

8300100259
VBS0500CSPMS

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.ebmpapst.com
www.ebmpapst.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	8300100259	
Motor	E08421-65	
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 ⁻¹	1170
Power consumption	W	500
Current draw	A	2.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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}	%	70.6	48.3	09 Power consumption P_{ed}	kW	0.49
02 Measurement category		A		09 Air flow q_v	m³/h	4550
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	248
04 Efficiency grade N		84.3	62	10 Speed (rpm) n	min ⁻¹	1170
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-217937



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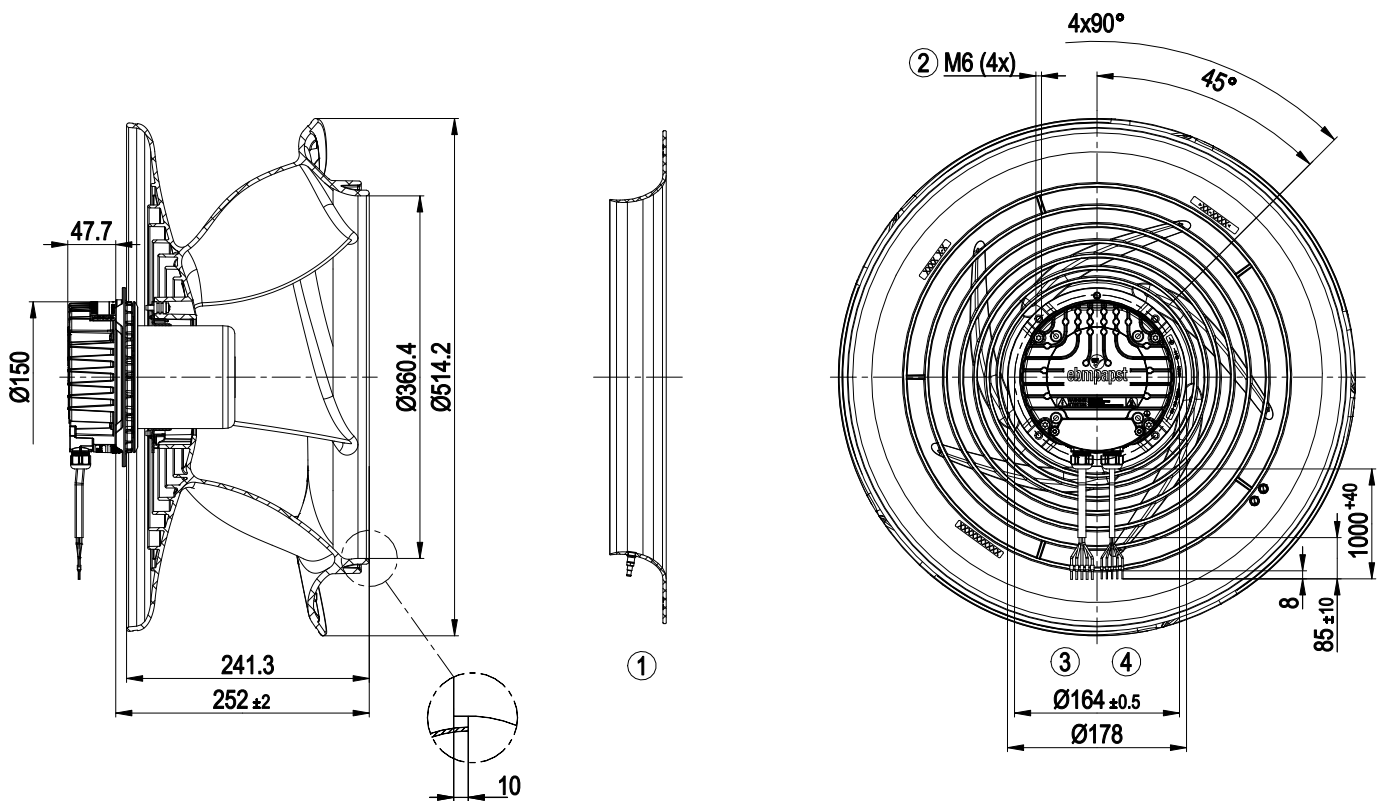
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Technical description

Size	500 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
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
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal switch auto reset, internally connected
With cable	Lateral
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 61800-5-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

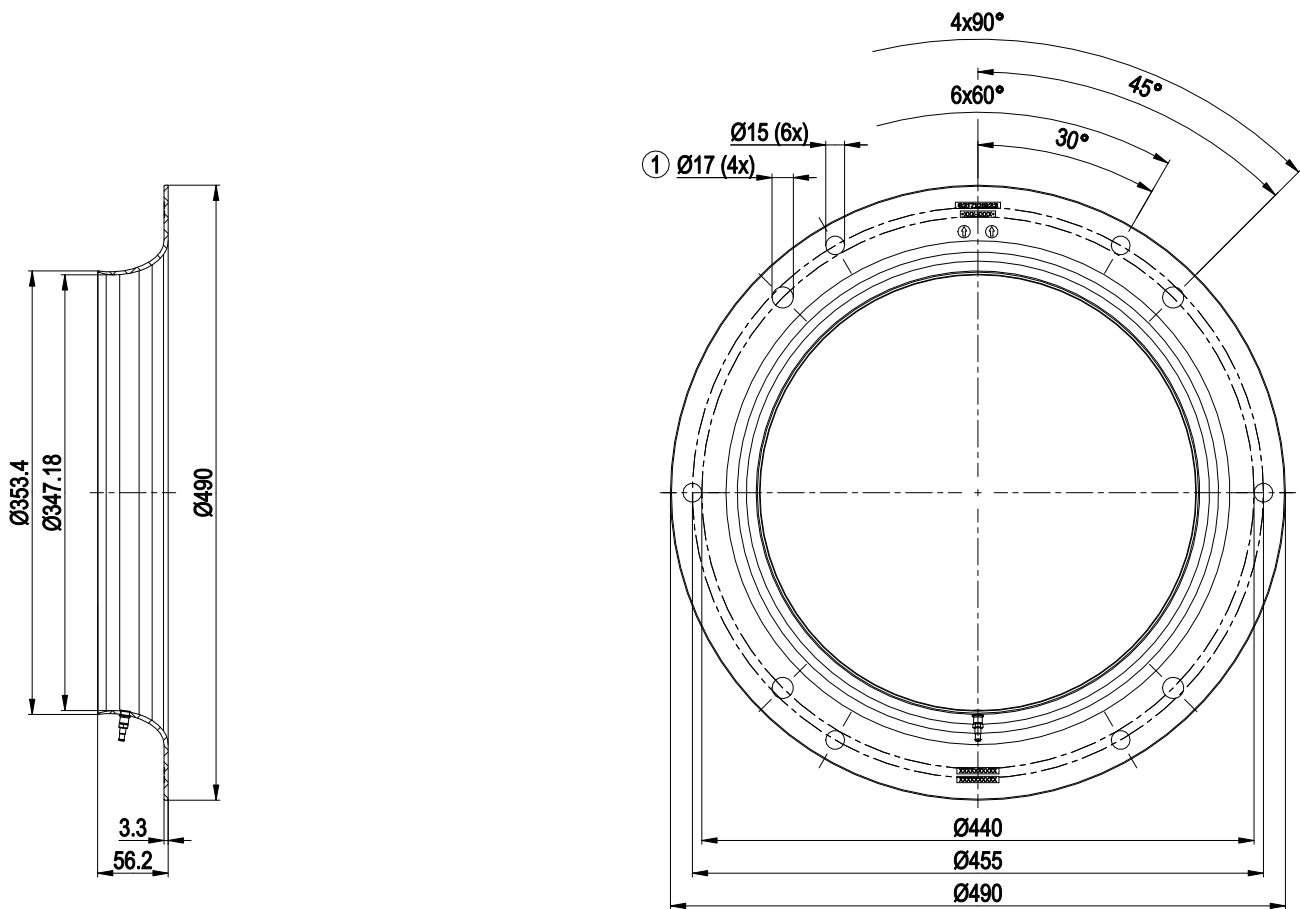


Product drawing



