

backward-curved, single-intake

with housing

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Nominal data

Type	K3G450-AQ23-K1	
Motor	M3G150-FF	
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	2040
Power consumption	W	2780
Current draw	A	4.3
Min. back pressure	Pa	200
Min. back pressure	in. wg	0.8
Min. ambient temperature	°C	-40
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 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	65	56.1	09 Power consumption P_{ed}	kW	2.74
02 Measurement category		A		09 Air flow q_v	m ³ /h	7605
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	802
04 Efficiency grade N		70.9	62	10 Speed (rpm) n	min ⁻¹	2040
05 Variable speed drive		Yes		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 = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-193701



Technical description

Weight	56 kg
Size	450 mm
Motor size	150
Impeller material	Sheet aluminum
Housing material	Sheet steel, painted black
Support plate material	Sheet steel, galvanized
Spacer material	Aluminum
Inlet nozzle material	Sheet steel, galvanized
Number of blades	7
Direction of rotation	Clockwise, viewed toward shaft
Degree of protection	IP54
Insulation class	"F"
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
Mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - 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	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)

K3G450-AQ23-K1

EC centrifugal module - RadiPac

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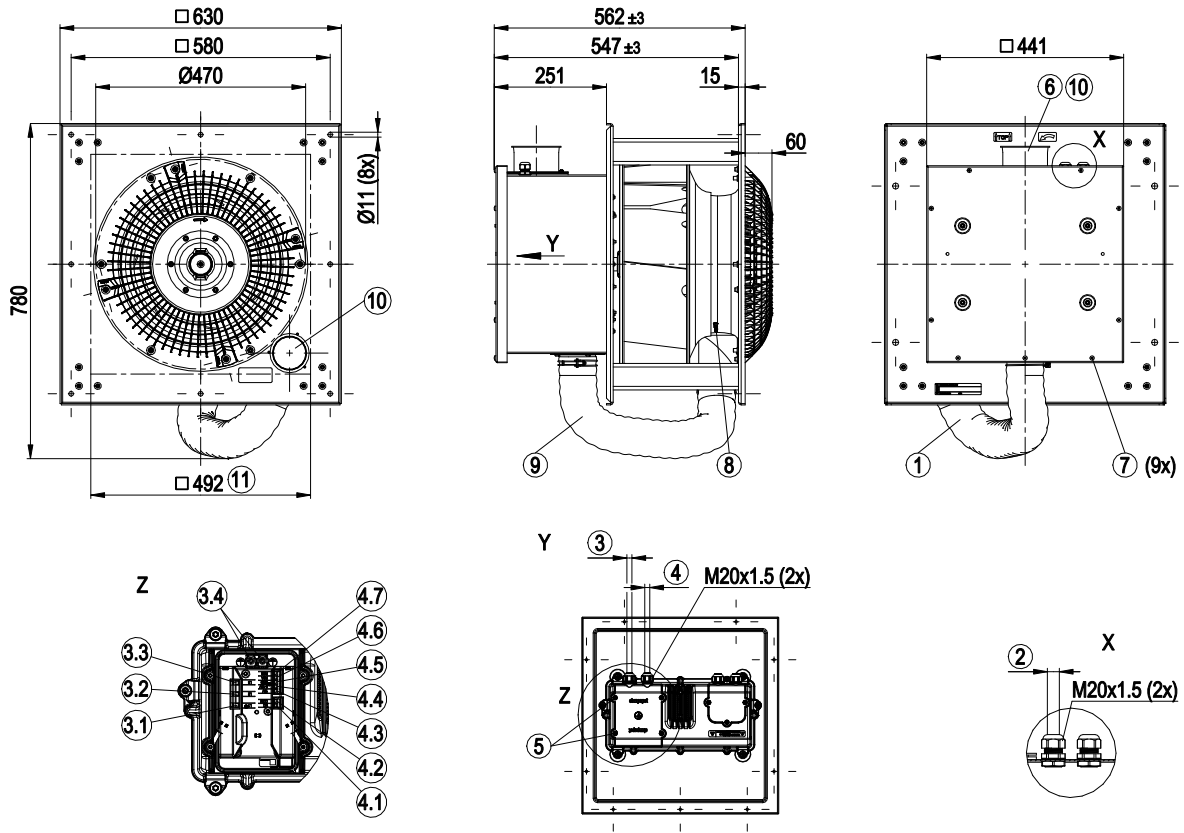
Conformity with standards	EN 60335-1; EN 61800-5-1; CE
Approval	EAC



