

EC centrifugal fan - RadiPac

backward curved, single inlet

R3G630-AP01-01 ebmpapst Datasheet
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Nominal data

Type	R3G630-AP01-01	
Motor	M3G150-NA	
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	1130
Power input	W	2900
Current draw	A	4.5
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	65	56.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		70.4	62
05 Variable speed drive		Yes	

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

09 Power input P_{ed}	kW	3.03
09 Air flow q_v	m³/h	11635
09 Pressure increase p_{fs}	Pa	580
10 Speed (rpm) n	min ⁻¹	1135
11 Specific ratio*		1.01

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

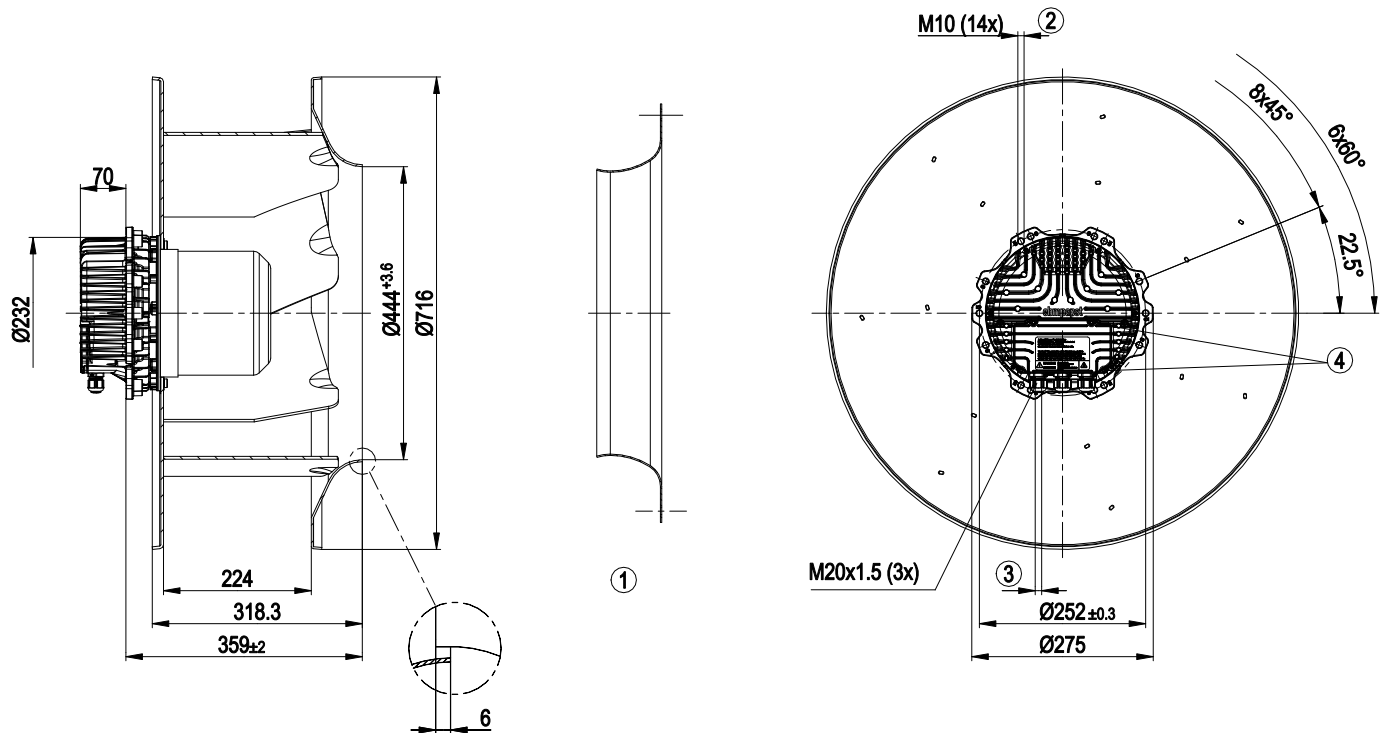
