

8300101325
VBS0280CSNDS

EC centrifugal fan - RadiPac

backward-curved, single-intake

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.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	8300101325	
Motor	E07433-18	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	2200
Power consumption	W	170
Current draw	A	1.4
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

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

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	69.8	43.4	09 Power consumption P_{ed}	kW	0.16
02 Measurement category		A		09 Air flow q_v	m³/h	1455
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	257
04 Efficiency grade N		88.4	62	10 Speed (rpm) n	min ⁻¹	2175
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
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).

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$ LU-228058

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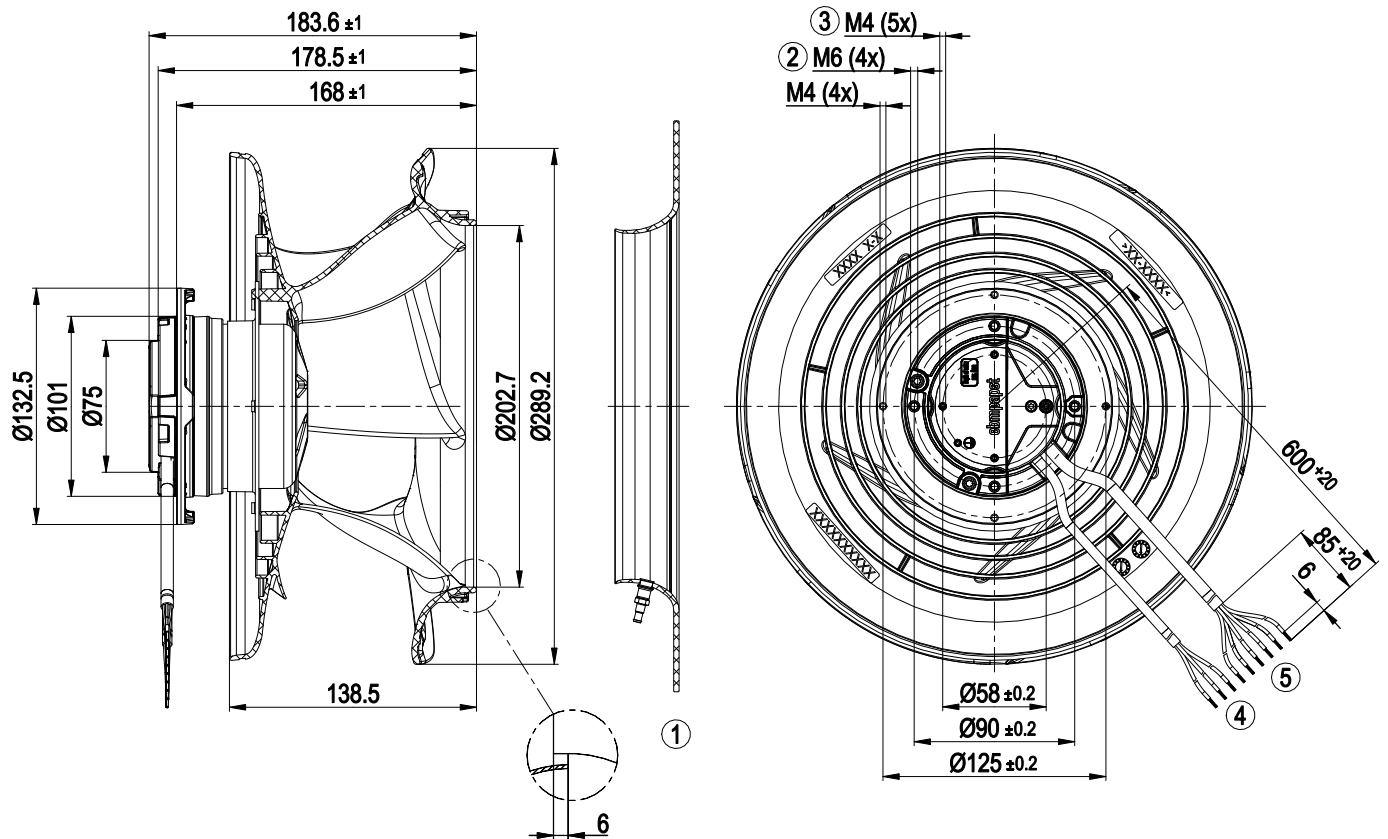
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Technical description

