K3G500-RA24-76

EC centrifugal module

backward curved, single inlet

with support bracket



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Nominal data

Type	**K3G500-RA24-76**
Motor	**M3G150-FF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	1700
Power input	W	2600
Current draw	A	4.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	62.8	55.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		69	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	2.59
09 Air flow q_v	m^3/h	6985
09 Pressure increase p_{fs}	Pa	792
10 Speed (rpm) n	min^{-1}	1695
11 Specific ratio*		1.01

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

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

LU-145835

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Technical features

Mass	34.5 kg
Size	500 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Material of mounting plate	Sheet steel, galvanised
Material of support bracket	Steel, coated in black
Material of inlet nozzle	ABS plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H1
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	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - 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), except EN 61000-3-2 for professionally used devices with a total rated power greater than 1 kW
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	EAC

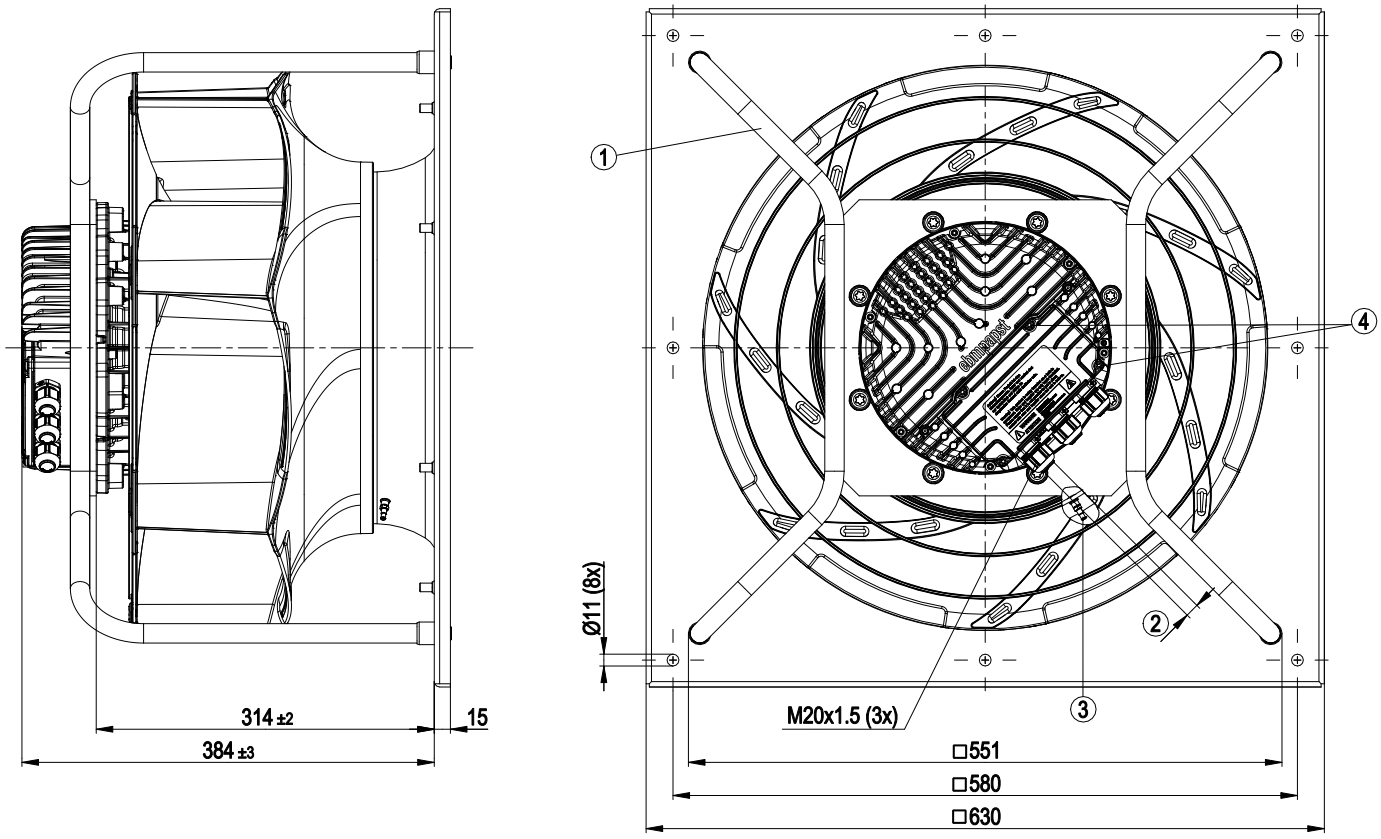
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Product drawing



1	Installation position: Shaft horizontal (only install the support struts vertically as shown) or rotor at bottom; rotor at top on request
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
3	Inlet nozzle with pressure tap (k-factor: 260)
4	Tightening torque 3.5±0.5 Nm

