

R3G560-PB32-09 ebmpapst Datasheet

sales@fansco.com

www.fansco.com

Nominal data

Type	R3G560-PB32-09	
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	1450
Power consumption	W	2850
Current draw	A	4.4
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	70	56.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		75.7	62
05 Variable speed drive		Yes	

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption P_{ed}	kW	2.86
09 Air flow q_v	m ³ /h	10080
09 Pressure increase p_{fs}	Pa	683
10 Speed (rpm) n	min ⁻¹	1455
11 Specific ratio*		1.01

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-181204

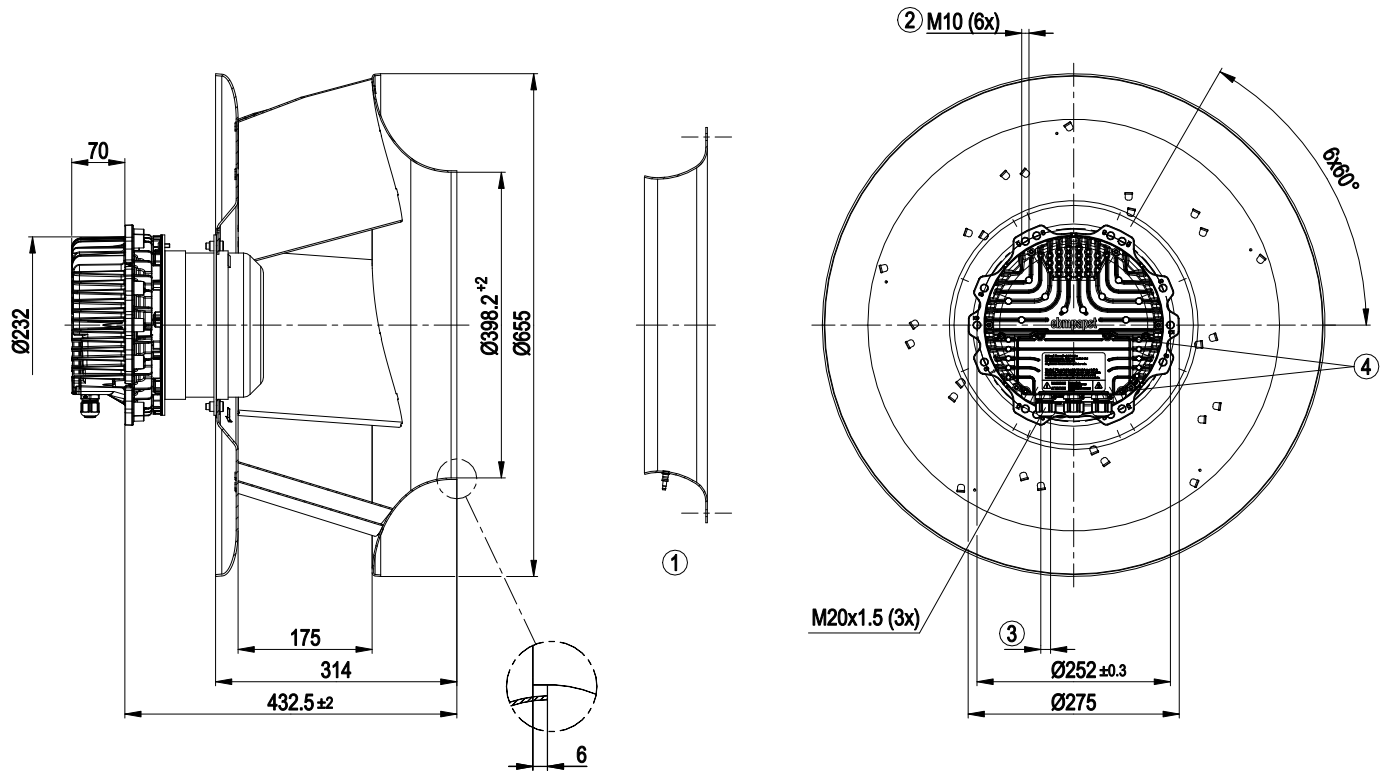


Technical description

Weight	30.5 kg
Fan size	560 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	5
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; rotor on top on request
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 release input - Alarm relay - Integrated PID controller - 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 - 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	Via 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	C22.2 No.77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

