

8300101769  
VBS0280CSNJS

# EC centrifugal fan - RadiPac

backward-curved, single-intake

8300101769 ebmpapst Datasheet  
sales@fansco.com  
www.fansco.com

Limited partnership · Headquarters Mulfingen  
Amtsgericht (court of registration) Stuttgart · HRA 590344  
General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen  
Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

Item	8300101769	
Motor	E07434-43	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min <sup>-1</sup>	3200
Power consumption	W	500
Current draw	A	2.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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

## Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency $\eta_{es}$	%	71.8	48.4	09 Power consumption $P_{ed}$	kW	0.5
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	2145
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	555
04 Efficiency grade N		85.4	62	10 Speed (rpm) n	min <sup>-1</sup>	3175
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-233280

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).  
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.  
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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## Technical description

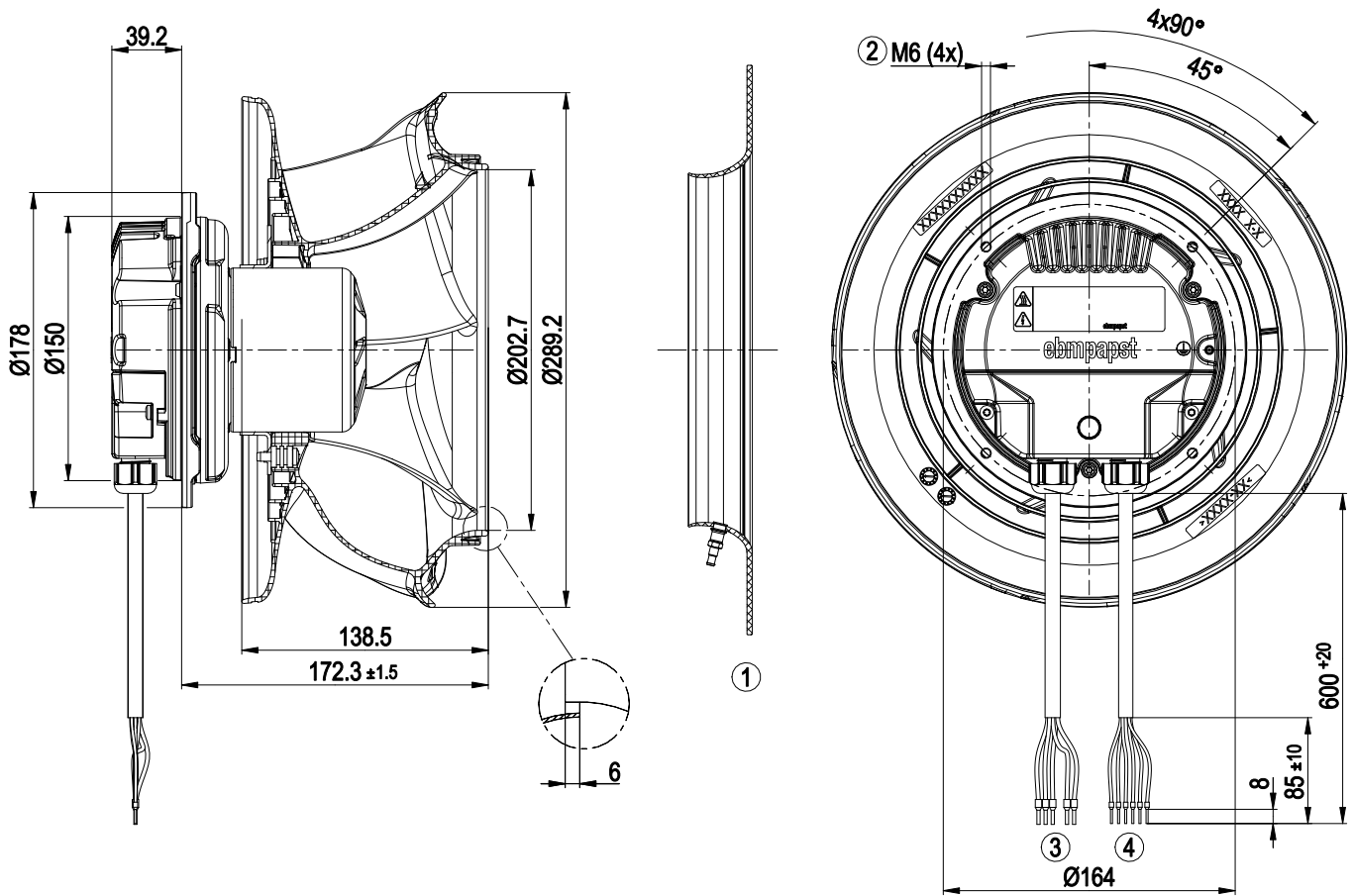
Size	280 mm
Motor size	74
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"><li>- Locked-rotor detection</li><li>- Speed control</li><li>- Alarm relay</li><li>- Power limiter</li><li>- Motor current limitation</li><li>- PFC, active</li><li>- Soft start</li><li>- Control interface with SELV potential safely disconnected from the mains</li><li>- Temperature derating</li><li>- Thermal overload protection for electronics/motor</li><li>- Line undervoltage / phase failure detection</li></ul>
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Lateral
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 60335-1; EN 61800-5-1; CE; UKCA

