K3G400-AQ12-03

EC centrifugal module - Plug fan

backward curved, single inlet

with support bracket

K3G400-AQ12-03 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**K3G400-AQ12-03**	
Motor	**M3G150-FF**	
Phase		3~
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed	min^{-1}	2500
Power input	W	2950
Current draw	A	4.6 (400V)
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	64.4	52.4	56.4
Efficiency grade N		70	58	62
Power input P_{ed}	kW	2.95		
Air flow q_v	m^3/h	6255		
Pressure increase p_{fs}	Pa	1037		
Speed n	min^{-1}	2515		

Data definition with optimum efficiency. LU-106278
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	31.6 kg
Size	400 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminum
Material of impeller	Aluminium sheet
Material of mounting plate	Sheet steel, hot-galvanised
Material of support bracket	Steel, coated in black
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Refer to product drawing
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- PFC, passive - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Alarm relay - Integrated PID controller - Input for sensor 0-10 V or 4-20 mA - Output for slave 0-10 V - Output 20 VDC - Output 10 VDC - RS485 ebmBUS - Motor current limit - Soft start - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CSA C22.2 Nr.100; EAC; UL; VDE

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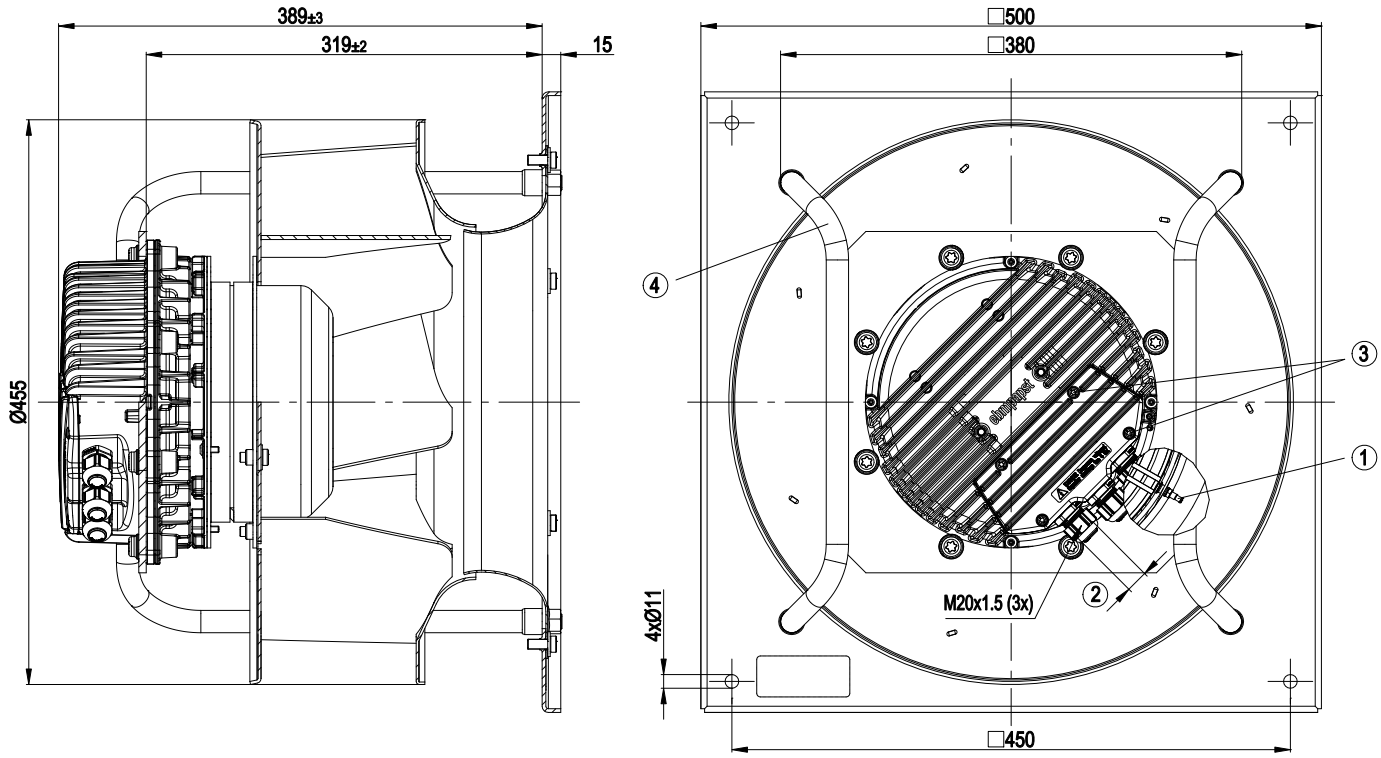
Product drawing



