

8300101359
VMA0420HSNJS

EC axial panel fan - HyBlade

sickle-shaped blades (S series)
with guard grille for short nozzle

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344
General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	8300101359	
Motor	E07433-43	
Phase		1~
Nominal voltage	V	230
Nominal voltage range	V	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	1100
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 · oe = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	40.5	28.8	09 Power consumption P_{ed}	kW	0.16
02 Measurement category		A		09 Air flow q_v	m³/h	3270
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	70
04 Efficiency grade N		51.7	40	10 Speed (rpm) n	min ⁻¹	1120
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
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).

* Specific ratio = $1 + p_g / 100\,000\text{ Pa}$ LU-225934

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Technical description

Size	420 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 60335-1; EN 60034-1; EN 60204-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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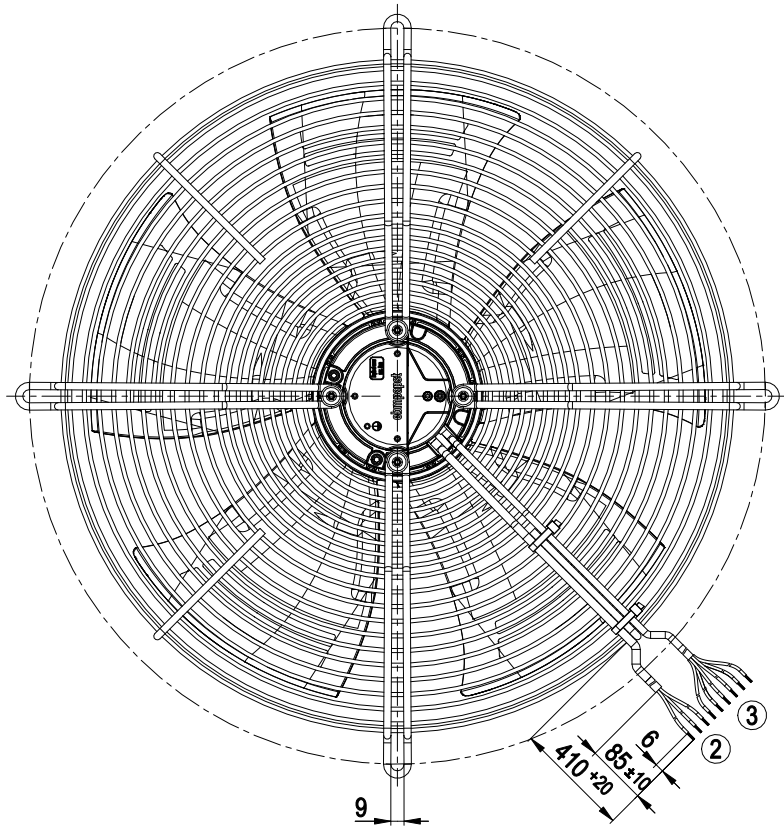
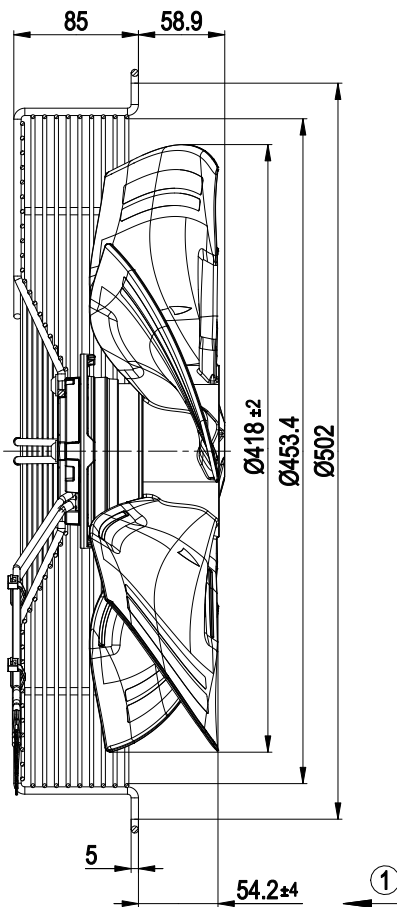
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Product drawing



