R3G400-HA29-05

EC centrifugal fan - RadiPac

backward-curved, single-intake

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Nominal data

Type	**R3G400-HA29-05**
Motor	**M3G150-FF**

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^{-1}	3700
Power consumption	W	6100
Current draw	A	9.3
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	50

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	61.4	59.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		64	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	5.65
09 Air flow q_v	m^3/h	7770
09 Pressure increase p_{fs}	Pa	1561
10 Speed (rpm) n	min^{-1}	3710
11 Specific ratio*		1.02

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-207185

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Technical description

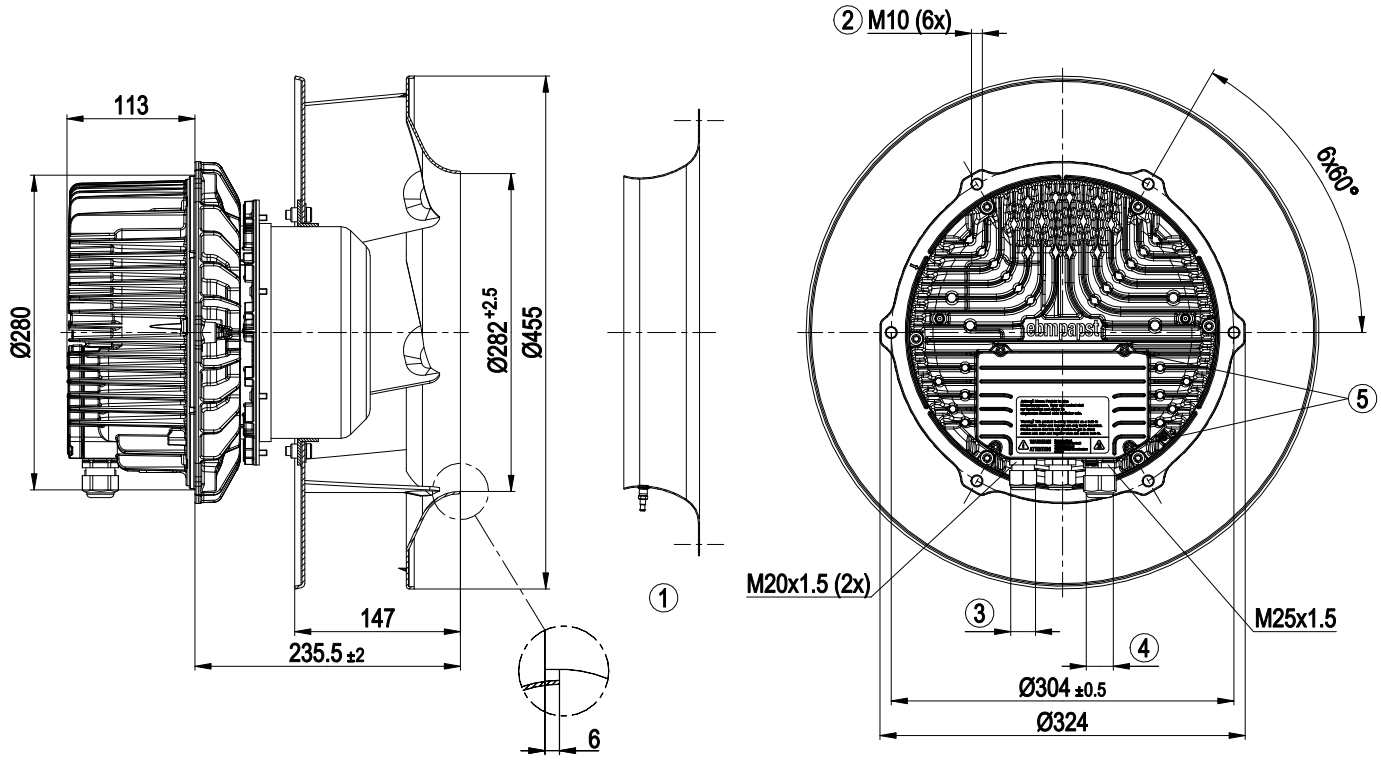
Weight	26.3 kg
Size	400 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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 for slave 0-10 V - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC - 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	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