1	Inlet nozzle with bleeder connection for pressure relief (k-factor: 188)
2	Cable diameter: min. 4 mm, max. 10 mm; tightening torque: 4±0.6 Nm
3	Tightening torque 3.5±0.5 Nm
4	Mounting position: shaft horizontal (install the support struts only vertically as shown in the view!) or rotor on bottom; rotor on top on request

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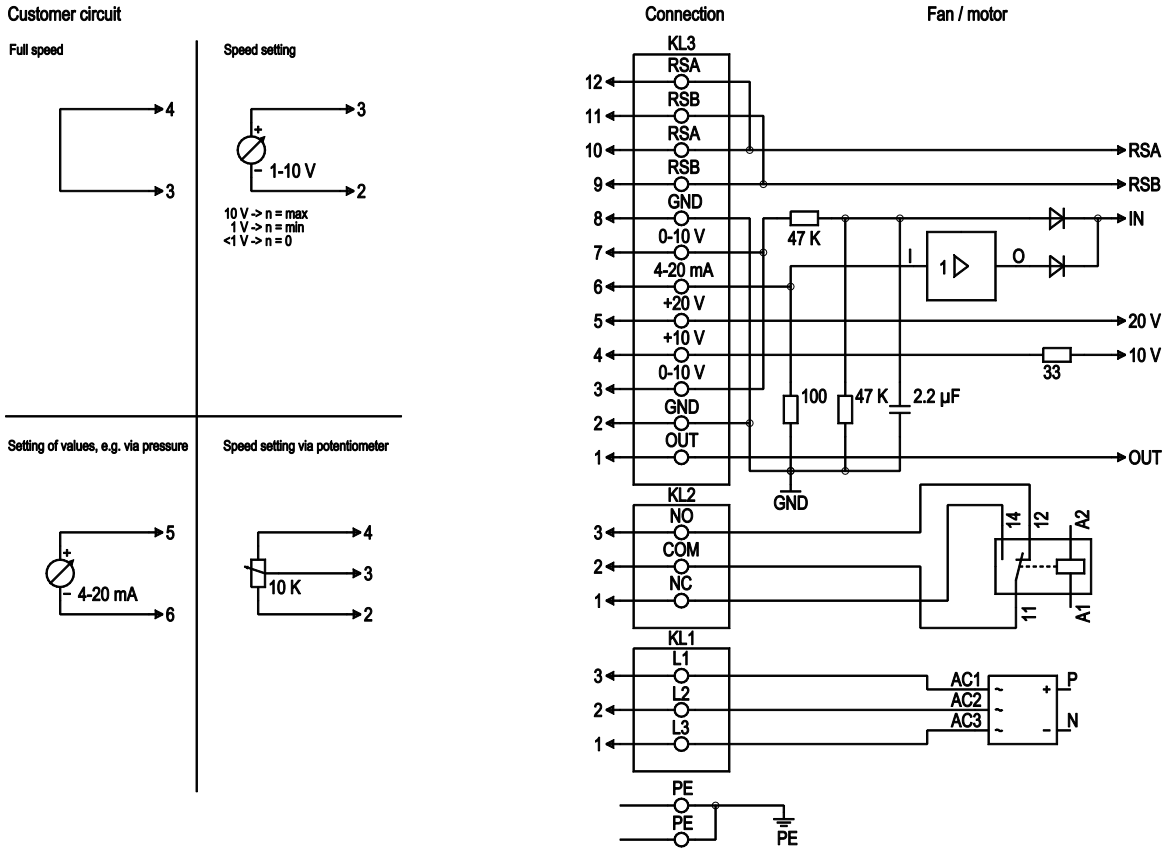
Connection screen



