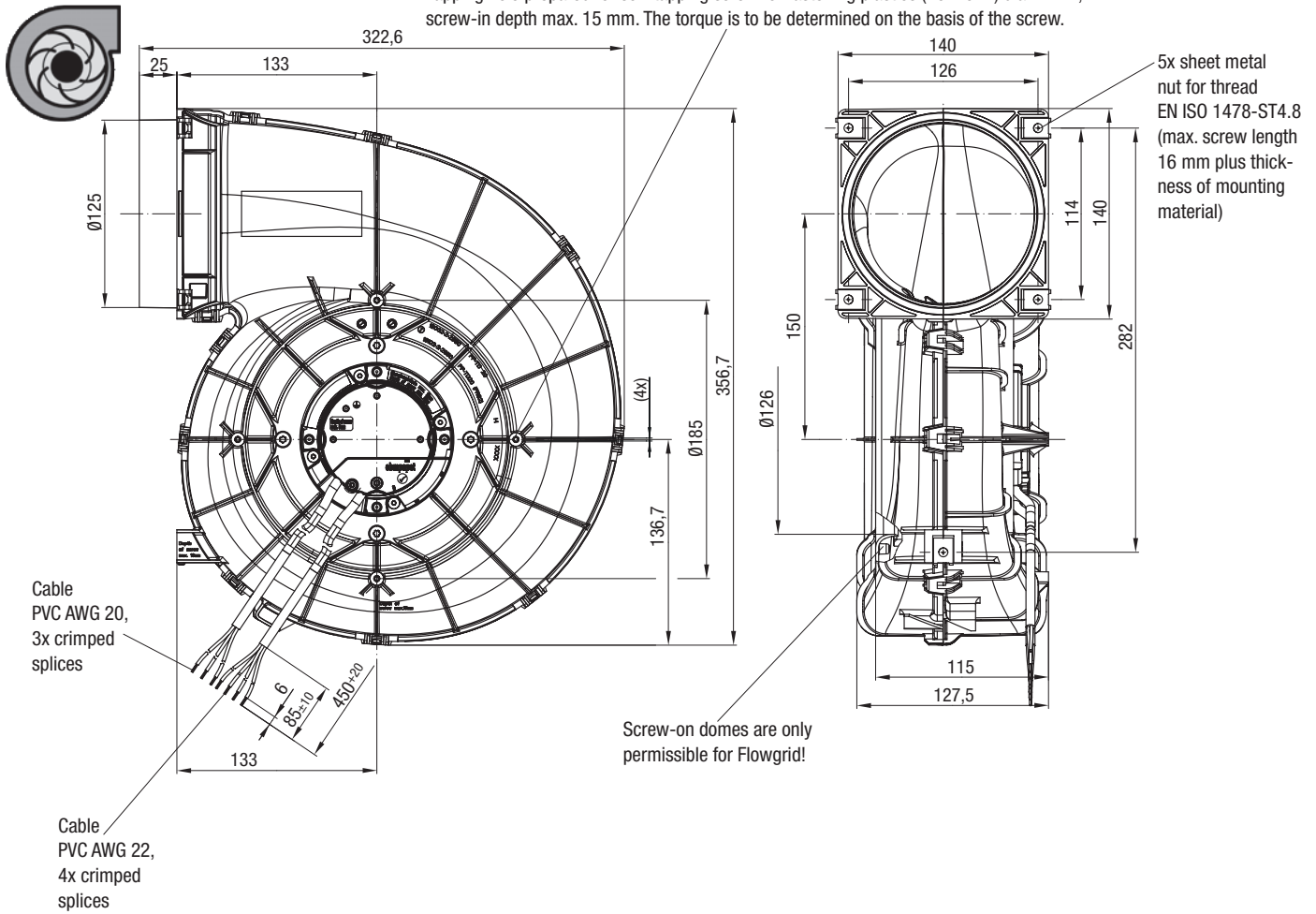
EC centrifugal fans – RadiCal

backward curved, with housing, Ø 190



G3G 190-RD45-03 / G3G 190-RD45-05 / G3G 190-RD45-08 (Centrifugal fan with housing) / Speed-controlled, 170 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.



The cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 33.

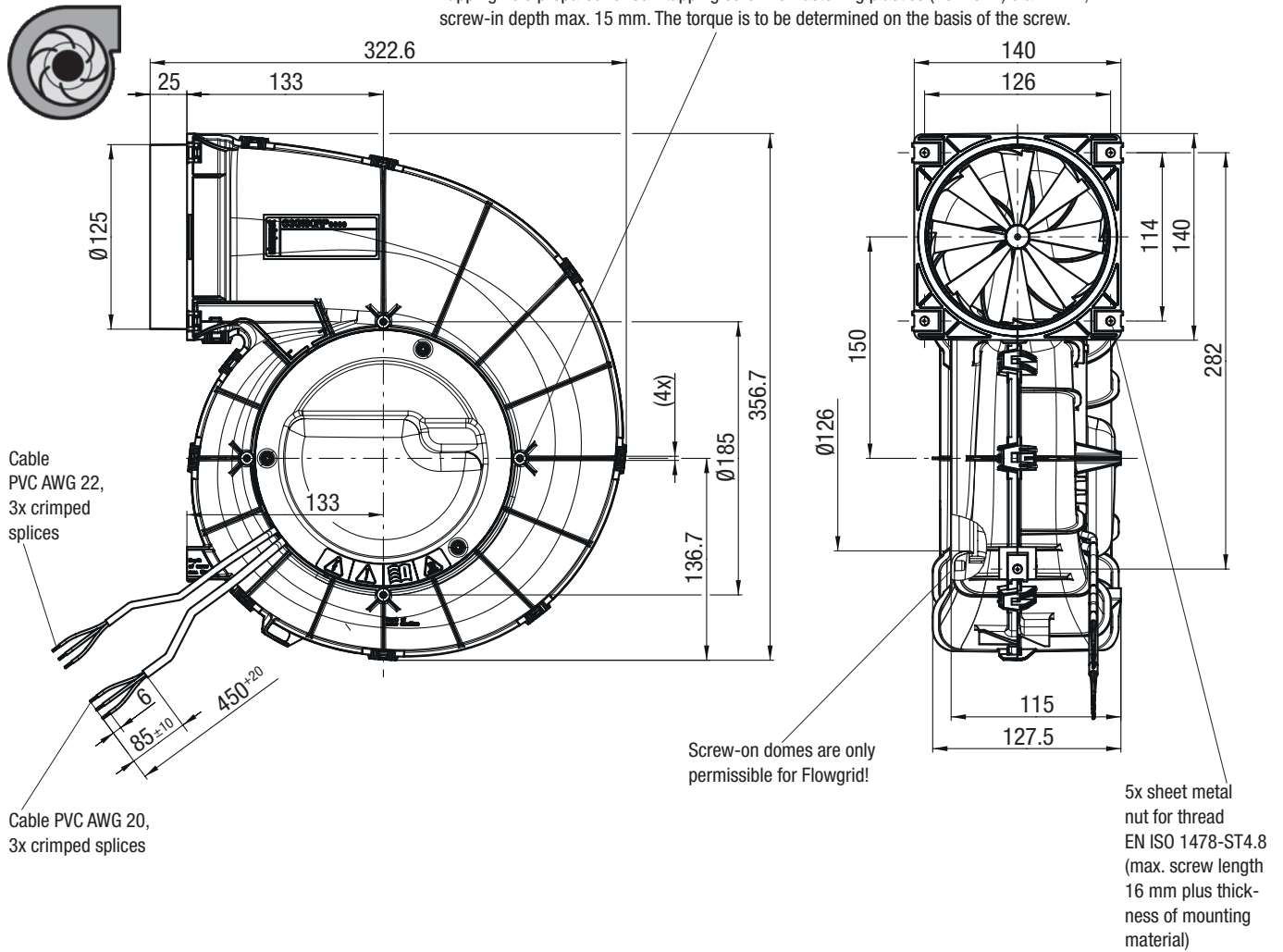
EC centrifugal fans – RadiCal

backward curved, with housing, Ø 190



G3G 190-RP03-04 (Centrifugal fan with housing) / Sensor-controlled, 85 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.



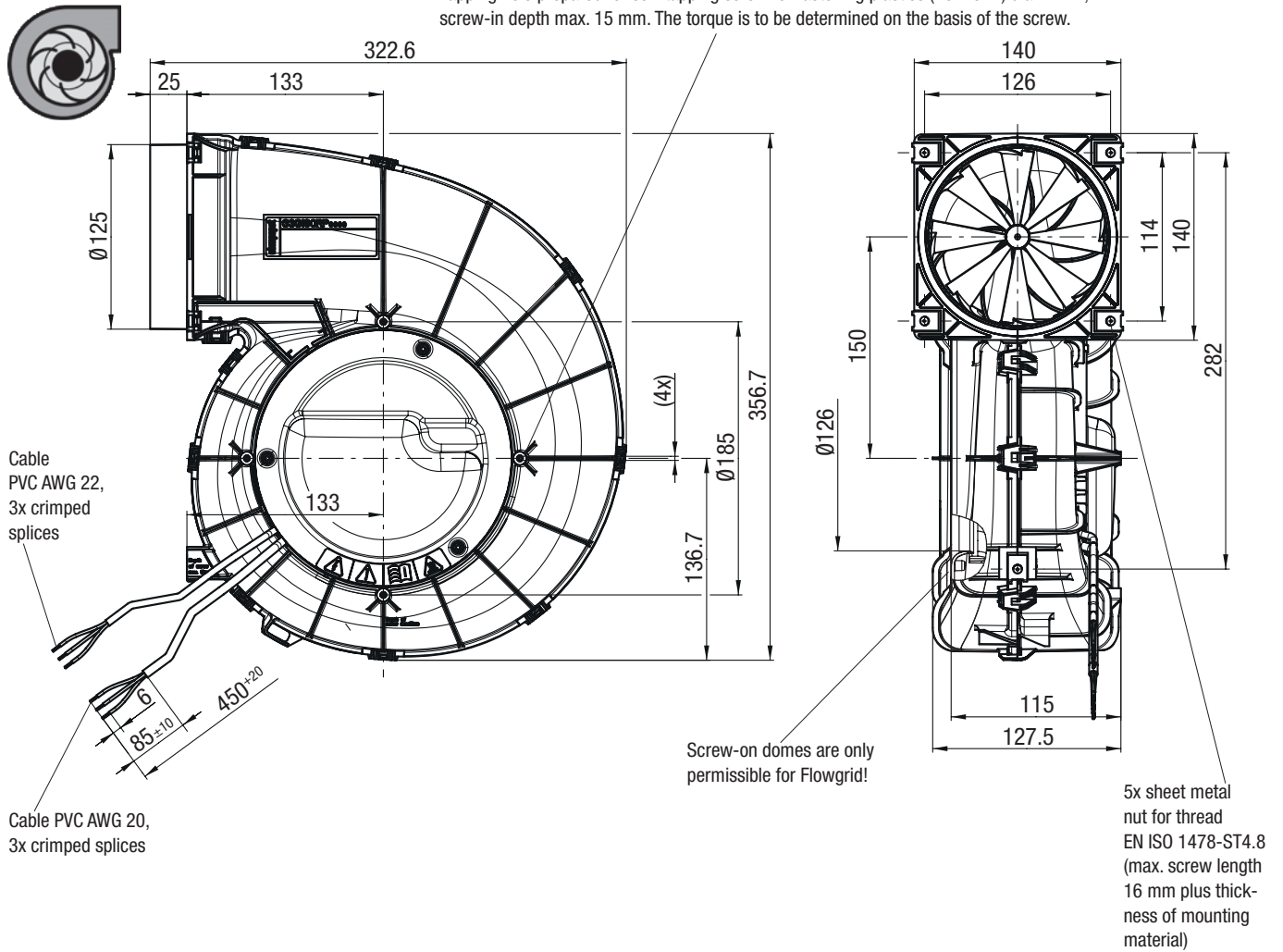
EC centrifugal fans – RadiCal

backward curved, with housing, Ø 190



G3G 190-RQ45-04 (Centrifugal fan with housing) / Sensor-controlled, 170 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.



EC centrifugal fans – RadiCal

backward curved, Ø 220



- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

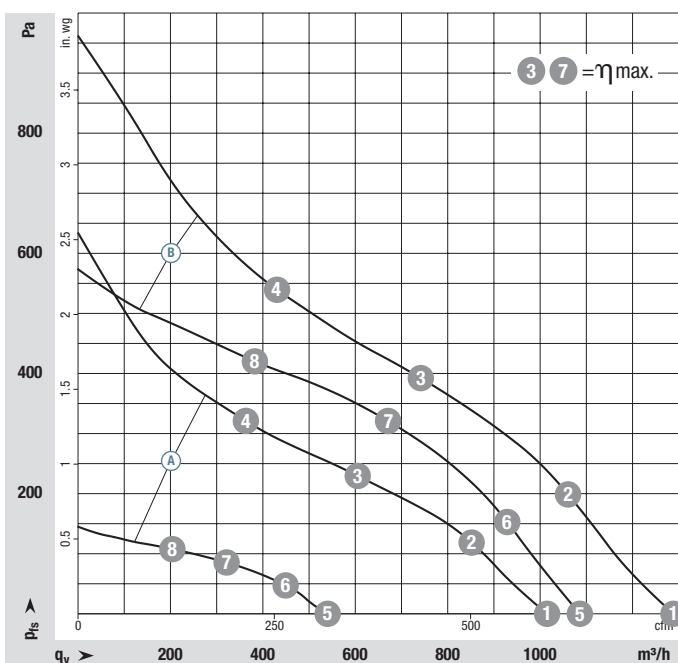
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 220	M3G 055-BI	Ⓐ	1~200-240	50/60	2580	85	0,70	-25..+60	P. 145 / RC2)
*3G 220	M3G 055-CF	Ⓑ	1~200-240	50/60	3230	168	1,40	-25..+50	P. 145 / RC2)
*3G 220	M3G 055-BI	Ⓒ	1~200-240	50/60	2580	85	0,70	-25..+60	P. 146 / RC3)
*3G 220	M3G 055-BI	Ⓓ	1~200-240	50/60	2580	85	0,70	-25..+60	P. 154 / RC10)
*3G 220	M3G 055-CF	Ⓔ	1~200-240	50/60	2790	115	0,97	-25..+50	P. 144 / RC1)
*3G 220	M3G 055-CF	Ⓕ	1~200-240	50/60	2790	115	0,97	-25..+50	P. 154 / RC10)
*3G 220	M3G 055-CF	Ⓖ	1~200-240	50/60	3230	168	1,40	-25..+50	P. 152 / RC8)
*3G 220	M3G 055-CF	Ⓗ	1~200-240	50/60	3230	168	1,40	-25..+50	P. 154 / RC10)
*3G 220	M3G 055-CF	Ⓘ	1~200-240	50/60	3230	168	1,40	-25..+50	P. 155 / RC11)

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves: 2 Speed stages



	n rpm	P _{ed} W	I A	L _{WA} dB(A)
Ⓐ ①	2815	85	0,70	71
Ⓐ ②	2700	85	0,70	67
Ⓐ ③	2580	85	0,70	65
Ⓐ ④	2605	85	0,70	66
Ⓐ ⑤	1550	17	0,19	57
Ⓐ ⑥	1535	18	0,20	54
Ⓐ ⑦	1510	19	0,21	51
Ⓐ ⑧	1515	19	0,20	52
Ⓑ ①	3540	168	1,40	78
Ⓑ ②	3370	168	1,40	73
Ⓑ ③	3230	168	1,40	70
Ⓑ ④	3310	168	1,40	74
Ⓑ ⑤	3000	100	0,85	73
Ⓑ ⑥	2955	110	0,95	69
Ⓑ ⑦	2900	120	1,00	67
Ⓑ ⑧	2930	115	0,97	71

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{WA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 144 ff.
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Centrifugal fan	kg	Centrifugal module w. support basket	kg	2 Speed stages	Speed-controlled 0-10 V / PWM	Speed-controlled PWM	Speed-controlled MODBUS-RTU
R3G 220-RC05 -01	1,10	K3G 220-RC05 -01	2,00	X			
R3G 220-RD53 -01	1,50	K3G 220-RD53 -01	2,40	X			
R3G 220-RC05 -03	1,20	K3G 220-RC05 -03	2,10		X		
R3G 220-RC05 -05	1,20	K3G 220-RC05 -05	2,10			X	
R3G 220-RG19 -01	1,40	K3G 220-RG19 -01	2,00		X		
R3G 220-RG19 -05	1,40	K3G 220-RG19 -05	2,00			X	
R3G 220-RD53 -03	1,50	K3G 220-RD53 -03	2,40		X		
R3G 220-RD53 -05	1,50	K3G 220-RD53 -05	2,40			X	
R3G 220-RD53 -08	1,50	K3G 220-RD53 -08	2,40				X

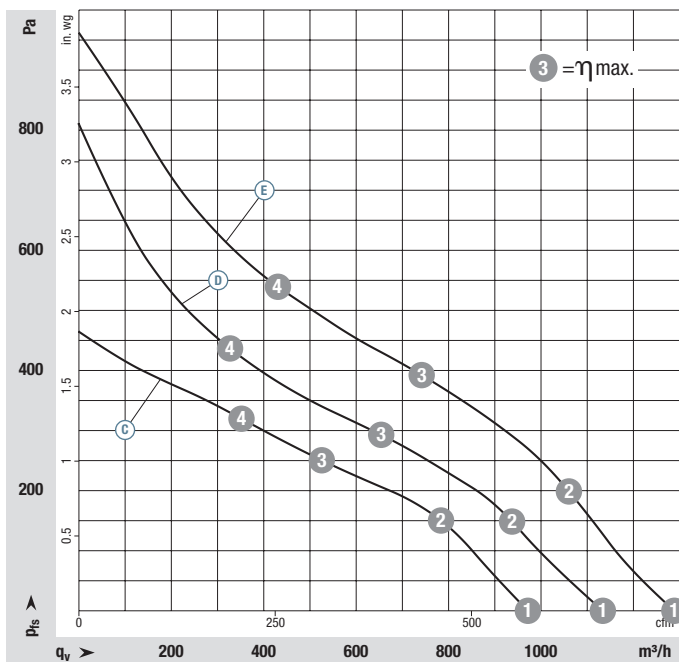
(2) PVC AWG 20, 4x splices

(3) PVC AWG 20, 3x splices
(4) PVC AWG 22, 4x splices

(5) PVC AWG 20, 3x splices
(6) PVC AWG 22, 3x splices

(7) PVC AWG 20, 3x splices
(8) PVC AWG 22, 5x splices

Curves:
Speed-controlled
0-10 V / PWM
PWM
MODBUS-RTU



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
ⓐ 1	2695	78	0,69	71
ⓐ 2	2595	85	0,70	67
ⓐ 3	2580	85	0,70	65
ⓐ 4	2585	85	0,70	66
ⓓ 1	3085	115	0,97	74
ⓓ 2	2935	115	0,97	69
ⓓ 3	2790	115	0,97	66
ⓓ 4	2940	115	0,97	70
ⓔ 1	3540	168	1,40	78
ⓔ 2	3370	168	1,40	73
ⓔ 3	3230	168	1,40	70
ⓔ 4	3310	168	1,40	74

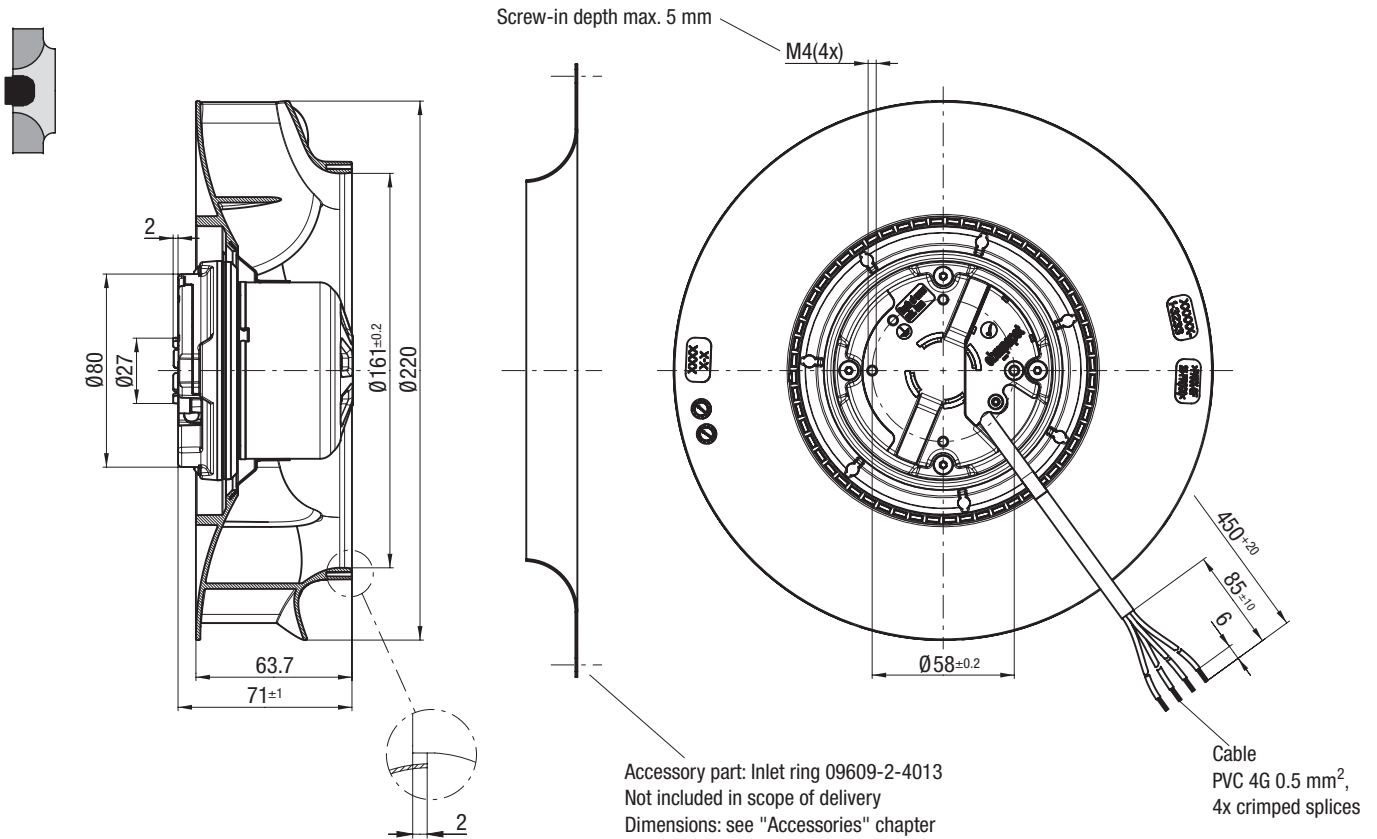
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

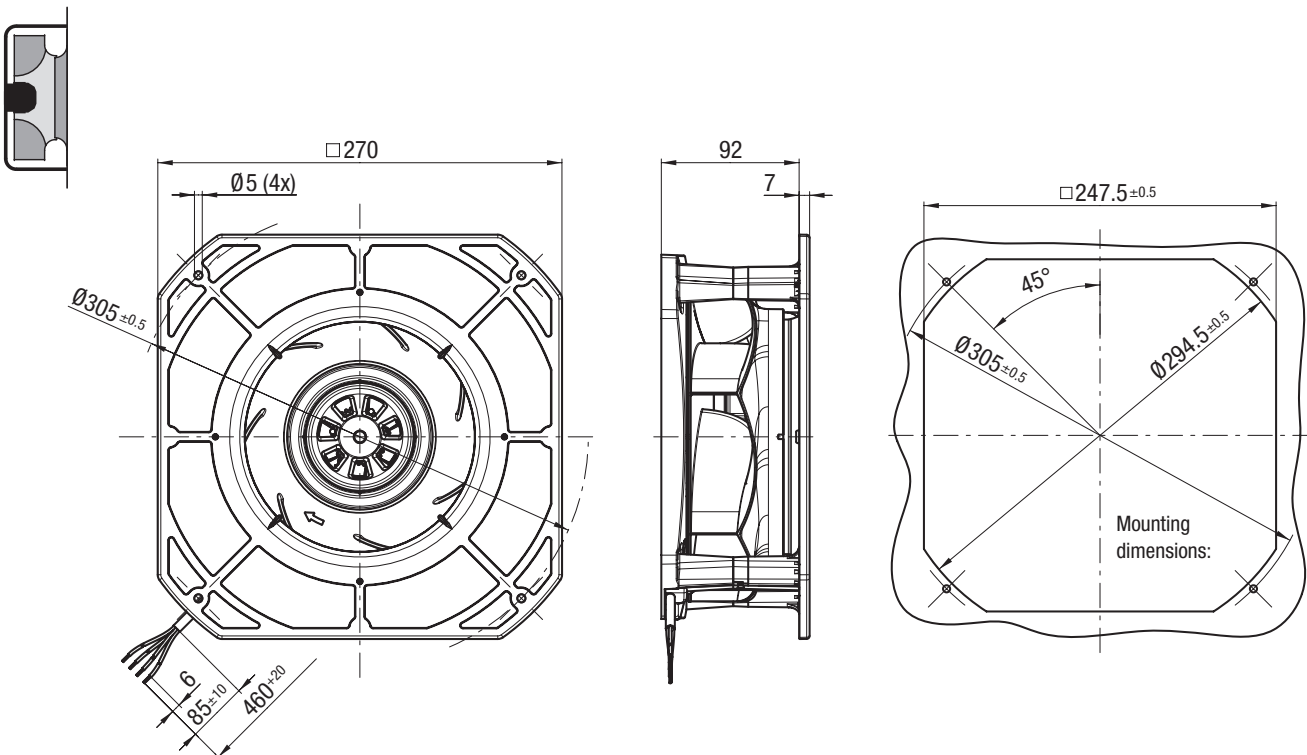
backward curved, Ø 220, 2 Speed stages, 85 W - Electronics



R3G 220-RC05-01 (Centrifugal fan)



K3G 220-RC05-01 (Centrifugal module with support basket)

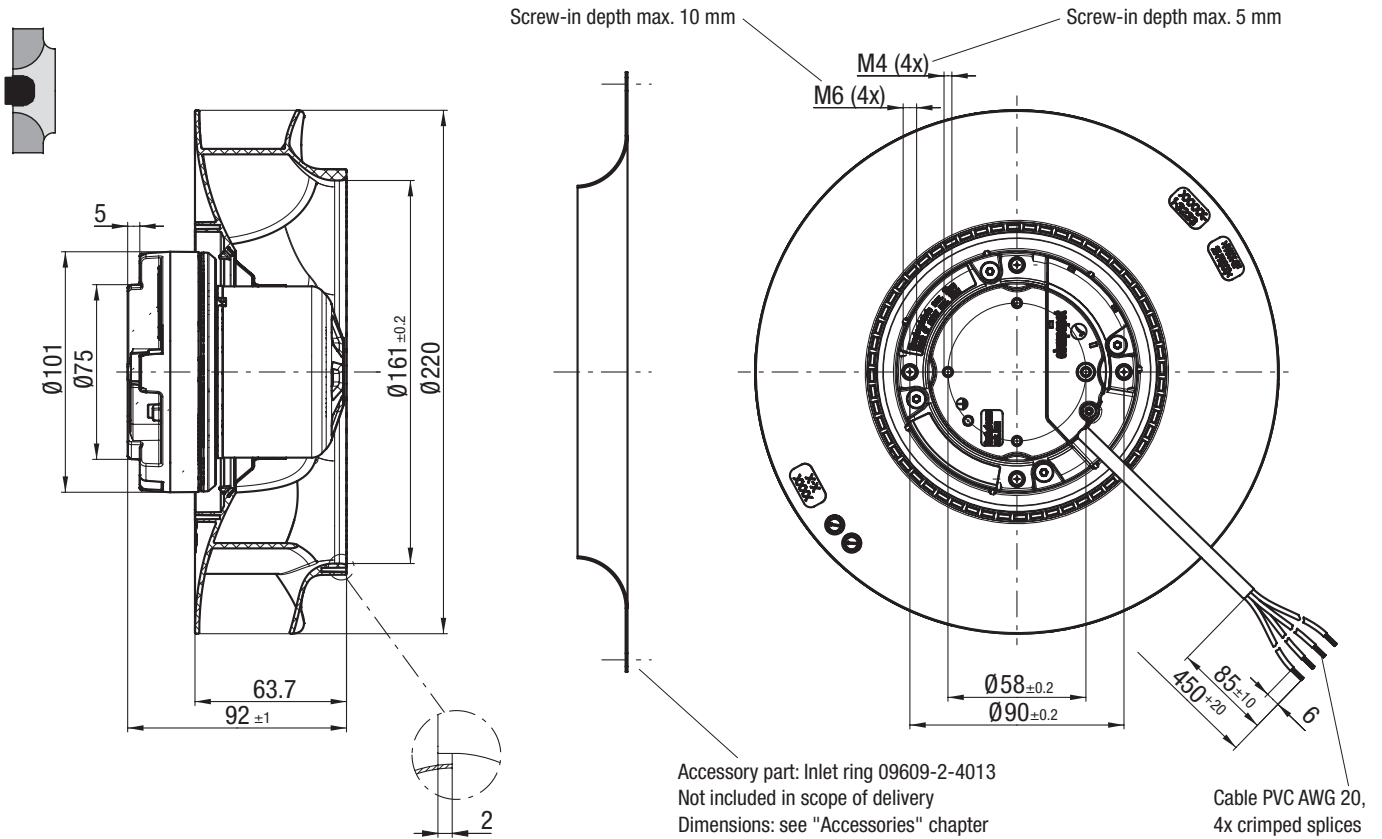


EC centrifugal fans – RadiCal

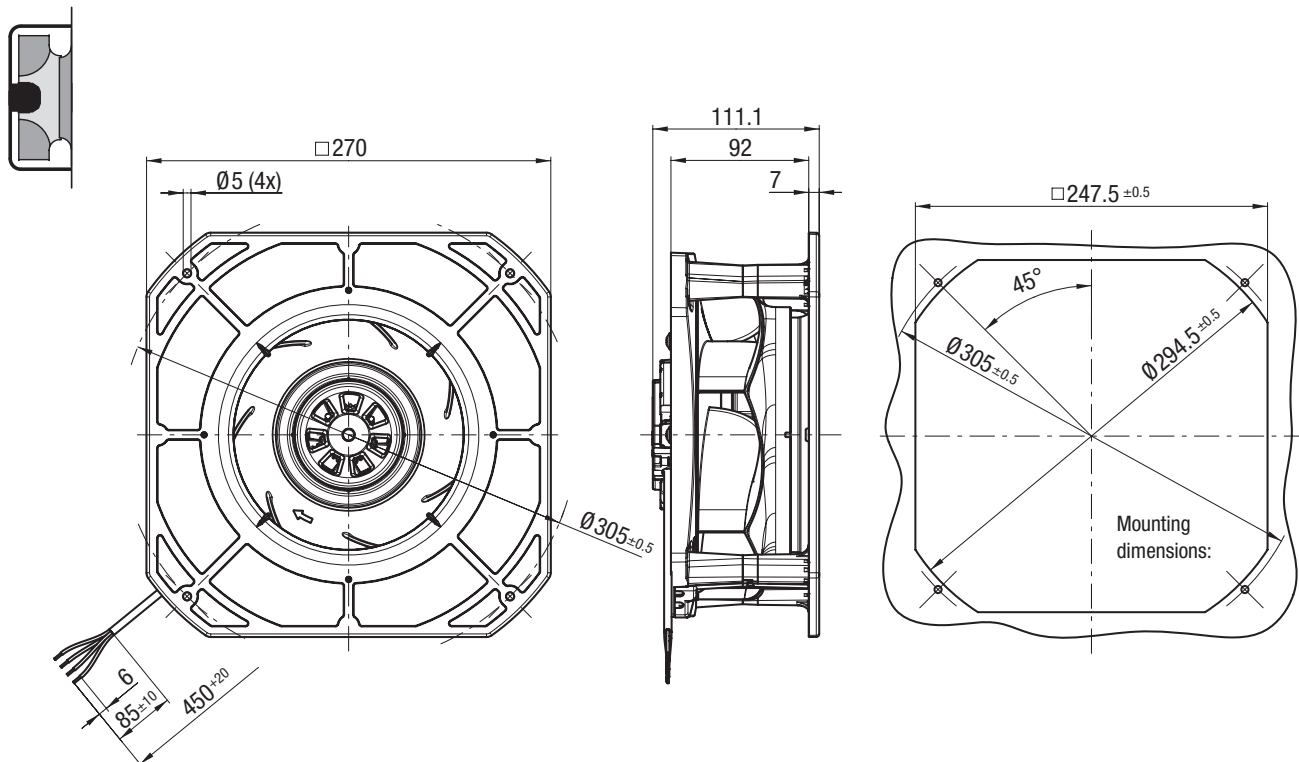
backward curved, Ø 220, 2 Speed stages, 170 W - Electronics



R3G 220-RD53-01 (Centrifugal fan)



K3G 220-RD53-01 (Centrifugal module with support basket)

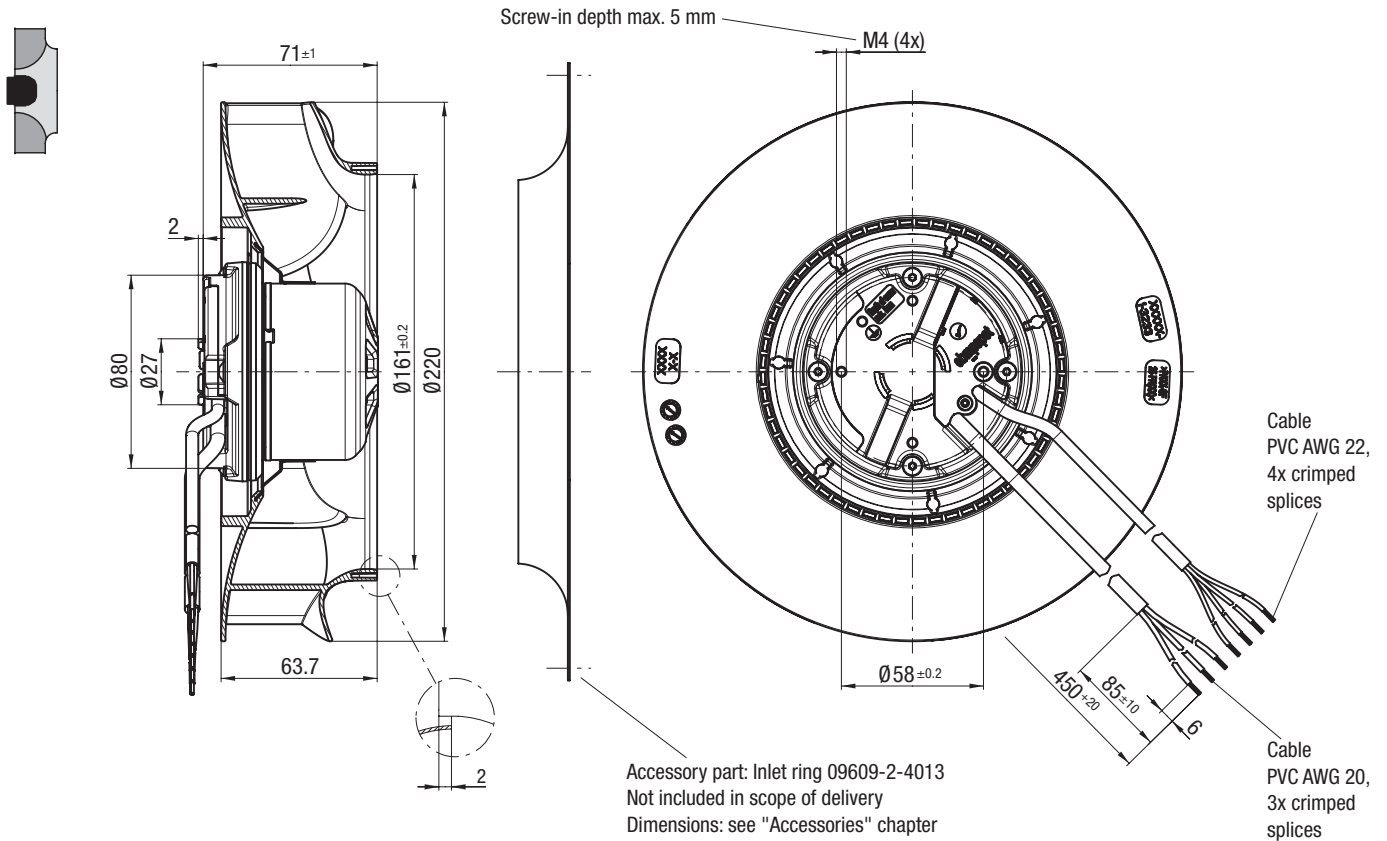


EC centrifugal fans – RadiCal

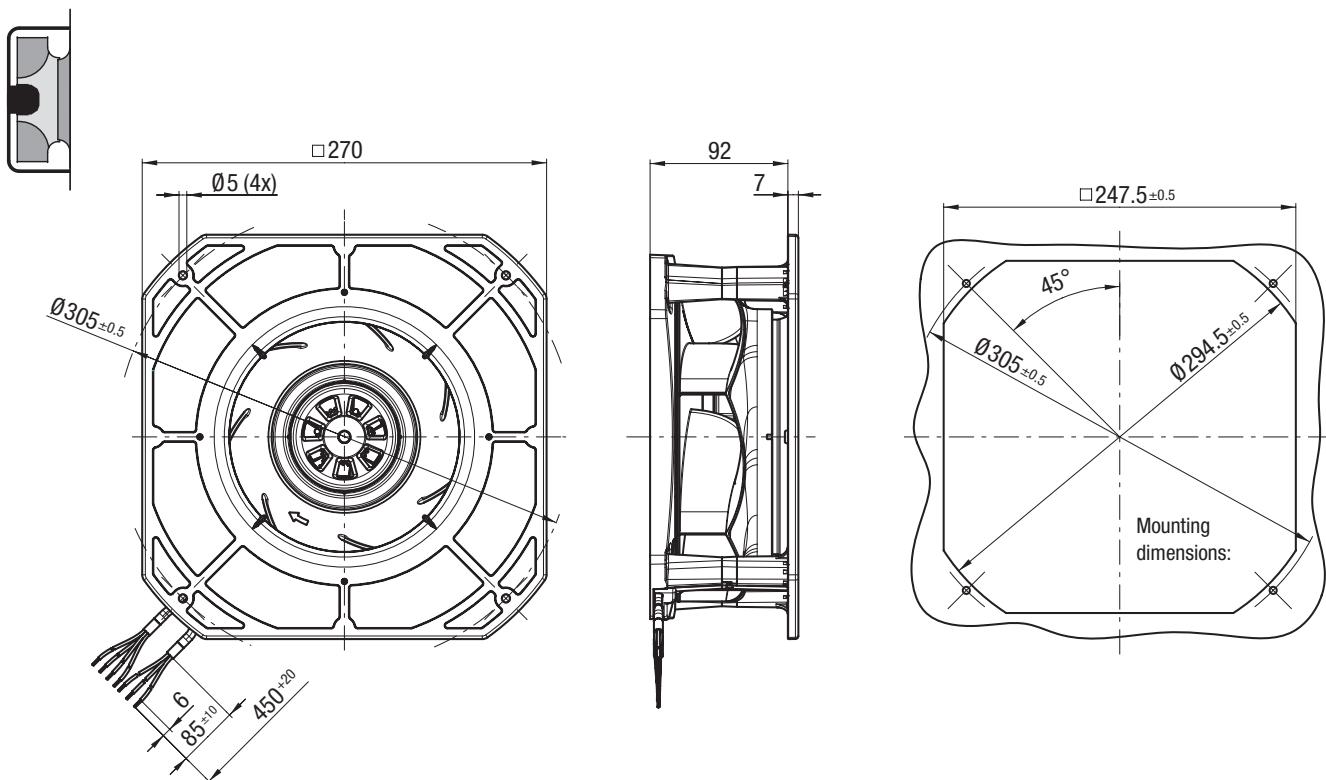
backward curved, Ø 220, Speed-controlled, 85 W - Electronics



R3G 220-RC05-03 / R3G 220-RC05-05 (Centrifugal fan)



K3G 220-RC05-03 / K3G 220-RC05-05 (Centrifugal module with support basket)



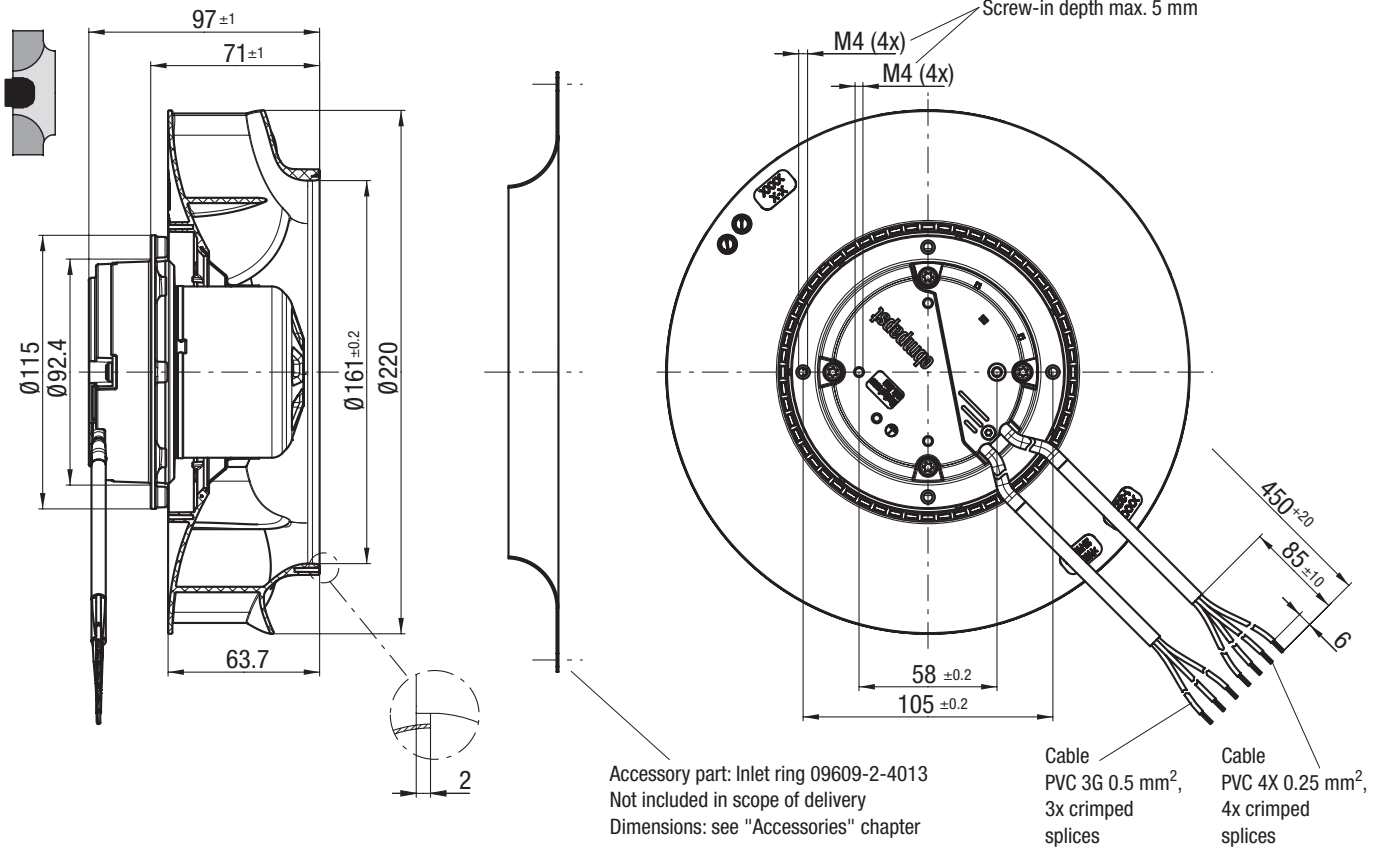
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 39.

EC centrifugal fans – RadiCal

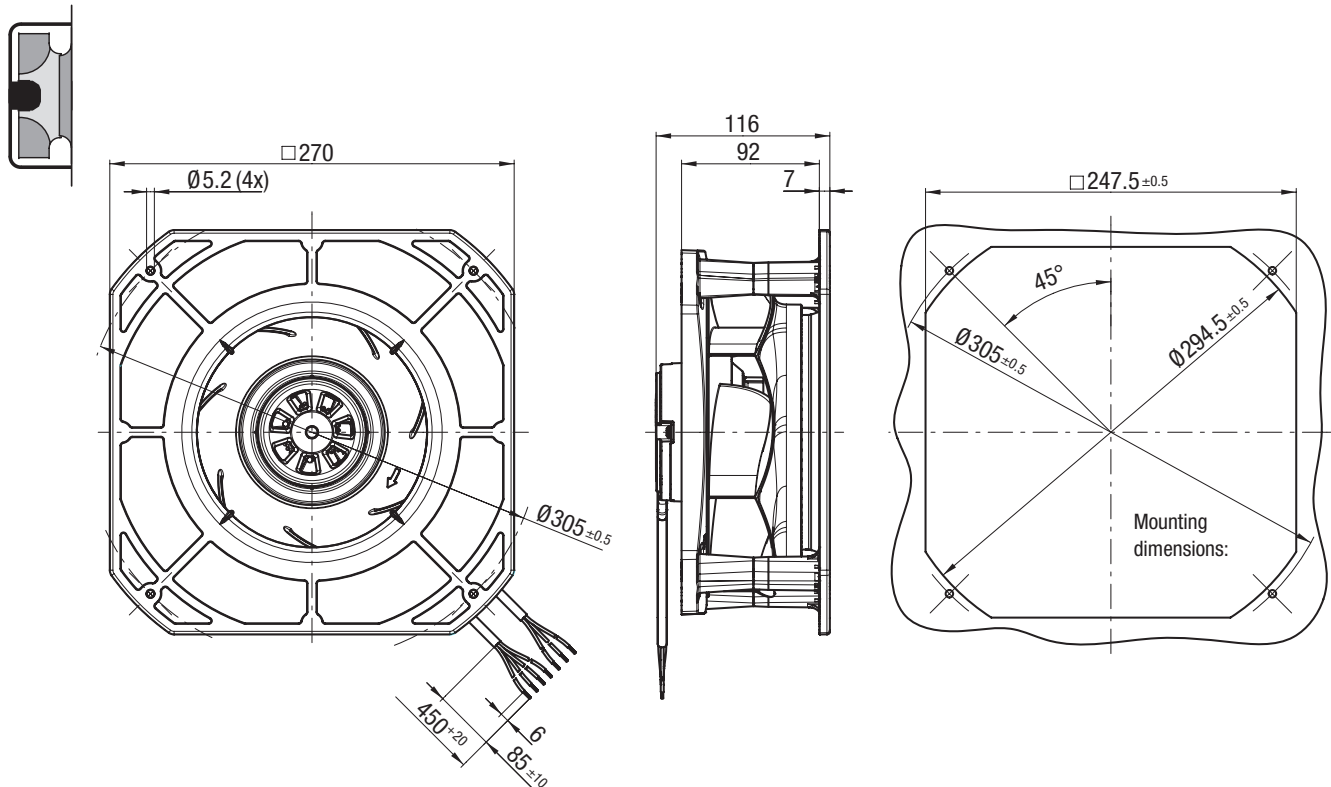
backward curved, Ø 220, Speed-controlled, 115 W - Electronics



R3G 220-RG19-01 / R3G 220-RG19-05 (Centrifugal fan)



K3G 220-RG19-01 / K3G 220-RG19-05 (Centrifugal module with support basket)



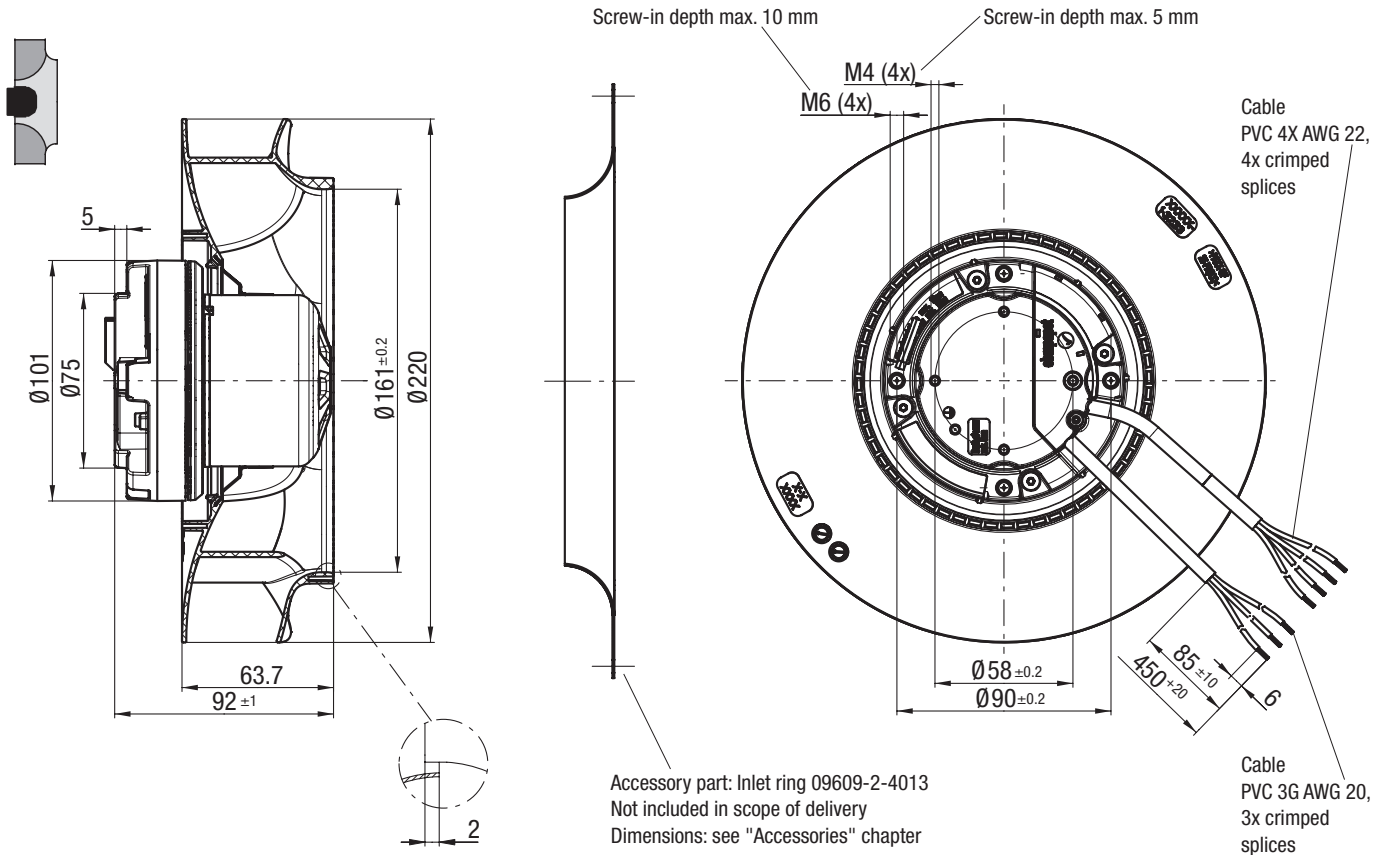
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 39.

EC centrifugal fans – RadiCal

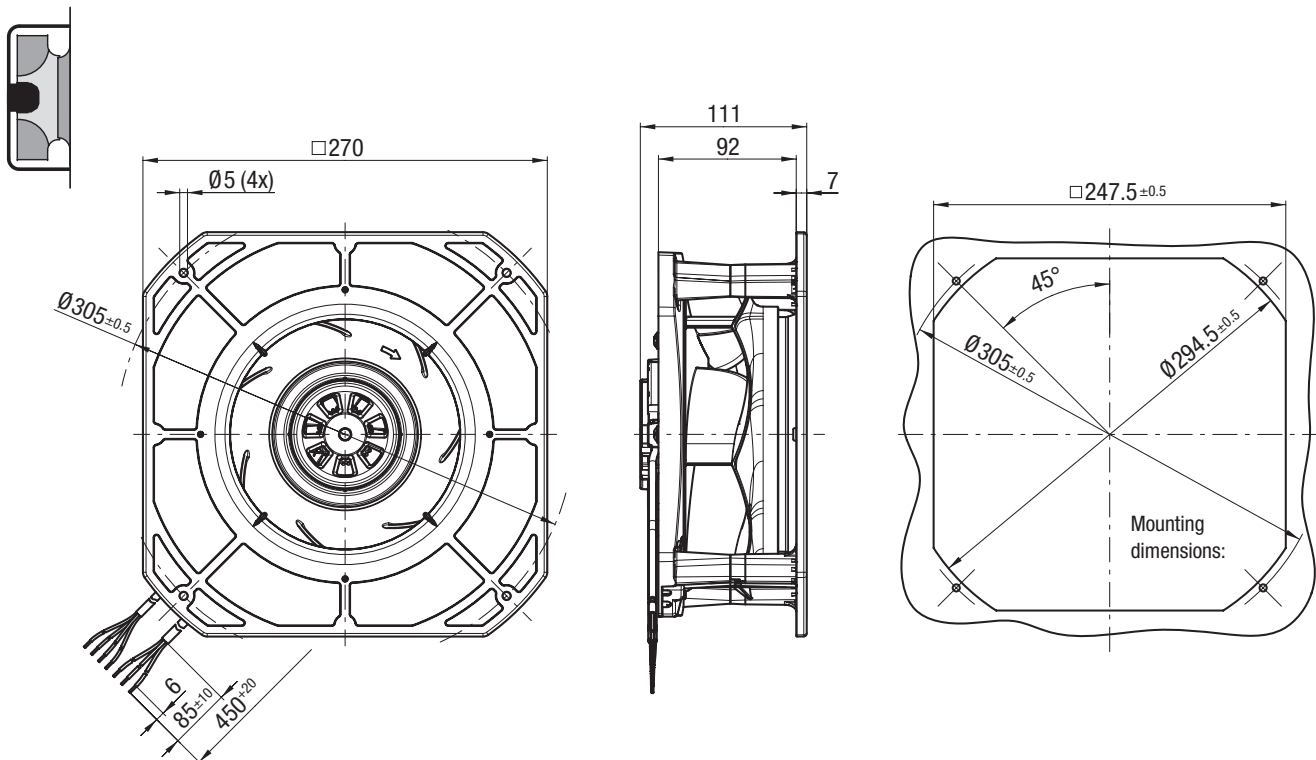
backward curved, Ø 220, Speed-controlled, 170 W - Electronics



R3G 220-RD53-03 / R3G 220-RD53-05 / R3G 220-RD53-08 (Centrifugal fan)



K3G 220-RD53-03 / K3G 220-RD53-05 / K3G 220-RD53-08 (Centrifugal module with support basket)



The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 39.

