

R3G800-PC12-71 ebmpapst Datasheet

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## Nominal data

Type	R3G800-PC12-71	
Motor	M3G150-NA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min <sup>-1</sup>	835
Power consumption	W	2600
Current draw	A	4.0
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 $\eta_{es}$	%	70.1	55.9	09 Power consumption $P_{ed}$	kW	2.61
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	15955
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	392
04 Efficiency grade N		76.2	62	10 Speed (rpm) n	min <sup>-1</sup>	840
05 Variable speed drive		Yes		11 Specific ratio <sup>*</sup>		1.00

Data obtained at optimum efficiency level.

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

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

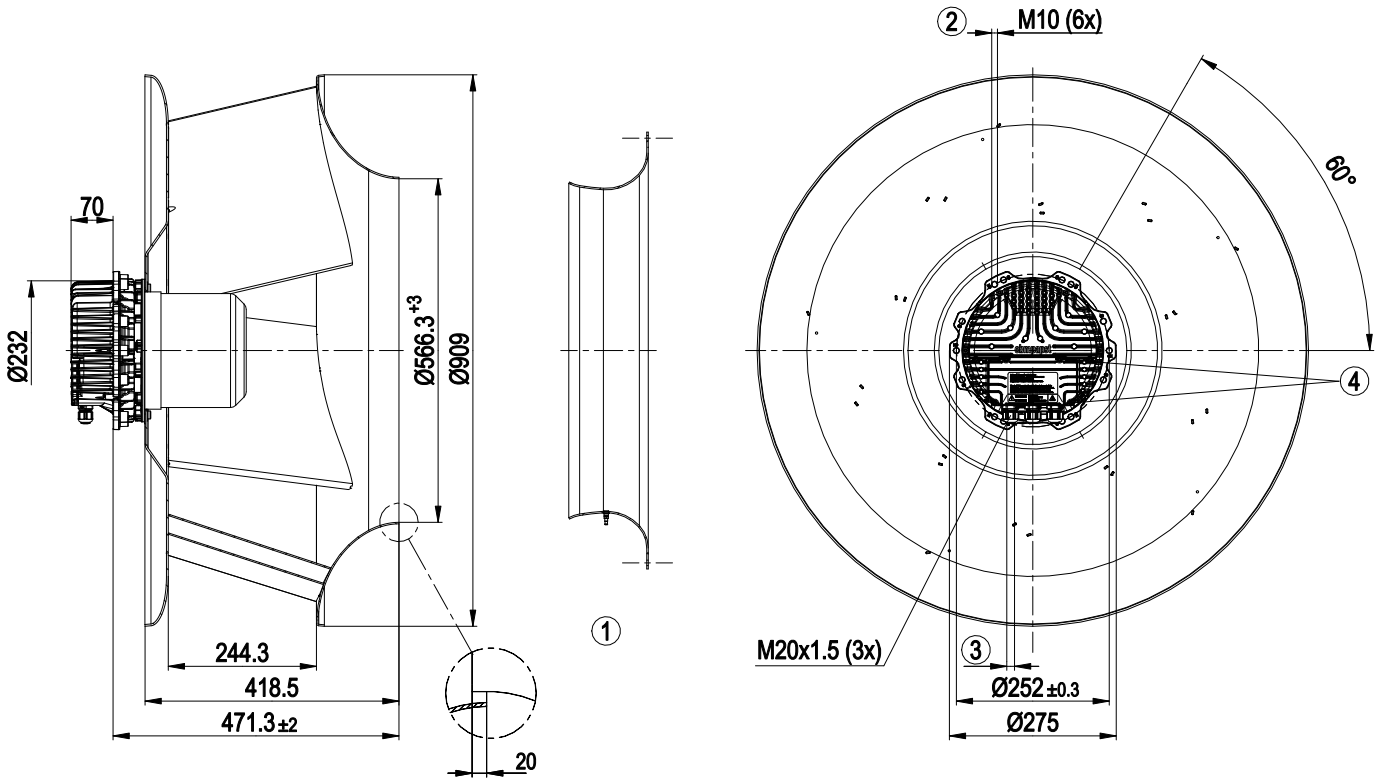
LU-184478



## Technical description

Weight	41.8 kg
Size	800 mm
Motor size	150
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 mounting	Ball bearing
Technical features	<ul style="list-style-type: none"> <li>- Output 10 VDC, max. 10 mA</li> <li>- Operation and alarm display</li> <li>- External 24 V input (parameter setting)</li> <li>- External release input</li> <li>- Alarm relay</li> <li>- Integrated PID controller</li> <li>- Motor current limitation</li> <li>- PFC, passive</li> <li>- RS-485 MODBUS-RTU</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>
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
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

