R3G560-AH32-61

EC centrifugal fan

backward-curved, single-intake

ebm-papst Mulfingen GmbH & Co. KG
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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G560-AH32-61**
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}	1580
Power consumption	W	3550
Current draw	A	5.5
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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	61	57.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		65.8	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	3.51
09 Air flow q_v	m^3/h	9815
09 Pressure increase p_{fs}	Pa	748
10 Speed (rpm) n	min^{-1}	1590
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 Pa

LU-131904

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Technical description

Weight	28 kg
Size	560 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	9
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
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 - Operation and alarm display - Input for sensor 0-10 V or 4-20 mA - External 24 V input (parameter setting) - External enable input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - 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
Leakage current (measuring circuit according to IEC 60990, Fig. 4, TN system); normal operation	<= 3.5 mA
Leakage current (measuring circuit according to IEC 60990, Fig. 4, TN system); phase failure	<= 3.5 mA

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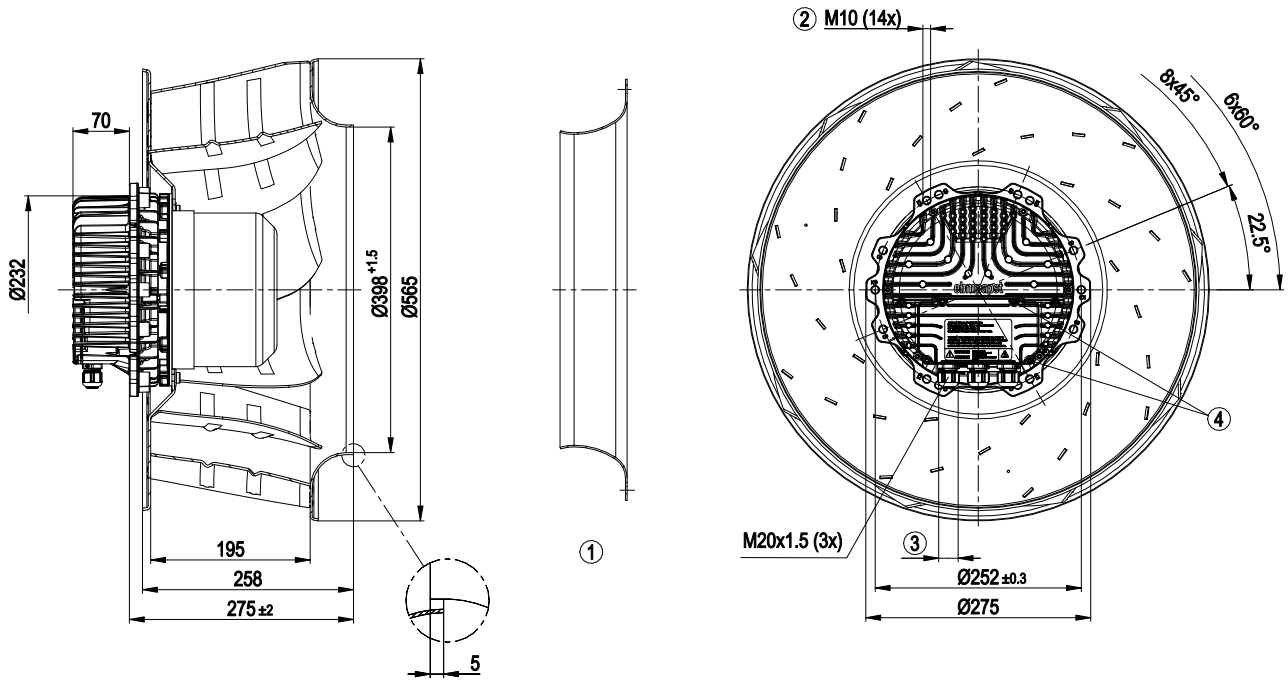
Leakage current (measured with TrueRMS ammeter); normal operation	< 6 mA
Leakage current (measured with TrueRMS ammeter); phase failure	< 6 mA
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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Product drawing



