8317082022
VBS0560STTLS

EC centrifugal fan - RadiCal

backward-curved, single-intake

ebm-papst Ventilator (Shanghai) Co.,Ltd.
No.418, Hua Jing Road, Pilot Free Trade Zone, Pudong District,
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Tel: +86(0)21-50460183
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Nominal data

Part number	8317082022
Type	**VBS0560STTLS**

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}	1900
Power consumption	W	3950
Current draw	A	6.0
Min. ambient temperature	°C	-40
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 Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	72.9	57.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.1	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	3.95
09 Air flow q_v	m^3/h	11970
09 Pressure increase p_{fs}	Pa	831
10 Speed (rpm) n	min^{-1}	1890
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

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.

LU-212573

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

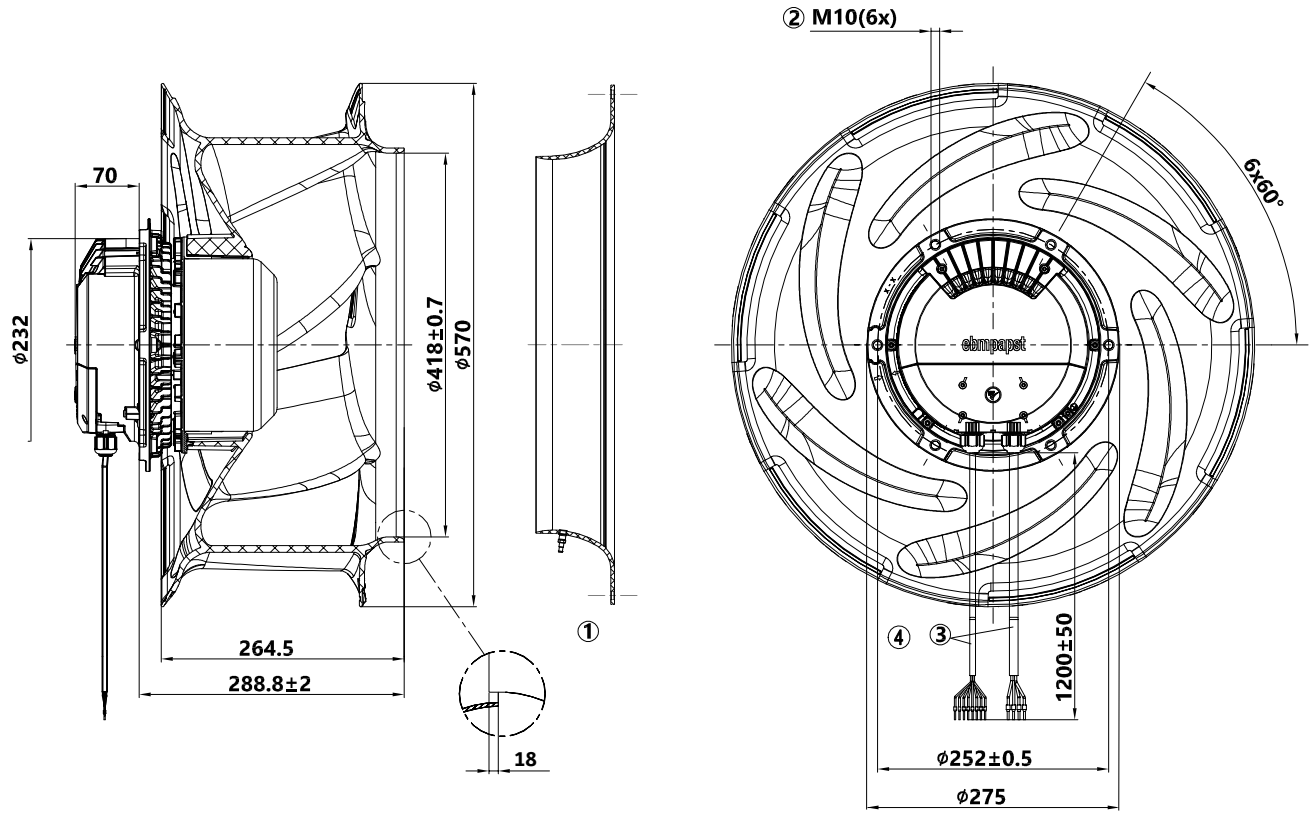
Weight	21.5 kg
Size	560 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6.3 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 10VDC+/-3%, Imax=10mA - 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), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Cable w/o connector
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE

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Product drawing



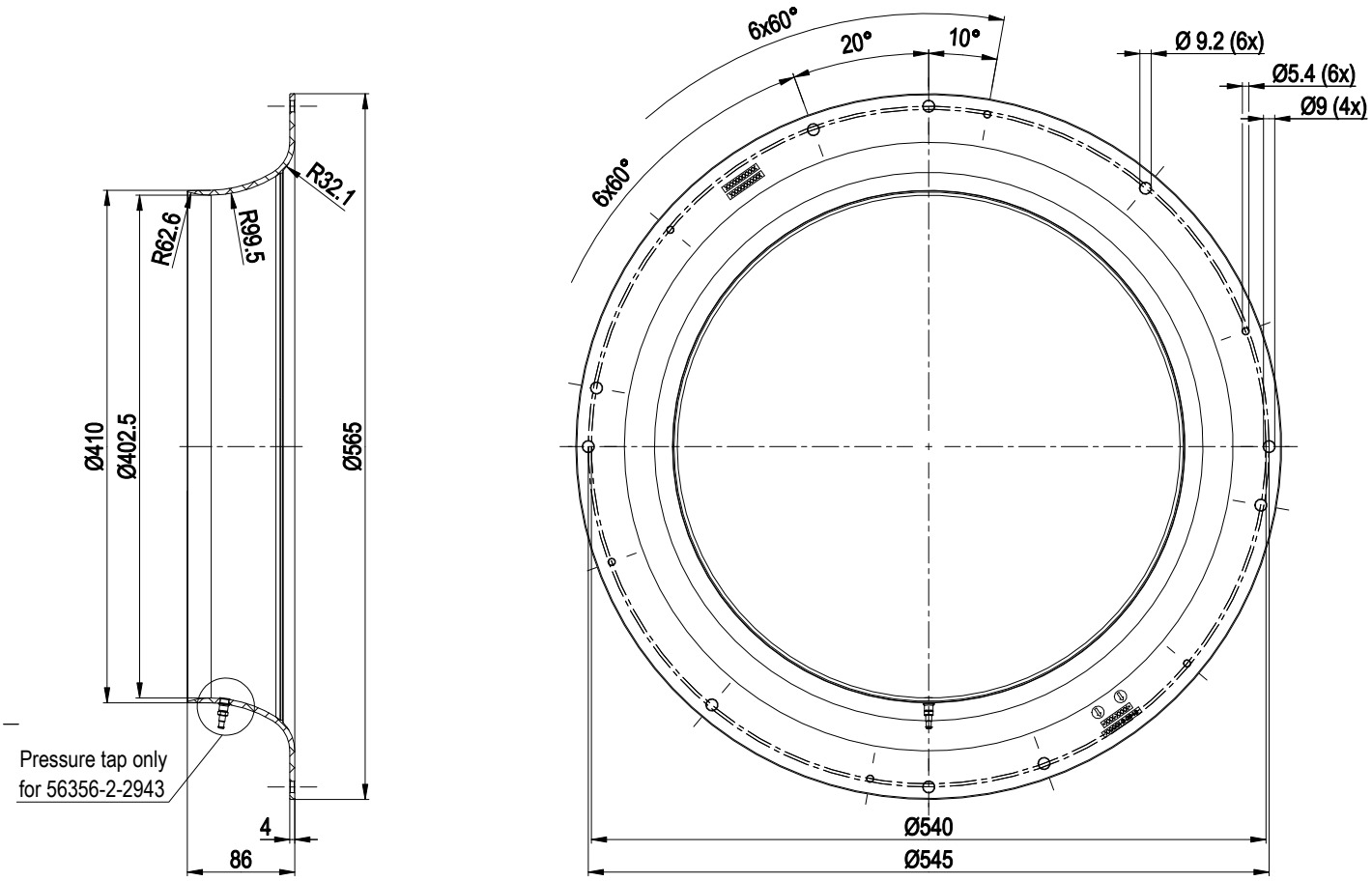
1	Accessory part: Inlet ring 56902-2-2943 / 56356-2-2943 with pressure tap (k-factor: 410) not included in scope of delivery
2	Max. clearance for screw 20 mm
3	Cable length and customer connector (both power and signal) can be adjusted according to customer request
4	Cable wire diameter: power: AWG 15(4x); signal: AWG 22(8x)