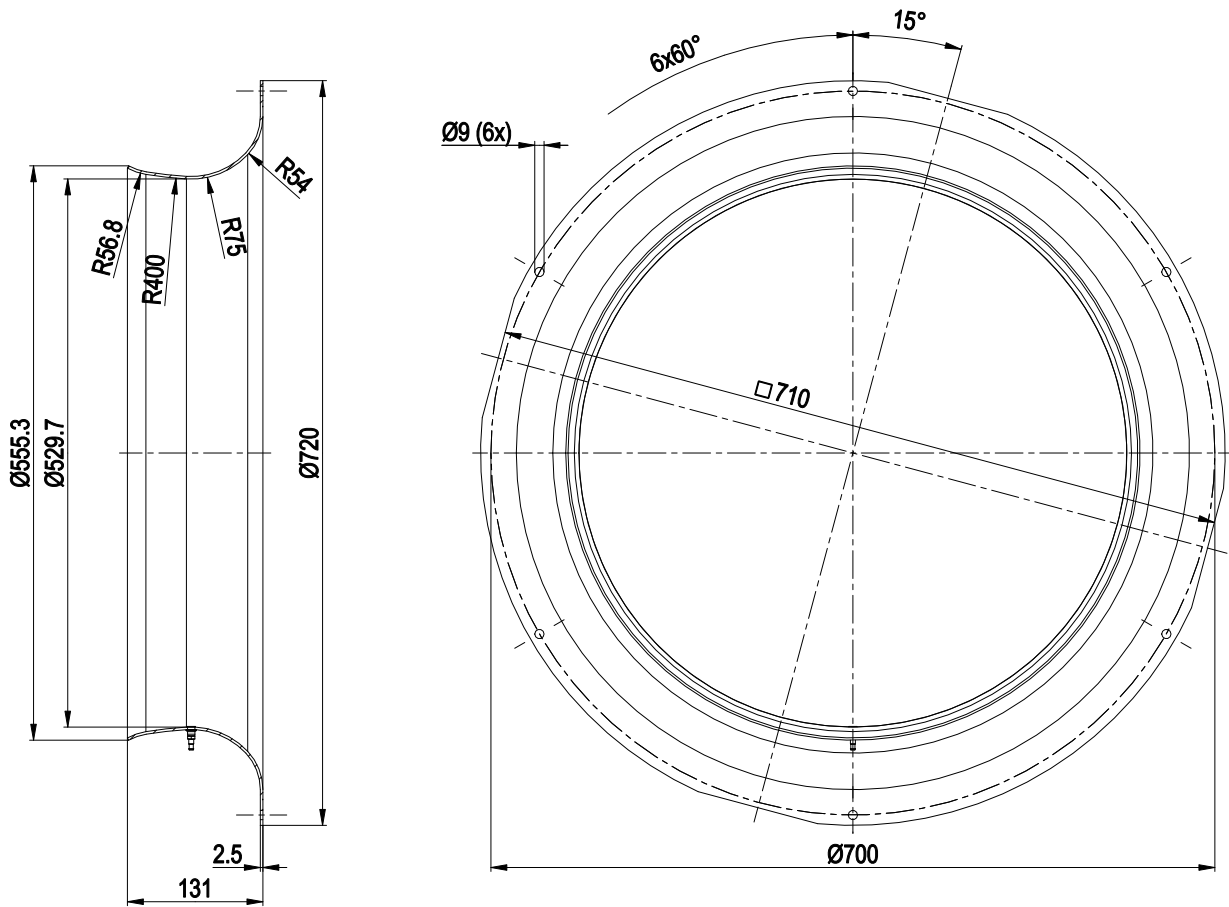
Product drawing



1	Accessory part: Inlet ring 80075-2-4013 (k-factor: 695) not included in scope of delivery
2	Max. clearance for screw 25 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque $4 \pm 0.6$ Nm
4	Tightening torque $3.5 \pm 0.5$ Nm



