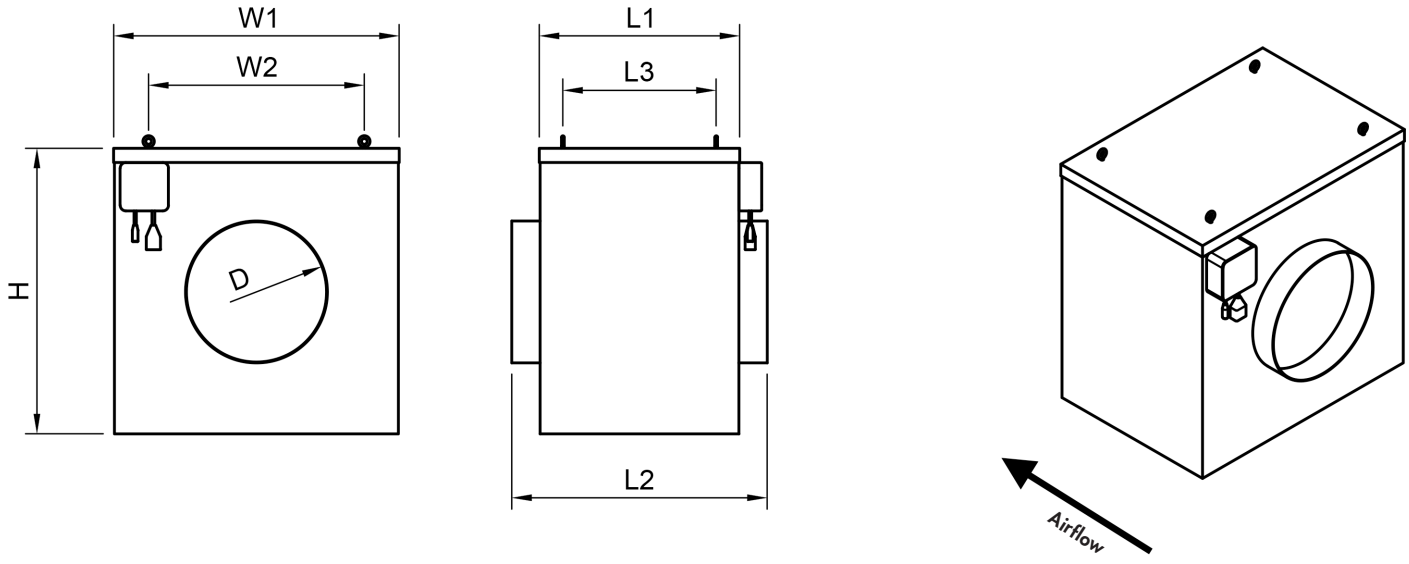
DATASHEET
EC Silent Box, ZIEHL ABEGG

English

CarbonActive
Swiss Climate Technology



SPECIFICATIONS

EC ZA Box Max. m3/h	3500m3/h	5500m3/h	7300m3/h	11400m3/h
Product code	ART-SB07_ZA	ART-SB09_ZA	ART-SB10_ZA	ART-SB11_ZA
Fan manufacturer	Ziehl-Abegg	Ziehl-Abegg	Ziehl-Abegg	Ziehl-Abegg
Fan model	GR25I-6ID.BD.CR	GR31I-ZID.DC.CR	GR31I-ZID.DC.CR	GR40I-ZID.GG.CR
VAC	1~200-277	1~200-277	3~380-480	3~380-480
W/A	780 / 2.9	1320 / 6.6	3000 / 4.8	3700 / 5.8
Max. Pa	1200	1200	2125	1600
Connection in mm (D)	315	400	400	500
Dimensions in mm L1 L2 W1 H	385 485 565 565	603 735 603 603	603 735 603 603	655 785 803 805
Hanging points L3 M6 in mm W2	280 460	500 500	500 500	N.A
Material Housing Impeller	Steel ZAmid	Steel ZAmid	Steel ZAmid	Steel ZAmid
Weight in kg	27.6	44	47	50.6
Noise Isolation (Silent Box only)	Basotect® G+	Basotect® G+	Basotect® G+	Basotect® G+
Weight in kg (Silent Box)	28.1	44.5	47.5	51.3
ErP directive overall efficiency:				
Actual	85.70%	81.20%	79.20%	77.30%
Request 2015	62.00%	62.00%	62.00%	62.00%

ENERGY EFFICIENCY

Our motors with modern EC-technology reach excellent efficiencies and save up to 50% energy compared to conventional motor technology.

