

8300100659
VBS0190SSLES

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	8300100659	
Motor	E06003-23	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	4350
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}	%	64.5	43.6	09 Power consumption P_{ed}	kW	0.17
02 Measurement category		A		09 Air flow q_v	m³/h	725
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	497
04 Efficiency grade N		82.9	62	10 Speed (rpm) n	min ⁻¹	4510
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-228459

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

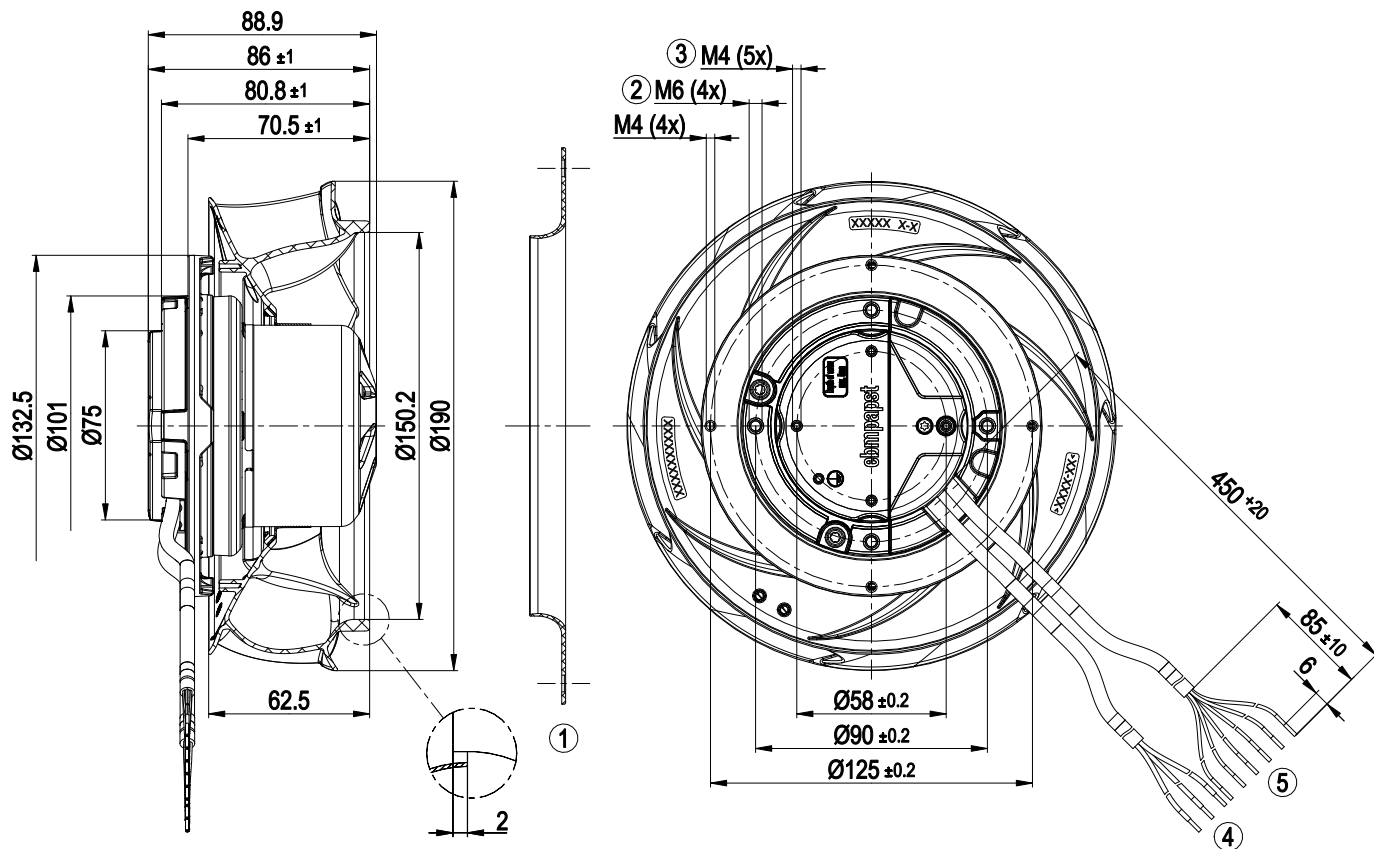
Weight	1.38 kg
Size	190 mm
Motor size	60
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (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	- 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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class 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 60034-1; EN 60204-1; EN 60335-1; CE; UKCA
Approval	UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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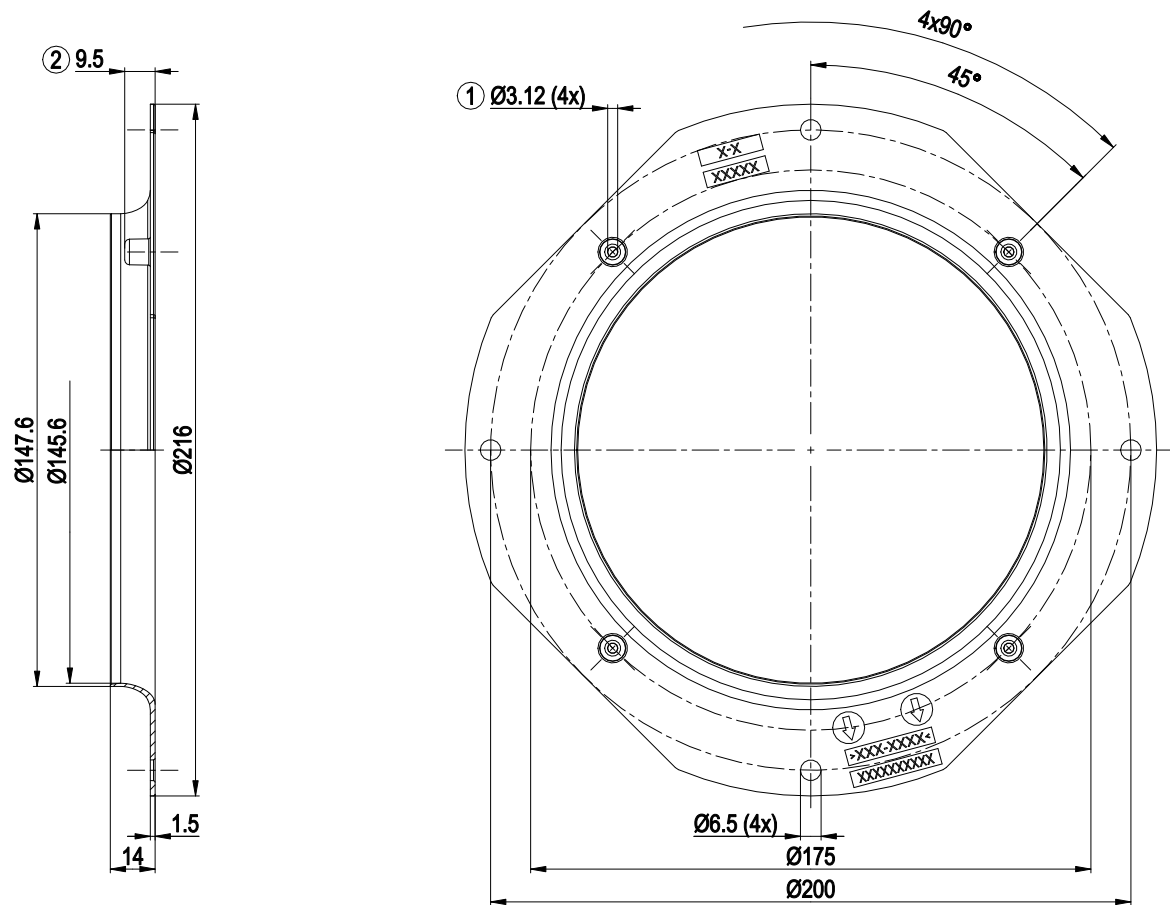
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Product drawing



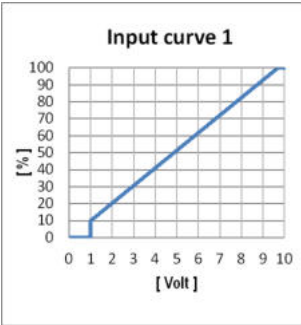
1	Inlet ring 8217116821 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 5 mm
4	Supply line (PWR) PVC AWG20 3x splice
5	Control wire (CTRL) PVC AWG22 6x splice

Accessory part



-	Inlet ring 8217116821
1	Fastening holes for FlowGrid 8217117433 (not included in scope of delivery) are provided and must be subsequently opened as required
2	Screw-on domes are only permissible for Flowgrid!

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

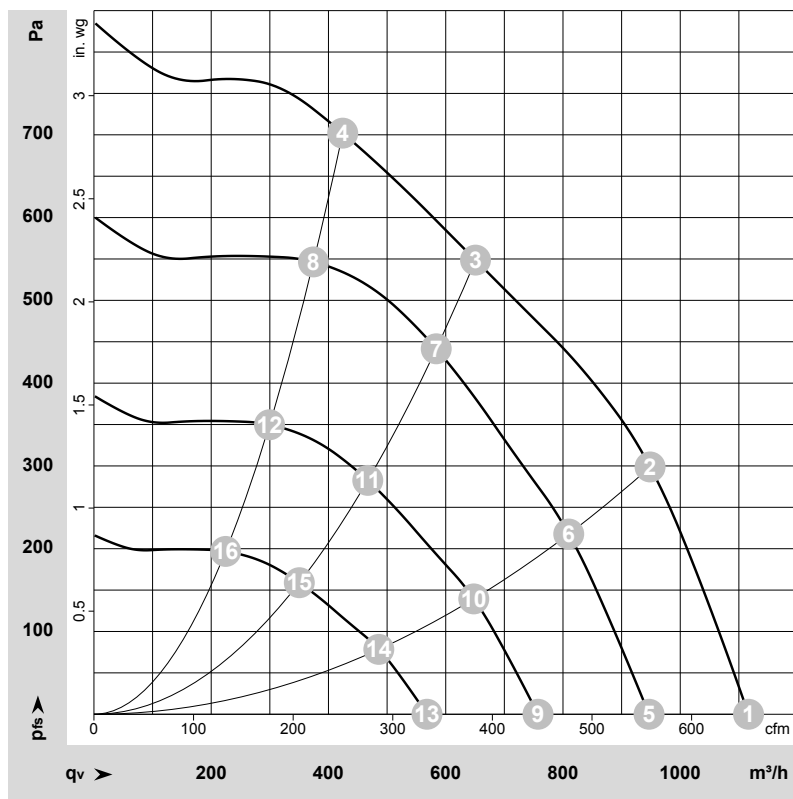
Terminal/plug assignment

	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	○	○	○					signal: status
	Ain1 0-10 V/PWM: analog input	RI = 100 kΩ, characteristic curve parameterizable, f _{PWM} = 1k..10 kHz, SELV	○		○					signal: configurable function
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								

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-228459-1
Date: 2023-08-16
Nozzle: 8217116821

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)	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	4715	126	1.05	72	80	1115	0	655	0.00
2	1~	230	50	4690	170	1.40	68	77	950	300	560	1.20
3	1~	230	50	4350	170	1.40	65	73	650	550	385	2.21
4	1~	230	50	4525	170	1.40	71	79	425	700	250	2.81
5	1~	230	50	4000	77	0.64	68	76	945	0	555	0.00
6	1~	230	50	4000	110	0.89	64	73	810	224	475	0.90
7	1~	230	50	4000	128	1.04	62	70	585	442	345	1.77
8	1~	230	50	4000	121	0.99	68	76	375	549	220	2.20
9	1~	230	50	3200	39	0.33	62	70	755	0	445	0.00
10	1~	230	50	3200	56	0.46	59	67	650	144	380	0.58
11	1~	230	50	3200	65	0.53	57	65	465	283	275	1.14
12	1~	230	50	3200	62	0.50	62	70	300	352	175	1.41
13	1~	230	50	2400	17	0.14	55	63	570	0	335	0.00
14	1~	230	50	2400	24	0.19	52	60	485	81	285	0.33
15	1~	230	50	2400	28	0.22	49	58	350	159	205	0.64
16	1~	230	50	2400	26	0.21	55	63	225	198	130	0.79

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