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Product drawing



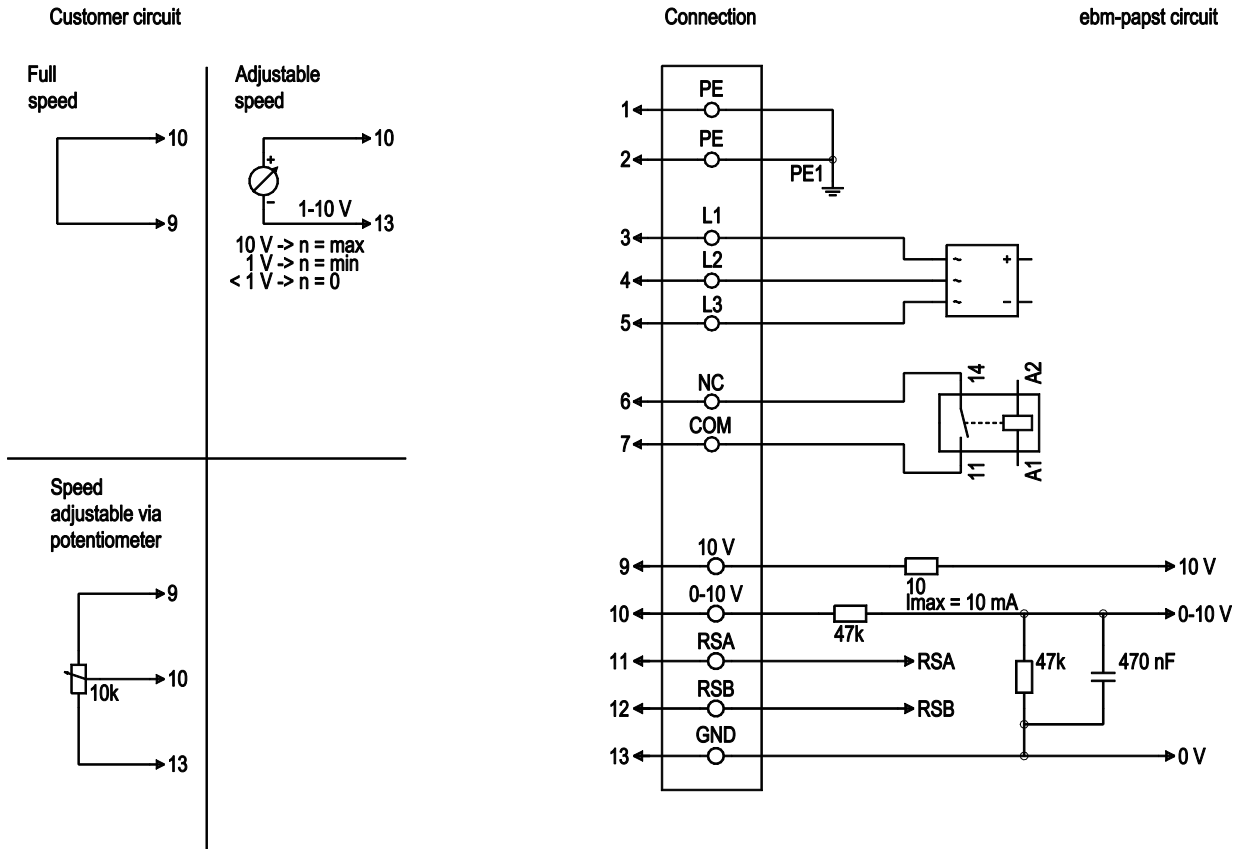
Y	Housing opened
1	Installation position: Shaft horizontal (only fit air hose at bottom as illustrated) or rotor on bottom
2	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5 ± 0.4 Nm
3	Tightening torque 3 ± 0.5 Nm
3.1	L1
3.2	L2
3.3	L3
3.4	PE
4	Cable diameter min. 8 mm, max. 12 mm, tightening torque 1.8 ± 0.3 Nm
4.1	NC
4.2	COM
4.3	+10 V
4.4	0-10 V
4.5	GND
4.6	RSA
4.7	RSB
5	Tightening torque 3 ± 0.5 Nm
6	Customer ventilation port DN 100
7	Tightening torque 3.5 ± 0.5 Nm
8	Inlet ring with pressure tap (k-factor: 240)
9	Spiral hose dia. 80 mm, PVC – coated polyester fabric (self-extinguishing)
10	Remove caps prior to start-up
11	Installation aperture



