8300101362

VMA0450HSNJS

EC axial panel fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

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Amtsgericht (court of registration) Stuttgart · HRA 590344

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	**8300101362**
Motor	**E07433-43**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	1000
Power consumption	W	170
Current draw	A	1.4
Max. back pressure	Pa	75
Max. back pressure	in. wg	0.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 (prEN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	42.4	28.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		53.6	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m³/h	3395
09 Pressure increase p_{fs}	Pa	70
10 Speed (rpm) n	min^{-1}	1010
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-224791

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

Size	450 mm
Motor size	74
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	Press-fitted sheet steel blank, sprayed with PP plastic
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	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Locked-rotor detection - Tach output - Speed control - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class assignment	I; If a protective earth is connected by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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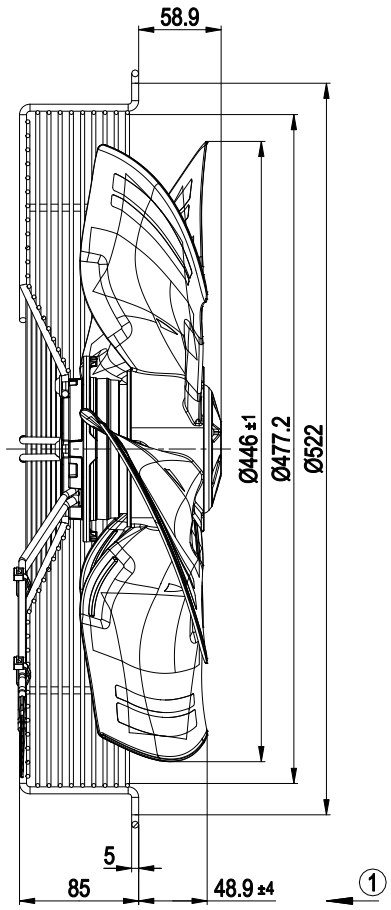
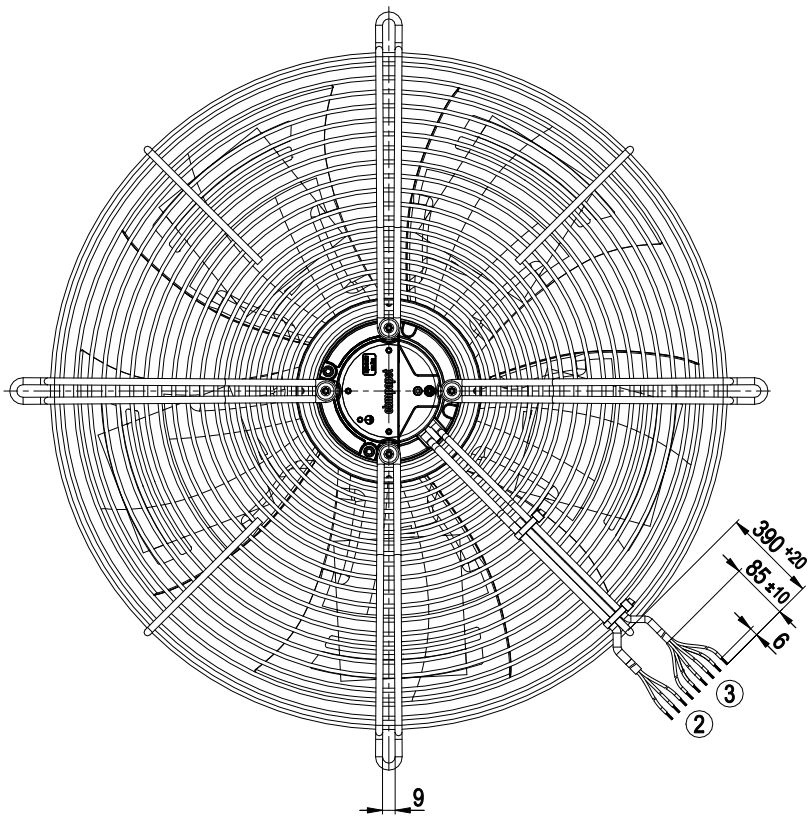
Product drawing





1	Airflow direction "V"
2	Supply line (PWR) PVC AWG20
	3x splice
3	Control wire (CTRL) PVC AWG22
	6x splice

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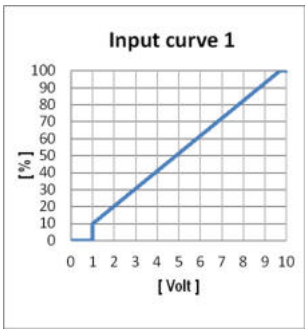
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	PWR	L	black	Power supply, phase, see nameplate for voltage range
	PWR	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	PWR	PE	green/yellow	Protective earth
	CTRL	GND	blue	Reference ground for control interface, SELV
	CTRL	IO1	yellow	Factory setting: Analog input 0-10 V/PWM, Ri=100 KΩ, fPWM=1 kHz..10 kHz, Function: Speed set value Characteristic curve parameterizable (see "Input curve 1"), SELV Function parameterizable at the factory (see Optional interface functions table)
	CTRL	IO2	white	Factory setting: Open collector output, Umax=50 VDC, Imax= 10 mA, function: Tach output 1 pulse/revolution, SELV Function parameterizable at factory (see table Optional interface functions)
	CTRL	Vout	red	Voltage output 10 VDC +/-3%, Imax=10 mA Short-circuit-proof, power supply for external devices, SELV
	CTRL	-	gray	No function
	CTRL	-	brown	No function

