

8300101748
VBS0630STTPZ

EC centrifugal fan - RadiCal

backward-curved, single-intake

8300101748 ebmpapst Datasheet
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Nominal data

Item	8300101748	
Motor	E15037-85	
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	1440
Power consumption	W	3850
Current draw	A	5.6
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 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	70.1	57.7	09 Power consumption P_{ed}	kW	3.85
02 Measurement category		A		09 Air flow q_v	m ³ /h	12775
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	731
04 Efficiency grade N		74.4	62	10 Speed (rpm) n	min ⁻¹	1440
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-222152

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	630 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; (sealed)
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 V6.4 - Motor current limitation - PFC, active - 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 - Vibration sensor
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box with cable
Motor protection	Electronic motor protection
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; UKCA; CE

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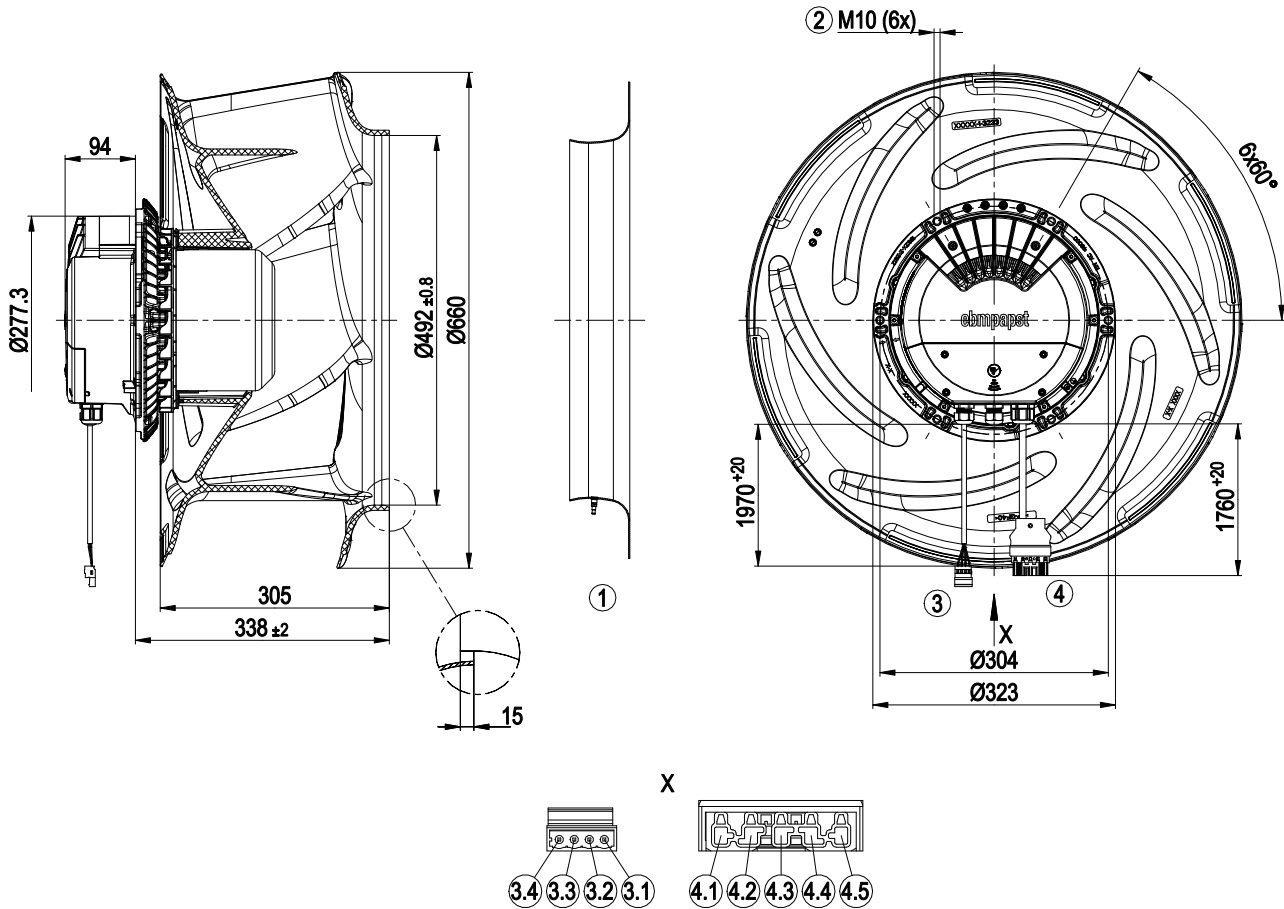
Approval

UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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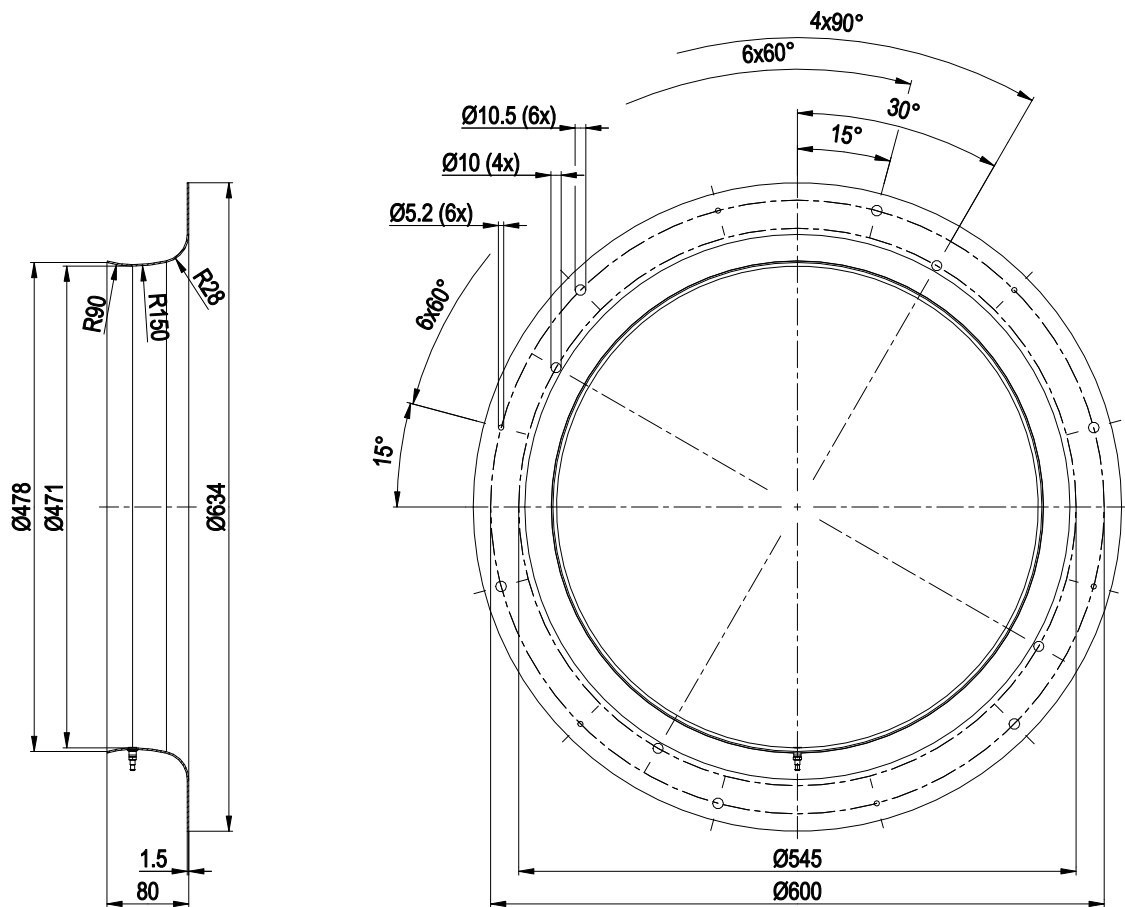
backward-curved, single-intake