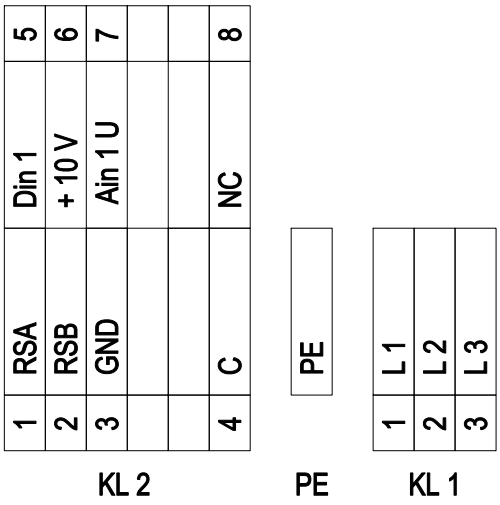
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Connection screen



No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	2	L2	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	3	L3	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
PE		PE	Earth connection, PE connection
KL 2	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 2	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 2	3	GND	Signal ground for control interface; SELV
KL2	4	C	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / 2 A (AC1)
KL 2	5	Din1	Digital input 1 enabling of electronics, enabling: open pin or applied voltage 5-50 VDC disabling: bridge to GND or applied voltage <1 VDC reset function: triggers software reset after a level change to <1 V; SELV
KL 2	6	+ 10 V	Fixed voltage output 10 VDC; +10 V -3 %, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV Alternative: +24 VDC input for parametrisation via MODBUS without mains power
KL 2	7	Ain1 U	Analogue input 1 (set value) 0-10 V, Ri=100 kΩ, parametrisable curve; SELV
KL2	8	NC	Status relay, floating status contact; break for failure

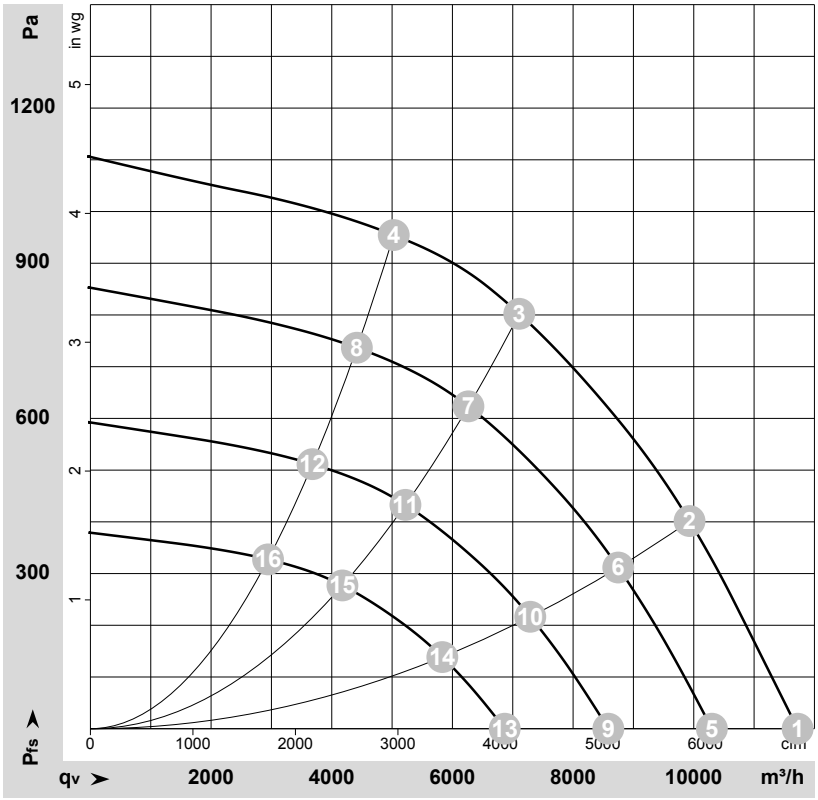
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-172991-1

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}	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	inH2O
1	400	50	1700	1848	2.90	79	86	93	11720	0	6900	0.00
2	400	50	1700	2408	3.72	76	83	89	9930	400	5845	1.61
3	400	50	1700	2600	4.00	71	78	84	7110	800	4185	3.21
4	400	50	1700	2378	3.68	73	80	85	5025	950	2960	3.81
5	400	50	1500	1254	1.97	76	83	90	10300	0	6065	0.00
6	400	50	1500	1646	2.55	72	80	86	8750	312	5150	1.25
7	400	50	1500	1776	2.74	68	75	81	6265	626	3685	2.51
8	400	50	1500	1612	2.50	70	77	82	4415	737	2600	2.96
9	400	50	1250	726	1.14	71	78	85	8585	0	5050	0.00
10	400	50	1250	953	1.47	68	75	82	7290	217	4290	0.87
11	400	50	1250	1028	1.59	63	70	76	5220	435	3075	1.75
12	400	50	1250	933	1.44	65	73	78	3680	512	2165	2.06
13	400	50	1000	371	0.58	65	73	79	6865	0	4040	0.00
14	400	50	1000	488	0.75	62	69	76	5830	139	3435	0.56
15	400	50	1000	526	0.81	58	64	71	4175	278	2460	1.12
16	400	50	1000	478	0.74	59	67	72	2945	328	1735	1.32

U = Supply voltage · f = Frequency · n = Speed (rpm) · 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
q_V = Air flow · p_{fs} = Pressure increase

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