D3G146-HQ23-38

EC centrifugal fan

forward-curved, dual-intake

with housing (flange)

D3G146-HQ23-38 ebmpapst Datasheet

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Nominal data

Type	**D3G146-HQ23-38**
Motor	**M3G055-DF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1500
Power consumption	W	135
Current draw	A	1.9
Min. back pressure	Pa	0
Min. back pressure	in. wg	0
Min. ambient temperature	°C	-25
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}	%	41.3	32.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		53.1	44
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.13
09 Air flow q_v	m^3/h	540
09 Pressure increase p_{fs}	Pa	331
10 Speed (rpm) n	min^{-1}	2215
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-157993

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Technical description

Weight	2.4 kg
Size	146 mm
Motor size	55
Rotor surface	Galvanized
Electronics housing material	PP plastic
Impeller material	Sheet steel, galvanized
Housing material	PP plastic
Motor suspension	Motor vibration-damped on both sides
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP10
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Cooling hole/opening	On rotor and stator sides
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for motor
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
Electrical hookup	Plug
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 60335-2-31; CE
Approval	CSA C22.2 No. 77; UL 1004-7 + 60730-1

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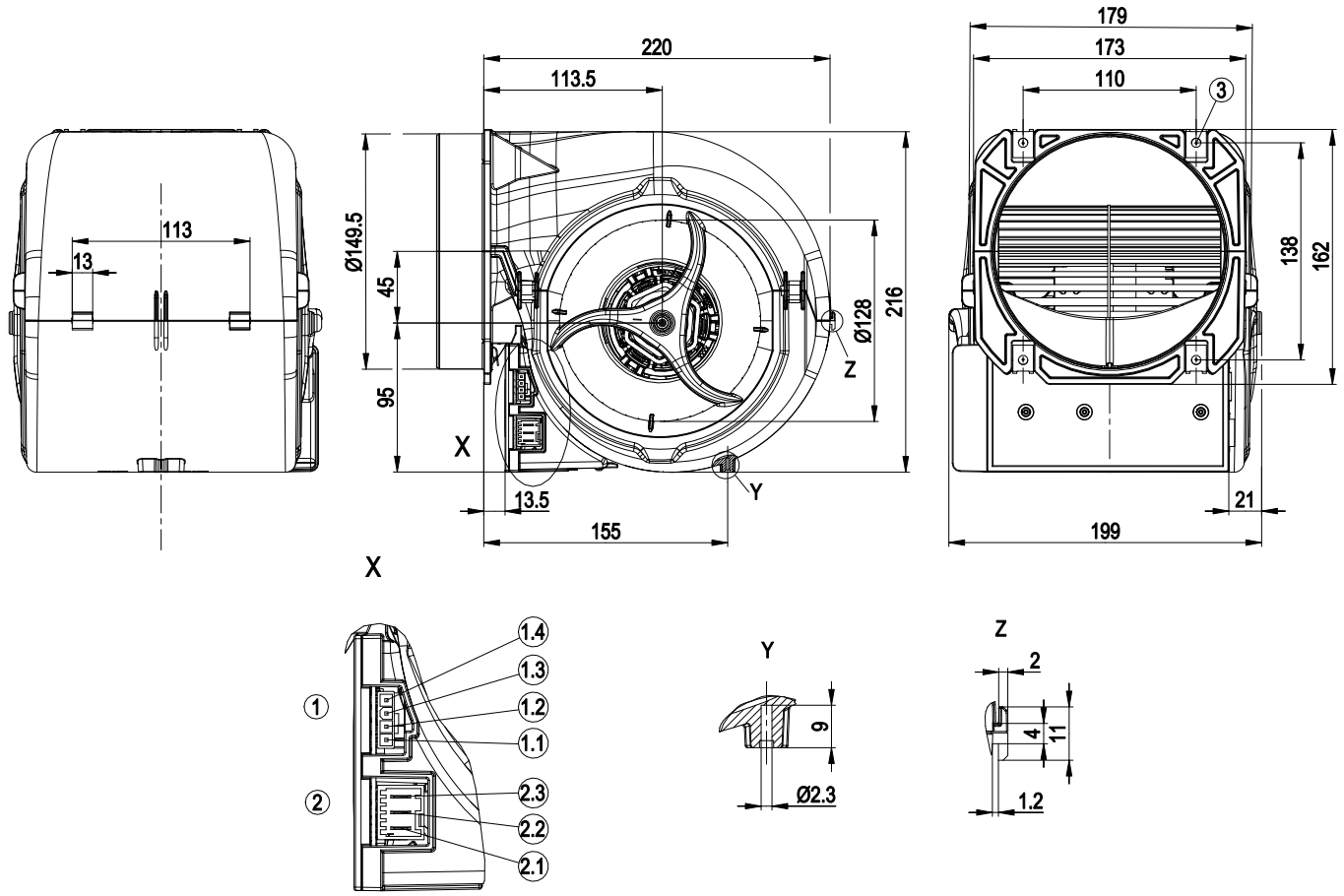
Product drawing