EC centrifugal fans – RadiCal

backward curved, Ø 225



- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

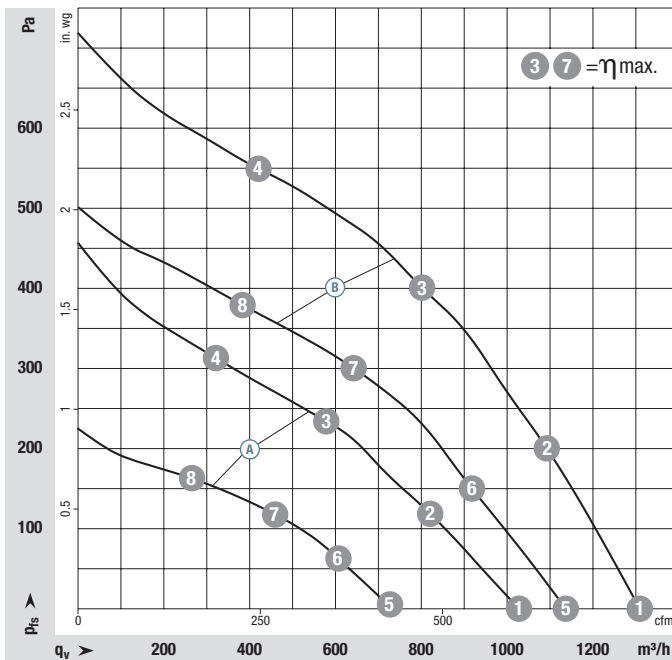
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
			VAC	Hz	rpm	W	A	°C	
*3G 225	M3G 055-CF	Ⓐ	1~200-240	50/60	2200	82	0,70	-25..+60	P. 145 / RC2)
*3G 225	M3G 055-DF	Ⓑ	1~200-240	50/60	2860	170	1,40	-25..+60	P. 145 / RC2)
*3G 225	M3G 055-CF	Ⓒ	1~200-240	50/60	2200	82	0,70	-25..+60	P. 146 / RC3)
*3G 225	M3G 055-CF	Ⓓ	1~200-240	50/60	2200	82	0,70	-25..+60	P. 154 / RC10)
*3G 225	M3G 055-CF	Ⓔ	1~200-240	50/60	2440	107	0,90	-25..+60	P. 144 / RC1)
*3G 225	M3G 055-CF	Ⓕ	1~200-240	50/60	2440	107	0,90	-25..+60	P. 154 / RC10)
*3G 225	M3G 055-DF	Ⓖ	1~200-240	50/60	2860	170	1,40	-25..+60	P. 152 / RC8)
*3G 225	M3G 055-DF	Ⓗ	1~200-240	50/60	2860	170	1,40	-25..+60	P. 154 / RC10)
*3G 225	M3G 055-DF	Ⓘ	1~200-240	50/60	2860	170	1,40	-25..+60	P. 155 / RC11)

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves: 2 Speed stages



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	2285	70	0,62	69
Ⓐ ②	2165	77	0,66	64
Ⓐ ③	2200	82	0,70	60
Ⓐ ④	2250	71	0,61	67
Ⓐ ⑤	1640	27	0,28	61
Ⓐ ⑥	1580	31	0,31	58
Ⓐ ⑦	1585	31	0,32	53
Ⓐ ⑧	1640	28	0,29	58
Ⓑ ①	3030	151	1,25	78
Ⓑ ②	2910	168	1,40	74
Ⓑ ③	2860	170	1,40	68
Ⓑ ④	2970	157	1,35	73
Ⓑ ⑤	2550	91	0,83	74
Ⓑ ⑥	2495	104	0,94	70
Ⓑ ⑦	2490	105	0,93	65
Ⓑ ⑧	2525	97	0,89	69

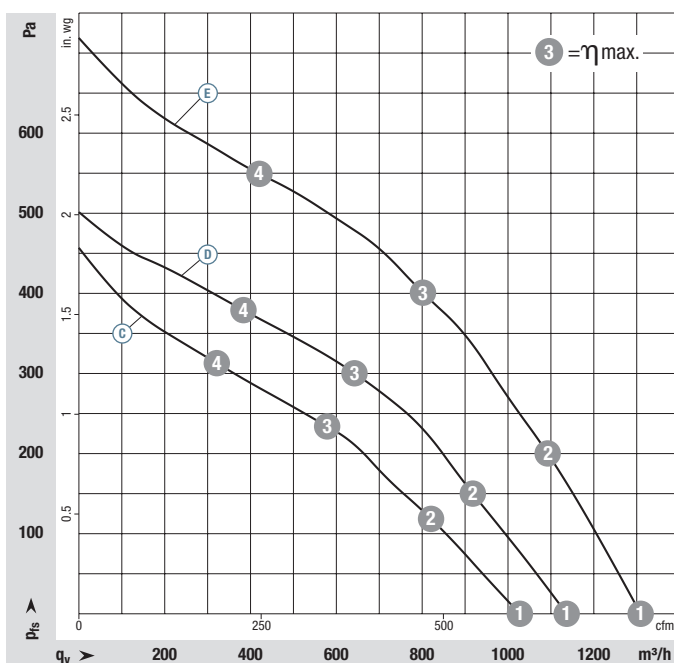
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 144 ff.
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Centrifugal fan	kg	Centrifugal module w. support basket	kg	2 Speed stages	Speed-controlled 0-10 V / PWM	Speed-controlled PWM	Speed-controlled MODBUS-RTU
R3G 225-RD05 -01	1,40	K3G 225-RD05 -01	2,00	X			
R3G 225-RE07 -01	1,60	K3G 225-RE07 -01	2,20	X			
R3G 225-RD05 -03	1,40	K3G 225-RD05 -03	2,00		X		
R3G 225-RD05 -05	1,40	K3G 225-RD05 -05	2,00			X	
R3G 225-RH19 -01	1,50	K3G 225-RH19 -01	2,10		X		
R3G 225-RH19 -05	1,50	K3G 225-RH19 -05	2,10			X	
R3G 225-RE07 -03	1,60	K3G 225-RE07 -03	2,20		X		
R3G 225-RE07 -05	1,60	K3G 225-RE07 -05	2,20			X	
R3G 225-RE07 -22	1,60	K3G 225-RE07 -22	2,20				X

(2) PVC AWG 20, 4x splices (3) PVC AWG 20, 3x splices (4) PVC AWG 22, 4x splices (5) PVC AWG 20, 3x splices (6) PVC AWG 22, 3x splices (7) PVC AWG 20, 3x splices (8) PVC AWG 22, 5x splices

Curves:
Speed-controlled
0-10 V / PWM
PWM
MODBUS-RTU



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
ⓐ 1	2285	70	0,62	69
ⓐ 2	2160	79	0,66	64
ⓐ 3	2200	82	0,70	60
ⓐ 4	2265	70	0,60	68
ⓓ 1	2570	94	0,81	73
ⓓ 2	2475	107	0,90	69
ⓓ 3	2440	107	0,90	65
ⓓ 4	2530	99	0,85	69
ⓔ 1	2965	147	1,17	78
ⓔ 2	2880	170	1,40	74
ⓔ 3	2860	170	1,40	68
ⓔ 4	2970	149	1,22	74

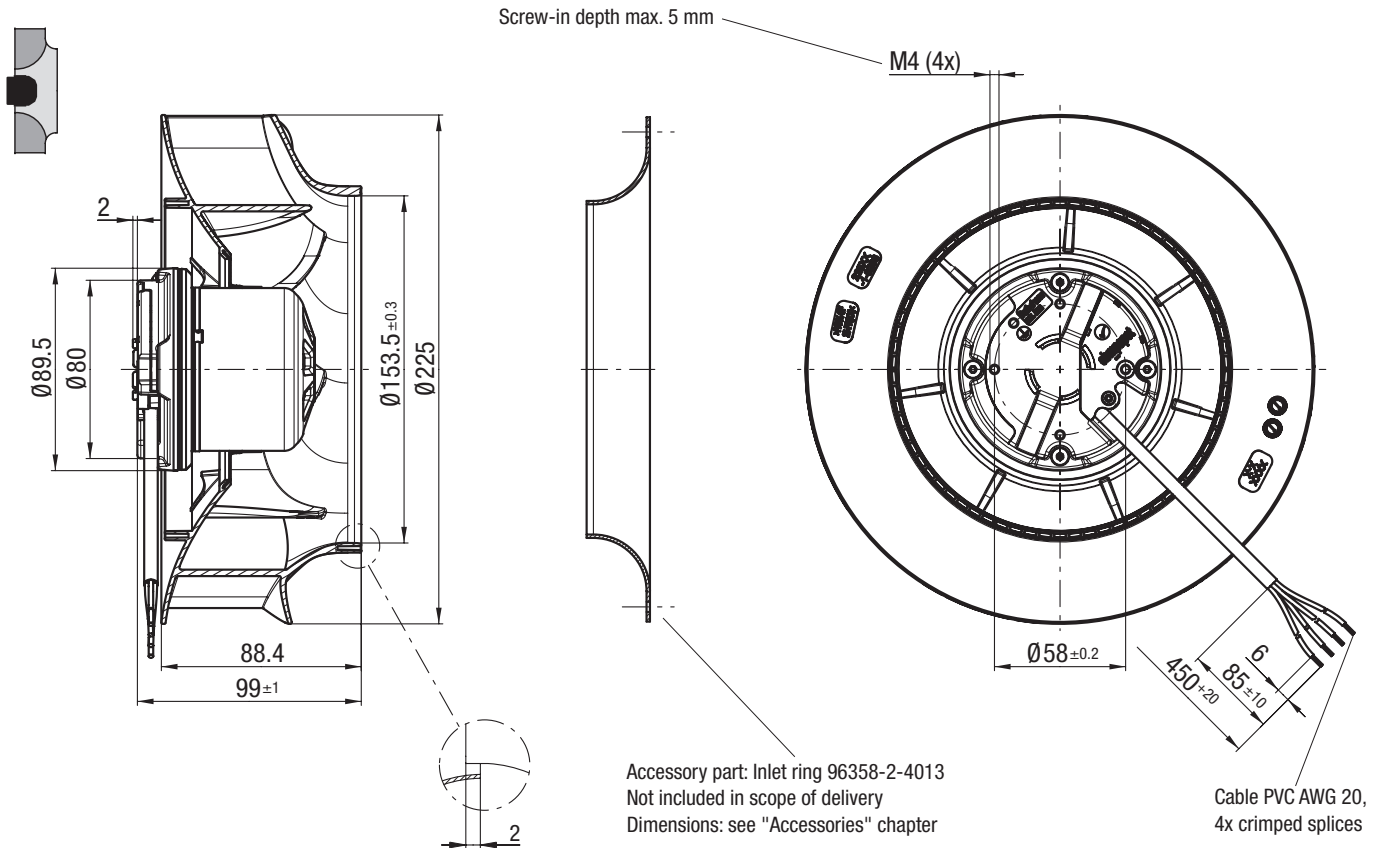
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

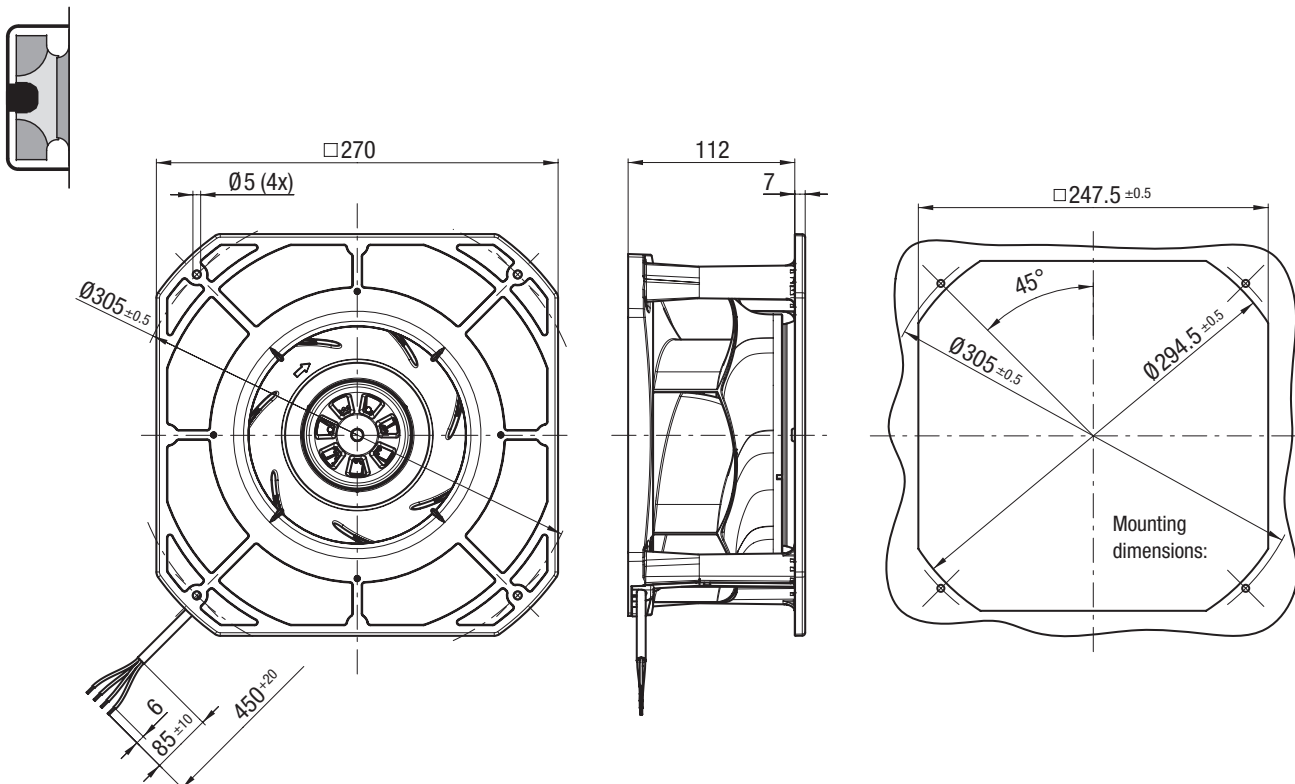
backward curved, Ø 225, 2 Speed stages, 85 W - Electronics



R3G 225-RD05-01 (Centrifugal fan)



K3G 225-RD05-01 (Centrifugal module with support basket)

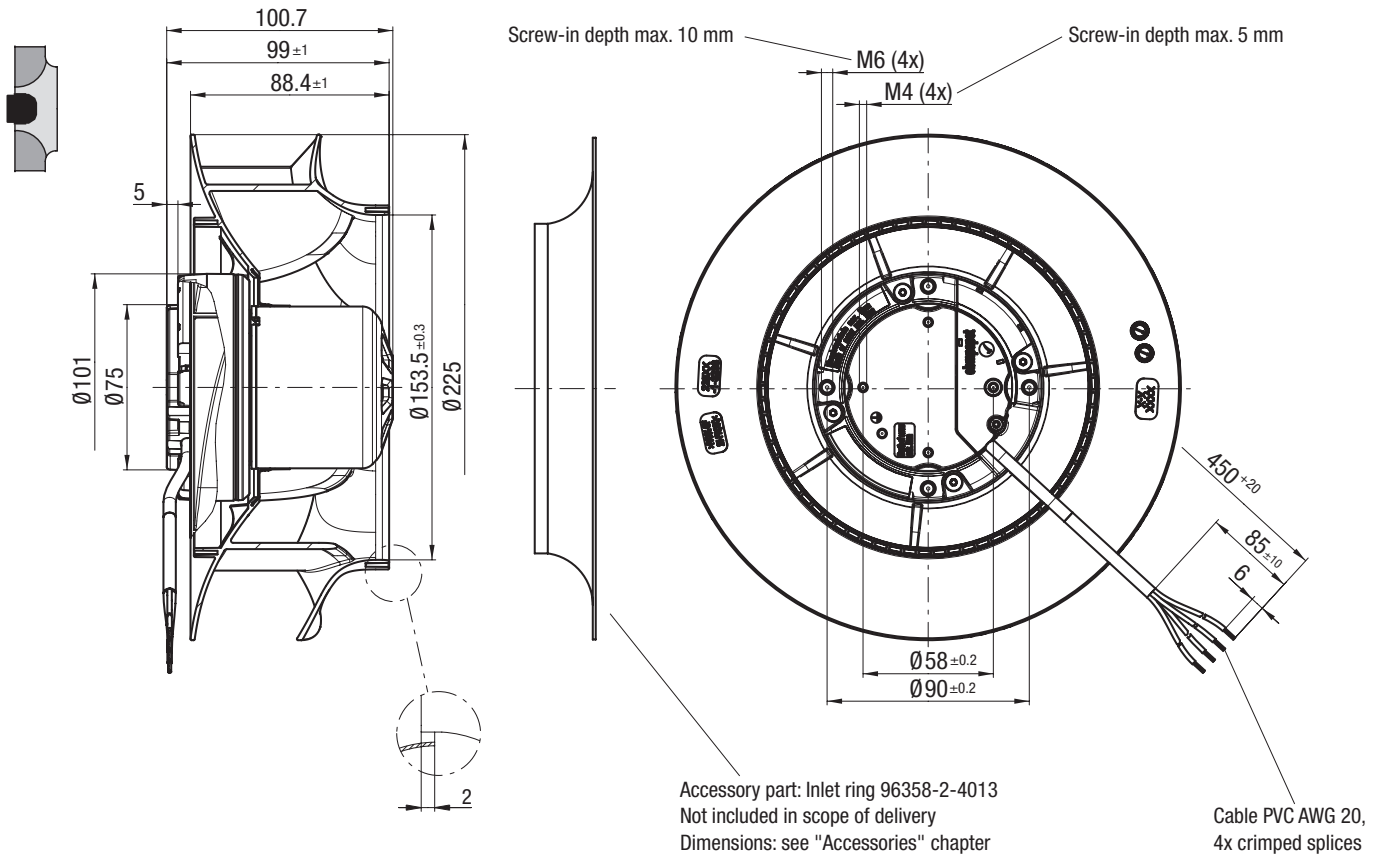


EC centrifugal fans – RadiCal

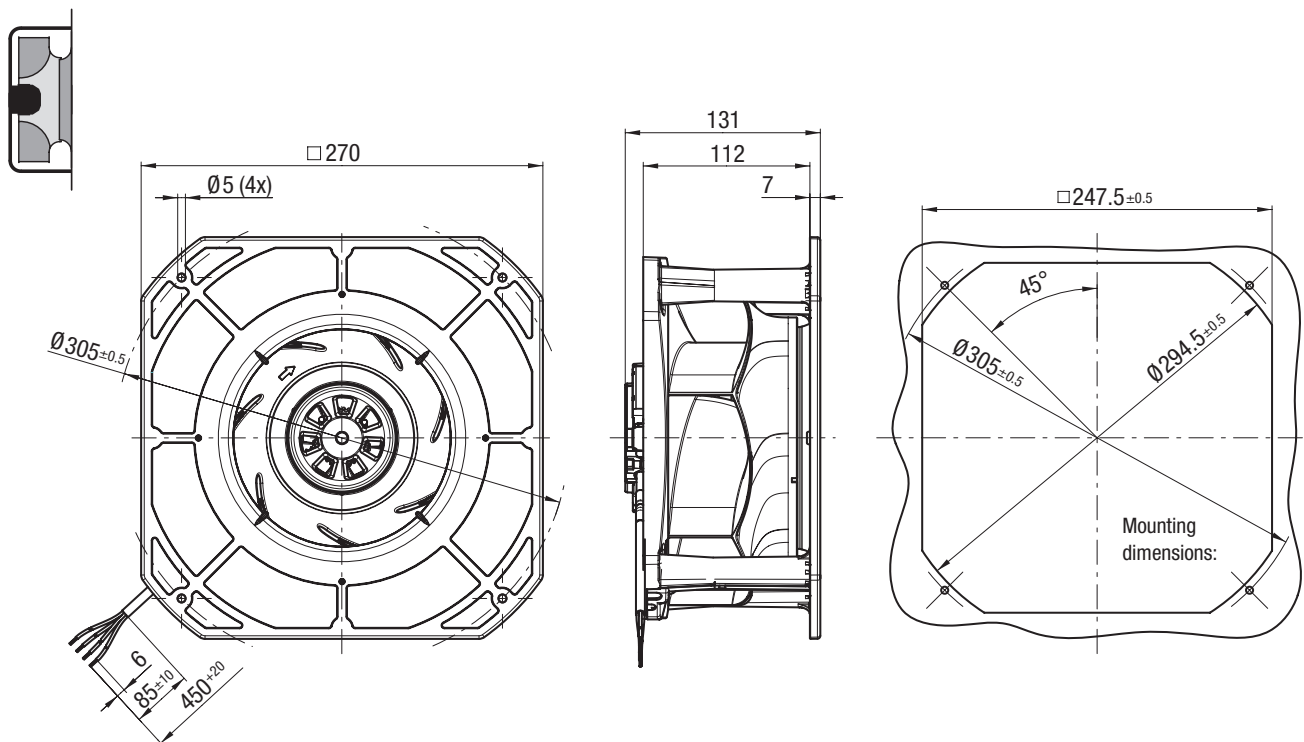
backward curved, Ø 225, 2 Speed stages, 170 W - Electronics



R3G 225-RE07-01 (Centrifugal fan)



K3G 225-RE07-01 (Centrifugal module with support basket)

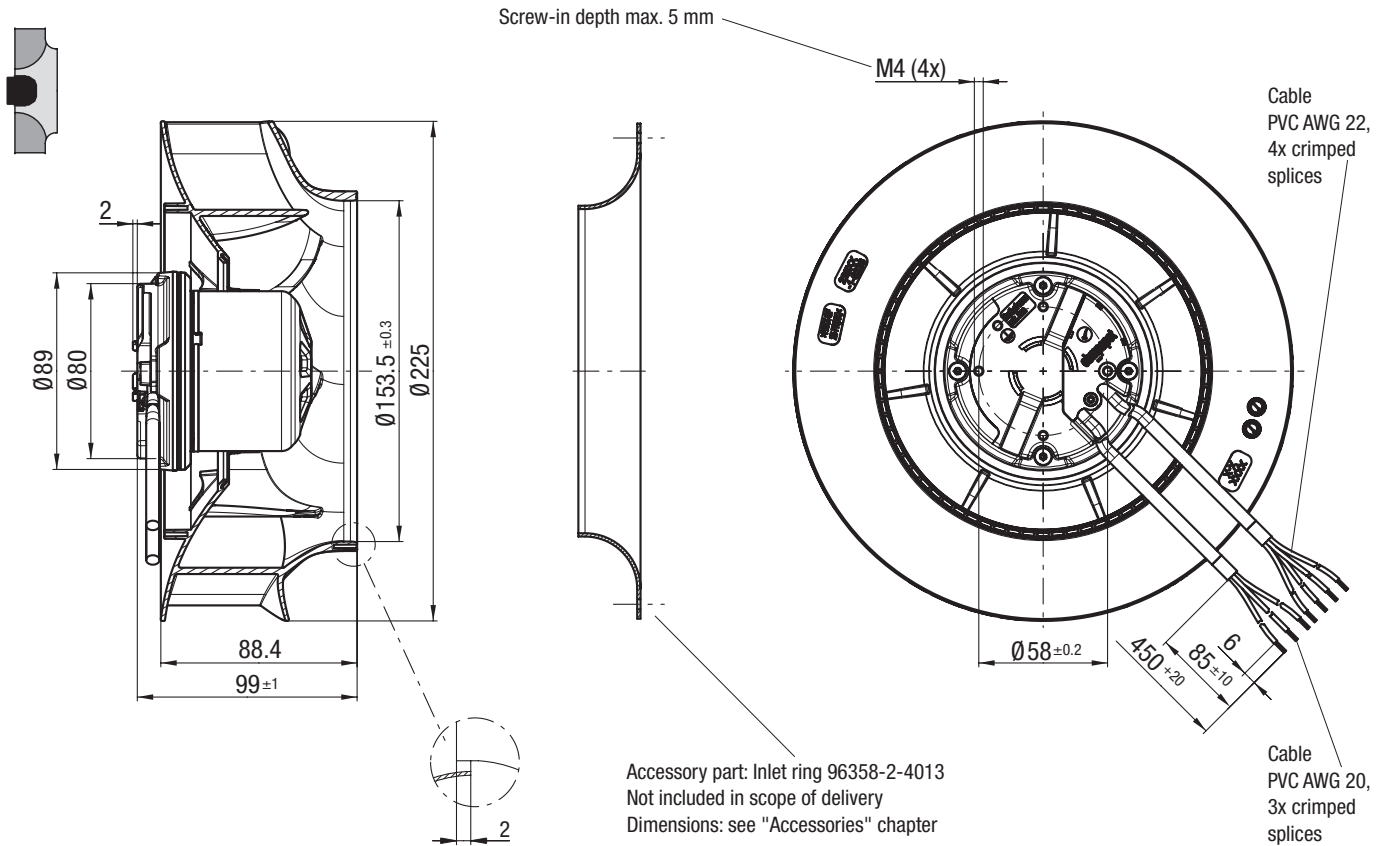


EC centrifugal fans – RadiCal

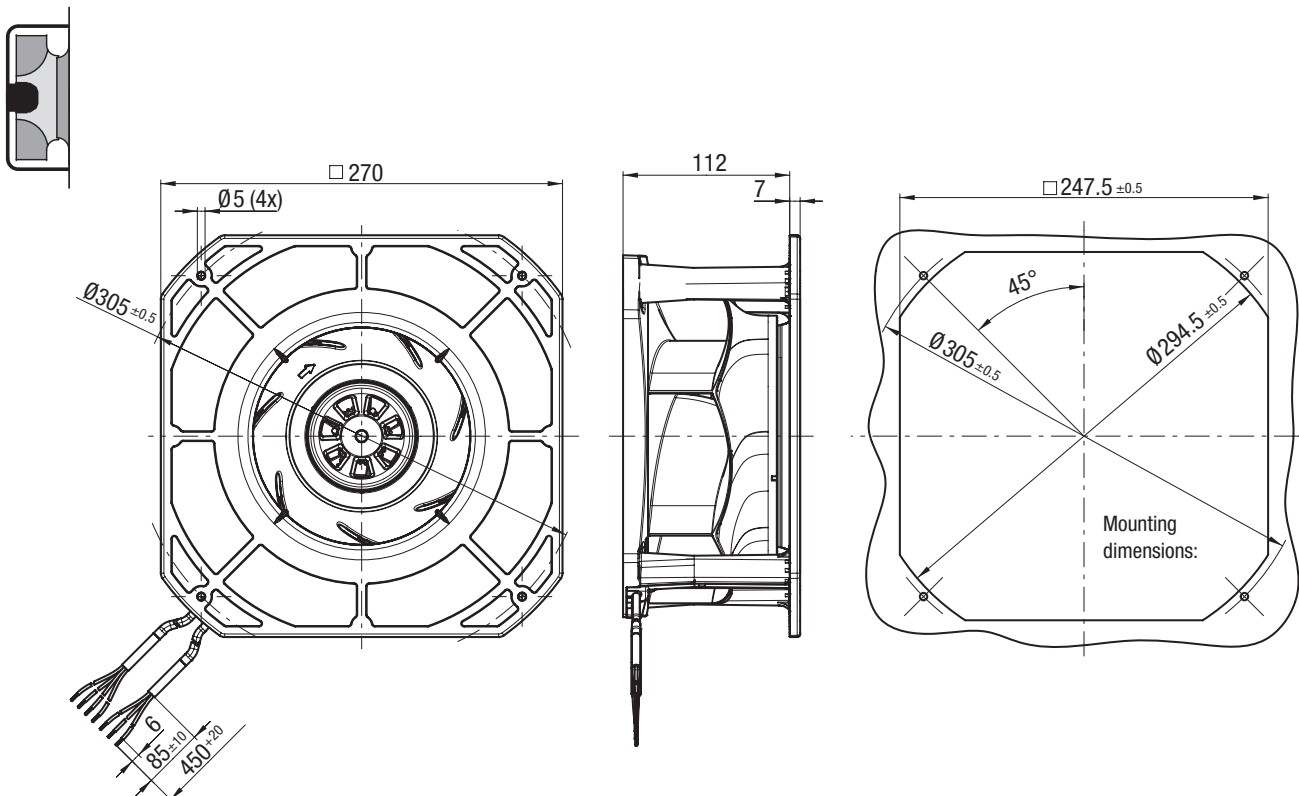
backward curved, Ø 225, Speed-controlled, 85 W - Electronics



R3G 225-RD05-03 / R3G 225-RD05-05 (Centrifugal fan)



K3G 225-RD05-03 / K3G 225-RD05-05 (Centrifugal module with support basket)



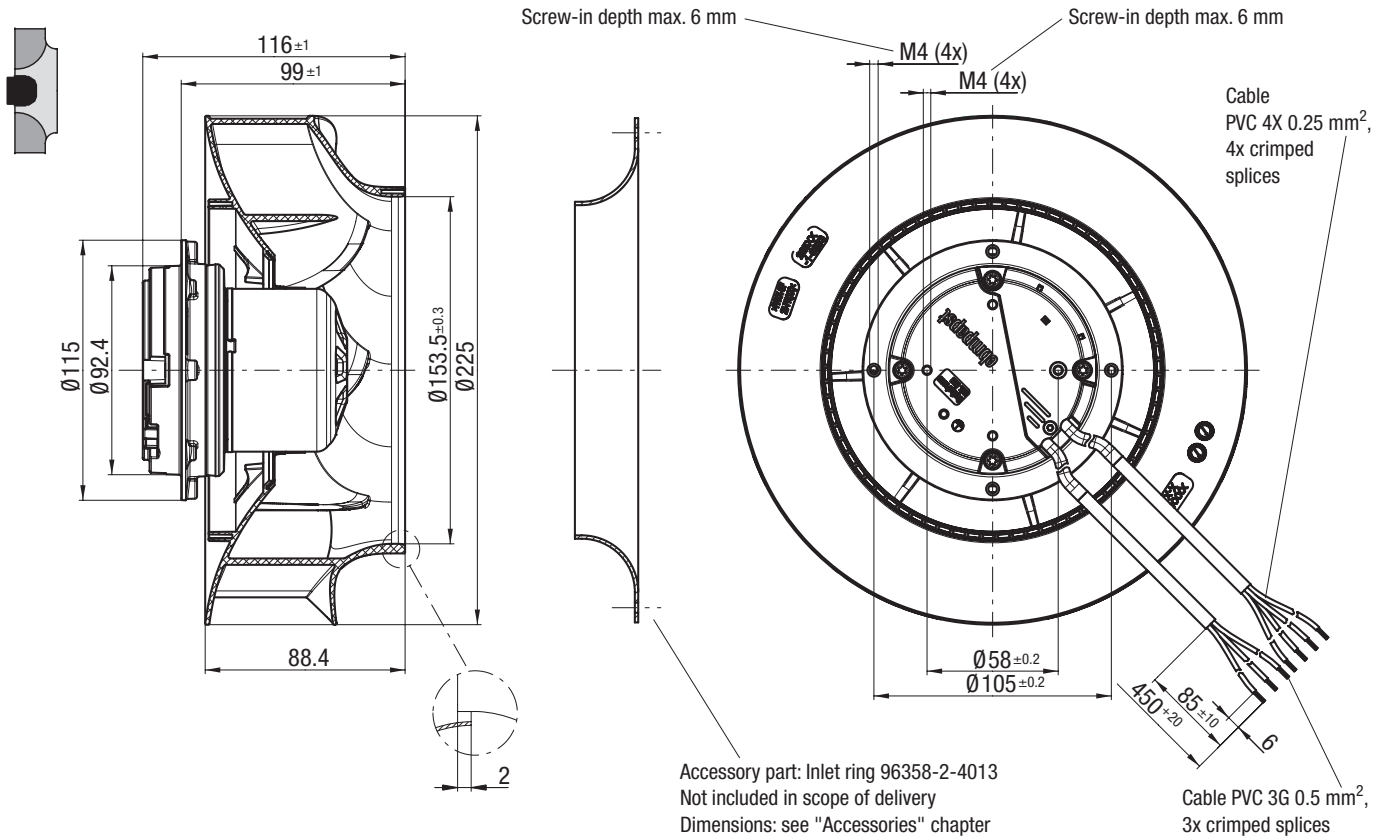
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 47.

EC centrifugal fans – RadiCal

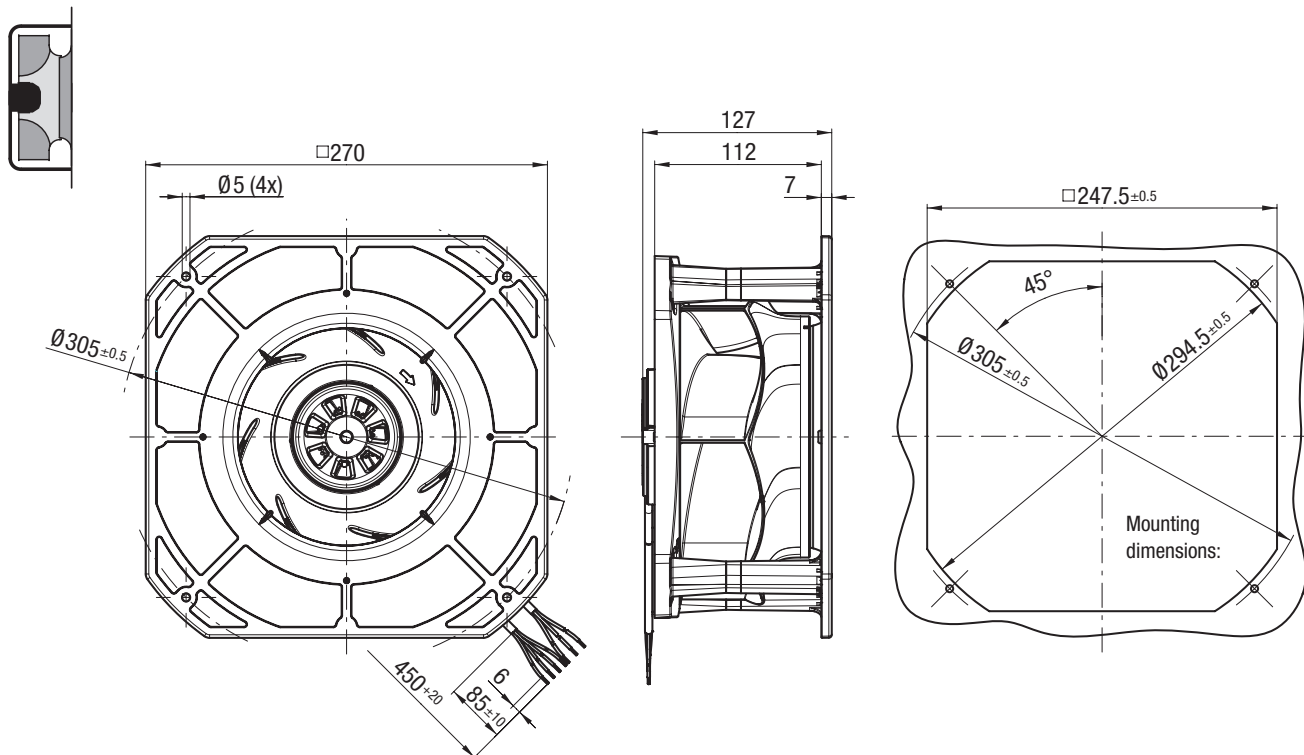
backward curved, Ø 225, Speed-controlled, 115 W - Electronics



R3G 225-RH19-01 / R3G 225-RH19-05 (Centrifugal fan)



K3G 225-RH19-01 / K3G 225-RH19-05 (Centrifugal module with support basket)



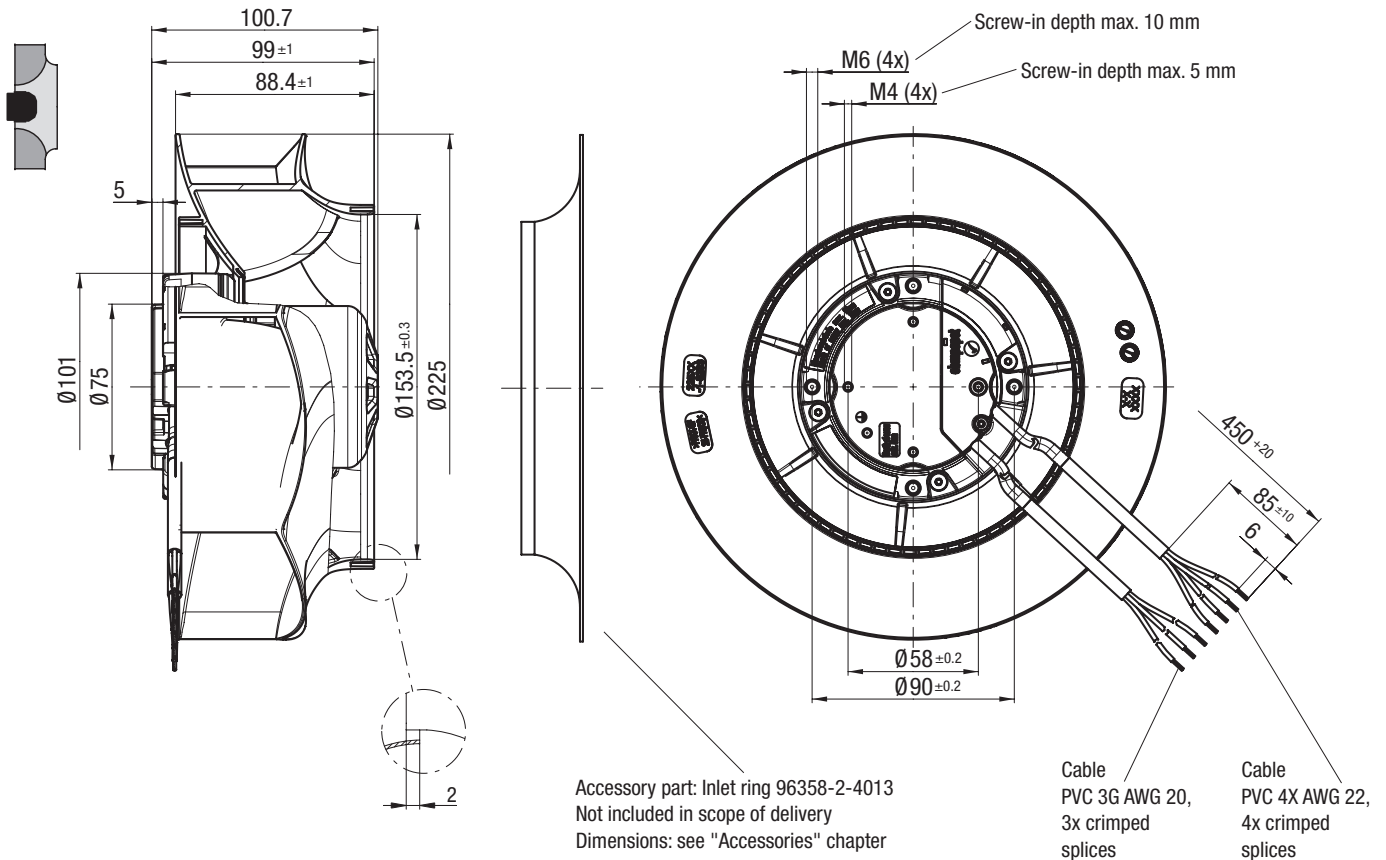
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 47.

EC centrifugal fans – RadiCal

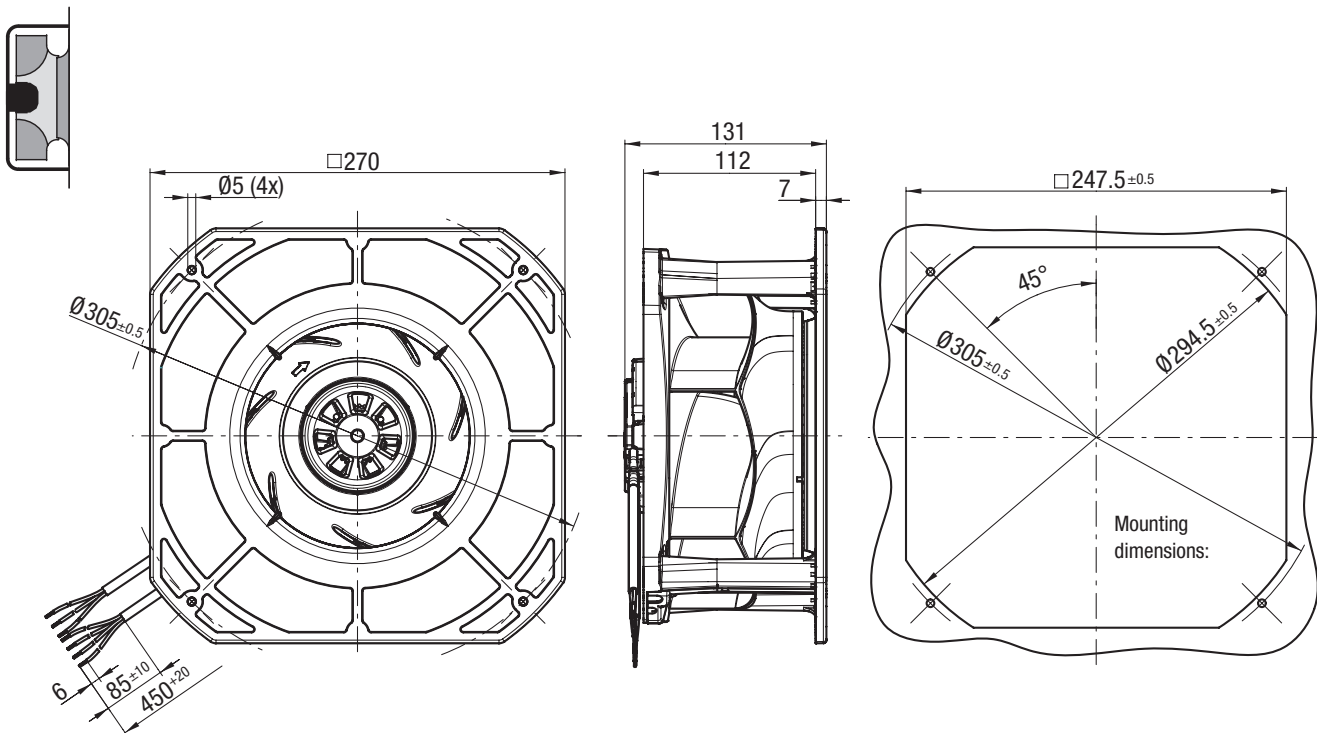
backward curved, Ø 225, Speed-controlled, 170 W - Electronics



R3G 225-RE07-03 / R3G 225-RE07-05 / R3G 225-RE07-22 (Centrifugal fan)



K3G 225-RE07-03 / K3G 225-RE07-05 / K3G 225-RE07-22 (Centrifugal module with support basket)



The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 47.

EC centrifugal fans – RadiCal

backward curved, with housing, Ø 225



- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
 - Ⓐ Ⓑ Ⓒ Electronics housing: Die-cast aluminium
 - Ⓓ Electronics cap: Sheet steel, hot-dip aluminized
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** Ⓐ Ⓑ Ⓒ IP 54, Ⓓ IP 20; depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

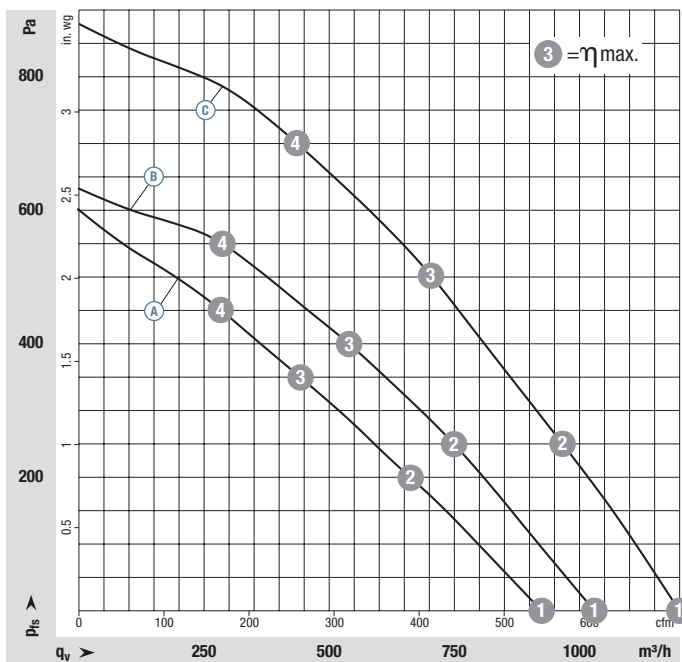
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 225	M3G 055-CF	Ⓐ 1~200-240	50/60	2200	85	0,75	-25..+60	P. 146 / RC3)	
*3G 225	M3G 055-CF	Ⓐ 1~200-240	50/60	2200	85	0,75	-25..+60	P. 154 / RC10)	
*3G 225	M3G 055-CF	Ⓑ 1~200-240	50/60	2450	105	0,90	-25..+60	P. 144 / RC1)	
*3G 225	M3G 055-CF	Ⓑ 1~200-240	50/60	2450	105	0,90	-25..+60	P. 154 / RC10)	
*3G 225	M3G 055-DF	Ⓒ 1~200-240	50/60	2900	165	1,40	-25..+60	P. 152 / RC8)	
*3G 225	M3G 055-DF	Ⓒ 1~200-240	50/60	2900	165	1,40	-25..+60	P. 154 / RC10)	
*3G 225	M3G 055-DF	Ⓒ 1~200-240	50/60	2900	165	1,40	-25..+60	P. 155 / RC11)	
*3G 225	M3G 055-DF	Ⓓ 1~200-240	50/60	2900	165	1,40	-25..+50	P. 156 / RC12)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves:
Speed-controlled
0-10 V / PWM
PWM
MODBUS-RTU



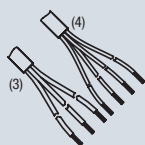
	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	2295	79	0,70	70
Ⓐ ②	2200	85	0,75	65
Ⓐ ③	2265	81	0,71	65
Ⓐ ④	2350	76	0,67	70
Ⓑ ①	2520	98	0,83	75
Ⓑ ②	2450	105	0,90	71
Ⓑ ③	2490	103	0,87	69
Ⓑ ④	2575	88	0,76	73
Ⓒ ①	2975	154	1,26	77
Ⓒ ②	2900	165	1,40	72
Ⓒ ③	2890	165	1,40	70
Ⓒ ④	2990	152	1,24	72

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

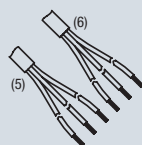
- **Technical features:** See connection diagram P. 144 ff.
- **Touch current:** <= 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1; CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011



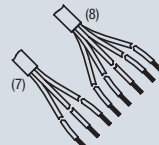
Weight Centrifugal fan with housing



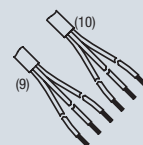
Cables



Cables



Cables



Cables

Centrifugal fan with housing	kg	Speed-controlled 0-10 V / PWM	Speed-controlled PWM	Speed-controlled MODBUS-RTU	Sensor-controlled MODBUS-RTU
G3G 225-RD05 -02	2,60	X			
G3G 225-RD05 -05	2,60		X		
G3G 225-RH19 -01	2,70	X			
G3G 225-RH19 -05	2,70		X		
G3G 225-RE07 -03	3,00	X			
G3G 225-RE07 -05	3,00		X		
G3G 225-RE07 -22	3,00			X	
G3G 225-RR07 -04 ⁽¹¹⁾	3,10				X

(11) Freely programmable volume flows (constant air flow volume with tolerance related ± 1 % of final value)

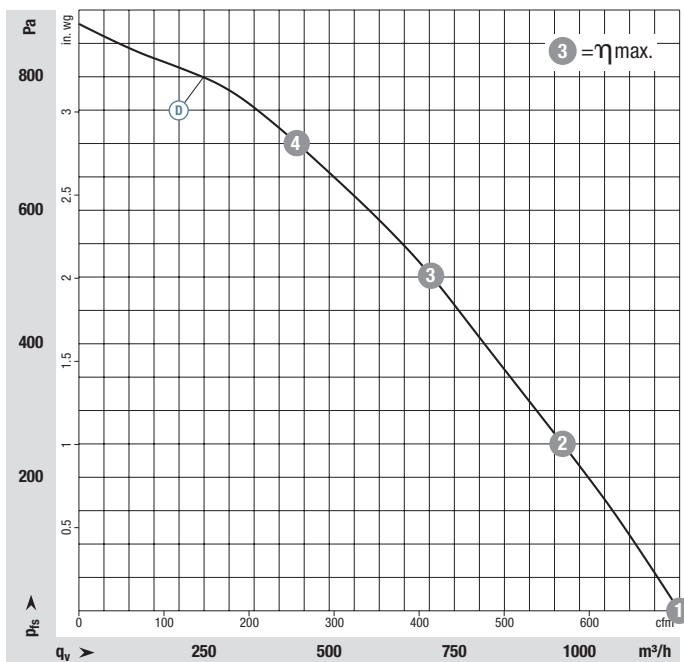
(3) PVC AWG 20, 3x splices
(4) PVC AWG 22, 4x splices

(5) PVC AWG 20, 3x splices
(6) PVC AWG 22, 3x splices

(7) PVC AWG 20, 3x splices
(8) PVC AWG 22, 5x splices

(9) PVC AWG 20, 3x splices
(10) PVC AWG 22, 3x splices

Curves:
Sensor-controlled
MODBUS-RTU



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓓ 1	2975	154	1,26	77
Ⓓ 2	2900	165	1,40	72
Ⓓ 3	2890	165	1,40	70
Ⓓ 4	2990	152	1,24	72

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

backward curved, Ø 250



- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

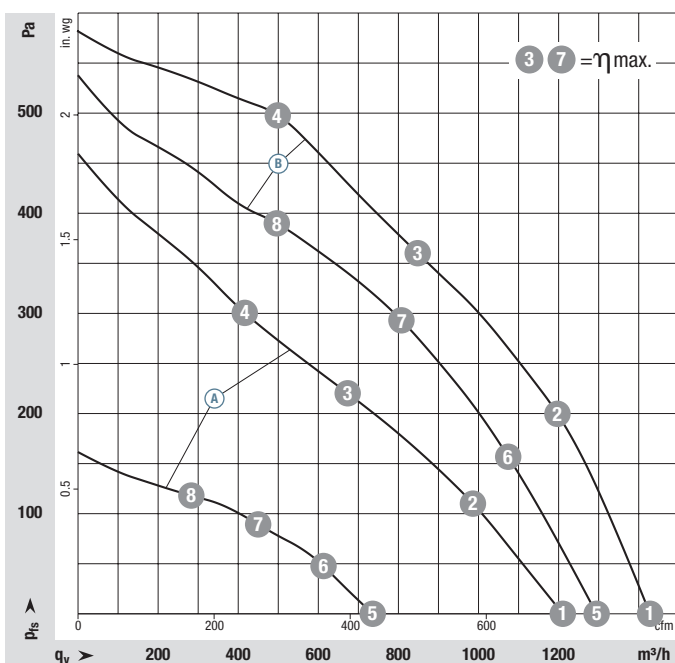
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
		VAC	Hz	rpm	W	A	°C		
*3G 250	M3G 055-CF	Ⓐ	1~200-240	50/60	1955	80	0,70	-25..+60	P. 145 / RC2)
*3G 250	M3G 055-DF	Ⓑ	1~200-240	50/60	2510	170	1,40	-25..+60	P. 145 / RC2)
*3G 250	M3G 055-CF	Ⓒ	1~200-240	50/60	1955	80	0,70	-25..+60	P. 146 / RC3)
*3G 250	M3G 055-CF	Ⓓ	1~200-240	50/60	1955	80	0,70	-25..+60	P. 154 / RC10)
*3G 250	M3G 055-DF	Ⓔ	1~200-240	50/60	2250	115	1,00	-25..+60	P. 144 / RC1)
*3G 250	M3G 055-DF	Ⓕ	1~200-240	50/60	2250	115	1,00	-25..+60	P. 154 / RC10)
*3G 250	M3G 055-DF	Ⓖ	1~200-240	50/60	2510	170	1,40	-25..+60	P. 152 / RC8)
*3G 250	M3G 055-DF	Ⓗ	1~200-240	50/60	2510	170	1,40	-25..+60	P. 154 / RC10)
*3G 250	M3G 055-DF	Ⓘ	1~200-240	50/60	2510	170	1,40	-25..+60	P. 155 / RC11)

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves: 2 Speed stages



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	2195	80	0,70	71
Ⓐ ②	2065	80	0,70	66
Ⓐ ③	1955	80	0,70	61
Ⓐ ④	2040	80	0,70	67
Ⓐ ⑤	1345	21	0,23	60
Ⓐ ⑥	1315	24	0,25	57
Ⓐ ⑦	1305	25	0,26	53
Ⓐ ⑧	1315	24	0,26	57
Ⓑ ①	2655	143	1,18	76
Ⓑ ②	2630	170	1,40	71
Ⓑ ③	2510	170	1,40	67
Ⓑ ④	2620	168	1,39	73
Ⓑ ⑤	2415	108	0,92	72
Ⓑ ⑥	2360	122	1,03	67
Ⓑ ⑦	2330	130	1,10	64
Ⓑ ⑧	2360	121	1,03	68

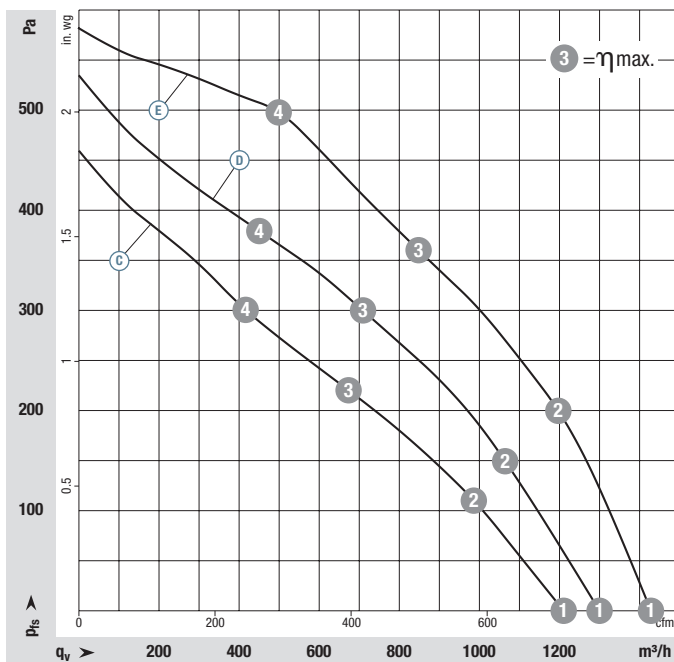
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 144 ff.
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Centrifugal fan	kg	Centrifugal module w. support basket	kg	2 Speed stages	Speed-controlled 0-10 V / PWM	Speed-controlled PWM	Speed-controlled MODBUS-RTU
R3G 250-RD17 -01	1,50	K3G 250-RD17 -01	2,30	X			
R3G 250-RE07 -05	1,90	K3G 250-RE07 -05	2,70	X			
R3G 250-RD17 -03	1,50	K3G 250-RD17 -03	2,30		X		
R3G 250-RD17 -05	1,50	K3G 250-RD17 -05	2,30			X	
R3G 250-RH13 -01	1,60	K3G 250-RH13 -01	2,40		X		
R3G 250-RH13 -05	1,60	K3G 250-RH13 -05	2,40			X	
R3G 250-RE07 -07	1,90	K3G 250-RE07 -07	2,70		X		
R3G 250-RE07 -21	1,90	K3G 250-RE07 -21	2,70			X	
R3G 250-RE07 -22	1,90	K3G 250-RE07 -22	2,70				X

(2) PVC AWG 20, 4x splices
(3) PVC AWG 20, 3x splices
(4) PVC AWG 22, 4x splices
(5) PVC AWG 20, 3x splices
(6) PVC AWG 22, 3x splices
(7) PVC AWG 20, 3x splices
(8) PVC AWG 22, 5x splices

Curves:
Speed-controlled
0-10 V / PWM
PWM
MODBUS-RTU



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓒ 1	2195	80	0,70	71
Ⓒ 2	2070	80	0,70	66
Ⓒ 3	1955	80	0,70	62
Ⓒ 4	2060	80	0,70	68
Ⓓ 1	2385	101	0,86	73
Ⓓ 2	2310	115	1,00	67
Ⓓ 3	2250	115	1,00	65
Ⓓ 4	2320	113	0,96	68
Ⓔ 1	2650	143	1,18	77
Ⓔ 2	2625	170	1,40	71
Ⓔ 3	2510	170	1,40	67
Ⓔ 4	2650	168	1,39	72

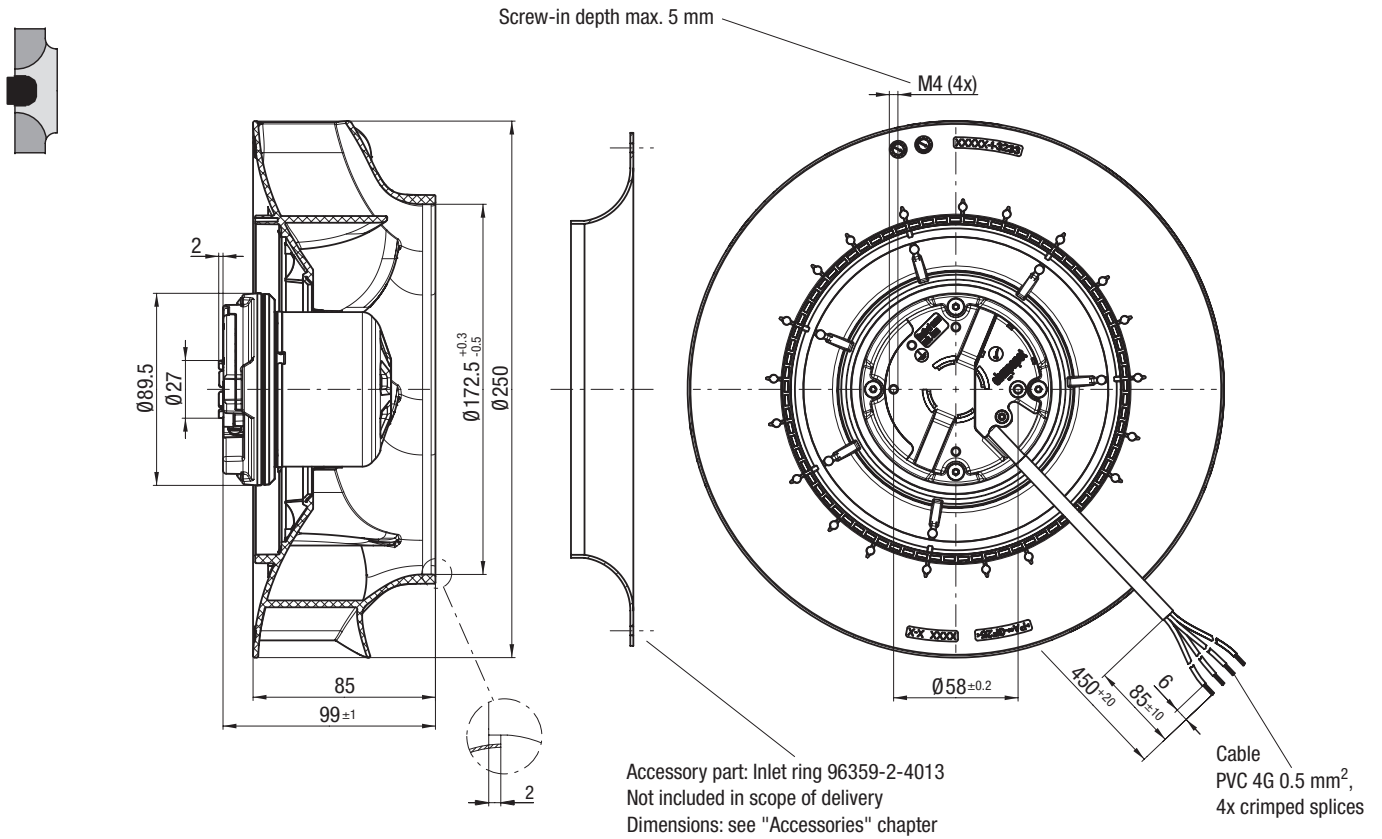
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

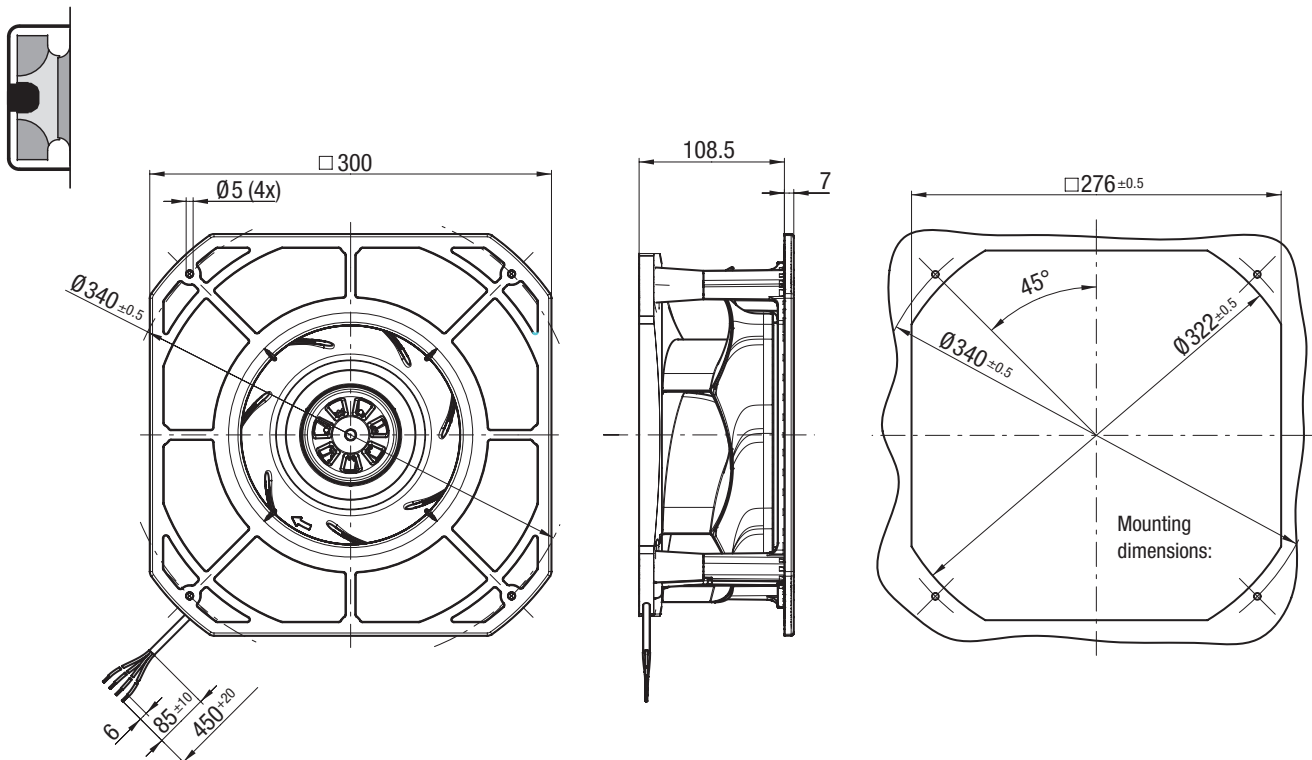
backward curved, Ø 250, 2 Speed stages, 85 W - Electronics



R3G 250-RD17-01 (Centrifugal fan)



K3G 250-RD17-01 (Centrifugal module with support basket)