The slightly higher investment costs compared to conventional motors usually pay for themselves within a very short operating time thanks to lower energy consumption and lower installation costs.

CE

EC TECH

www.carbonactive.ch

DATASHEET
EC Power Box, ebm-papst

English

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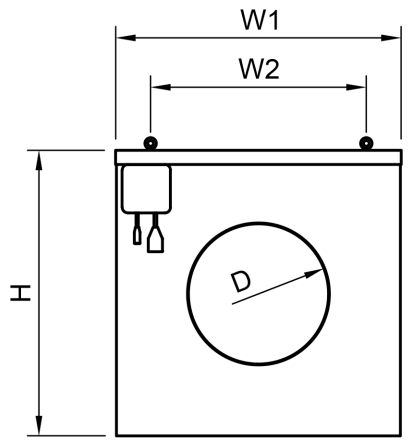

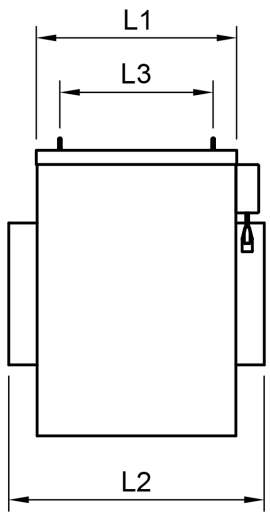

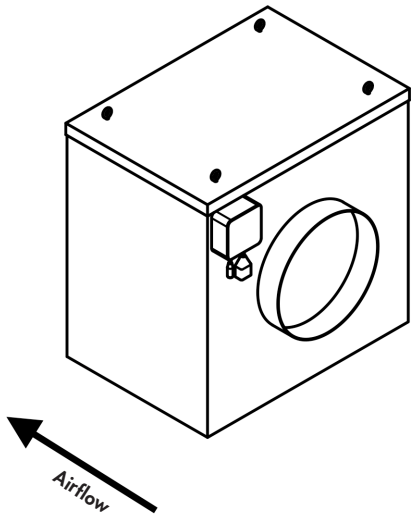

SPECIFICATIONS

EC EBM Box Max. m3/h	280m3/h	500m3/h	750m3/h	1000m3/h	1250m3/h	3500m3/h	5000m3/h	7000m3/h	11000m3/h	11800m3/h (PB only)
Product code	ART-PB01	ART-PB13	ART-PB02	ART-PB03	ART-PB05	ART-PB07	ART-PB09	ART-PB10	ART-PB11	ART-PB12
Fan manufacturer	EBM-Papst	EBM-Papst	EBM-Papst	EBM-Papst	EBM-Papst	EBM-Papst	EBM-Papst	EBM-Papst	EBM-Papst	EBM-Papst
Fan model	K3G133-RA01-03	K3G160-RB31-03	K3G190-RC05-03	K3G190-RD45-03	K3G220-RD53-03	K3G280-RR03-H2	K3G310-PT08-J2	K3G310-PV69-83	K3G400-PA27-71	K3G500-PB33-01
VAC	1~200-240	1~200-277	1~200-277	1~200-277	1~200-277	1~200-277	3~380-480	3~380-480	3~380-480	3~380-480
W/A	27 / 0.27	85 / 0.75	83 / 0.75	169 / 1.35	168 / 1.4	500 / 2.2	1230 / 1.9	3050 / 4.7	3350 / 5.2	5700 / 9
Max. Pa	450	820	620	1200	980	950	1200	2125	1600	1800
Connection in mm (D)	125	160	200	200	250	315	400	400	500	selection
Dimensions in mm L1 L2 W1 H	203 280 273 275	238 350 328 328	273 353 383 383	273 353 383 383	350 450 505 502	385 485 565 565	603 735 603 603	603 735 603 603	655 785 803 805	1000 1098 880 880
Hanging points L3 M6 in mm W2	100 170	135 225	170 280	170 280	270 380	280 460	500 500	500 500	N.A	N.A
Material Housing Impeller	Steel Polyamid	Steel Polyamid	Steel Polyamid	Steel Polyamid	Steel Polyamid	Steel Polyamid	Steel Aluminium	Steel Aluminium	Steel Aluminium	Steel Aluminium
Weight in kg	4	6.2	7	7.3	11.2	25.7	40	42.5	69	123
Noise Isolation (Silent Box only)	Basotect® G+	Basotect® G+	Basotect® G+	Basotect® G+	Basotect® G+	Basotect® G+	Basotect® G+	Basotect® G+	Basotect® G+	
Weight in kg (Silent Box)	4.1	6.3	7.15	7.35	11.4	25.4	40.5	43	69.7	
ErP directive overall efficiency:										
Actual	ERP-Ready	ERP-Ready	ERP-Ready	74.90%	75.50%	80.90%	76.40%	65.40%	74.40%	71.70%
Request 2015				62.00%	62.00%	62.00%	62.00%	62.00%	62.00%	62.00%