No.	Conn.	Designation	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, normally closed connection
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open connection
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of the current level control coefficient: 1 V equates to 10 % level control coefficient. 10 V equate to 100 % level control coefficient.
KL3	2, 8	GND	Reference mass for control interface, SELV
KL3	3, 7	0-10 V	Use control / actual value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (+/-3 %), max. 10 mA, supply voltage for ext. devices (e.g. potentiometers), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25 %/-10 %), max. 50 mA, supply voltage for ext. devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / actual value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBus, RSB, SELV
KL3	10, 12	RSA	RS485 interface for ebmBus, RSA, SELV

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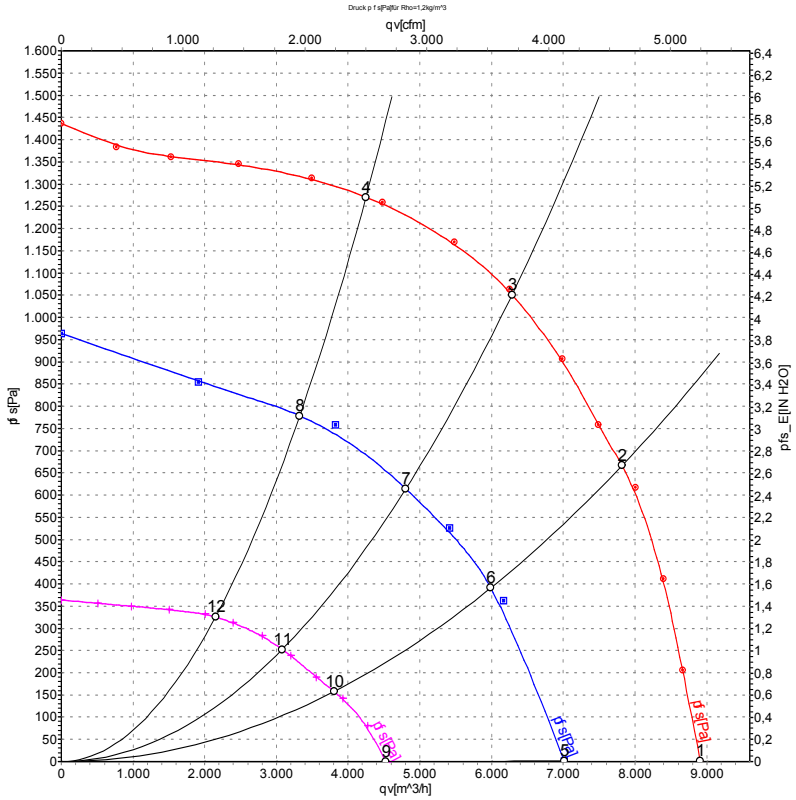
Charts: Air flow 50 Hz



Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	400	50	2500	2009	3.07	90	96	101	8910	0
2	400	50	2500	2738	4.19	83	89	95	7815	668
3	400	50	2500	2950	4.60	78	85	93	6285	1057
4	400	50	2500	2748	4.20	79	87	95	4250	1272
5	400	50	1945	945	1.48	82	89	93	7015	0
6	400	50	1920	1170	1.80	74	81	86	5990	401
7	400	50	1915	1247	1.91	72	78	84	4800	614
8	400	50	1920	1193	1.84	72	78	85	3325	783
9	400	50	1255	308	0.59	71	77	82	4520	0
10	400	50	1260	416	0.76	65	72	76	3805	158
11	400	50	1255	417	0.77	61	68	73	3080	252
12	400	50	1255	410	0.75	60	67	73	2150	325

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
qv = Air flow · p_{fs} = Pressure increase