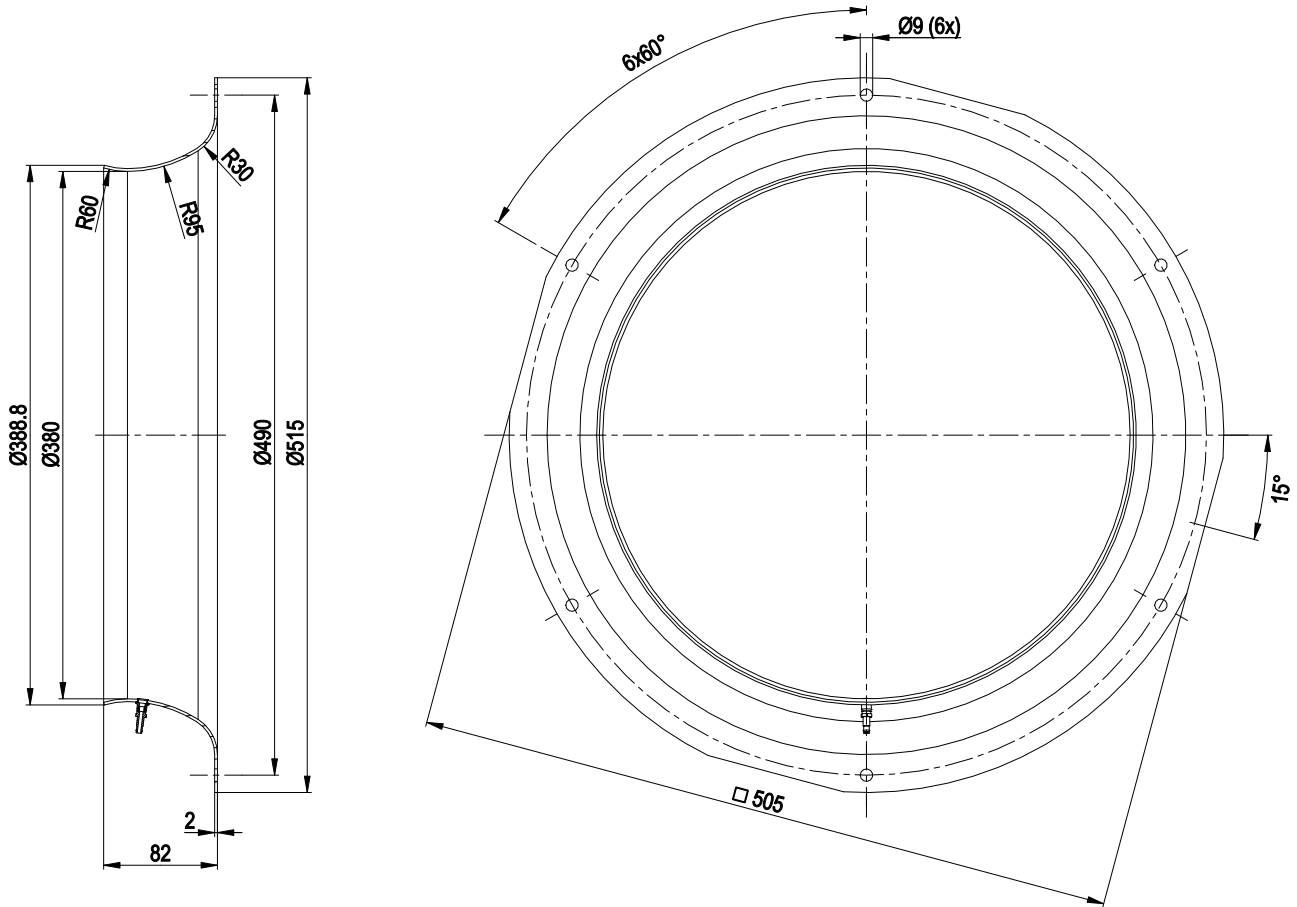


Product drawing



1	Accessory part: inlet ring 64030-2-4013 with pressure tap (k-factor: 348) not included in scope of delivery
2	Max. clearance for screw 25 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
4	Tightening torque 3.5 ± 0.5 Nm