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CE

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K3G280-RR03-H2

EC-Radialmodul - RadiCal®

rückwärts gekrümmt, einseitig saugend

mit Tragspinne

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Kommanditgesellschaft · Sitz Mulfingen
Amtsgericht Stuttgart · HRA 590344

Komplementär Elektrobau Mulfingen GmbH · Sitz Mulfingen
Amtsgericht Stuttgart · HRB 590142

ErP2015 ÜBERTRIFFT DIE NORM

Nenndaten

Typ	**K3G280-RR03-H2**
Motor	**M3G084-DF**

Phase		1~
Nennspannung	VAC	230
Nennspannungsbereich	VAC	200 .. 277
Frequenz	Hz	50/60
Art der Datenfestlegung		mb
Drehzahl	min^{-1}	2700
Leistungsaufnahme	W	500
Stromaufnahme	A	2,2
Min. Umgebungstemperatur	°C	-25
Max. Umgebungstemperatur	°C	60

mb = Max. Belastung · mw = Max. Wirkungsgrad · fb = Freiblasend · kv = Kundenvorgabe · kg = Kundengerät
Änderungen vorbehalten

Daten gemäß ErP-Richtlinie

Installationskategorie	A
Effizienzkategorie	Statisch
Drehzahlregelung	Ja
Spezifisches Verhältnis*	1,01

* Spezifisches Verhältnis = 1 + p_{fs} / 100 000 Pa

		Ist	Vorgabe 2013	Vorgabe 2015
Gesamtwirkungsgrad η_{es}	%	67,3	44,4	48,4
Effizienzklasse N		80,9	58	62
Leistungsaufnahme P_{ed}	kW	0,51		
Volumenstrom q_v	m^3/h	2105		
Druckerhöhung p_{fs}	Pa	535		
Drehzahl n	min^{-1}	2695		

Datenfestlegung im optimalen Wirkungsgrad. LU-149673
Die Ermittlung der ErP-Daten erfolgt mit einer Motor-Laufrad-Kombination in einem standardisierten Messaufbau.

K3G310-PT08-J2

EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

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

Nominal data

Type	**K3G310-PT08-J2**
Motor	**M3G084-GF**

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}	3010
Power consumption	W	1230
Current draw	A	1.9
Min. ambient temperature	°C	-25
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	66.7	52.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		76.4	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.18
09 Air flow q_v	m^3/h	3635
09 Pressure increase p_{fs}	Pa	729
10 Speed (rpm) n	min^{-1}	3010
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-176006

EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

Technical description

Weight	15.5 kg
Fan size	310 mm
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Support plate material	Sheet steel, galvanized
Support bracket material	Steel, painted black
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
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 between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our 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	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - 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), 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	Via terminal box
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)

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EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1; EAC
Comment	Conformity with EN 60335-1 in preparation

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EC centrifugal module - RadiPac