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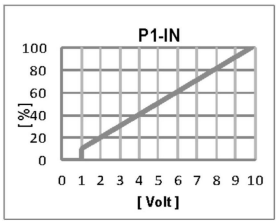
Accessory part



Inlet ring 56902-2-2943 / 56356-2-2943 with pressure tap (k-factor: 410)

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Connection diagram

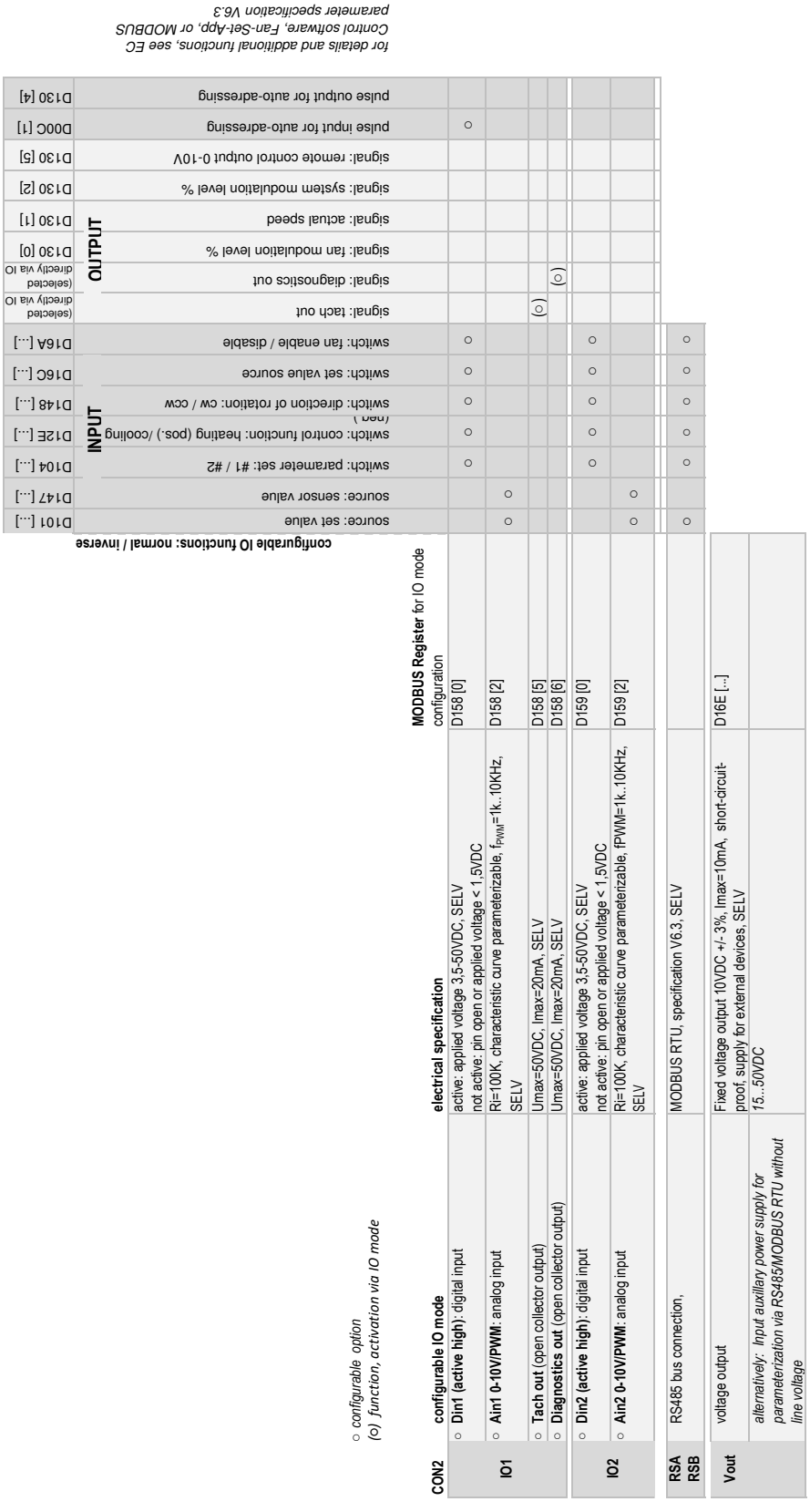


Wire color		Designation	Function/assignment
black		L1	Power supply, phase, see nameplate for voltage range
black		L2	Power supply, phase, see nameplate for voltage range
black		L3	Power supply, phase, see nameplate for voltage range
green/yellow		PE	Protective earth
grey		RSA	RS485 interface for MODBUS, RSA; SELV
brown		RSB	RS485 interface for MODBUS, RSB; SELV
blue		GND	Reference ground for control interface, SELV
white		IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function: Triggering of error reset on change of state from "enabled" to "disabled"
yellow		IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
red		Vout	Voltage output 10VDC+/-3%, Imax=10mA supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
orange (1)		COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10mA, reinforced insulation on supply side and on control interface side
orange (2)		NC	Status relay, floating status contact, break for failure
		P1-IN	Input characteristic curve

