

KARTA KATALOGOWA

K3G450-AZ30-01

Moduł promieniowy EC RadiPac, łopatki zakrzywione do tyłu, jednostronnie ssący (typ VBH0450NTTPS)

Producent: ebm-papst



Zdjęcie poglądowe

Dane znamionowe

Napięcie znamionowe	3~ 400 V (380...480 V)
Częstotliwość	50/60 Hz
Prędkość obrotowa	2750 obr/min
Pobór mocy	5370 W
Pobór prądu	8,3 A
Maks. wydajność	12100 m³/h
Maks. ciśnienie statyczne	2125 Pa
Temperatura otoczenia	-25...+40 °C

Budowa

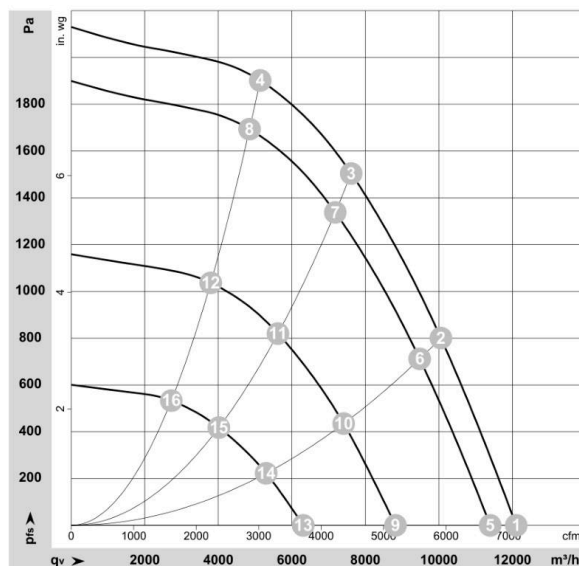
Średnica wirnika	450 mm
Materiał wirnika	blacha aluminiowa
Liczba łopatek	7
Stopień ochrony	IP55
Klasa izolacji	F
Zabezpieczenie silnika	ochrona przed zablokowaniem wirnika
Masa	54 kg

Dane ErP (UE 327/2011)

Sprawność całkowita	64,9 %
Przepływ w pkt. optymalnym	8040 m³/h
Przyrost ciśnienia	1492 Pa
Regulacja obrotów	tak (0-10 V / PWM / MODBUS)

Charakterystyka przepływowa (50 Hz)

Curves: Air performance 50 Hz



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

Measurement: LU-154729-1
Date: 2013-04-10
Nozzle: 45070-2-4013

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 installation. For deviations from the stands configuration, the parameters have to be checked on the installed unit.

Dane na podstawie karty producenta ebm-papst (oryginał na kolejnych stronach).

Wartości znamionowe dla punktu maksymalnego obciążenia; producent zastrzega możliwość zmian.

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EC centrifugal module - RadiPac

backward-curved, single-intake
with support bracket

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Nominal data

Type	K3G450-AZ30-01	
Motor	M3G150-IF	
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	2750
Power consumption	W	5370
Current draw	A	8.3
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}	%	64.9		59.2	
02 Measurement category		A			
03 Efficiency category		Static			
04 Efficiency grade N		67.7		62	
05 Variable speed drive		Yes			
09 Power consumption P_{ed}	kW			5.37	
09 Air flow q_v	m³/h			8040	
09 Pressure increase p_{fs}	Pa			1492	
10 Speed (rpm) n	min ⁻¹			2750	
11 Specific ratio*				1.02	

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-122139

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Technical description

Weight	54 kg
Size	450 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Support plate material	Sheet steel, galvanized
Support bracket material	Steel, painted black
Inlet nozzle material	Sheet steel, galvanized
Number of blades	7
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 - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - 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 - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Power Factor Correction (PFC)	Passive
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
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
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection

