VBH0250RTPGZ K3G250RR17J3

EC centrifugal module - RadiCal

backward-curved, single-intake

with support bracket

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Nominal data

Type	**VBH0250RTPGZ**
Motor	**M3G084-DF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	4250
Power consumption	W	730
Current draw	A	1.15
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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	56.3	50
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		68.3	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.72
09 Air flow q_v	m^3/h	1405
09 Pressure increase p_{fs}	Pa	962
10 Speed (rpm) n	min^{-1}	4260
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-182525

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Technical description

Weight	8.2 kg
Size	250 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic
Support plate material	Sheet steel, galvanized
Support bracket material	Die-cast aluminum
Inlet nozzle material	Sheet steel, galvanized
Guard grille material	Steel, coated with pebble gray plastic (RAL 7032)
Number of blades	6
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, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)

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Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

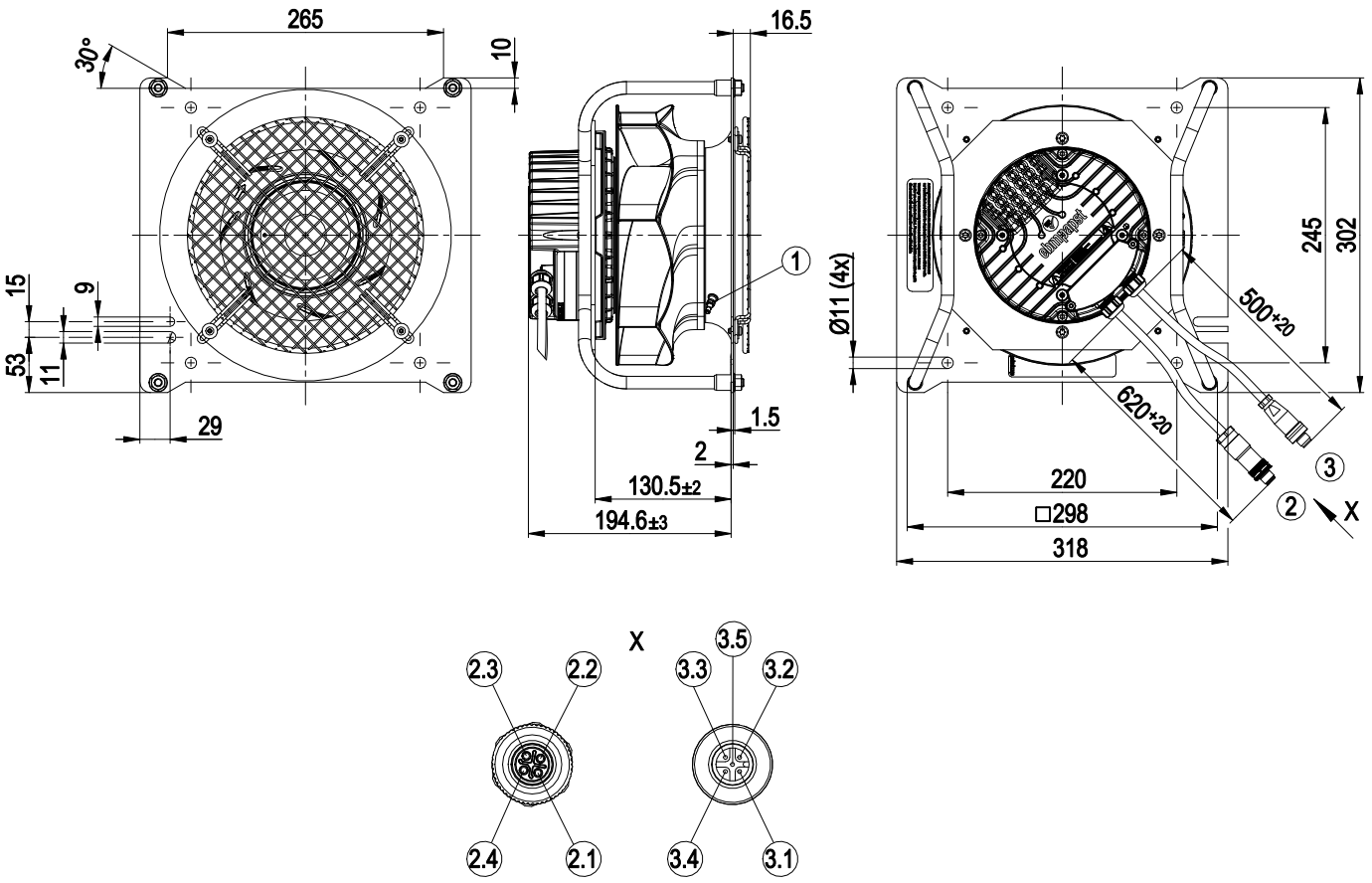
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Product drawing