1	Accessory part: Inlet ring 8217102238 with pressure tap (k-factor: 290) (not included in scope of delivery)
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18 5x wire-end ferrule
4	Cable PVC AWG22 5x wire-end ferrule

Accessory part



Inlet ring 8217102238 with pressure tap (k-factor: 290)

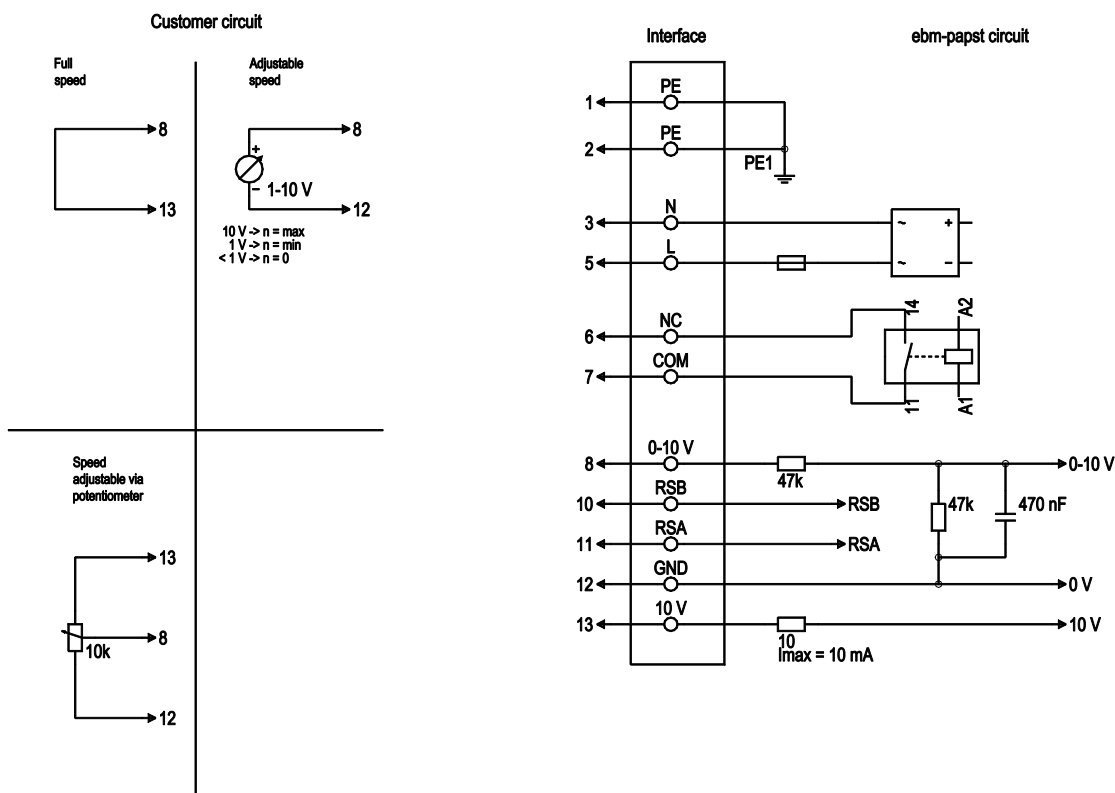
- | | |
|---|--|
| 1 | Fastening holes for FlowGrid 35505-2-2957 (not included in scope of delivery) are provided and must be subsequently opened as required |
|---|--|