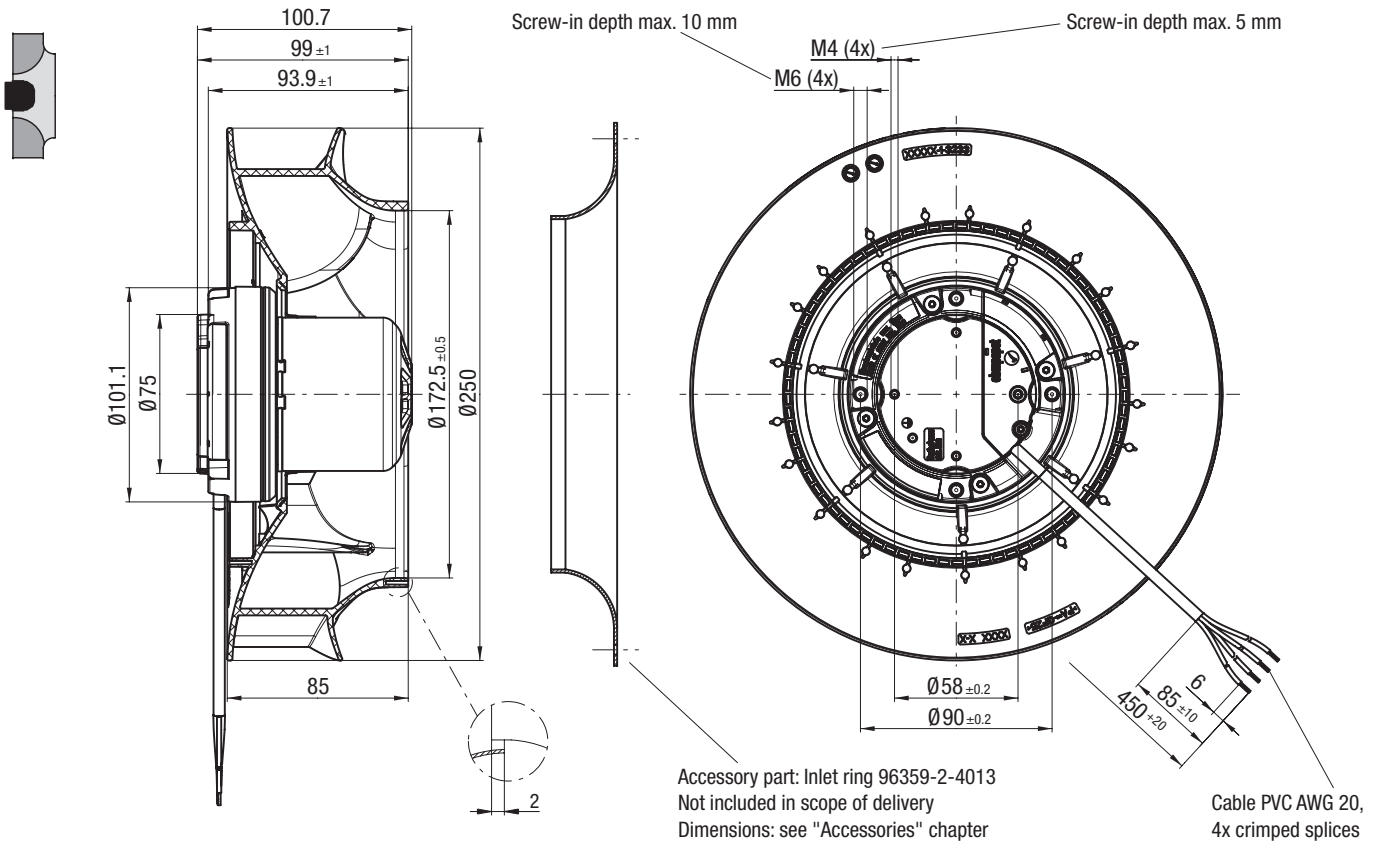


EC centrifugal fans – RadiCal

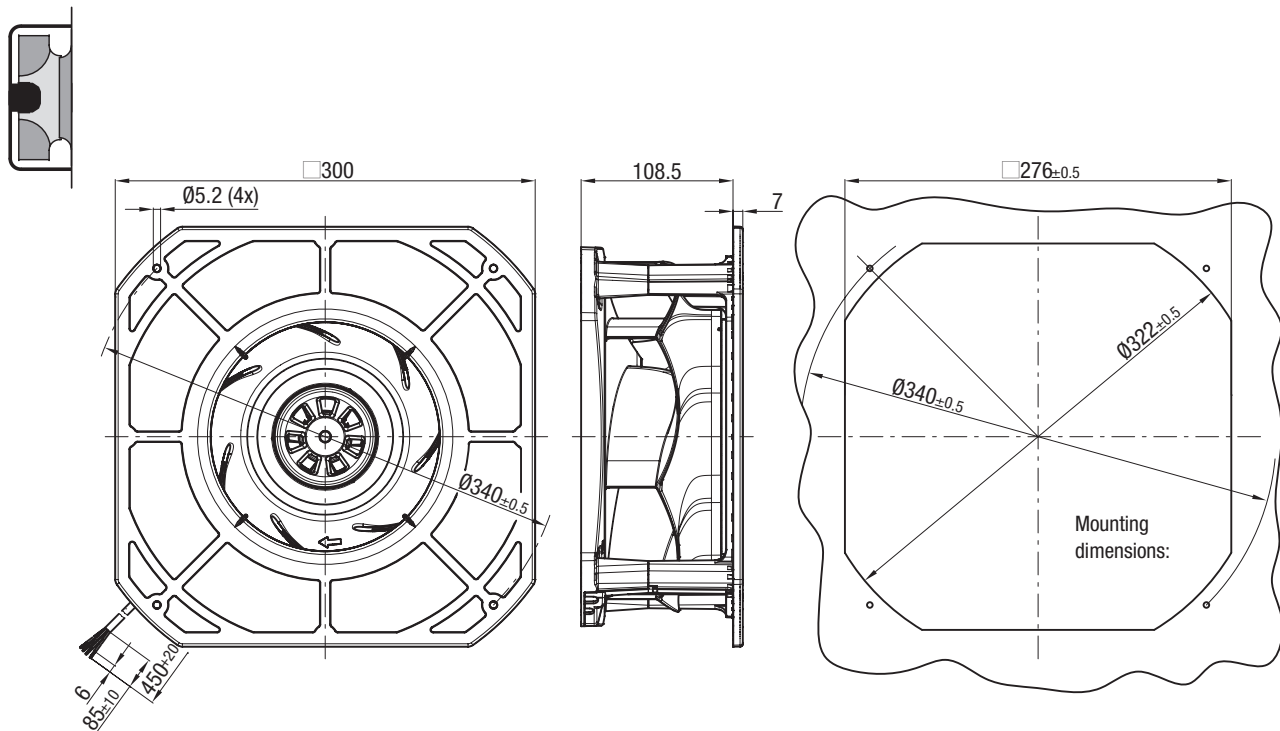
backward curved, Ø 250, 2 Speed stages, 170 W - Electronics



R3G 250-RE07-05 (Centrifugal fan)



K3G 250-RE07-05 (Centrifugal module with support basket)

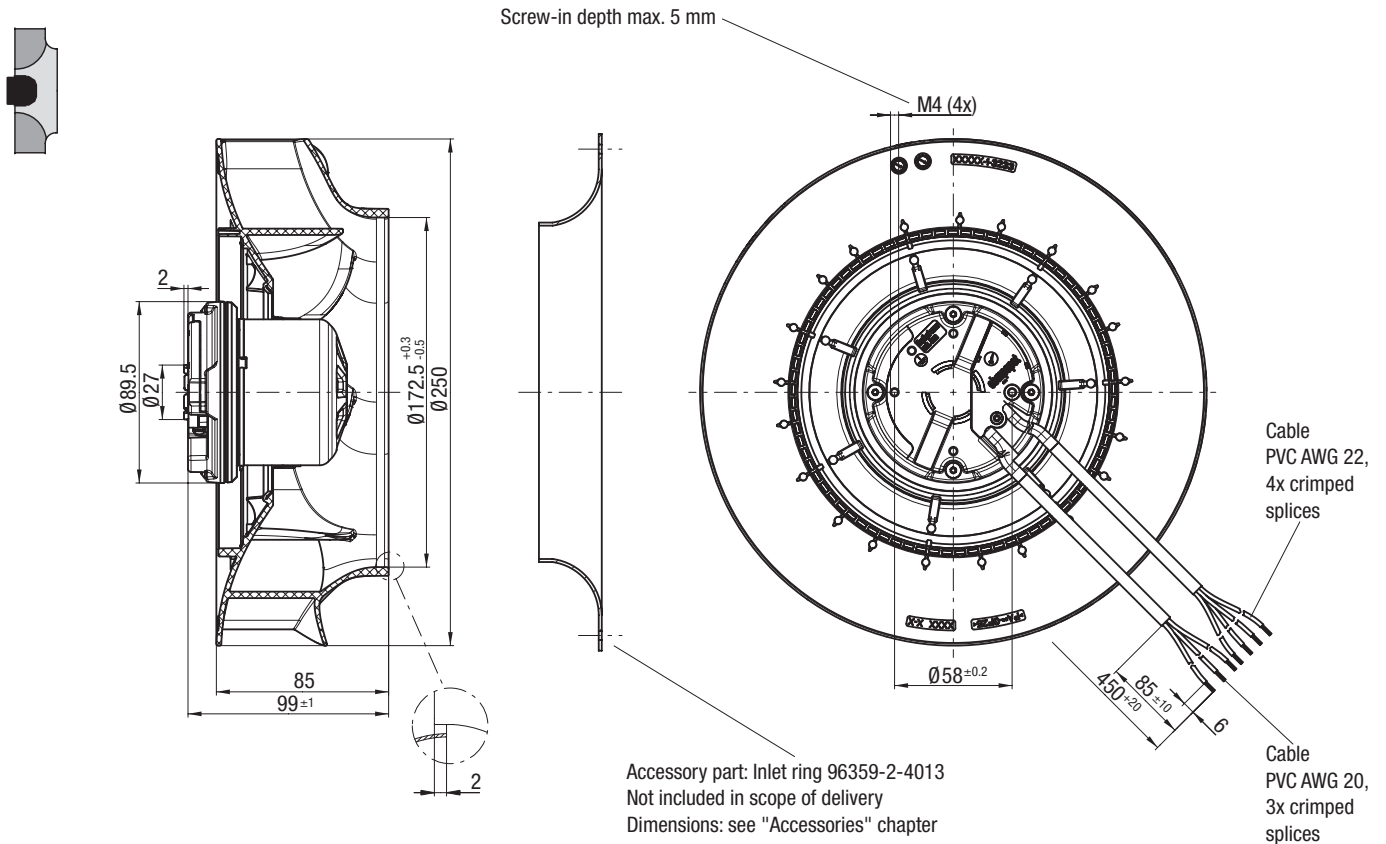


EC centrifugal fans – RadiCal

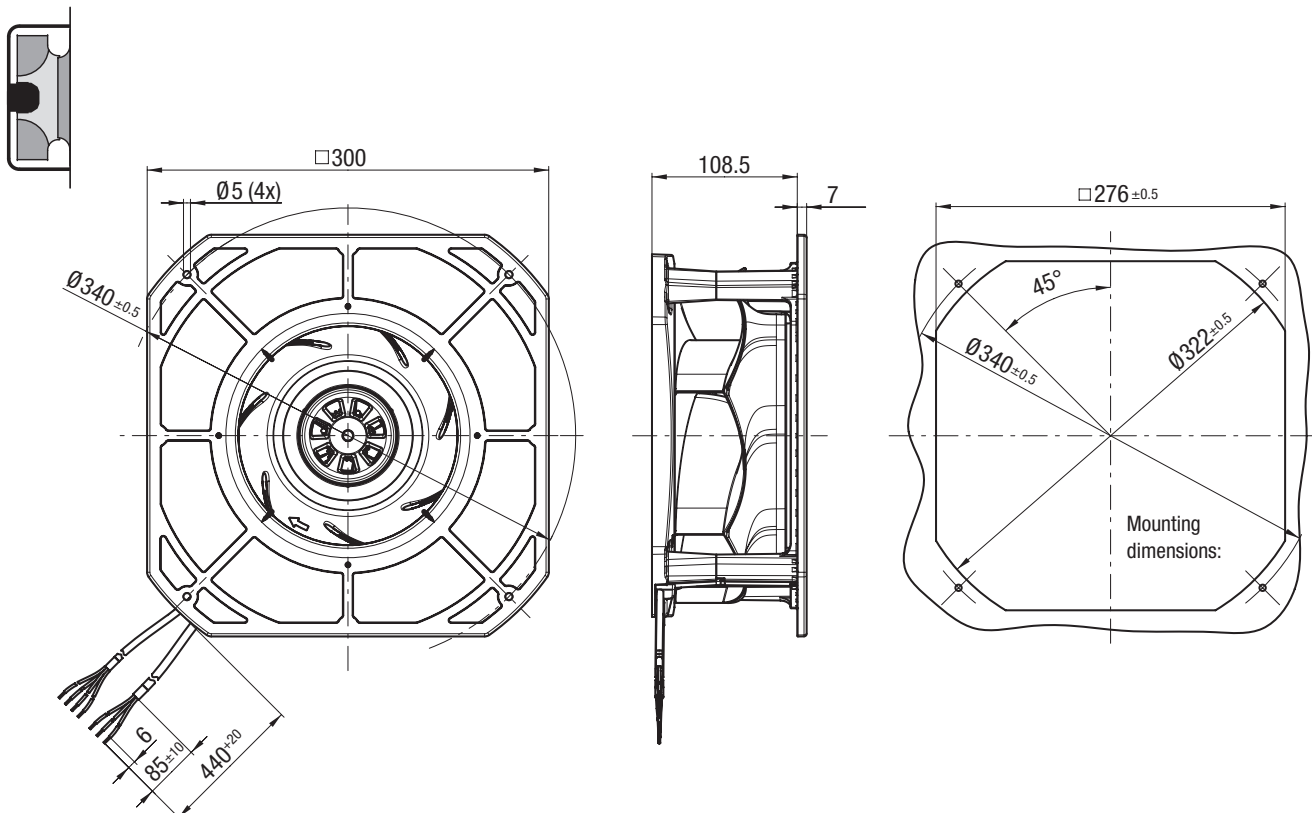
backward curved, Ø 250, Speed-controlled, 85 W - Electronics



R3G 250-RD17-03 / R3G 250-RD17-05 (Centrifugal fan)



K3G 250-RD17-03 / K3G 250-RD17-05 (Centrifugal module with support basket)



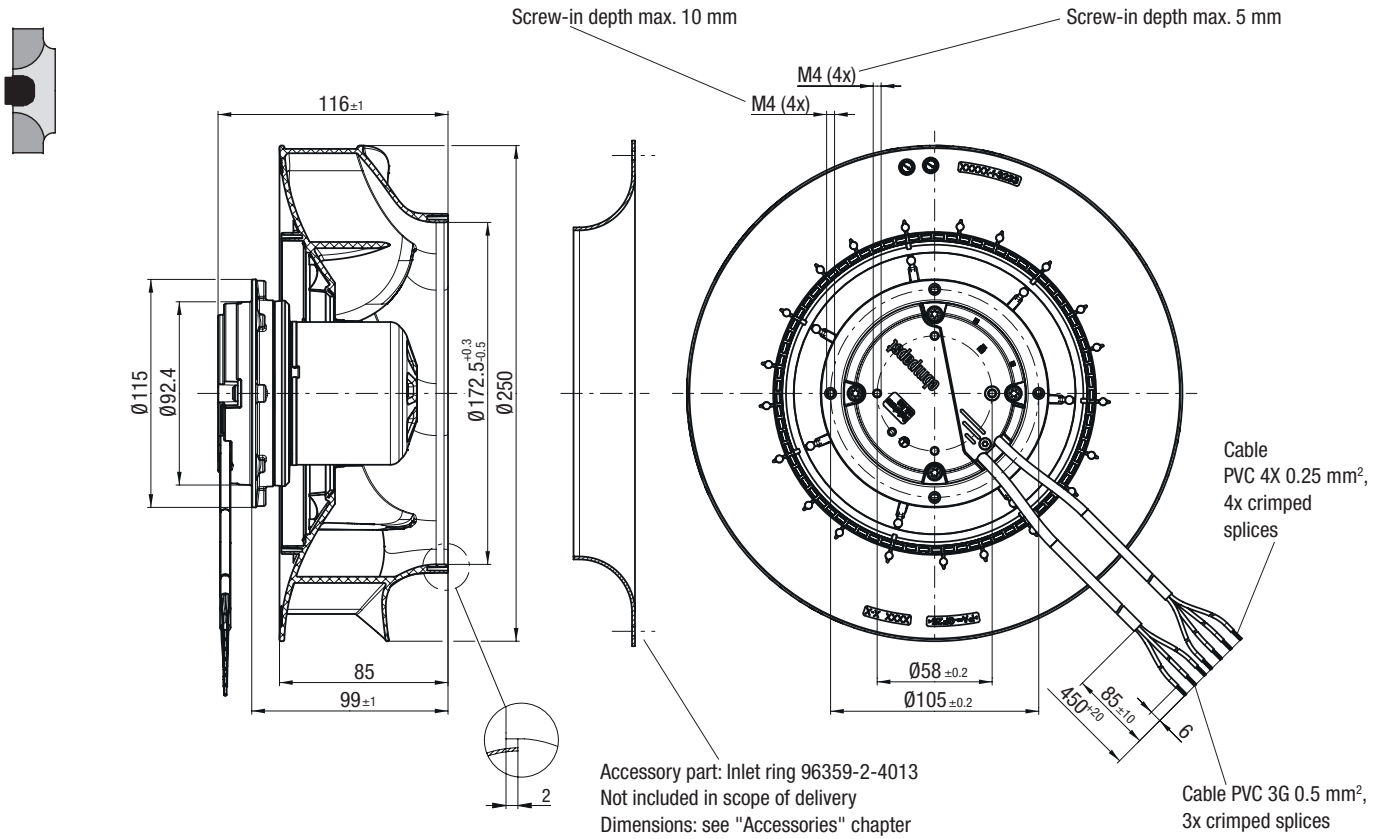
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 61.

EC centrifugal fans – RadiCal

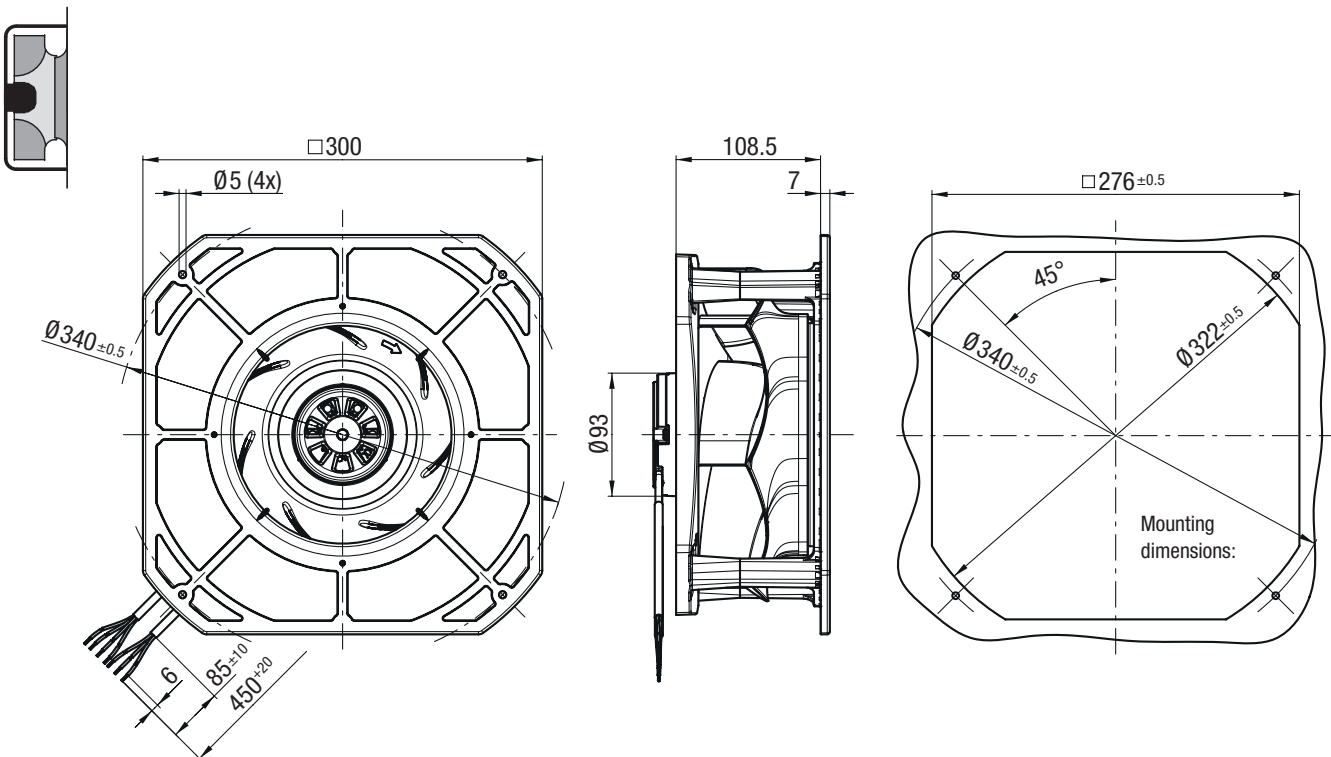
backward curved, Ø 250, Speed-controlled, 115 W - Electronics



R3G 250-RH13-01 / R3G 250-RH13-05 (Centrifugal fan)



K3G 250-RH13-01 / K3G 250-RH13-05 (Centrifugal module with support basket)



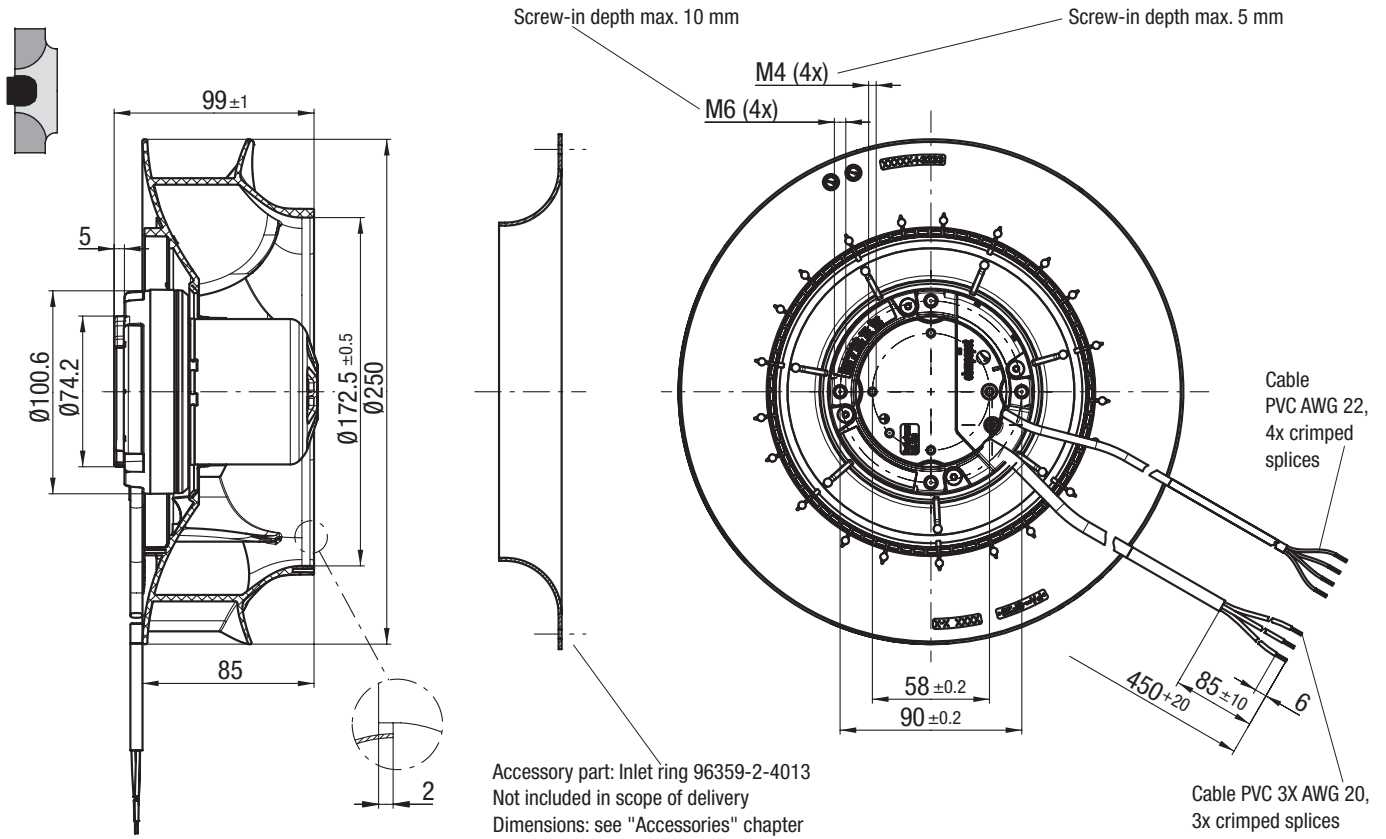
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 61.

EC centrifugal fans – RadiCal

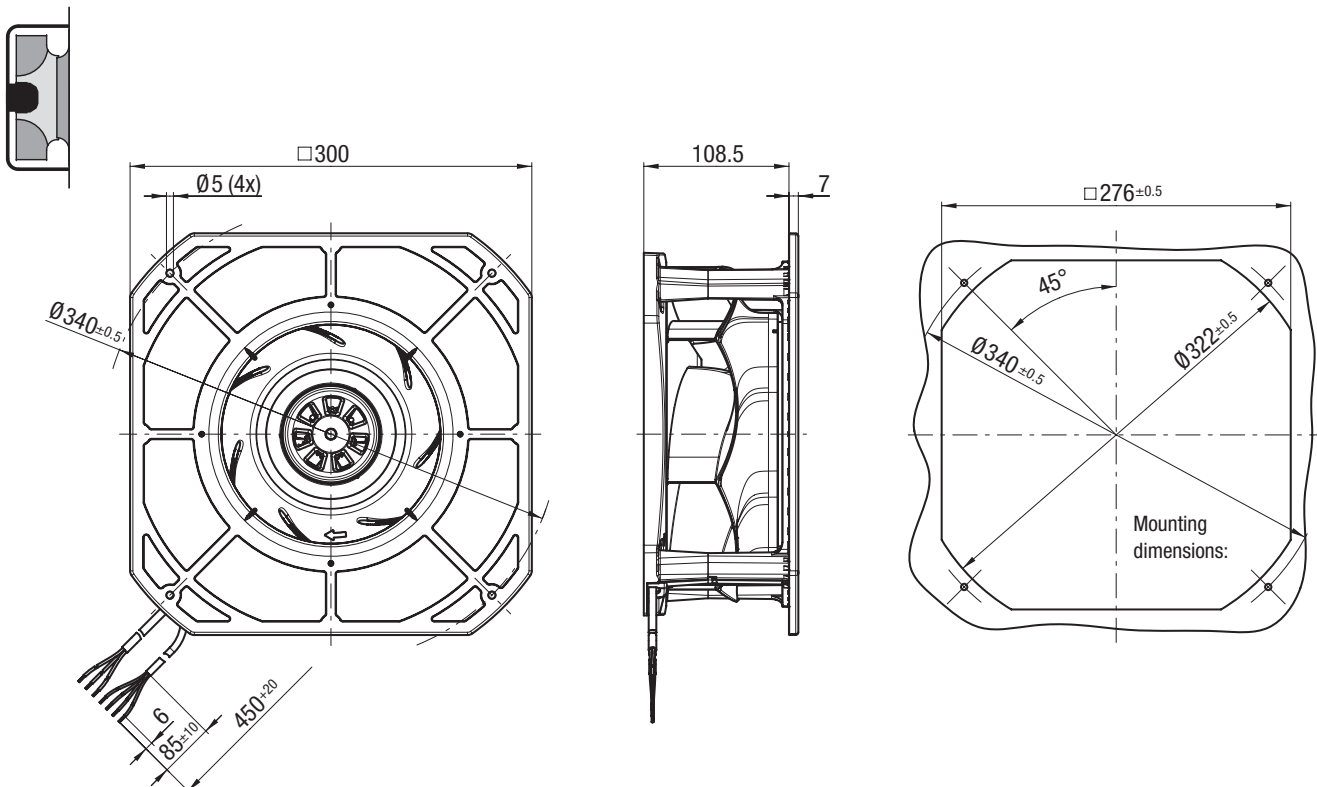
backward curved, Ø 250, Speed-controlled, 170 W - Electronics



R3G 250-RE07-07 / R3G 250-RE07-21 / R3G 250-RE07-22 (Centrifugal fan)



K3G 250-RE07-07 / K3G 250-RE07-21 / K3G 250-RE07-22 (Centrifugal module with support basket)



The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 61.

EC centrifugal fans – RadiCal

backward curved, Ø 175 - Ø 250

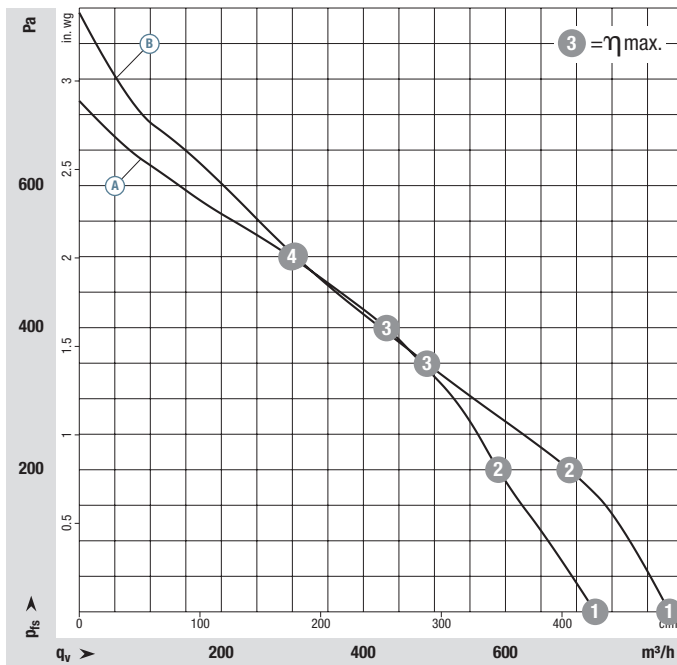


- **Material:** Housing: Plastic
Impeller: Plastic
Rotor: Thick-film passivated
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*1G 175	M1G 055-CF	Ⓐ 1~200-240	50/60	4050	100	0,85	-25..+60	P. 157 / RC13)	
*1G 190	M1G 055-CF	Ⓑ 1~200-240	50/60	3550	100	0,85	-25..+60	P. 157 / RC13)	
*1G 220	M1G 055-CF	Ⓒ 1~200-240	50/60	2700	100	0,80	-25..+60	P. 157 / RC13)	
*1G 225	M1G 055-DF	Ⓓ 1~200-240	50/60	2450	100	0,90	-25..+60	P. 157 / RC13)	
*1G 250	M1G 055-DF	Ⓔ 1~200-240	50/60	2150	100	0,85	-25..+60	P. 157 / RC13)	

Subject to change (1) Nominal data at operating point with maximum load and 230 VAC.

Curves:
Speed-controlled PWM



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	4220	93	0,78	75
Ⓐ ②	4120	100	0,83	72
Ⓐ ③	4050	100	0,85	71
Ⓐ ④	4115	100	0,84	74
Ⓑ ①	3890	100	0,85	77
Ⓑ ②	3770	100	0,85	72
Ⓑ ③	3550	100	0,85	69
Ⓑ ④	3645	100	0,85	72

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

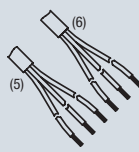
- **Technical features:** See connection diagram P. 157
- **EMC:** Interference emission according to EN 61000-6-3 (household environment)
Immunity to interference according to EN 61000-6-2 (industrial environment)
Circuit feedback according to EN 61000-3-2/3
- **Touch current:** <= 3,5 mA
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011



Weight
Centrifugal fan



Weight
Centrifugal module
w. support basket

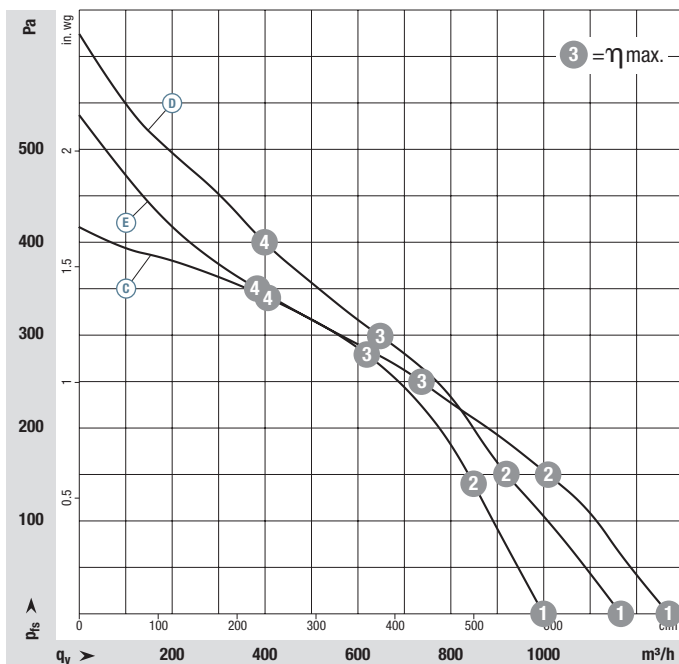


Cables

Centrifugal fan	kg	Centrifugal module w. support basket	kg	Speed-controlled PWM
R1G 175-RF04 -01	1,25	K1G 175-RF04 -01	1,45	X
R1G 190-RF04 -01	1,30	K1G 190-RF04 -01	1,65	X
R1G 220-RF01 -01	1,35	K1G 220-RF01 -01	1,95	X
R1G 225-RG04 -01	1,65	K1G 225-RG04 -01	2,25	X
R1G 250-RG01 -01	1,70	K1G 250-RG01 -01	2,50	X

(5) PVC AWG 20, 3x splices
(6) PVC AWG 22, 3x splices

Curves:
Speed-controlled PWM



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
ⓐ ①	2700	71	0,61	70
ⓐ ②	2700	86	0,73	67
ⓐ ③	2700	100	0,80	67
ⓐ ④	2700	91	0,77	68
ⓓ ①	2655	100	0,90	74
ⓓ ②	2460	100	0,90	69
ⓓ ③	2450	100	0,90	67
ⓓ ④	2590	100	0,90	70
ⓔ ①	2290	88	0,74	78
ⓔ ②	2180	97	0,81	71
ⓔ ③	2150	100	0,85	68
ⓔ ④	2200	95	0,80	69

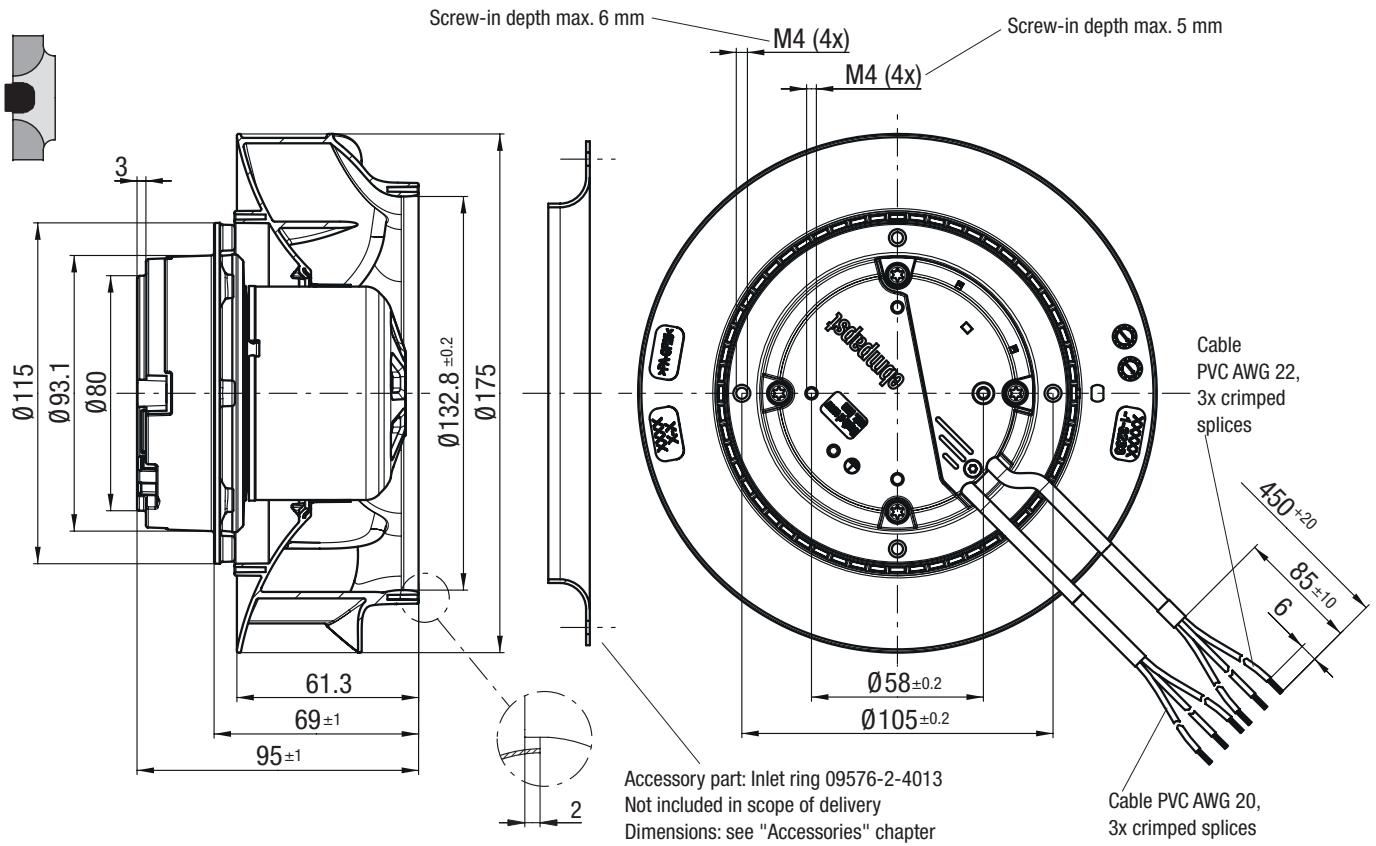
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

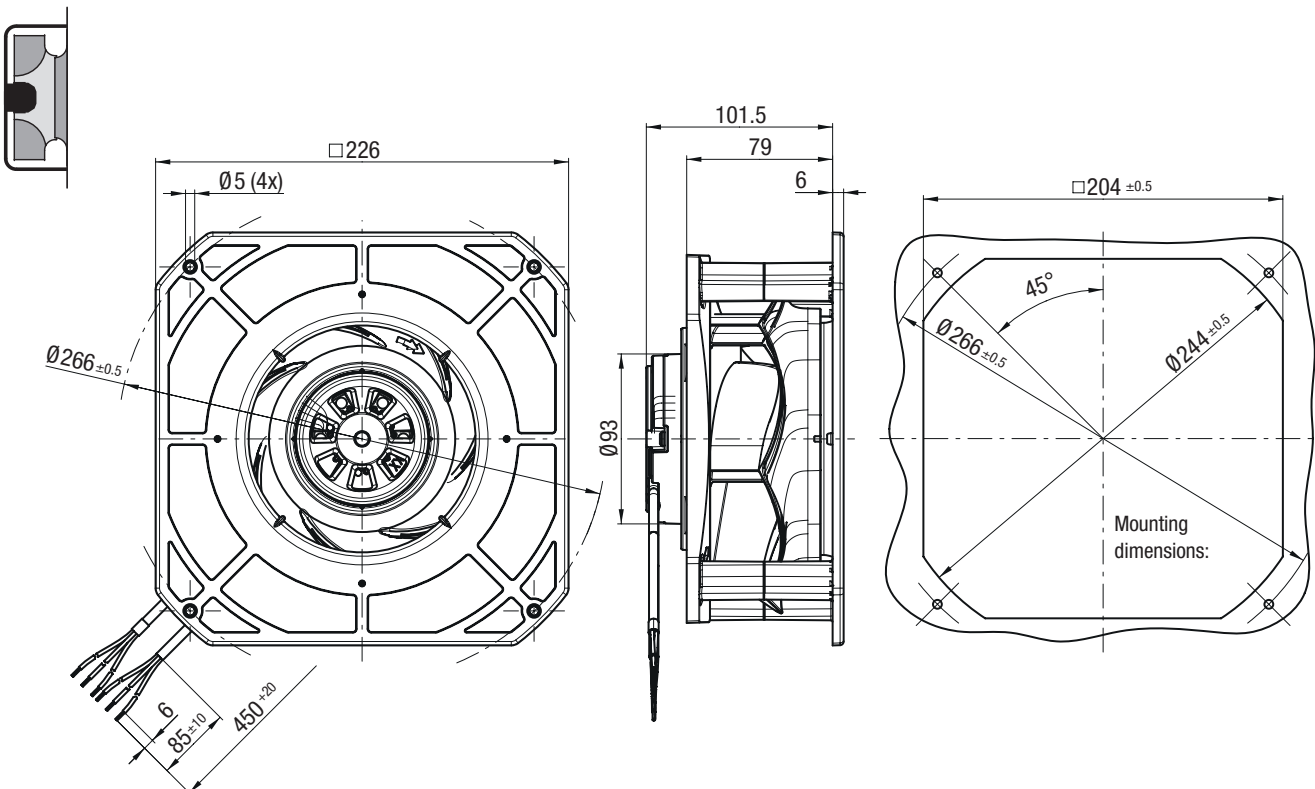
backward curved, Ø 175, Speed-controlled, 100 W - Electronics



R1G 175-RF04-01 (Centrifugal fan)



K1G 175-RF04-01 (Centrifugal module with support basket)

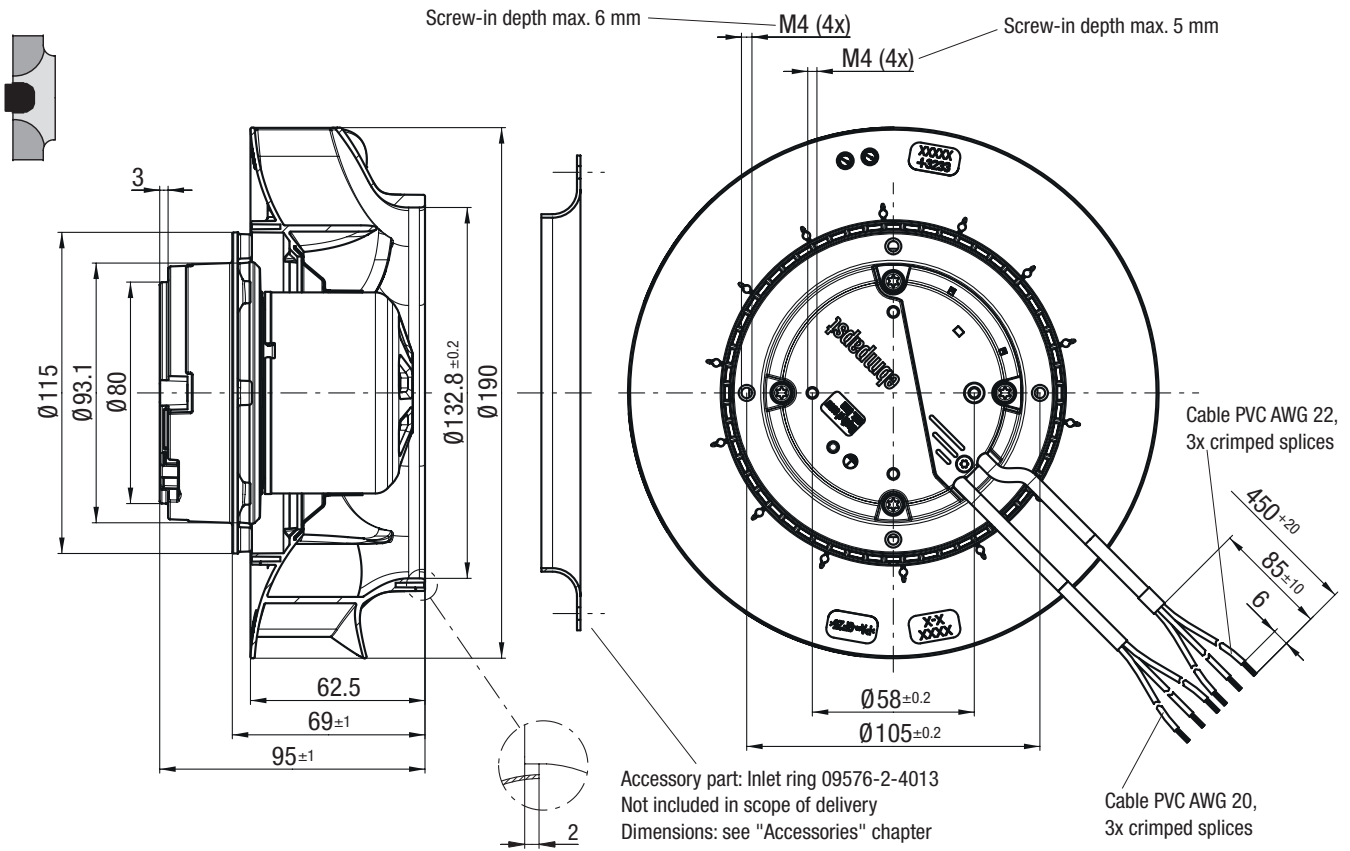


EC centrifugal fans – RadiCal

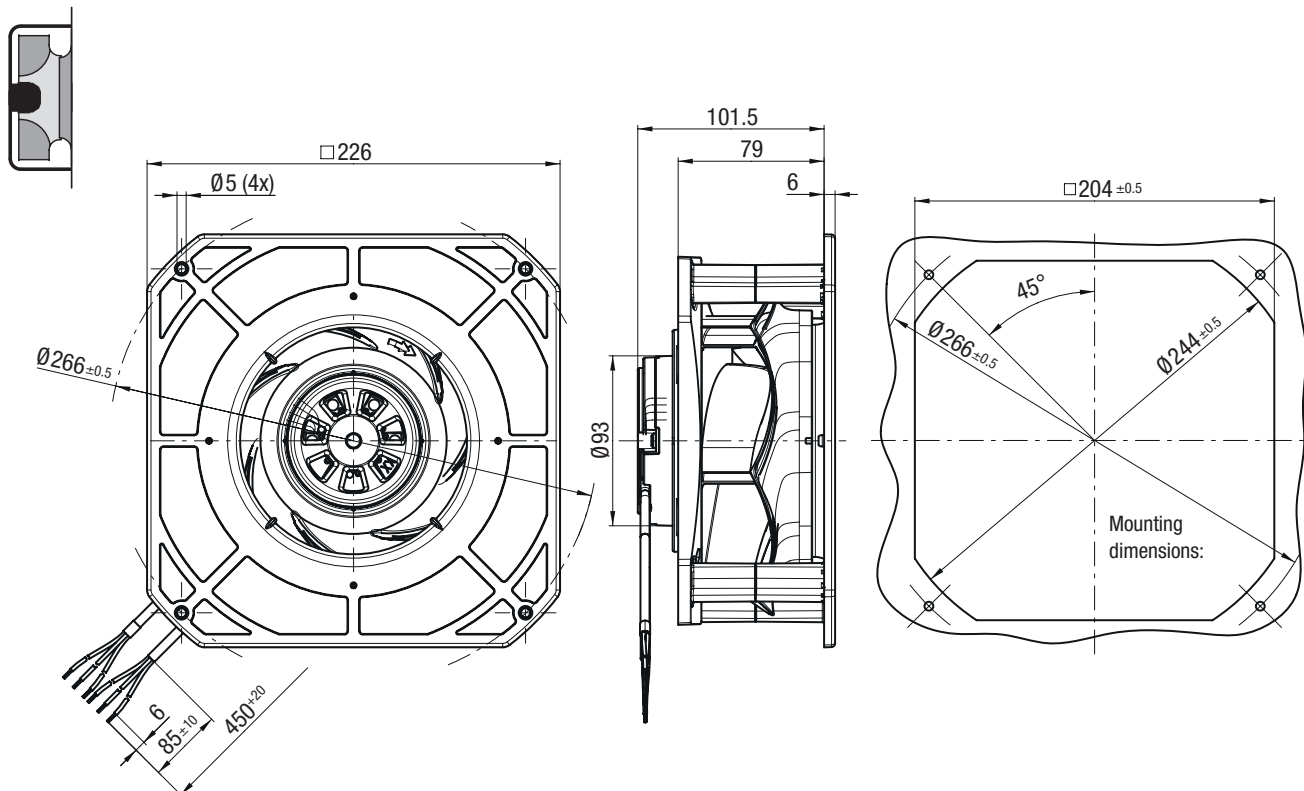
backward curved, Ø 190, Speed-controlled, 100 W - Electronics



R1G 190-RF04-01 (Centrifugal fan)



K1G 190-RF04-01 (Centrifugal module with support basket)

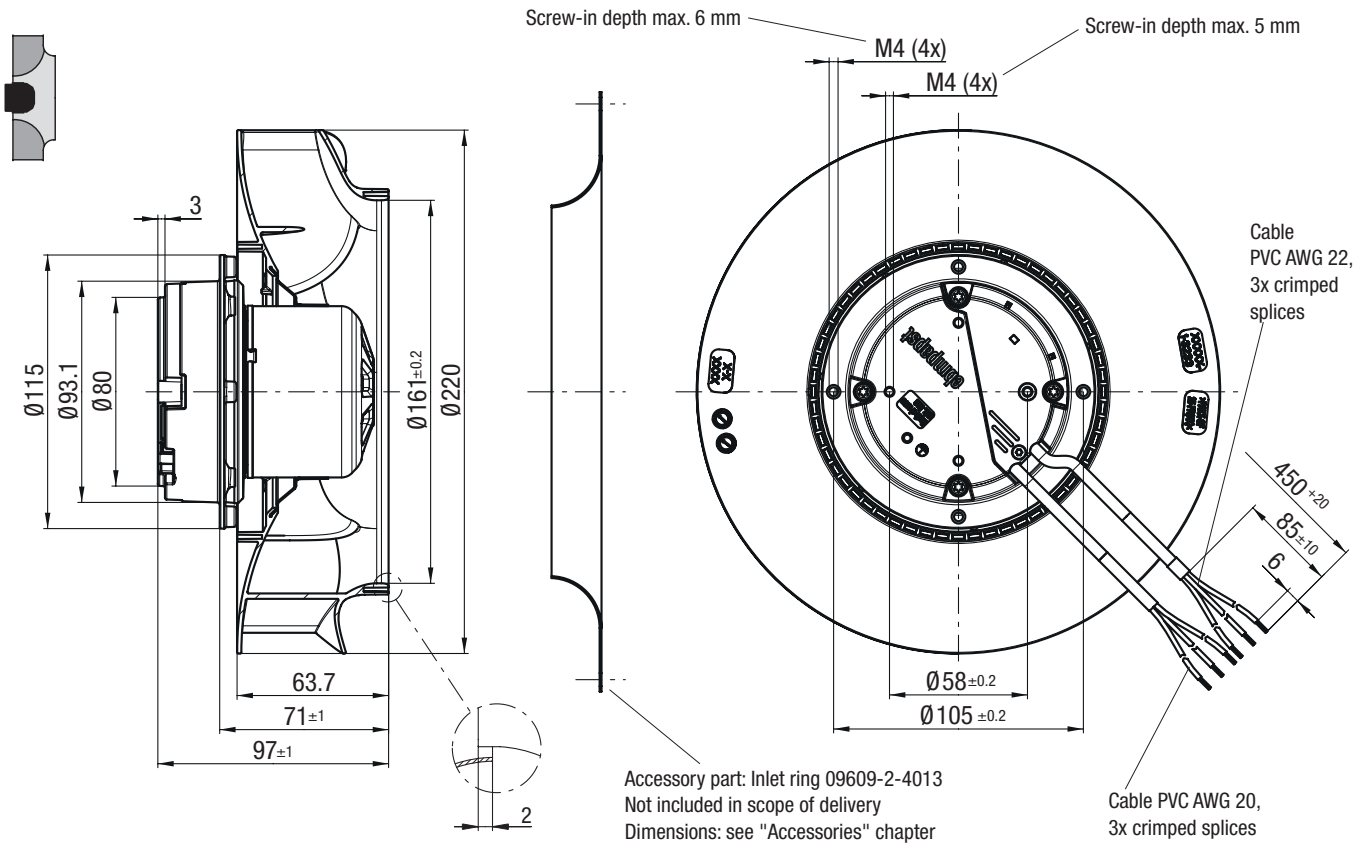


EC centrifugal fans – RadiCal

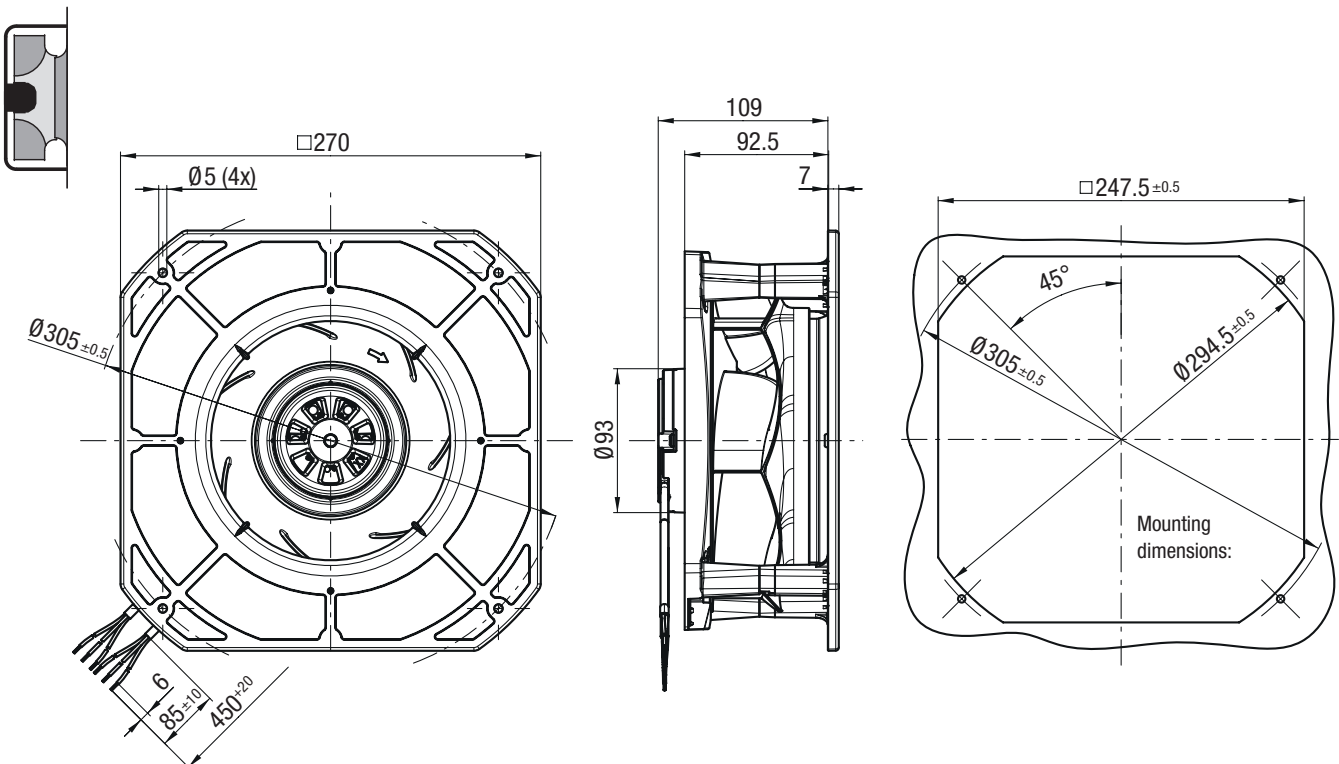
backward curved, Ø 220, Speed-controlled, 100 W - Electronics



R1G 220-RF01-01 (Centrifugal fan)



K1G 220-RF01-01 (Centrifugal module with support basket)

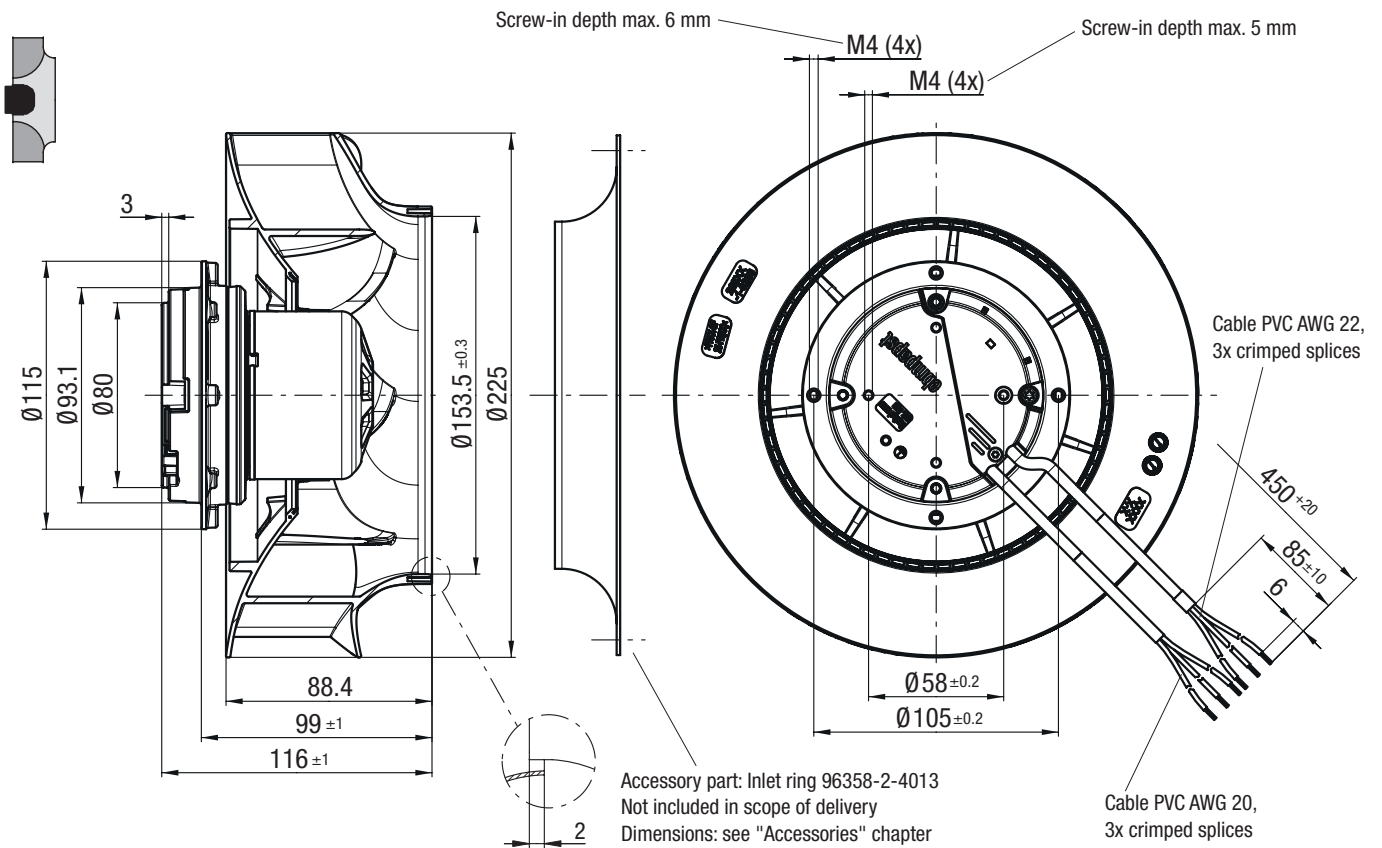


EC centrifugal fans – RadiCal

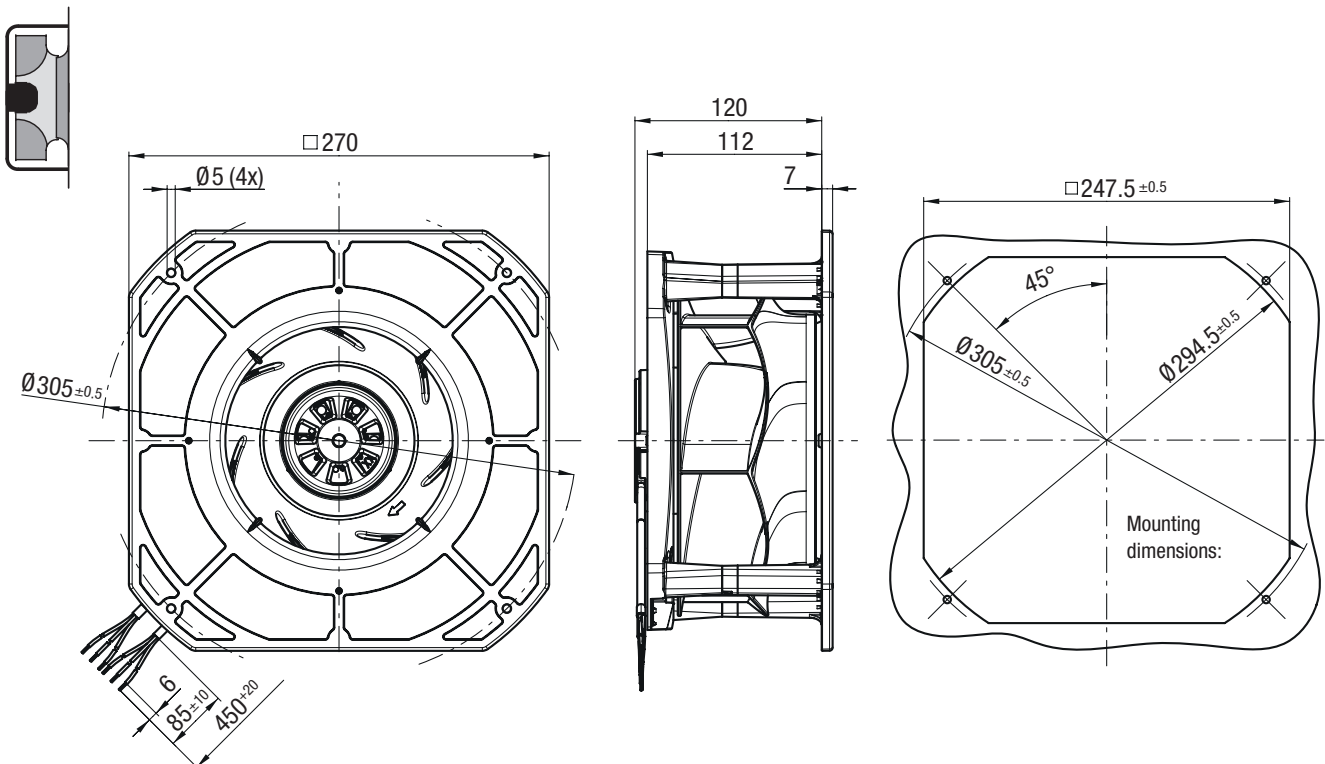
backward curved, Ø 225, Speed-controlled, 100 W - Electronics