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Product drawing



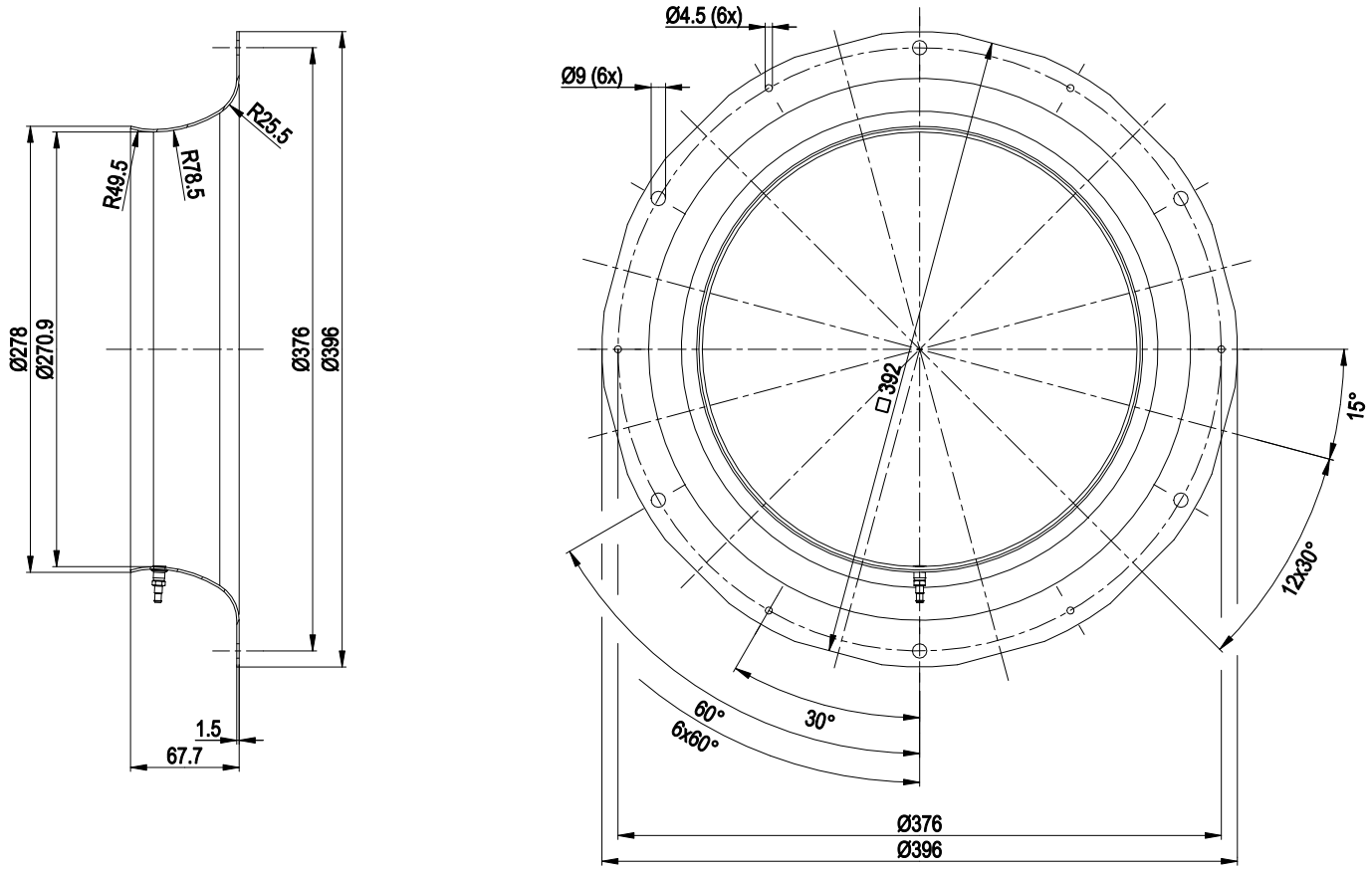
1	Accessory part: inlet ring 40078-2-4013 with pressure tap (k-factor: 188) not included in scope of delivery
2	Max. clearance for screw 20 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6 ± 0.9 Nm
5	Tightening torque 3.5 ± 0.5 Nm

