

KARTA KATALOGOWA

R3G450-AQ24-01

Wentylator promieniowy EC RadiPac, łopatki zakrzywione do tyłu, jednostronnie ssący

Producent: ebm-papst



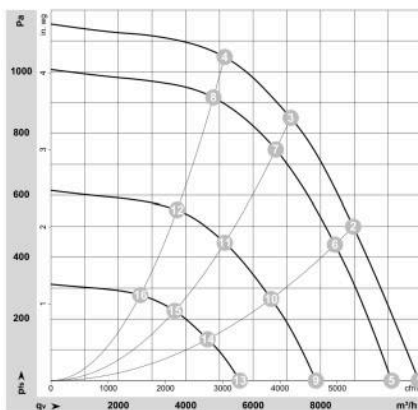
Dane znamionowe	
Napięcie znamionowe	3~ 400 V (380...480 V)
Częstotliwość	50/60 Hz
Prędkość obrotowa	2040 obr/min
Pobór mocy	2730 W
Pobór prądu	4,2 A
Maks. wydajność	10900 m³/h
Maks. ciśnienie statyczne	1150 Pa
Temperatura otoczenia	-25...+60 °C
Regulacja obrotów	0-10 V / PWM, MODBUS RTU

Budowa	
Wielkość	450 mm
Silnik	M3G150-FF
Materiał wirnika	blacha aluminiowa
Obudowa elektroniki	odlew aluminiowy
Liczba łopatek	7
Kierunek obrotów	w prawo, patrząc na wirnik
Stopień ochrony	IP55
Klasa izolacji	F
Zabezpieczenie silnika	ochrona przed odwrotną polaryzacją i zablokowaniem wirnika
Łożyskowanie	kulkowe
Podłączenie	skrzynka zaciskowa
Masa	22,5 kg

Dane ErP (UE 327/2011)	
Sprawność całkowita	66,6 %
Przepływ w pkt. optymalnym	7585 m³/h
Przyrost ciśnienia	804 Pa
Regulacja prędkości (ErP)	tak

Charakterystyka przepływowa (50 Hz)

Curves: Air performance 50 Hz



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

Measurement: LU-138105-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, correct data input, intake sound level, sound power level according to ISO 13847 / 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.

Dane na okładce wg karty katalogowej producenta ebm-papst (oryginał na kolejnych stronach).
Wartości przy maksymalnym obciążeniu; producent zastrzega możliwość zmian.

Dobór, wycena i dostawa – zapytaj LUFTBERG

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EC centrifugal fan - RadiPac

backward-curved, single-intake



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Nominal data

Type	R3G450-AQ24-01	
Motor	M3G150-FF	
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	2040
Power consumption	W	2730
Current draw	A	4.2
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 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	66.6	56	09 Power consumption P_{ed}	kW	2.7
02 Measurement category		A		09 Air flow q_v	m ³ /h	7585
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	804
04 Efficiency grade N		72.6	62	10 Speed (rpm) n	min ⁻¹	2050
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-118089

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	22.5 kg
Size	450 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
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	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	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - 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)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE; UKCA
Approval	EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