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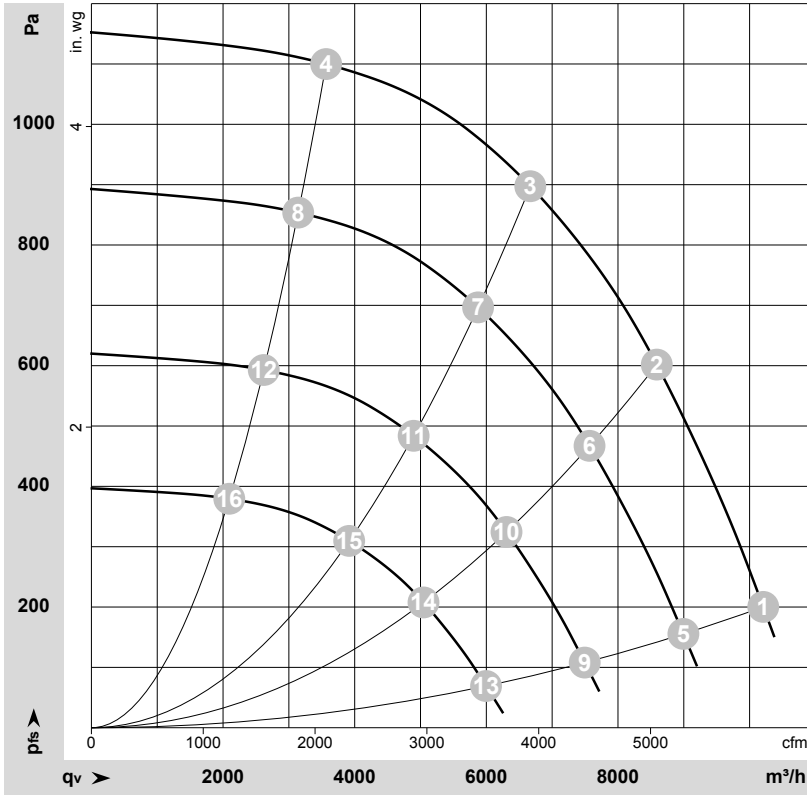
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply 50 / 60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure; contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and basic insulation on control interface side (or reinforced insulation on control interface side up to 250 VAC potential difference)
1	7	COM	white 2	Status relay, floating status contact, break for failure; contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and basic insulation on control interface side (or reinforced insulation on control interface side up to 250 VAC potential difference)
2	9	+10 V	red	Fixed voltage output 10 VDC, SELV, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply
2	10	0-10 V	yellow	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	13	GND	blue	Reference ground for control interface, SELV



Curves: Air performance 50 Hz



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

Measurement: LU-197512-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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	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	3~	400	50	2040	2011	3.16	80	88	92	10205	200	6010	0.80
2	3~	400	50	2040	2557	3.96	76	85	88	8590	600	5055	2.41
3	3~	400	50	2040	2780	4.30	76	84	88	6670	900	3925	3.61
4	3~	400	50	2040	2293	3.57	78	86	90	3565	1100	2100	4.42
5	3~	400	50	1800	1375	2.16	77	85	89	8995	157	5295	0.63
6	3~	400	50	1800	1749	2.71	73	81	85	7570	470	4455	1.89
7	3~	400	50	1800	1895	2.92	73	81	85	5875	698	3460	2.80
8	3~	400	50	1800	1569	2.44	75	83	87	3140	856	1850	3.44
9	3~	400	50	1500	796	1.25	72	81	84	7495	109	4410	0.44
10	3~	400	50	1500	1012	1.57	69	77	80	6305	326	3710	1.31
11	3~	400	50	1500	1097	1.69	68	76	80	4895	485	2880	1.95
12	3~	400	50	1500	908	1.41	70	79	83	2620	595	1540	2.39
13	3~	400	50	1200	407	0.64	67	75	79	5995	70	3530	0.28
14	3~	400	50	1200	518	0.80	63	71	75	5045	209	2970	0.84
15	3~	400	50	1200	562	0.87	62	71	75	3915	310	2305	1.24
16	3~	400	50	1200	465	0.72	65	73	77	2095	381	1235	1.53

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_{fs} = Pressure increase

