8300101605

VBS0250SSNFS

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Amtsgericht (court of registration) Stuttgart · HRA 590344

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	**8300101605**
Motor	**E07434-29**

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}	3850
Power consumption	W	500
Current draw	A	2.2
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}	%	66.9	48.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		80.5	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.5
09 Air flow q_v	m^3/h	1555
09 Pressure increase p_{fs}	Pa	714
10 Speed (rpm) n	min^{-1}	3860
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-231605

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).

Technical description

Size	250 mm
Motor size	74
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
Motor bearing	Ball bearing
Technical features	- Locked-rotor detection - Speed control - Alarm relay - Power limiter - Motor current limitation - PFC, active - Soft start - Control interface with SELV potential safely disconnected from the mains - Temperature derating - 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	Electronic motor protection
With cable	Lateral
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 60335-1; EN 60034-1; EN 60204-1; CE; UKCA

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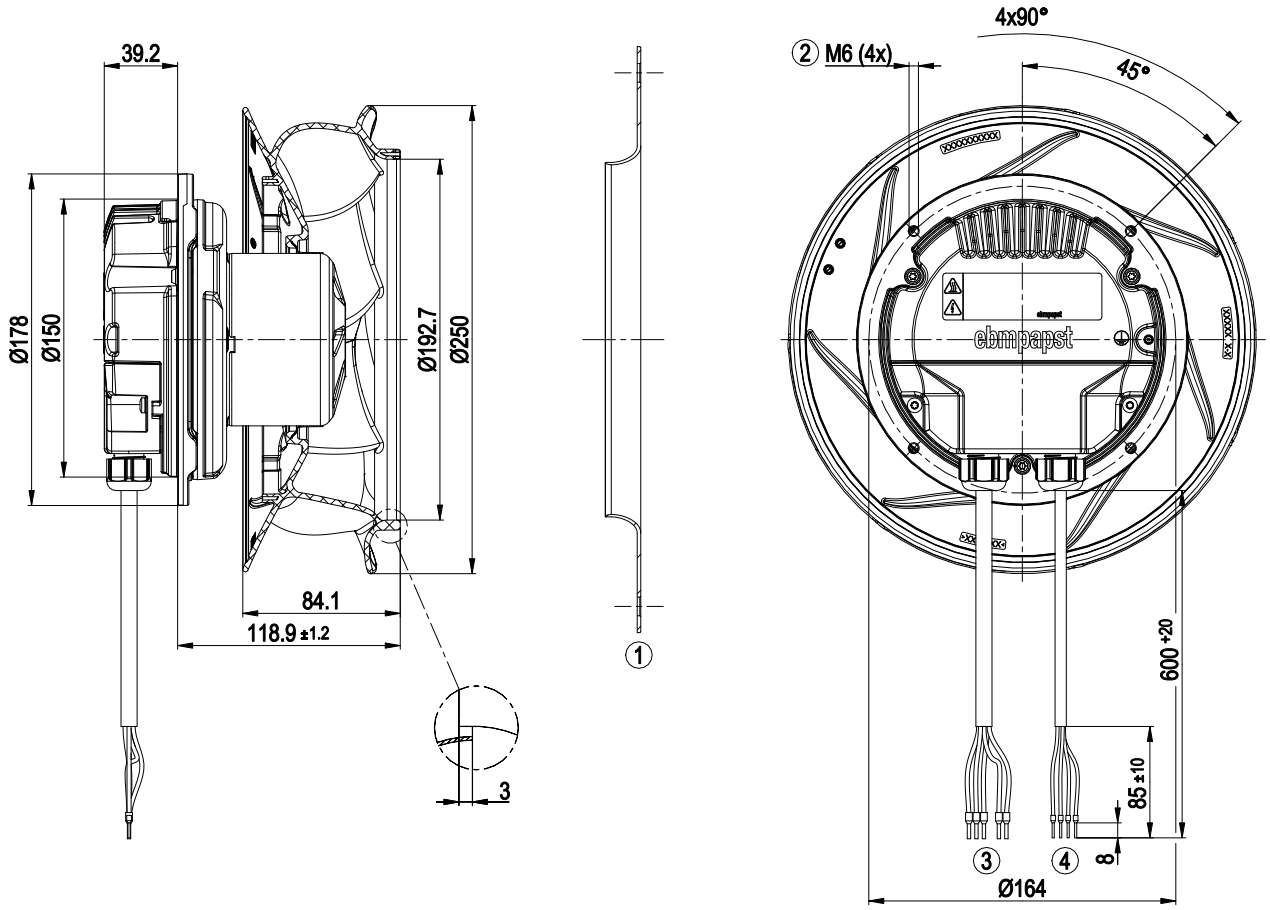
Product drawing



1	Inlet ring 8217118442 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18 (PWR)
	5x wire-end ferrule
4	Cable PVC AWG22 (CTRL)
	4x splice