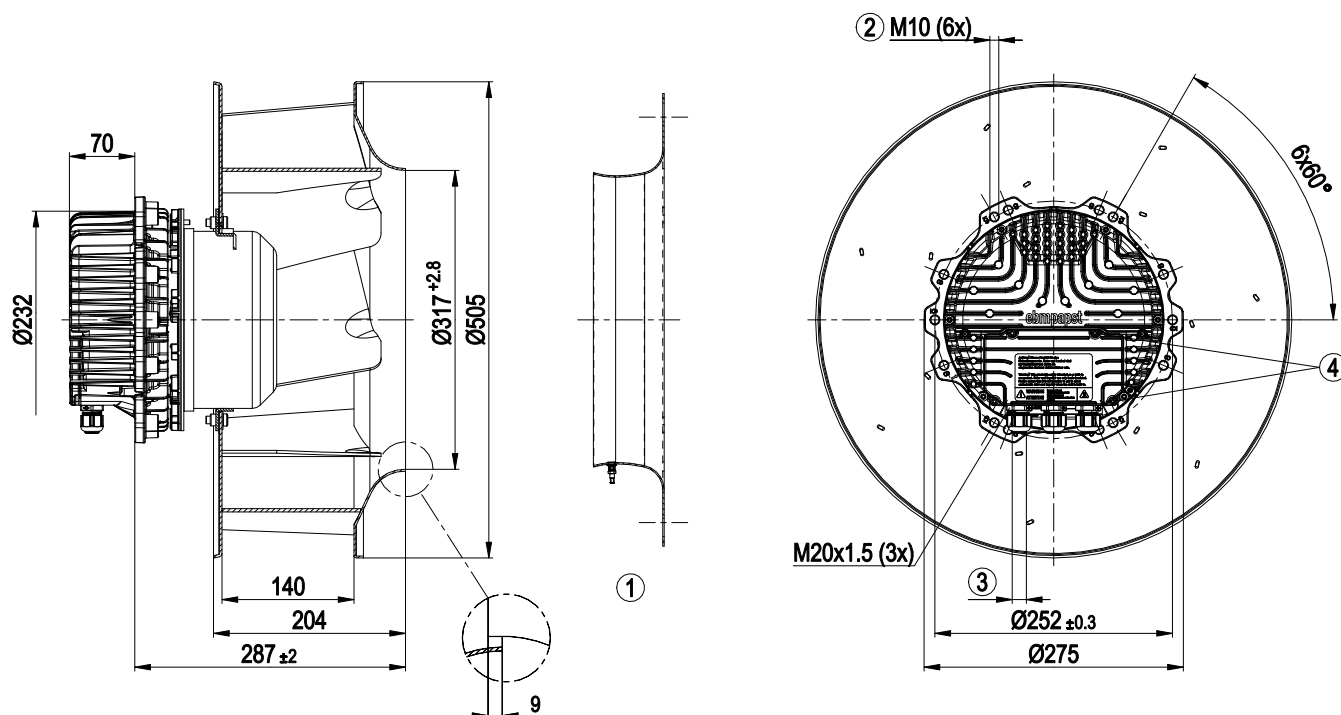


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Product drawing



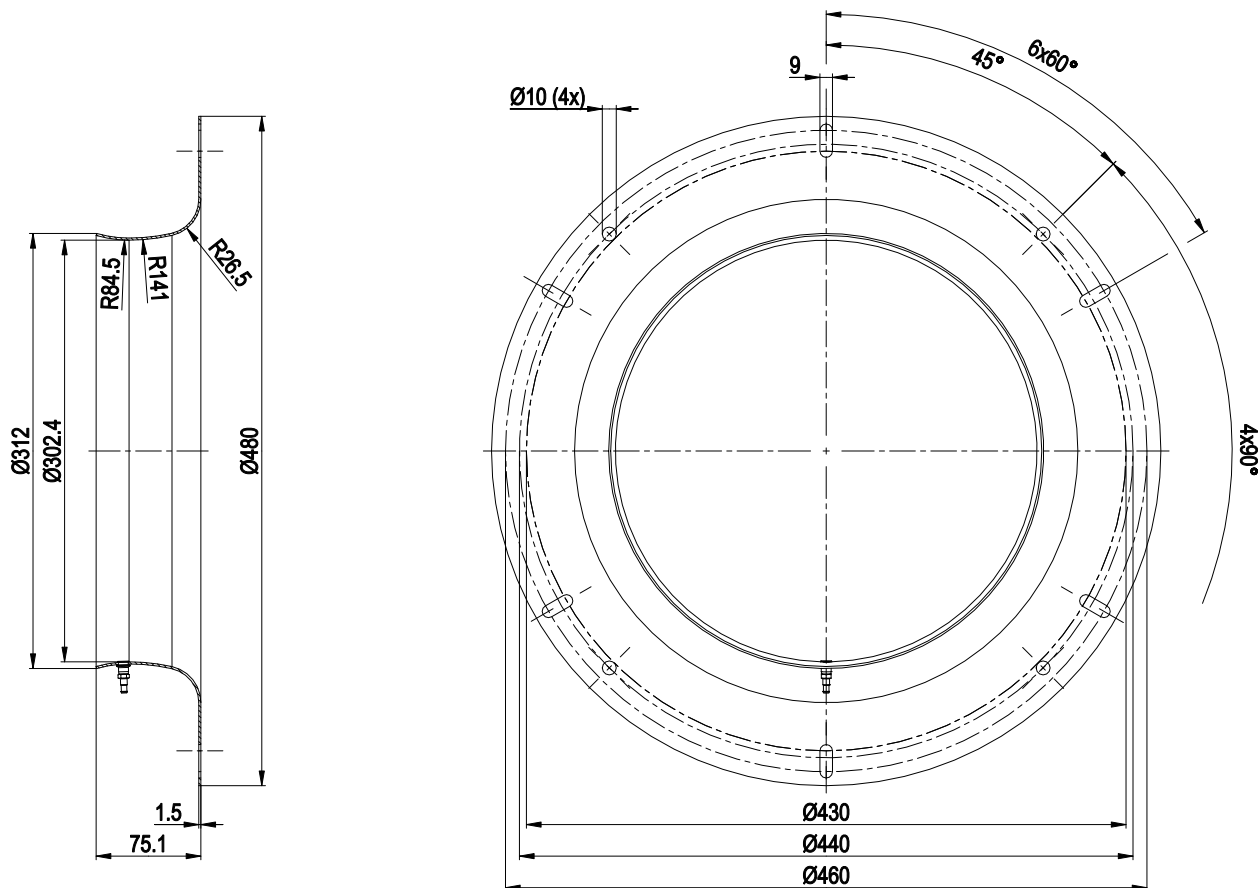
1	Accessory part: Inlet ring 45075-2-4013 with pressure tap (k-factor: 240) not included in scope of delivery
2	Max. clearance for screw 25 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
4	Tightening torque 3.5 ± 0.5 Nm