R1G 225-RG04-01 (Centrifugal fan)



K1G 225-RG04-01 (Centrifugal module with support basket)

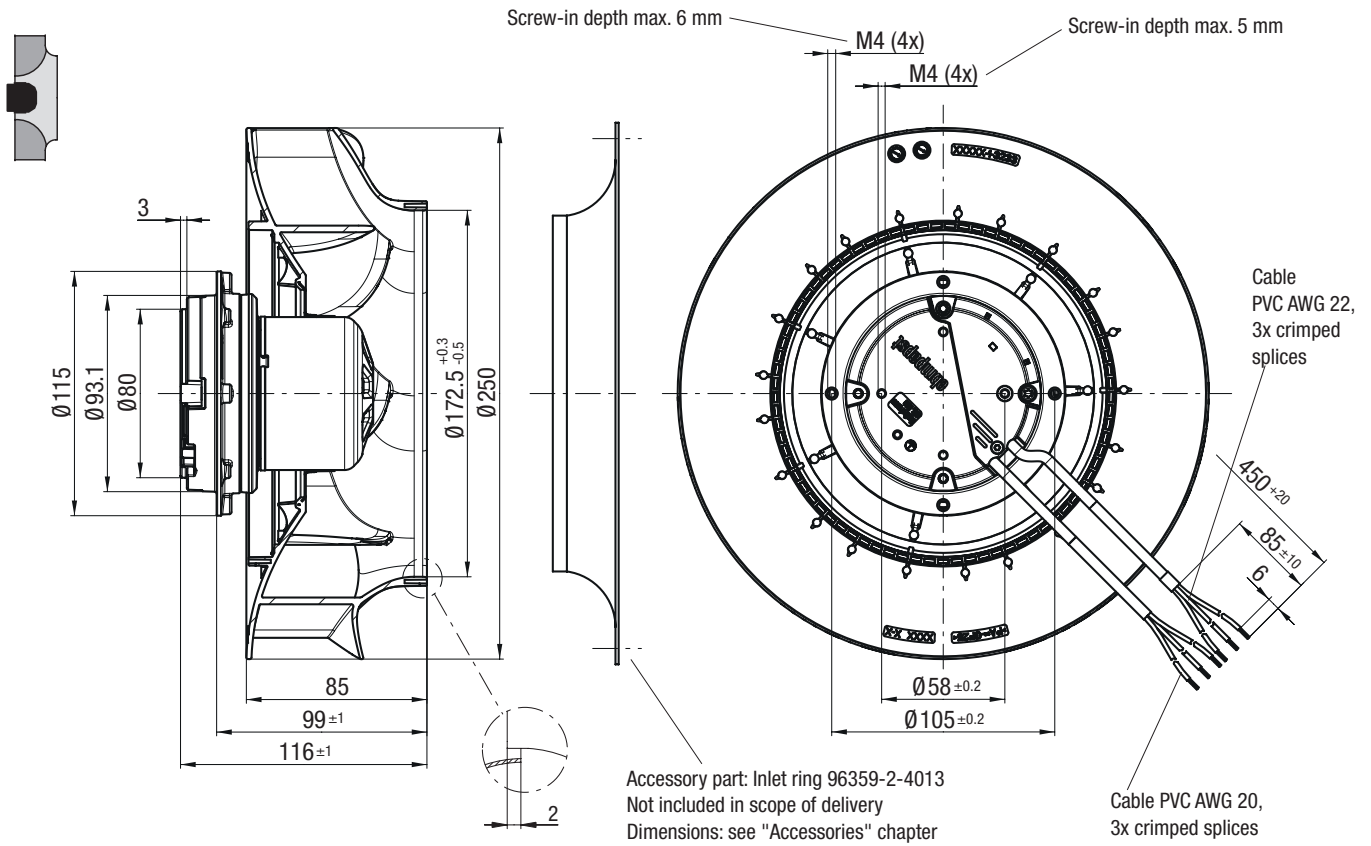


EC centrifugal fans – RadiCal

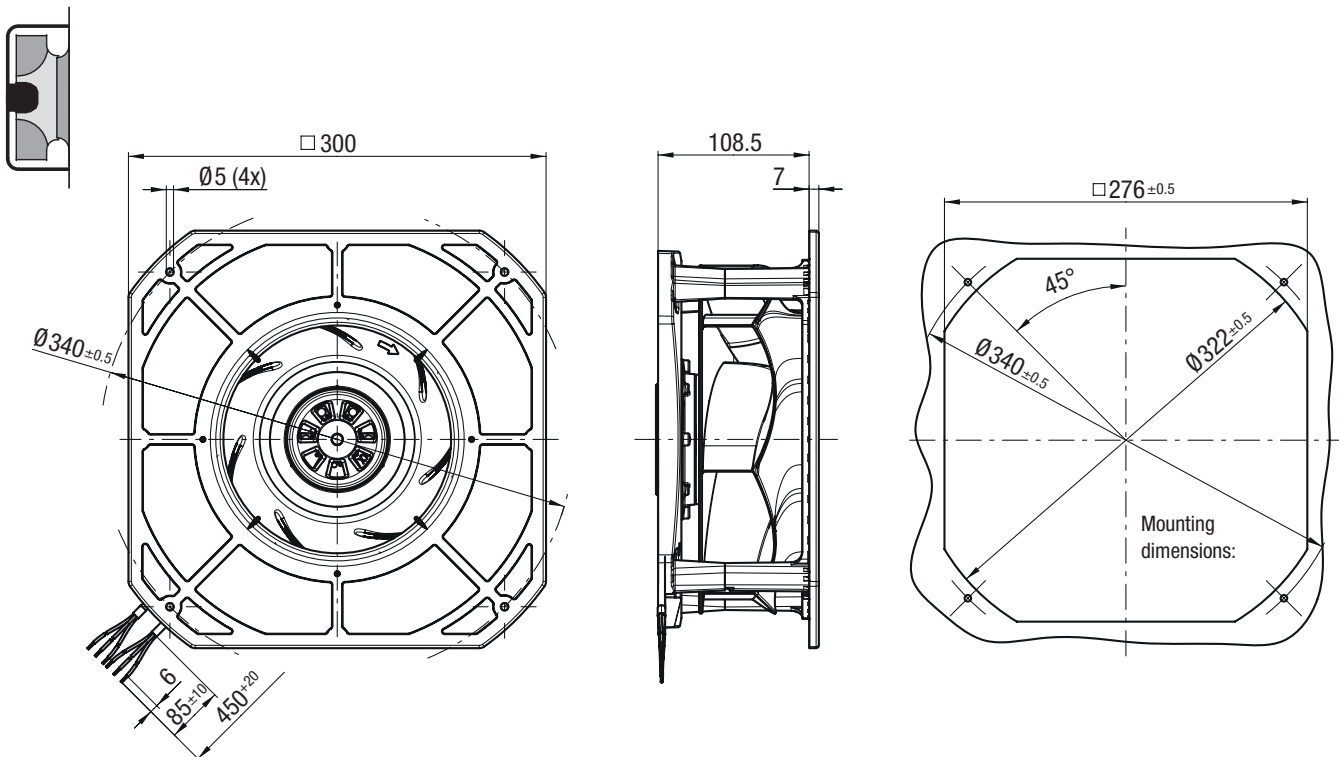
backward curved, Ø 250, Speed-controlled, 100 W - Electronics



R1G 250-RG01-01 (Centrifugal fan)



K1G 250-RG01-01 (Centrifugal module with support basket)



EC centrifugal fans – RadiCal

backward curved, Ø 250



- **Material:** Support bracket: Steel, painted black
Support plate and inlet ring: Sheet steel, galvanized
Impeller: Plastic
Rotor: Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55
- **Insulation class:** "F"
- **Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

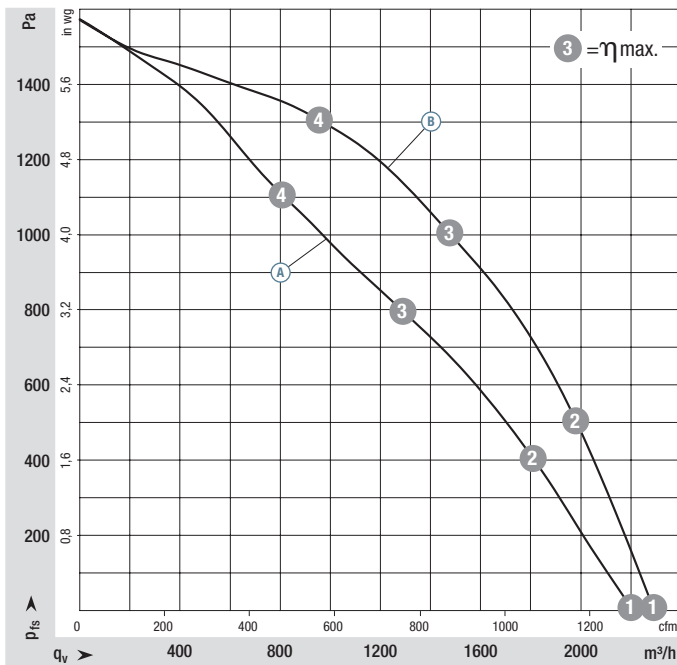
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 250	M3G 084-DF	Ⓐ 1~200-277	50/60	3740	500	2,20	-25..+60	P. 147 / RC4)	
*3G 250	M3G 084-DF	Ⓑ 1~200-277	50/60	4250	750	3,30	-25..+60	P. 147 / RC4)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves:



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ 1	4100	500	2,20	89
Ⓐ 2	3865	500	2,20	83
Ⓐ 3	3740	500	2,20	78
Ⓐ 4	3890	500	2,20	85
Ⓑ 1	4250	586	2,61	90
Ⓑ 2	4250	691	3,04	86
Ⓑ 3	4250	750	3,30	81
Ⓑ 4	4250	663	2,92	85

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

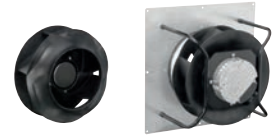
- **Technical features:** See connection diagram P. 147
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, EN 61800-5-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Weight
Centrifugal fanWeight Centrifugal
module with
support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 250-RR01 -H1	3,90	K3G 250-RR01 -H2	7,90
R3G 250-RR02 -I1	4,40	K3G 250-RR02 -I2	8,50

EC centrifugal fans – RadiCal

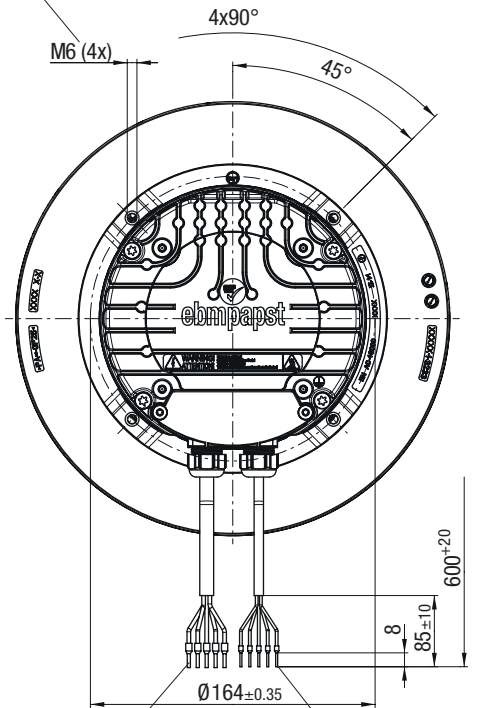
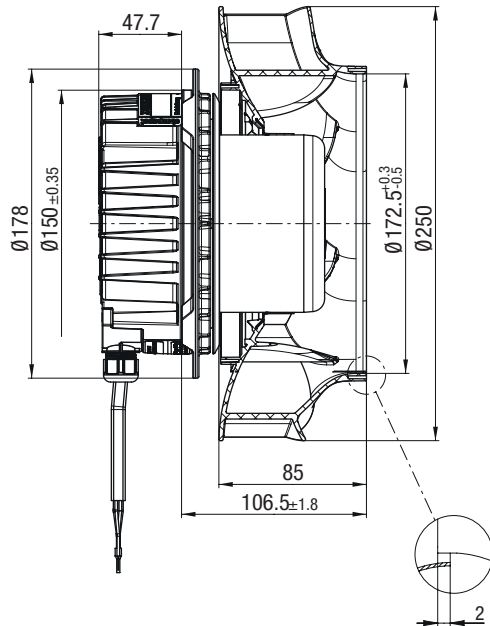
backward curved, Ø 250



R3G 250-RR01-H1 (Centrifugal fan)

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

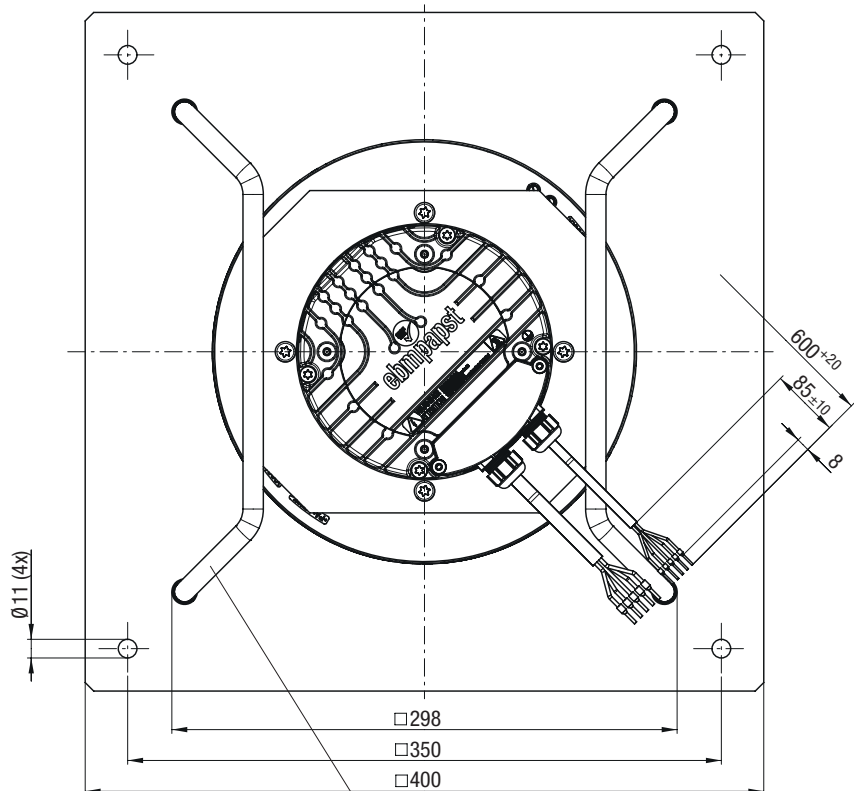
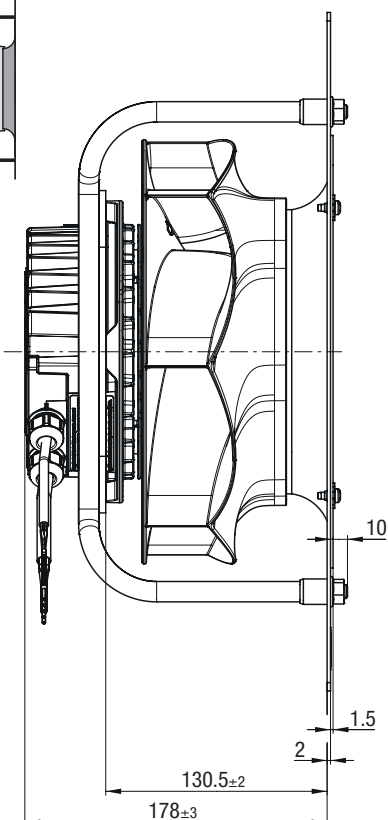
Screw-in depth max. 16 mm



Cable AWG 18,
5x crimped ferrules

Cable AWG 22,
5x crimped ferrules

K3G 250-RR01-H2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

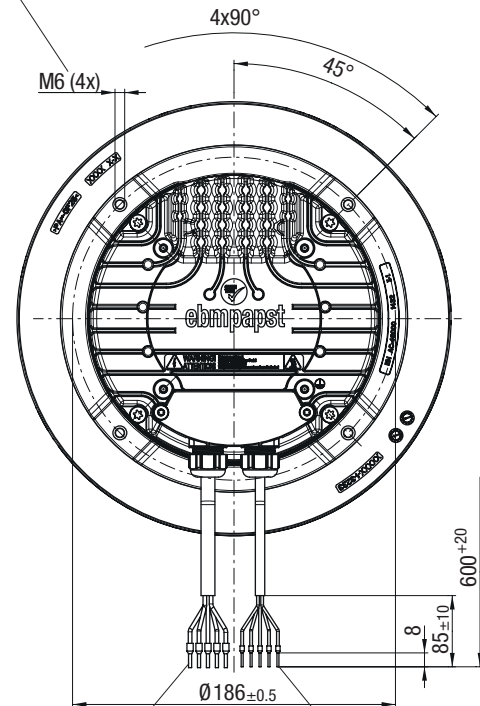
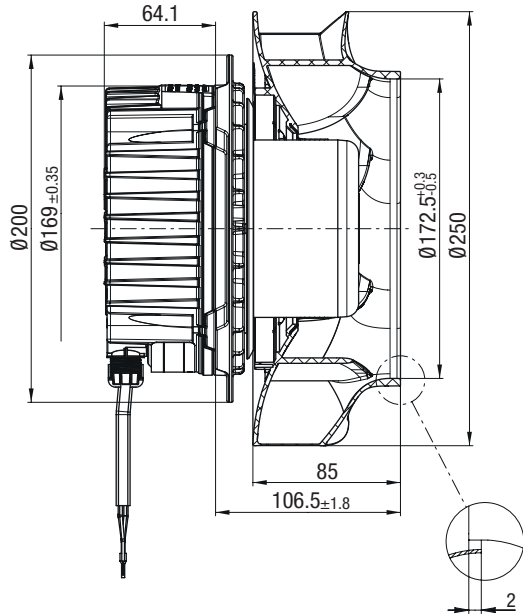
backward curved, Ø 250



R3G 250-RR02-I1 (Centrifugal fan)

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

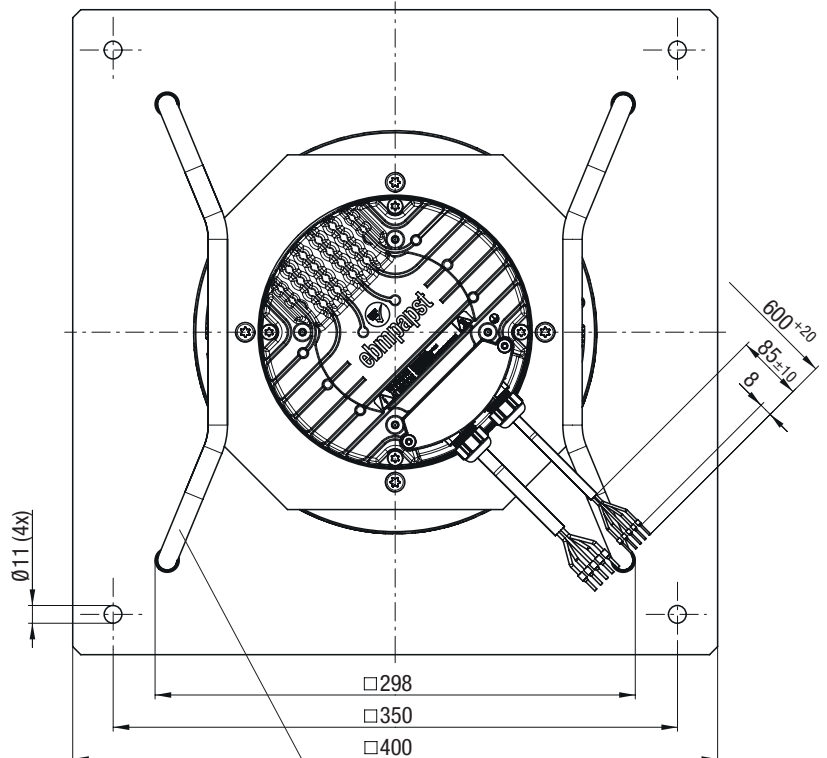
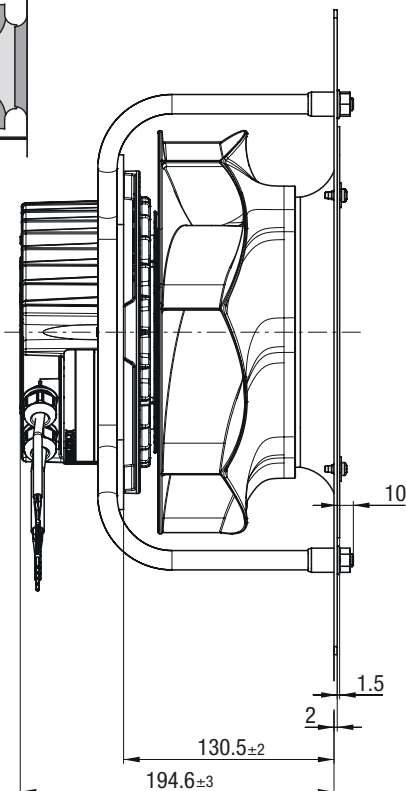
Screw-in depth max. 16 mm



Cable AWG 18,
5x crimped ferrules

Cable AWG 22,
5x crimped ferrules

K3G 250-RR02-I2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

backward curved, Ø 280



- **Material:** Support bracket: Steel, painted black
Support plate and inlet ring: Sheet steel, galvanized
Impeller: Plastic
Rotor: (A) Surface passivated, (B) (C) Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** (A) IP 54, (B) (C) IP 55
- **Insulation class:** (A) "B", (B) (C) "F"
- **Installation position:** (A) Any
(B) (C) Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** (A) None, open rotor, (B) (C) Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

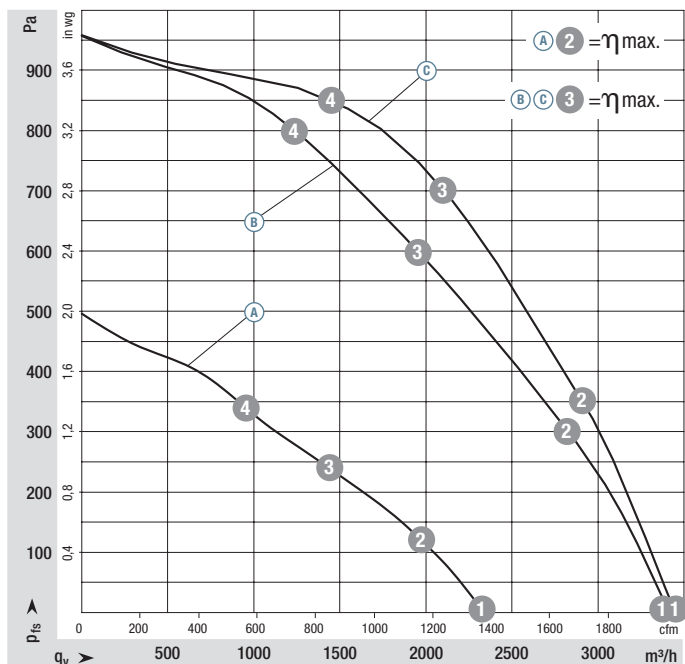
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 280	M3G 074-CF	(A) 1~200-240	50/60	1910	168	1,40	-25..+60	P. 146 / RC3)	
*3G 280	M3G 084-DF	(B) 1~200-277	50/60	2700	500	2,20	-25..+60	P. 147 / RC4)	
*3G 280	M3G 084-DF	(C) 1~200-277	50/60	2900	660	2,90	-25..+60	P. 147 / RC4)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves:



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
(A) 1	1980	152	1,05	75
(A) 2	1910	168	1,40	69
(A) 3	1775	165	1,30	63
(A) 4	1860	166	1,30	64
(B) 1	2885	460	2,01	85
(B) 2	2795	500	2,20	80
(B) 3	2700	500	2,20	73
(B) 4	2840	500	2,20	79
(C) 1	2900	487	2,18	86
(C) 2	2900	604	2,67	81
(C) 3	2900	660	2,90	76
(C) 4	2900	571	2,53	81

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 146 f.
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
 - Ⓐ On account of the installation conditions, ferritic damping in the connection line may be required for the application.
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** Ⓐ EN 60335-1, CE; Ⓑ Ⓒ EN 60335-1, EN 61800-5-1, CE
- **Approvals:** Ⓐ VDE, CURUS on request; Ⓑ Ⓒ VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Weight
Centrifugal fanWeight Centrifugal
module with
support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 280-RB02 -03	2,70	K3G 280-RB02 -03	6,80
R3G 280-RR03 -H1	4,20	K3G 280-RR03 -H2	8,30
R3G 280-RR04 -I1	4,60	K3G 280-RR04 -I2	8,80

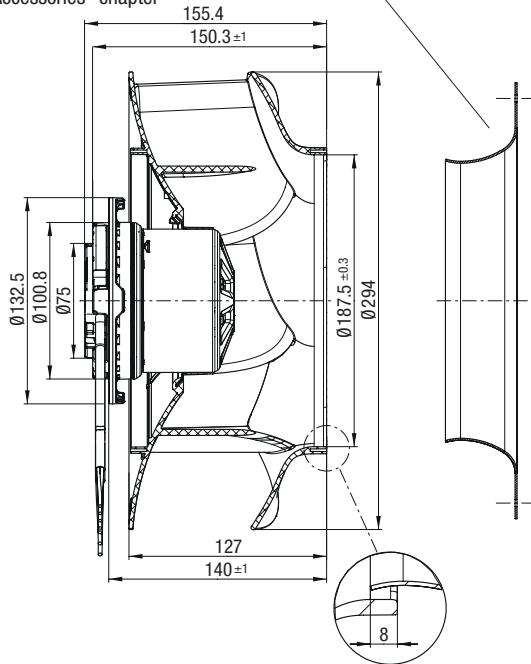
EC centrifugal fans – RadiCal

backward curved, Ø 280

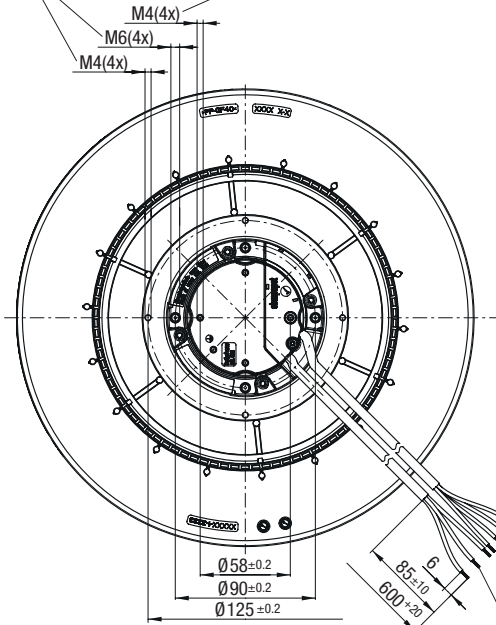


R3G 280-RB02-03 (Centrifugal fan)

Accessory part: Inlet ring 28000-2-4013
Not included in scope of delivery. Dimensions: see "Accessories" chapter



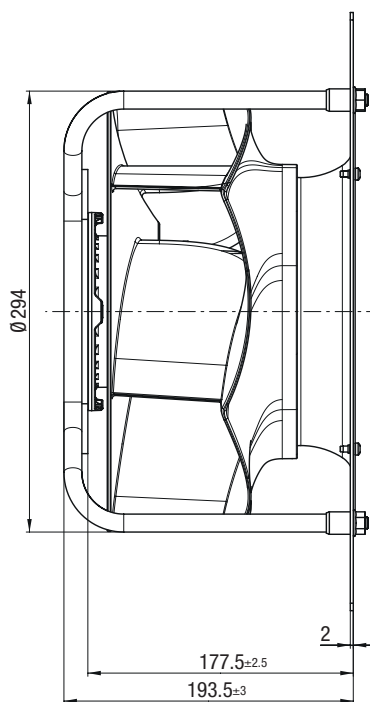
Screw-in depth max. 10 mm Screw-in depth max. 5 mm



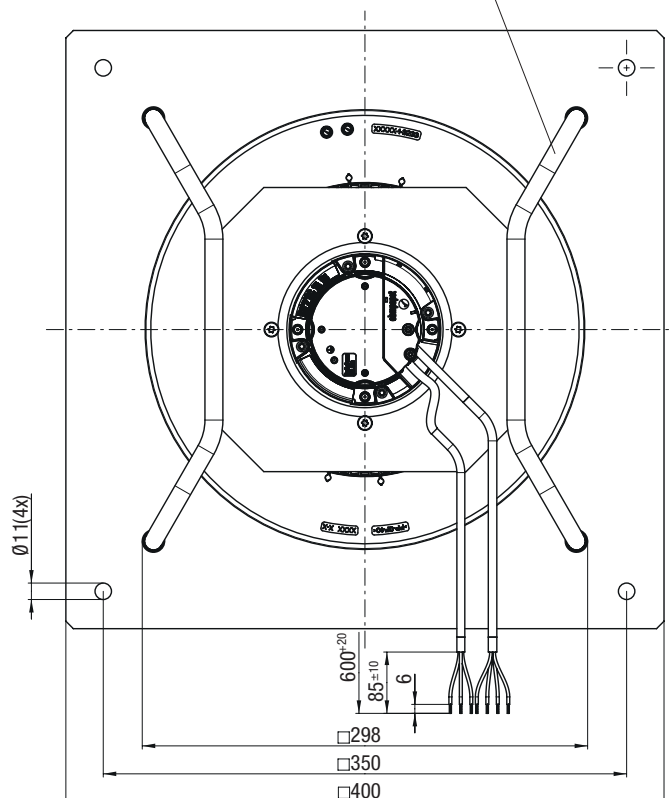
Cable AWG 20,
3x crimped splices

Cable AWG 22,
4x crimped splices

K3G 280-RB02-03 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

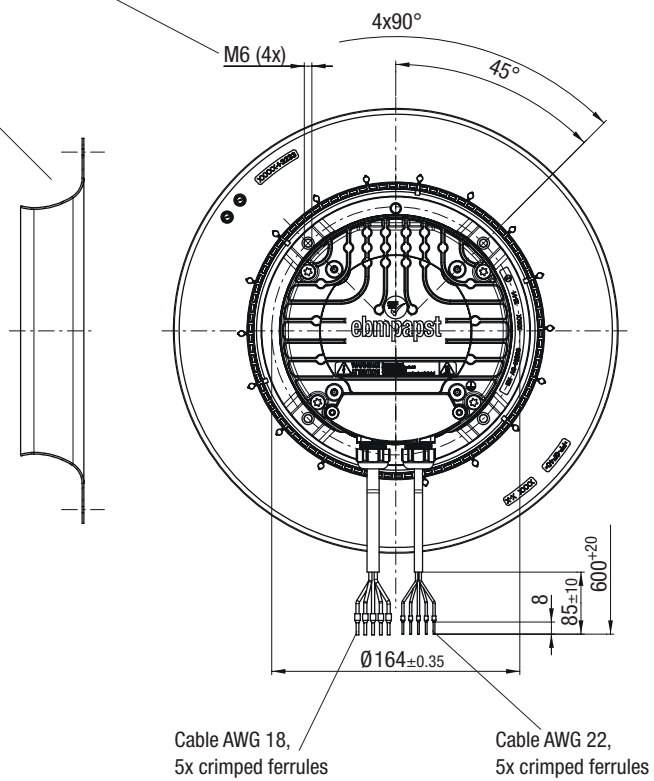
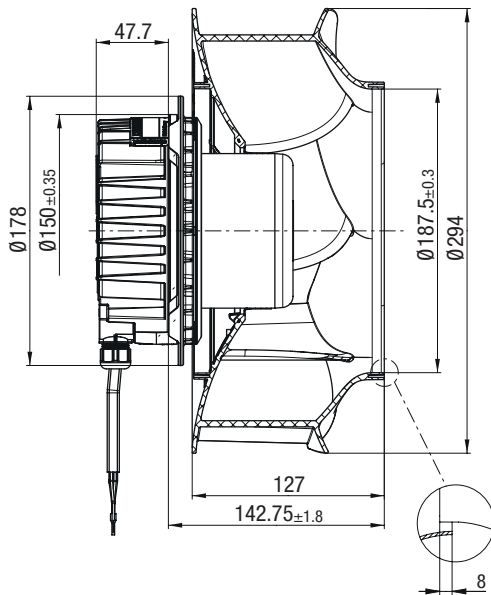
backward curved, Ø 280



R3G 280-RR03-H1 (Centrifugal fan)

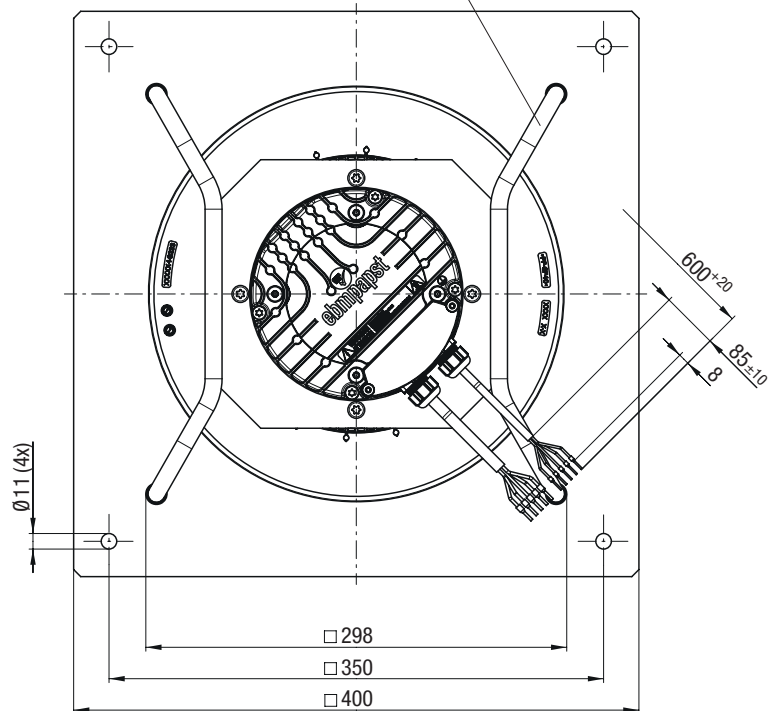
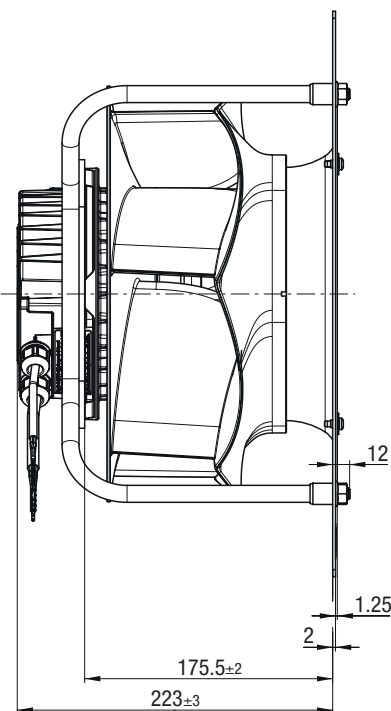
Accessory part: Inlet ring 28000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



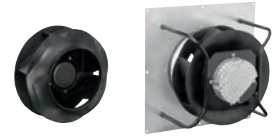
K3G 280-RR03-H2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

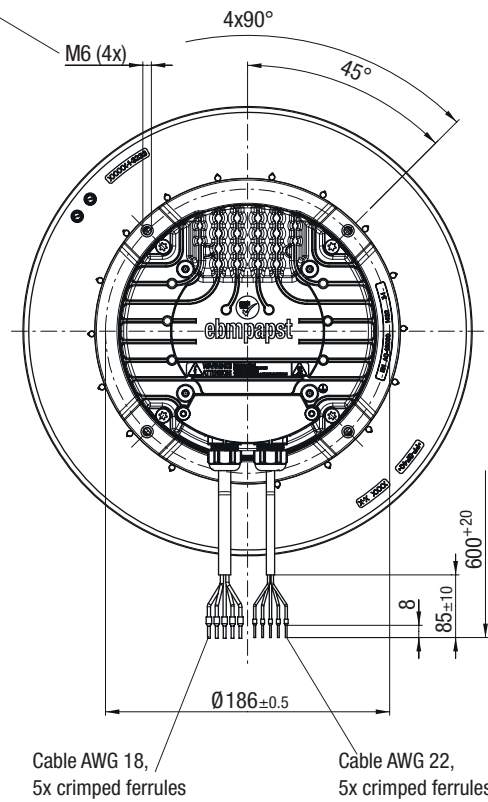
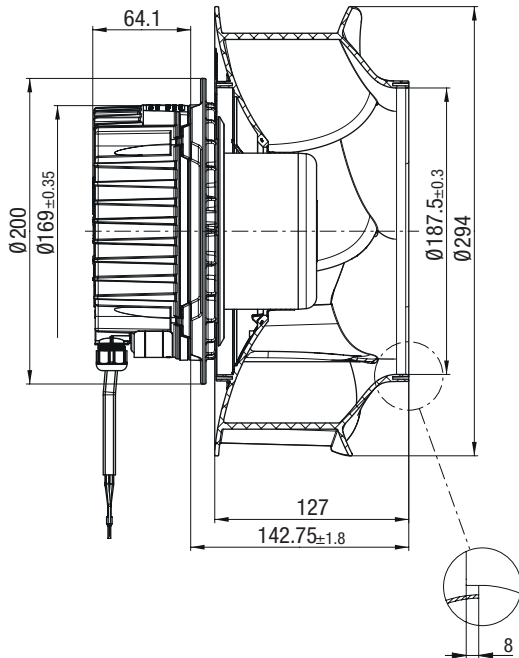
backward curved, Ø 280



R3G 280-RR04-I1 (Centrifugal fan)

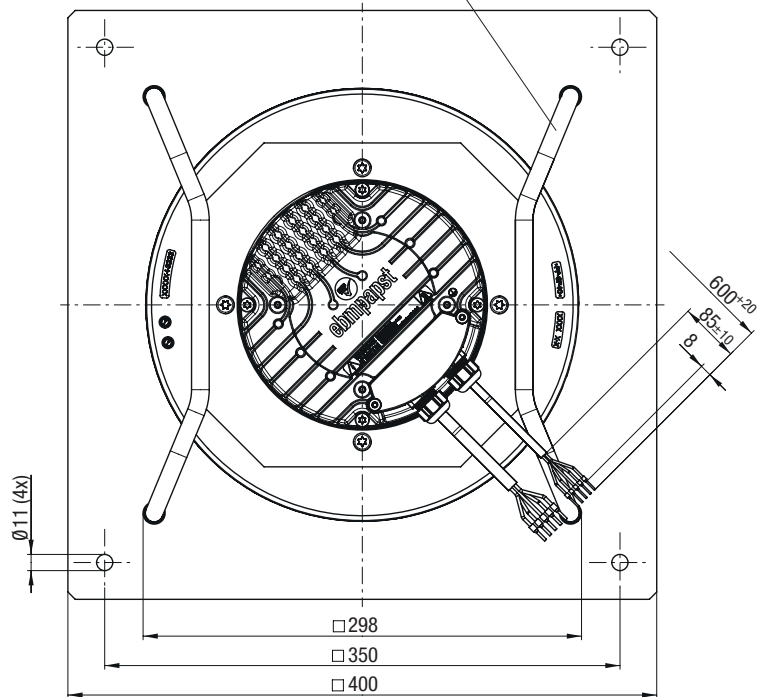
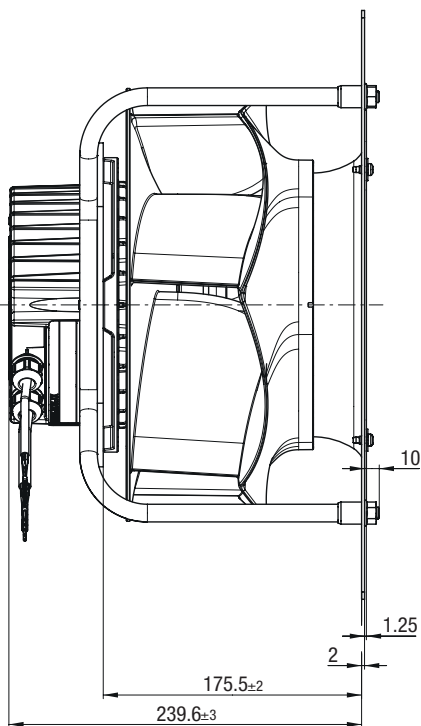
Accessory part: Inlet ring 28000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 280-RR04-I2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

backward curved, Ø 310



- **Material:** Support bracket: Steel, painted black
Support plate and inlet ring: Sheet steel, galvanized
Impeller: Plastic
Rotor: (A) Surface passivated, (B) (C) (D) Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** (A) IP 54, (B) (C) (D) IP 55
- **Insulation class:** (A) "B", (B) (C) (D) "F"
- **Installation position:** (A) Any,
(B) (C) (D) Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** (A) None, open rotor (B) (C) (D) Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

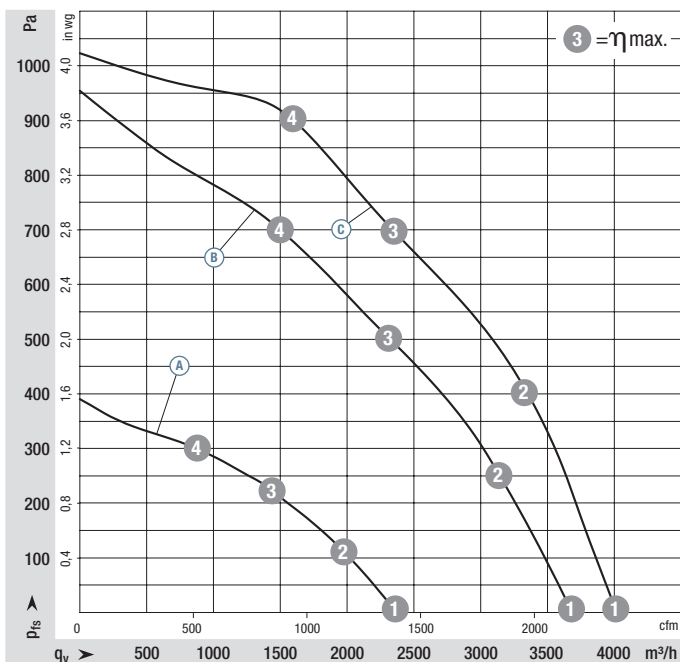
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 310	M3G 074-CF	(A) 1~200-240	50/60	1525	150	1,20	-25..+60	P. 146 / RC3)	
*3G 310	M3G 084-DF	(B) 1~200-277	50/60	2360	500	2,20	-25..+60	P. 147 / RC4)	
*3G 310	M3G 084-FA	(C) 1~200-277	50/60	2640	730	3,20	-25..+60	P. 147 / RC4)	
*3G 310	M3G 084-FA	(D) 3~380-480	50/60	2700	790	1,25	-25..+60	P. 148 / RC5)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

Curves:



	n rpm	P _{ed} W	I A	L _{WA} dB(A)
(A) 1	1600	115	0,95	69
(A) 2	1545	137	1,12	65
(A) 3	1525	150	1,20	59
(A) 4	1545	137	1,13	62
(B) 1	2510	431	1,88	81
(B) 2	2435	500	2,20	76
(B) 3	2360	500	2,20	72
(B) 4	2435	500	2,20	78
(C) 1	2700	550	2,45	84
(C) 2	2700	729	3,20	79
(C) 3	2640	730	3,20	75
(C) 4	2700	730	3,20	79

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{WA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 146 ff.
- **EMC:** Interference emission according to EN 61000-6-3
Immunity to interference according to EN 61000-6-2
Circuit feedback according to EN 61000-3-2/3
Ⓐ On account of the installation conditions, ferritic damping in the connection line may be required for the application.
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** Ⓐ EN 60335-1, CE; Ⓑ Ⓒ EN 60335-1, EN 61800-5-1, CE; Ⓓ EN 61800-5-1, CE
- **Approvals:** Ⓐ VDE, CURUS on request; Ⓑ Ⓒ Ⓓ VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011



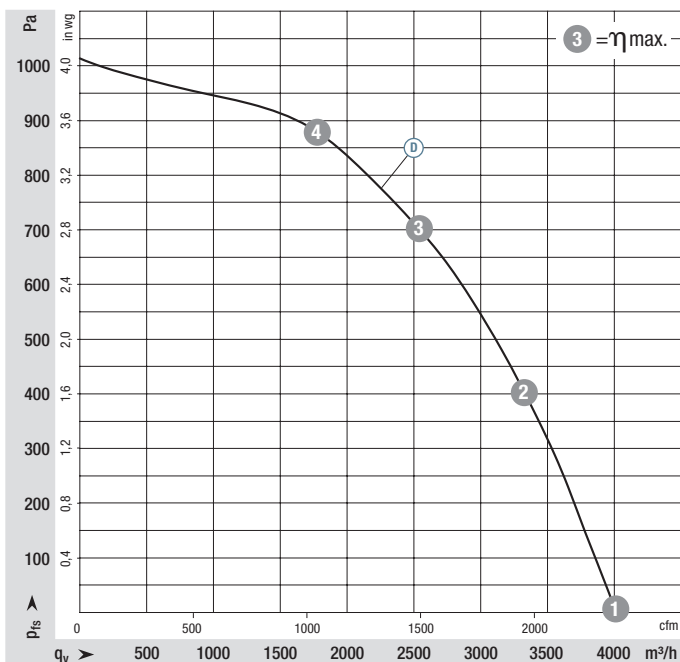
Weight Centrifugal fan



Weight Centrifugal module with support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 310-RB01 -03	2,90	K3G 310-RB01 -03	7,50
R3G 310-RR05 -H1	4,60	K3G 310-RR05 -H2	9,50
R3G 310-RS01 -I1	5,70	K3G 310-RS01 -I2	10,7
R3G 310-RS05 -J1	5,50	K3G 310-RS05 -J2	11,3

Curves:



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓓ ①	2700	557	0,89	84
Ⓓ ②	2700	723	1,14	79
Ⓓ ③	2700	790	1,25	76
Ⓓ ④	2700	744	1,17	79

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

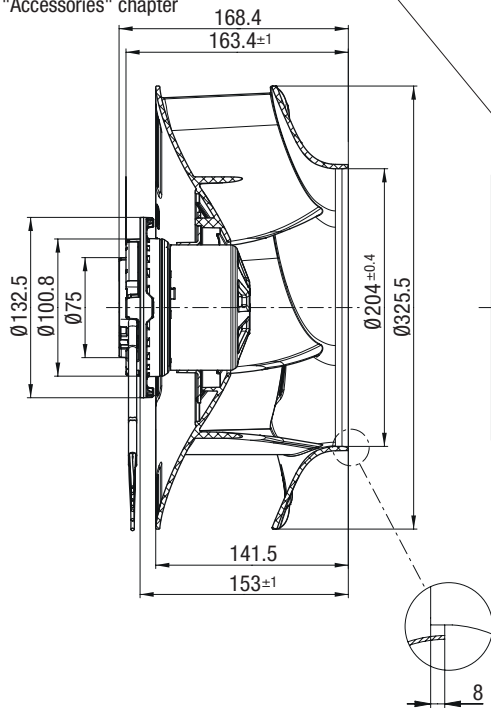
EC centrifugal fans – RadiCal

backward curved, Ø 310



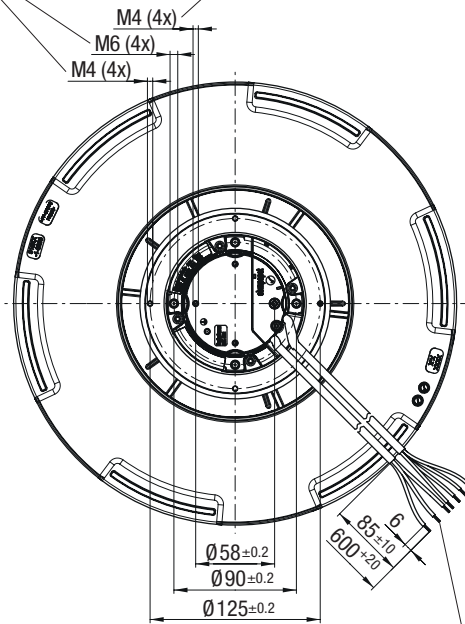
R3G 310-RB01-03 (Centrifugal fan)

Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery. Dimensions: see
"Accessories" chapter



Screw-in depth max. 10 mm

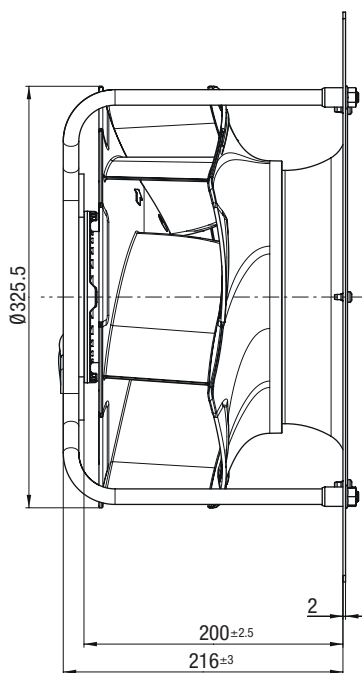
Screw-in depth max. 5 mm



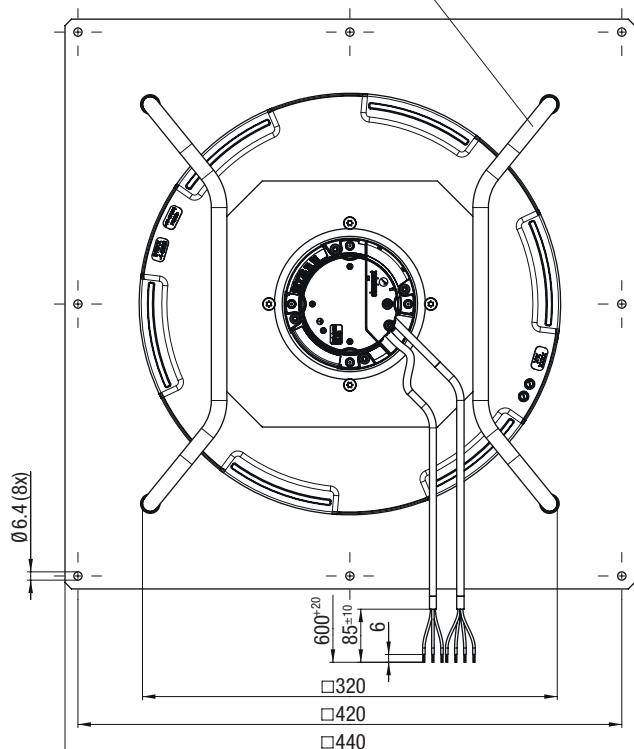
Cable PVC AWG 20,
3x crimped splices

Cable PVC AWG 22,
4x crimped splices

K3G 310-RB01-03 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

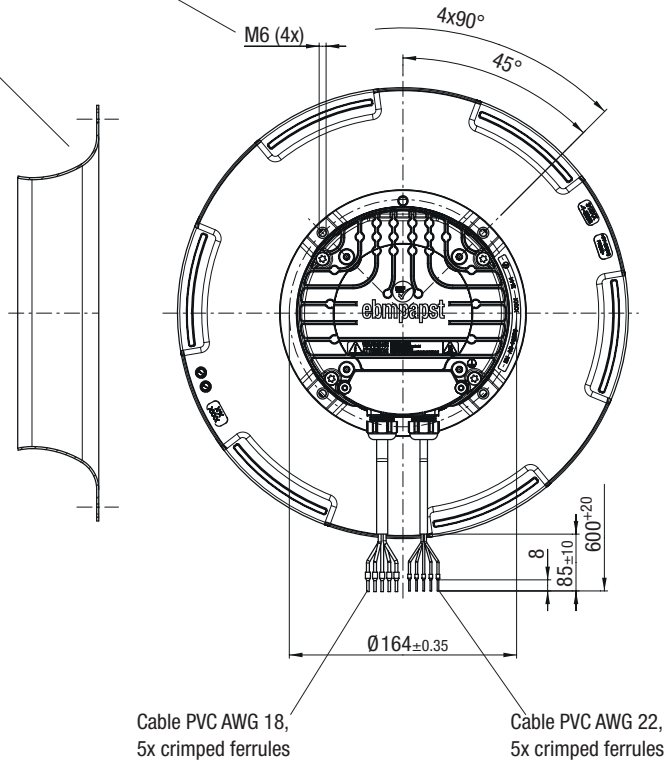
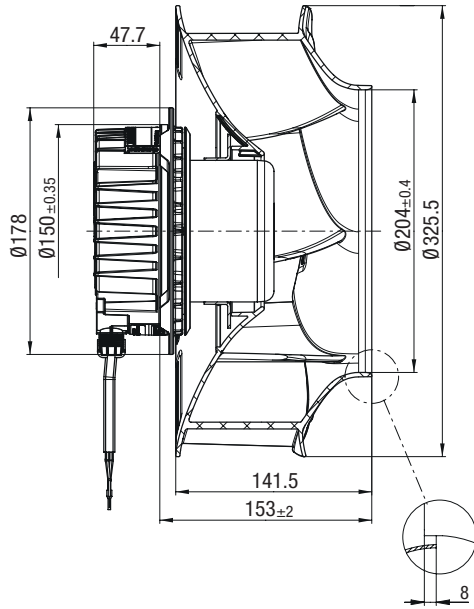
backward curved, Ø 310



R3G 310-RR05-H1 (Centrifugal fan)

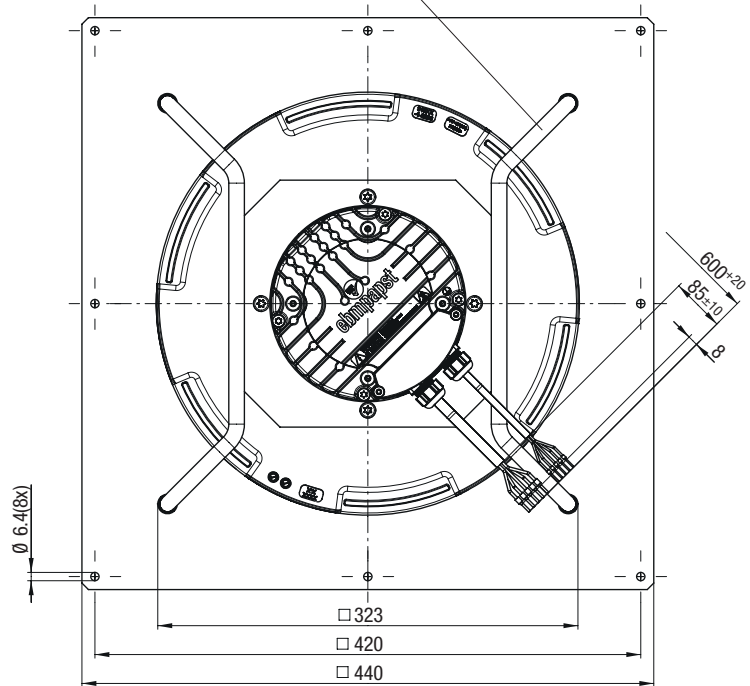
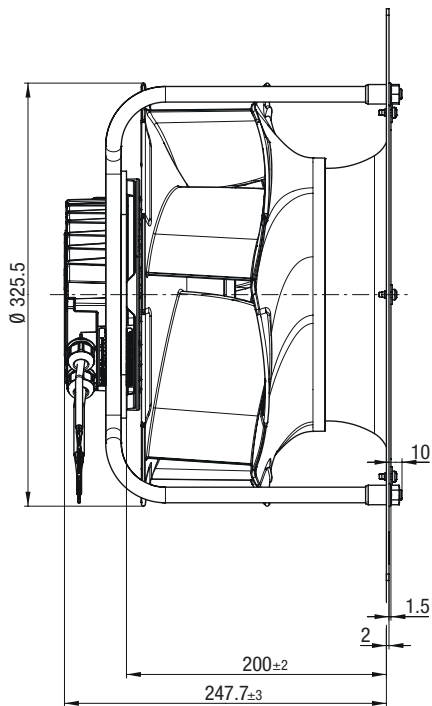
Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



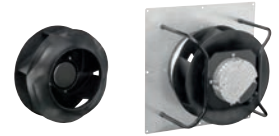
K3G 310-RR05-H2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

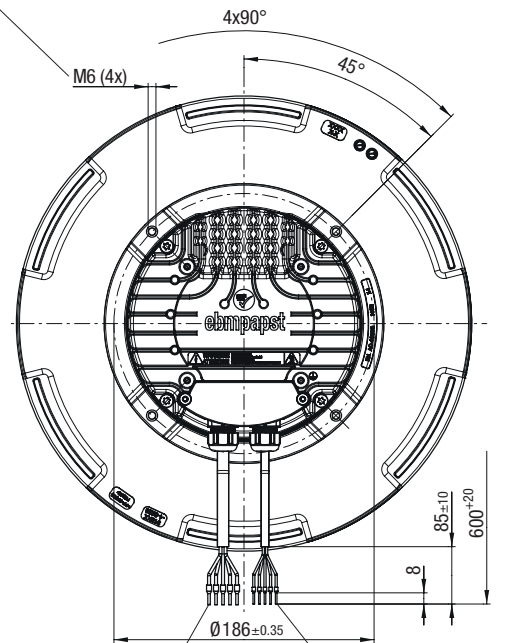
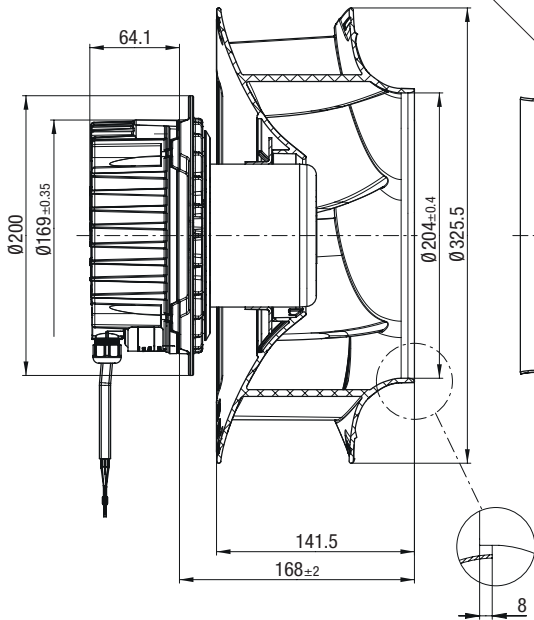
backward curved, Ø 310



R3G 310-RS01-I1 (Centrifugal fan)

Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 10 mm

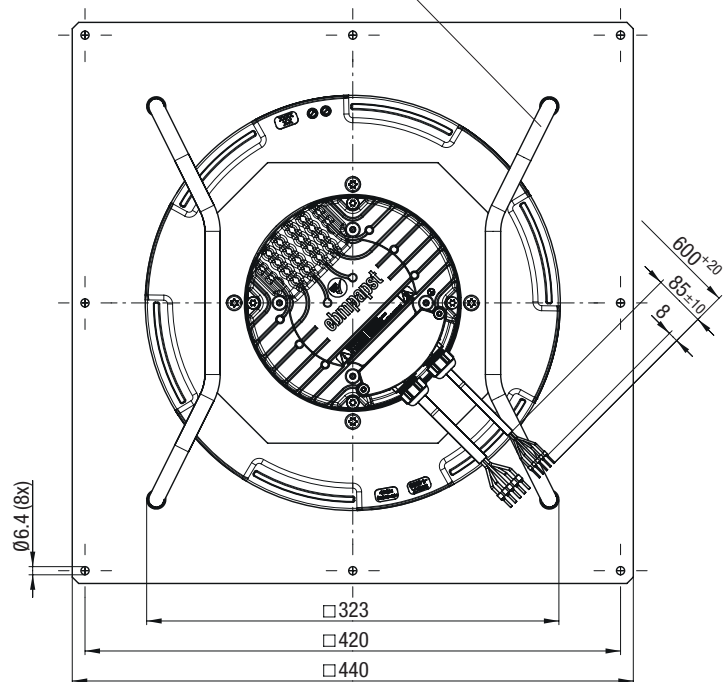
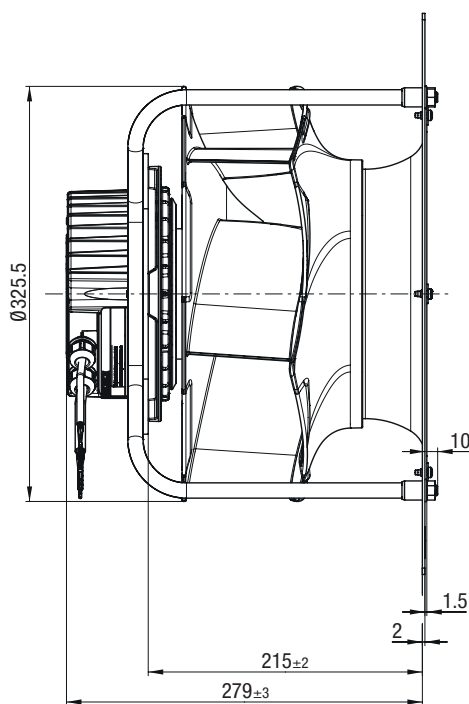


Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

K3G 310-RS01-I2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

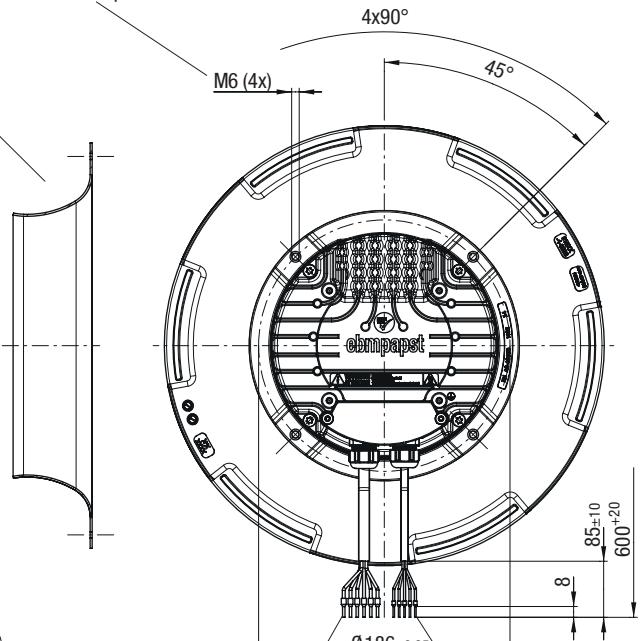
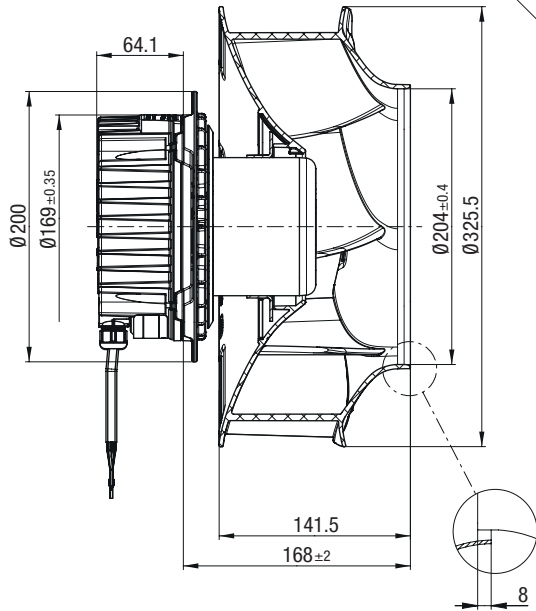
backward curved, Ø 310



R3G 310-RS05-J1 (Centrifugal fan)

Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

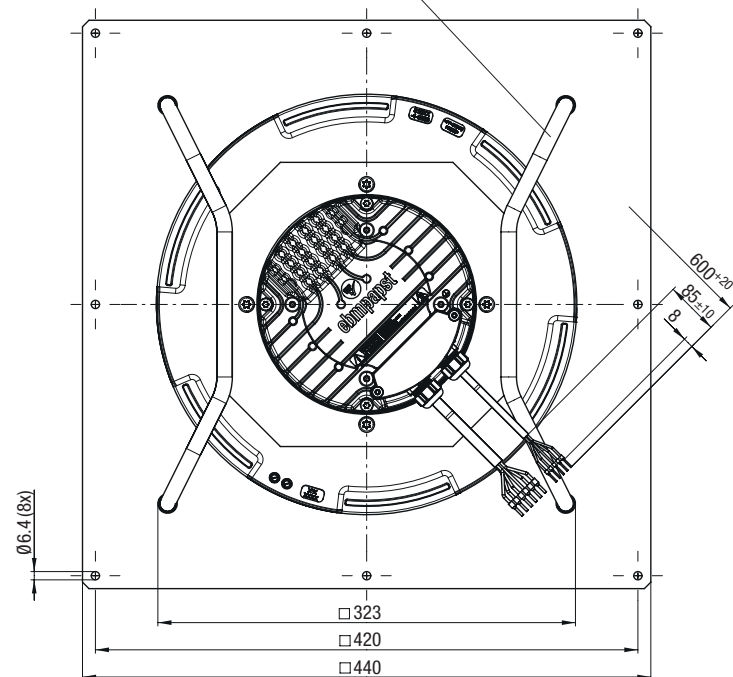
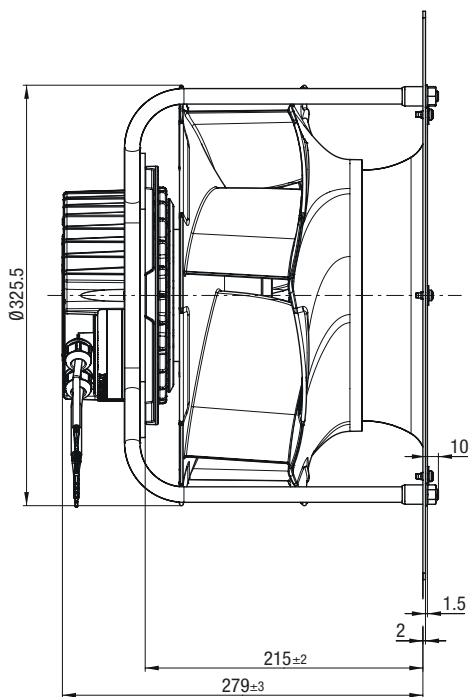


Cable PVC AWG 18,
6x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

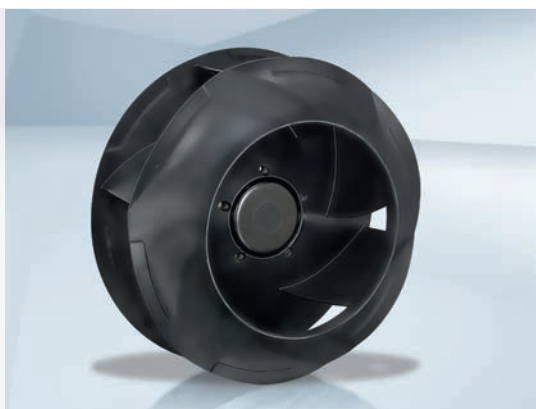
K3G 310-RS05-J2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

backward curved, Ø 355



- **Material:** Support bracket: Steel, painted black
Support plate and inlet ring: Sheet steel, galvanized
Impeller: Plastic
Rotor: (A) Surface passivated, (B) (C) (D) (E) Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** (A) IP 54, (B) (C) (D) (E) IP 55
- **Insulation class:** (A) "B", (B) (C) (D) (E) "F"
- **Installation position:** (A) Any,
(B) (C) (D) (E) Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** (A) None, open rotor (B) (C) (D) (E) Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

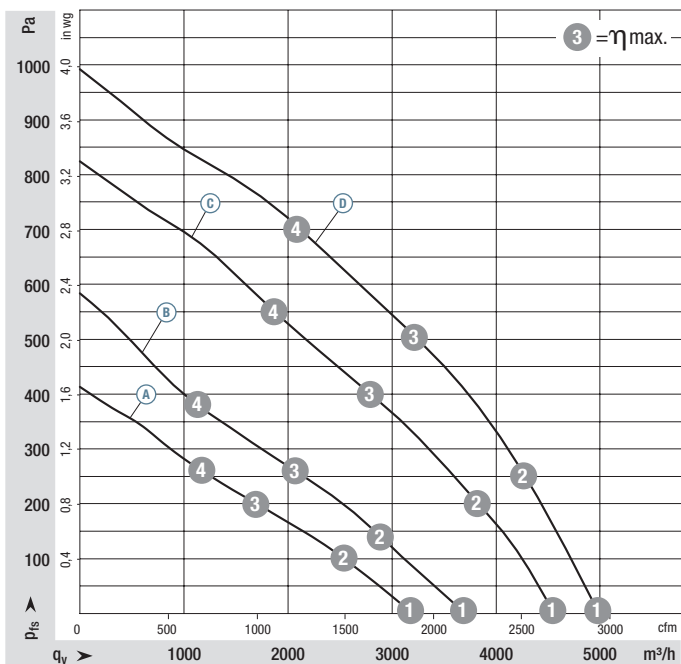
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 355	M3G 074-DF	(A) 1~200-240	50/60	1250	168	1,40	-25..+60	P. 146 / RC3)	
*3G 355	M3G 084-DF	(B) 1~200-277	50/60	1450	250	1,10	-25..+60	P. 147 / RC4)	
*3G 355	M3G 084-FA	(C) 1~200-277	50/60	1850	500	2,20	-25..+60	P. 147 / RC4)	
*3G 355	M3G 084-GF	(D) 1~200-277	50/60	2100	750	3,30	-25..+55	P. 147 / RC4)	
*3G 355	M3G 112-EA	(E) 3~380-480	50/60	2400	1100	1,70	-25..+60	P. 148 / RC5)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

Curves:



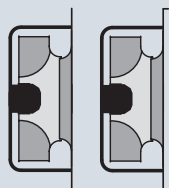
	n rpm	P _{ed} W	I A	L _{wA} dB(A)
(A) 1	1425	165	1,35	71
(A) 2	1305	165	1,35	65
(A) 3	1250	168	1,40	58
(A) 4	1280	165	1,36	60
(B) 1	1660	250	1,10	77
(B) 2	1505	250	1,10	68
(B) 3	1450	250	1,10	63
(B) 4	1525	250	1,10	68
(C) 1	2050	456	1,99	87
(C) 2	1935	500	2,20	78
(C) 3	1850	500	2,20	69
(C) 4	1910	500	2,20	74
(D) 1	2245	627	2,76	87
(D) 2	2175	750	3,30	82
(D) 3	2100	750	3,30	74
(D) 4	2155	740	3,30	76

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 146 ff.
- **EMC:** Interference emission according to EN 61000-6-3
 - Ⓔ According to 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
 - Immunity to interference according to EN 61000-6-2; Ⓔ according to EN 61000-6-2 (industrial environment)
 - Circuit feedback according to EN 61000-3-2/3
 - Ⓐ On account of the installation conditions, ferritic damping in the connection line may be required for the application.
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** Ⓐ EN 60335-1, CE; Ⓑ Ⓒ Ⓓ EN 60335-1, EN 61800-5-1, CE; Ⓔ EN 61800-5-1, CE
- **Approvals:** Ⓐ VDE, CURUS on request; Ⓑ Ⓒ Ⓓ Ⓔ VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011



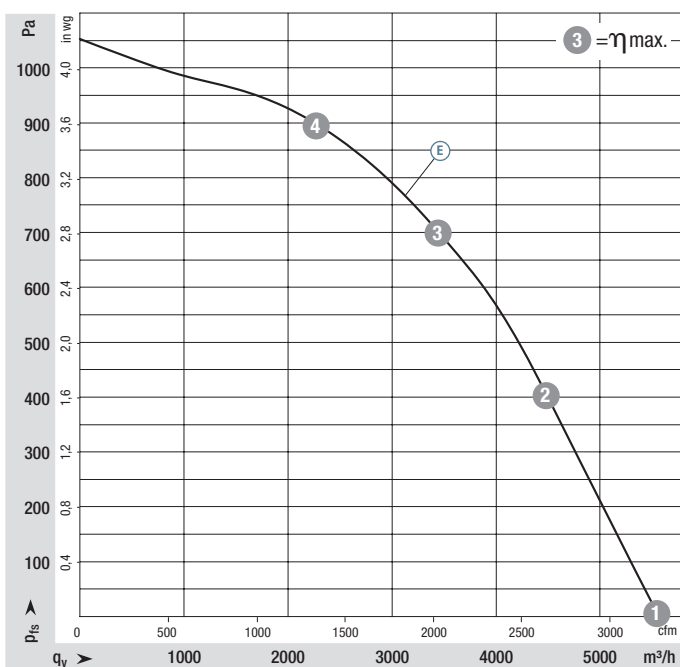
Weight Centrifugal fan



Weight Centrifugal module with support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 355-RB03 -03	3,70	K3G 355-RB03 -03	9,70
R3G 355-RR06 -G1	5,00	K3G 355-RR06 -G2	10,8
R3G 355-RS02 -H1	5,70	K3G 355-RS02 -H2	11,6
R3G 355-RT01 -I1	7,00	K3G 355-RT01 -I2	15,4
R3G 355-RJ75 -01	8,40	K3G 355-RJ75 -01	16,4

Curves:



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓔ 1	2400	770	1,20	91
Ⓔ 2	2400	1026	1,58	83
Ⓔ 3	2400	1100	1,70	76
Ⓔ 4	2400	961	1,49	81

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

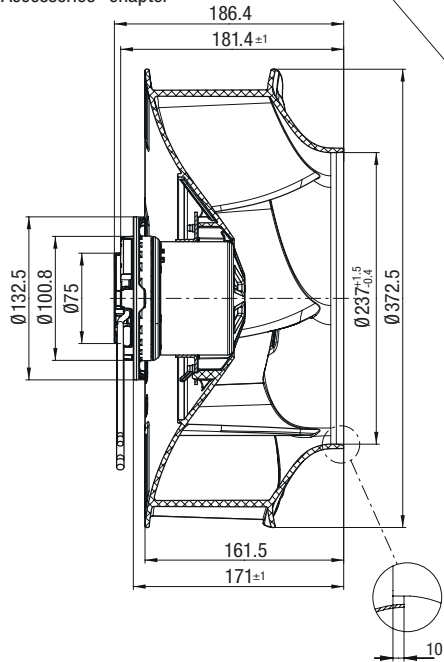
EC centrifugal fans – RadiCal

backward curved, Ø 355

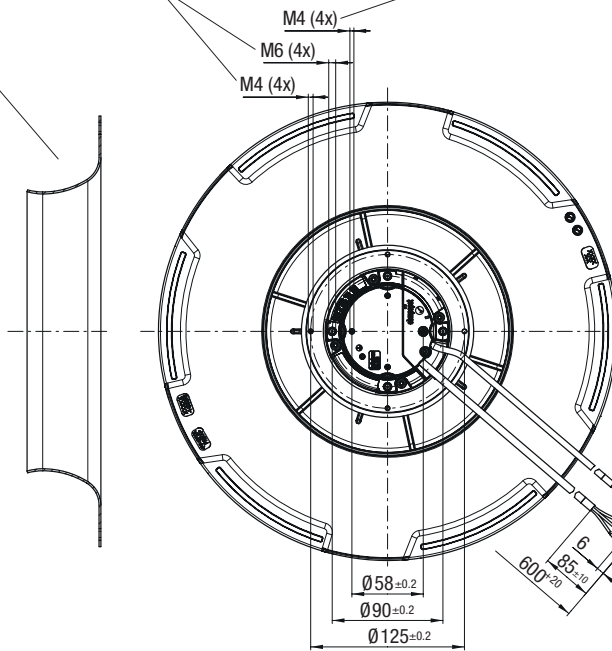


R3G 355-RB03-03 (Centrifugal fan)

Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery. Dimensions: see "Accessories" chapter



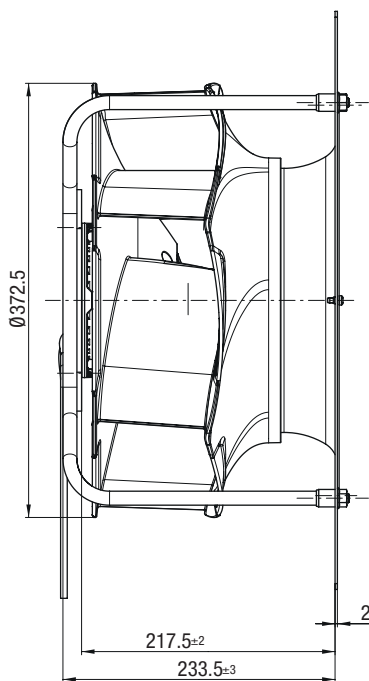
Screw-in depth max. 10 mm Screw-in depth max. 5 mm



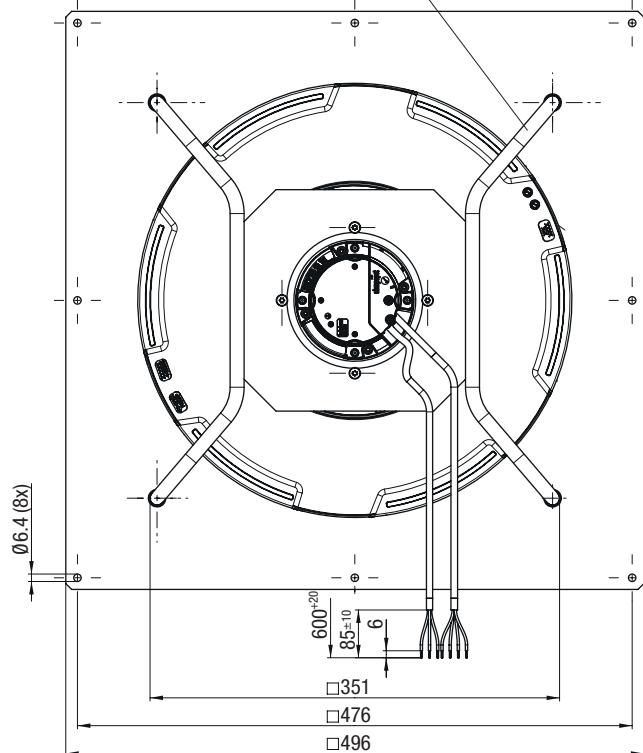
Cable AWG 20,
3x crimped splices

Cable AWG 22,
4x crimped splices

K3G 355-RB03-03 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

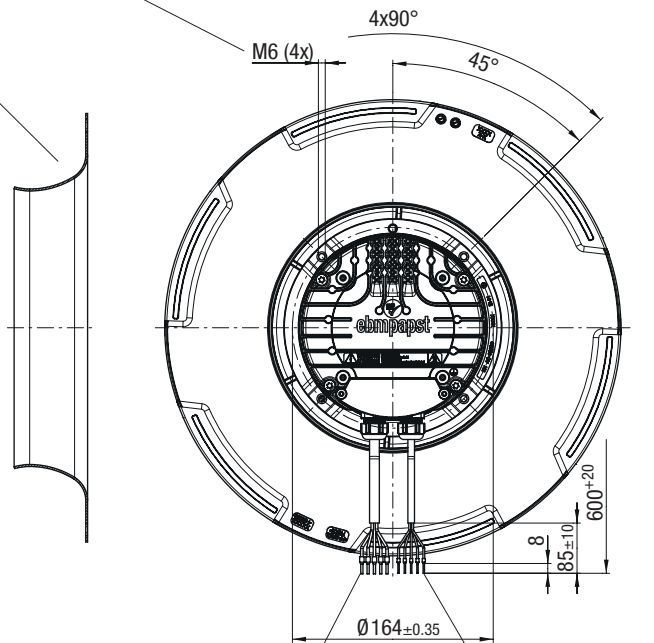
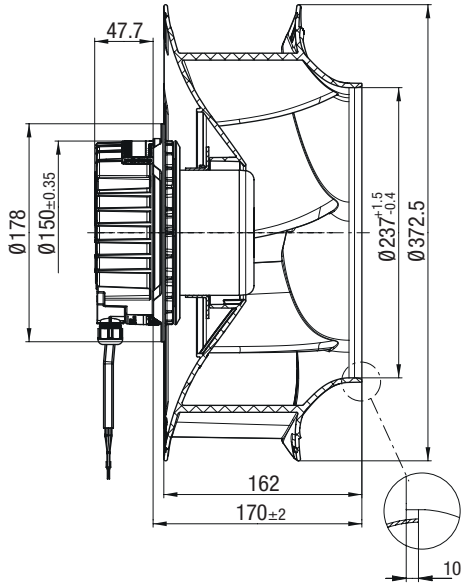
backward curved, Ø 355



R3G 355-RR06-G1 (Centrifugal fan)

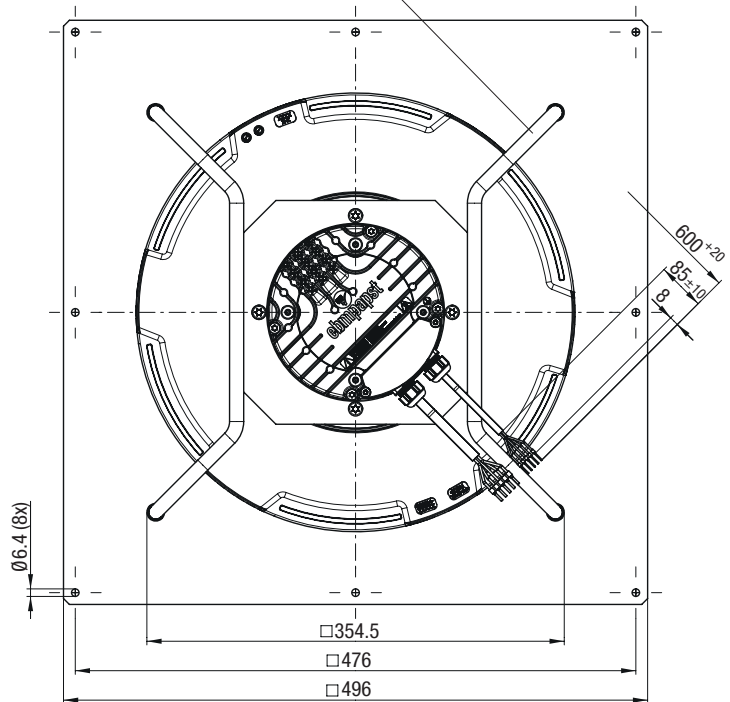
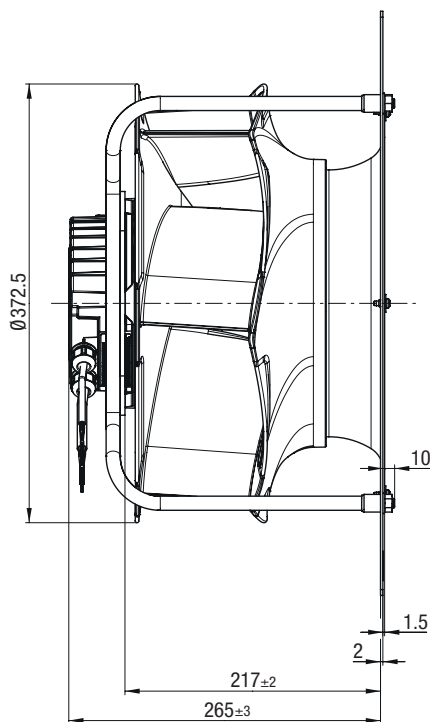
Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



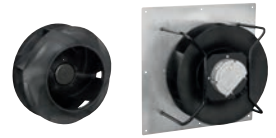
K3G 355-RR06-G2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

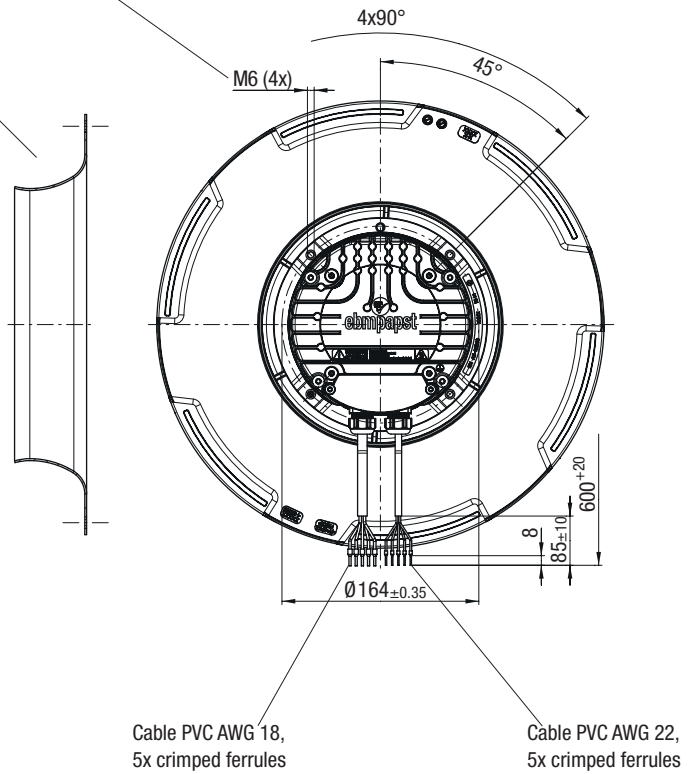
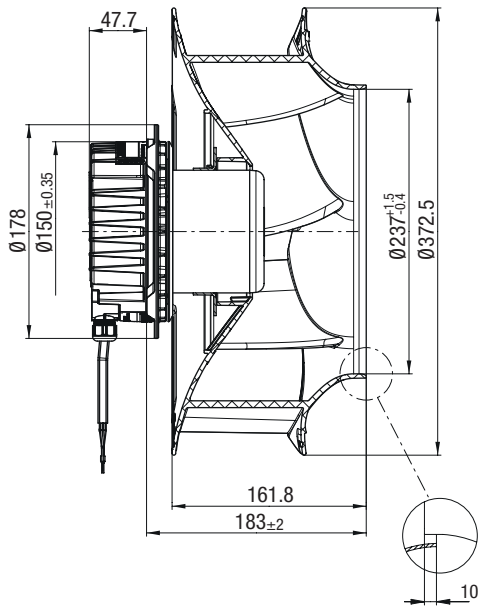
backward curved, Ø 355



R3G 355-RS02-H1 (Centrifugal fan)

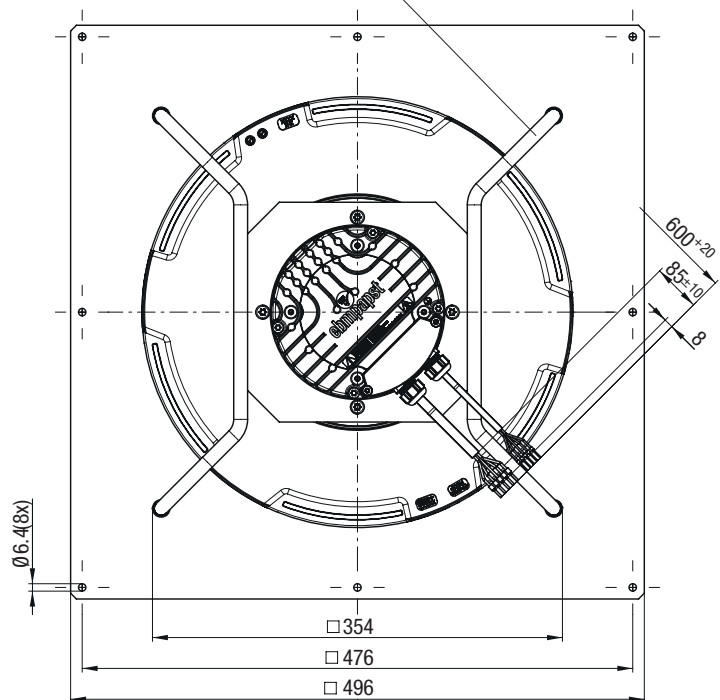
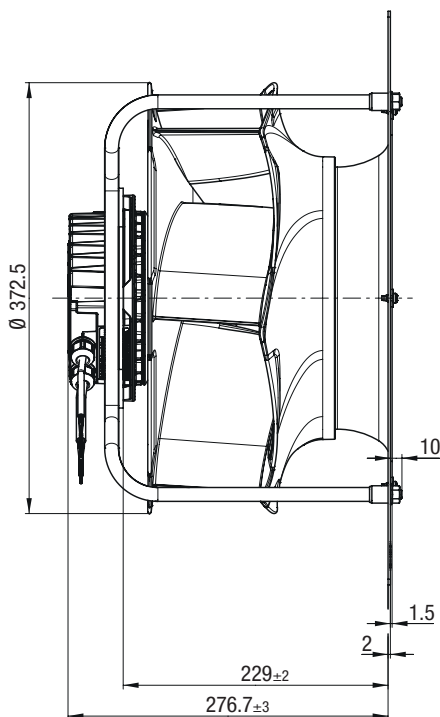
Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



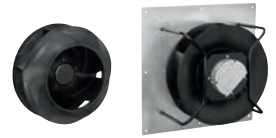
K3G 355-RS02-H2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

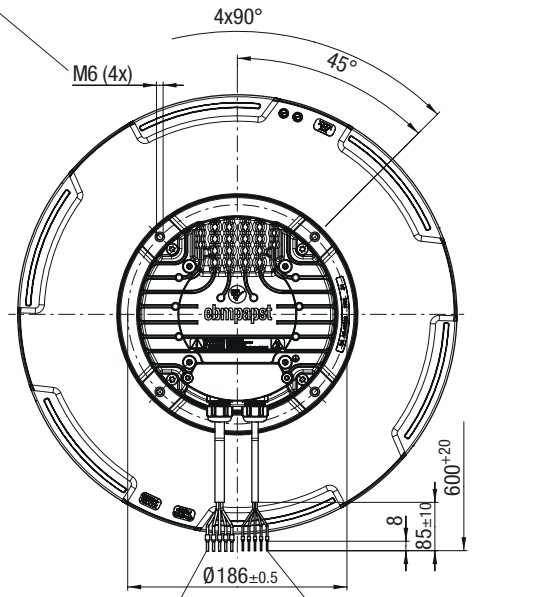
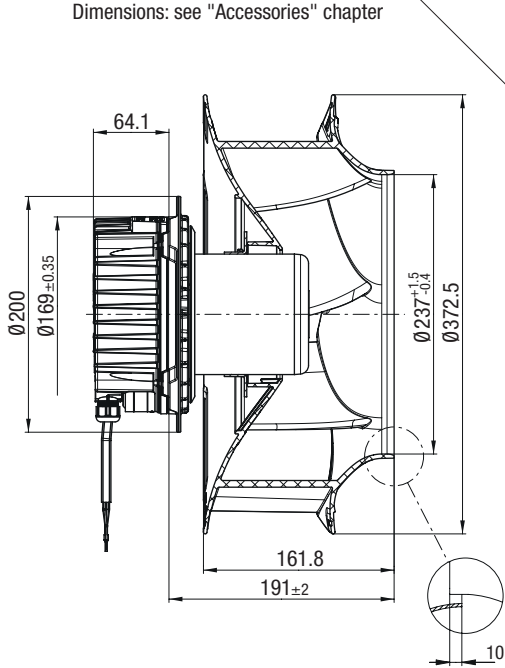
backward curved, Ø 355



R3G 355-RT01-I1 (Centrifugal fan)

Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

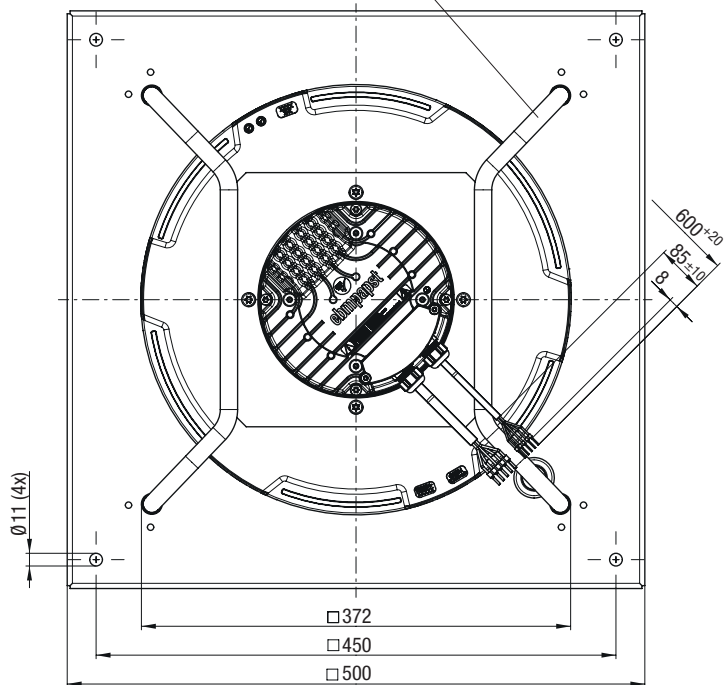
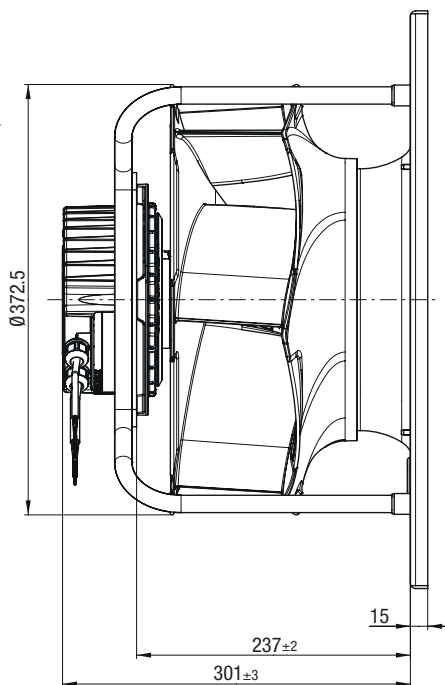


Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

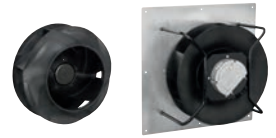
K3G 355-RT01-I2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

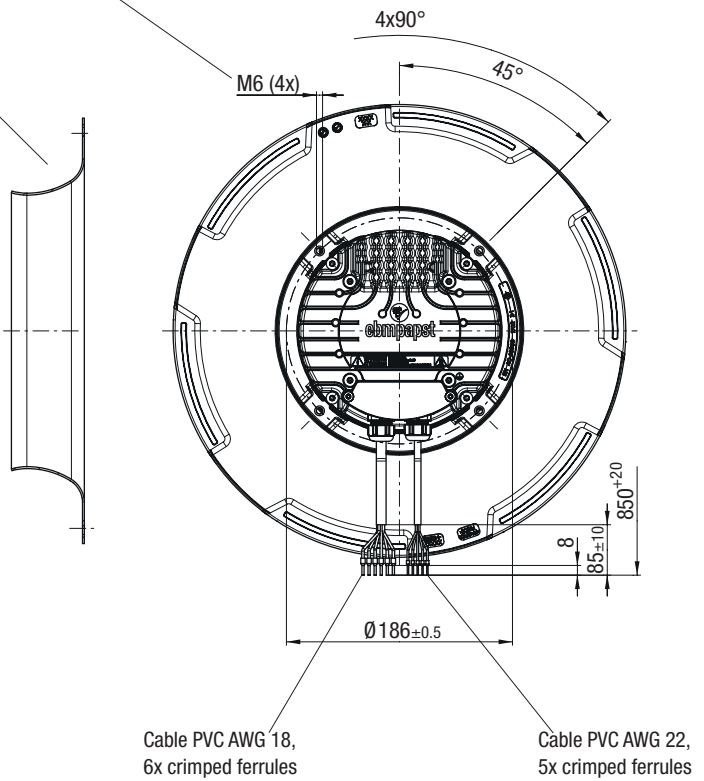
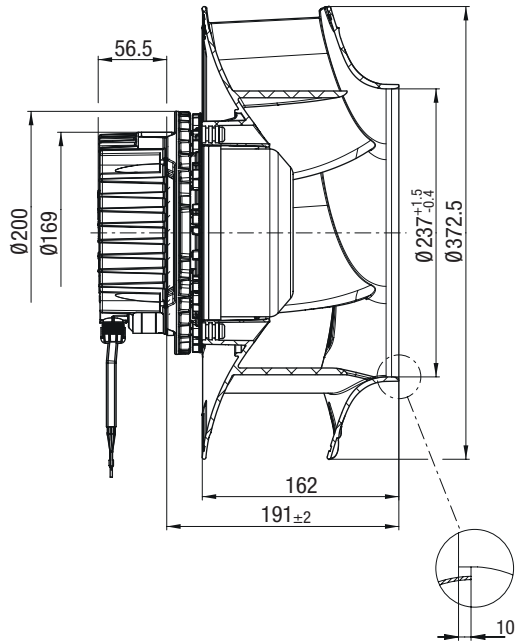
backward curved, Ø 355



R3G 355-RJ75-01 (Centrifugal fan)

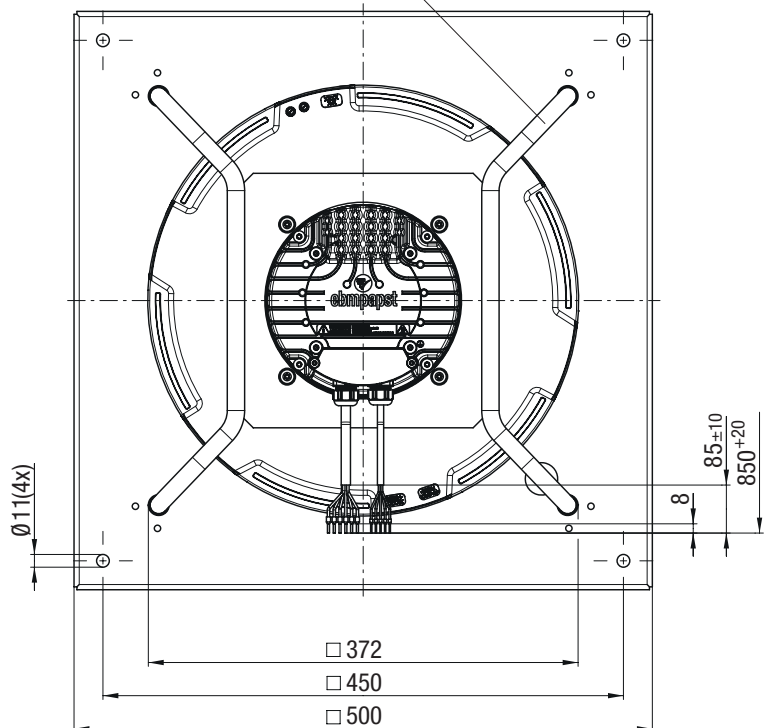
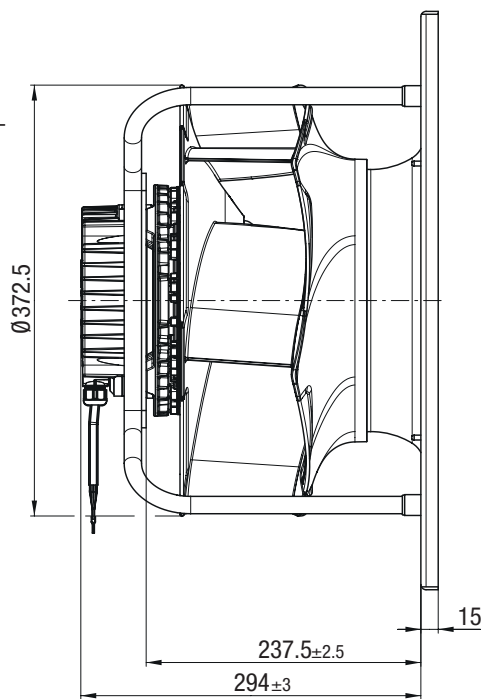
Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 355-RJ75-01 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

backward curved, Ø 400



- **Material:** Support bracket: Steel, painted black
Support plate and inlet ring: Sheet steel, galvanized
Impeller: Plastic
Rotor: Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55
- **Insulation class:** "F"
- **Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

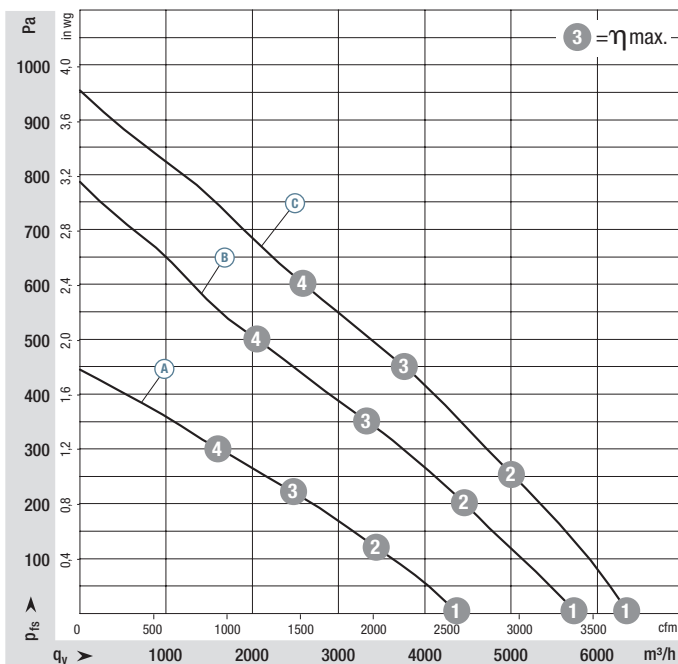
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 400	M3G 084-DF	Ⓐ 1~200-277	50/60	1170	250	1,10	-25..+60	P. 147 / RC4)	
*3G 400	M3G 084-FA	Ⓑ 1~200-277	50/60	1500	500	2,20	-25..+50	P. 147 / RC4)	
*3G 400	M3G 084-GF	Ⓒ 1~200-277	50/60	1700	750	3,30	-25..+55	P. 147 / RC4)	
*3G 400	M3G 112-EA	Ⓓ 3~380-480	50/60	2060	1320	2,10	-25..+50	P. 148 / RC5)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

Curves:



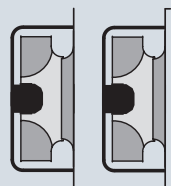
	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	1320	238	1,05	75
Ⓐ ②	1200	250	1,10	71
Ⓐ ③	1170	250	1,10	61
Ⓐ ④	1210	250	1,10	67
Ⓑ ①	1725	500	2,20	80
Ⓑ ②	1545	500	2,20	73
Ⓑ ③	1500	500	2,20	67
Ⓑ ④	1570	500	2,20	73
Ⓒ ①	1925	737	3,24	83
Ⓒ ②	1755	750	3,30	78
Ⓒ ③	1700	750	3,30	72
Ⓒ ④	1745	750	3,30	72

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 147 f.
- **EMC:** Interference emission according to EN 61000-6-3
 - ⓐ According to 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
 - Immunity to interference according to EN 61000-6-2; ⓑ according to EN 61000-6-2 (industrial environment)
 - Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** ⓐ ⓑ ⓒ EN 60335-1, EN 61800-5-1, CE; ⓓ EN 61800-5-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011



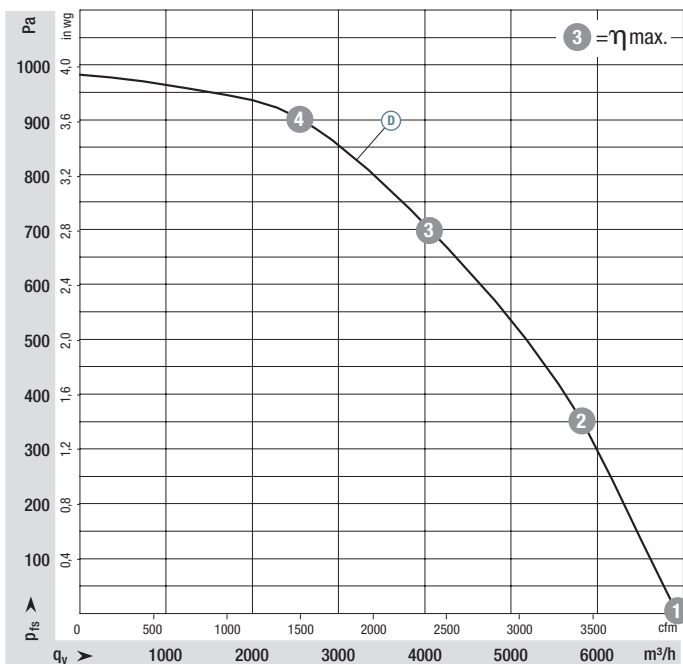
Weight Centrifugal fan



Weight Centrifugal module with support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 400-RR07 -G1	5,60	K3G 400-RR07 -G2	12,5
R3G 400-RS03 -H1	6,40	K3G 400-RS03 -H2	13,3
R3G 400-RT02 -I1	7,50	K3G 400-RT02 -I2	15,5
R3G 400-RJ75 -01	9,10	K3G 400-RJ75 -01	16,5

Curves:

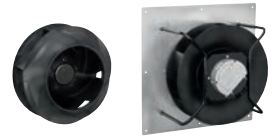


	n rpm	P _{ed} W	I A	L _{wA} dB(A)
ⓓ ①	2120	965	1,56	89
ⓓ ②	2110	1245	2,00	82
ⓓ ③	2060	1320	2,10	75
ⓓ ④	2100	1285	2,06	78

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

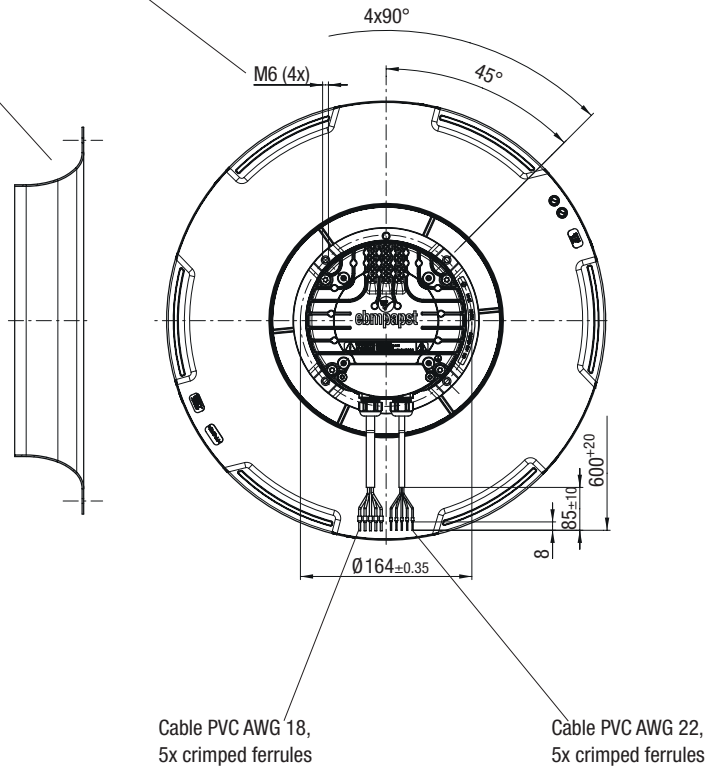
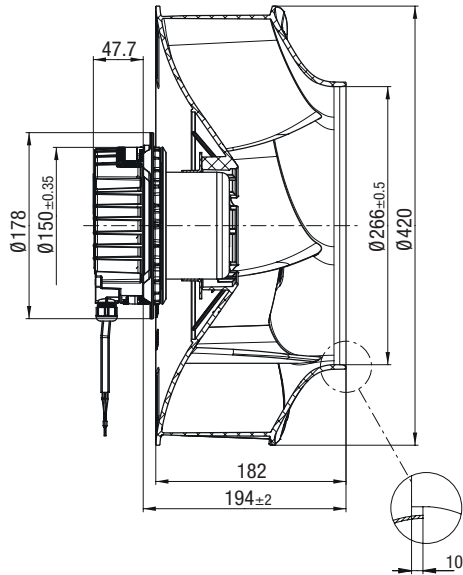
backward curved, Ø 400



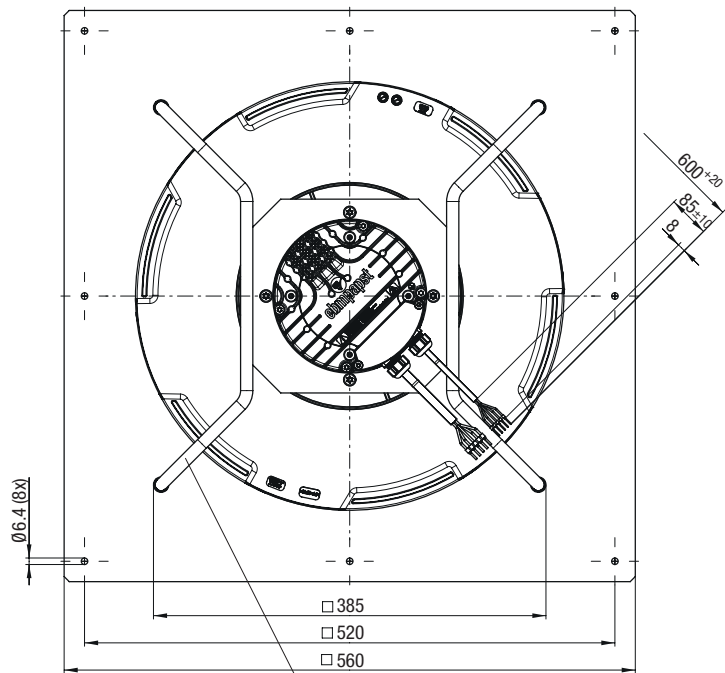
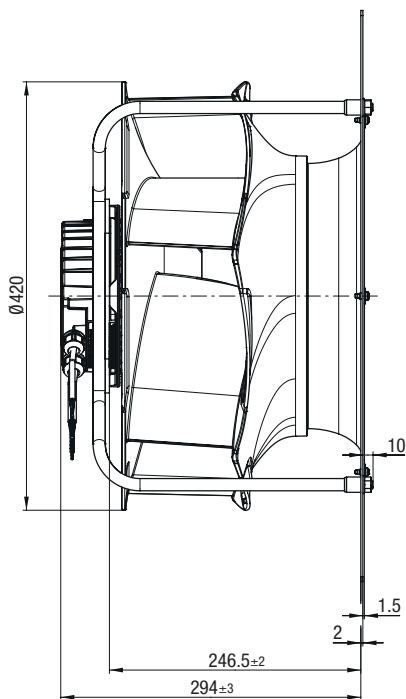
R3G 400-RR07-G1 (Centrifugal fan)

Accessory part: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 400-RR07-G2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

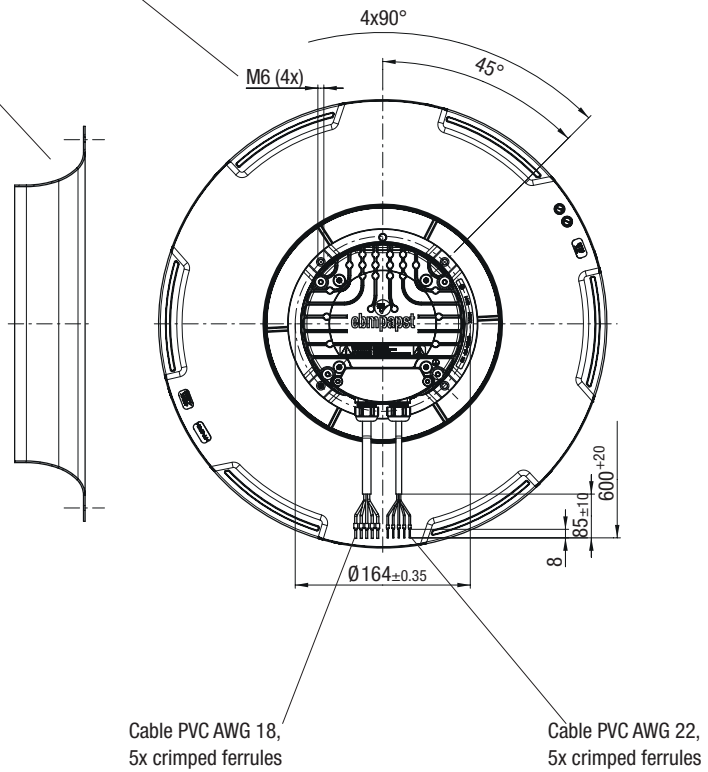
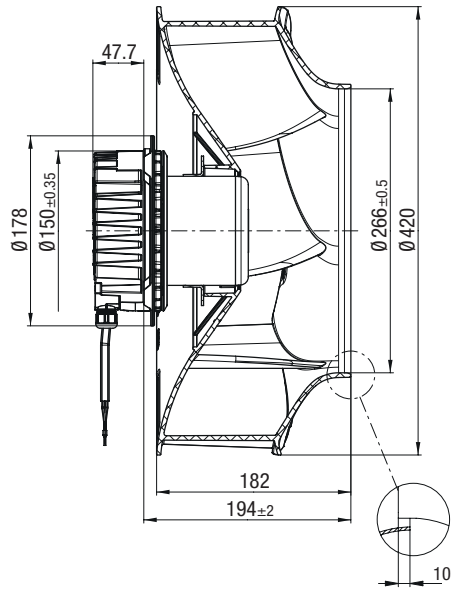
backward curved, Ø 400



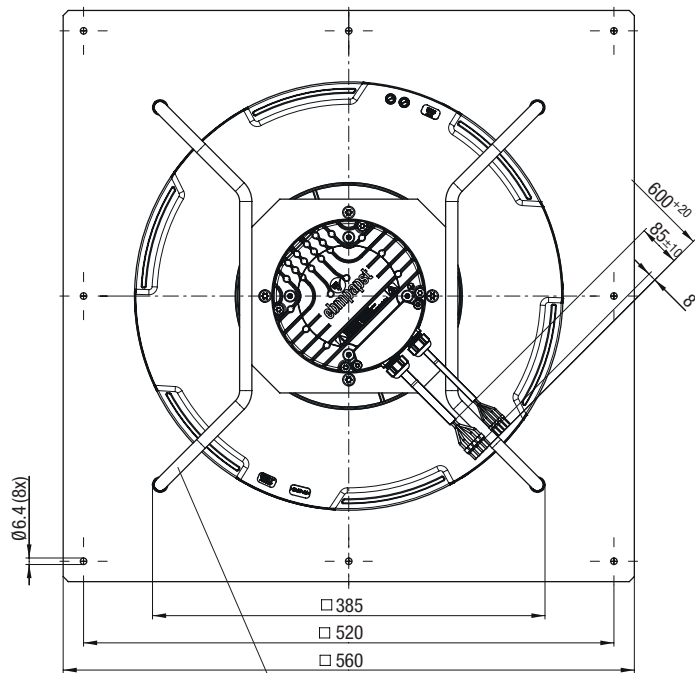
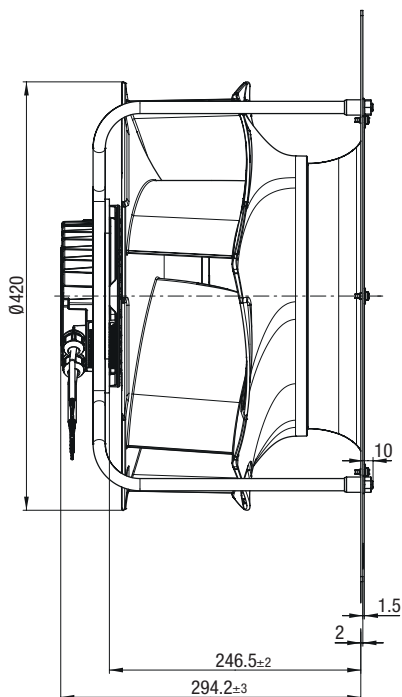
R3G 400-RS03-H1 (Centrifugal fan)

Accessory part: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



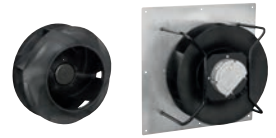
K3G 400-RS03-H2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

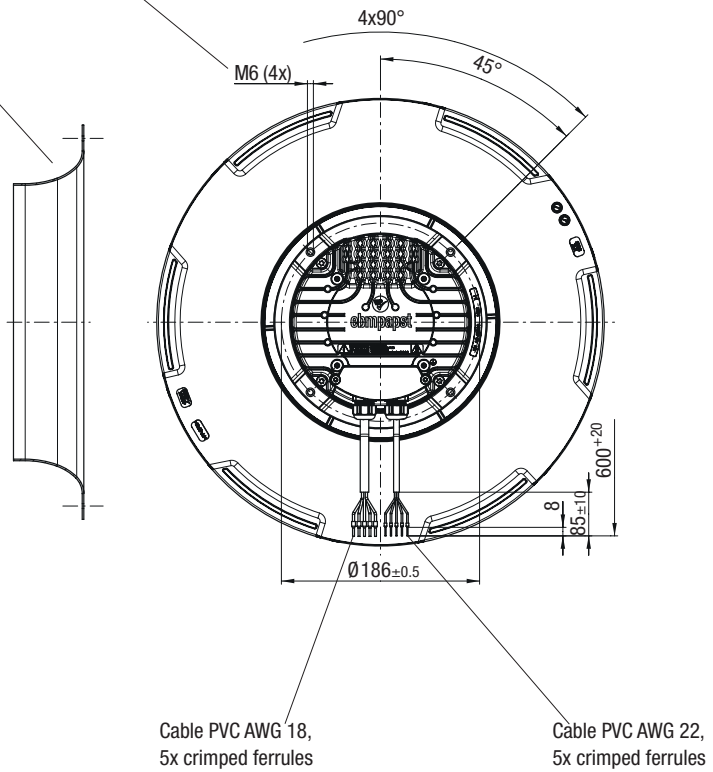
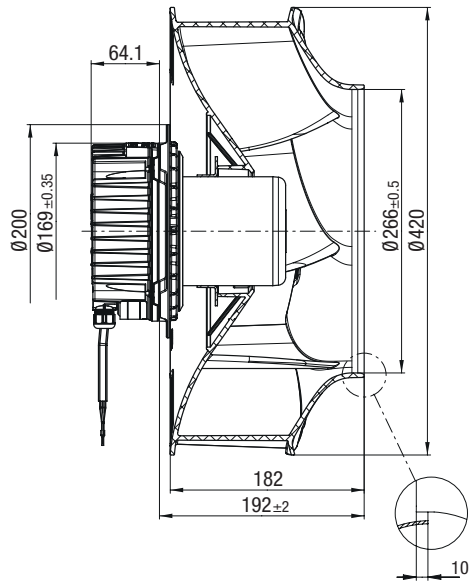
backward curved, Ø 400



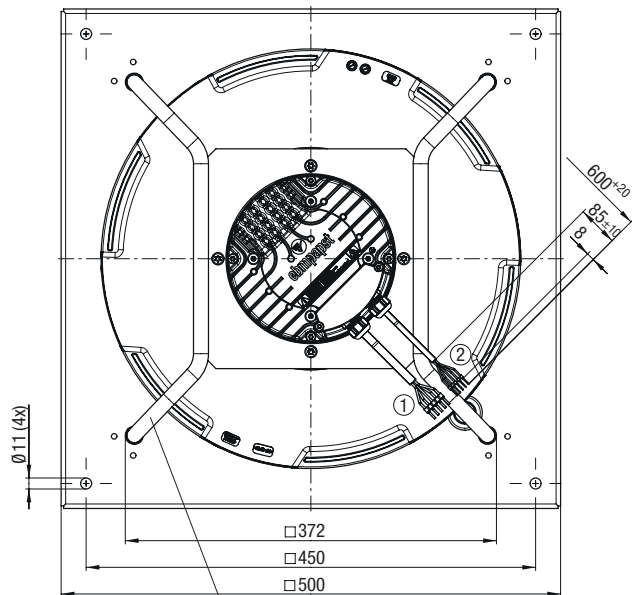
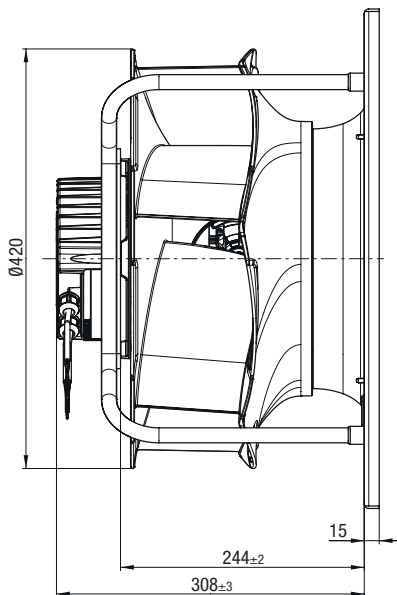
R3G 400-RT02-I1 (Centrifugal fan)

Accessory part: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 400-RT02-I2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