Accessory part



Inlet ring 64030-2-4013 with pressure tap not included in scope of delivery

Connection diagram

1	RSA	Din 2	8
2	RSB	Din 3	9
3	GND	GND	10
4	Ain 1 U	Ain 2 U	11
5	+ 10 V	+ 20 V	12
6	Ain 1 I	Ain 2 I	13
7	Din 1	Aout	14

KL 3

1	NO
2	COM
3	NC

KL 2

PE

PE

1	L 1
2	L 2
3	L 3

KL 1

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

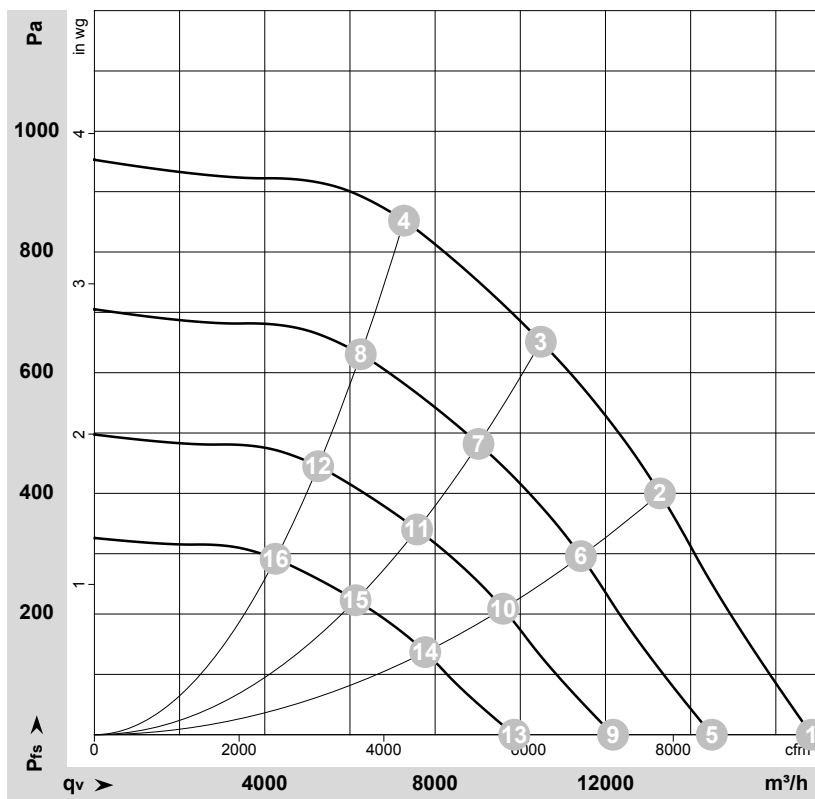
EC centrifugal fan - RadiPac

backward-curved, single-intake

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



Curves: Air performance 50 Hz



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

Measurement: LU-181204-1

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

	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	inH ₂ O
1	400	50	1450	1606	2.49	90	96	96	16840	0	9910	0.00
2	400	50	1450	2559	3.91	78	85	87	13280	400	7815	1.61
3	400	50	1450	2850	4.40	72	79	83	10485	650	6170	2.61
4	400	50	1450	2754	4.21	75	82	86	7270	850	4280	3.41
5	400	50	1250	1025	1.59	86	93	92	14500	0	8535	0.00
6	400	50	1250	1629	2.49	74	81	83	11425	301	6725	1.21
7	400	50	1250	1819	2.78	68	75	80	9020	482	5310	1.94
8	400	50	1250	1753	2.68	71	79	82	6255	632	3680	2.54
9	400	50	1050	607	0.94	82	88	88	12180	0	7170	0.00
10	400	50	1050	966	1.48	69	77	79	9595	212	5645	0.85
11	400	50	1050	1078	1.65	64	71	75	7575	340	4460	1.36
12	400	50	1050	1039	1.59	67	74	78	5255	446	3090	1.79
13	400	50	850	322	0.50	76	83	82	9860	0	5805	0.00
14	400	50	850	512	0.78	64	72	74	7770	139	4570	0.56
15	400	50	850	572	0.87	59	66	70	6135	223	3610	0.90
16	400	50	850	551	0.84	61	69	72	4250	292	2505	1.17

U = Power supply · 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