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Terminal/plug assignment

Basic (B4)
Factory configuration option upon request

○ *Factory configuration option*

	configurable IO mode	electrical specification	INPUT: source: set value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: enable/disable input	INPUT: configurable function	OUTPUT: signal: tach out	OUTPUT: signal: diagnostics out	OUTPUT: signal: alarm out	OUTPUT: signal: run monitoring	OUTPUT: signal: status	OUTPUT: signal: configurable function
IO1	○ **Din1 (high active)**: digital input	active: parameterizable voltage x-30 VDC not active: pin open or parameterizable voltage <x VDC, SELV		○	○	○	○						
	○ **Ain1 0-10 V/PWM:** analog input	Ri = 100 kΩ, characteristic curve parameterizable, f_{PWM} = 1k..10 kHz, SELV	○				○						
IO2	○ **Tach out** (open collector)	Umax=50 VDC, Imax=10 mA, SELV						○					
	○ **Diagnostics out** (open collector)	Umax=50 VDC, Imax=10 mA, SELV							○				
	○ **Alarm out** (open collector)	Umax=50 VDC, Imax=10 mA, SELV								○			
	○ **Open collector**	Umax=50 VDC, Imax=10 mA, SELV									○	○	○
Vout	Voltage output	Voltage10 VDC, SELV											

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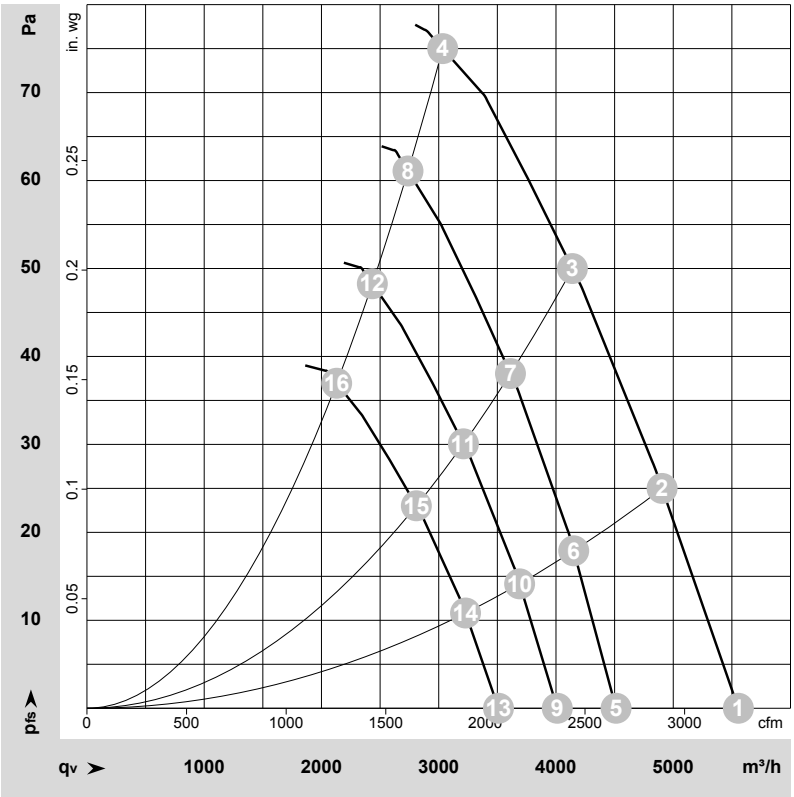
Curves: Air performance 50 Hz



ρ = 1.183 kg/m³ ± 2 %

Measurement: LU-224791-1
Date: 2023-02-08
Housing: 64000-2-4037

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_e	I	LpA_{in}	LwA_{in}	LwA_{out}	LwA	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	dB	m^3/h	Pa	cfm	in. wg
1	1~	230	50	1110	170	1.38	60	66	66	69	5555	0	3270	0.00
2	1~	230	50	1065	169	1.38	56	62	63	65	4905	25	2885	0.10
3	1~	230	50	1030	169	1.37	55	61	61	64	4140	50	2435	0.20
4	1~	230	50	995	169	1.38	54	61	61	64	3035	75	1785	0.30
5	1~	230	50	900	91	0.74	54	60	61	63	4510	0	2655	0.00
6	1~	230	50	900	103	0.83	52	58	58	61	4150	18	2445	0.07
7	1~	230	50	900	112	0.91	52	58	58	61	3610	38	2125	0.15
8	1~	230	50	900	124	1.01	51	58	58	61	2740	61	1610	0.24
9	1~	230	50	800	64	0.52	51	57	58	61	4010	0	2360	0.00
10	1~	230	50	800	72	0.59	49	55	55	58	3690	14	2170	0.06
11	1~	230	50	800	79	0.64	49	55	55	58	3210	30	1890	0.12
12	1~	230	50	800	87	0.71	49	55	55	58	2435	48	1435	0.19
13	1~	230	50	700	43	0.35	48	54	54	57	3510	0	2065	0.00
14	1~	230	50	700	48	0.39	46	52	52	55	3230	11	1900	0.04
15	1~	230	50	700	53	0.43	45	51	51	54	2810	23	1655	0.09
16	1~	230	50	700	58	0.48	45	52	52	55	2130	37	1255	0.15

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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