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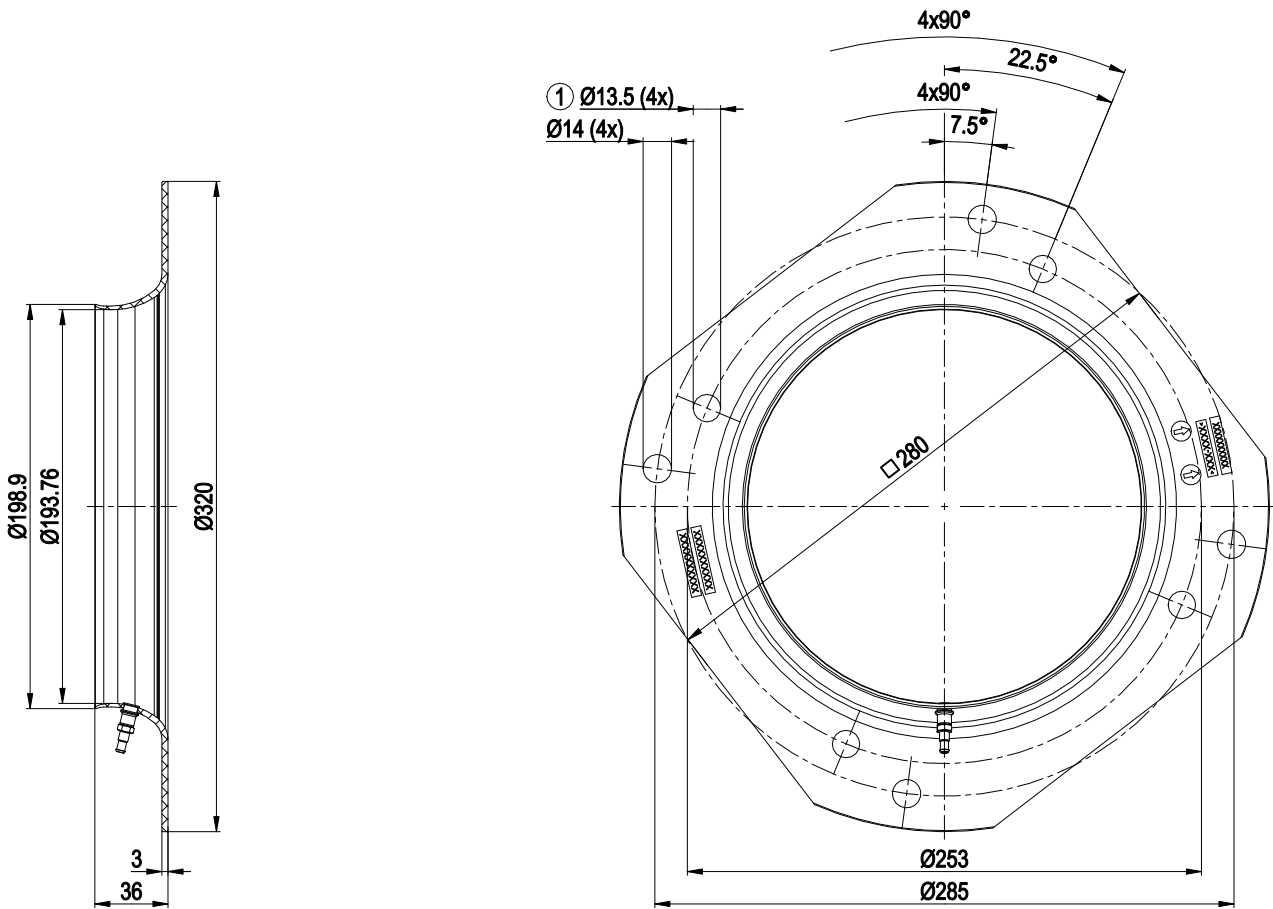
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## Product drawing