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Terminal/plug assignment



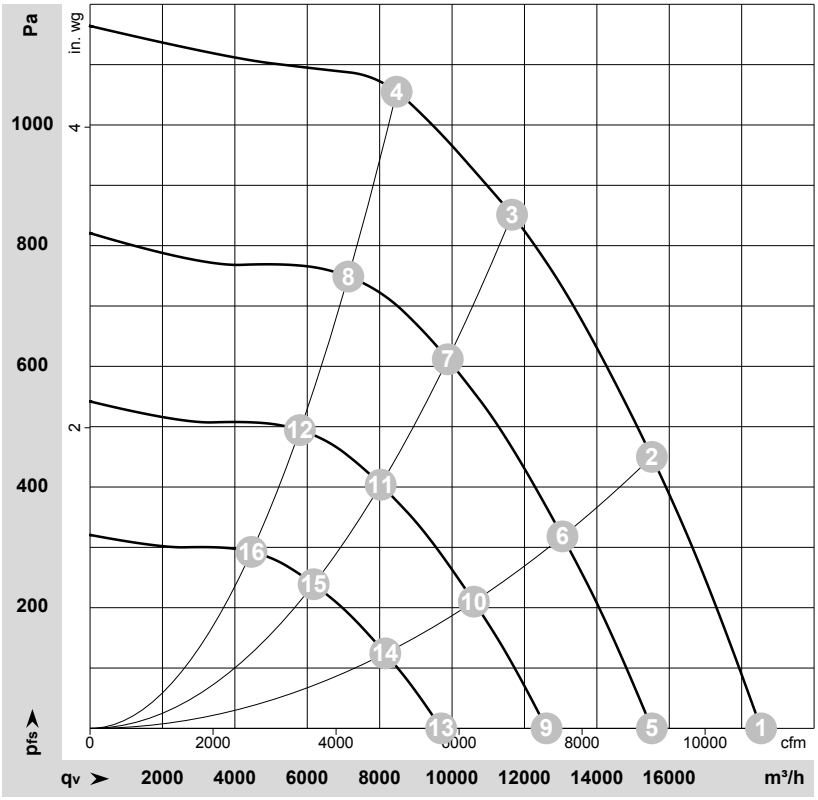
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-212573-1

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

	Wired	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	3~	400	50	1900	2299	3.57	91	97	101	18535	0	10910	0.00
2	3~	400	50	1900	3480	5.32	88	92	96	15520	450	9135	1.81
3	3~	400	50	1900	3950	6.00	72	80	86	11660	850	6860	3.41
4	3~	400	50	1900	3950	6.00	77	84	89	8470	1050	4985	4.22
5	3~	400	50	1600	1349	2.10	86	92	96	15520	0	9135	0.00
6	3~	400	50	1600	2065	3.16	84	87	92	13050	320	7680	1.28
7	3~	400	50	1600	2404	3.67	68	75	82	9880	612	5815	2.46
8	3~	400	50	1600	2359	3.60	73	80	84	7135	749	4200	3.01
9	3~	400	50	1300	724	1.12	81	87	91	12610	0	7420	0.00
10	3~	400	50	1300	1108	1.69	78	82	86	10605	212	6240	0.85
11	3~	400	50	1300	1289	1.97	63	70	76	8030	404	4725	1.62
12	3~	400	50	1300	1265	1.93	68	74	79	5795	495	3410	1.99
13	3~	400	50	1000	329	0.51	74	80	85	9700	0	5710	0.00
14	3~	400	50	1000	504	0.77	72	75	80	8155	125	4800	0.50
15	3~	400	50	1000	587	0.90	56	64	70	6175	239	3635	0.96
16	3~	400	50	1000	576	0.88	61	68	73	4460	293	2625	1.18

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = 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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