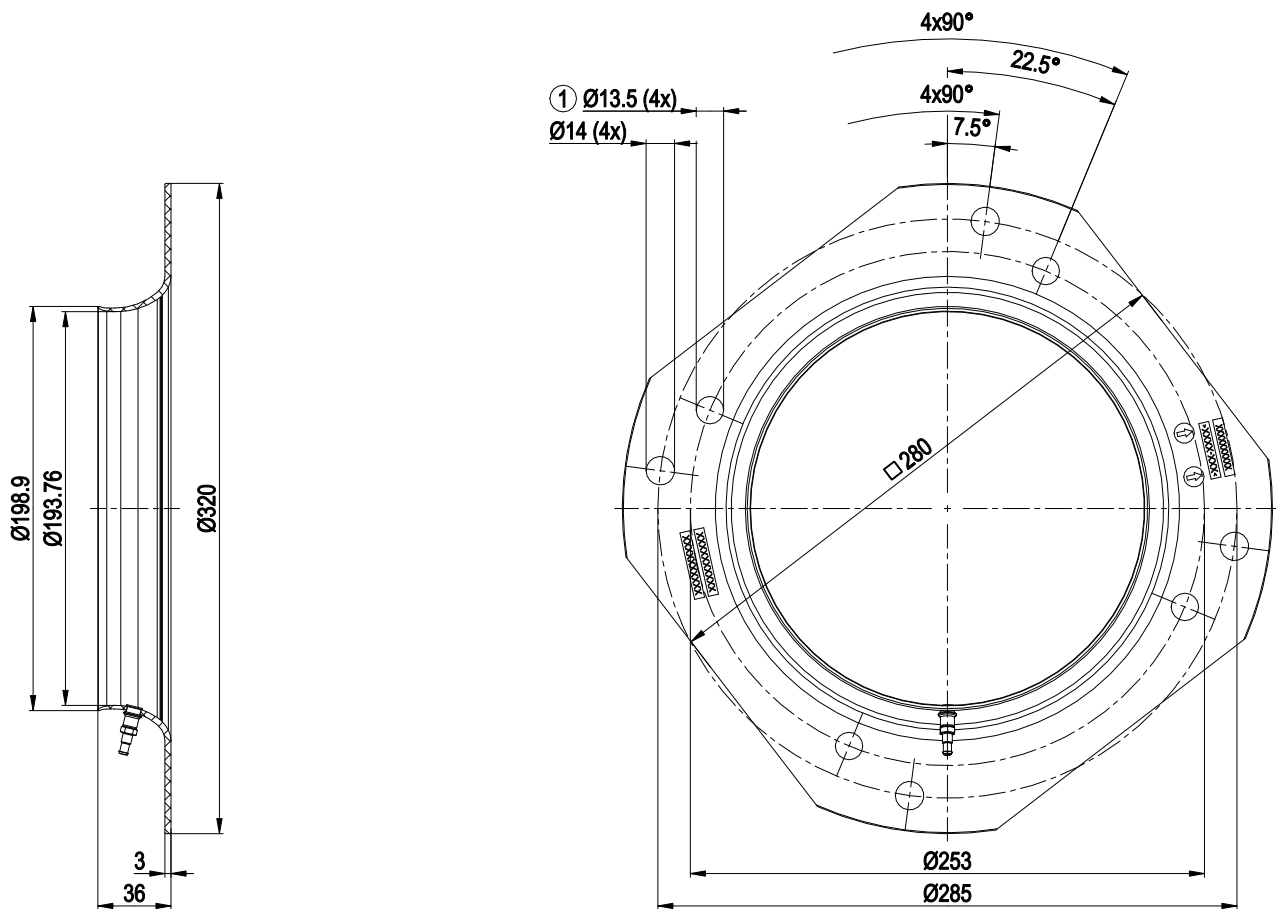
Size	280 mm
Motor size	74
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Locked-rotor detection - Tach output - Speed control - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class assignment	I; If a protective earth is connected by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 60335-1; EN 60034-1; EN 60204-1; UKCA; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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 10 mm
3	Max. clearance for screw 5 mm
4	Cable PVC AWG20
	3x splice
5	Cable PVC AWG22
	6x splice

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	L	black	Power supply, phase, see nameplate for voltage range
	PWR	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	PWR	PE	green/yellow	Protective earth
	CTRL	GND	blue	Reference ground for control interface, SELV
	CTRL	IO1	yellow	Factory setting: Analog input 0-10 V/PWM, Ri=100 KΩ, fPWM=1 kHz..10 kHz, Function: Speed set value Characteristic curve parameterizable (see "Input curve 1"), SELV Function parameterizable at the factory (see Optional interface functions table)
	CTRL	IO2	white	Factory setting: Open collector output, Umax=50 VDC, Imax= 10 mA, function: Tach output 1 pulse/revolution, SELV Function parameterizable at factory (see table Optional interface functions)
	CTRL	Vout	red	Voltage output 10 VDC +/-3%, Imax=10 mA Short-circuit-proof, power supply for external devices, SELV
	CTRL	-	gray	No function
	CTRL	-	brown	No function

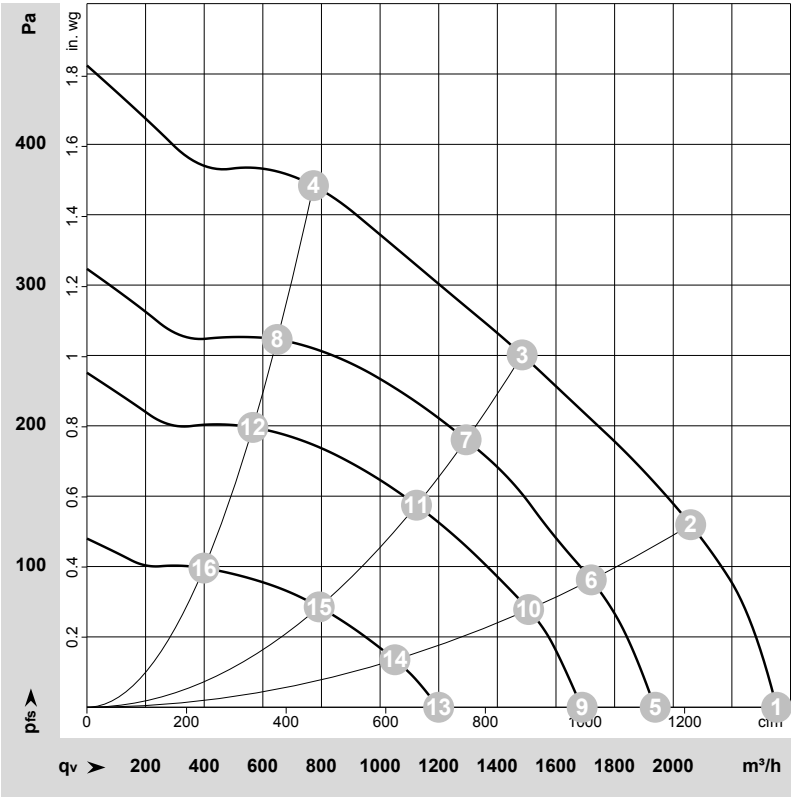
Terminal/plug assignment

	configurable IO mode	electrical specification	INPUT		OUTPUT					
			switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	switch: enable/disable input	configurable function	signal: tach out	signal: diagnostics out	signal: alarm out	signal: run monitoring
IO1	Din1 (high active): digital input	active: parameterizable voltage x-30 VDC not active: pin open or parameterizable voltage <x VDC, SELV	○	○	○					
	Ain1 0-10 V/PWM: analog input	Ri = 100 kΩ, characteristic curve parameterizable, f _{PWM} = 1k..10 kHz, SELV	○		○					
IO2	Tach out (open collector)	U _{max} =50 VDC, I _{max} =10 mA, SELV					○			
	Diagnostics out (open collector)	U _{max} =50 VDC, I _{max} =10 mA, SELV						○		
	Alarm out (open collector)	U _{max} =50 VDC, I _{max} =10 mA, SELV							○	
	Open collector	U _{max} =50 VDC, I _{max} =10 mA, SELV								○
Vout	Voltage output	Voltage 10 VDC, SELV								
			source: set value	switch: parameter set: #1 / #2	switch: enable/disable input	configurable function	signal: tach out	signal: diagnostics out	signal: alarm out	signal: run monitoring
										signal: status
										signal: configurable function

Basic (B4)
Factory configuration option upon request

○ Factory configuration option

Curves: Air performance 50 Hz



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

Measurement: LU-229039-1
Date: 2023-08-03
Nozzle: 8217102502

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

Measured values

	Wired	U	f	n	P _e	I	LpA _{in}	LwA _{in}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	cfm	in. wg
1	1~	230	50	2305	137	1.17	66	74	2355	0	1385	0.00
2	1~	230	50	2260	170	1.40	61	69	2060	130	1210	0.52
3	1~	230	50	2200	170	1.40	55	63	1485	250	875	1.00
4	1~	230	50	2270	170	1.40	60	68	775	370	455	1.49
5	1~	230	50	1900	79	0.70	61	69	1940	0	1140	0.00
6	1~	230	50	1900	102	0.89	57	65	1720	91	1010	0.37
7	1~	230	50	1900	113	0.98	52	60	1295	190	760	0.76
8	1~	230	50	1900	101	0.88	54	62	650	262	380	1.05
9	1~	230	50	1650	56	0.50	58	66	1690	0	995	0.00
10	1~	230	50	1660	69	0.62	53	61	1505	70	885	0.28
11	1~	230	50	1660	76	0.67	50	57	1125	144	660	0.58
12	1~	230	50	1660	69	0.62	51	59	565	199	335	0.80
13	1~	230	50	1170	23	0.22	50	58	1200	0	705	0.00
14	1~	230	50	1170	28	0.26	47	55	1050	34	620	0.14
15	1~	230	50	1170	30	0.28	42	51	790	72	465	0.29
16	1~	230	50	1170	28	0.26	40	48	400	99	235	0.40

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