

8300100240
VWA0800CTTLS

EC axial panel fan - AxiEco

with inlet ring and guard grill

ebm-papst Mulfingen GmbH & Co. KGaA & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
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	8300100240	
Motor	E15031-55	
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	1270
Power consumption	W	2500
Current draw	A	3.9
Max. back pressure	Pa	480
Max. back pressure	in. wg	1.93
Min. ambient temperature	°C	-40
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}	%	55.3	36	09 Power consumption P_{ed}	kW	2.38
02 Measurement category		A		09 Air flow q_v	m ³ /h	11930
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	375
04 Efficiency grade N		59.3	40	10 Speed (rpm) n	min ⁻¹	1270
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-219888

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

Weight	42.69 kg
Size	800 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
Impeller material	PP plastic, ABS ring plastic
Inlet ring material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
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	- Operation and alarm display with LED - 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 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Power Factor Correction (PFC)	Passive (through low-capacitance DC link)
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	Terminal box
Motor protection	Electronic motor protection

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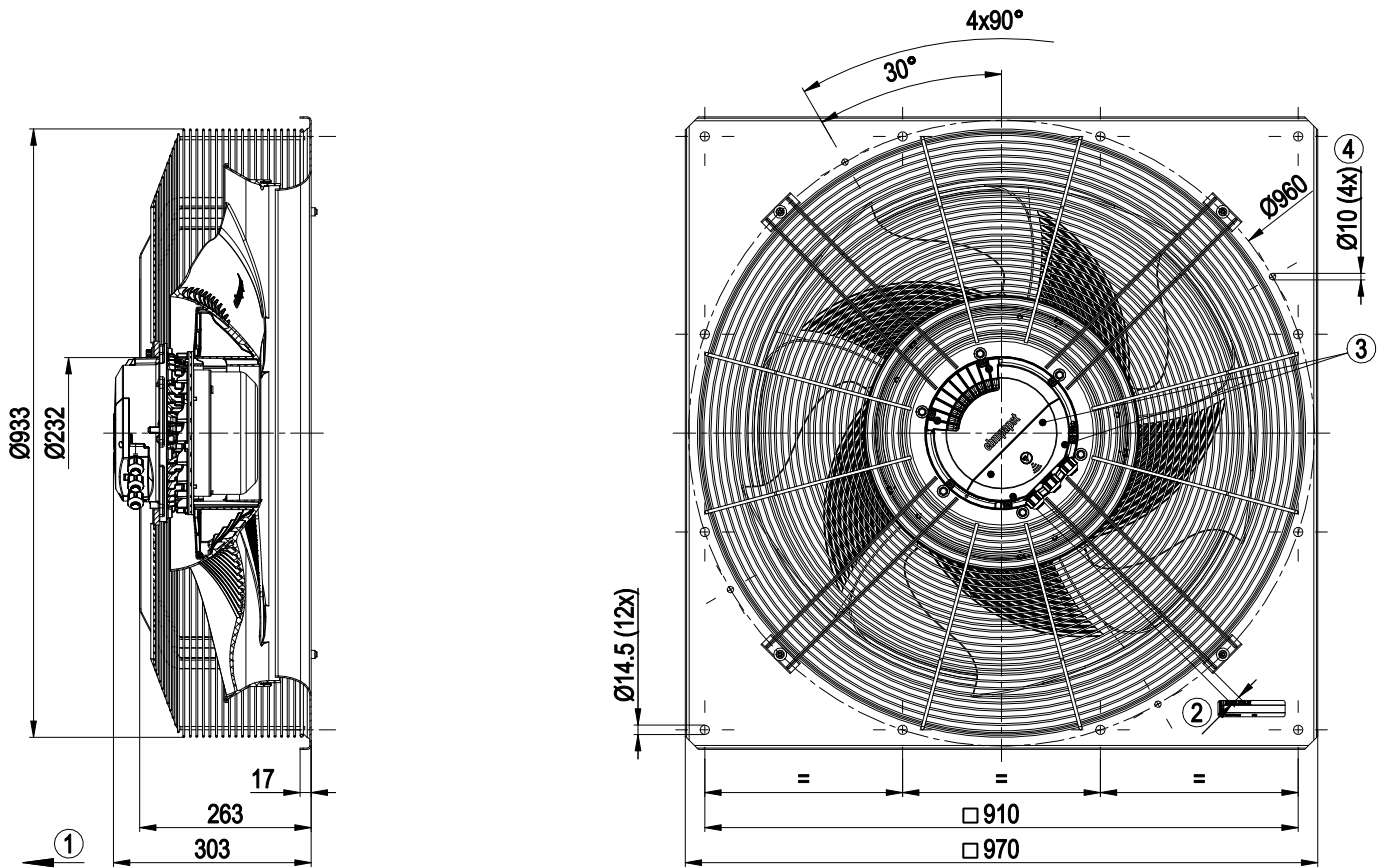
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 61800-5-1; CE; UKCA
Approval	EAC; UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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Product drawing

