W3G450-GK19-R5

EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

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Nominal data

Type	**W3G450-GK19-R5**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	1350
Power consumption	W	360
Current draw	A	3.1
Max. back pressure	Pa	125
Max. back pressure	in. wg	0.5
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	65

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}	%	43.7	30.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		52.9	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.35
09 Air flow q_v	m^3/h	4500
09 Pressure increase p_{fs}	Pa	112
10 Speed (rpm) n	min^{-1}	1330
11 Specific ratio*		1.00

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-183267

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Technical description

Weight	10 kg
Size	450 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
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 - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - 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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
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

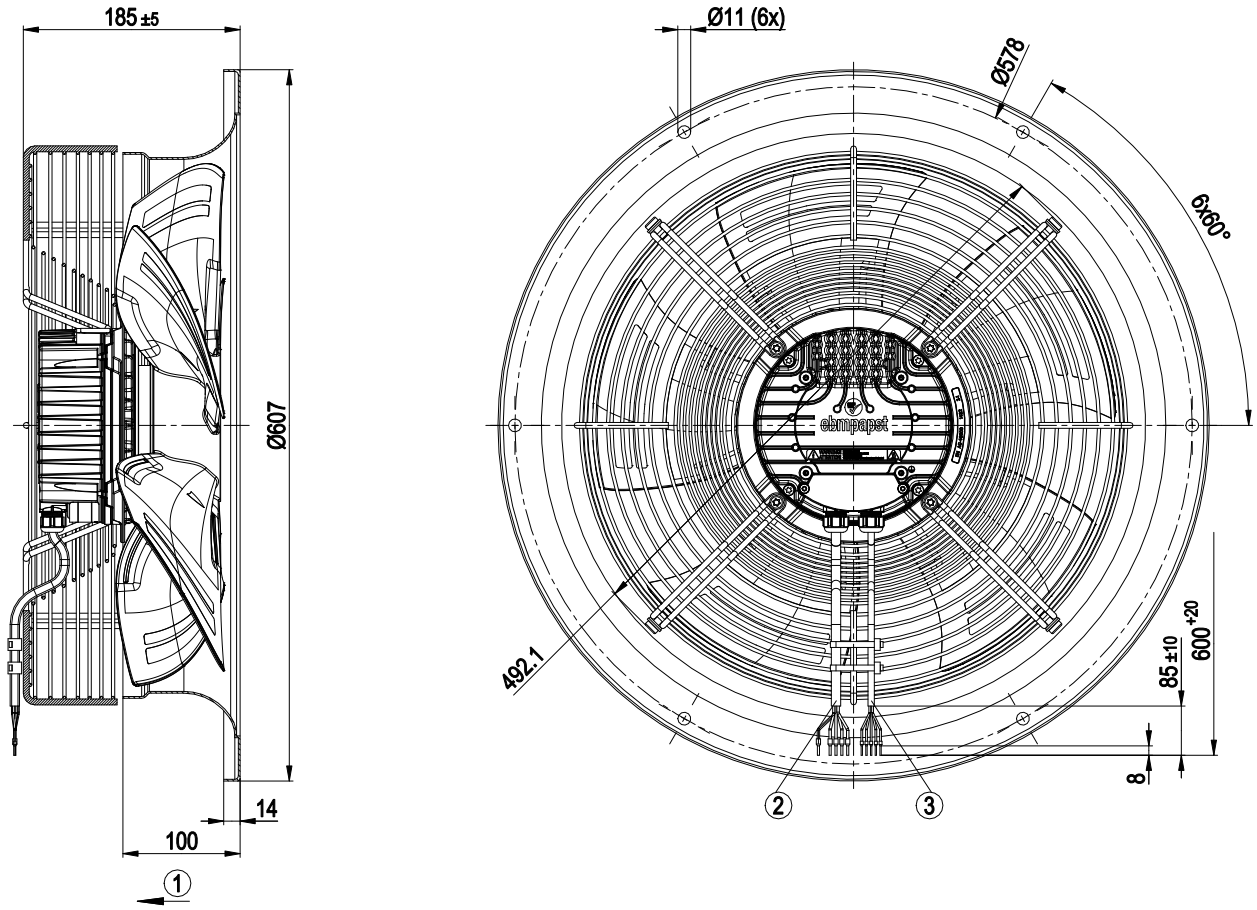
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Product drawing