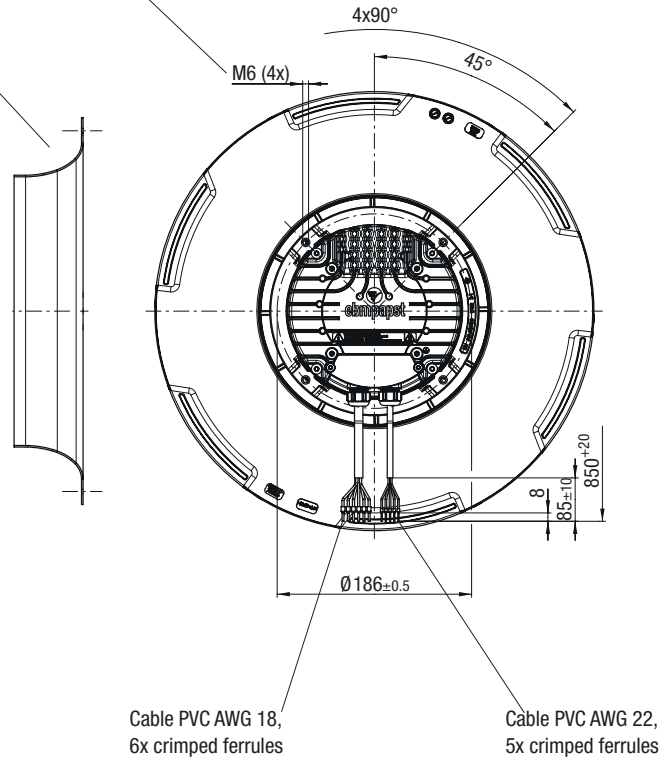
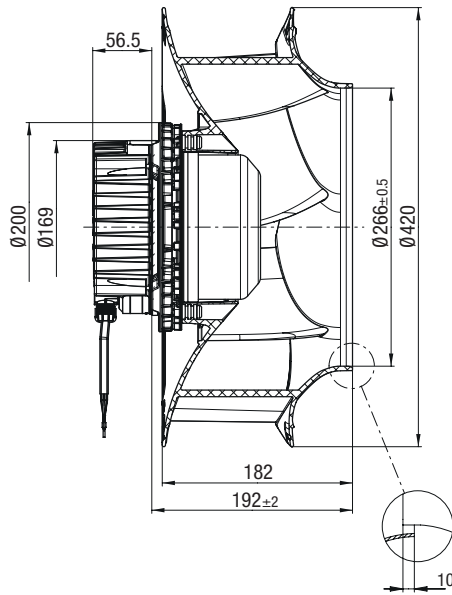
backward curved, Ø 400



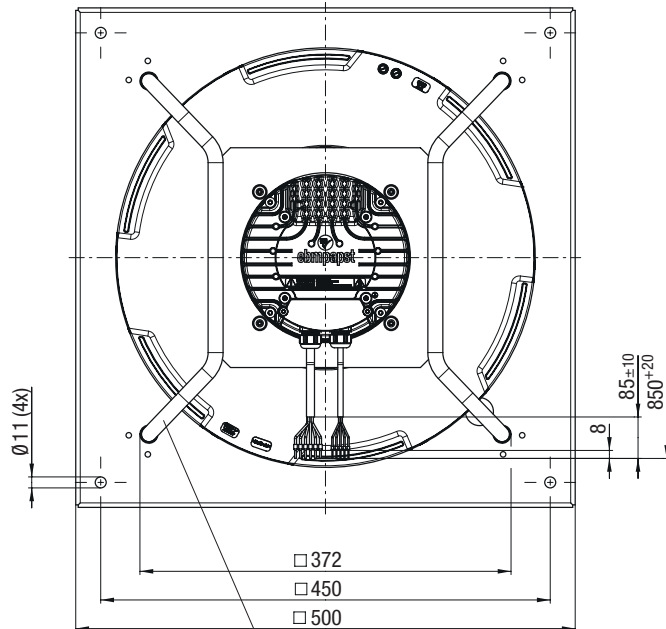
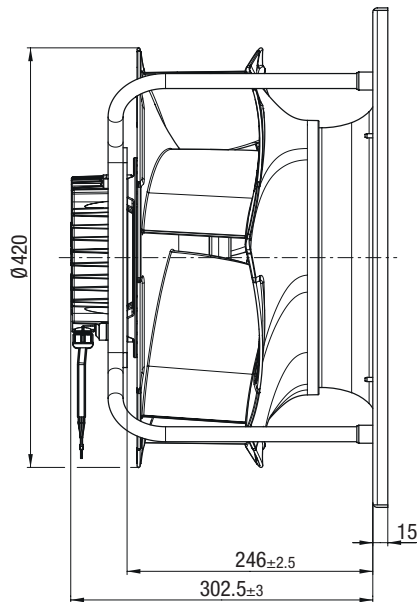
R3G 400-RJ75-01 (Centrifugal fan)

Accessory part: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 400-RJ75-01 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

backward curved, Ø 450



- **Material:** Support bracket: Steel, painted black
Support plate: Sheet steel, galvanized
Inlet ring: Plastic
Impeller: Plastic / Rotor: Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55
- **Insulation class:** "F"
- **Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

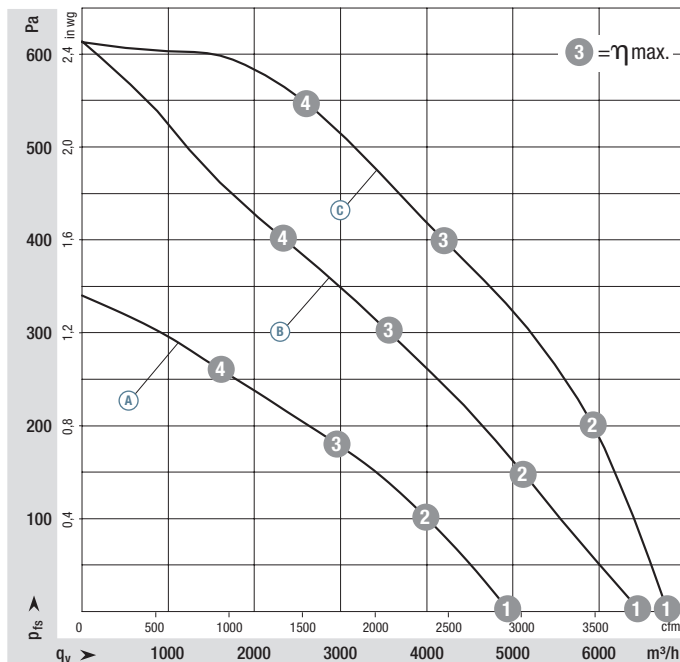
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 450	M3G 084-FA	Ⓐ 1~200-277	50/60	1000	250	1,10	-25..+60	P. 147 / RC4)	
*3G 450	M3G 084-GF	Ⓑ 1~200-277	50/60	1260	500	2,20	-25..+50	P. 147 / RC4)	
*3G 450	M3G 112-EA	Ⓒ 1~200-277	50/60	1440	750	3,30	-25..+60	P. 147 / RC4)	
*3G 450	M3G 112-GA	Ⓓ 3~380-480	50/60	1550	950	1,50	-25..+60	P. 148 / RC5)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

Curves:



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ ①	1130	228	1,03	76
Ⓐ ②	1050	250	1,10	68
Ⓐ ③	1000	250	1,10	62
Ⓐ ④	1030	250	1,10	70
Ⓑ ①	1470	500	2,20	93
Ⓑ ②	1345	500	2,20	75
Ⓑ ③	1260	500	2,20	69
Ⓑ ④	1295	500	2,20	71
Ⓒ ①	1550	574	2,56	79
Ⓒ ②	1520	743	3,29	77
Ⓒ ③	1440	750	3,30	72
Ⓒ ④	1495	750	3,30	76

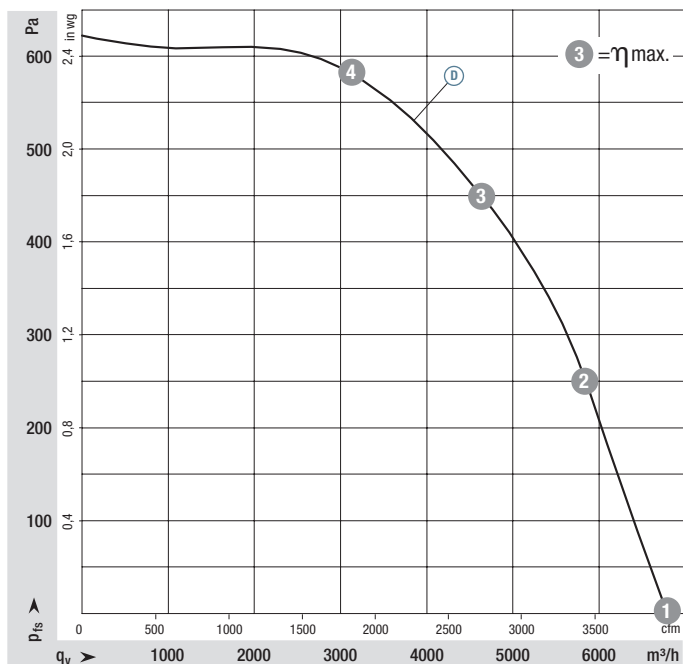
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 147 f.
- **EMC:** (B) (C) (D) Interference emission according to EN 61000-6-3
(B) (C) (D) Immunity to interference according to EN 61000-6-2
(B) (C) (D) Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** (A) (B) (C) EN 60335-1, EN 61800-5-1, CE; (D) EN 61800-5-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011

Weight
Centrifugal fanWeight Centrifugal
module with
support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 450-RS04 -G1	6,70	K3G 450-RS04 -G2	16,7
R3G 450-RT03 -H1	7,50	K3G 450-RT03 -H2	17,3
R3G 450-RJ74 -21	9,30	K3G 450-RJ74 -21	19,3
R3G 450-RK56 -01	10,6	K3G 450-RK56 -01	21,0

Curves:

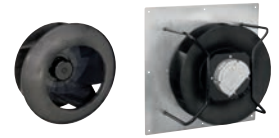


	n rpm	P _{ed} W	I A	L _{wA} dB(A)
(D) ①	1550	597	0,99	79
(D) ②	1550	836	1,35	78
(D) ③	1550	950	1,50	74
(D) ④	1550	883	1,42	75

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

EC centrifugal fans – RadiCal

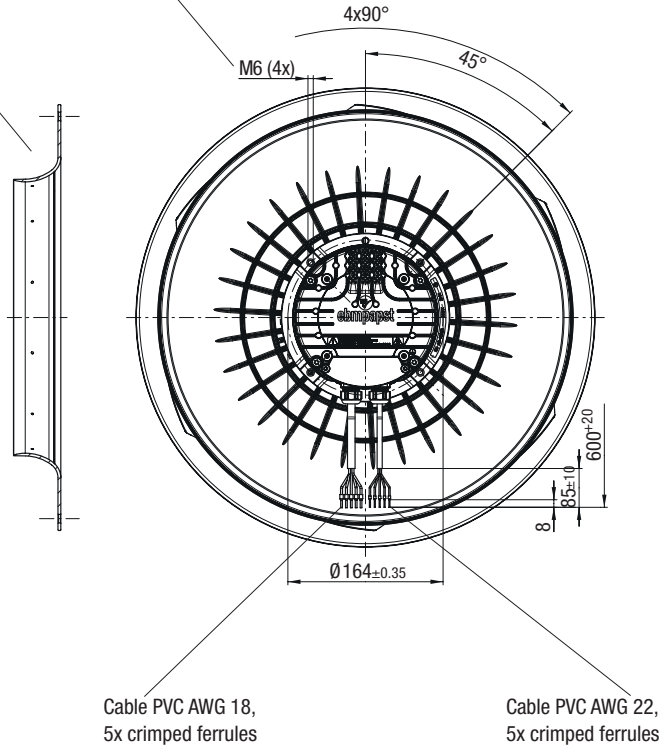
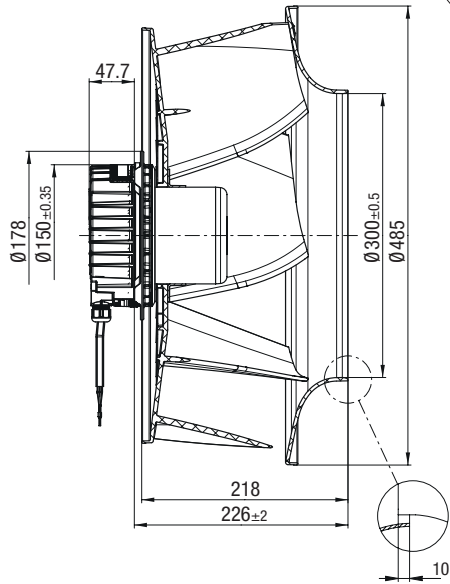
backward curved, Ø 450



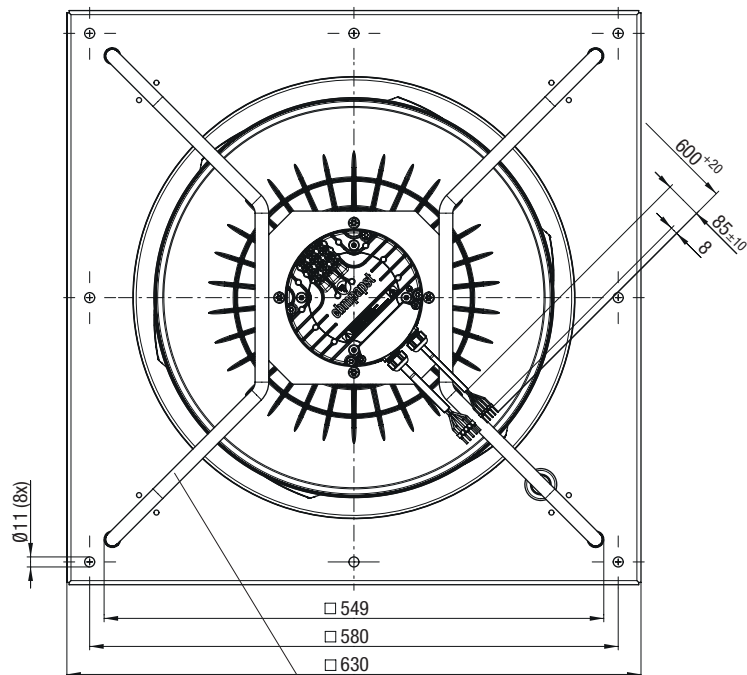
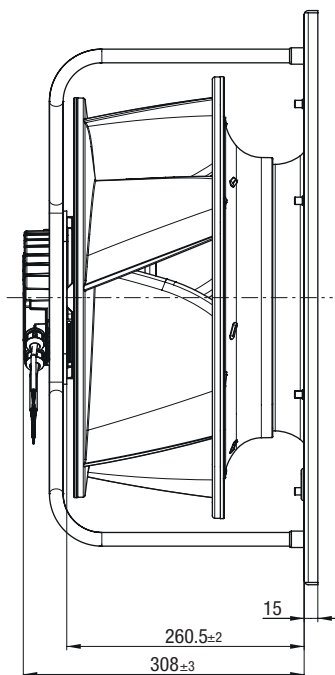
R3G 450-RS04-G1 (Centrifugal fan)

Accessory part: Inlet ring 45901-2-2943
(Material: Plastic)
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



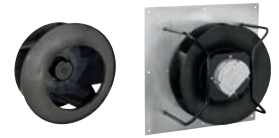
K3G 450-RS04-G2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

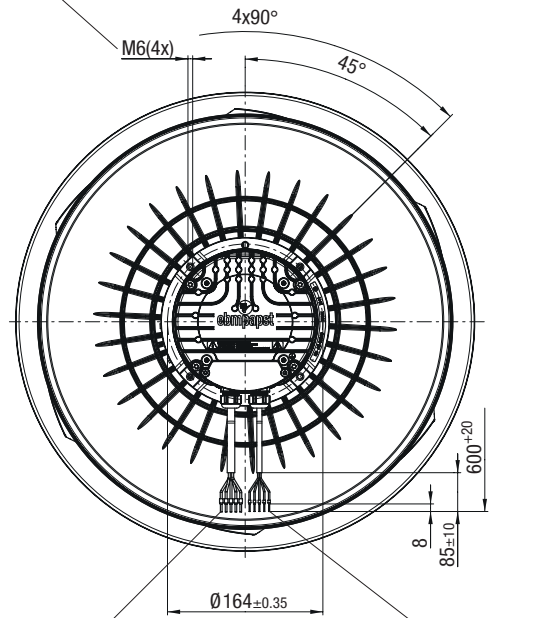
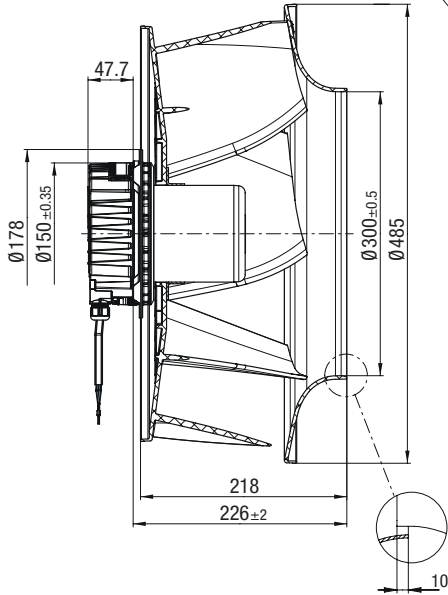
backward curved, Ø 450



R3G 450-RT03-H1 (Centrifugal fan)

Accessory part: Inlet ring 45901-2-2943
(Material: Plastic)
Not included in scope of delivery
Dimensions: see "Accessories" chapter

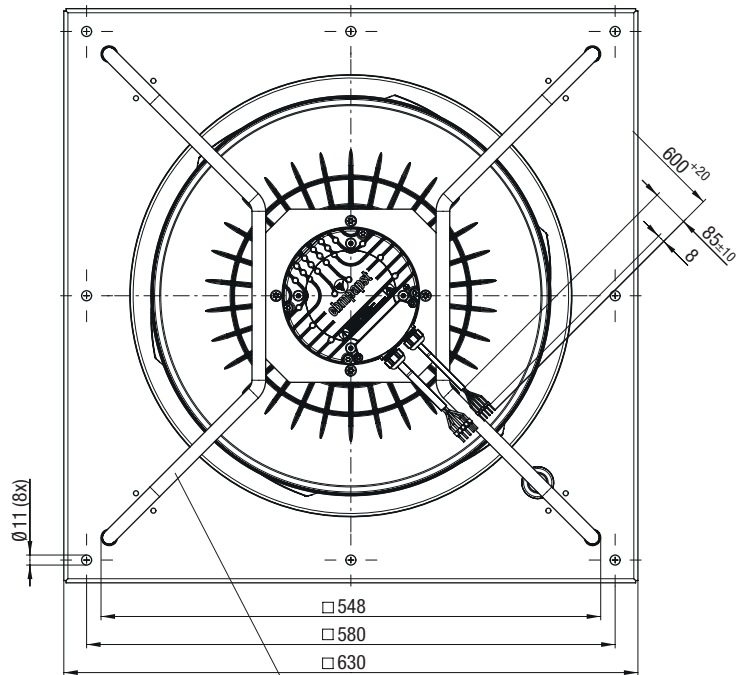
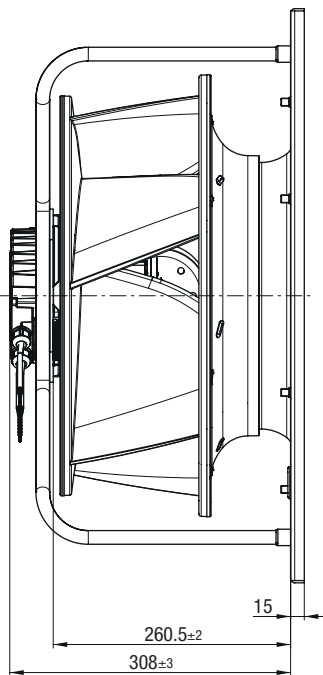
Screw-in depth max. 16 mm



Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

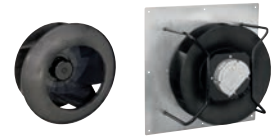
K3G 450-RT03-H2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

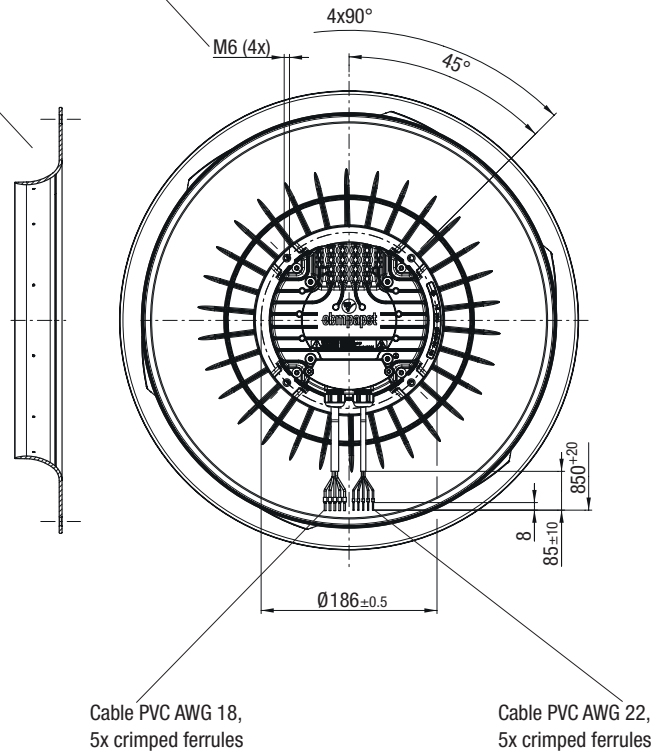
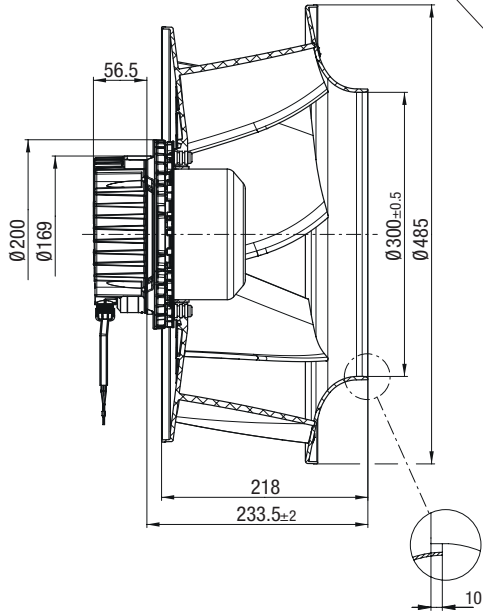
backward curved, Ø 450



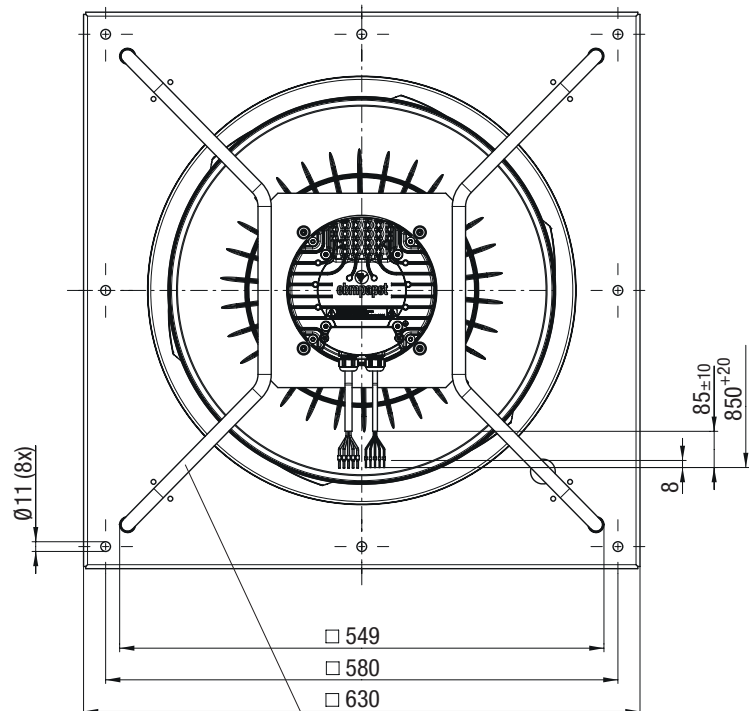
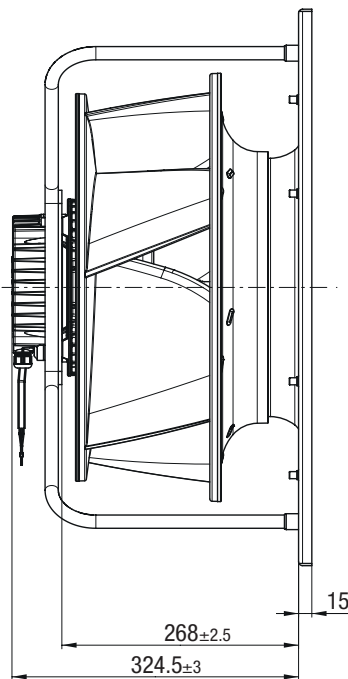
R3G 450-RJ74-21 (Centrifugal fan)

Accessory part: Inlet ring 45901-2-2943
(Material: Plastic)
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



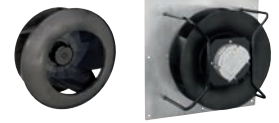
K3G 450-RJ74-21 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

backward curved, Ø 450

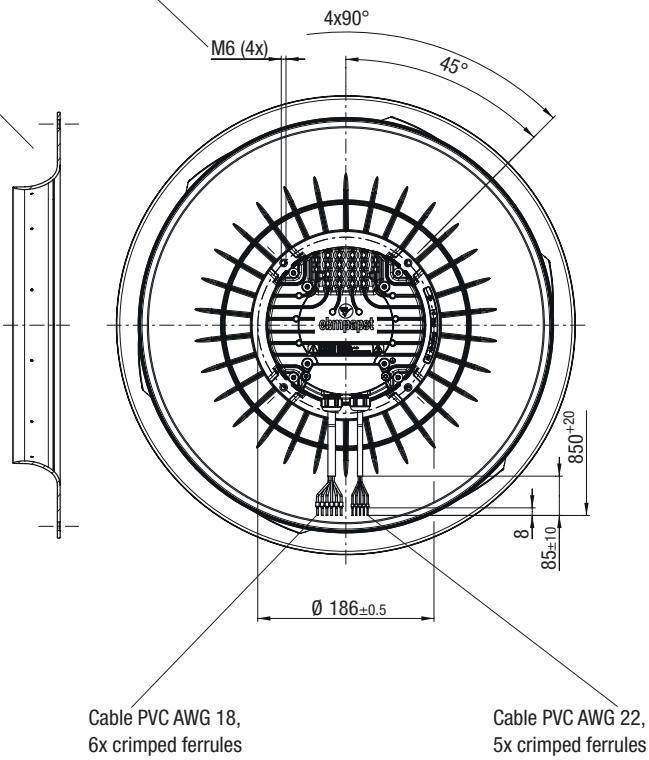
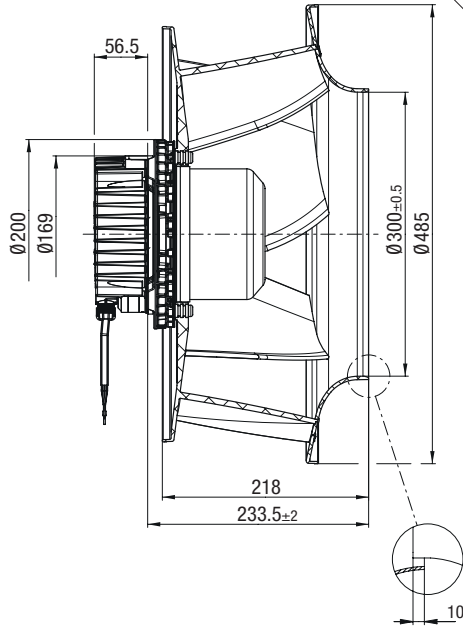


R3G 450-RK56-01 (Centrifugal fan)

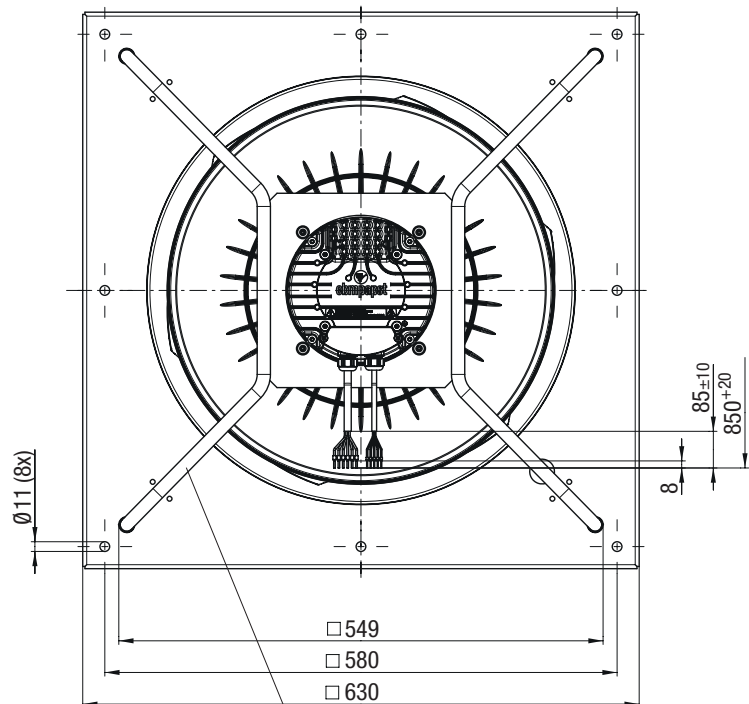
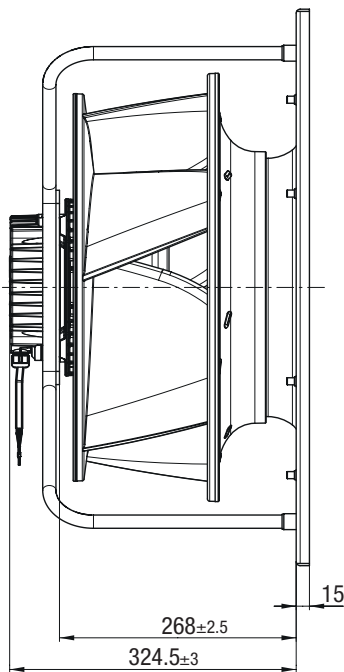


Accessory part: Inlet ring 45901-2-2943
(Material: Plastic)
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 450-RK56-01 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

backward curved, Ø 500



- **Material:** Support bracket: Steel, painted black
Support plate: Sheet steel, galvanized
Inlet ring: (A) (B) (C) (D) (E) (F) Plastic; (G) Sheet steel, galvanized
Impeller: Plastic / Rotor: Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55
- **Insulation class:** "F"
- **Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

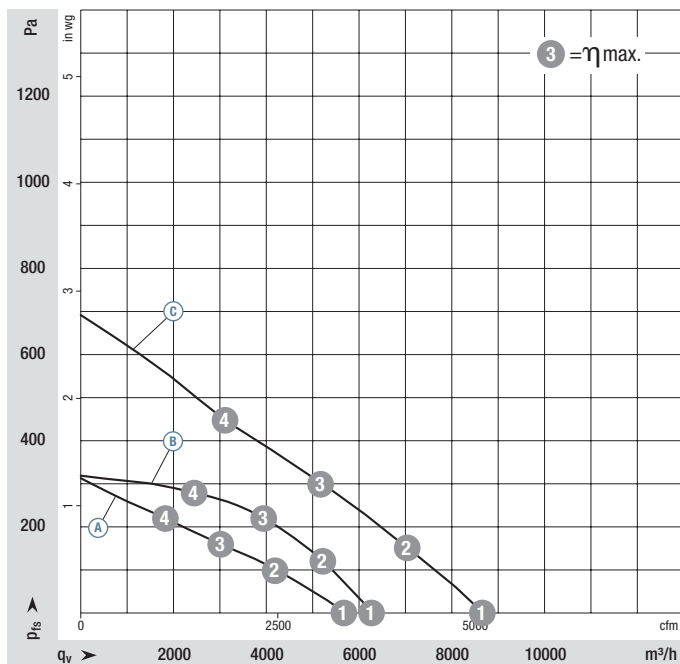
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 500	M3G 084-FA	(A) 1~200-277	50/60	750	250	1,10	-25..+60	P. 147 / RC4)	
*3G 500	M3G 084-GF	(B) 1~200-277	50/60	900	460	2,00	-25..+40	P. 147 / RC4)	
*3G 500	M3G 112-GA	(C) 1~200-277	50/60	1100	750	3,30	-25..+60	P. 147 / RC4)	
*3G 500	M3G 112-IA	(D) 3~380-480	50/60	1350	1320	2,10	-25..+50	P. 148 / RC5)	
*3G 500	M3G 150-FF	(E) 3~380-480	50/60	1700	2600	4,00	-40..+60	P. 149 / RC6)	
*3G 500	M3G 150-FF	(F) 3~380-480	50/60	1820	3190	4,60	-25..+40	P. 158 / RC14)	
*3G 500	M3G 150-FF	(G) 3~380-480	50/60	1900	3650	5,60	-40..+40	P. 153 / RC9)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

Curves:



	n rpm	P _{ed} W	I A	L _{wA} dB(A)
(A) 1	825	226	1,00	68
(A) 2	765	250	1,10	62
(A) 3	750	250	1,10	56
(A) 4	795	250	1,10	59
(B) 1	900	301	1,32	70
(B) 2	900	410	1,79	66
(B) 3	900	460	2,00	62
(B) 4	900	397	1,73	61
(C) 1	1250	743	3,30	77
(C) 2	1155	750	3,30	73
(C) 3	1100	750	3,30	67
(C) 4	1155	746	3,30	69

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 147 ff.
- **EMC:** (A) (B) (C) Interference emission according to EN 61000-6-3
 - (D) (E) According to 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
 - (A) (B) (C) Immunity to interference according to EN 61000-6-2; (D) (E) according to EN 61000-6-2 (industrial environment)
 - (A) (B) (C) (D) (E) Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** (A) (B) (C) (D) Variable
- **Terminal box design:** (E) (F) (G) electrical connection via terminal strip
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** (A) (B) (C) EN 60335-1, EN 61800-5-1, CE; (D) (E) (F) (G) EN 61800-5-1, CE
- **Approvals:** (A) (B) (C) VDE, UL, CSA, CCC, EAC; (D) (E) (F) (G) UL, CSA, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011



Weight Centrifugal fan

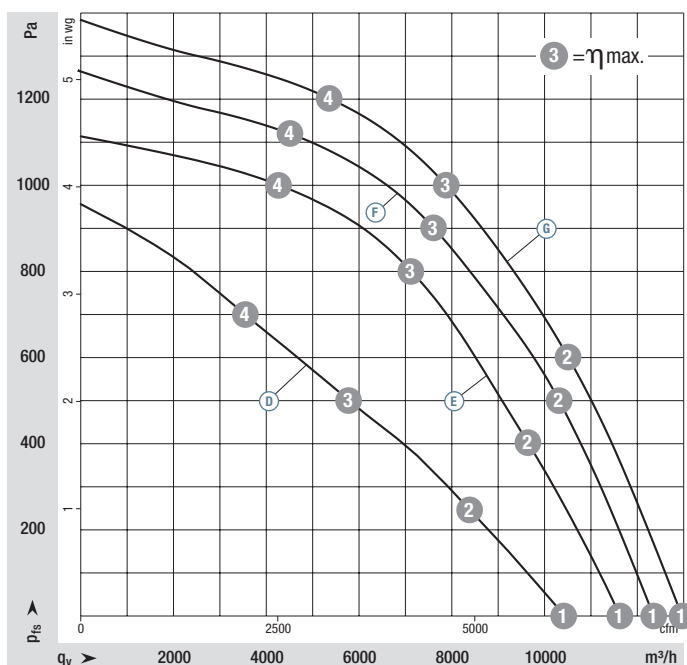


Weight Centrifugal module with support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 500-RS06 -G1	8,90	K3G 500-RS06 -G2	18,8
R3G 500-RT04 -H1	9,40	K3G 500-RT04 -H2	19,7
R3G 500-RK55 -21	13,0	K3G 500-RK55 -21	23,0
R3G 500-RL96 -01	15,1	K3G 500-RL96 -01	25,4
R3G 500-RA24 -71	21,0	K3G 500-RA24 -71	35,0
R3G 500-RA26 -C1 ⁽²⁾	28,0	K3G 500-RA26 -C1 ⁽²⁾	43,5
R3G 500-RA28 -03	21,0	K3G 500-RA28 -03	35,0

(2) with Aktive-PFC

Curves:



Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{WA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

	n rpm	P _{ed} W	I A	L _{WA} dB(A)
(D) 1	1495	1215	1,91	82
(D) 2	1405	1320	2,10	77
(D) 3	1350	1320	2,10	71
(D) 4	1435	1300	2,05	77
(E) 1	1700	1848	2,90	86
(E) 2	1700	2408	3,72	83
(E) 3	1700	2600	4,00	78
(E) 4	1700	2378	3,68	80
(F) 1	1820	2280	3,30	88
(F) 2	1820	3045	4,40	84
(F) 3	1820	3190	4,60	79
(F) 4	1820	2730	3,95	84
(G) 1	1900	2554	3,95	89
(G) 2	1900	3485	5,34	85
(G) 3	1900	3650	5,60	80
(G) 4	1900	3248	4,98	84

EC centrifugal fans – RadiCal

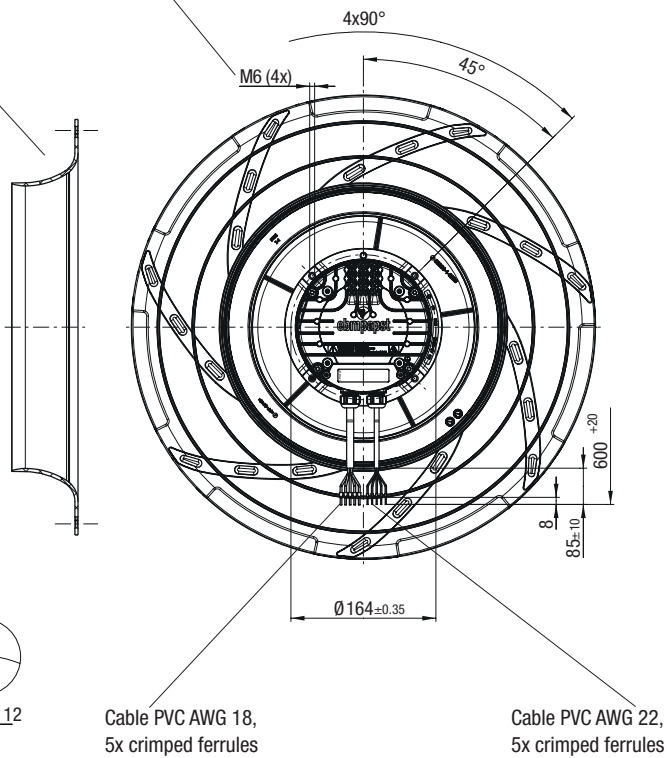
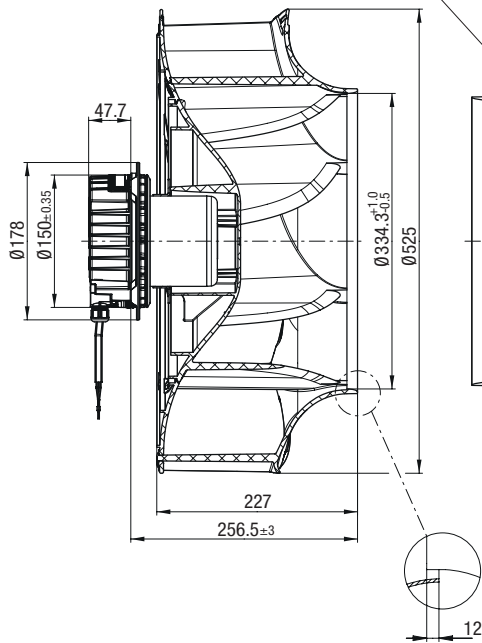
backward curved, Ø 500



R3G 500-RS06-G1 (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

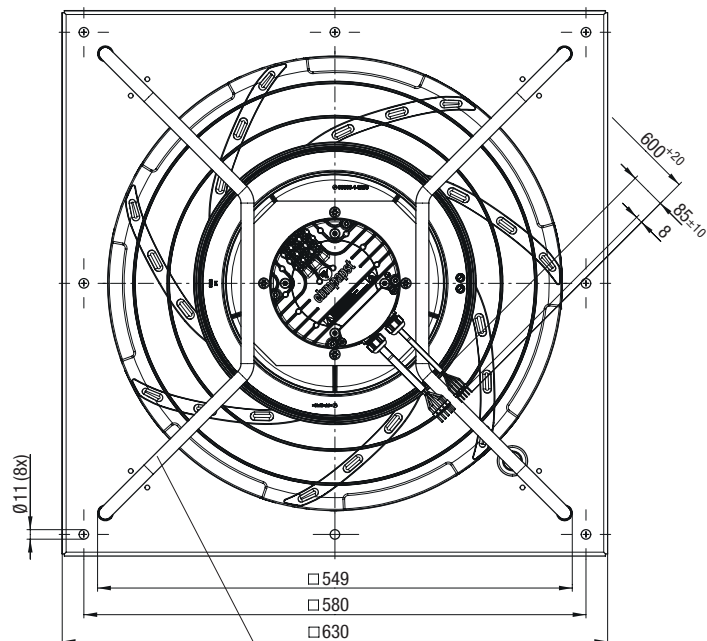
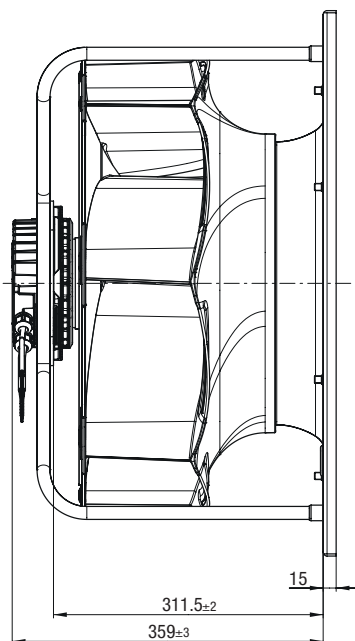
Screw-in depth max. 16 mm



Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

K3G 500-RS06-G2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

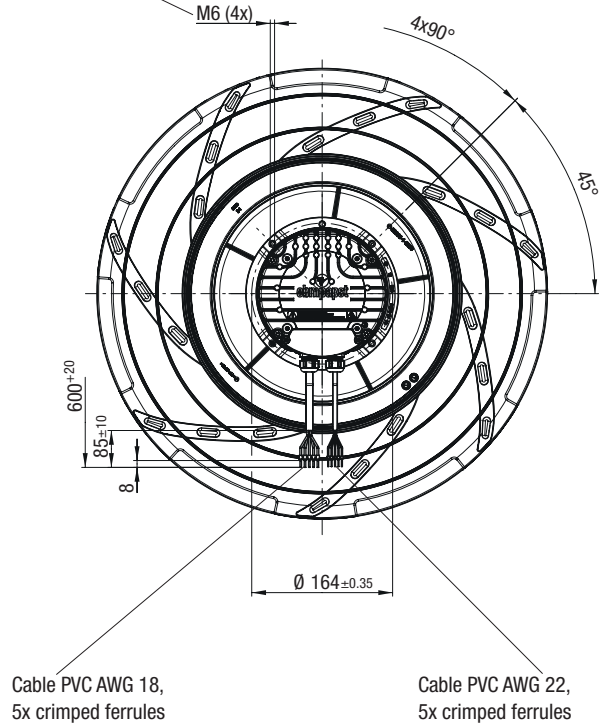
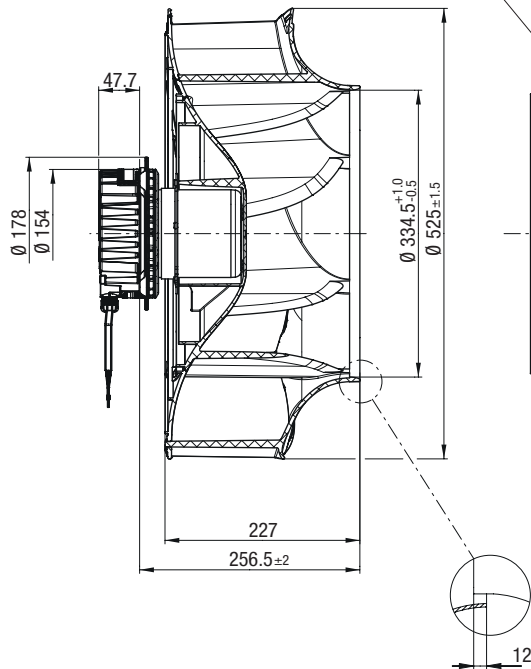
backward curved, Ø 500



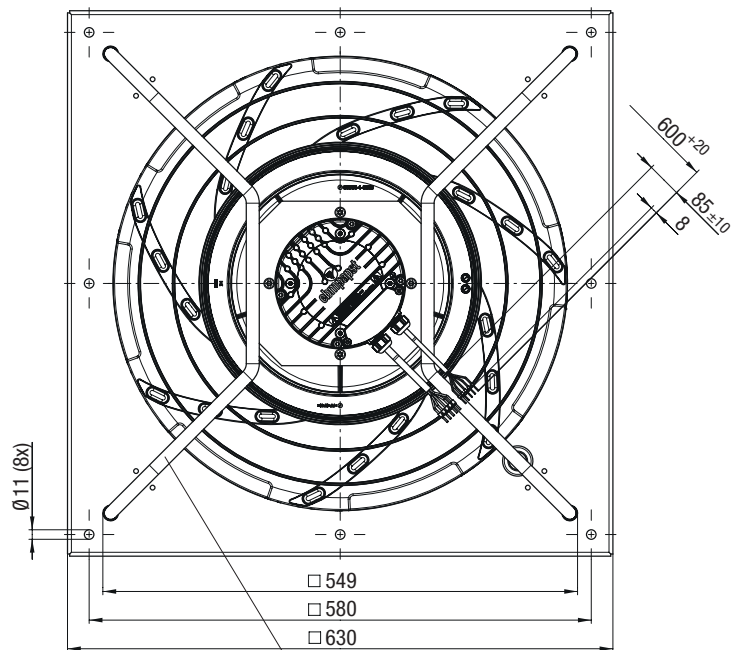
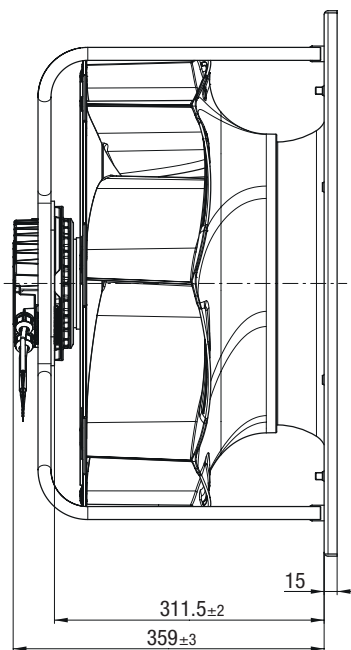
R3G 500-RT04-H1 (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



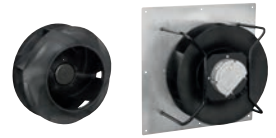
K3G 500-RT04-H2 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

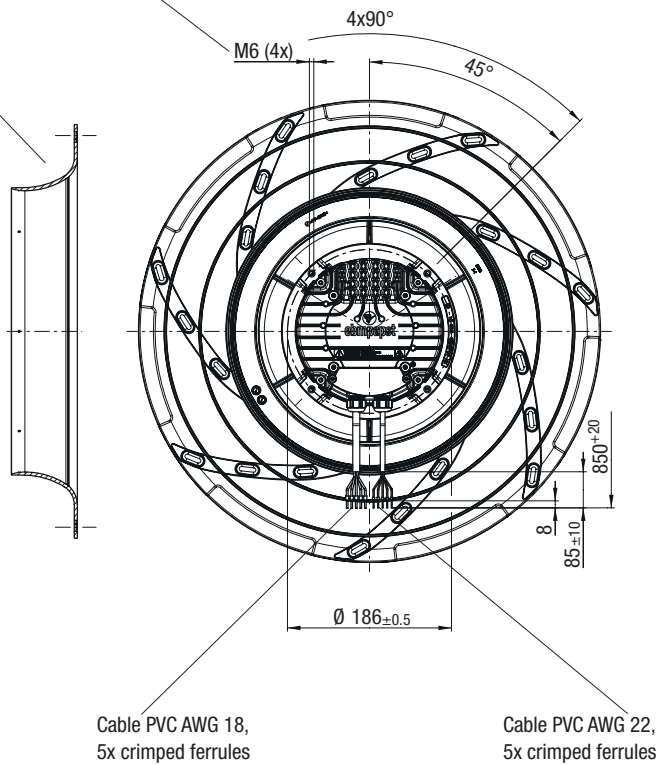
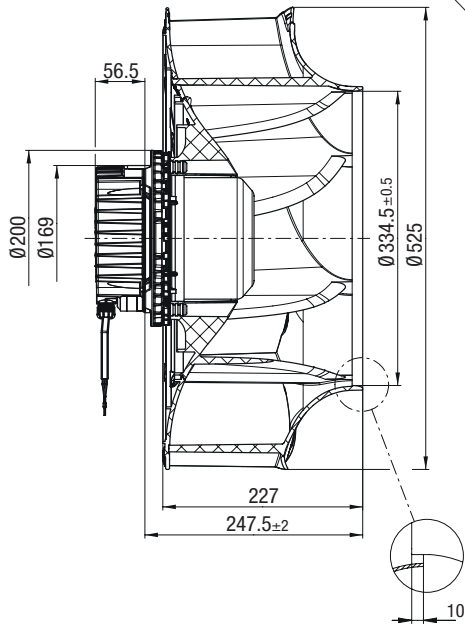
backward curved, Ø 500



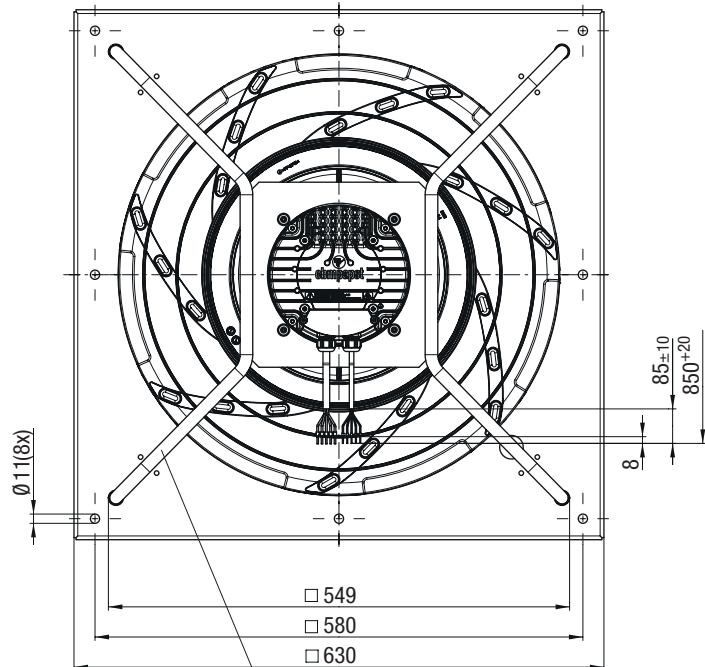
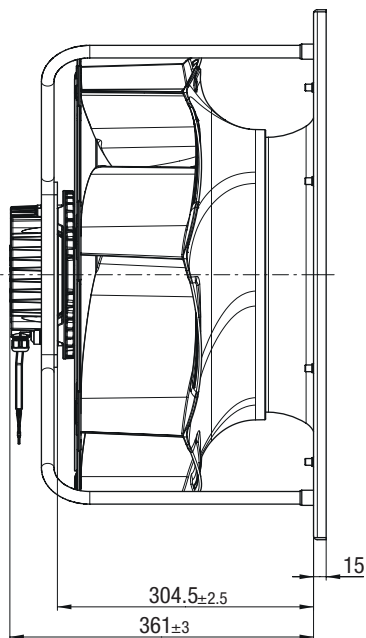
R3G 500-RK55-21 (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 500-RK55-21 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

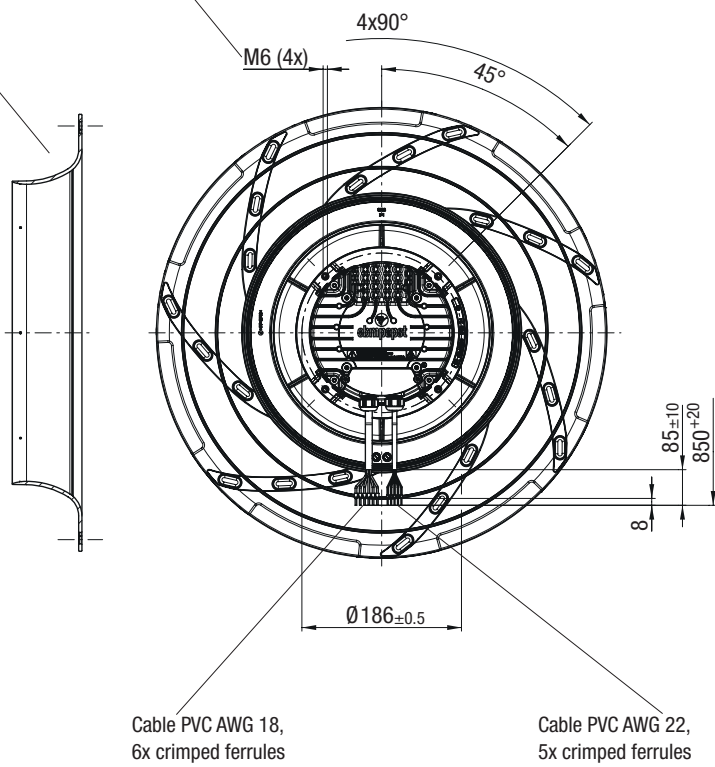
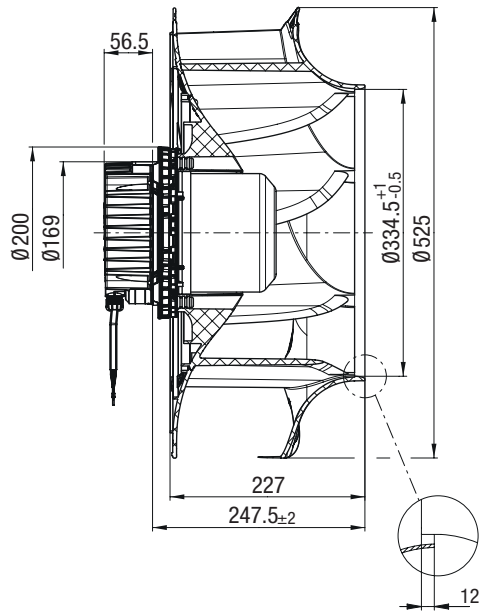
backward curved, Ø 500



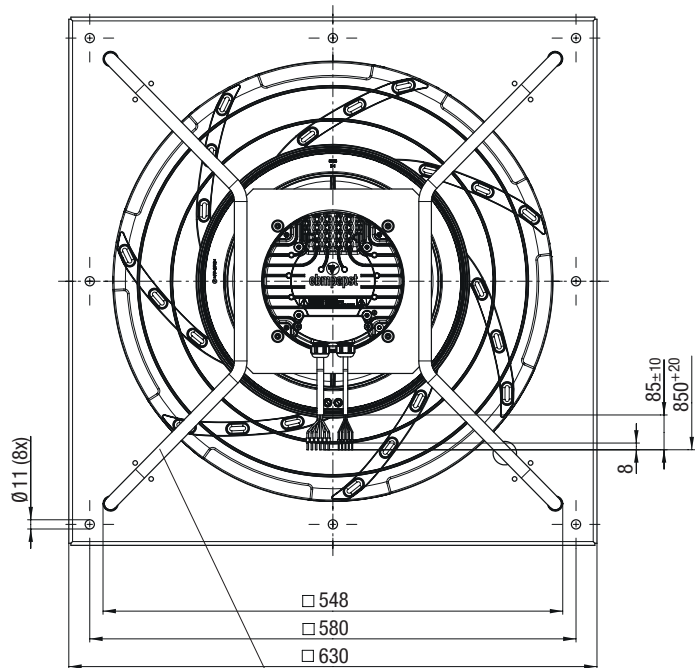
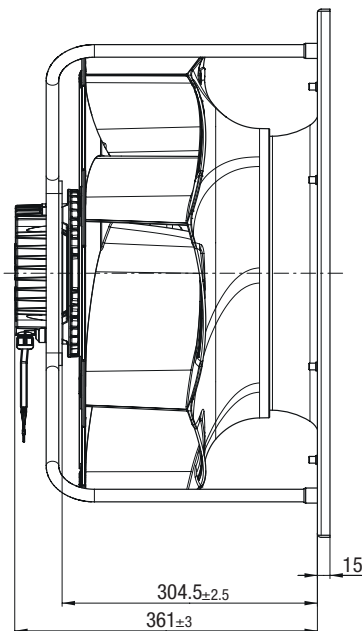
R3G 500-RL96-01 (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm



K3G 500-RL96-01 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

backward curved, Ø 500

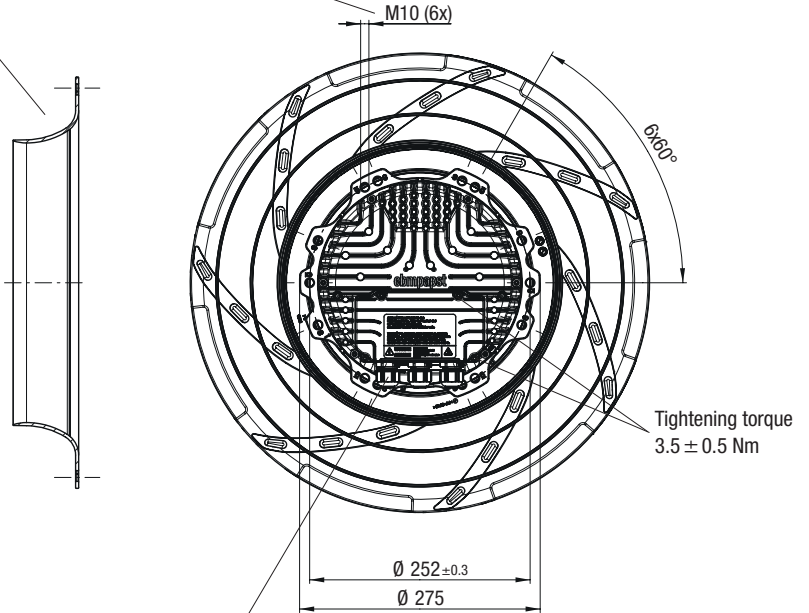
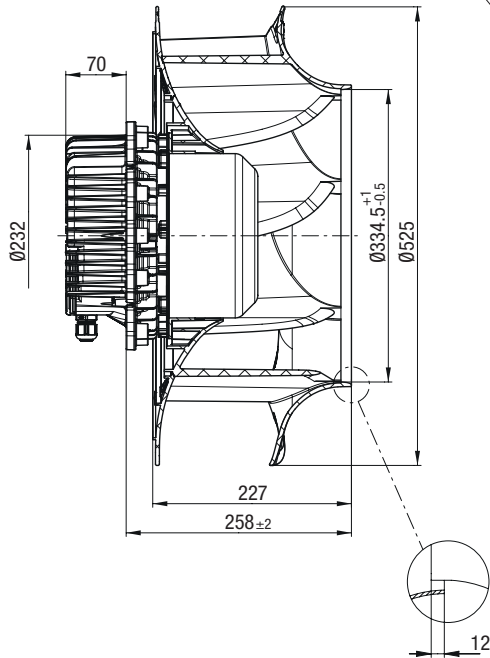


R3G 500-RA24-71 (Centrifugal fan)