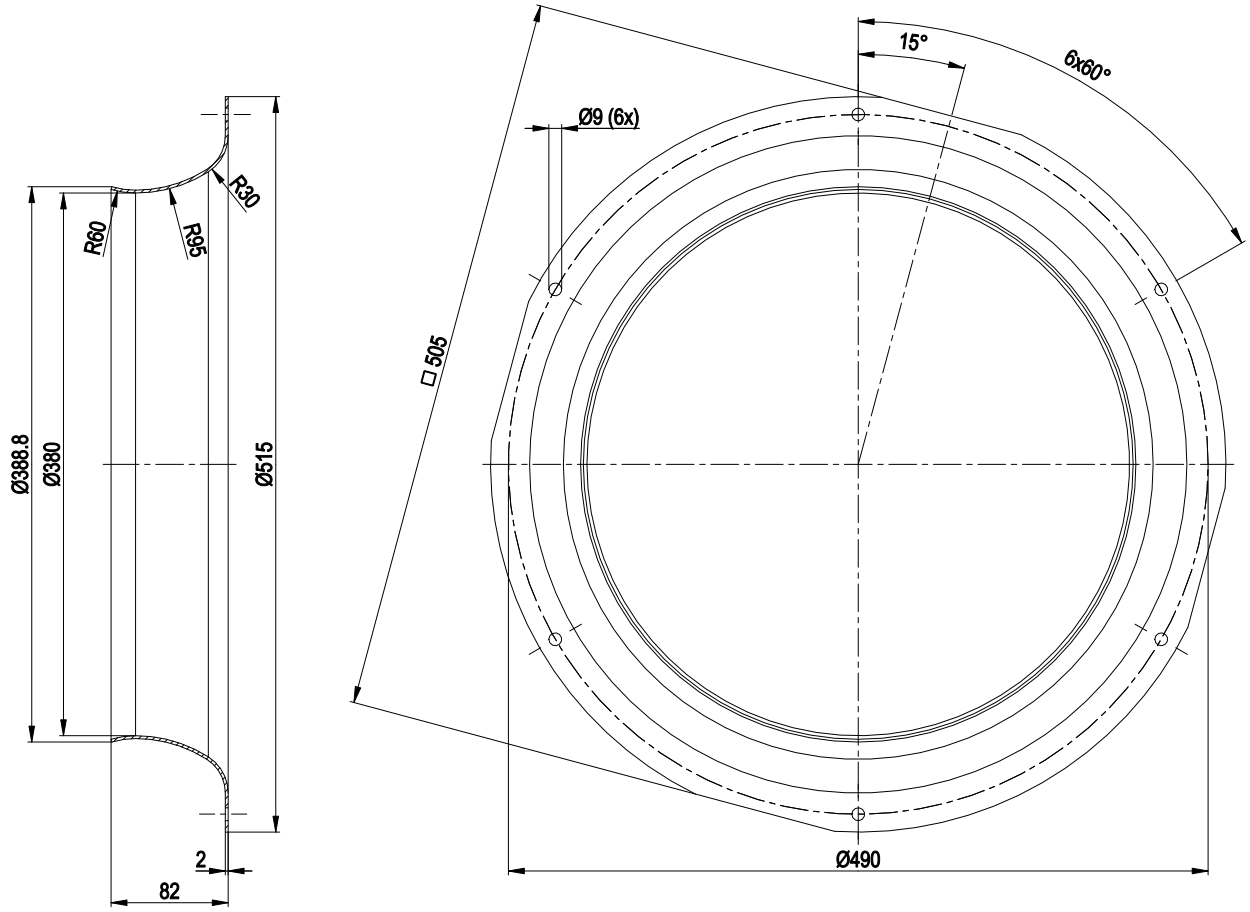
1	Accessory part: inlet ring 63071-2-4013 not included in scope of delivery
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
3	Max. clearance for screw 25 mm
4	Tightening torque for terminal box cover 3.5±0.5 Nm

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Accessory part



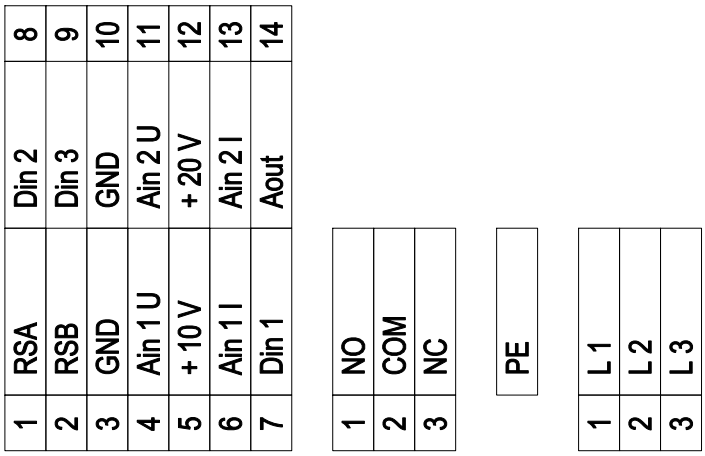
-	inlet ring 63071-2-4013 not included in scope of delivery