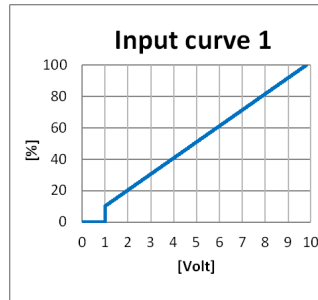
1	Accessory part: Inlet ring 8217104581 with pressure tap (k-factor: 98) (not included in scope of delivery)
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18 (PWR) 5x wire-end ferrule
4	Cable PVC AWG22 (CTRL) 6x wire-end ferrule

Accessory part



	Inlet ring 8217104581 with pressure tap (k-factor: 98)
1	Fastening holes for FlowGrid 20280-2-2957 (not included in scope of delivery) are provided and must be subsequently opened as required

## Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	PWR	PE	green/yellow	Protective earth
	PWR	L	black	Power supply, phase, see nameplate for voltage range
	PWR	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	PWR	COM	orange	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
	PWR	NC	orange	Status relay, floating status contact, break for failure
	CTRL	GND	blue	Reference ground for control interface, SELV
	CTRL	Vout	red	Voltage output 10 VDC +/-3%, I <sub>max</sub> =10 mA Short-circuit-proof, power supply for external devices, SELV alternative: 15-30 VDC input for parameterization via MODBUS without line voltage
	CTRL	IO1	yellow	Factory setting: Analog input 0-10 V / PWM, R <sub>i</sub> =100 kΩ, function: set value Characteristic curve parameterizable (see input characteristic curve "Input curve 1"), SELV Function parameterizable (see table Optional interface functions)
	CTRL	IO2	white	Factory setting: Open collector output, U <sub>max</sub> =50 VDC, I <sub>max</sub> =20 mA, function:Tacho output 1 pulse/revolution, SELV Function parameterizable (see table Optional interface functions)
	CTRL	RSA	gray	RS-485 interface for MODBUS RSA, SELV dielectric strength to MODBUS RSB +/-14 V, dielectric strength to GND +/-7 V
	CTRL	RSB	brown	RS-485 interface for MODBUS RSB, SELV dielectric strength to MODBUS RSA +/-14 V, dielectric strength to GND +/-7 V
		LED		green: status = good, ready for operation orange: status = warning red: status = failure

## Terminal/plug assignment

IO	IO mode configuration	electrical specification	configurable IO functions: normal / inverse
101	D158 [0]	active: applied voltage 3.5 - 50 VDC not active: pin open or applied voltage < 1.5 VDC, SELV	source: set value
	D158 [1]	active: applied voltage < 1.5 VDC not active: pin open or applied voltage 3.5 - 50 VDC, SELV	source: sensor value
	D158 [2]	RI = 100 kΩ, characteristic curve parametrizable, $f_{PWM} = 1 \text{ k} - 10 \text{ kHz}$ , SELV	switch: parameter set: #1 / #2
	D158 [9]	RI = 100 kΩ, characteristic curve parametrizable, $f_{PWM} = 1 \text{ k} - 10 \text{ kHz}$ , SELV	switch: control function: heating (pos.) / cooling (neg.)
	D159 [0]	active: applied voltage 3.5 - 50 VDC not active: pin open or applied voltage < 1.5 VDC, SELV	switch: direction of rotation: cw / ccw
	D159 [2]	RI = 100 kΩ, characteristic curve parametrizable, $f_{PWM} = 1 \text{ k} - 10 \text{ kHz}$ , SELV	switch: set value source
	D159 [5]	Umax = 50 VDC, Imax = 20 mA, SELV	switch: fan enable / disable
	D159 [6]	Umax = 50 VDC, Imax = 20 mA, SELV	source: input pulses autoaddressing
	D159 [10]	Umax = 50 VDC, Imax = 20 mA, SELV	source: DCI in
	D159 [12]	Umax = 50 VDC, Imax = 20 mA, SELV	source: DCI out
RSA	RS485 bus connection	MODBUS RTU, parameter specification V7.1, SELV	signal: tach out
R5B	Relay	250 VAC / 2 A (AC1)	signal: diagnostics out
COM	Voltage output	Voltage 10 VDC, SELV	signal: alarm out
NC			signal: fan modulation level %
Vout		15 - 30 VDC	signal: actual speed 1/min
			signal: system modulation level %
			signal: remote control output 0-10 V
			signal: run monitoring
			signal: status