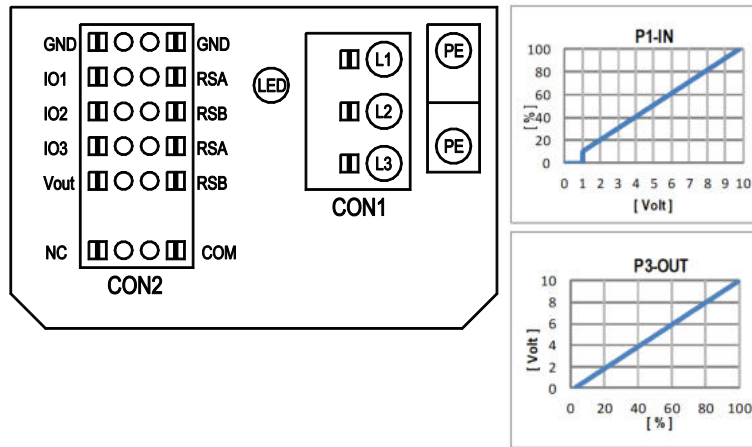


1	Airflow direction "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm (The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
3	Tightening torque 1.5 ± 0.2 Nm
4	Attachment holes for FlowGrid 80000-2-2957 (not included in scope of delivery)

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Connection diagram



No.	Conn.	Designation	Function/assignment
	CON1	L1, L2, L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	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"
	CON2	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
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Actual speed Characteristic curve parametrizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal/plug assignment

configurable option		For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.3		configurable IO functions: normal / inverse	MODBUS Register for IO mode configuration	electrical specification	configurable IO mode	CON2	INPUT																OUTPUT															
									D101 [...] source: set value	D147 [...] source: sensor value	D104 [...] switch: parameter set: #1 / #2	D12E [...] switch: control function: heating (pos.) / cooling (neg.)	D148 [...] switch: direction of rotation: cw / ccw	D16C [...] switch: set value source	D16A [...] switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: tach out	(selected directly via IO mode)	D130 [10] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																
IO1	○ Din1 (active high): digital input	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1.5VDC	D158 [0]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Ain1 0-10V/PWM: analog input	RI = 100K, characteristic curve parameterizable, f _{PWM} = 1k..10KHz, SELV	D158 [2]	○	○	switch: set value source	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Tach out (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Diagnostics out (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
IO2	○ Din2 (active high): digital input	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1.5VDC	D159 [0]	○	○	switch: control function: heating (pos.) / cooling (neg.)	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Ain2 0-10V/PWM: analog input	RI = 100K, characteristic curve parameterizable, f _{PWM} = 1k..10KHz, SELV	D159 [2]	○	○	switch: set value source	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Ain2 4-20mA: analog input	RI = 125R, characteristic curve parameterizable, SELV	D159 [3]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Din3 (active high): digital input	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1.5VDC	D15A [0]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
IO3	○ Din3 (active low): digital input	active: applied voltage < 1.5VDC, SELV not active: pin open or applied voltage 3.5-50VDC	D15A [1]	○	○	switch: set value source	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ PWMIn3: digital input, idle level high	PWM = 40Hz - 10KHz, characteristics parameterizable	D15A [7]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ PWMIn3: digital input, idle level low	active: pin open or applied voltage 3.5-50VDC not active: applied voltage < 1.5VDC, SELV	D15A [8]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Aout3 0-10V: analog output	active: applied voltage 3.5-50VDC not active: pin open or applied voltage < 1.5VDC, SELV	D15A [4]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
RSA RSB	○ Tacho out (pulses), analog output	function parameterizable, max. 5mA max output frequency 300Hz, SELV	D15A [5]	○	○	switch: set value source	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Diagnostics out (pulses)	0-10V/max. 5mA max output frequency 300Hz, SELV	D15A [6]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Diagnostics out (pulses)	0-10V/max. 5mA max output frequency 300Hz, SELV	D15A [6]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ Diagnostics out (pulses)	MODBUS RTU, specification V6.3, SELV	D15A [6]	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
Vout	○ voltage output	voltage output	D16E [...] voltage parameterizable 3.3..24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											
	○ alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15...50VDC	D16E [...] voltage parameterizable 3.3..24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	○	○	switch: fan enable / disable	(selected directly via IO mode)	D130 [0] signal: fan modulation level %	D130 [11] signal: actual speed	D130 [2] signal: system modulation level %	D130 [5] signal: remote control output 0-10V	D130 [1] pulse input for auto-addressing	D130 [4] pulse output for auto-addressing																											