LU-114495



Technical features

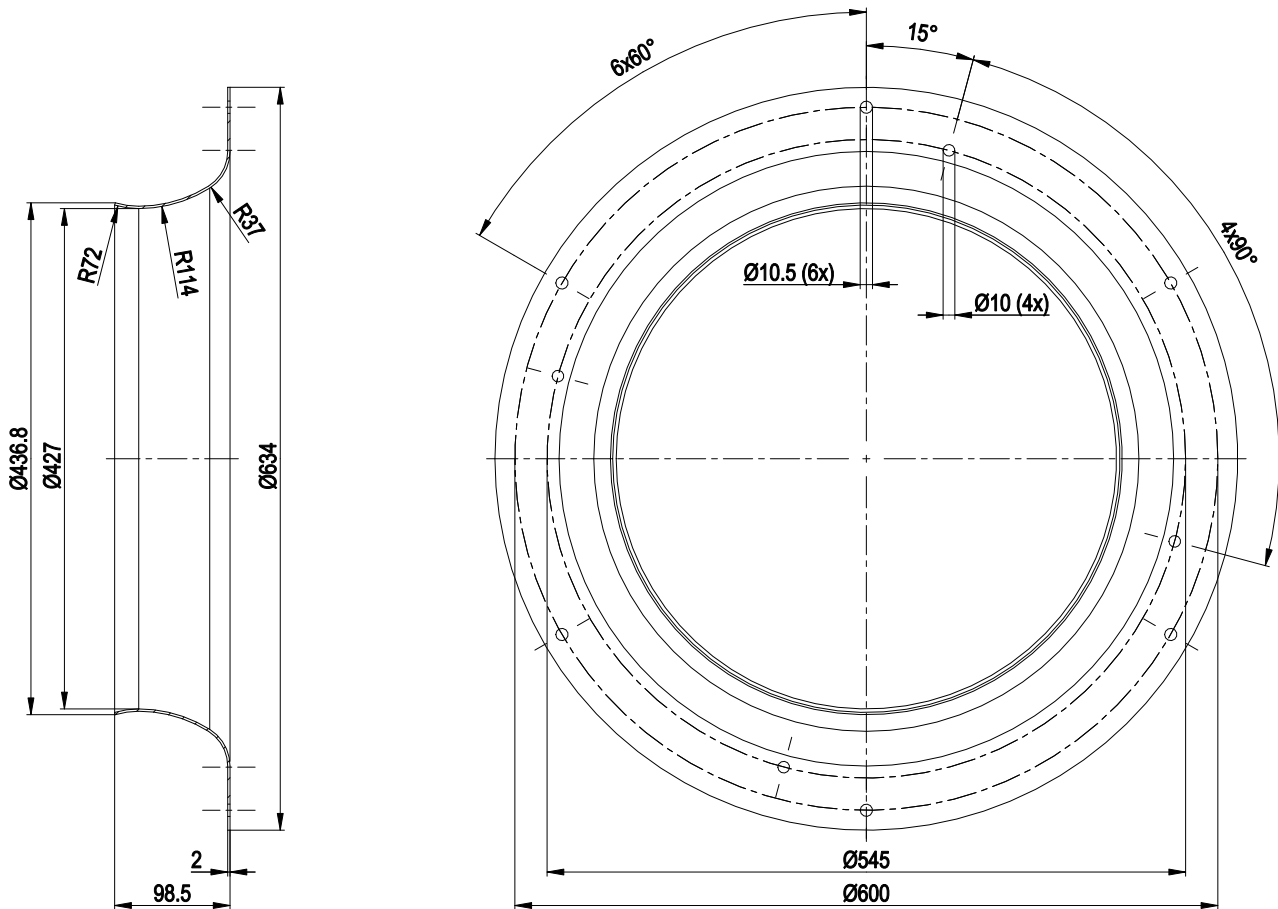
Mass	40 kg
Size	630 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation 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 - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - 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
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	C22.2 Nr.77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

Product drawing



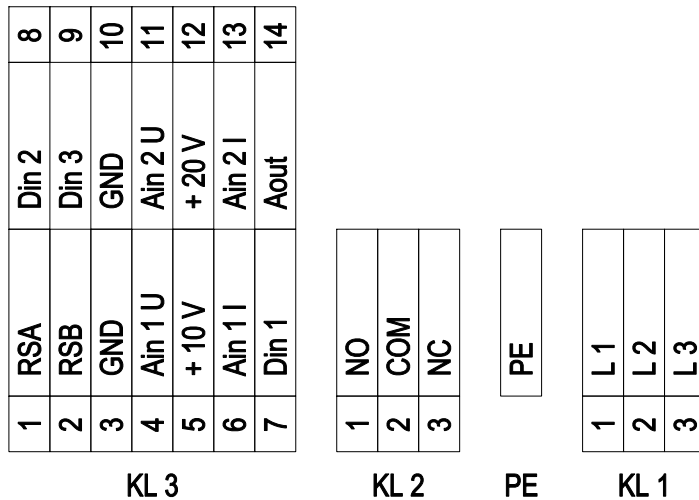
1	Accessory part: Inlet nozzle 63070-2-4013, not included in the standard scope of delivery
2	Depth of screw max. 25 mm
3	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 4±0.6 Nm
4	Tightening torque 3.5±0.5 Nm