Product drawing



1	Accessory part: Inlet ring 63355-2-4013 with pressure tap (k-factor 545) not included in scope of delivery
2	Max. clearance for screw 20 mm
3	Cable Ölflex Classic 110 4x 0.75 mm ² 4-pole header WAGO 231-604
3.1	GND
3.2	IO2
3.3	COM / IO1 with bridge
3.4	NC
4	Cable Ölflex Classic 110 4G 2.5 mm ² 5-pole plug with strain relief WAGO 0770-001/K011-0174/0000-0300
4.1	not used
4.2	PE
4.3	L1
4.4	L2
4.5	L3

Accessory part

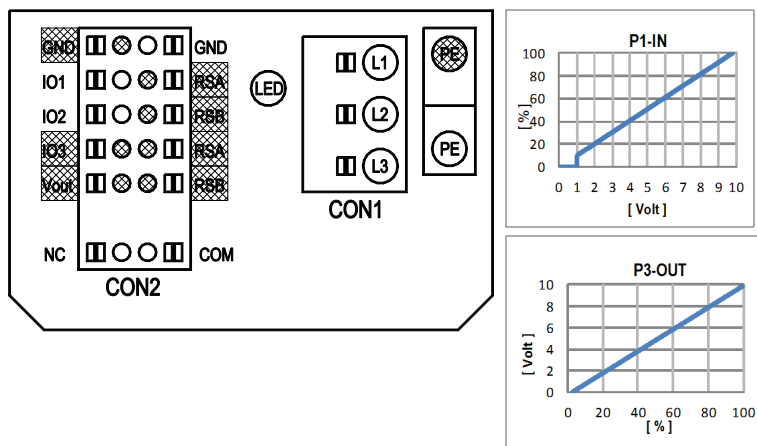


Inlet ring 63355-2-4013 with pressure tap (k-factor 545)

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Connection diagram



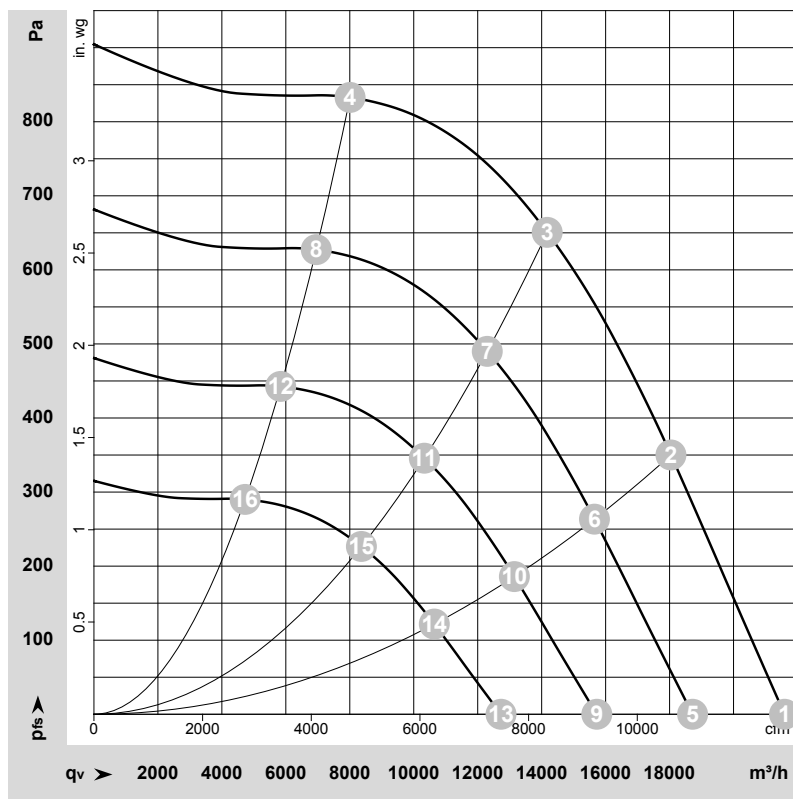
shaded gray => not brought out via leads