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Accessory part



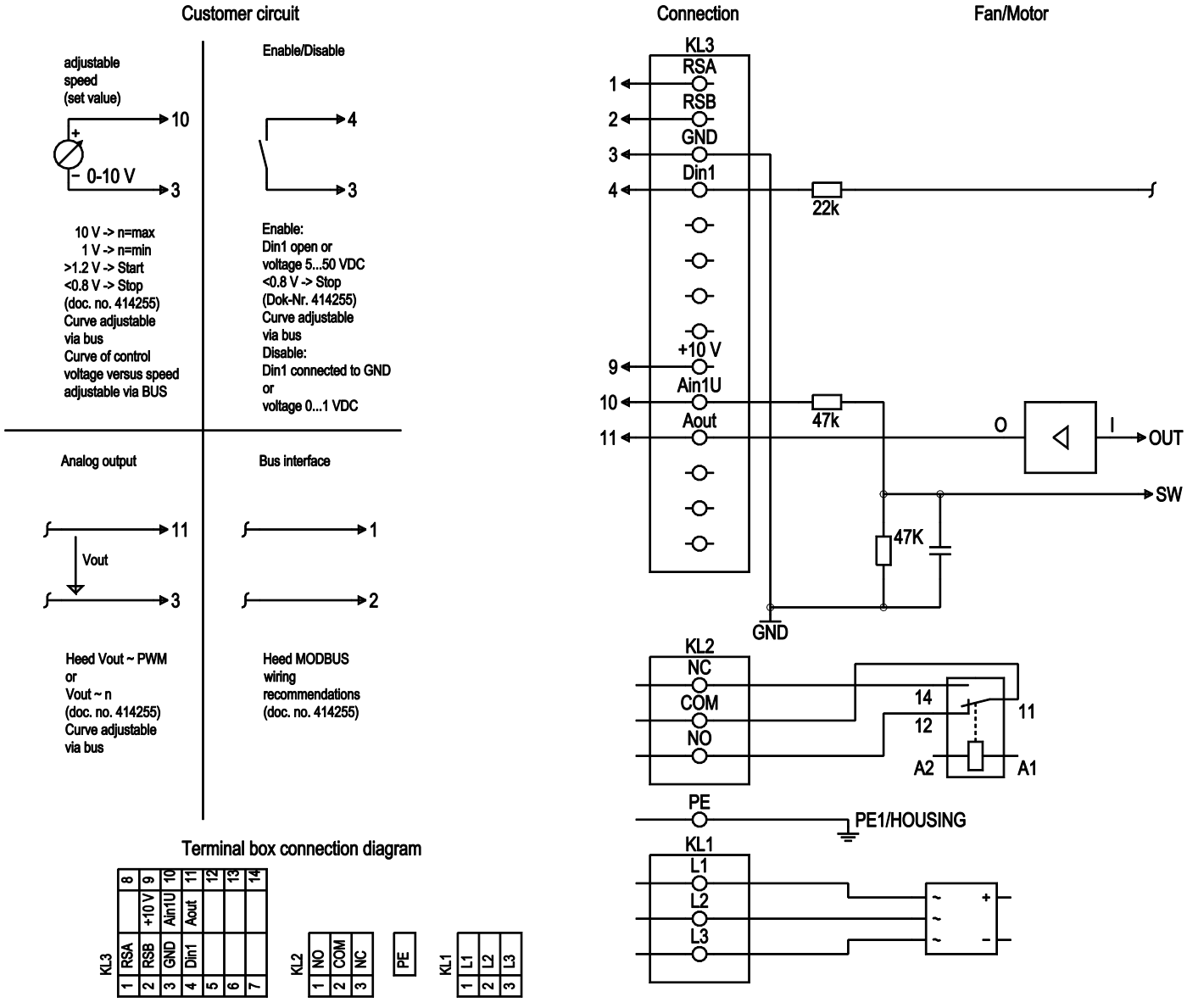
Inlet ring 40078-2-4013 with pressure tap not included in scope of delivery

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Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1, 2, 3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, option 1: make for failure, option 2: make for error for run monitor
KL2	2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
KL2	3	NC	Status relay, floating status contact, option 1: break for failure, option 2: break for error message for run monitor
KL 3	1	RSA	RS485 interface for MODBUS, RSA; SELV
KL 3	2	RSB	RS485 interface for MODBUS, RSB; SELV
KL 3	3	GND	Reference ground for control interface; SELV

