

8300100543
VBH0310CSNGS

EC centrifugal module - RadiPac

backward-curved, single-intake
with support bracket

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Nominal data

Item	8300100543	
Motor	E07430-35	
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	2500
Power consumption	W	475
Current draw	A	2.1
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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}	%	71	48.1	09 Power consumption P_{ed}	kW	0.47
02 Measurement category		A		09 Air flow q_v	m³/h	2490
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	437
04 Efficiency grade N		84.9	62	10 Speed (rpm) n	min ⁻¹	2500
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-230679

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Technical description

Size	310 mm
Motor size	74
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Support plate material	Sheet steel, galvanized
Support bracket material	Steel, painted black
Inlet nozzle material	ABS 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
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	See legend on product drawing
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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal switch auto reset, internally connected
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; UKCA; CE

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Approval

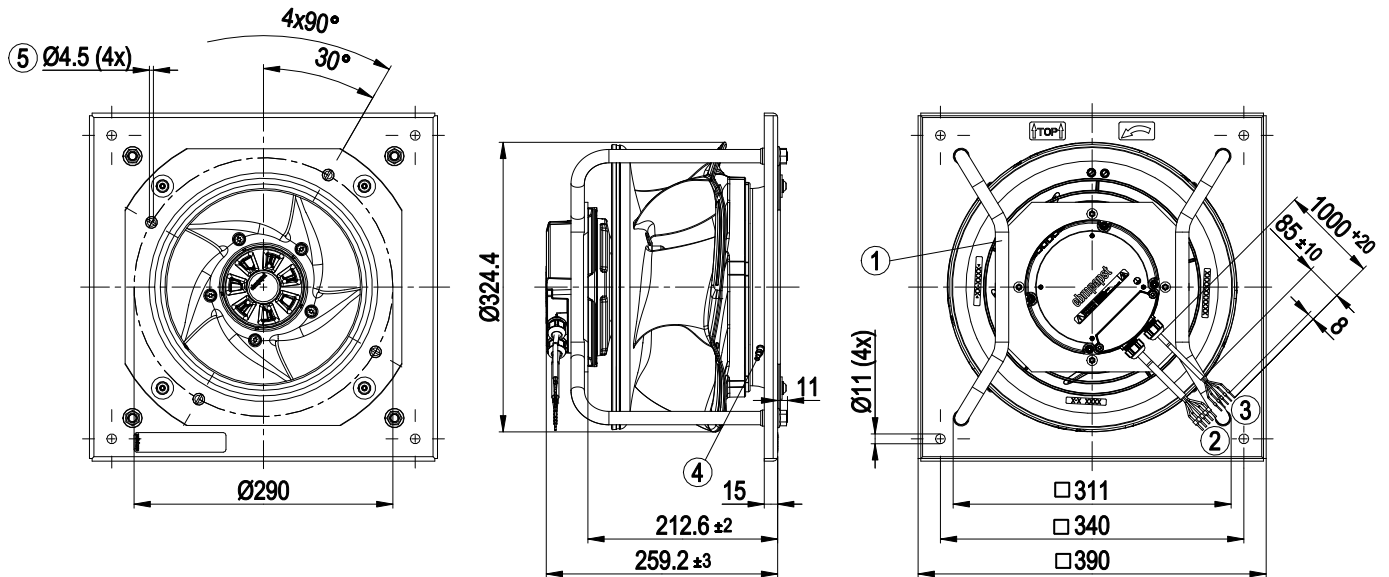
UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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Product drawing



1	Installed position: shaft horizontal (install support struts only vertically as illustrated) or rotor on bottom; rotor on top on request
2	Cable PVC AWG18
	5x wire-end ferrule
3	Cable PVC AWG22
	5x wire-end ferrule
4	Inlet ring with pressure tap (k-factor: 115)
5	Fastening holes for FlowGrid 25310-2-2957 (not included in scope of delivery) are provided and must be subsequently opened as required

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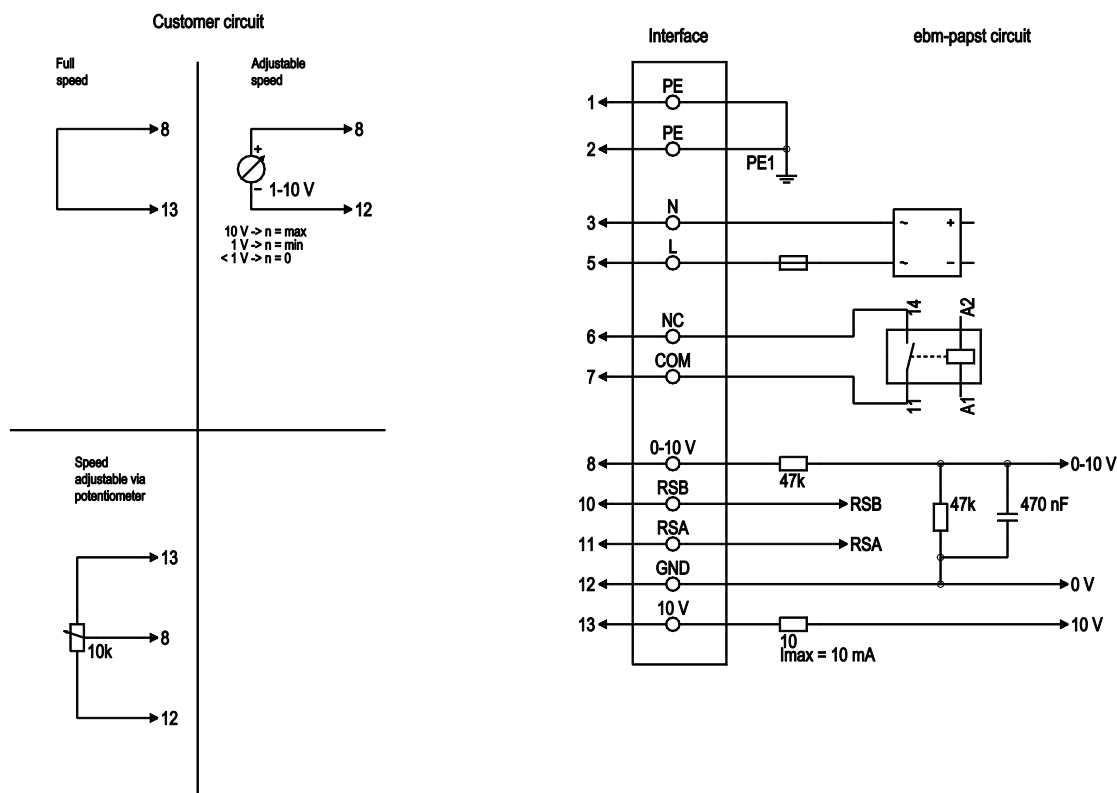
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Connection diagram