1	Inlet ring with pressure tap (k-factor: 60)
2	Cable PVC AWG18
	Circular connector 1404641 Phoenix Contact
2.1	L1
2.2	L2
2.3	L3
2.4	PE
3	Cable PVC AWG22
	Circular connector 1553187 Phoenix Contact
3.1	not used
3.2	not used
3.3	not used
3.4	RSA
3.5	RSB

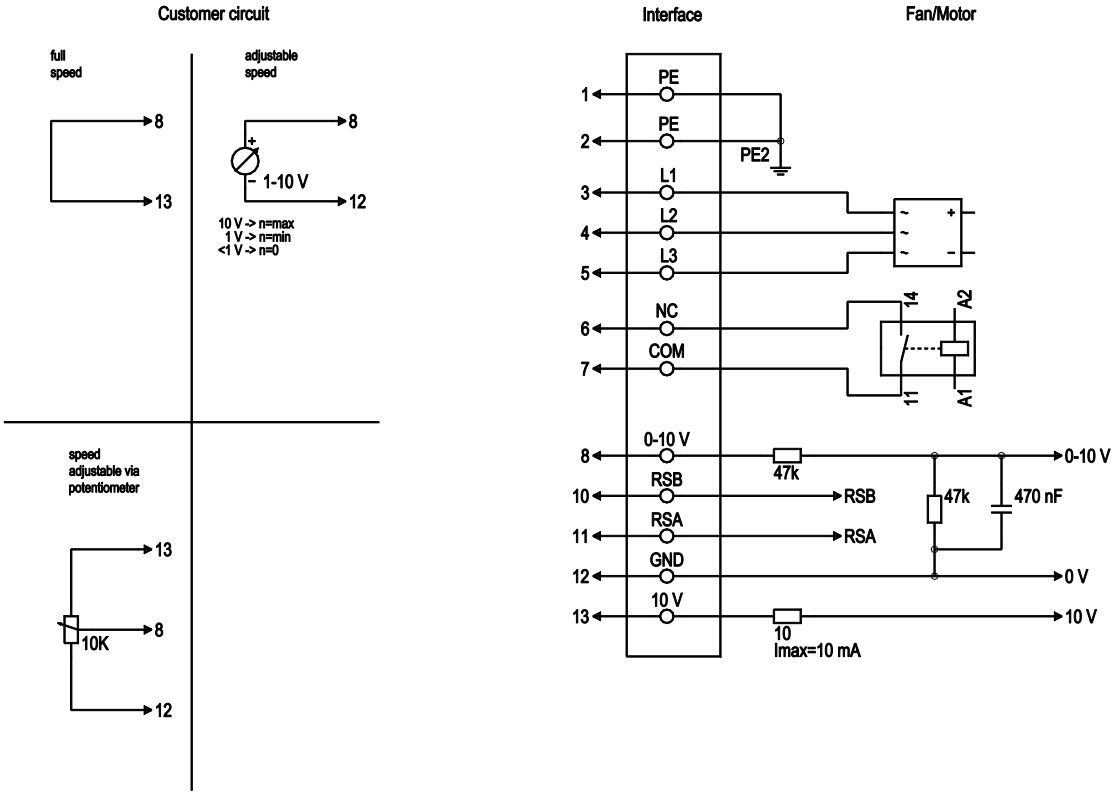
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply, phase, 50/60 Hz
1	6	NC	-	not brought out via wire
1	7	COM	-	not brought out via wire
2	8	0-10V	-	not brought out via wire
2	10	RSB	yellow	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	GND	-	not brought out via wire
2	13	+10V	-	not brought out via wire

