D3G250-EE70-05

EC centrifugal fan

forward-curved, dual-intake

with housing (flange)

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**D3G250-EE70-05**	
Motor	**M3G112-EA**	
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}	1200
Power consumption	W	600
Current draw	A	1.1
Min. back pressure	Pa	0
Min. back pressure	inH2O	0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	70

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	47.8	34.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		57.3	44
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.31
09 Air flow q_v	m^3/h	1500
09 Pressure increase p_{fs}	Pa	323
10 Speed (rpm) n	min^{-1}	1345
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

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Technical description

Weight	14 kg
Fan size	250 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Motor suspension	Motor mounted on brackets for one-sided vibration damping
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F4-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal
Cooling hole/opening	On rotor side
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 (parameter setting) - Alarm relay - Integrated PID controller - Cable break detection with control line - Motor current limitation - PFC, passive - 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
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	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730; CCC

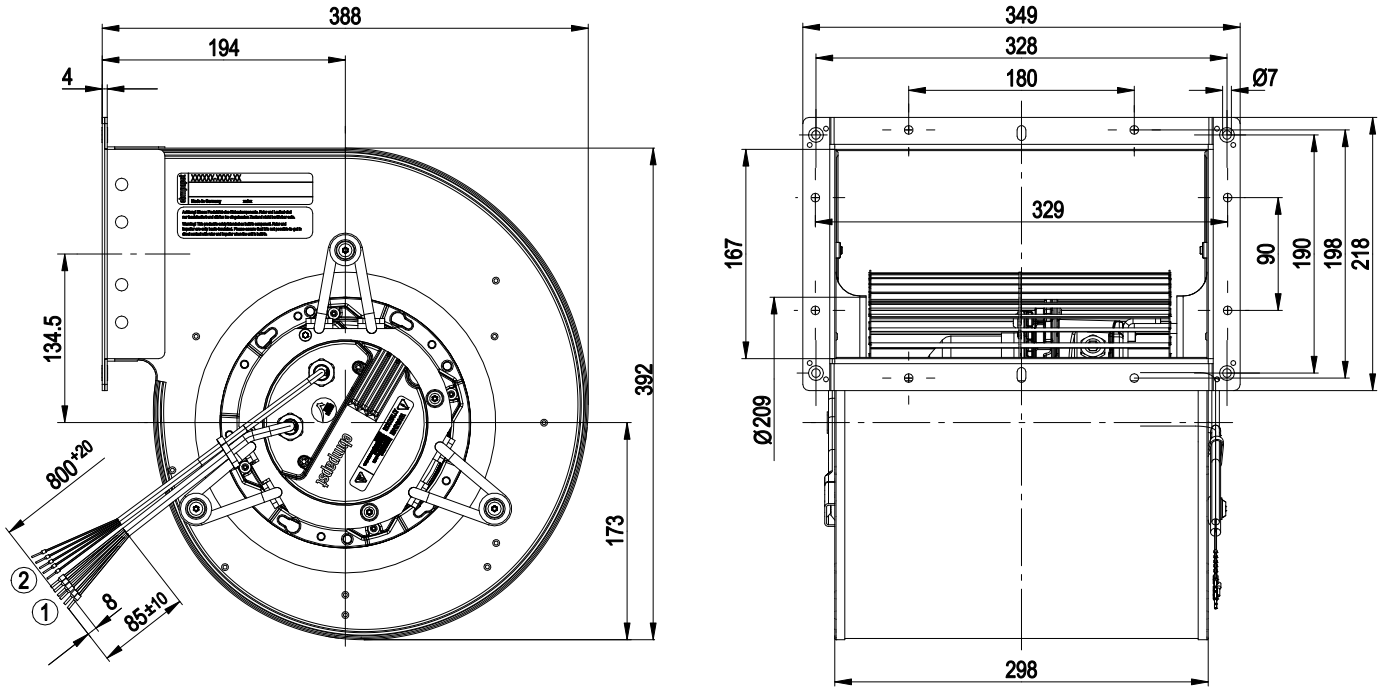
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Product drawing