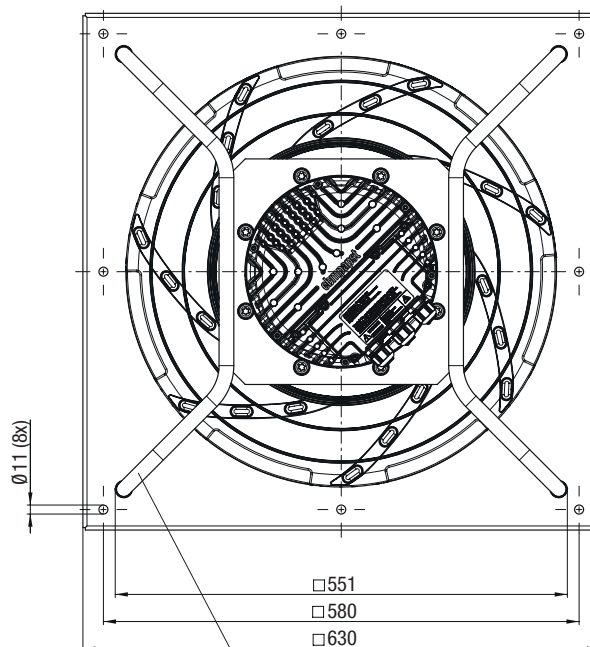
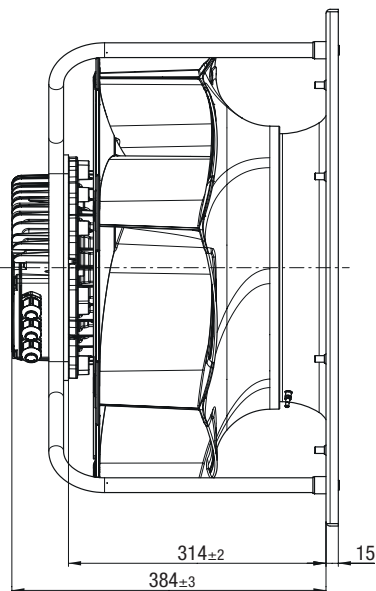
Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 25 mm



Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 500-RA24-71 (Centrifugal module with support bracket)



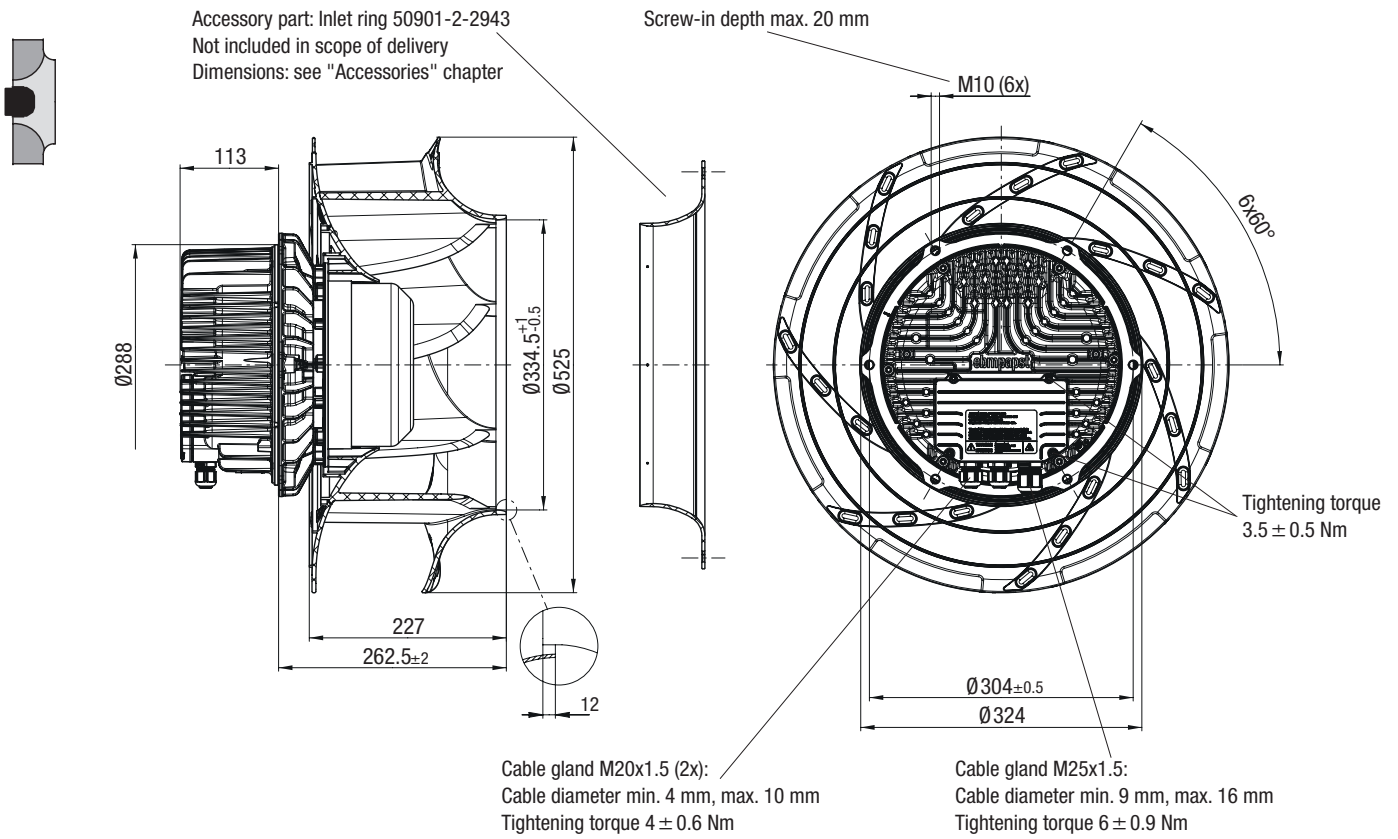
Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

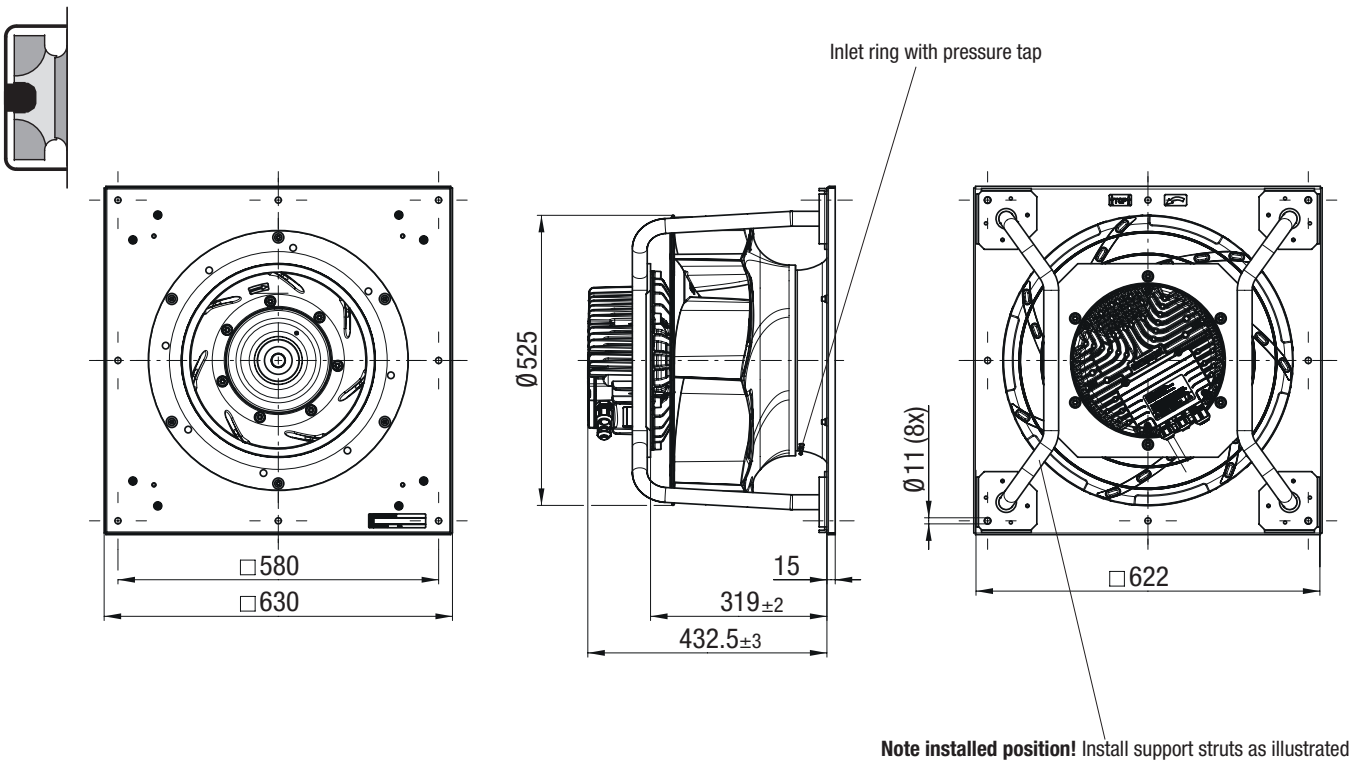
backward curved, Ø 500 (with Aktive-PFC)



R3G 500-RA26-C1 (Centrifugal fan)



K3G 500-RA26-C1 (Centrifugal module with support bracket)



EC centrifugal fans – RadiCal

backward curved, Ø 500

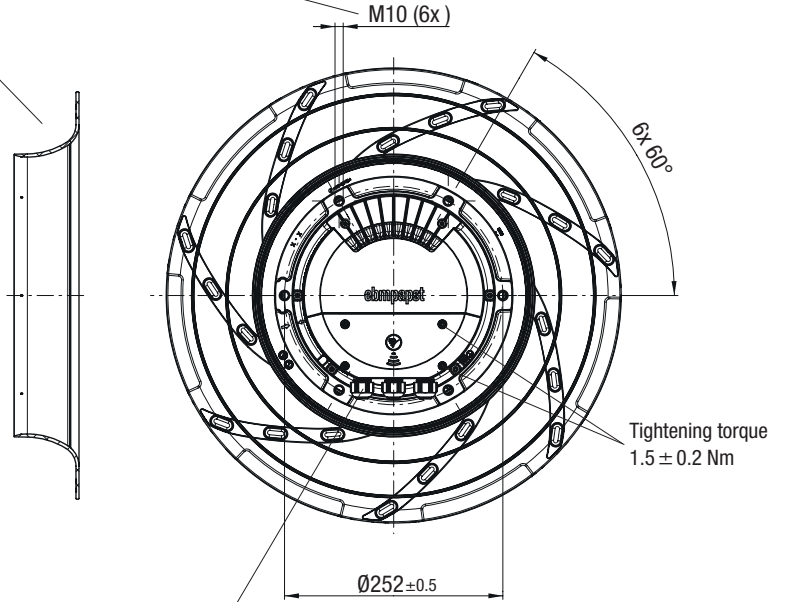
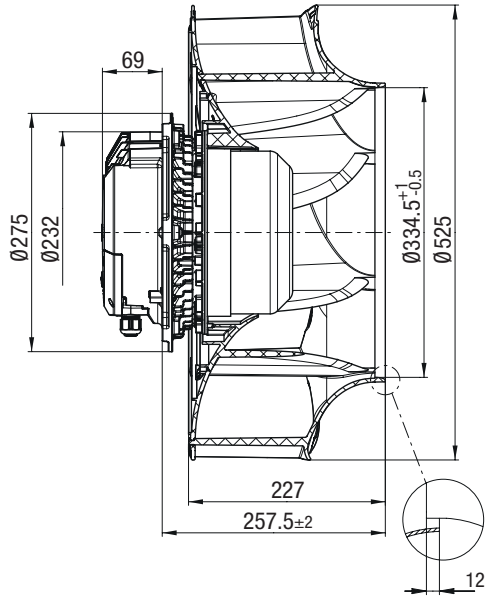


R3G 500-RA28-03 (Centrifugal fan)



Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 20 mm

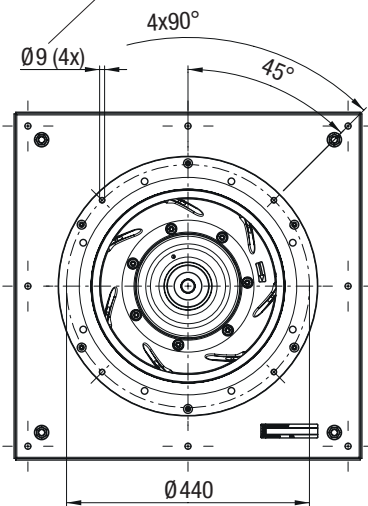


Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 2 ± 0.2 Nm

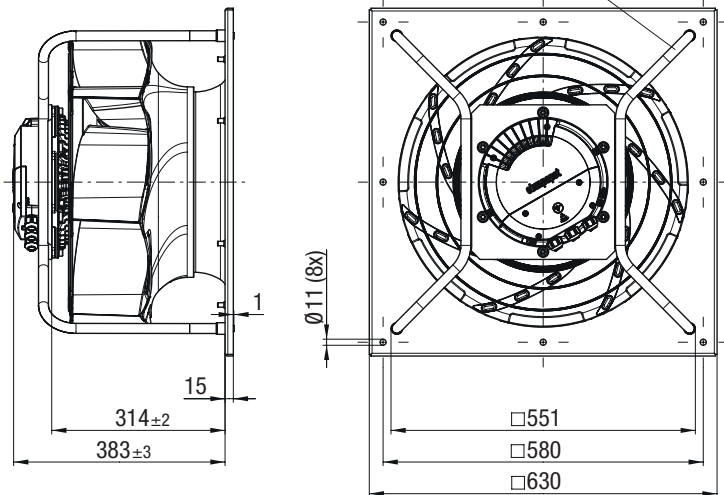
K3G 500-RA28-03 (Centrifugal module with support bracket)



Attachment for FlowGrid



Note installed position! Install support struts as illustrated



EC centrifugal fans – RadiCal

backward curved, Ø 560



- **Material:** Support bracket: Steel, painted black
Support plate and Inlet ring: Sheet steel, galvanized
Impeller: Plastic / Rotor: Painted black
Electronics housing: Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55
- **Insulation class:** "F"
- **Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

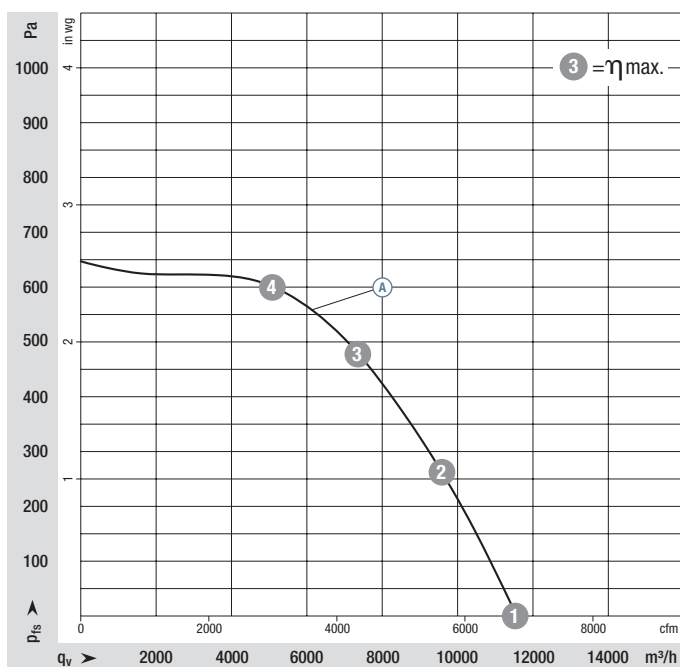
Nominal data

Type	Motor	Curve	Nominal voltage range	Frequency	Speed ⁽¹⁾	Max. Input power ⁽¹⁾	Max. Input current ⁽¹⁾	Perm. ambient temp.	Techn. features and connection diagram
Type	Motor	VAC	Hz	rpm	W	A	°C		
*3G 560	M3G 150-FF	Ⓐ 1~200-277	50/60	1340	1500	6,70	-25..+55	P. 150 / RC7)	
*3G 560	M3G 150-FF	Ⓑ 3~380-480	50/60	1540	2360	3,65	-40..+60	P. 149 / RC6)	
*3G 560	M3G 150-IF	Ⓒ 3~380-480	50/60	1650	2900	4,43	-40..+55	P. 149 / RC6)	
*3G 560	M3G 150-IF	Ⓓ 3~380-480	50/60	1660	3190	4,60	-25..+40	P. 158 / RC14)	
*3G 560	M3G 150-FF	Ⓔ 3~380-480	50/60	1750	3700	5,70	-40..+40	P. 153 / RC9)	

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

Curves:



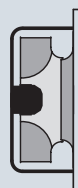
	n rpm	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ 1	1340	1145	5,03	83
Ⓐ 2	1340	1469	6,46	79
Ⓐ 3	1340	1500	6,70	74
Ⓐ 4	1340	1480	6,47	77

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

- **Technical features:** See connection diagram P. 149 ff.
- **EMC:** (B) (C) Interference emission according to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
 - (A) (B) (C) Immunity to interference according to EN 61000-6-2 (industrial environment)
 - (B) (C) Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Terminal box design:** electrical connection via terminal strip
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 61800-5-1, CE
- **Approvals:** (A) (B) (C) (D) (E) UL, CSA, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011



Weight Centrifugal fan

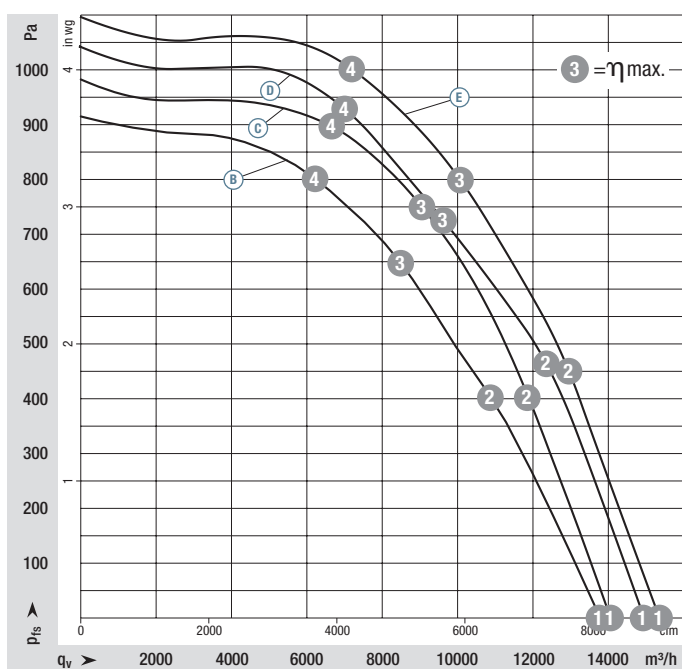


Weight Centrifugal module with support bracket

Centrifugal fan	kg	Centrifugal module with support bracket	kg
R3G 560-RA25 -21	22,5	K3G 560-RA25 -21	44,6
R3G 560-RA25 -71	22,4	K3G 560-RA25 -71	42,0
R3G 560-RB31 -71	26,5	K3G 560-RB31 -71	46,7
R3G 560-RB27 -C1 ⁽²⁾	33,5	K3G 560-RB27 -C1 ⁽²⁾	58,0
R3G 560-RA24 -03	22,7	K3G 560-RA24 -03	43,3

(2) with Aktive-PFC

Curves:



Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: L_{WA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

	n rpm	P _{ed} W	I A	L _{WA} dB(A)
(B) 1	1540	1840	2,89	86
(B) 2	1540	2296	3,56	81
(B) 3	1540	2360	3,65	78
(B) 4	1540	2313	3,58	80
(C) 1	1650	2030	3,17	87
(C) 2	1650	2695	4,16	81
(C) 3	1650	2900	4,43	77
(C) 4	1650	2769	4,28	81
(D) 1	1710	2250	3,30	87
(D) 2	1710	3120	4,50	82
(D) 3	1660	3190	4,60	80
(D) 4	1690	3180	4,60	82
(E) 1	1750	2466	3,80	89
(E) 2	1750	3326	5,08	85
(E) 3	1750	3700	5,70	83
(E) 4	1750	3517	5,36	85

EC centrifugal fans – RadiCal

backward curved, Ø 560

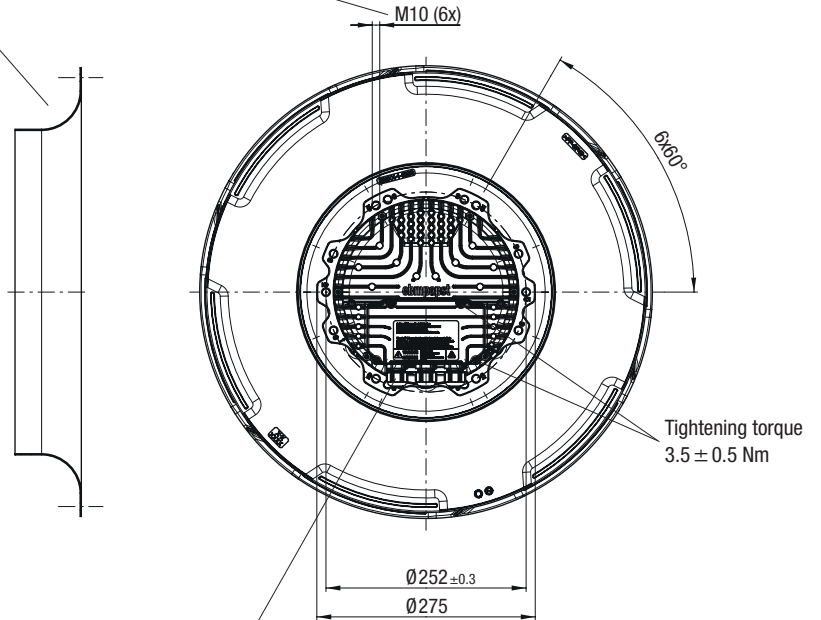
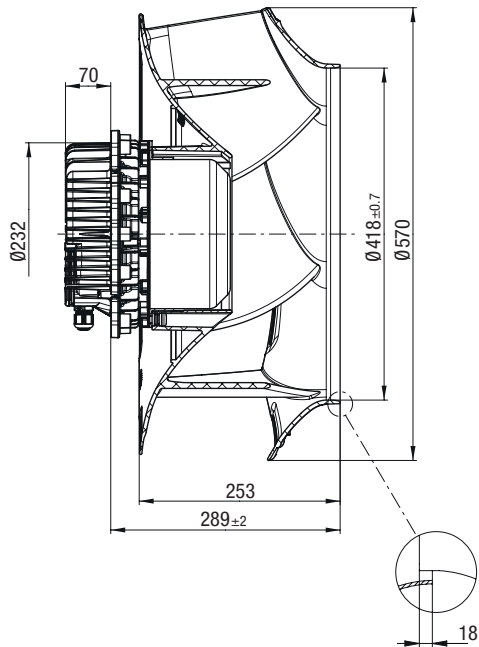


R3G 560-RA25-21 (Centrifugal fan)



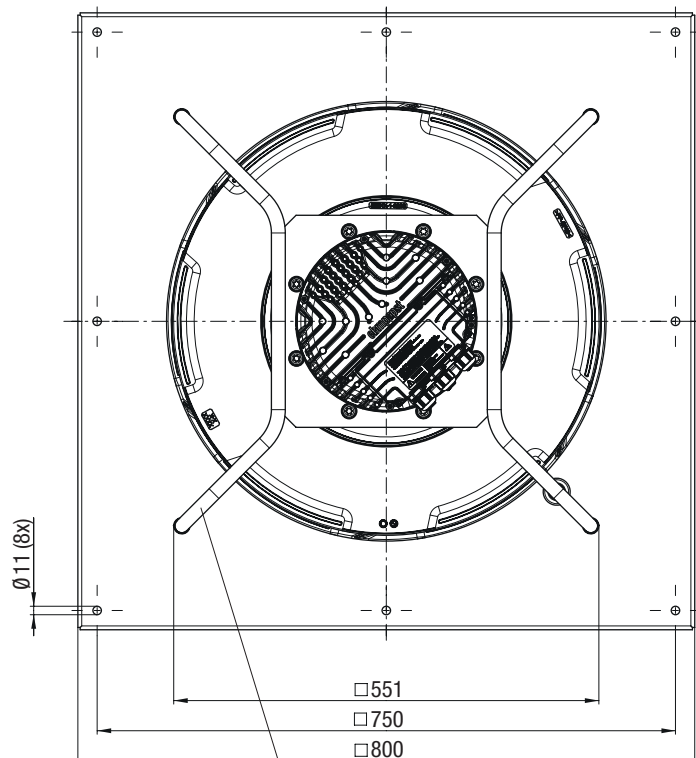
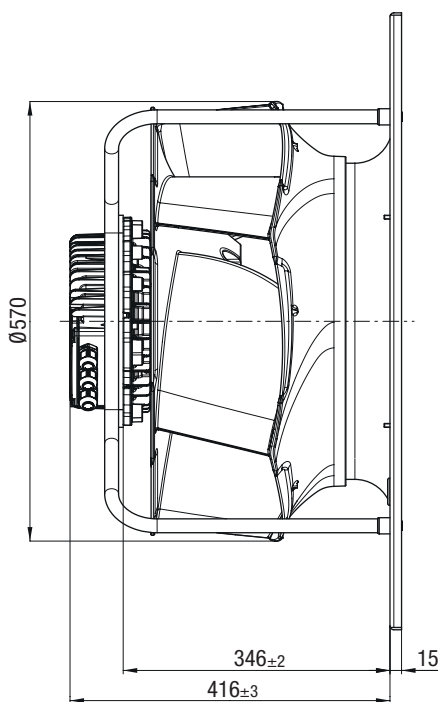
Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 25 mm



Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 560-RA25-21 (Centrifugal module with support bracket)



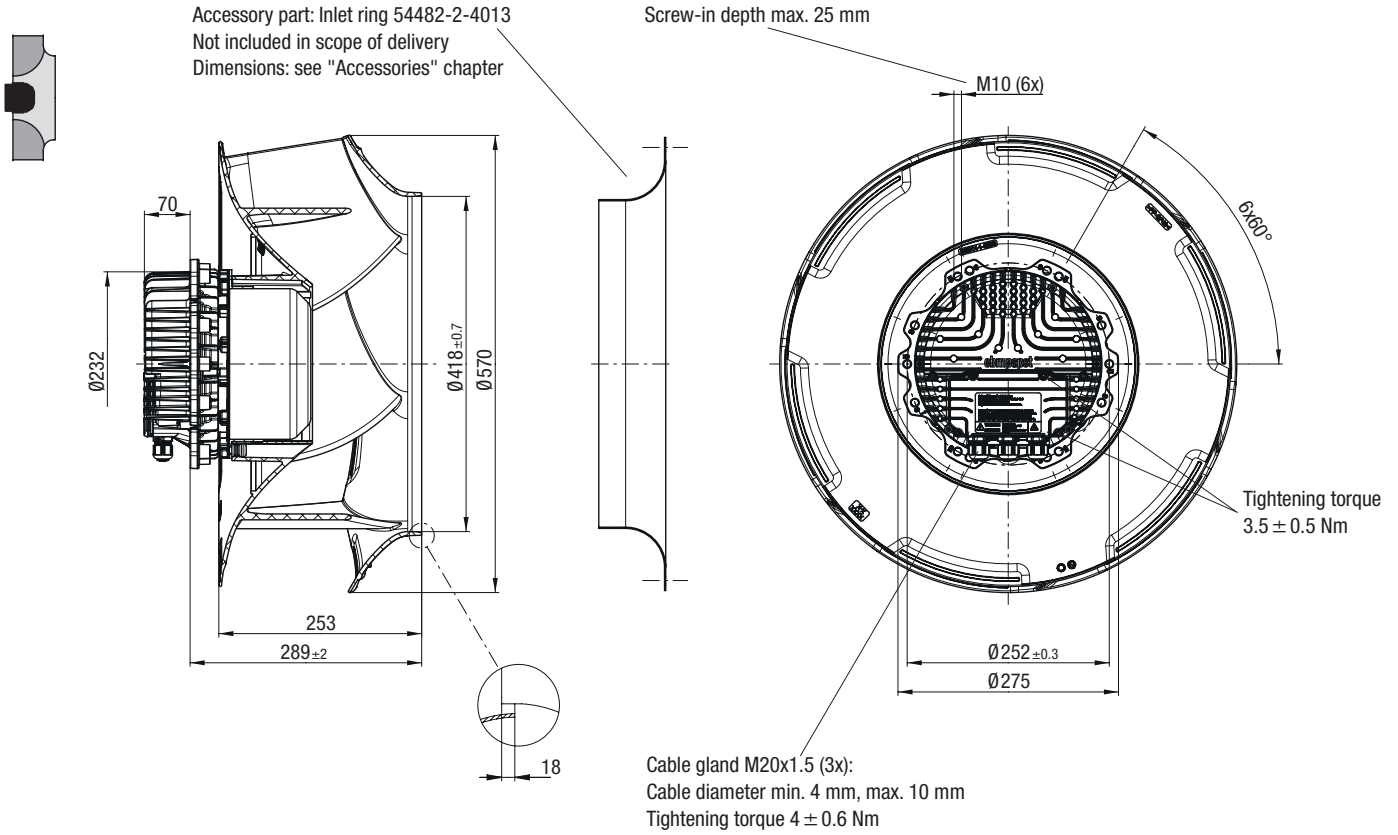
Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

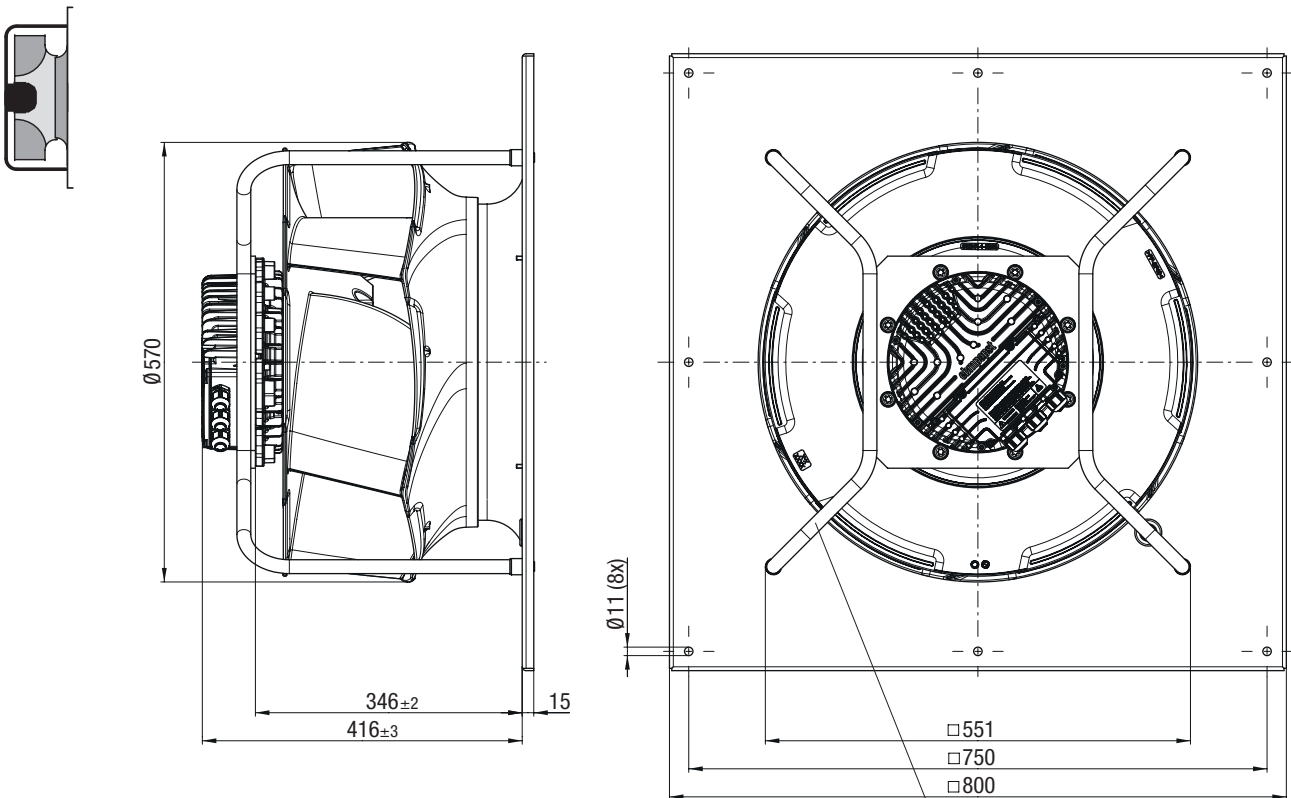
backward curved, Ø 560



R3G 560-RA25-71 (Centrifugal fan)



K3G 560-RA25-71 (Centrifugal module with support bracket)



Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

backward curved, Ø 560

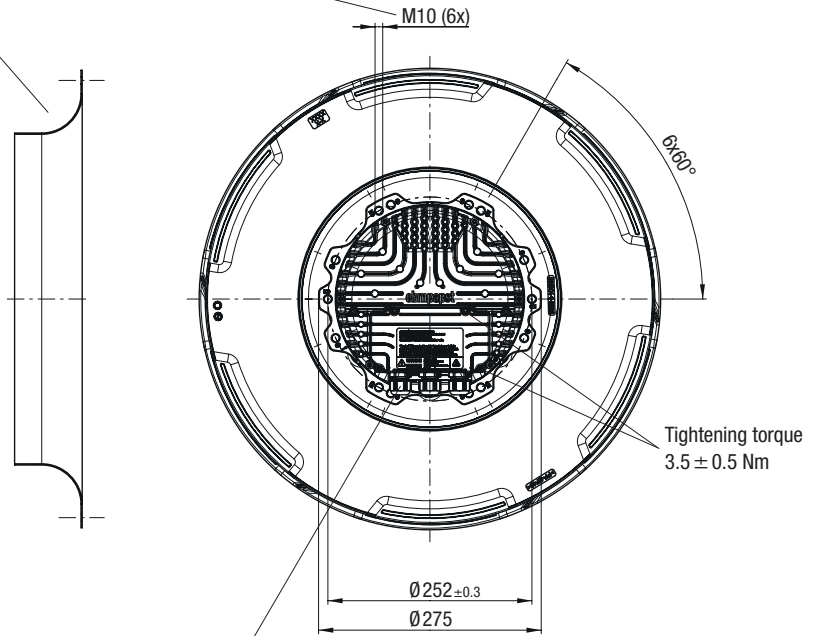
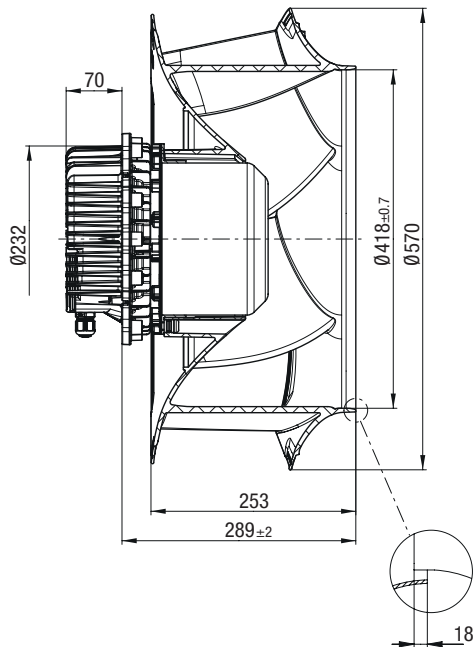


R3G 560-RB31-71 (Centrifugal fan)



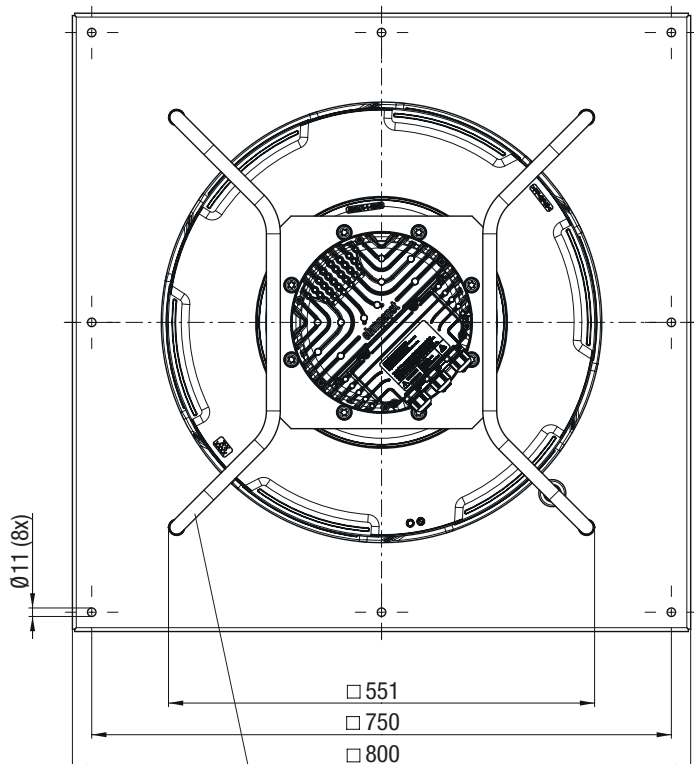
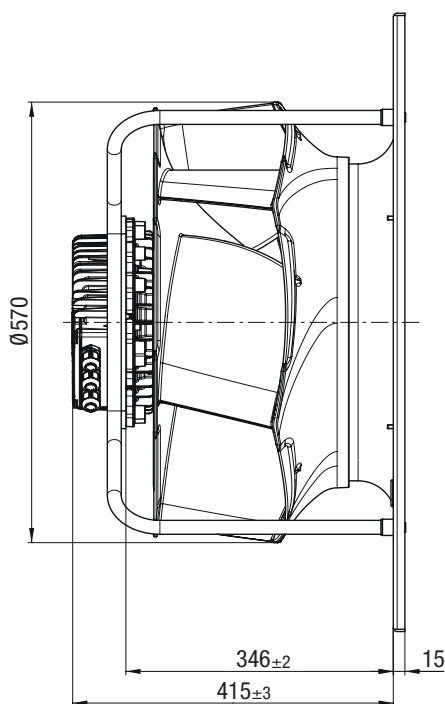
Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 25 mm



Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 560-RB31-71 (Centrifugal module with support bracket)



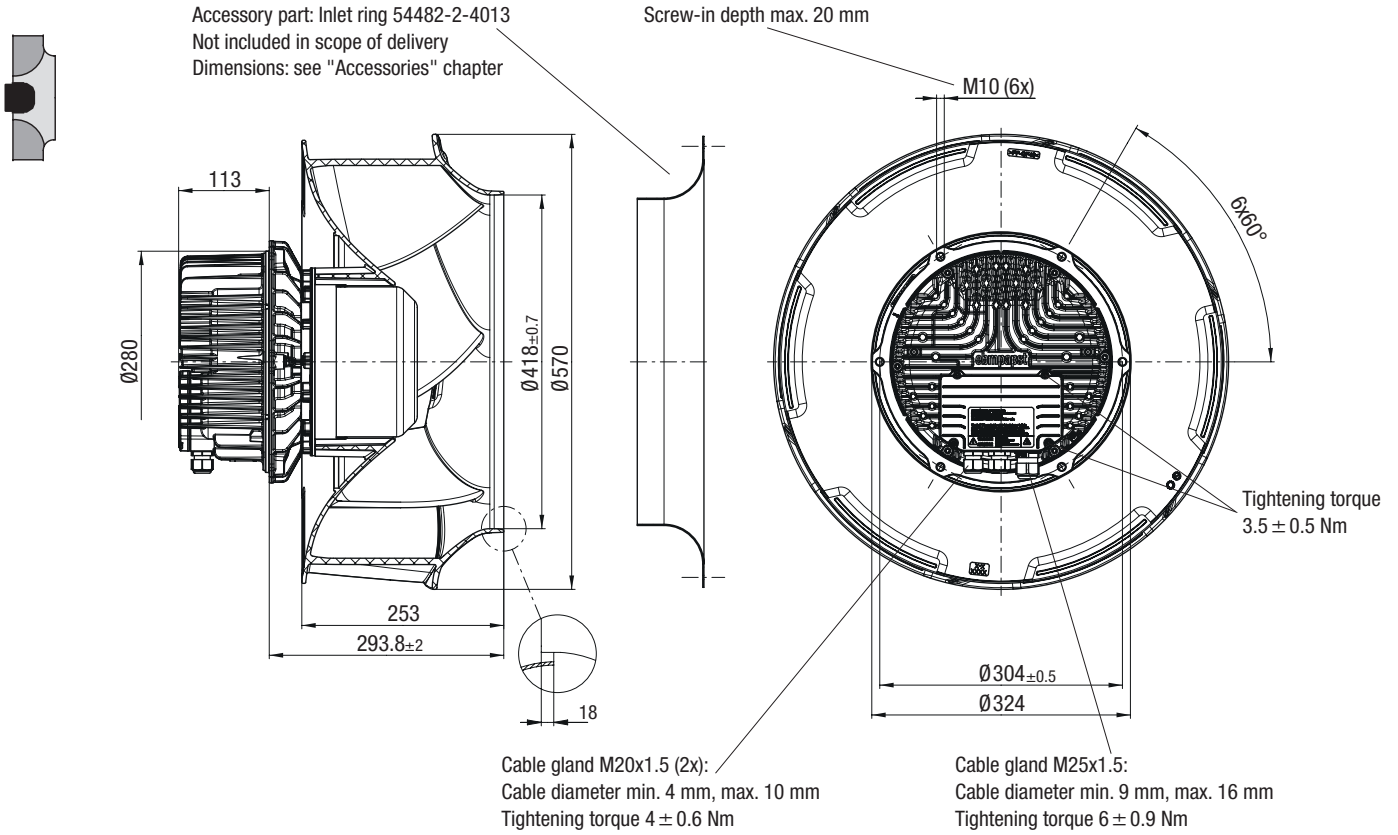
Note installed position! Install support struts as illustrated

EC centrifugal fans – RadiCal

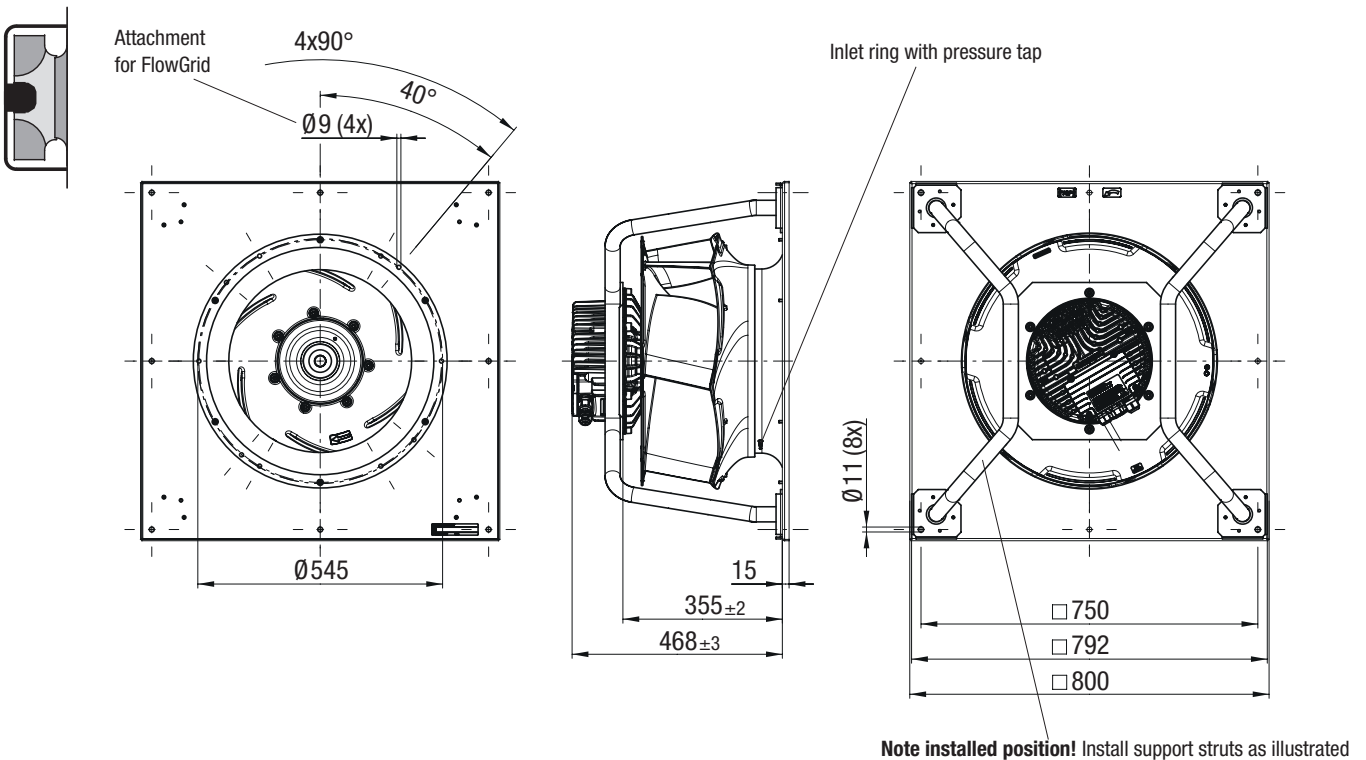
backward curved, Ø 560 (with Aktive-PFC)



R3G 560-RB27-C1 (Centrifugal fan)



K3G 560-RB27-C1 (Centrifugal module with support bracket)



EC centrifugal fans – RadiCal

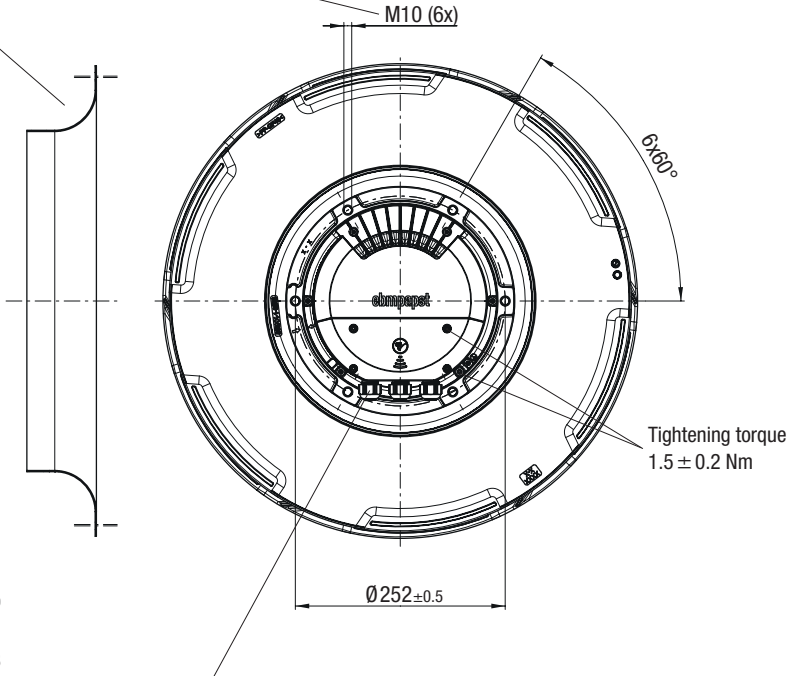
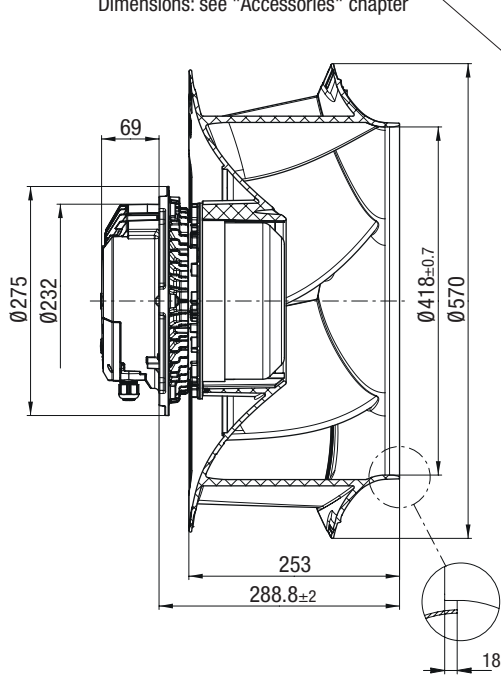
backward curved, Ø 560



R3G 560-RA24-03 (Centrifugal fan)

Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 20 mm

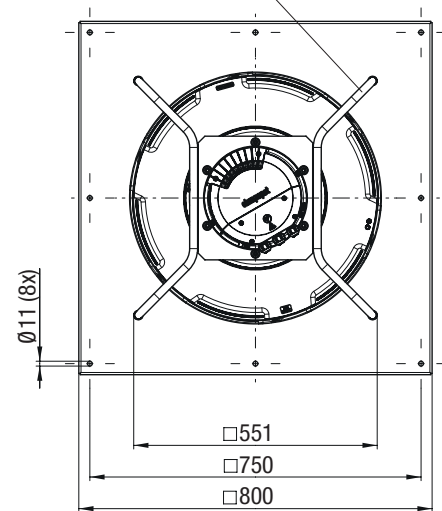
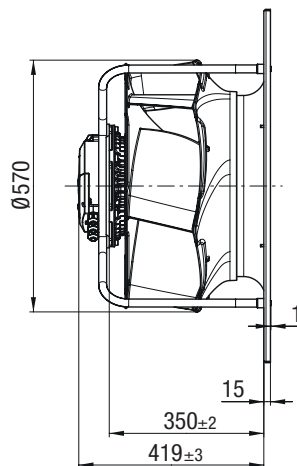
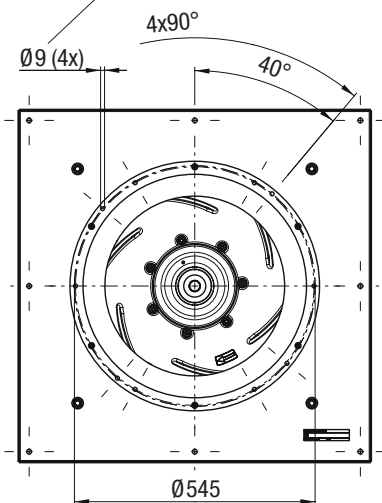


Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 2 ± 0.2 Nm

K3G 560-RA24-03 (Centrifugal module with support bracket)

Attachment for FlowGrid

Note installed position! Install support struts as illustrated



Tender specifications

Fan size 133 to 560

Direct-drive, single inlet centrifugal fans with backward-curved one-piece impellers made of high-tech composite material, based on a GreenTech EC external rotor motor with integrated control electronics.

Impeller, sizes 133 to 560 mm, made of high-tech composite material. This permits high circumferential speeds and thus a high power density suitable for a wide range of applications.

Motor impeller statically and dynamically balanced on two planes to balancing grade G 6.3 in accordance with DIN ISO 1940. GreenTech EC external rotor motor surpasses efficiency class IE4, magnets with no rare earths, maintenance-free ball bearings with long-term lubrication, theoretical nominal service life of at least 40,000 hours of operation.

Soft start, integrated current limitation, extended voltage input 1~200-277 V, 50/60 or 3~380-480 V, 50/60 Hz. The fan can be used with all standard power supply networks with unaltered air performance.

Integrated control electronics, low-noise commutation logic; 100% open-loop speed control; all fans have an optional RS485/MODBUS RTU interface, no shielded cables are required for connection.

All 1~ types feature integrated active PFC (Power Factor Correction) to reduce disturbing harmonic content.

Terminal box made of aluminum/plastic with easily accessible connection area, environment-resistant cable glands, or with brought-out cables.

Version for wall mounting:

Sizes 133 to 560, designed as ready-to-install support bracket intended for wall mounting. With sizes 133 to 250 the support structure is made of plastic, as of size 250 it is a black-coated, welded structure made of bent round steel bar with mounting plate and inlet ring made of sendzimir galvanized sheet steel. Installation position with horizontal motor shaft and vertical motor shaft with rotor on bottom. Vertical installation position with rotor on top on request.

Any work required for isolation from structure-borne noise is to be performed by the customer.

The fan satisfies the applicable EMC guidelines and requirements with regard to harmonic effects (see applicable data sheet for specific figures).

Documentation and marking in accordance with the applicable EU directives.

Reliable performance data, air performance measurements taken on an intake-side chamber test rig in accordance with ISO 5801 and DIN 24163. Noise measurements taken in an anechoic room in accordance with DIN EN ISO 3745.

Protective devices integrated in the motor:

- Alarm relay with floating contacts (250 V AC/2 A, $\cos \varphi = 1$)
- Locked-rotor protection
- Phase failure detection
- Soft start of motors
- Line undervoltage detection
- Thermal overload protection for electronics and motor
- Short circuit protection

Optional:

- Other and specific requirements on request

Technical data:

Fan type		= _____ - _____ - _____	
Air flow	qV	= _____	m ³ /h, cfm
Stat. pressure increase	pfs	= _____	Pa, in wg
Stat. overall efficiency	η_{es}	= _____	%
Operating speed	n	= _____	rpm
Motor type		= EC motor	
Type of control		= 0-100 % speed control	
Motor efficiency class		= IE4 (equivalent or better)	
Total power input	Ped	= _____	kW
Specific fan power	SFP	= _____	kW/(m ³ /s)
Nominal voltage range	U _N	= _____	V
Line frequency	f	= 50 / 60	Hz
Nominal current	I _N	= _____	A
Degree of protection		= IP54	
Sound power level	L _{WA} (A, in)	= _____ / L _{WA} (A, out) = _____	dB(A)
Sound pressure level (at 1 m)	L _{pA} (A, in)	= _____ / L _{pA} (A, out) = _____	dB(A)
Perm. ambient temperature	T	= _____ to _____	°C
Weight of fan	m	= _____	kg



EC centrifugal fans - RadiCal
Support basket
Sizes 133 - 250



EC centrifugal fans - RadiCal
With housing
Sizes 190 / 225

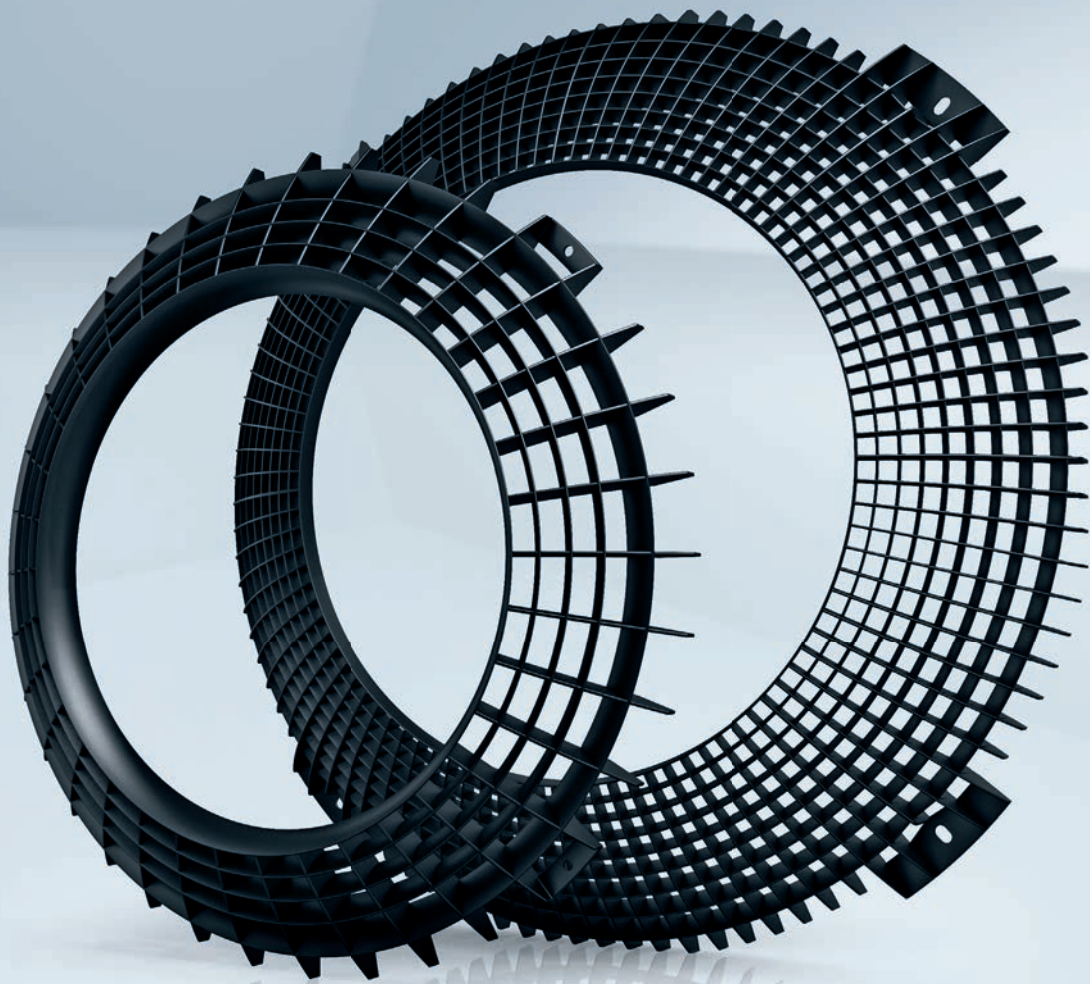


EC centrifugal fans - RadiCal
Support bracket
Sizes 250 - 560

See data sheet for dimensions and connections.



Accessories



FlowGrid air inlet grill

Efficient noise reduction

ebm-papst fans are not measured on our own advanced test stands just for their air performance alone. The acoustic behavior of the fans is also examined and the measurement results are included in the technical documentation.

Please note that the measurements are taken under ideal conditions with undisturbed inflow and outflow. If the fans are subsequently installed and used in devices with rather tight spaces, it is to be expected that the noise data provided in the documentation will not be applicable.

In order to minimize the negative impact of the installation situation, ebm-papst offers the FlowGrid air-inlet guard shown here. It is installed on the intake side of the fan and effectively reduces the noise generated by the fan. Particularly annoying, low-frequency noises are reduced efficiently. The level of noise reduction is dependent on the installation situation, which is why no generally applicable data is possible here.



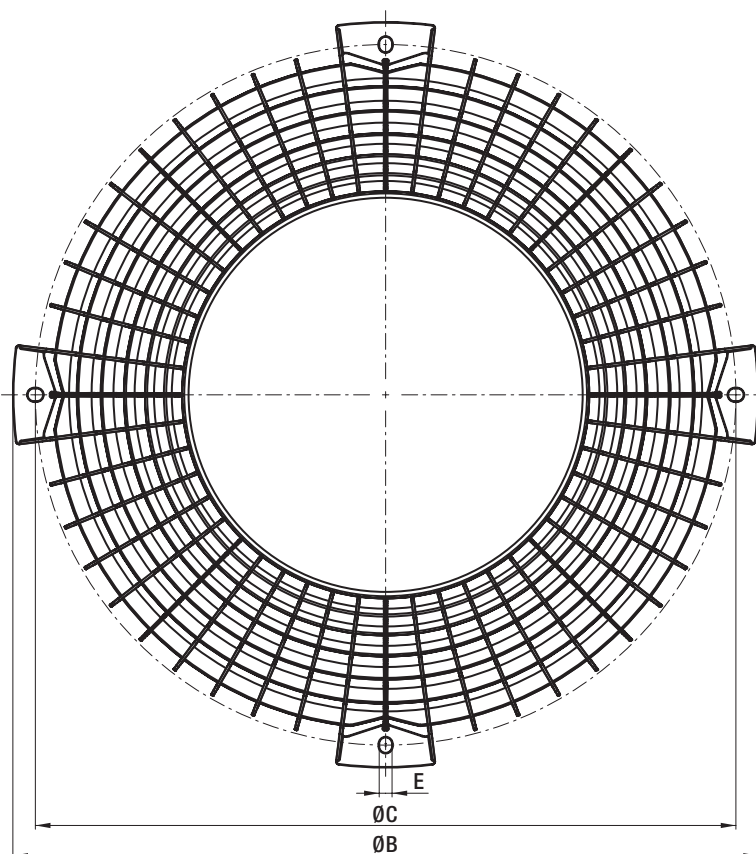
FlowGrid air inlet grill

Dimensions (mm)

Part number	Fan size	ØB	ØC	ØE	S	H	N*	
00190-2-2957	175, 190	170	155-160	4,5	2,0	30	2 ± 0,5 Nm	(FlowGrid is completely closed / Guard grill function)
00250-2-2957	220, 225, 250	205	192-194	4,5	2,0	38	2 ± 0,5 Nm	(FlowGrid is completely closed / Guard grill function)
20280-2-2957	220, 225, 250, 280	280	245-261	4,5	3,5	40	2 ± 0,5 Nm	
25310-2-2957	310	315	288-292	5,5	3,5	49	2 ± 0,5 Nm	
00400-2-2957	355, 400	370	334-346	4,5	3,5	56	2 ± 0,5 Nm	
35505-2-2957	450, 500	470	440	9,0	3,5	71	10 ± 2 Nm	
00630-2-2957	560	580	545	10	3,0	90	10 ± 2 Nm	

Subject to change

* Recommended tightening torque for fastening screws



Would you like to find out more?