Accessory part



Inlet nozzle 63070-2-4013 not included in scope of delivery

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	NO	Status relay, floating status contact; normally open; close with error
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 with error
KL 3	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 3	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 3	3 / 10	GND	Signal ground for control interface; SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1; 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. potentiometer), SELV
KL 3	6	Ain1 I	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	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 VDC; SELV
KL 3	8	Din2	Digital input 2: parameter set switch 1/2, according to EEPROM setting, the valid/used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: open pin 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: controller function of integrated controller, according to EEPROM setting, the controller function of the integrated controller is normally/inversely selectable per bus or per digital input normal: open pin or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V ±5/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV

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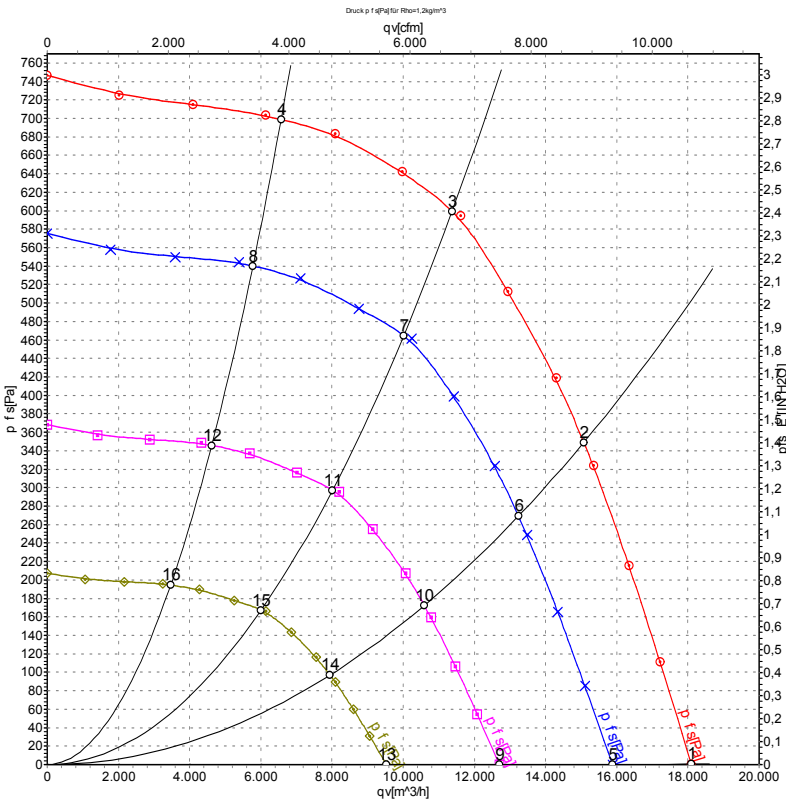
No.	Conn.	Designation	Function / assignment
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, $R_i = 100\ \Omega$, parametrisable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV



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Charts: Air flow 50 Hz Y



Measurement: LU-114495-1

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: L_{wA} measured as per ISO 13347 /
L_{pA} 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

	Conn.	U	f	n	P _{ed}	I	L _{pA} _{in}	L _{wA} _{in}	L _{wA} _{out}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m³/h	Pa	cfm	inH ₂ O
1	Y	400	50	1130	2155	3.26	80	88	94	18100	0	10655	0.00
2	Y	400	50	1130	2834	4.30	74	81	87	15070	350	8870	1.41
3	Y	400	50	1130	2900	4.50	70	78	84	11380	600	6700	2.41
4	Y	400	50	1130	2461	3.73	71	79	86	6570	700	3870	2.81
5	Y	400	50	1000	1455	2.20	77	85	91	15880	0	9345	0.00
6	Y	400	50	1000	1921	2.92	71	79	84	13240	270	7795	1.08
7	Y	400	50	1000	2056	3.14	67	75	81	10010	467	5890	1.87
8	Y	400	50	1000	1672	2.53	69	77	83	5775	540	3400	2.17
9	Y	400	50	800	745	1.13	72	81	86	12700	0	7475	0.00
10	Y	400	50	800	983	1.49	66	74	80	10590	173	6235	0.69
11	Y	400	50	800	1053	1.61	63	70	76	8010	299	4715	1.20
12	Y	400	50	800	856	1.30	64	72	78	4620	346	2720	1.39
13	Y	400	50	600	314	0.48	66	74	80	9525	0	5605	0.00
14	Y	400	50	600	415	0.63	60	67	73	7945	97	4675	0.39
15	Y	400	50	600	444	0.68	56	64	70	6010	168	3535	0.67
16	Y	400	50	600	361	0.55	58	65	72	3465	195	2040	0.78

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · L_{pA}_{in} = Sound pressure level inlet side · L_{wA}_{in} = Sound power level inlet side
L_{wA}_{out} = Sound power level outlet side · q_v = Air flow · p_{fs} = Pressure increase