1	Header Stocko MSLO 7708-004-003-960 pluggable with Stocko EH 705-004-003-960 + RBB 8230.120 Ms
1.1	10 V
1.2	Tach
1.3	0-10 V / PWM
1.4	GND
2	Macromodul connector Stocko MSLO 9404-003-00A-960 pluggable with Stocko MFMP 9761-003-50A-960
2.1	L
2.2	N
2.3	PE
3	4x sheet metal nut for thread EN ISO 1478-ST4.8

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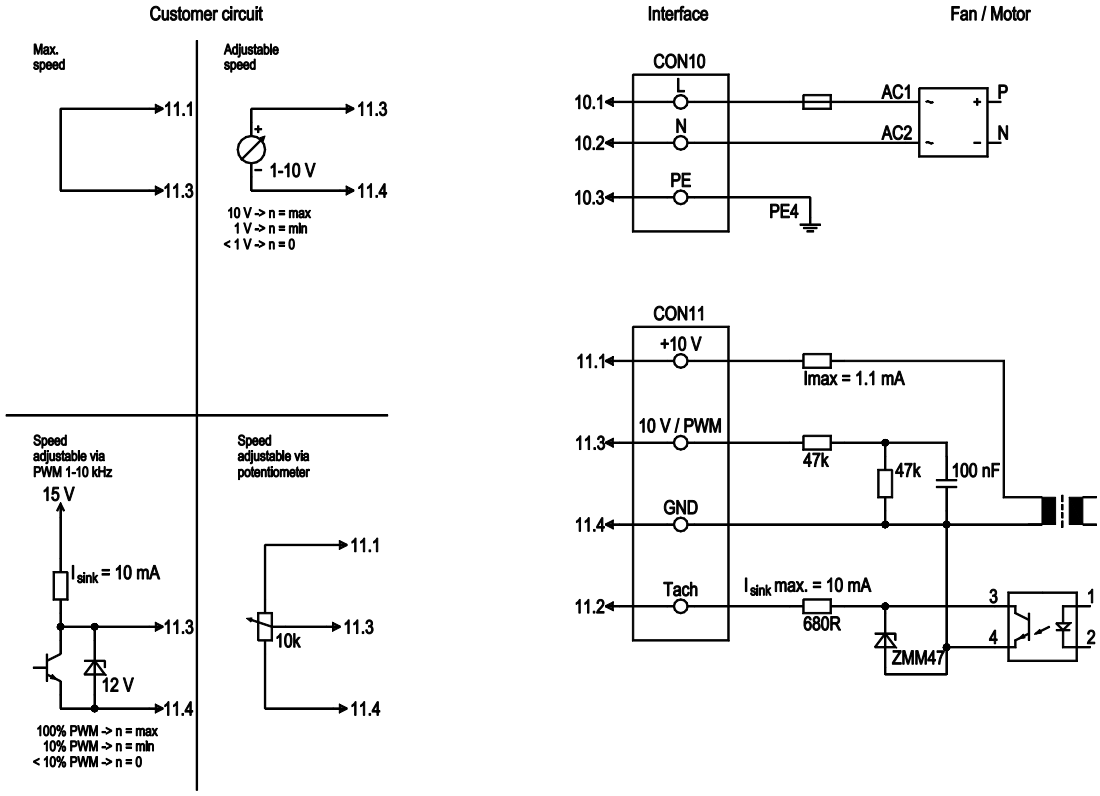
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
CON10	10.1	L	black	Power supply 115 VAC, 50-60 Hz, see nameplate for voltage range
CON10	10.2	N	blue	Neutral conductor
CON10	10.3	PE	green/yellow	Protective earth
CON11	11.1	10 V/max. 1.1mA	red	Voltage output 10 V, 1.1 mA, electrically isolated, not short-circuit-proof
CON11	11.2	Tacho	white	Tach output: Open collector, 1 pulse per revolution, electrically isolated, Isink max = 10 mA
CON11	11.3	0-10 V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
CON11	11.4	GND	blue	GND connection for control interface