If you need an installation guide or more information about the dimensions, go to:

www.ebmpapst.com/flowgrid-manual

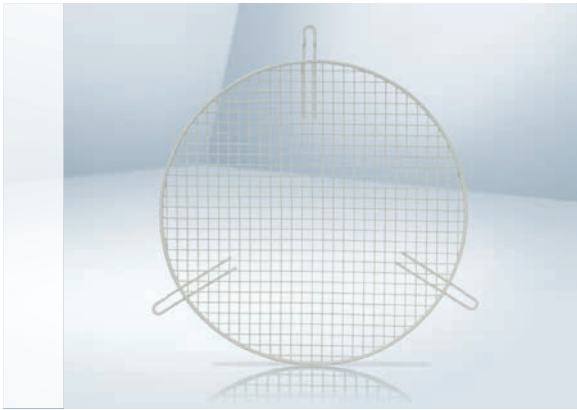
or scan the QR code below:



Intake finger guard

Wire mesh finger guard

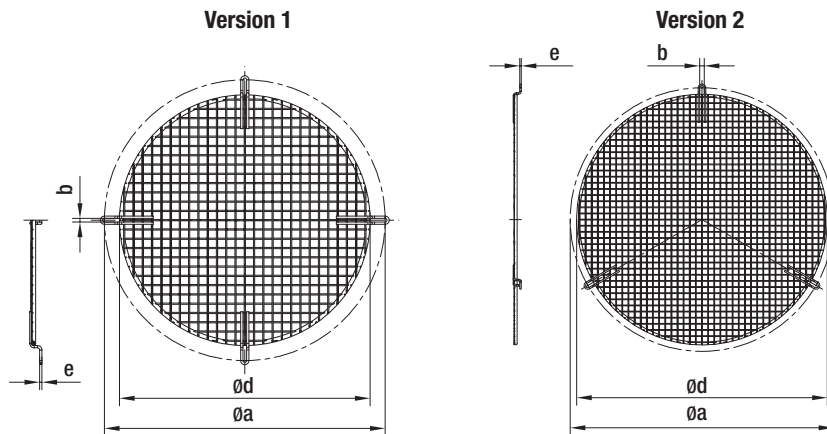
– **Material:** Steel wire, phosphated, painted pebble gray (RAL 7032)



Intake finger guard for backwards-curved centrifugal fans (according to EN ISO 13857)

Part number	Fan size	Version	a	b	d	e	Strut division	Dimensions (mm)
79280-2-4039	250, 280	1	280	4,5	227	2,8	4 x 90°	
79310-2-4039	310	1	325	4,5	271	2,8	4 x 90°	
79355-2-4039	355	1	345	4,5	308	2,8	4 x 90°	
79400-2-4039	400	2	390	8,5	343	2,8	3 x 120°	
79500-2-4039	450, 500	2	445	8,5	417	2,8	3 x 120°	
79560-2-4039	560	2	490	8,5	466	2,8	3 x 120°	

Subject to change

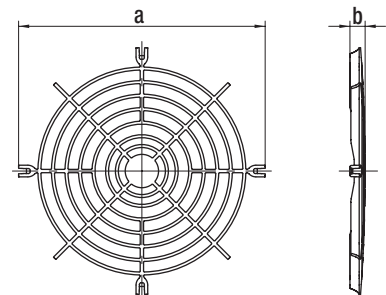


Guard grill for suction side for compact centrifugal modules

Part number	Fan size	a	b	Dimensions (mm)
13351-2-2929	133	94,1	7,7	
19051-2-2929	175, 190	133	9,0	
22051-2-2929	220	166	8,7	
22551-2-2929	225	158	8,7	
25051-2-2929	250	177	9,7	

Subject to change

– **Material:** Plastic, fibreglass-reinforced



Inlet rings

With / without measuring device

- **Material:** Galvanized sheet steel,
Fan size 450 / 500: Plastic



Inlet rings with / without measuring device to determine the air flow for backwards-curved centrifugal fans

Part number	Fan size	Dimensions / drawing
09566-2-4013⁽¹⁾ (for centrifugal fans with M3G 055)	133	See Page 137 (Pressure extraction by centrifugal modules with M3G 055 see Page 139)
09576-2-4013⁽¹⁾ (for centrifugal fans with M3G 055)	175 / 190	See Page 137 (Pressure extraction by centrifugal modules with M3G 055 see Page 139)
09609-2-4013⁽¹⁾ (for centrifugal fans with M3G 055)	220	See Page 137 (Pressure extraction by centrifugal modules with M3G 055 see Page 139)
96358-2-4013⁽¹⁾ (for centrifugal fans with M3G 055)	225	See Page 137 (Pressure extraction by centrifugal modules with M3G 055 see Page 139)
96359-2-4013⁽¹⁾ (for centrifugal fans with M3G 055)	250	See Page 137 (Pressure extraction by centrifugal modules with M3G 055 see Page 139)
96359-2-4013⁽¹⁾ / 96416-2-4013⁽²⁾ / 96400-2-4013⁽³⁾	250	See Page 137
28000-2-4013⁽¹⁾ / 28004-2-4013⁽²⁾ / 28003-2-4013⁽³⁾	280	See Page 137
31000-2-4013⁽¹⁾ / 31002-2-4013⁽²⁾ / 31003-2-4013⁽³⁾	310	See Page 138
35500-2-4013⁽¹⁾ / 35504-2-4013⁽²⁾ / 35503-2-4013⁽³⁾	355	See Page 138
54476-2-4013⁽¹⁾ / 54250-2-4013⁽²⁾ / 54501-2-4013⁽³⁾	400	See Page 138
45901-2-2943⁽¹⁾ / 45915-2-2943⁽²⁾ / 45910-2-2943⁽³⁾	450	See Page 138
50901-2-2943⁽¹⁾ / 50910-2-2943⁽²⁾ / 50920-2-2943⁽³⁾	500	See Page 138
54482-2-4013⁽¹⁾ / 54495-2-4013⁽²⁾ / 54492-2-4013⁽³⁾	560	See Page 139

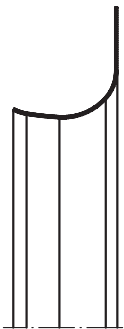
Subject to change

⁽¹⁾ Without measuring device

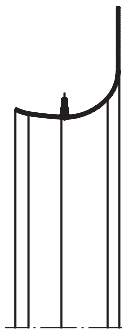
⁽²⁾ With one pressure tap

⁽³⁾ With piezometer

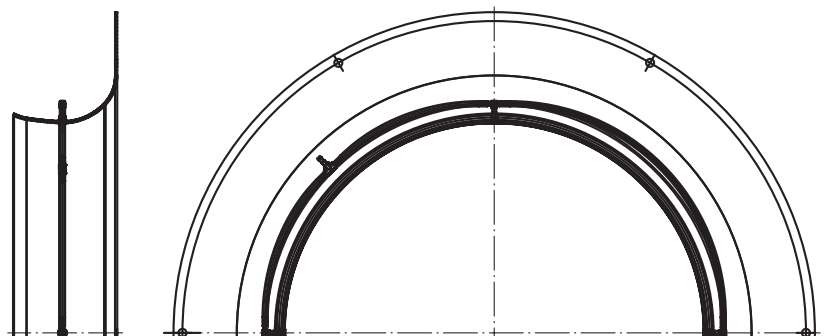
(1) Without measuring device:



(2) With one pressure tap:



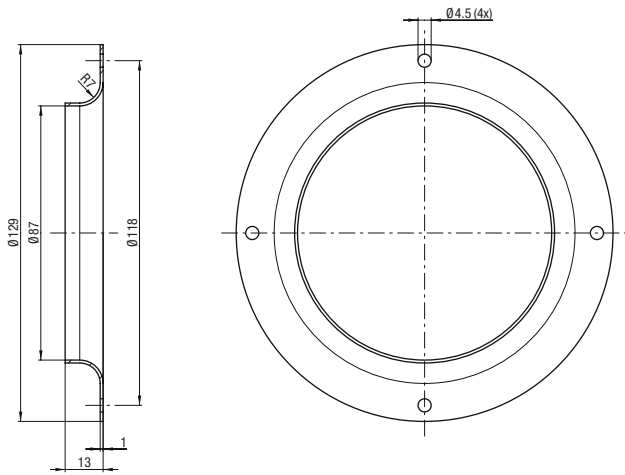
(3) With piezometer:



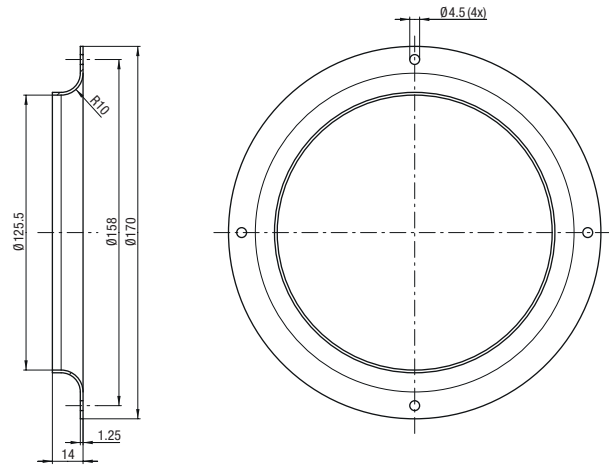
Inlet rings

Dimensioned drawings without measuring device

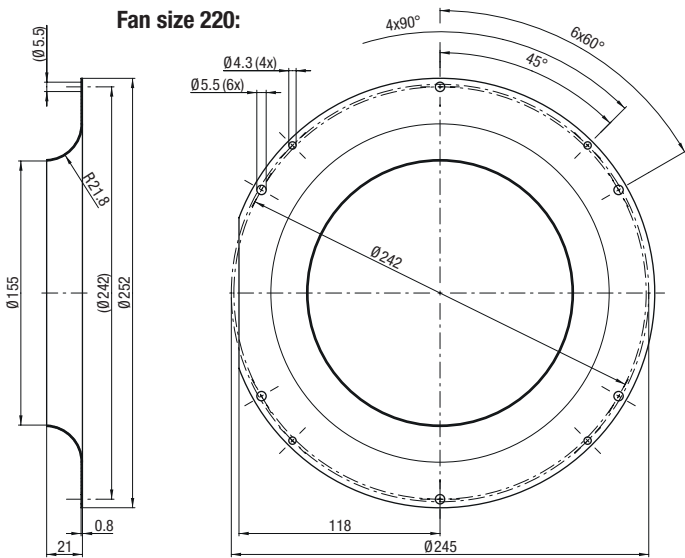
Fan size 133:



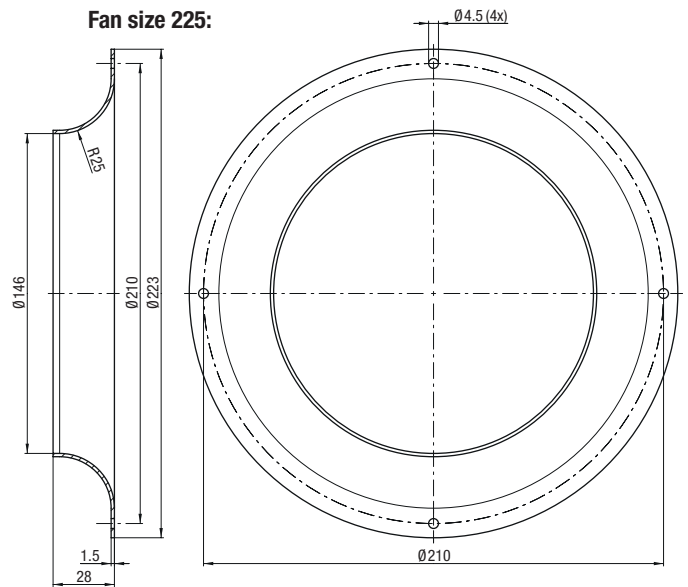
Fan size 175 / 190:



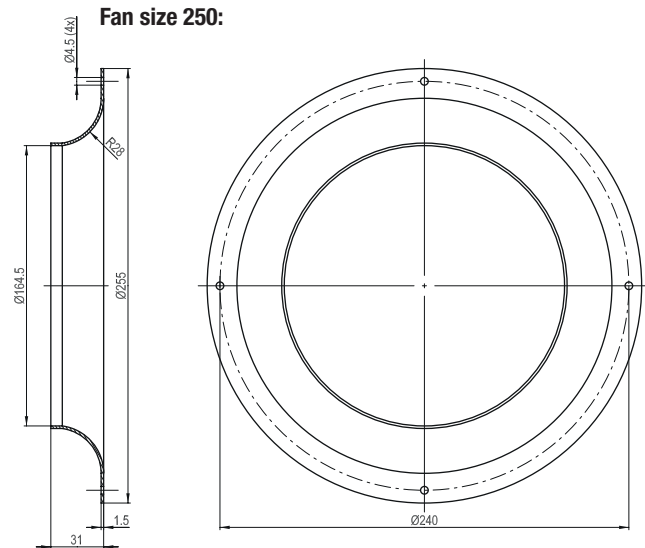
Fan size 220:



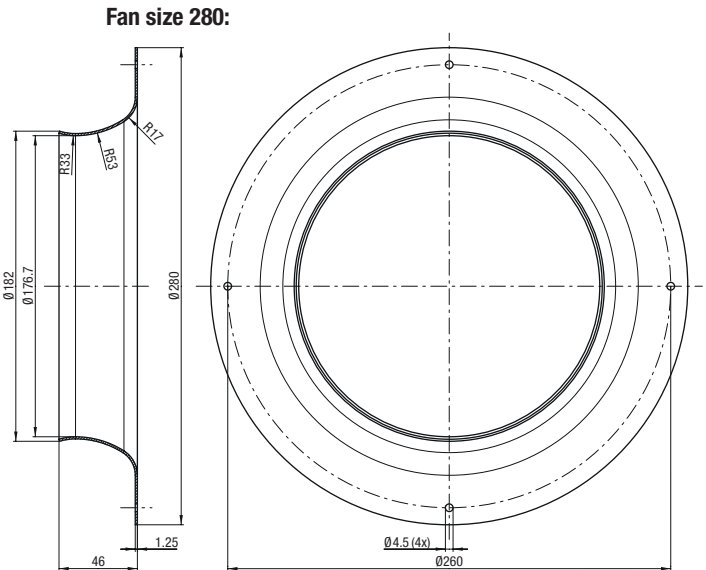
Fan size 225:



Fan size 250:



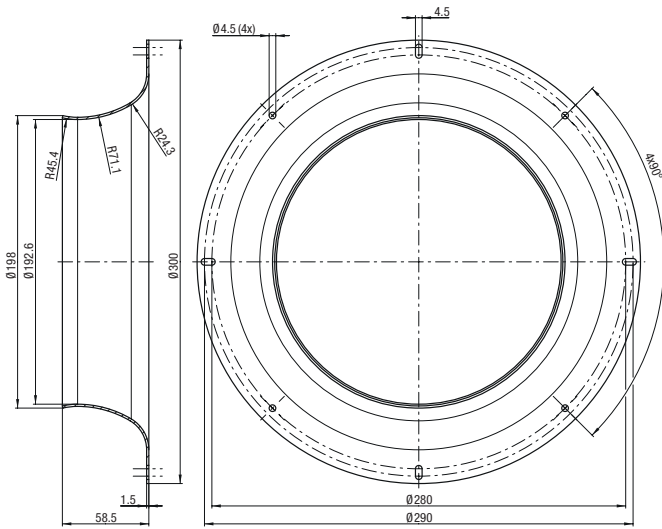
Fan size 280:



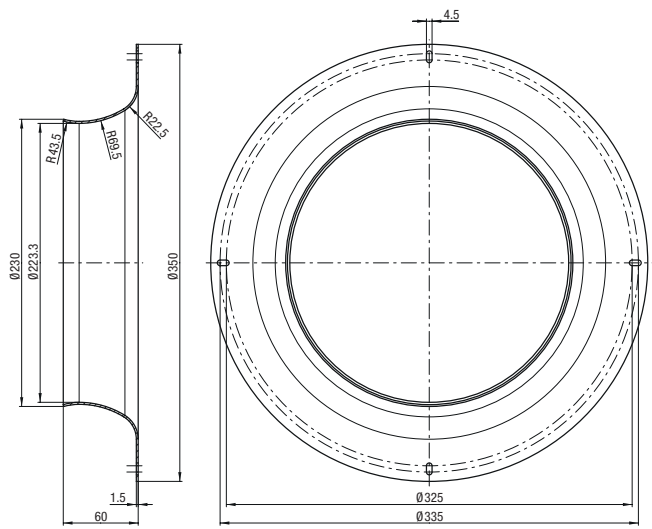
Inlet rings

Dimensioned drawings without measuring device

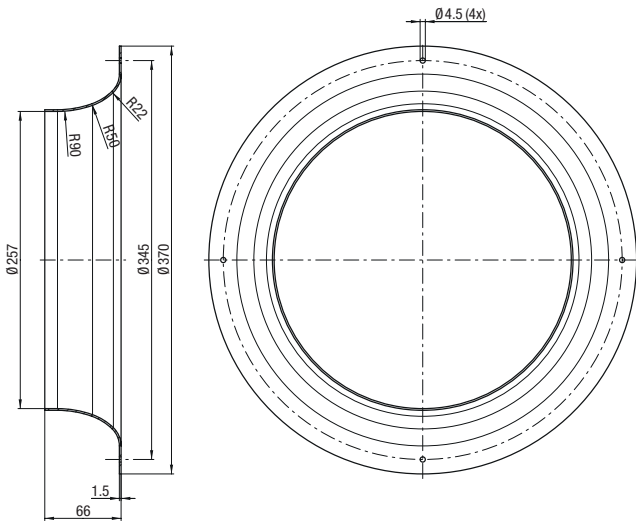
Fan size 310:



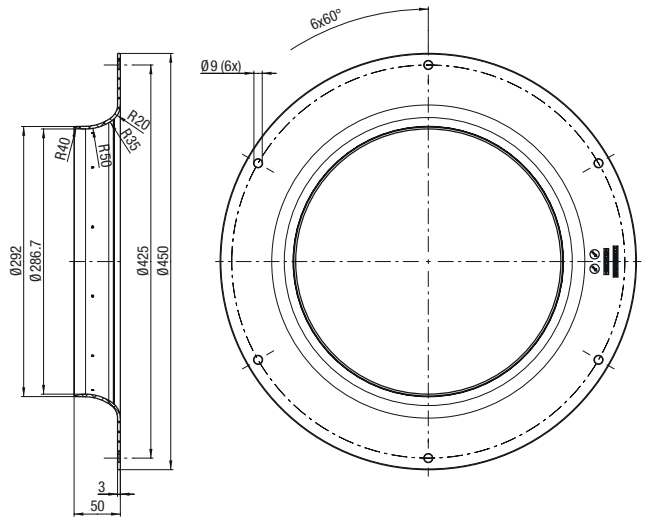
Fan size 355:



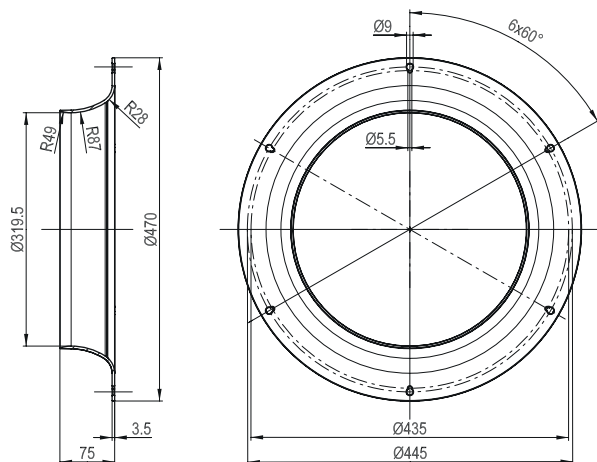
Fan size 400:



Fan size 450:

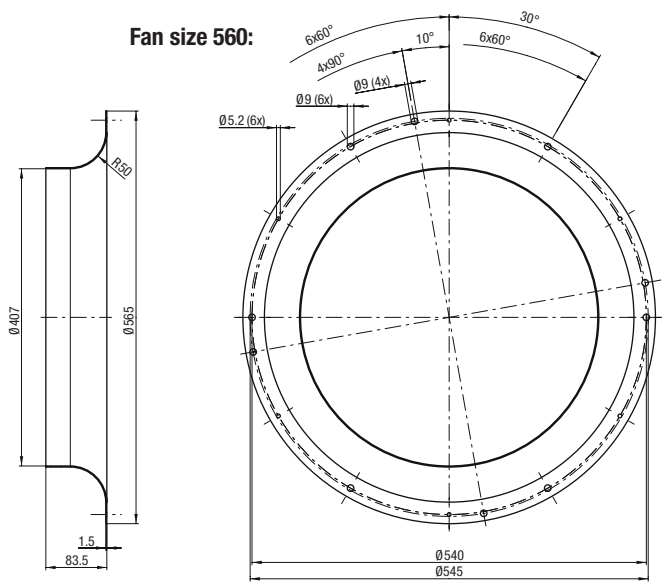


Fan size 500:



Inlet rings

Dimensioned drawings without measuring device



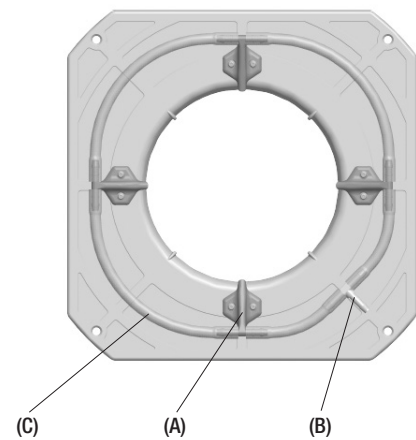
Pressure extraction

Centrifugal modules, fan size 133 - 250

Pressure extraction for centrifugal modules, fan size 133 - 250

Part number	Component parts
20000-2-2945	Pressure transducer (A)
43426-4-5154	Closure cap for pressure transducer
79600-2-5120	T-tube connector (B)
02636-7-7024	Silicone tube (C)

Subject to change



Air flow measurement

Air flow measurement:

The differential pressure method compares the static pressure upstream of the inlet ring with the static pressure in the inlet ring.

The air flow can be calculated from the differential pressure (between the static pressures) according to the following equation:

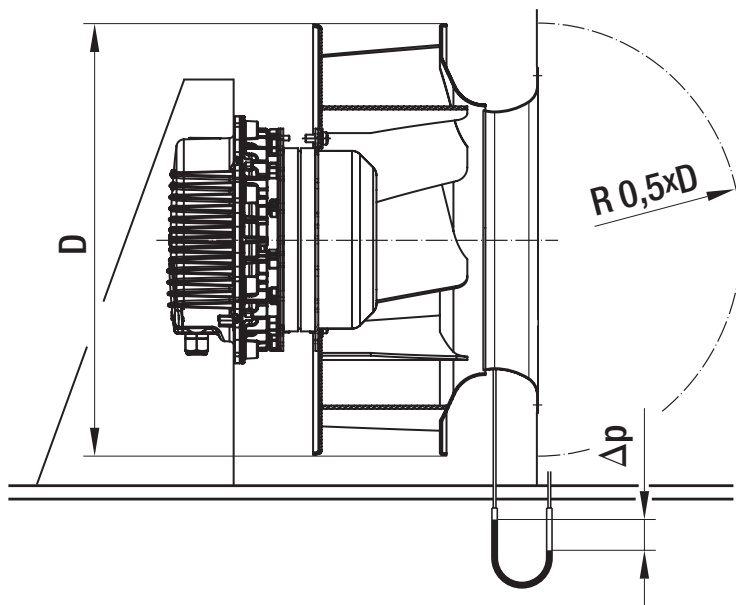
$$q_V = k \cdot \sqrt{\Delta p} \quad q_V \text{ in [m}^3/\text{h] und } \Delta p \text{ in [Pa]}$$

If the air flow is to be regulated to remain constant, the inlet pressure must be kept constant:

$$\Delta p = q_V^2 : k^2 \quad q_V \text{ in [m}^3/\text{h] und } \Delta p \text{ in [Pa]}$$

k takes into account the specific properties of the inlet ring.

The pressure is tapped at 1 (4) point(s) on the circumference of the inlet ring. The customer connection consists of a built-in T-shaped hose fitting. The hose fitting is suitable for pneumatic hoses with an inside diameter of 4 mm.

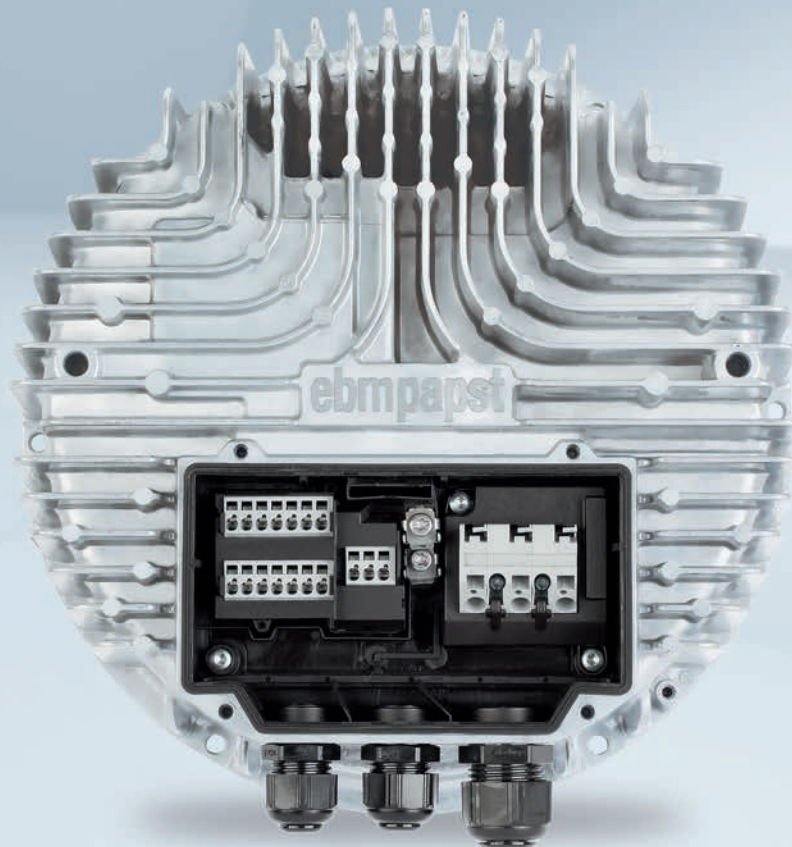


k-factors: (for RadiCal inlet rings)

Fan size	133	175	190	220	225	250	280
k-factor	15	30	30	50	51	60/61	77
Fan size	310	355	400	450	500	560	
k-factor	93	128	180	190	260	405	



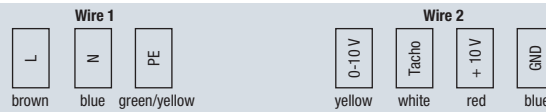
Connection diagrams



Connection diagram EC RC1)

Technical features (M3G 055 Speed-controlled):

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 1,1 mA
- Tach output
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

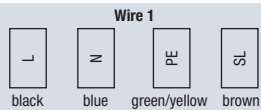


Wire	Connection	Color	Assignment/function
1	L	brown	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
2	0-10 V / PWM	yellow	Control input 0-10 V or PWM, impedance 100 kΩ, SELV
2	Tacho	white	Tach output: Open Collector, 1 pulse per revolution, SELV
2	+10 V/max. 1.1 mA	red	Voltage output, SELV
2	GND	blue	Reference ground for control interface

Connection diagram EC RC2)

Technical features (M3G 045 / M3G 055 with 2 Speed stages):

- Speed adjustment input (230V)
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start

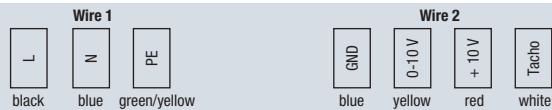


Wire	Connection	Color	Assignment/function
1	L	black	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
1	SL	brown	Speed selection: switch open = speed 1; switch closed = speed 2

Connection diagram EC RC3)

Technical features (M3G 045 / M3G 055 Speed-controlled; M3G 074):

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 1,1 mA
- Tach output
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

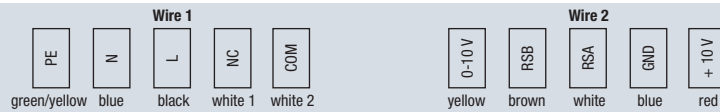


Wire	Connection	Color	Assignment/function
1	L	black	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
2	GND	blue	Reference ground for control interface
2	0-10 V / PWM	yellow	Control input 0-10 V or PWM, impedance 100 k Ω , SELV
2	+10 V/max. 1.1 mA	red	Voltage output, SELV
2	Tacho	white	Tach output: Open Collector, 1 pulse per revolution, SELV

Connection diagram EC RC4)

Technical features:

- PFC (active)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Operation and fault indicator
- RS485 MODBUS-RTU
- Motor current limitation, Alarm relay
- Undervoltage/phase failure detection
- Thermal overload protection for electronics/motor
- Locked-rotor protection, Soft start
- Control interface with SELV potential safely disconnected from supply



Wire	Connection	Color	Assignment/function
1	PE	green/yellow	Protective earth
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	L	black	Power supply, phase, voltage range see nameplate
1	NC	white 1	Status relay, floating status contact, break for failure
1	COM	white 2	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	0-10 V / PWM	yellow	Control input 0-10 V or PWM, impedance 100 k Ω , adjustable curve, SELV
2	RSB	brown	RS-485 interface for MODBUS RSB, SELV
2	RSA	white	RS-485 interface for MODBUS RSA, SELV
2	GND	blue	Reference ground for control interface, SELV
2	+10 V/max. 10 mA	red	Voltage output 10 VDC, power supply for external devices (e.g. potentiometers), SELV

Connection diagram EC RC5)

Technical features:

- PFC (passive)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Operation and fault indicator
- RS485 MODBUS-RTU
- Motor current limitation, Alarm relay
- Undervoltage/phase failure detection
- Thermal overload protection for electronics/motor
- Locked-rotor protection, Soft start
- Control interface with SELV potential safely disconnected from supply

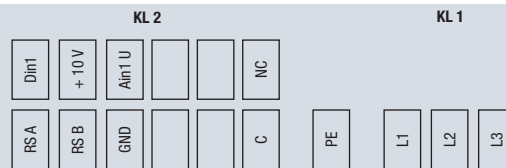


Wire	Connection	Color	Assignment/function
1	PE	green/yellow	Protective earth
1	L1, L2, L3	black	Power supply, phase, voltage range see nameplate
1	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	COM	white 2	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	0-10 V	yellow	Analog input (set value), 0-10 V, impedance 100 kΩ, adjustable curve, SELV
2	RSB	brown	RS-485 interface for MODBUS RSB, SELV
2	RSA	white	RS-485 interface for MODBUS RSA, SELV
2	GND	blue	Reference ground for control interface, SELV
2	+ 10 V	red	Fixed voltage output 10 VDC, +10 V +/- 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers), SELV

Connection diagram EC RC6)

Technical features:

- PFC (passive)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- External enable input
- External 24 V input (parameterization)
- Output 10 VDC max. 10 mA
- Operation and fault indicator
- RS485 MODBUS-RTU
- Motor current limitation
- Alarm relay
- Undervoltage/phase failure detection
- Thermal overload protection for electronics/motor
- Reverse polarity and locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

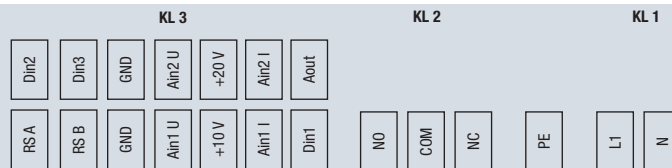


Terminal	Connection	Assignment/function
KL1	L1	Power supply, phase, voltage range see nameplate
	L2	Power supply, phase, voltage range see nameplate
	L3	Power supply, phase, voltage range see nameplate
PE	PE	Protective earth
KL2	RSA	RS-485 interface for MODBUS RSA, SELV
	RSB	RS-485 interface for MODBUS RSB, SELV
	GND	Reference ground for control interface, SELV
	C	Status relay, floating status contact, changeover contact, common connection; contact rating 250 VAC / 2 A (AC1), min. 10 mA
	Din1	Digital input 1: Enable electronics; Enable: Pin open or applied voltage 5 to 50 VDC; Disable: Bridge to GND or applied voltage < 1 VDC; Reset function: Triggering of software reset after a level change to < 1V, SELV
	+ 10 V	Fixed voltage output 10 VDC; +10 V \pm 3 %; max. 10 mA; short-circuit-proof; Power supply for external devices (e.g. potentiometers), SELV
	Ain1 U	Analog input 1; set value; 0-10 V, Ri=100 k Ω ; adjustable curve, SELV
NC	Status relay, floating status contact, break for failure	

Connection diagram EC RC7)

Technical features:

- PFC (active)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- Input for sensor 0-10 V or 4-20 mA
- External 24 V input (parameterization)
- External enable input
- Output for Slave 0-10 V max. 3 mA
- Output 20 VDC ($\pm 20\%$) max. 50 mA
- Output 10 VDC ($+10\%$) max. 10 mA
- Tach output
- RS485 MODBUS-RTU
- Alarm relay
- Undervoltage/phase failure detection
- Motor current limitation
- Power limiter
- Thermal overload protection for electronics/motor
- Reverse polarity and locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply



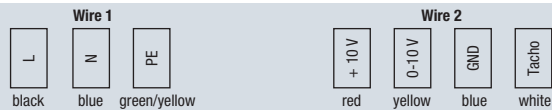
Terminal	Connection	Assignment/function
KL1	N	Power supply, neutral conductor, voltage range see nameplate
	L1	Power supply, phase, voltage range see nameplate
PE	PE	Protective earth
KL2	NC	Status relay, floating status contact, option 1: break for failure, option 2: break for run monitoring error message
	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) min. 10 mA, reinforced insulation on supply side and on control interface side
	NO	Status relay, floating status contact, option 1: make for failure, option 2: make for run monitoring error message
KL3	DIN1	Digital input 1: Enable electronics, Enable: Pin open or applied voltage 5...50 VDC, Disable: Bridge to GND or applied voltage < 1,0 VDC, Reset function: Triggering of software reset after level change to < 1,0 V
	Ain1 I	Analog input 1; set value; 4-20 mA; Ri=100 Ω; adjustable curve, only for use as alternative to input Ain1 U, SELV
	+10 V/max. 10 mA	Voltage output 10 VDC, power supply for external devices (e.g. potentiometers), SELV
	Ain1 U	Analog input 1; set value; 0-10 V, Ri=100 kΩ; adjustable curve, only for use as alternative to input Ain1 I, SELV
	GND	Reference ground for control interface
	RSB	RS-485 interface for MODBUS RSB
	RSA	RS-485 interface for MODBUS RSA
	Aout	Analog output 0-10 V; max. 5 mA; output of current motor modulation level / current motor speed; adjustable curve; SELV
	Ain2 I	Analog input 2; Measured value; 4-20 mA; Ri=100 Ω; adjustable curve, only for use as alternative to input Ain2 U, SELV

Terminal	Connection	Assignment/function
KL3	+ 20 V	Fixed voltage output 20 VDC, + 20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors)
	Ain2 U	Analog input 2; Measured value; 0-10 V; Ri=100 kΩ; adjustable curve, only for use as alternative to input Ain2 I, SELV
	GND	Reference ground for control interface
	Din3	Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input Normal: Pin open or applied voltage 5-50 VDC; Inverse: Bridge to GND or applied voltage < 0,8 VDC
	Din2	Digital input 2: Switching parameter sets 1/2; according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input Din2. Parameter set 1: Pin open or applied voltage 5-50 VDC; Parameter set 2: Bridge to GND or applied voltage < 0,8 VDC

Connection diagram EC RC8)

Technical features:

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Motor current limitation
- Power limiter
- Overvoltage detection
- Soft start
- Thermal overload protection for electronics/motor
- Control interface with SELV potential safely disconnected from supply

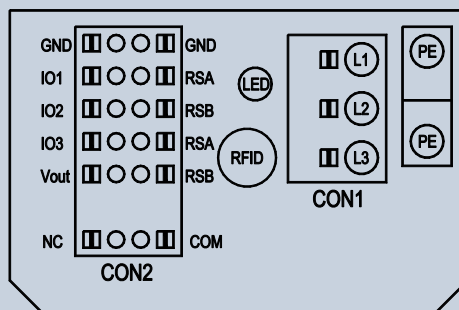


Wire	Connection	Color	Assignment/function
1	L	black	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
2	+ 10 V	red	Fixed voltage output 10 VDC +/- 3 %, I _{max} . 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer), SELV
2	0-10 V / PWM	yellow	Control input 0-10 V or PWM, impedance 100 kΩ, SELV
2	GND	blue	Reference ground for control interface, SELV
2	Tacho	white	Tach output: Open Collector, 1 pulse per revolution, SELV

Connection diagram EC RC9)

Technical features:

- Configurable inputs/outputs (I/O)
- RFID - ISO 15693 compatible
- Operation and alarm display with LED
- Integrated PI controller
- Locked-rotor protection
- Motor current limitation / Alarm relay
- Soft start
- Voltage output 3.3-24 VDC, Pmax = 800 mW
- RS 485 MODBUS-RTU / MODBUS V6
- Thermal overload protection for electronics/motor
- Undervoltage/phase failure detection
- Control interface with SELV potential safely disconnected from supply
- External 15-50 VDC input (parameterization)

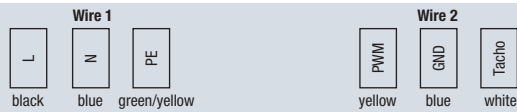


Terminal	Connection	Assignment/function
CON1	L1, L2, L3	Power supply, phase, voltage range see nameplate, protection class 1
PE	PE	Protective earth
CON2	RSA	RS-485 interface for MODBUS RSA, SELV
	RSB	RS-485 interface for MODBUS RSB, SELV
	GND	Reference ground for control interface, SELV
	IO1	IN2: Digital input - positive logic (factory setting: Enable) function parameterizable, SELV - normal: Pin open or applied voltage < 1.5 VDC - inverse: applied voltage 3.5-50 VDC
	IO2	IN1: Analog input 0-10 V 0-10 V, Ri=100 K, parameterizable as set value or measured value (factory setting: set value) characteristic curve parameterizable, SELV
	IO3	OUT1: Analog output 0-10 V 0-10 V, max 5 mA, function parameterizable (factory setting: modulation level) max output frequency 300 Hz, SELV
	V out	Voltage output 3,3-24 VDC +/-5 %, Pmax=800 mW, voltage parameterizable (factory setting: 10 VDC) short-circuitproof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via Modbus without line voltage
	COM	Status relay, floating status contact, common connection, nominal voltage 250VAC; max 2A (AC1), min 10mA; reinforced insulation according to EN60335-1, EN61800-5-1, UL60730-1
NC	Status relay, floating status contact, break for failure	

Connection diagram EC RC10)

Technical features (M3G 055 Speed-controlled):

- Control input PWM
- Tach output
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

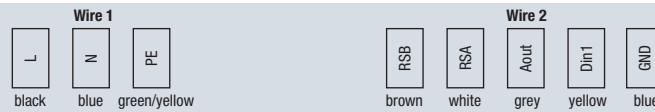


Wire	Connection	Color	Assignment/function
1	L	black	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
2	PWM	yellow	Control input PWM / 1-10 kHz, impedance 1 kΩ, Isink = 5-10 mA, SELV
2	GND	blue	Reference ground for control interface, SELV
2	Tacho	white	Tach output: Open Collector, 1 pulse per revolution, SELV

Connection diagram EC RC11)

Technical features:

- Integrated PI controller
- Power limiter
- Motor current limitation
- Locked-rotor protection, Soft start
- Operation and fault indicator
- RS485 MODBUS-RTU
- Undervoltage detection
- Thermal overload protection for electronics/motor
- Control interface with SELV potential safely disconnected from supply
- Auto addressing can be activated via BUS

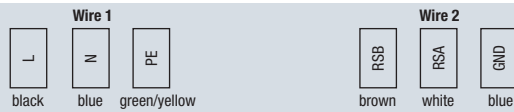


Wire	Connection	Color	Assignment/function
1	L	black	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
2	RSB	brown	RS-485 interface for MODBUS RSB, SELV
2	RSA	white	RS-485 interface for MODBUS RSA, SELV
2	Aout	grey	Auto addressing
2	Din1	yellow	Auto addressing
2	GND	blue	Reference ground for control interface, SELV

Connection diagram EC RC12)

Technical features (M3G 055 Sensor-controlled):

- Power limiter
- RS485 MODBUS-RTU
- Overvoltage detection
- Under voltage detection
- Thermal overload protection for electronics/motor
- Control interface with SELV potential safely disconnected from supply
- Motor current limitation
- Soft start

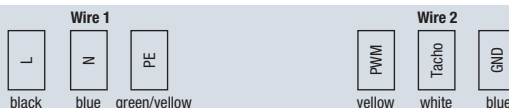


Wire	Connection	Color	Assignment/function
1	L	black	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
2	RSB	brown	RS-485 interface for MODBUS RSB, SELV
2	RSA	white	RS-485 interface for MODBUS RSA, SELV
2	GND	blue	Reference ground for control interface, SELV

Connection diagram EC RC13)

Technical features (M1G 055 Speed-controlled):

- Tach output
- Control input PWM
- Power limiter
- Thermal overload protection for motor
- Control interface with SELV potential safely disconnected from supply
- Motor current limitation
- Soft start

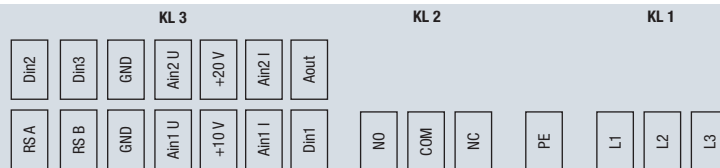


Wire	Connection	Color	Assignment/function
1	L	black	Power supply, phase, voltage range see nameplate
1	N	blue	Power supply, neutral conductor, voltage range see nameplate
1	PE	green/yellow	Protective earth
2	PWM	yellow	Control input PWM / 1-10 kHz, impedance 1 k Ω , Isink = 5-10 mA, SELV
2	Tacho	white	Tach output: Open Collector, 1 pulse per revolution, SELV
2	GND	blue	Reference ground for control interface, SELV

Connection diagram EC RC14)

Technical features:

- PFC (active)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- Input for sensor 0-10 V or 4-20 mA
- External 24 V input (parameterization)
- External enable input
- Output for Slave 0-10 V max. 3 mA
- Output 20 VDC ($\pm 20\%$) max. 50 mA
- Output 10 VDC ($+10\%$) max. 10 mA
- Soft start
- RS485 MODBUS-RTU
- Operation and fault indicator
- Undervoltage/phase failure detection
- Motor current limitation
- Power limiter
- Thermal overload protection for electronics/motor
- Reverse polarity and locked-rotor protection
- Control interface with SELV potential safely disconnected from supply



Terminal	Connection	Assignment/function
KL1	L1, L2, L3	Power supply, phase, voltage range see nameplate
PE	PE	Protective earth
KL2	NC	Status relay, floating status contact, break for failure
	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) min. 10 mA, reinforced insulation on supply side and on control interface side
	NO	Status relay, floating status contact, make for failure
KL3	DIN1	Digital input 1: Enable electronics, Enable: Pin open or applied voltage 5...50 VDC, Disable: Bridge to GND or applied voltage < 1 VDC, Reset function: Triggering of software reset after level change to < 1 V; SELV
	Ain1 I	Analog input 1; set value; 4-20 mA; $R_i=100\ \Omega$; adjustable curve, only for use as alternative to input Ain1 U, SELV
	+ 10 V	Fixed voltage output 10 VDC, + 10 V $\pm 3\%$ max. 10 mA, short-circuit-proof, Power supply for external devices (e.g. potentiometer); SELV
	Ain1 U	Analog input 1; set value; 0-10 V, $R_i=100\ k\Omega$; adjustable curve, only for use as alternative to input Ain1 I, SELV
	GND	Reference ground for control interface; SELV
	RSB	RS-485 interface for MODBUS RSB; SELV
	RSA	RS-485 interface for MODBUS RSA; SELV
	Aout	Analog output 0-10 V; max. 5 mA; output of current motor modulation level / current motor speed; adjustable curve; SELV
	Ain2 I	Analog input 2; Measured value; 4-20 mA; $R_i=100\ \Omega$; adjustable curve, only for use as alternative to input Ain2 U, SELV

Terminal	Connection	Assignment/function
KL3	+ 20 V	Fixed voltage output 20 VDC, + 20 V +25/-10%, max. 50 mA, short-circuit-proof, Power supply for external devices (e.g. sensors); SELV Alternative + 24 VDC input for parameterization without supply voltage
	Ain2 U	Analog input 2; Measured value; 0-10 V; Ri=100 kΩ; adjustable curve, only for use as alternative to input Ain2 I, SELV
	GND	Reference ground for control interface; SELV
	Din3	Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected via bus or via digital input Din3. Normal: Pin open or applied voltage 5-50 VDC; Inverse: Bridge to GND or applied voltage < 1 VDC; SELV
	Din2	Digital input 2: Switching parameter sets 1/2; according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input Din2. Parameter set 1: Pin open or applied voltage 5-50 VDC; Parameter set 2: Bridge to GND or applied voltage < 1 VDC; SELV



ebm-papst FanScout

Click your way to the ideal RadiCal



With the FanScout selection software from ebm-papst, you can quickly and easily find the ideal product for your exact requirements from our extensive product range.

Fans operated in parallel, so-called FanGrids, are also included in the selection.

The software can be easily integrated into your device configuration program using the DLL interface.

Since our software is based on real measured values, the data you get with ebm-papst FanScout will always be absolutely reliable and above all extremely accurate.

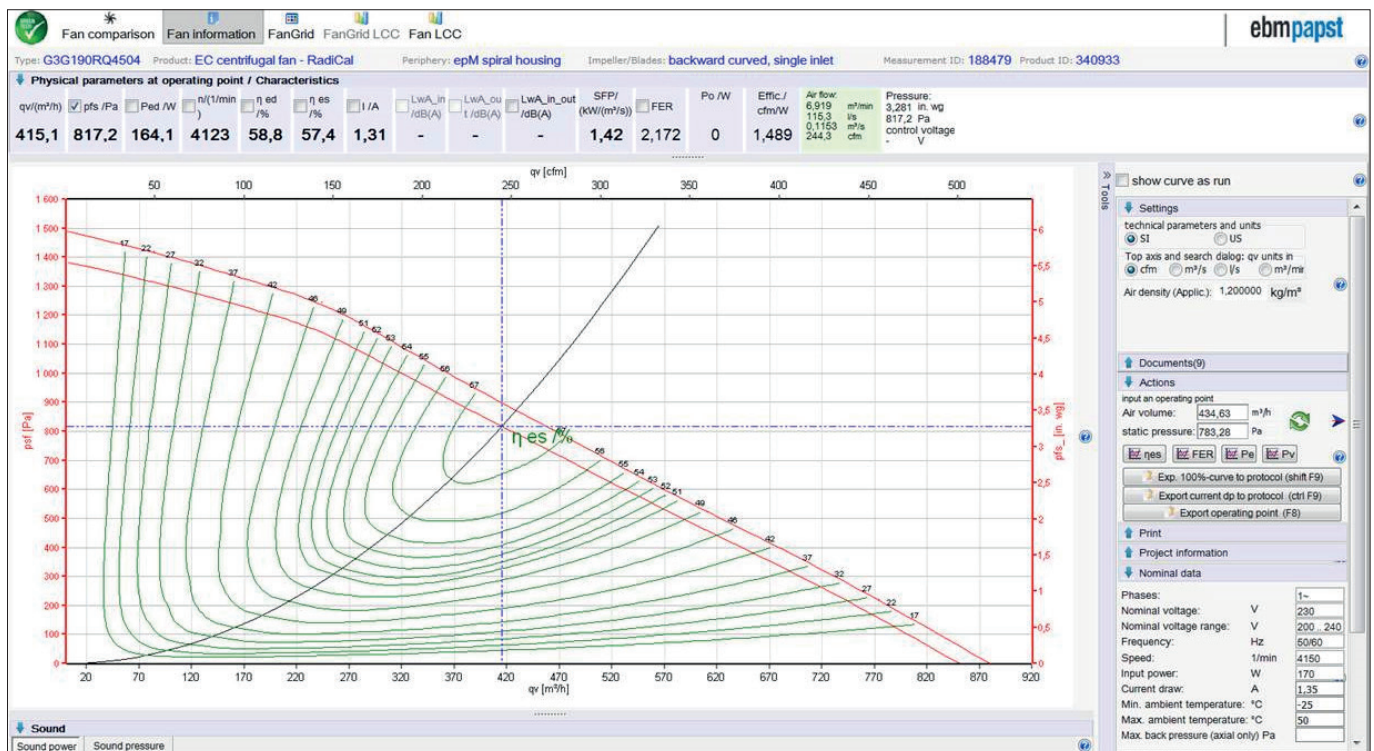
This has been confirmed by TÜV SÜD, the German technical service organization. It assigned the accuracy of FanScout's calculations in comparison with real measurements to the highest class.

In a short time, not only can you find the best solution for your use case, you can also simulate various operating scenarios that take the fans' operating points, operating times and space requirements into account to provide you with an estimate of annual energy consumption.

To make the decision even easier for you, ebm-papst FanScout also takes life cycle costs into account: the purchase price and the operating and service costs.

ebm-papst FanScout is available to our customers only.

Please contact your ebm-papst representative or call us at +49 7938 81-0.



Technical parameters and scope

High standards for all ebm-papst products

At ebm-papst we are always looking to improve our products to be able to offer customers just what they need for their particular requirements. Careful monitoring of the market enables us to constantly incorporate enhancements into our products. As shown by the technical parameters listed below, you can always be sure of finding the right solution from ebm-papst for whatever application you may have in mind.

General performance parameters

Any deviations from the technical data and technical parameters described here are given in the product-specific data sheet.

Degree of protection

The degree of protection is specified in the product-specific data sheets.

Insulation class

The insulation class is specified in the product-specific data sheets.

Installation position

The installation position is specified in the product-specific data sheets.

Condensation drainage holes

Information on condensation drainage holes is provided in the product-specific data sheets.

Mode of operation

The mode of operation is specified in the product-specific data sheets.

Protection class

The protection class is specified in the product-specific data sheets.

Service life

The service life of ebm-papst products depends on two main factors:

- The service life of the insulation system
- The service life of the bearing system

The service life of the insulation system is essentially governed by the voltage level, the temperature and the ambient conditions such as humidity and condensation.

The service life of the bearing system is primarily governed by the thermal load on the bearings. For the majority of our products we use maintenance-free ball bearings which can be fitted in any installation position. Sleeve bearings can alternatively be employed, as described in the product-specific data sheets.

As a rough guide (depending on the general conditions), the ball bearings have a life expectancy L10 of approx. 40,000 hours of operation at an ambient temperature of 40 °C.

We will gladly provide you with a life expectancy calculation based on your specific usage conditions.

Motor protection/thermal protection

Information on motor protection and thermal protection is provided in the product-specific data sheets.

The following protection methods are provided depending on the type of motor and area of application:

- Thermal overload protector, in-circuit or external
- PTC with electronic diagnostics
- Impedance protection
- Thermal overload protector with electronic diagnostics
- Current limitation via electronics

If use is made of an external thermal overload protector, a commercially available tripping unit must be connected by the customer for shut-off.

Motor protection conforming to the applicable standard must be fitted for products not provided with a built-in thermal overload protector and not protected against improper use.

Mechanical strain/performance parameters

All ebm-papst products are subjected to comprehensive testing in conformity with the normative specifications and also incorporating the extensive experience of ebm-papst.



Vibration testing

Vibration testing is performed as follows:

- Vibration test in operation according to DIN IEC 68 Part 2-6
- Vibration test at standstill according to DIN IEC 68 Part 2-6

Shock load

Shock load testing is performed as follows:

- Shock load according to DIN IEC 68 Part 2-27

Balancing grade

Balancing grade testing is performed as follows:

- Residual imbalance according to DIN ISO 1940
- Standard balancing quality level G 6.3

Should your particular application require a higher level of balancing, please contact us and specify the details in your order.

Chemical and physical strain/performance parameters

Please consult your ebm-papst contact for any questions regarding chemical and physical strain.

Areas of use, industries & applications

Our products are used in a variety of industries and for numerous applications:

Ventilation, air conditioning and refrigeration technology, clean room technology, automotive and railway engineering, medical and laboratory technology, electronics, computer and office systems, telecommunications, household appliances, heating systems, machinery and installations, drive engineering.

Our products are not intended for use in the aerospace industry!

Legal and normative specifications

The products described in this catalog are developed and manufactured in accordance with the standards applying to the particular product and, if known, in accordance with the conditions of the particular area of application.

Standards

Information on standards is provided in the product-specific data sheets.

EMC

Information on EMC standards is provided in the product-specific data sheets.

Compliance with EMC standards has to be assessed on the final product, as EMC properties may change under different installation conditions.

Touch current

Information on touch current is provided in the product-specific data sheets.

Measurement is performed according to IEC 60990.

Approvals

Please contact us if you require a specific type of approval (VDE, UL, GOST, CCC, CSA, etc.) for your ebm-papst product.

Most of our products can be supplied with the applicable approval.

Information on existing approvals is provided in the product-specific data sheets.

Air performance measurements

All air performance measurements are conducted on intake-side chamber test rigs conforming to the requirements of ISO 5801 and DIN 24163. The fans under test are attached to the measuring chamber with free air intake and exhaust (installation category A) and operated at nominal voltage, with alternating current also at nominal frequency, without any additional attachments such as a guard grill.

As required by the standards, the air performance curves shown are referenced to an air density of 1.15 kg/m^3 .

Technical parameters and scope



Air and sound measurement conditions

Measurements on ebm-papst products are taken under the following conditions:

- Axial and diagonal fans in airflow direction “V” in full nozzle without guard grill
- Backward-curved centrifugal fans, free-running with inlet ring
- Forward-curved single and dual-inlet centrifugal fans with housing
- Backward-curved dual-inlet centrifugal fans with housing

Sound measurements

All sound measurements are taken in anechoic rooms with reverberant floor. ebm-papst acoustic test chambers meet the requirements of accuracy class 1 as per DIN EN ISO 3745. For sound measurement, the fans being tested are positioned in a reverberant wall and operated at nominal voltage, with alternating current also at nominal frequency, without any additional attachments such as a guard grill.

Sound pressure and sound power level

All acoustic values are determined in accordance with ISO 13347, DIN 45635 and ISO 3744/3745 as per accuracy class 2 and given in A-rated form.

For measurement of the sound pressure level L_p the microphone is located on the intake side of the fan being tested, generally at a distance of 1 m on the fan axis.

For measurement of the sound power level L_w 10 microphones are distributed over an enveloping surface on the intake side of the fan being tested (see graphic). The measured sound power level can be roughly calculated from the sound pressure level by adding 7 dB.

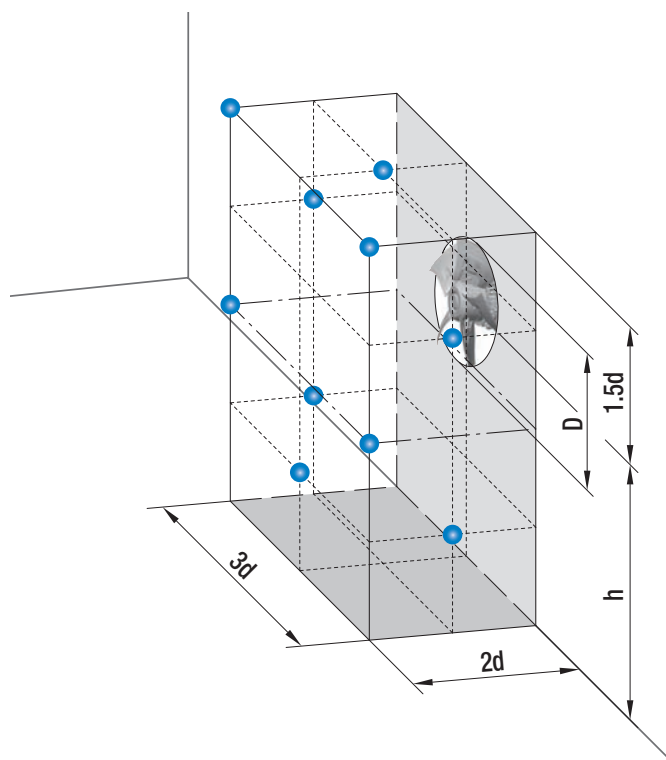
Measurement set-up according to ISO 13347-3 and DIN 45635-38:

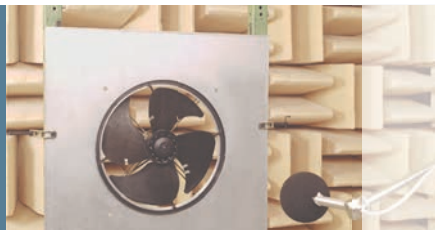
- 10 measuring points

$d \geq D$

$h = 1.5d \dots 4.5d$

Measurement area $S = 6d^2 + 7d(h + 1.5d)$

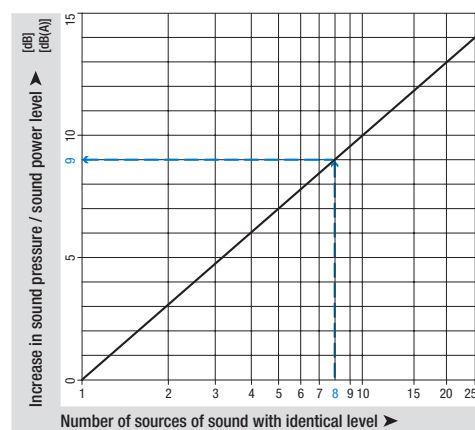




Cumulative level of several sound sources with the same level

The addition of 2 sound sources with the same level produces a level increase of approx. 3 dB. The noise characteristics of several identical fans can be predicted on the basis of the sound values specified in the data sheet. This is shown in the adjacent graph.

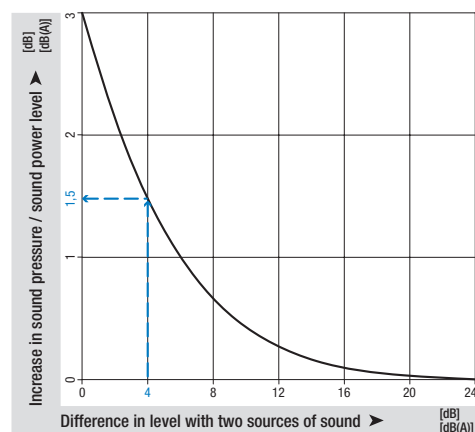
Example: There are 8 axial fans A3G800 on a condenser. According to the data sheet, the sound pressure level of one fan is 75 dB(A). The level increase determined from the graph is 9 dB. This means that a total level of 84 dB(A) is to be expected for the installation.



Cumulative level of two sound sources with different levels

The noise characteristics of two different fans can be predicted on the basis of the sound values specified in the data sheet. This is shown in the adjacent graph.

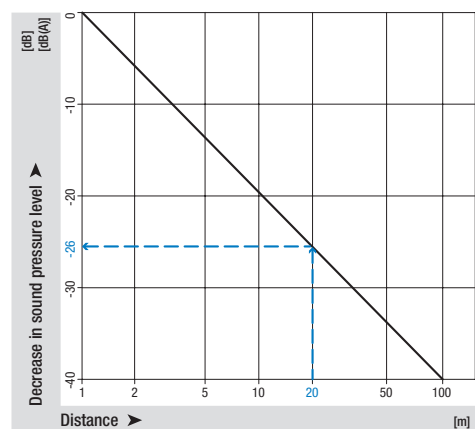
Example: In a ventilation unit, there is one axial fan A3G800 with a sound pressure level of 75 dB(A) at the point of operation and one axial fan A3G710 with 71 dB(A). The difference in level is 4 dB. The level increase of approx. 1.5 dB can now be read off the graph. This means that a total level of 76.5 dB(A) is to be expected for the unit.



Distance laws

The sound power level is not governed by the distance from the noise source. By contrast, the sound pressure level decreases with increasing distance from the sound source. The adjacent graph shows the decrease in level under far field conditions. Far field conditions apply if there is a considerable distance between the microphone and the fan in relation to the fan diameter and the wavelength under consideration. On account of the complexity of the topic, literature should be consulted for more detailed information on far fields. The level in the far field decreases by 6 dB each time the distance is doubled. Different relationships apply in the near field of the fan and the level may decrease to a far lesser extent. The following example only applies to far field conditions and may vary considerably as a result of installation effects:

For an axial fan A3G300, a sound pressure level of 65 dB(A) was measured at a distance of 1 m. From the adjacent graph, this would yield a reduction of 26 dB at a distance of 20 m, i.e. a sound pressure level of 39 dB(A).



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