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Accessory part



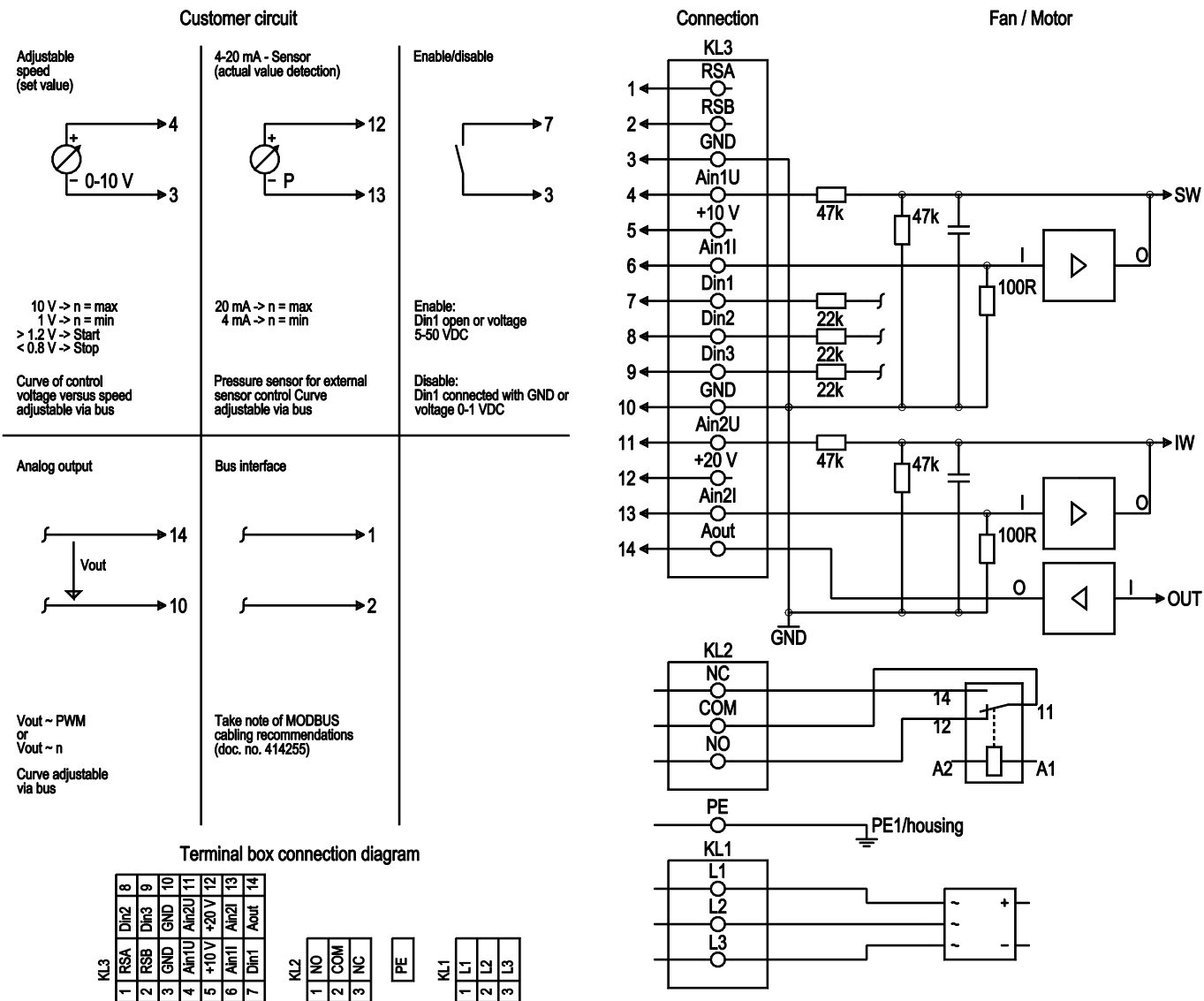
Inlet ring 45075-2-4013 with pressure tap (k-factor: 240)

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Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply; for nominal voltage range see technical data
KL 1	2	L2	Supply connection, power supply; for nominal voltage range see technical data
KL 1	3	L3	Supply connection, power supply; for nominal voltage range see technical data
PE		PE	Ground connection, PE connection
KL 2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL 3	1	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 3	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 3	3 / 10	GND	Reference ground for control interface; SELV
KL 3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1I; SELV

