K3G400-AQ27-K1

EC centrifugal module - RadiPac

backward-curved, single-intake

with housing

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Nominal data

Type	**K3G400-AQ27-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}	2550
Power consumption	W	3000
Current draw	A	4.6
Min. back pressure	Pa	200
Min. back pressure	in. wg	0.8
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	50

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}	%	59.5	56.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		65	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	3.02
09 Air flow q_v	m^3/h	6235
09 Pressure increase p_{fs}	Pa	991
10 Speed (rpm) n	min^{-1}	2550
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-197002

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).

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Technical description

Weight	44 kg
Size	400 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	- 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
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 by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 60335-1; EN 61800-5-1; CE
Approval	EAC

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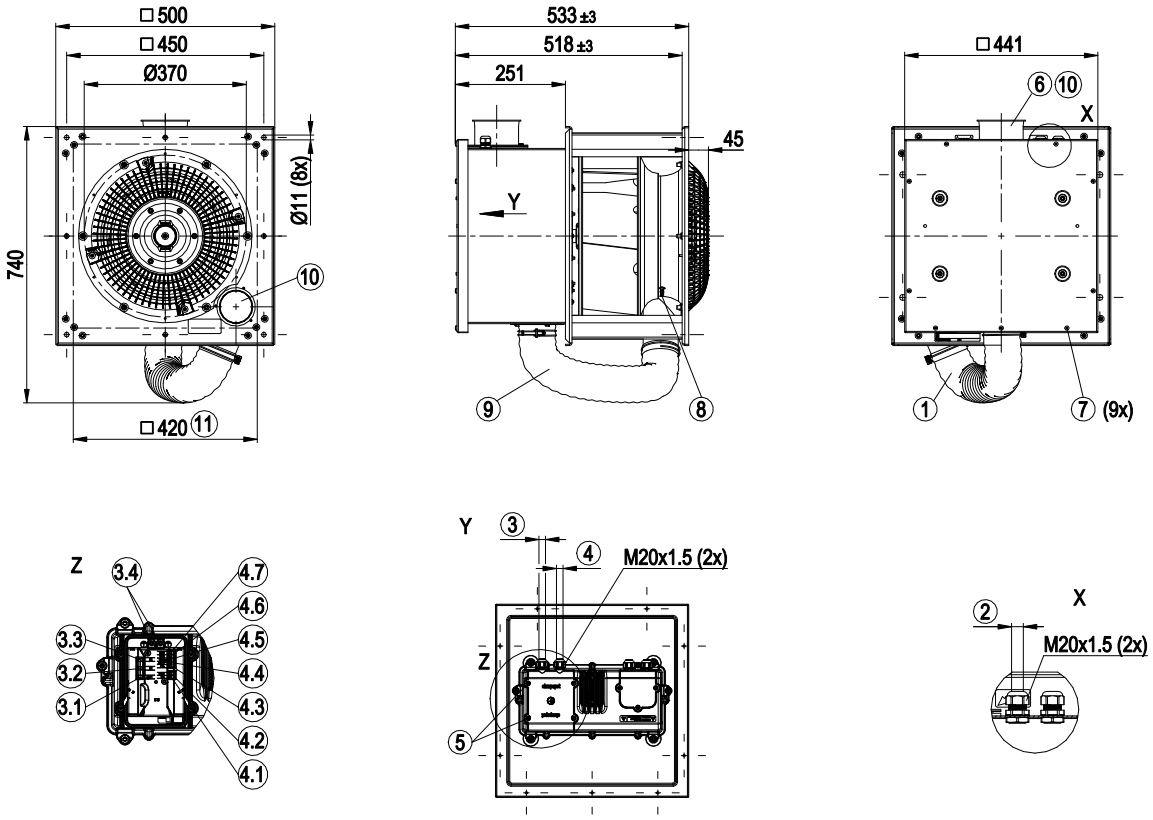
Product drawing



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	Cable diameter min. 8 mm, max. 12 mm, tightening torque 1.8±0.3 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: 188)
9	Spiral hose dia. 80 mm, PVC – coated polyester fabric (self-extinguishing)
10	Remove caps prior to start-up. When cleaning, put the cap on again to prevent the cleaning media from entering.
11	Installation aperture

