D3G454-AA07-05

EC centrifugal fan

forward-curved, dual-intake

with housing (large flange)

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**D3G454-AA07-05**
Motor	**M3G150-NA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	680
Power consumption	W	1530
Current draw	A	2.4
Min. back pressure	Pa	300
Min. back pressure	inH2O	1.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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}	%	60.7	37.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		67.5	44
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.83
09 Air flow q_v	m^3/h	5000
09 Pressure increase p_{fs}	Pa	334
10 Speed (rpm) n	min^{-1}	685
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-141585

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Technical description

Weight	58 kg
Fan size	454 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	IP55
Insulation class	"F"
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
Condensation drainage holes	None
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) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - 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 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Reverse polarity and locked-rotor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	C22.2 No.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730

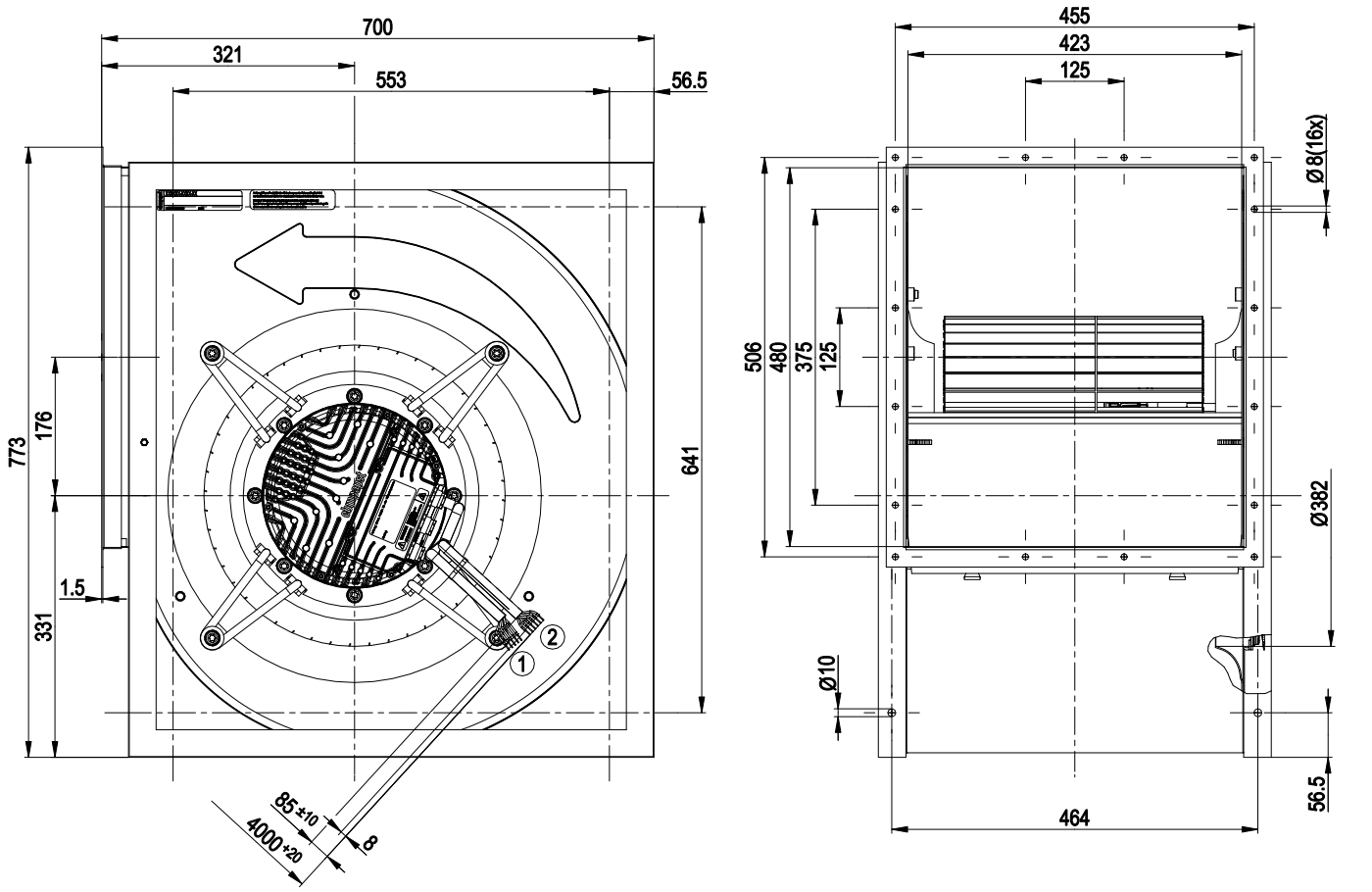
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Product drawing