1	Cable PVC AWG18, 6x crimped ferrules
2	Cable PVC AWG22, 3x crimped ferrules

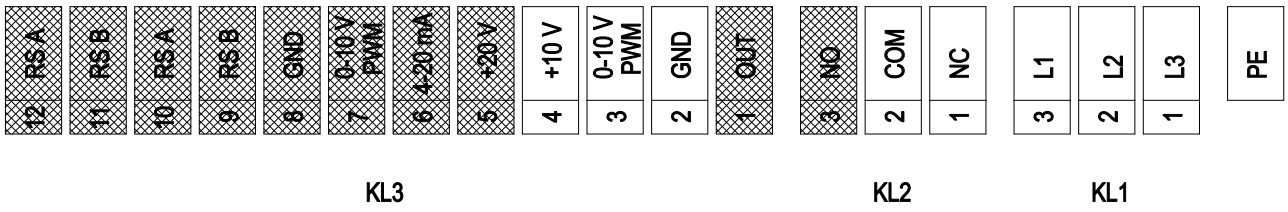
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Connection diagram



shaded gray => not brought out via leads or RSA and RSB wires sealed with heat shrink tube

No.	Conn.	Designation	Color	Function/assignment
1	-	PE	green/yellow	Protective earth terminal
1	KL1	L1, L2, L3	black	Power supply, voltage range see nameplate, 50/60 Hz
1	KL2	NC	white 2	Floating status contact, break for failure
1	KL2	COM	white 1	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC/max. 2 A (AC1)/min. 10 mA
	KL2	NO		Floating status contact, make for failure
	KL3	OUT		Analog output, 0-10 VDC, max. 3 mA, SELV Output of current motor modulation level: 1 V corresponds to 10% modulation level. 10 V corresponds to 100% modulation level.
2	KL3	GND	black	Reference ground for control interface, SELV
2	KL3	0-10V	yellow	Use control/current sensor value input 0-10 VDC, impedance 100 kohms only as alternative to 4-20 mA input, SELV
2	KL3	+10V	red	Voltage output 10 VDC (+/- 3%), max. 10 mA, power supply for ext. devices (e.g. potentiometers), SELV
	KL3	+20V		Voltage output 20 VDC (+25%/-10%), max. 50 mA, power supply for ext. devices (e.g. sensors), SELV
	KL3	4-20mA		Control/current sensor value input 4-20 mA, impedance 100 ohms, use only as alternative to 0-10 V input, SELV
	KL3	RSB		RS485 interface for MODBUS, RSB, SELV
	KL3	RSA		RS485 interface for MODBUS, RSA, SELV

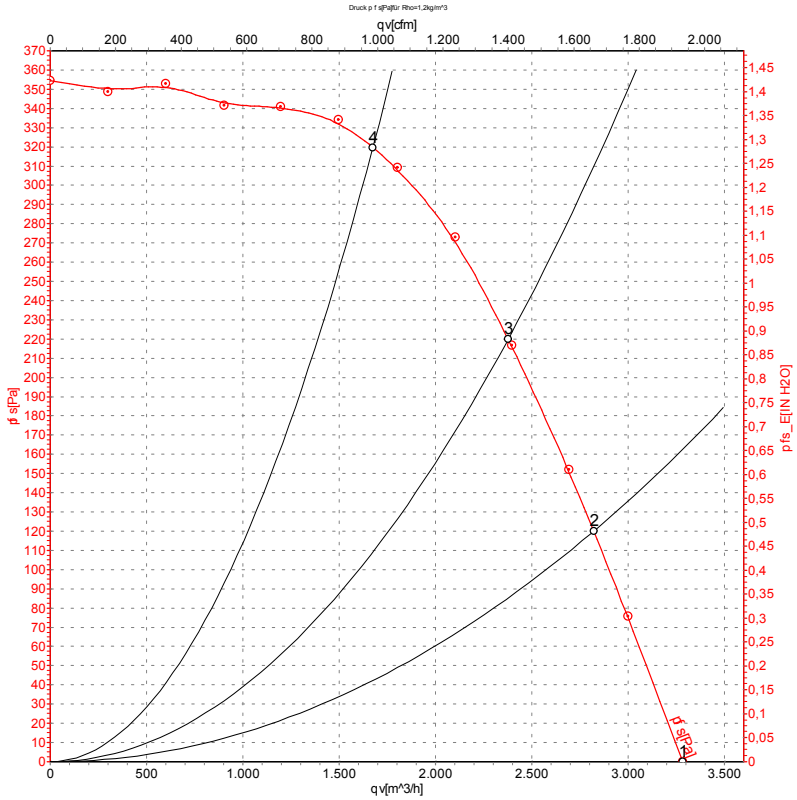
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Curves: Air performance 50 Hz



Measurement: LU-133963-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	400	50	1200	600	1.10	3280	0	1930	0.00
2	400	50	1225	514	0.96	2820	120	1660	0.48
3	400	50	1265	449	0.85	2375	220	1400	0.88
4	400	50	1330	342	0.67	1675	320	985	1.28

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

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