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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; R _i = 100 kΩ; adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB
2	11	RSA	white	RS485 interface for MODBUS, RSA
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. pot)

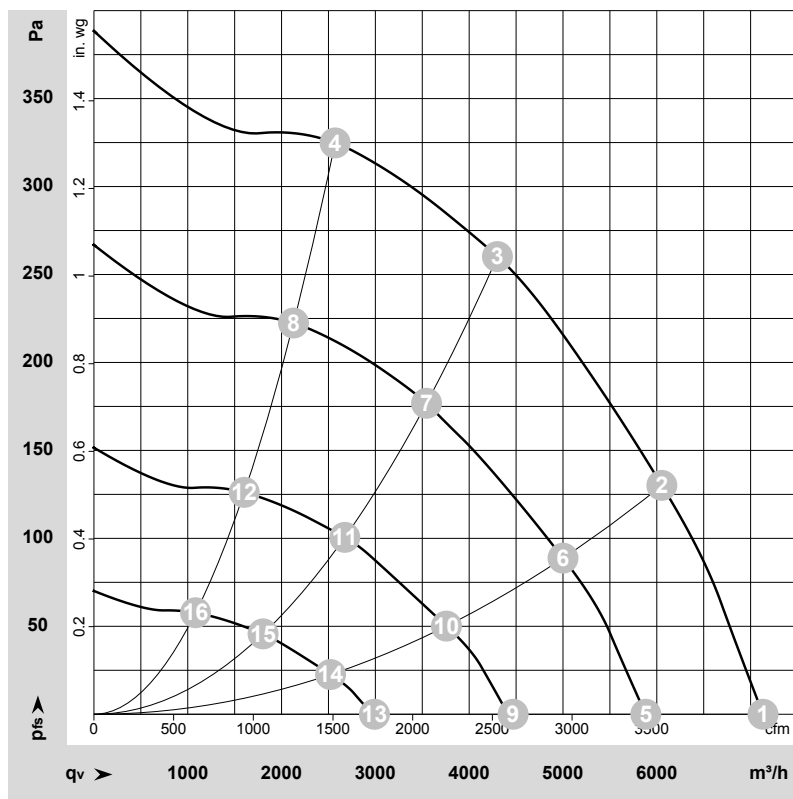
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Curves: Air performance 50 Hz



$$\rho = 1.177 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-217937-1

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}	LwA _{out}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	1170	319	1.41	68	76	79	7130	0	4200	0.00
2	1~	230	50	1170	425	1.86	63	71	74	6055	130	3565	0.52
3	1~	230	50	1170	500	2.20	58	64	68	4300	260	2530	1.04
4	1~	230	50	1170	448	1.96	58	65	69	2570	325	1515	1.30
5	1~	230	50	970	186	0.84	64	72	75	5885	0	3465	0.00
6	1~	230	50	970	242	1.08	58	66	70	5000	89	2945	0.36
7	1~	230	50	965	278	1.24	53	60	64	3545	177	2085	0.71
8	1~	230	50	970	253	1.13	54	60	63	2125	223	1250	0.90
9	1~	230	50	730	88	0.42	58	66	70	4470	0	2630	0.00
10	1~	230	50	730	110	0.51	53	60	64	3755	50	2210	0.20
11	1~	230	50	730	125	0.57	47	54	57	2675	101	1575	0.41
12	1~	230	50	730	114	0.53	47	53	56	1600	126	945	0.51
13	1~	230	50	495	36	0.22	45	55	62	2990	0	1760	0.00
14	1~	230	50	495	41	0.24	40	49	56	2520	23	1485	0.09
15	1~	230	50	495	46	0.25	36	44	51	1805	46	1060	0.18
16	1~	230	50	495	43	0.24	37	42	46	1085	58	640	0.23

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
LwA_{out} = Sound power level outlet side · q_v = Air flow · p_{fs} = Pressure increase