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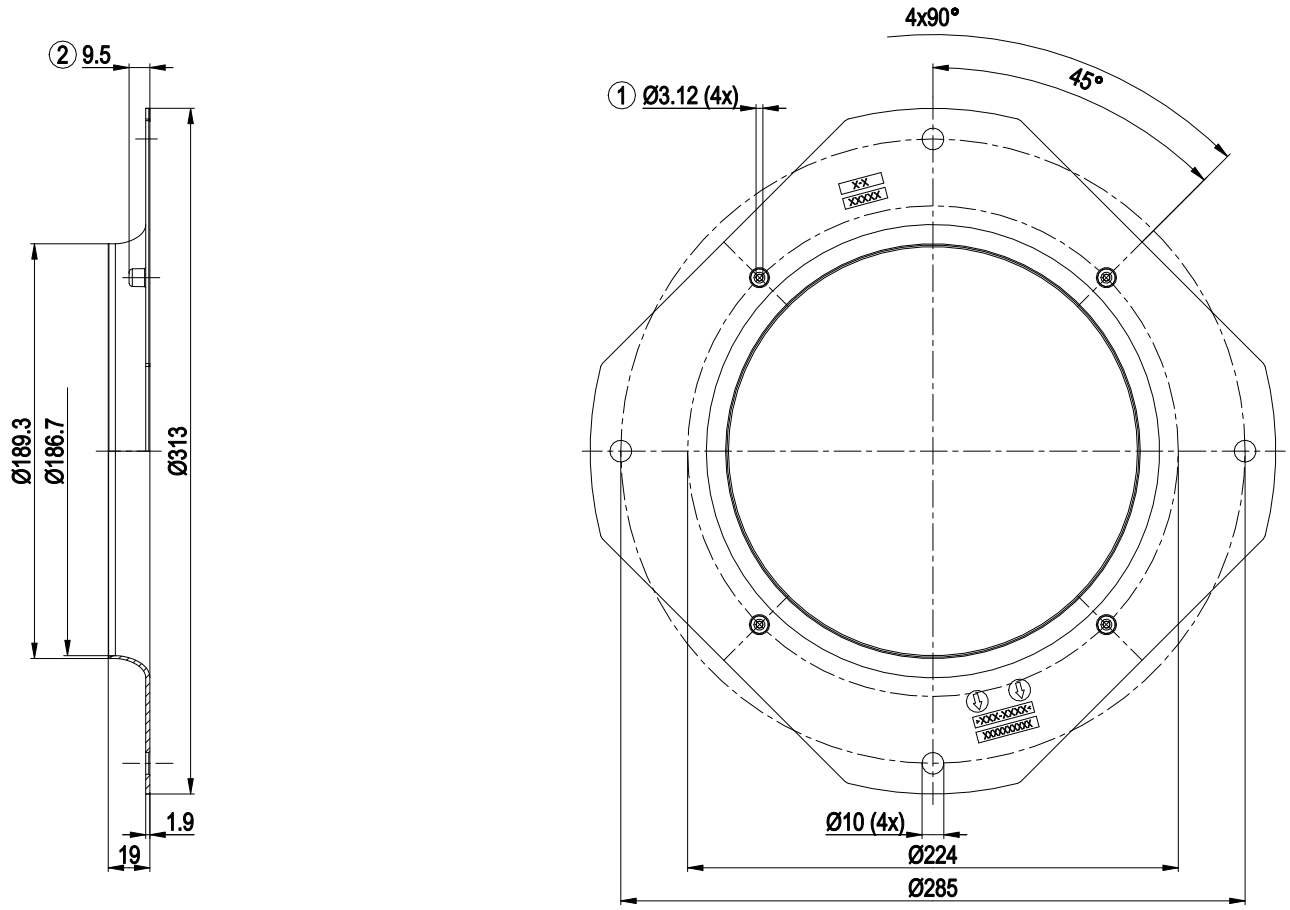
Accessory part



-	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!

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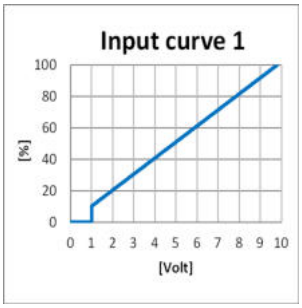
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	PWR	PE	green/yellow	Protective earth
	PWR	L	black	Power supply, phase, see nameplate for voltage range
	PWR	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	PWR	COM	orange	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	PWR	NC	orange	Status relay, floating status contact, break for failure
	CTRL	GND	blue	Reference ground for control interface, SELV
	CTRL	Vout	red	Voltage output 10 VDC +/-3%, Imax=10 mA Short-circuit-proof, power supply for external devices, SELV
	CTRL	IO1	yellow	Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: set value Characteristic curve parameterizable (see input characteristic curve "Input curve 1"), SELV Function parameterizable at the factory (see table Optional interface functions)
	CTRL	IO2	white	Factory setting: Open collector output, Umax=50 VDC, Imax=20 mA, function:Tacho output 1 pulse/revolution, SELV Function parameterizable at factory (see table Optional interface functions)