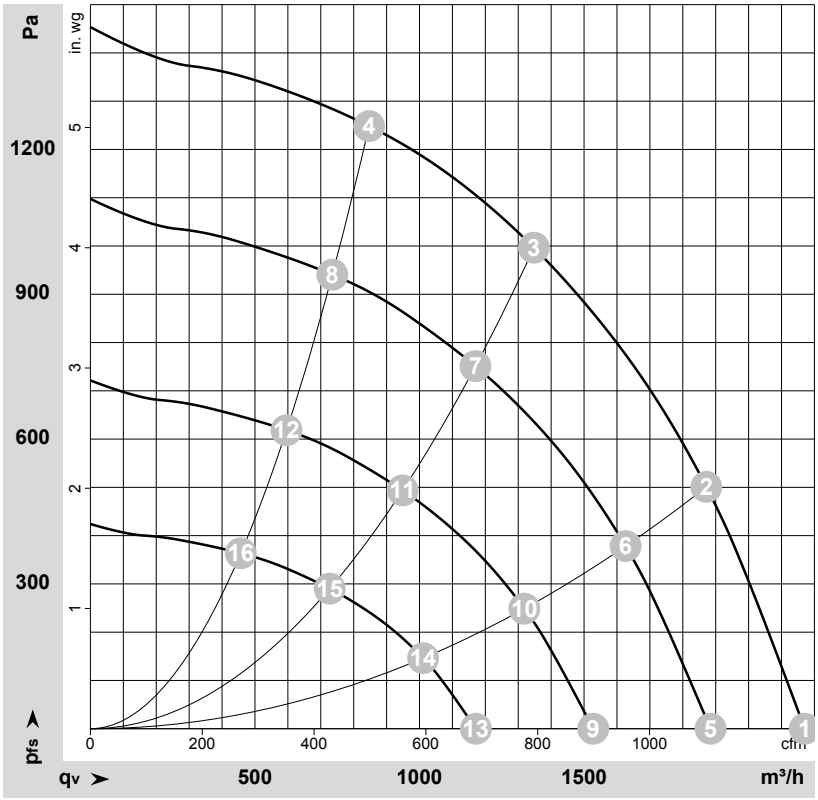
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-182525-1

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_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	3~	400	50	4250	585	0.93	2170	0	1280	0.00
2	3~	400	50	4250	648	1.02	1870	500	1100	2.01
3	3~	400	50	4250	730	1.15	1350	1000	795	4.01
4	3~	400	50	4250	663	1.04	845	1250	500	5.02
5	3~	400	50	3700	382	0.61	1885	0	1110	0.00
6	3~	400	50	3700	425	0.67	1625	379	955	1.52
7	3~	400	50	3700	476	0.74	1170	752	690	3.02
8	3~	400	50	3700	434	0.68	735	941	435	3.78
9	3~	400	50	3000	204	0.32	1530	0	900	0.00
10	3~	400	50	3000	227	0.36	1320	249	775	1.00
11	3~	400	50	3000	253	0.40	950	494	560	1.98
12	3~	400	50	3000	231	0.36	595	619	350	2.49
13	3~	400	50	2300	92	0.15	1170	0	690	0.00
14	3~	400	50	2300	102	0.16	1010	147	595	0.59
15	3~	400	50	2300	114	0.18	725	290	430	1.16
16	3~	400	50	2300	104	0.16	455	364	270	1.46

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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