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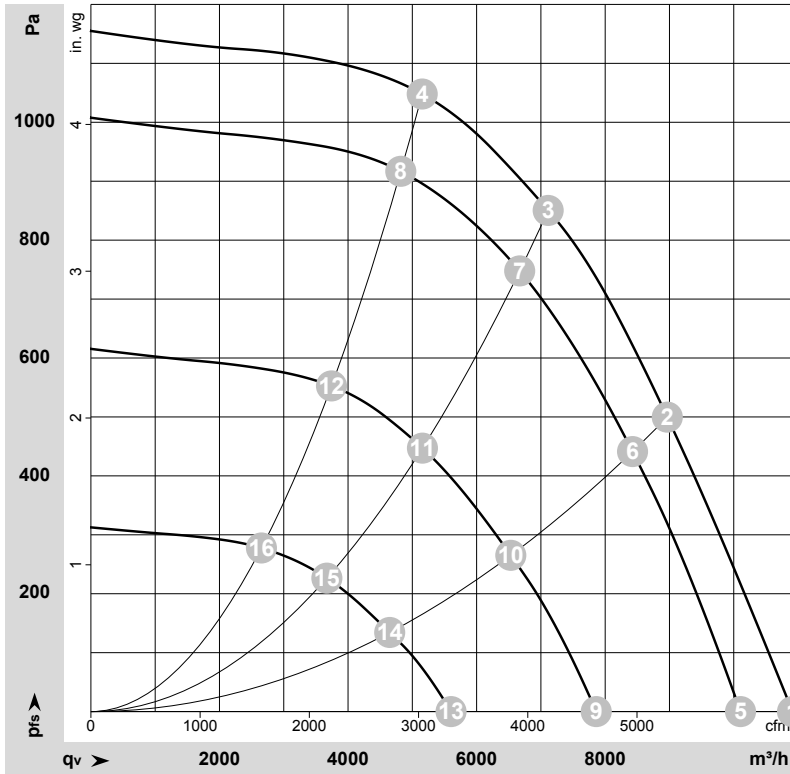
No.	Conn.	Designation	Function/assignment
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V $\pm 3\%$, max. 10 mA, short-circuit-proof power supply for external devices (e.g. pot); SELV
KL 3	6	Ain1 I	Analog input 1, set value: 4-20 mA, $R_i = 100 \Omega$, adjustable curve, only usable as alternative to input Ain1U; SELV
KL 3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL 3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	9	Din3	Digital input 3: according to EEPROM setting, the integrated controller's direction of action can be selected via bus or digital input Din3; normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	11	Ain2 U	Analog input 2, measured value: 0-10 V, $R_i = 100 \text{ k}\Omega$, adjustable curve, only usable as alternative to input Ain2I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V $\pm 25/-10\%$, max. 50 mA, short-circuit-proof power supply for external devices (e.g. sensors); SELV or: +24 VDC input for parameter setting without line voltage
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, $R_i = 100 \Omega$, adjustable curve, only usable as alternative to input Ain2U; SELV
KL 3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV

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Measurement: LU-138105-1

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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)	m³/h	Pa	cfm	in. wg
1	3~	400	50	2040	1874	3.11	84	92	97	10915	0	6425	0.00
2	3~	400	50	2040	2442	3.97	78	85	91	8965	500	5275	2.01
3	3~	400	50	2040	2730	4.20	75	82	89	7115	850	4185	3.41
4	3~	400	50	2040	2632	4.18	77	84	89	5155	1050	3035	4.22
5	3~	400	50	1920	1535	2.61	82	90	96	10105	0	5950	0.00
6	3~	400	50	1920	2022	3.33	76	83	89	8425	443	4960	1.78
7	3~	400	50	1920	2237	3.65	73	80	87	6670	748	3925	3.00
8	3~	400	50	1920	2148	3.52	75	82	88	4820	917	2840	3.68
9	3~	400	50	1490	761	1.48	75	83	88	7860	0	4625	0.00
10	3~	400	50	1490	978	1.78	69	76	82	6530	266	3845	1.07
11	3~	400	50	1490	1071	1.92	67	74	80	5155	447	3035	1.79
12	3~	400	50	1495	1029	1.85	69	75	81	3745	553	2205	2.22
13	3~	400	50	1065	316	0.72	67	74	79	5600	0	3295	0.00
14	3~	400	50	1065	391	0.85	60	68	73	4650	134	2735	0.54
15	3~	400	50	1065	427	0.91	59	66	72	3670	227	2160	0.91
16	3~	400	50	1065	413	0.88	59	67	73	2655	278	1560	1.12

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