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: Enable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC / < 0.7 VAC - active: applied voltage 3.5-50 VDC / 7-30 VAC 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: Fan modulation level Characteristic curve parameterizable (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 or n < 200 rpm
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

Terminal/plug assignment

CON2	configurable IO mode	electrical specification	configurable IO functions: normal / inverse	MODBUS Register for IO mode configuration	D158 [0]	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	○	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]						
					D158 [2]	RI = 100K, characteristic curve parameterizable, $f_{PWM} = 1k..10kHz$, SELV	○	switch: set value source	(selected directly via IO mode)	switch: control function: heating (pos.) cooling (neg.)	switch: direction of rotation: cw / ccw	D16C [...]	D16A [...]	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]		
					D158 [5]	Umax = 50VDC, Imax = 20mA SELV	○	switch: parameter set: #1 / #2	(selected directly via IO mode)	switch: control function: heating (pos.) cooling (neg.)	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
					D158 [6]	Umax = 50VDC, Imax = 20mA SELV	○	source: sensor value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
					D159 [0]	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
					D159 [2]	RI = 100K, characteristic curve parameterizable, $f_{PWM} = 1k..10kHz$, SELV	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
					D159 [3]	RI = 125R, characteristic curve parameterizable, SELV	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
					D15A [0]	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
					D15A [1]	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3.5-50VDC	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
					D15A [7]	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3.5-50VDC not active: applied voltage < 1,5VDC, SELV	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]
IO3	D15A [8]	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3.5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]				
Vout	voltage output alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	voltage parameterizable 3.3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV 15...50VDC	D16E [...]	○	source: set value	(selected directly via IO mode)	switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	switch: fan enable / disable	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	D130 [1]	D130 [2]	D130 [5]	D130 [1]	D00C [1]	D130 [4]			

Curves: Air performance 50 Hz



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

Measurement: LU-222152-1
Date: 2026-08-10
Nozzle: 63350-2-4013

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	1440	2327	3.36	79	87	91	92	21595	0	12710	0.00
2	3~	400	50	1440	3335	4.81	76	83	88	89	18040	350	10620	1.41
3	3~	400	50	1440	3850	5.60	71	78	84	85	14175	650	8340	2.61
4	3~	400	50	1440	3427	4.94	78	86	89	91	8010	830	4715	3.33
5	3~	400	50	1250	1516	2.19	75	83	87	89	18720	0	11020	0.00
6	3~	400	50	1250	2177	3.14	72	79	84	85	15650	263	9210	1.06
7	3~	400	50	1250	2520	3.63	67	75	80	81	12300	490	7240	1.97
8	3~	400	50	1250	2242	3.23	74	82	86	87	6950	630	4090	2.53
9	3~	400	50	1050	899	1.30	71	79	83	84	15725	0	9255	0.00
10	3~	400	50	1050	1290	1.86	68	75	80	81	13145	186	7740	0.75
11	3~	400	50	1050	1494	2.15	63	71	76	77	10330	346	6080	1.39
12	3~	400	50	1050	1329	1.92	70	78	81	83	5840	445	3435	1.79
13	3~	400	50	850	477	0.69	66	73	78	79	12730	0	7490	0.00
14	3~	400	50	850	684	0.99	62	70	74	76	10645	122	6265	0.49
15	3~	400	50	850	792	1.14	57	65	71	72	8365	227	4920	0.91
16	3~	400	50	850	705	1.02	65	72	76	77	4725	291	2780	1.17

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