### Medium (M2)

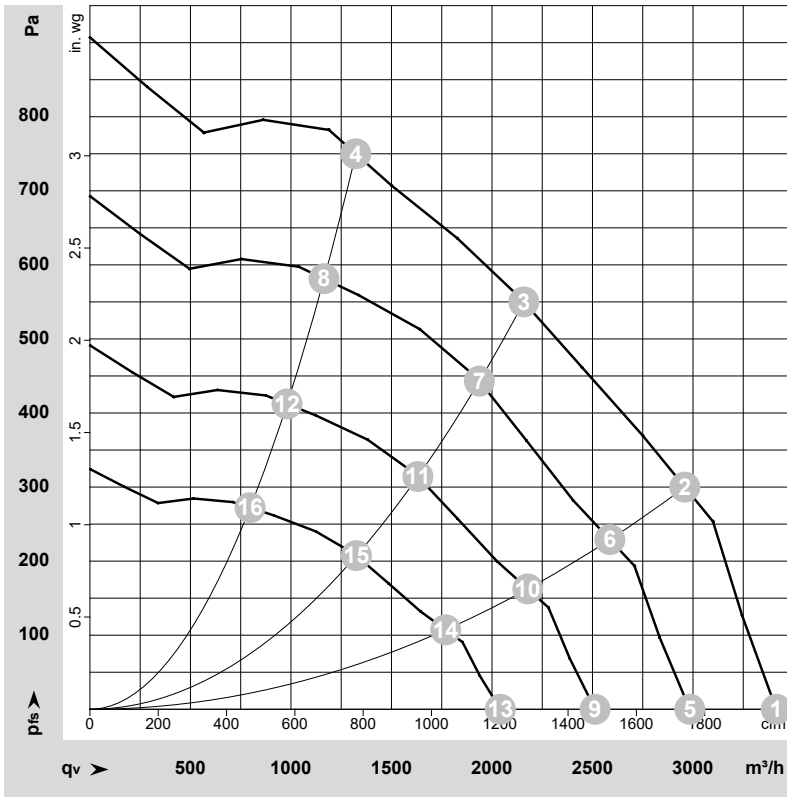
Functions and parameter description  
MODBUS V7.1

- configurable function
- (○) function to be activated via IO Mode

### configurable IO mode

IO	IO mode configuration	electrical specification	configurable IO functions: normal / inverse
101	D158 [0]	active: applied voltage 3.5 - 50 VDC not active: pin open or applied voltage < 1.5 VDC, SELV	source: set value
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COM	Voltage output	Voltage 10 VDC, SELV	signal: alarm out
NC			signal: fan modulation level %
Vout		15 - 30 VDC	signal: actual speed 1/min
			signal: system modulation level %
			signal: remote control output 0-10 V
			signal: run monitoring
			signal: status

## Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-233280-1  
Date: 2026-05-18  
Nozzle: 8217102502

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

	Wired	U	f	n	P <sub>e</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	in. wg
1	1~	230	50	3260	381	1.68	75	83	3415	0	2010	0.00
2	1~	230	50	3260	491	2.16	69	76	2960	300	1740	1.20
3	1~	230	50	3175	508	2.23	64	72	2160	550	1270	2.21
4	1~	230	50	3235	502	2.20	69	77	1325	750	780	3.01
5	1~	230	50	2850	254	1.12	72	80	2985	0	1755	0.00
6	1~	230	50	2850	328	1.44	65	73	2585	229	1520	0.92
7	1~	230	50	2850	367	1.61	61	69	1935	443	1140	1.78
8	1~	230	50	2850	343	1.51	66	73	1165	581	685	2.33
9	1~	230	50	2400	152	0.67	68	75	2515	0	1480	0.00
10	1~	230	50	2400	196	0.86	61	68	2180	162	1280	0.65
11	1~	230	50	2400	219	0.96	57	65	1630	314	960	1.26
12	1~	230	50	2400	205	0.90	62	69	980	412	575	1.65
13	1~	230	50	1950	81	0.36	62	70	2040	0	1200	0.00
14	1~	230	50	1950	105	0.46	56	63	1770	107	1040	0.43
15	1~	230	50	1950	118	0.52	52	59	1325	207	780	0.83
16	1~	230	50	1950	110	0.48	56	64	795	272	470	1.09

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase