

8300101533
VBS0250SSNDS

EC centrifugal fan - RadiCal

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	8300101533	
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	2600
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}	%	66.5	43.4	09 Power consumption P_{ed}	kW	0.17
02 Measurement category		A		09 Air flow q_v	m ³ /h	1070
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	338
04 Efficiency grade N		85.1	62	10 Speed (rpm) n	min ⁻¹	2650
05 Variable speed drive		Yes		11 Specific ratio [*]		1.00

Data obtained at optimum efficiency level.

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

LU-231460

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).

8300101533
VBS0250SSNDS

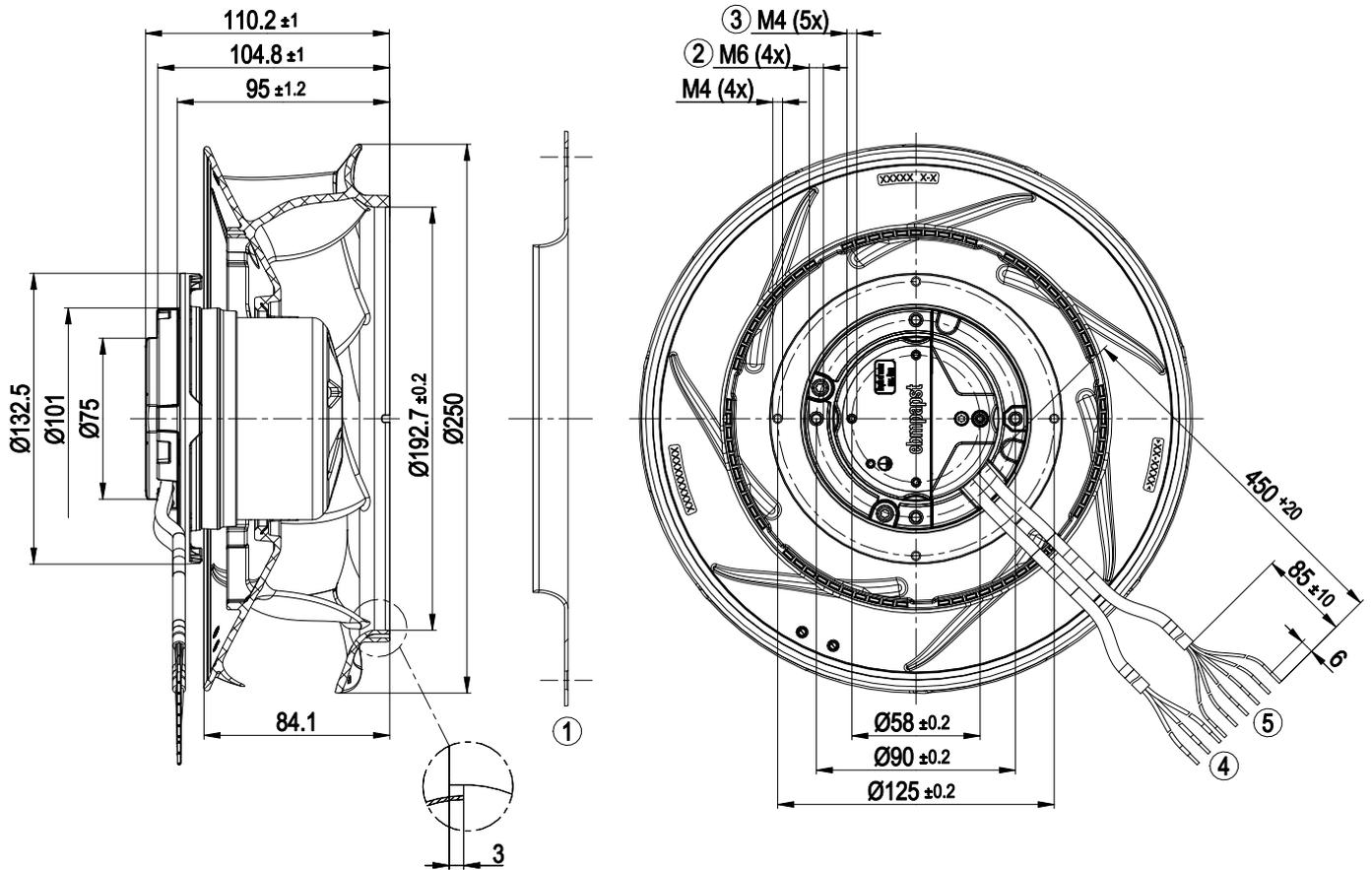
EC centrifugal fan - RadiCal

backward-curved, single-intake

Technical description

Size	250 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	Shaft horizontal or rotor on bottom; rotor on top on request
Cooling hole/opening	On rotor side
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none">- 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. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

Product drawing



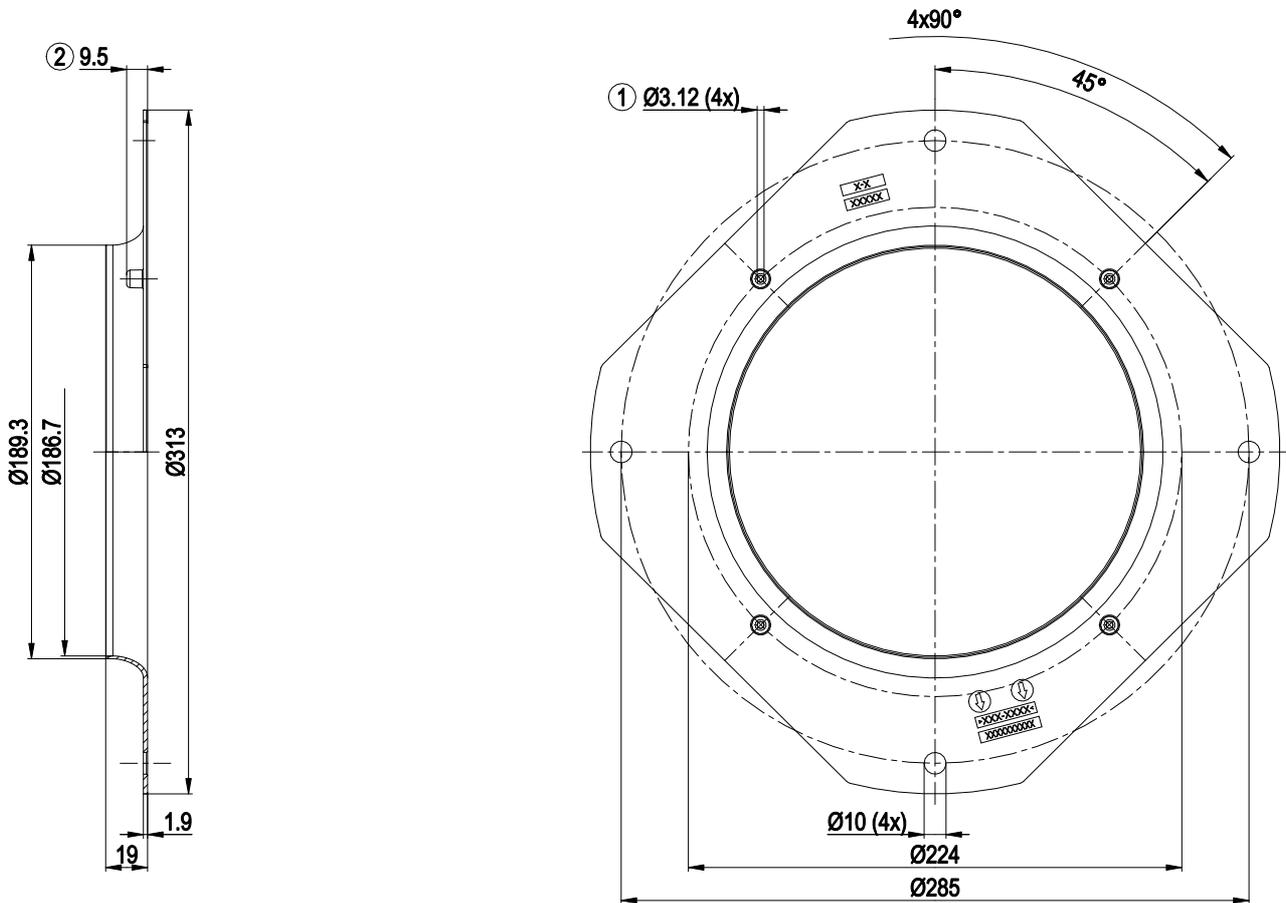
1	Inlet ring 8217118442 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 5 mm
4	Supply line (PWR) PVC AWG20 3x splice
5	Control wire (CTRL) PVC AWG22 6x splice

8300101533
VBS0250SSNDS

EC centrifugal fan - RadiCal

backward-curved, single-intake

Accessory part

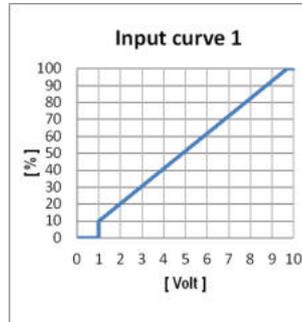


-	Inlet ring 8217118442
1	Fastening holes for FlowGrid 8217118169 (not included in scope of delivery) are provided and must be subsequently opened as required
2	Screw-on domes are only permissible for Flowgrid!

EC centrifugal fan - RadiCal

backward-curved, single-intake

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, I _{max} = 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%, I _{max} =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			
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, $f_{pwm} = 1\text{ k} - 10\text{ kHz}$, SELV			
IO2	◦ Tach out (open collector)	Umax = 50 VDC, Imax = 10 mA, SELV		◦	
	◦ Diagnostics out (open collector)	Umax = 50 VDC, Imax = 10 mA, SELV		◦	
	◦ Alarm out (open collector)	Umax = 50 VDC, Imax = 10 mA, SELV		◦	
Vout	◦ Open collector	Umax = 50 VDC, Imax = 10 mA, SELV			
	Voltage output	Voltage 10 VDC, SELV			
	source: set value		◦		
	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			◦	
	signal: status			◦	
	signal: configurable function			◦	

Basic (B4)

Factory configuration option upon request

- factory configuration option

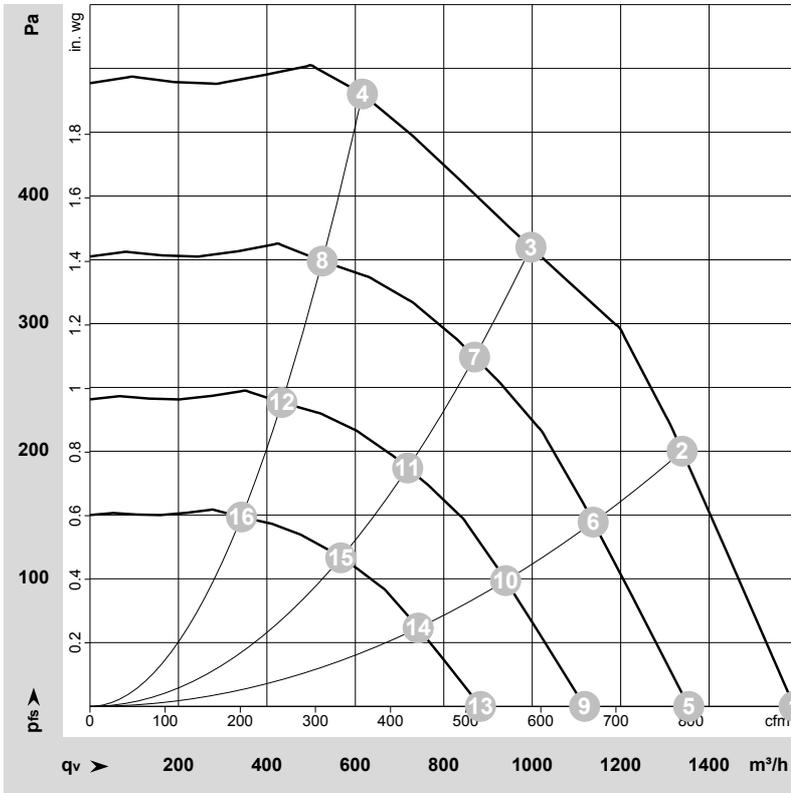
8300101533

VBS0250SSNDS

EC centrifugal fan - RadiCal

backward-curved, single-intake

Curves: Air performance 50 Hz



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

Measurement: LU-231460-1
Date: 2024-02-06
Nozzle: 8217118442

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 _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	2705	129	1.10	66	74	1590	0	935	0.00
2	1~	230	50	2705	168	1.40	62	70	1340	200	790	0.80
3	1~	230	50	2635	171	1.44	58	66	995	360	585	1.45
4	1~	230	50	2695	171	1.44	65	72	615	480	365	1.93
5	1~	230	50	2300	79	0.68	62	69	1355	0	795	0.00
6	1~	230	50	2300	103	0.86	58	66	1140	144	670	0.58
7	1~	230	50	2300	114	0.95	55	63	870	274	510	1.10
8	1~	230	50	2300	106	0.89	61	69	525	349	310	1.40
9	1~	230	50	1900	45	0.38	57	65	1120	0	660	0.00
10	1~	230	50	1900	58	0.49	53	61	940	99	555	0.40
11	1~	230	50	1900	64	0.54	50	58	720	187	425	0.75
12	1~	230	50	1900	60	0.50	56	64	435	238	255	0.96
13	1~	230	50	1500	22	0.19	51	59	885	0	520	0.00
14	1~	230	50	1500	29	0.24	47	55	740	61	435	0.24
15	1~	230	50	1500	32	0.26	44	52	565	116	335	0.47
16	1~	230	50	1500	30	0.25	50	58	345	148	200	0.59

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