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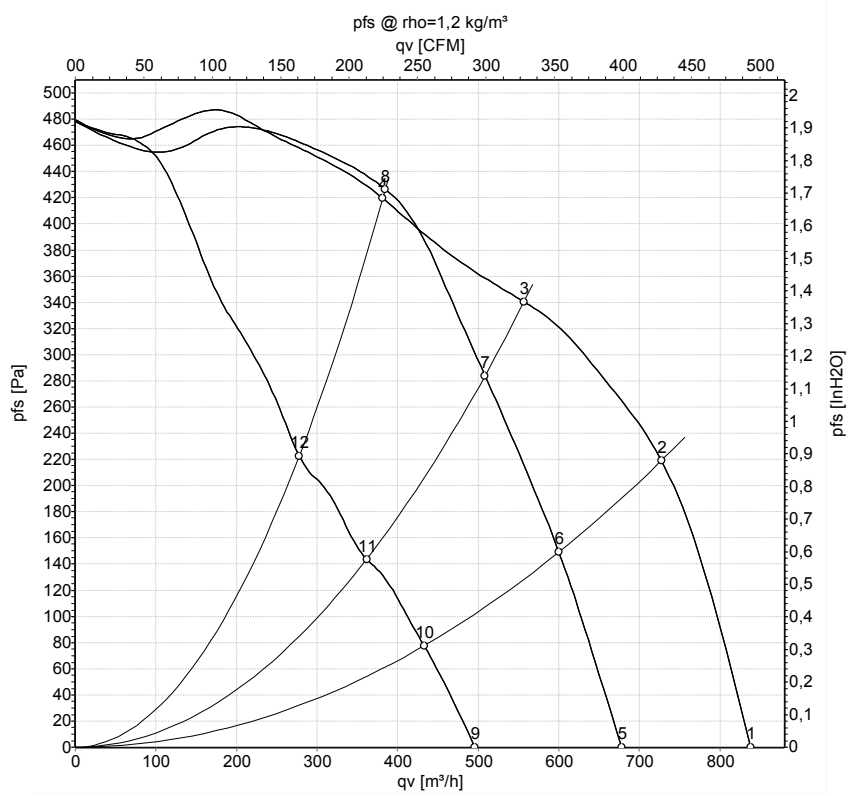
Curves: Air performance 50 Hz



Measurement: LU-157993-1
Measurement: LU-158058-1
Measurement: LU-158065-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	115	50	1500	135	1.90	840	0	495	0.00
2	115	50	1900	165	2.30	725	220	430	0.88
3	115	50	2195	140	1.93	555	340	330	1.36
4	115	50	2455	118	1.64	380	420	225	1.69
5	115	50	1195	66	0.97	680	0	400	0.00
6	115	50	1595	84	1.20	600	151	355	0.61
7	115	50	2010	103	1.44	510	284	300	1.14
8	115	50	2465	117	1.63	385	427	225	1.71
9	115	50	885	26	0.40	495	0	290	0.00
10	115	50	1160	31	0.47	435	77	255	0.31
11	115	50	1465	38	0.56	360	143	215	0.57
12	115	50	1820	45	0.67	280	219	165	0.88

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