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Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	2	L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	3	L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
PE		PE	Ground connection, PE connection
KL 2	1	NO	Status relay, floating status contact; make for failure
KL2	2	COM	Status relay, floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact; break for failure
KL 3	1	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 3	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 3	3 / 10	GND	Reference ground for control interface; SELV
KL 3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±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 Ain1U; 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: according to EEPROM setting, the integrated controller's direction of action 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 kΩ, adjustable curve, only usable as alternative to input Ain2I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof power supply for external devices (e.g. sensors); SELV

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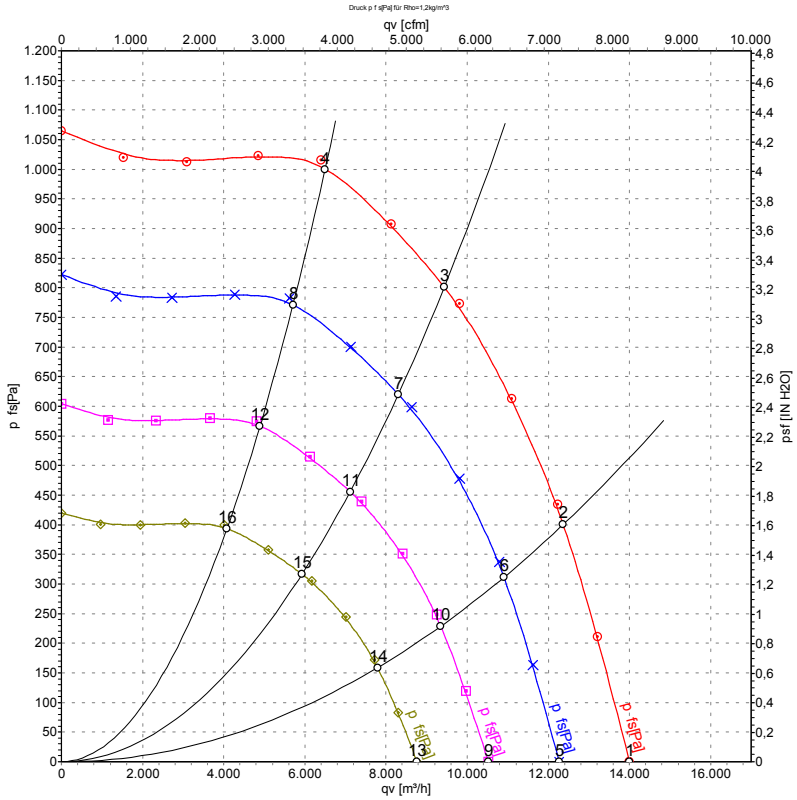
No.	Conn.	Designation	Function/assignment
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2U; SELV
KL 3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV

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Curves: Air performance 50 Hz



Measurement: LU-131904-1

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	Y	400	50	1580	2369	3.93	83	90	96	14000	0	8240	0.00
2	Y	400	50	1580	3165	5.17	79	86	93	12370	400	7280	1.61
3	Y	400	50	1580	3550	5.50	75	83	89	9435	800	5555	3.21
4	Y	400	50	1580	3276	5.29	76	84	90	6500	1000	3825	4.01
5	Y	400	50	1400	1596	2.65	80	87	92	12270	0	7220	0.00
6	Y	400	50	1400	2171	3.55	76	83	90	10900	315	6415	1.26
7	Y	400	50	1400	2389	3.88	72	80	86	8300	622	4885	2.50
8	Y	400	50	1400	2216	3.58	73	80	86	5710	778	3360	3.12
9	Y	400	50	1200	1005	1.67	76	83	89	10520	0	6190	0.00
10	Y	400	50	1200	1367	2.24	72	79	86	9345	232	5500	0.93
11	Y	400	50	1200	1504	2.44	68	76	82	7115	457	4190	1.83
12	Y	400	50	1200	1395	2.25	69	77	82	4890	571	2880	2.29
13	Y	400	50	1000	582	0.96	72	78	84	8765	0	5160	0.00
14	Y	400	50	1000	791	1.29	67	75	81	7790	161	4585	0.65
15	Y	400	50	1000	870	1.41	63	71	78	5930	317	3490	1.27
16	Y	400	50	1000	808	1.30	65	72	78	4075	397	2400	1.59

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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