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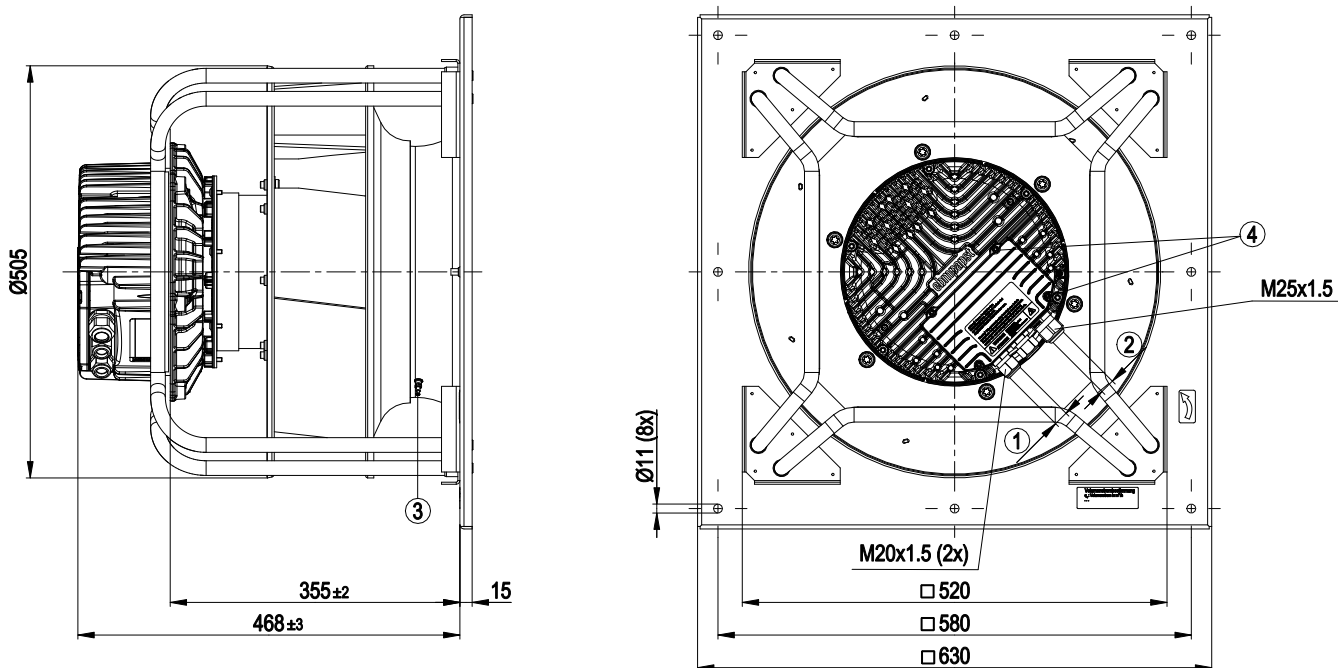
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 61800-5-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

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Product drawing



1	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
2	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6 ± 0.9 Nm
3	Inlet ring with pressure tap (k-factor: 240)
4	Tightening torque 3.5 ± 0.5 Nm

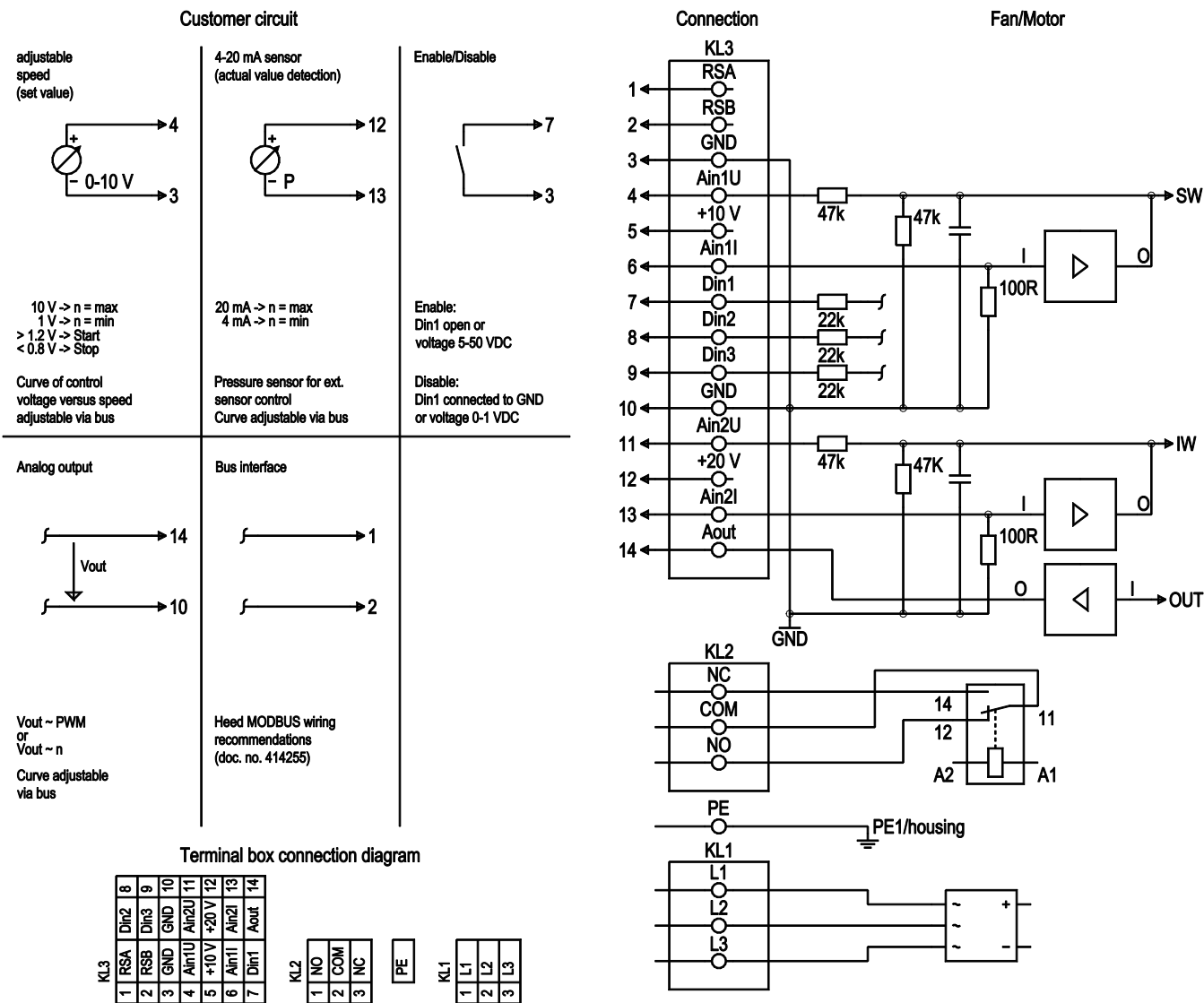
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Connection diagram