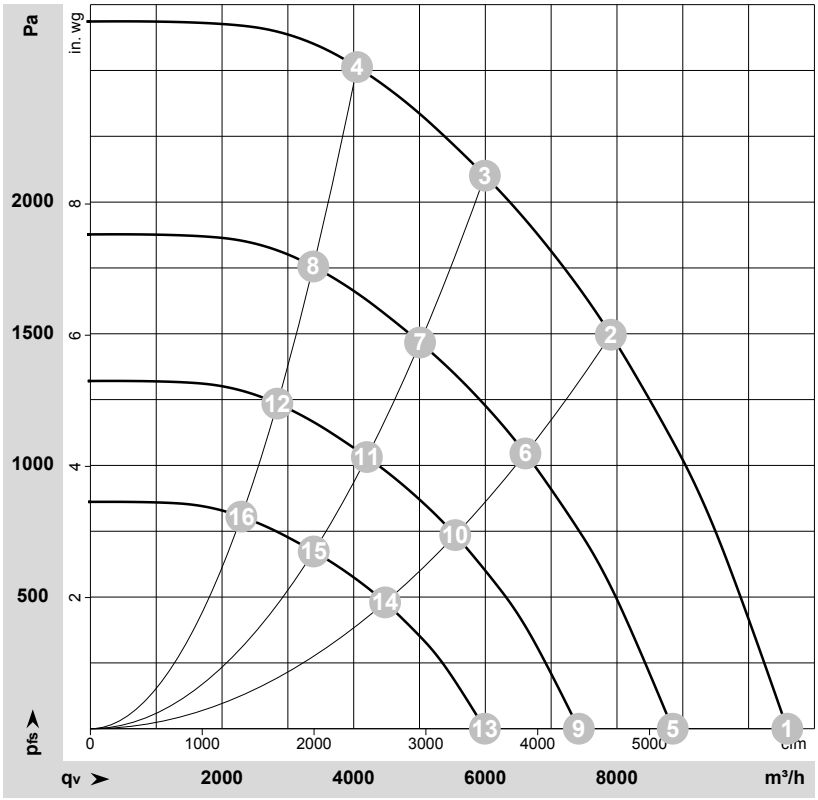
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No.	Conn.	Designation	Function/assignment
KL 3	4	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL 3	-	-	-
KL 3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL 3	9	10 V / max. 10 mA	Voltage output, power supply for external devices (e.g. potentiometers), SELV
KL 3	10	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
KL 3	11	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV
KL 3	-	-	-
KL 3	-	-	-
KL 3	-	-	-

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-207185-1

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	3~	400	50	3700	3319	5.16	94	101	107	10590	0	6230	0.00
2	3~	400	50	3700	5578	8.51	88	94	101	7905	1500	4655	6.02
3	3~	400	50	3700	6100	9.30	89	95	101	5995	2100	3525	8.43
4	3~	400	50	3700	5807	8.87	93	100	104	4050	2500	2385	10.04
5	3~	400	50	3100	1936	3.01	90	97	102	8845	0	5205	0.00
6	3~	400	50	3100	3257	4.97	84	90	97	6610	1049	3890	4.21
7	3~	400	50	3100	3544	5.40	84	90	97	5010	1469	2950	5.90
8	3~	400	50	3100	3390	5.18	89	96	99	3385	1756	1995	7.05
9	3~	400	50	2600	1142	1.78	85	92	98	7420	0	4365	0.00
10	3~	400	50	2600	1921	2.93	79	85	92	5545	738	3260	2.96
11	3~	400	50	2600	2091	3.19	80	86	92	4200	1033	2470	4.15
12	3~	400	50	2600	2000	3.05	84	91	95	2840	1235	1670	4.96
13	3~	400	50	2100	602	0.94	80	87	92	5995	0	3525	0.00
14	3~	400	50	2100	1012	1.55	74	80	87	4475	481	2635	1.93
15	3~	400	50	2100	1102	1.68	74	80	87	3395	674	1995	2.71
16	3~	400	50	2100	1054	1.61	79	86	89	2295	806	1350	3.24

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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