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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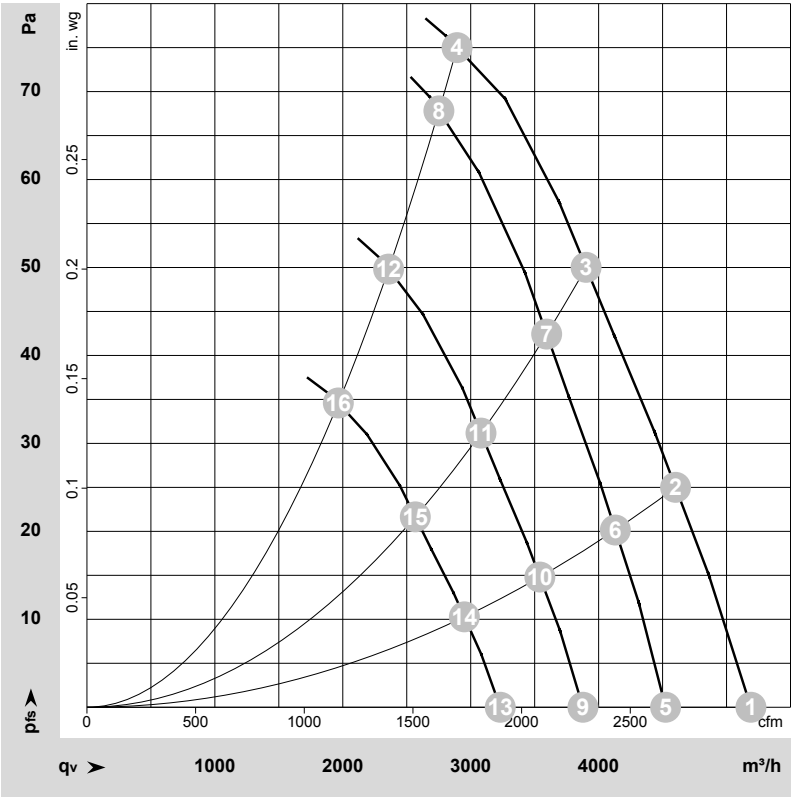
with guard grille for short nozzle

Basic (B4)									
Factory configuration option upon request									
factory configuration option									
IO1	configurable IO mode			electrical specification			INPUT		
	Dim1 (high active): digital input			active: parameterizable voltage x - 30 VDC not active: pin open or parameterizable voltage < x VDC, SELV Ri = 100 kΩ, characteristic curve parameterizable, $f_{PWM} = 1\text{ k} - 10\text{ kHz}$, SELV			switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	switch: enable/disable input
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					
Voltage output				Voltage 10 VDC, SELV					
Vout									
							OUTPUT		
							signal: tach out	signal: diagnostics out	signal: alarm out
							configurable function		signal: run monitoring
							switch: enable/disable input		signal: status
							source: set value		signal: configurable function

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Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-225934-1
Date: 2023-03-17
Housing: 18929-2-4037

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}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	1205	169	1.41	61	68	5190	0	3055	0.00
2	1~	230	50	1170	169	1.41	59	66	4600	25	2710	0.10
3	1~	230	50	1140	169	1.41	57	63	3900	50	2295	0.20
4	1~	230	50	1105	169	1.42	55	63	2895	75	1705	0.30
5	1~	230	50	1050	112	0.93	58	64	4525	0	2665	0.00
6	1~	230	50	1050	122	1.02	56	63	4130	20	2430	0.08
7	1~	230	50	1050	132	1.10	55	61	3595	42	2115	0.17
8	1~	230	50	1050	145	1.22	54	61	2750	68	1620	0.27
9	1~	230	50	900	70	0.59	54	60	3875	0	2280	0.00
10	1~	230	50	900	77	0.64	53	59	3540	15	2085	0.06
11	1~	230	50	900	83	0.69	51	57	3080	31	1815	0.12
12	1~	230	50	900	92	0.77	50	57	2360	50	1390	0.20
13	1~	230	50	750	41	0.34	49	56	3230	0	1900	0.00
14	1~	230	50	750	45	0.37	48	55	2950	10	1735	0.04
15	1~	230	50	750	48	0.40	46	53	2565	22	1510	0.09
16	1~	230	50	750	53	0.44	45	53	1965	35	1155	0.14

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
q_v = Air flow · p_{fs} = Pressure increase