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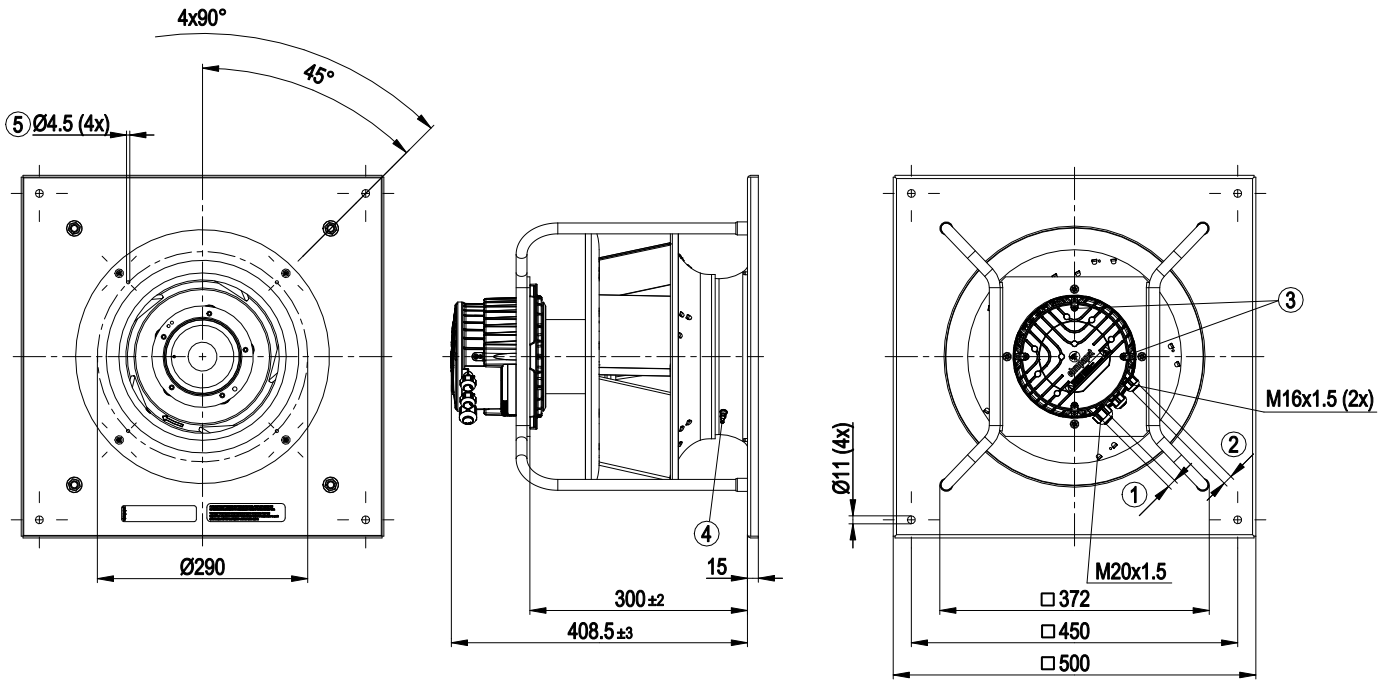
Product drawing



1	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5 ± 0.4 Nm
2	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5 ± 0.4 Nm (included seal must be used)
3	Tightening torque 1.5 ± 0.2 Nm
4	Inlet ring with pressure tap (k-factor: 116)
5	Mounting holes for FlowGrid

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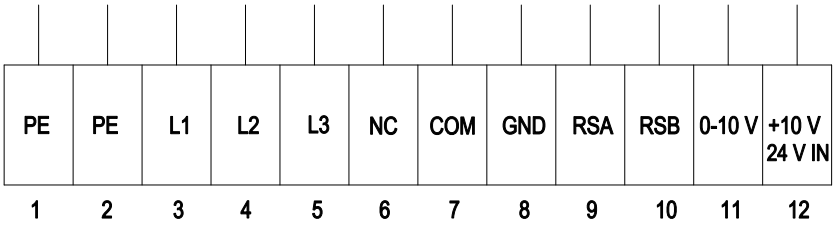
Connection diagram