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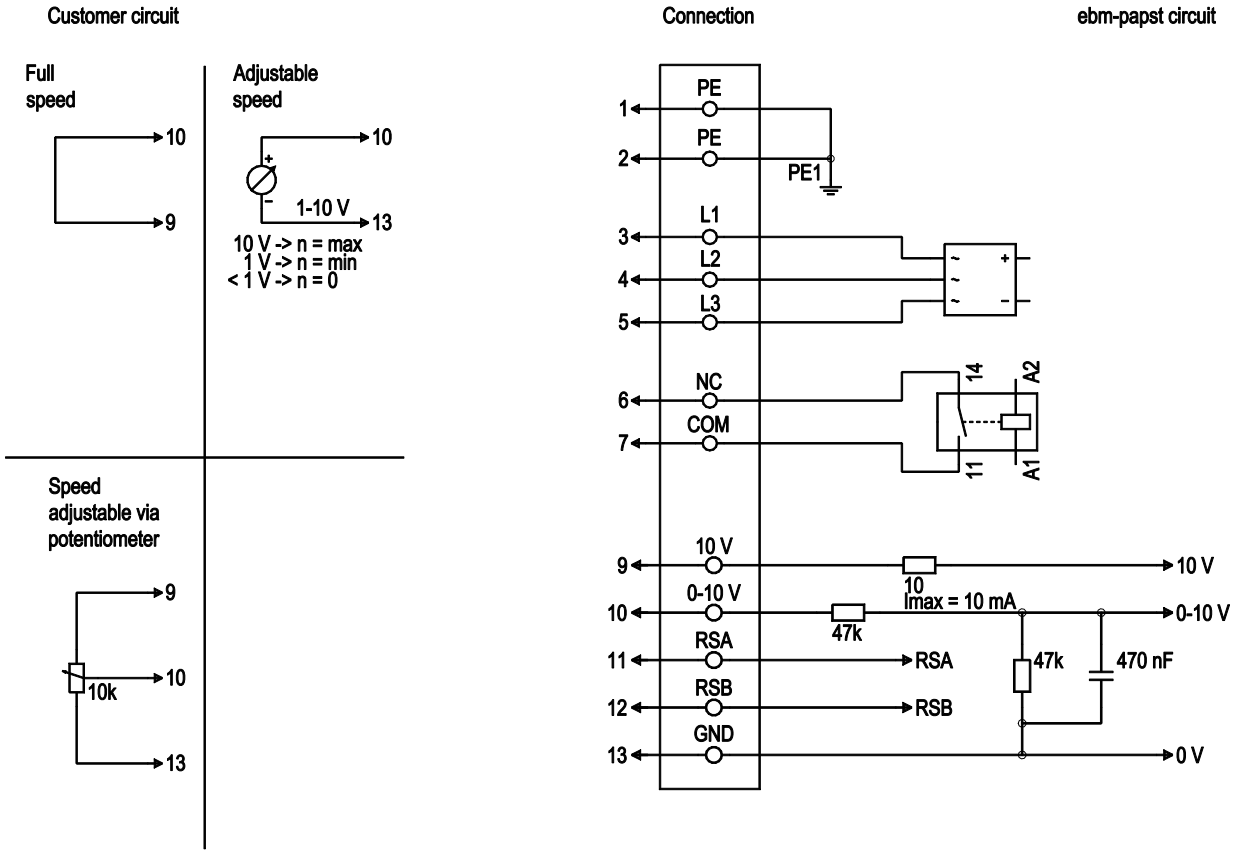
Connection diagram



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

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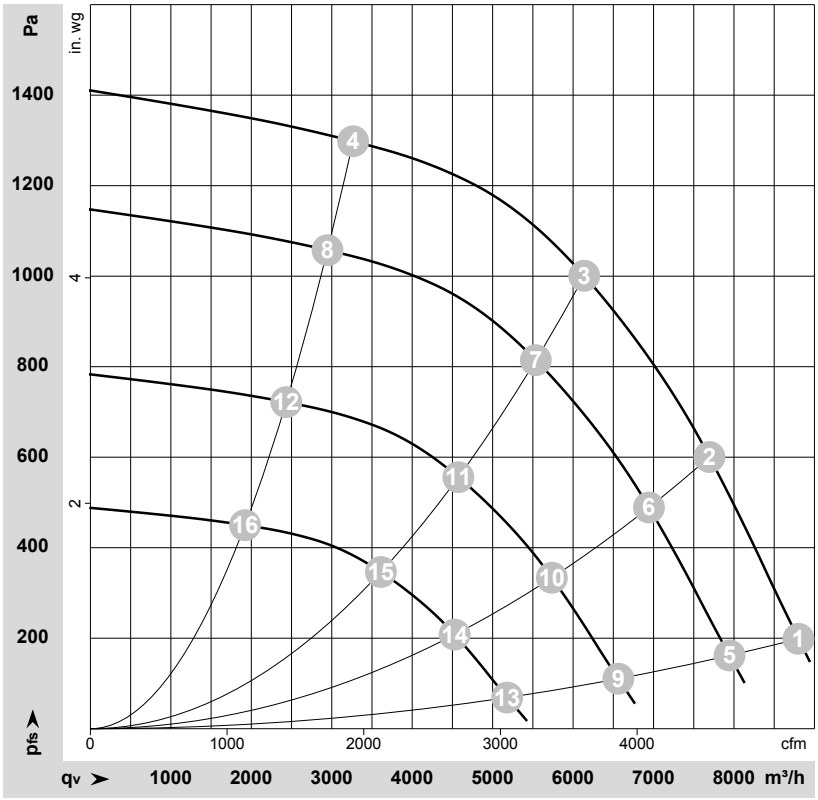
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-197002-1

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	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	2550	2172	3.39	83	90	95	8800	200	5180	0.80
2	3~	400	50	2550	2660	4.11	80	89	92	7695	600	4530	2.41
3	3~	400	50	2550	3000	4.60	79	88	91	6140	1000	3615	4.01
4	3~	400	50	2550	2602	4.02	81	89	94	3265	1300	1920	5.22
5	3~	400	50	2300	1598	2.49	80	88	92	7945	160	4675	0.64
6	3~	400	50	2300	1954	3.02	78	86	90	6945	489	4085	1.96
7	3~	400	50	2300	2221	3.41	77	86	89	5535	819	3260	3.29
8	3~	400	50	2300	1913	2.96	78	87	91	2945	1058	1735	4.25
9	3~	400	50	1900	901	1.41	75	83	87	6565	109	3865	0.44
10	3~	400	50	1900	1102	1.70	73	82	85	5735	334	3375	1.34
11	3~	400	50	1900	1252	1.92	72	81	84	4575	559	2690	2.24
12	3~	400	50	1900	1078	1.67	73	82	86	2435	722	1435	2.90
13	3~	400	50	1500	443	0.69	69	77	82	5180	68	3050	0.27
14	3~	400	50	1500	542	0.84	67	76	79	4530	208	2665	0.84
15	3~	400	50	1500	616	0.95	66	75	78	3610	348	2125	1.40
16	3~	400	50	1500	531	0.82	67	76	80	1920	450	1130	1.81

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

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