1	Cable PVC AWG20, 6 x crimped ferrules
2	Cable PVC AWG16, 5 x crimped ferrules

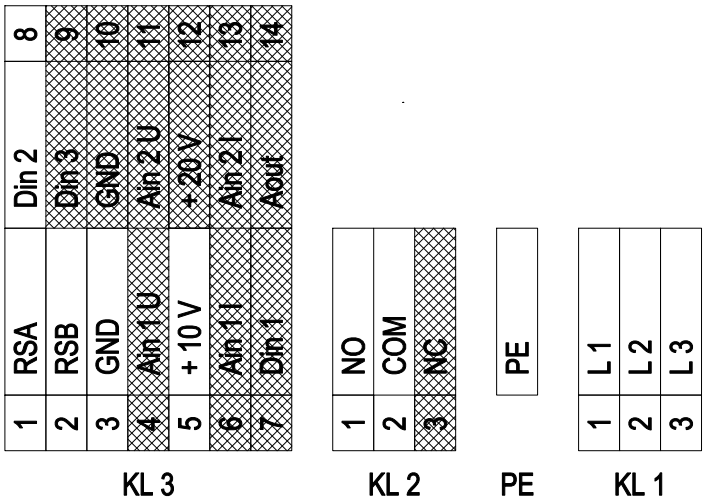
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Connection diagram



Shaded gray => not brought out via leads

No.	Conn.	Designation	Color	Function/assignment
KL 1	1	L1	black 1	Supply connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1	2	L2	black 2	Supply connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1	3	L3	black 3	Supply connection, power supply 3-phase 380-480 VAC; 50/60 Hz
PE		PE	green/yellow	Ground connection, PE connection
KL 2	1	NO	white 2	Status relay, floating status contact; make for failure
KL2	2	COM	white 1	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 for failure
KL 3	1	RSA	orange	Bus connection RS485; RSA; MODBUS RTU
KL 3	2	RSB	black	Bus connection RS485; RSB; MODBUS RTU
KL 3	3 / 10	GND	blue	Reference ground for control interface
KL 3	4	Ain1 U		Analog input 1 (set value); 0-10 V; Ri = 100 kΩ; adjustable curves; only usable as alternative to input Ain1 I
KL 3	5	+ 10 V	red	Fixed voltage output 10 VDC; +10 V +/-3%; max. 10 mA; short-circuit-proof; power supply for ext. devices (e.g. pot)
KL 3	6	Ain1 I		Analog input 1 (set value); 4-20 mA, Ri = 100 Ω; adjustable curves; only usable as alternative to input Ain1 U
KL 3	7	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 V
KL 3	8	Din2	yellow	Digital input 2: Switching parameter sets 1/2; according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: Pin open or applied voltage 5...50 VDC; Parameter set 2: Bridge to GND or applied voltage < 1 VDC
KL 3	9	Din3		Digital input 3: Direction of action of integrated controller; Depending on EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input; Normal: Pin open or applied voltage 5...50 VDC; Inverse: Bridge to GND or applied voltage < 1 VDC
KL 3	11	Ain2 U		Analog input 2; measured value 0-10 V; Ri = 100 kΩ; adjustable curve; only usable as alternative to input Ain2 I
KL 3	12	+ 20 V		Fixed voltage output 20 VDC; +20 V +25/-10%; max. 50 mA; short-circuit-proof power supply for ext. devices (e.g. sensors)

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No.	Conn.	Designation	Color	Function/assignment
KL 3	13	Ain2 I		Analog input 2; measured value: 4-20 mA; Ri = 100 Ω; adjustable curve; only usable as alternative to input Ain2 U
KL 3	14	Aout		Analog output 0-10 V; max. 5 mA; output of current motor modulation level/current motor speed. Adjustable curve.

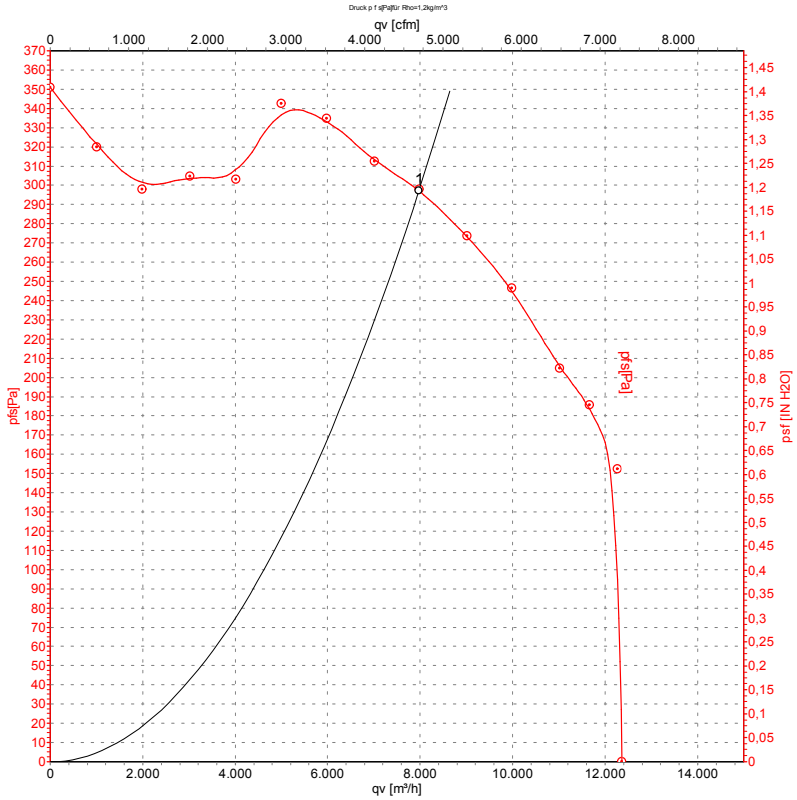
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Curves: Air performance 50 Hz



Measurement: LU-141585-1

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	680	1530	2.40	8000	300	4710	1.20

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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