No.	Conn.	Designation	Function/assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	L1	Power supply
	4	L2	Power supply
	5	L3	Power supply
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
	7	COM	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
	8	GND	Reference ground for control interface, SELV
	9	RSA	RS485 interface for MODBUS, RSA; SELV
	10	RSB	RS485 interface for MODBUS, RSB; SELV
	11	0-10 V	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
	12	+10 V	Fixed voltage output 10 VDC, SELV, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

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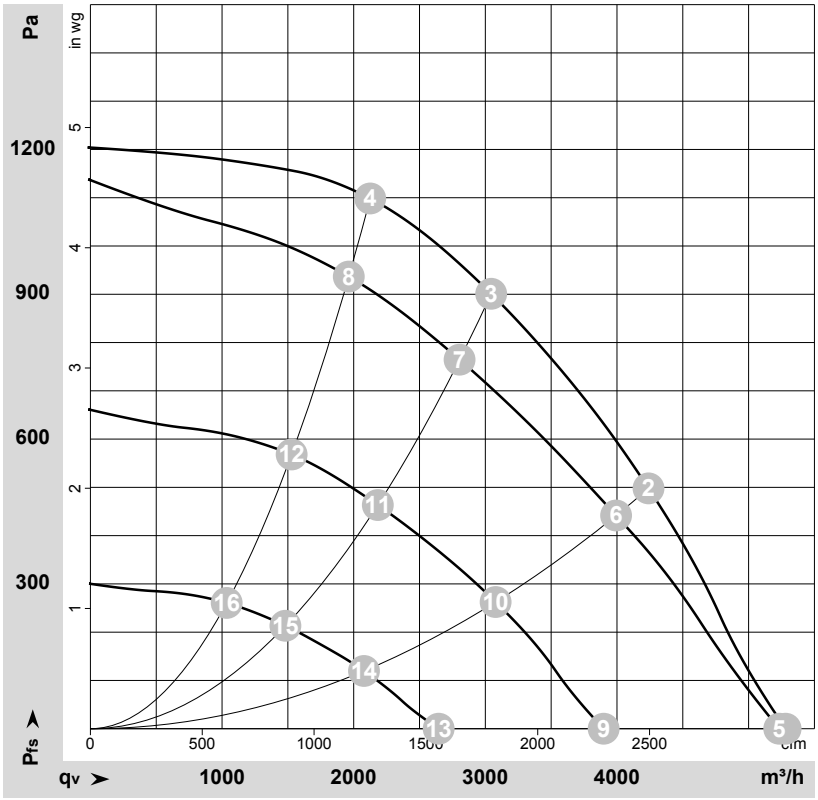
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176006-1

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

	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	inH2O
1	400	50	3010	673	1.06	84	92	94	5280	0	3110	0.00
2	400	50	3010	1050	1.61	75	84	87	4240	500	2495	2.01
3	400	50	3010	1230	1.90	69	78	82	3045	900	1790	3.61
4	400	50	3010	1189	1.82	77	85	87	2125	1100	1250	4.42
5	400	50	2995	642	1.01	84	92	94	5230	0	3080	0.00
6	400	50	2835	880	1.36	74	82	85	3995	442	2350	1.77
7	400	50	2775	972	1.50	68	76	79	2805	767	1650	3.08
8	400	50	2795	941	1.45	74	81	85	1965	937	1155	3.76
9	400	50	2250	296	0.54	77	85	86	3900	0	2295	0.00
10	400	50	2190	423	0.71	67	76	78	3080	263	1810	1.06
11	400	50	2165	472	0.78	62	70	74	2185	465	1285	1.87
12	400	50	2175	456	0.75	69	75	77	1530	568	900	2.28
13	400	50	1530	114	0.30	67	76	77	2645	0	1555	0.00
14	400	50	1485	153	0.35	58	66	70	2080	120	1225	0.48
15	400	50	1475	167	0.37	53	61	66	1480	214	870	0.86
16	400	50	1475	164	0.37	57	65	68	1035	261	610	1.05

U = Power supply · 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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