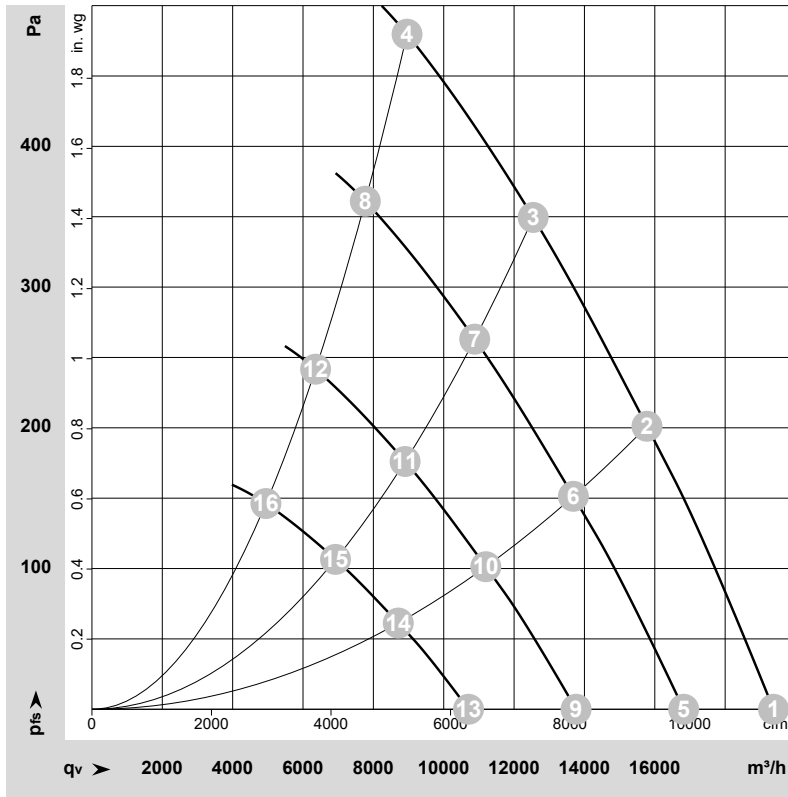
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Curves: Air performance 50 Hz



$$\rho = 1.173 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-219888-1
Date: 2022-03-21

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	m³/h	Pa	cfm	in. wg
1	3~	400	50	1270	1470	2.37	81	88	90	92	19375	0	11405	0.00
2	3~	400	50	1270	2085	3.26	76	84	84	87	15775	200	9285	0.80
3	3~	400	50	1270	2352	3.65	74	81	83	86	12545	350	7385	1.41
4	3~	400	50	1270	2500	3.90	75	83	87	88	8960	480	5270	1.93
5	3~	400	50	1100	962	1.55	78	85	86	89	16820	0	9900	0.00
6	3~	400	50	1100	1361	2.13	73	80	81	83	13685	152	8055	0.61
7	3~	400	50	1100	1535	2.39	71	78	80	82	10880	263	6405	1.06
8	3~	400	50	1100	1632	2.53	72	79	83	85	7770	361	4575	1.45
9	3~	400	50	900	527	0.85	73	80	81	84	13765	0	8100	0.00
10	3~	400	50	900	746	1.17	68	75	76	78	11195	101	6590	0.41
11	3~	400	50	900	841	1.31	65	73	75	77	8900	176	5240	0.71
12	3~	400	50	900	894	1.38	67	74	78	80	6360	242	3740	0.97
13	3~	400	50	700	248	0.40	66	73	75	77	10705	0	6300	0.00
14	3~	400	50	700	351	0.55	61	69	69	72	8710	61	5125	0.24
15	3~	400	50	700	396	0.61	59	66	68	71	6925	107	4075	0.43
16	3~	400	50	700	421	0.65	60	68	72	73	4945	146	2910	0.59

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