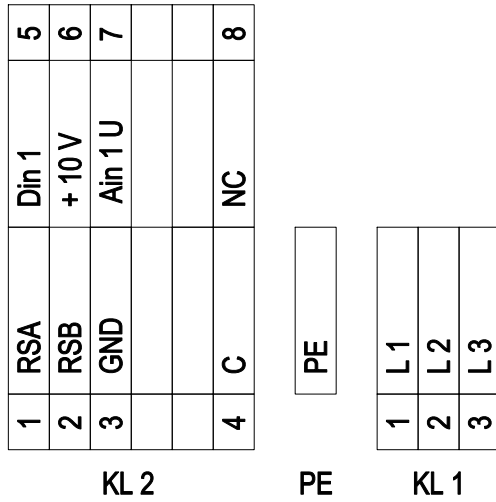
## Accessory part



Inlet ring 80075-2-4013 (k-factor: 695)



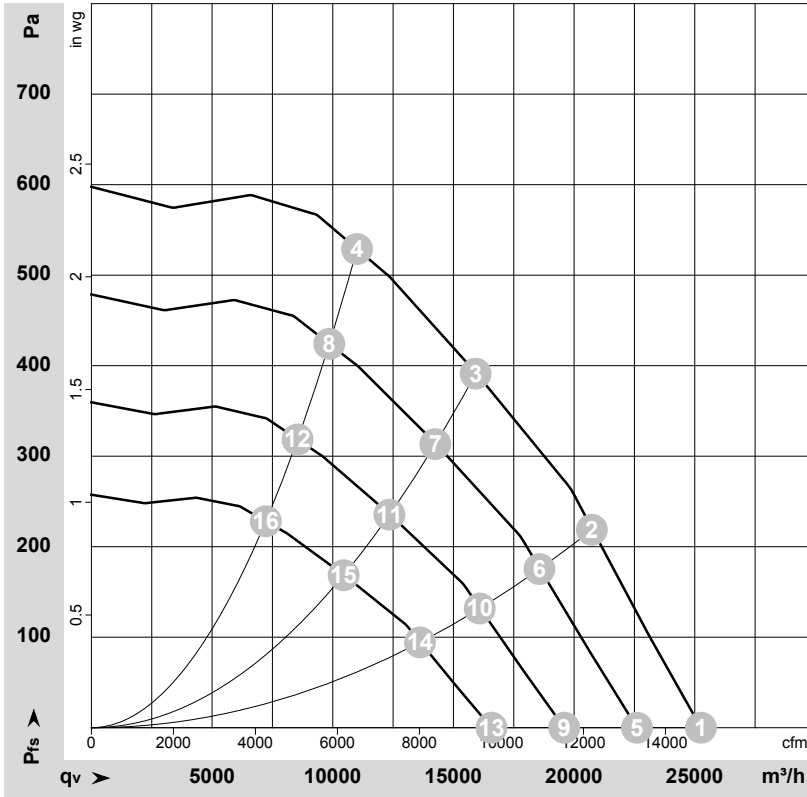
## Connection diagram



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	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 2	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 2	3	GND	Reference ground for control interface; SELV
KL2	4	C	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL 2	5	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 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. pot); SELV Or: +24 VDC input for parameter setting via MODBUS without line voltage
KL 2	7	Ain1 U	Analog input 1 (set value) 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
KL2	8	NC	Status relay, floating status contact, break for failure



## Curves: Air performance 50 Hz



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

Measurement: LU-184478-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	in. wg
1	400	50	835	1430	2.30	71	79	82	25260	0	14865	0.00
2	400	50	835	2210	3.44	69	77	79	20740	220	12205	0.88
3	400	50	835	2600	4.00	67	75	77	15920	390	9370	1.57
4	400	50	835	2550	3.95	68	75	79	11000	530	6475	2.13
5	400	50	750	1027	1.65	68	76	79	22605	0	13305	0.00
6	400	50	750	1584	2.47	66	74	76	18565	177	10925	0.71
7	400	50	750	1876	2.90	64	72	74	14250	314	8385	1.26
8	400	50	750	1835	2.83	65	73	76	9855	424	5800	1.70
9	400	50	650	668	1.08	65	73	76	19590	0	11530	0.00
10	400	50	650	1031	1.60	62	70	73	16090	133	9470	0.53
11	400	50	650	1221	1.89	60	68	71	12350	236	7270	0.95
12	400	50	650	1194	1.85	62	69	73	8540	319	5030	1.28
13	400	50	550	405	0.65	60	69	72	16575	0	9755	0.00
14	400	50	550	624	0.97	58	66	68	13615	95	8015	0.38
15	400	50	550	740	1.14	56	64	67	10450	169	6150	0.68
16	400	50	550	723	1.12	58	65	68	7230	228	4255	0.92

U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
 LwA<sub>out</sub> = Sound power level outlet side · q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase