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Terminal/plug assignment

Basic (B5)

Factory configuration option upon request

○ *factory configuration option*

	configurable IO mode	electrical specification	INPUT: source: set value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: enable/disable input	INPUT: configurable function	OUTPUT: signal: tach out	OUTPUT: signal: diagnostics out	OUTPUT: signal: alarm out	OUTPUT: signal: run monitoring	OUTPUT: signal: status	OUTPUT: signal: configurable function
IO1	○ Din1 (high active): digital input	active: parametrizable voltage x - 30 VDC not active: pin open or parametrizable voltage < x VDC, SELV		○	○	○	○						
	○ **Ain1 0-10 V/PWM:** analog input	Ri = 100 kΩ, characteristic curve parameterizable, f_{PWM} = 1 k - 10 kHz, SELV	○										
IO2	○ **Tach out** (open collector)	Umax = 50 VDC, Imax = 20 mA, SELV						○					
	○ **Diagnostics out** (open collector)	Umax = 50 VDC, Imax = 20 mA, SELV							○				
	○ **Alarm out** (open collector)	Umax = 50 VDC, Imax = 20 mA, SELV								○			
	○ **Open collector**	Umax = 50 VDC, Imax = 20 mA, SELV									○	○	○
COM NC	**Relais**	250 VAC / 2 A (AC1)									○	○	○
Vout	**Voltage output**	Voltage 10 VDC, SELV											

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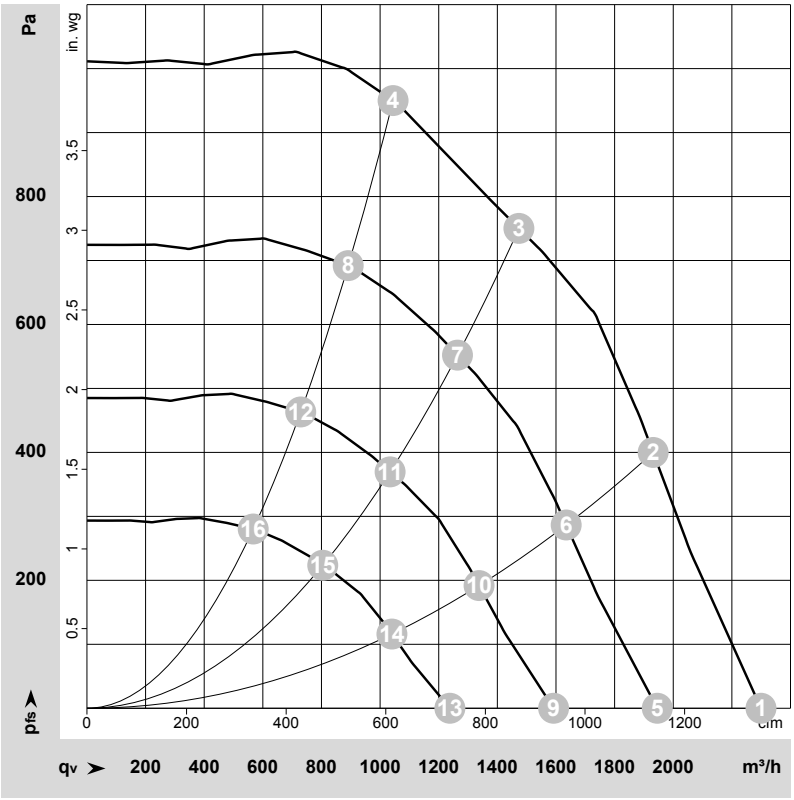
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-231605-1
Date: 2024-04-17
Nozzle: 8217118442

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	3900	371	1.64	74	81	2300	0	1355	0.00
2	1~	230	50	3900	472	2.08	71	79	1930	400	1135	1.61
3	1~	230	50	3845	507	2.23	68	76	1475	750	870	3.01
4	1~	230	50	3865	506	2.22	71	79	1045	950	615	3.81
5	1~	230	50	3300	225	1.00	69	77	1945	0	1145	0.00
6	1~	230	50	3300	287	1.26	67	75	1635	287	960	1.15
7	1~	230	50	3300	320	1.41	64	72	1265	552	745	2.22
8	1~	230	50	3300	315	1.38	67	75	890	692	525	2.78
9	1~	230	50	2700	123	0.55	64	72	1590	0	935	0.00
10	1~	230	50	2700	157	0.69	62	70	1340	192	790	0.77
11	1~	230	50	2700	175	0.77	59	67	1035	370	610	1.49
12	1~	230	50	2700	172	0.76	62	70	730	463	430	1.86
13	1~	230	50	2100	58	0.26	58	65	1240	0	730	0.00
14	1~	230	50	2100	74	0.32	56	64	1040	116	610	0.47
15	1~	230	50	2100	83	0.36	53	60	805	224	475	0.90
16	1~	230	50	2100	81	0.36	56	64	565	280	335	1.12

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

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