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No.	Conn.	Designation	Function/assignment
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V $\pm$ 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV
KL 3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω , adjustable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL 3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	9	Din3	Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input Normal: Pin open or applied voltage 5-50 VDC Inverse: Bridge to GND or applied voltage < 1 VDC; SELV
KL 3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 k Ω , adjustable curve, only usable as alternative to input Ain2 I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V $\pm$ 25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parameterization without line voltage
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω , adjustable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analog output 0-10 V, max. 5 mA, output of current motor modulation level; adjustable curve; SELV

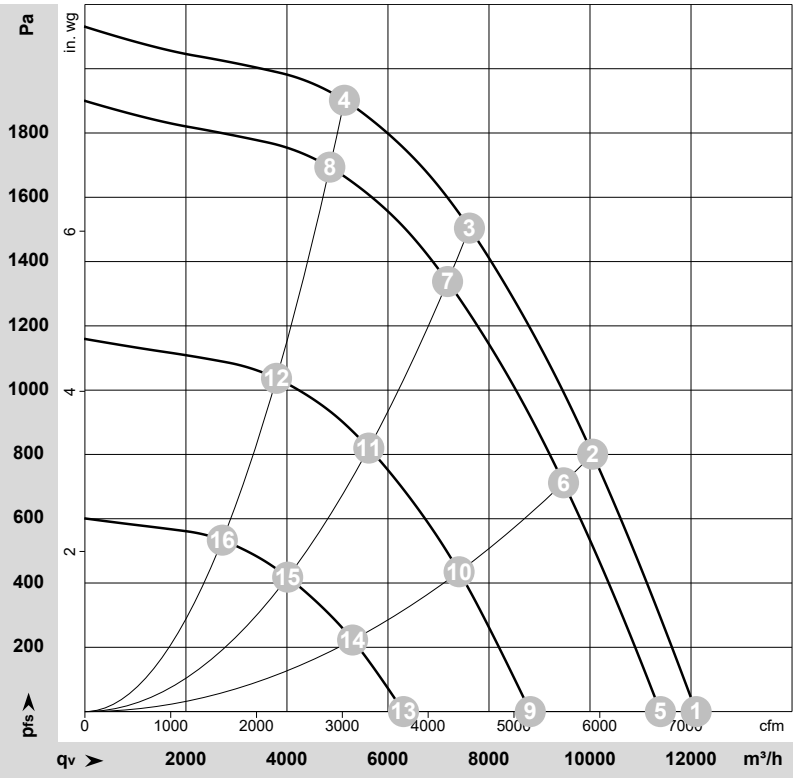
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Measured values

	Wired	U	f	n	P _{ed}	I	LpA _{in}	LwA _{in}	LwA _{out}	q _v	P _{ts}	q _v	P _{ts}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	3~	400	50	2750	3573	5.60	91	101	107	12100	0	7120	0.00
2	3~	400	50	2750	4817	7.47	86	94	101	10050	800	5915	3.21
3	3~	400	50	2750	5370	8.30	83	91	98	7615	1500	4480	6.02
4	3~	400	50	2750	5248	8.10	85	94	99	5140	1900	3025	7.63
5	3~	400	50	2595	3013	4.76	90	100	106	11395	0	6705	0.00
6	3~	400	50	2595	4050	6.28	86	92	99	9475	718	5575	2.88
7	3~	400	50	2595	4664	7.21	81	89	96	7180	1343	4225	5.39
8	3~	400	50	2595	4385	6.78	83	92	97	4850	1697	2855	6.81
9	3~	400	50	2030	1551	2.70	84	93	99	8820	0	5190	0.00
10	3~	400	50	2030	2017	3.33	77	85	95	7410	441	4360	1.77
11	3~	400	50	2030	2286	3.71	75	83	95	5620	823	3310	3.30
12	3~	400	50	2030	2147	3.52	78	85	95	3795	1038	2235	4.17
13	3~	400	50	1455	623	1.26	76	84	90	6310	0	3715	0.00
14	3~	400	50	1455	801	1.57	68	77	84	5300	225	3120	0.90
15	3~	400	50	1455	920	1.76	67	75	82	4015	420	2365	1.69
16	3~	400	50	1455	870	1.68	69	76	83	2720	534	1600	2.14

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = 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_{ts} = Pressure increase