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; $R_i = 100 \text{ k}\Omega$; 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 $\pm 3\%$; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. pot)

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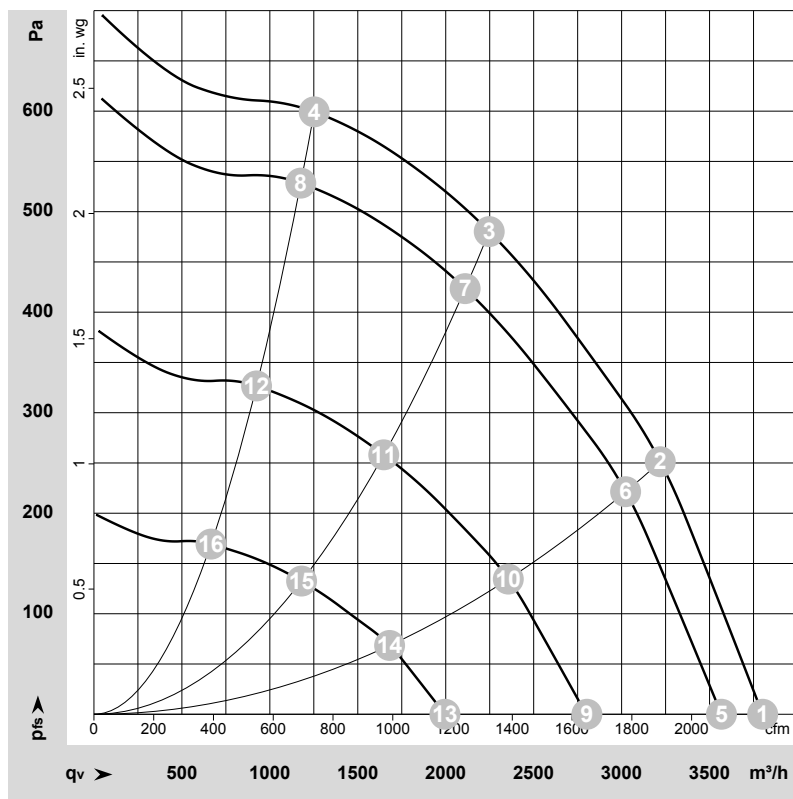
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Curves: Air performance 50 Hz



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

Measurement: LU-230679-1

Date: 2022-03-08

Nozzle: 8217101930

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}	LwA	q _v	P _{fs}	q _v	P _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	dB	m³/h	Pa	cfm	in. wg
1	1~	230	50	2500	308	1.37	72	81	84	86	3800	0	2240	0.00
2	1~	230	50	2500	436	1.92	63	72	76	77	3220	250	1895	1.00
3	1~	230	50	2500	475	2.10	59	67	71	72	2245	480	1325	1.93
4	1~	230	50	2500	423	1.87	65	72	75	77	1250	600	735	2.41
5	1~	230	50	2345	255	1.14	71	79	82	84	3570	0	2100	0.00
6	1~	230	50	2345	361	1.59	62	71	74	76	3025	228	1780	0.92
7	1~	230	50	2350	393	1.73	57	65	69	71	2110	424	1240	1.70
8	1~	230	50	2345	351	1.54	64	71	74	76	1175	528	690	2.12
9	1~	230	50	1840	130	0.59	65	73	76	78	2805	0	1650	0.00
10	1~	230	50	1840	175	0.78	57	65	69	71	2355	138	1385	0.55
11	1~	230	50	1840	190	0.85	51	60	64	65	1650	258	970	1.04
12	1~	230	50	1840	172	0.77	56	64	67	68	925	327	545	1.31
13	1~	230	50	1325	57	0.29	58	66	69	71	1995	0	1175	0.00
14	1~	230	50	1325	73	0.36	51	59	63	64	1680	70	990	0.28
15	1~	230	50	1325	78	0.38	44	52	57	59	1180	133	695	0.53
16	1~	230	50	1325	72	0.36	46	54	57	59	665	169	390	0.68

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