1	Airflow direction "V"
2	Cable PVC AWG18
	5x wire-end ferrule
3	Cable PVC AWG22
	5x wire-end ferrule

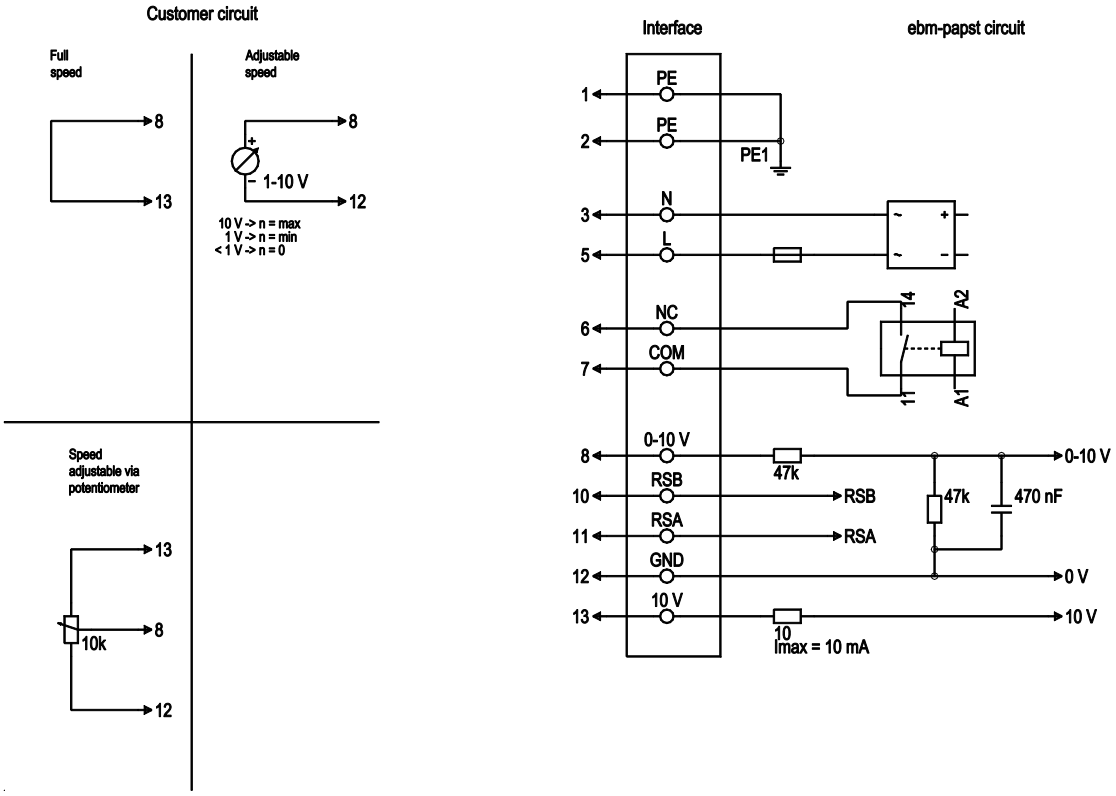
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; Ri = 100 kΩ; adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB
2	11	RSA	white	RS485 interface for MODBUS, RSA
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. pot)

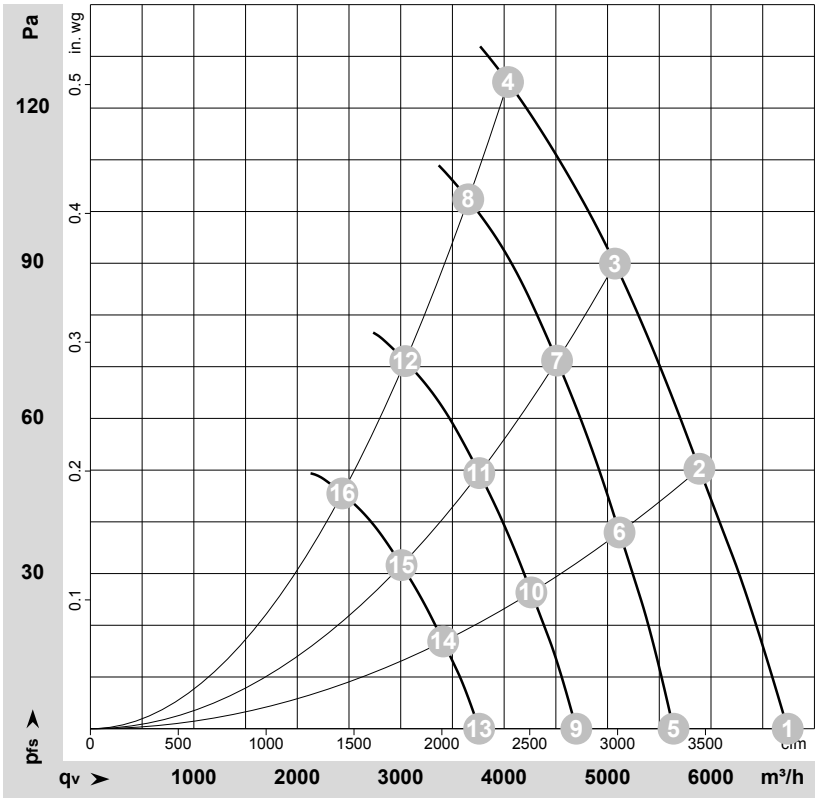
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-183267-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	1~	115	50	1435	360	3.10	6740	0	3970	0.00
2	1~	115	50	1380	360	3.10	5890	50	3465	0.20
3	1~	115	50	1350	360	3.10	5070	90	2985	0.36
4	1~	115	50	1350	360	3.10	4040	125	2375	0.50
5	1~	115	50	1200	208	1.81	5640	0	3320	0.00
6	1~	115	50	1200	236	2.06	5115	38	3010	0.15
7	1~	115	50	1200	256	2.23	4510	71	2655	0.29
8	1~	115	50	1200	268	2.33	3655	103	2150	0.41
9	1~	115	50	1000	121	1.05	4700	0	2765	0.00
10	1~	115	50	1000	137	1.19	4265	26	2510	0.10
11	1~	115	50	1000	148	1.29	3760	50	2215	0.20
12	1~	115	50	1000	155	1.35	3045	71	1790	0.29
13	1~	115	50	800	62	0.54	3760	0	2210	0.00
14	1~	115	50	800	70	0.61	3410	17	2010	0.07
15	1~	115	50	800	76	0.66	3010	32	1770	0.13
16	1~	115	50	800	79	0.69	2435	46	1435	0.18

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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