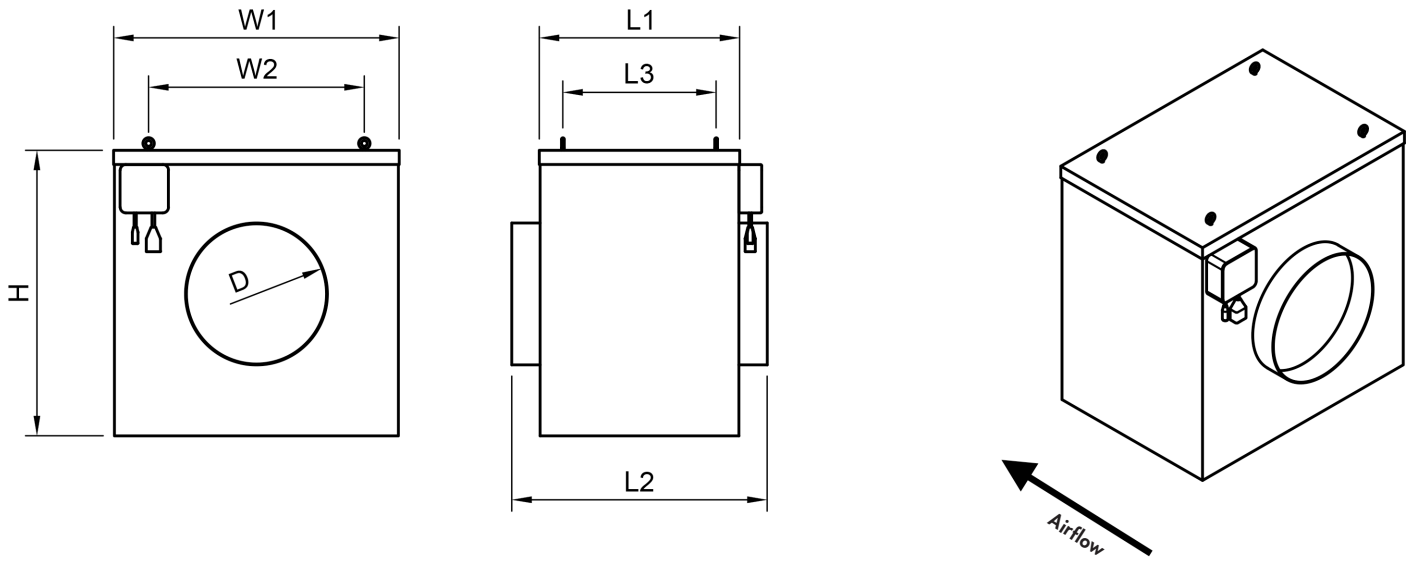
DATASHEET
EC Silent Box, ZIEHL ABEGG

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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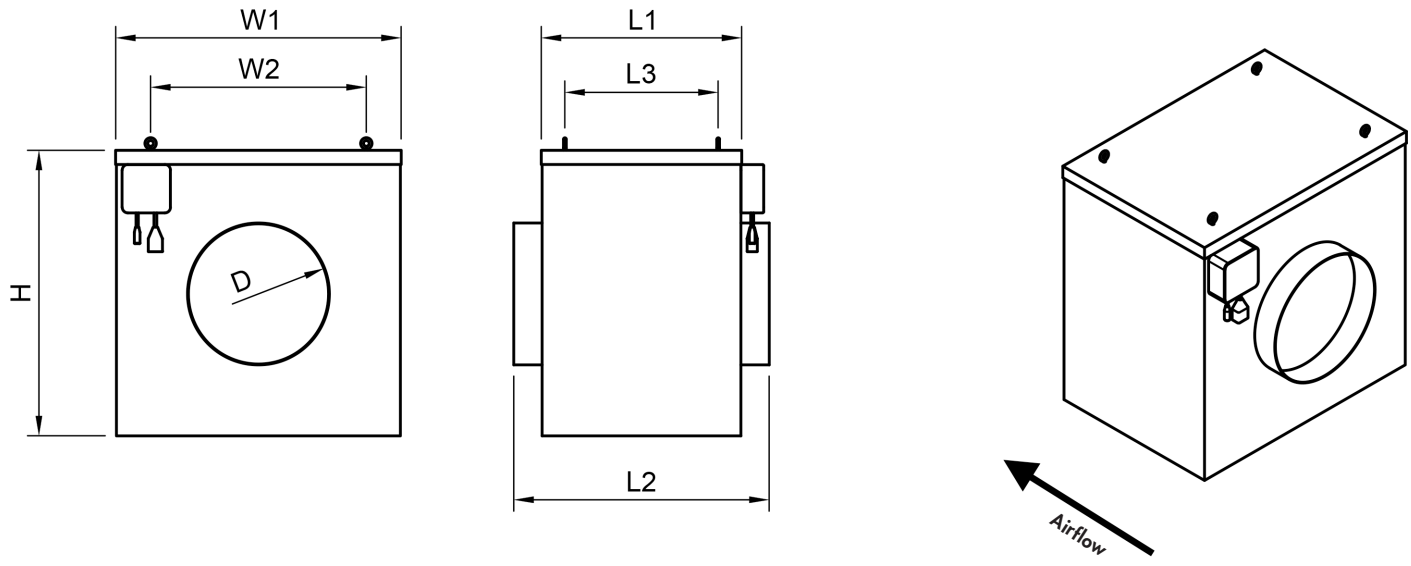

SPECIFICATIONS

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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K3G500-PB33-01

EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

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Amtsgericht (court of registration) Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**K3G500-PB33-01**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	min^{-1}	2250
Power consumption	W	5700
Current draw	A	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}	%	69.2	59.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		71.7	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	5.72
09 Air flow q_v	m^3/h	10945
09 Pressure increase p_{fs}	Pa	1245
10 Speed n	min^{-1}	2265
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-173840

EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

Technical description

Weight	48 kg
Fan size	500 mm
Rotor surface	Painted black
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	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	See product drawing
Condensation drainage holes	On rotor side
Mode	S1
Motor storage	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Operation and alarm display - 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 - 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	Reverse polarity and locked-rotor protection
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	EAC; UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1

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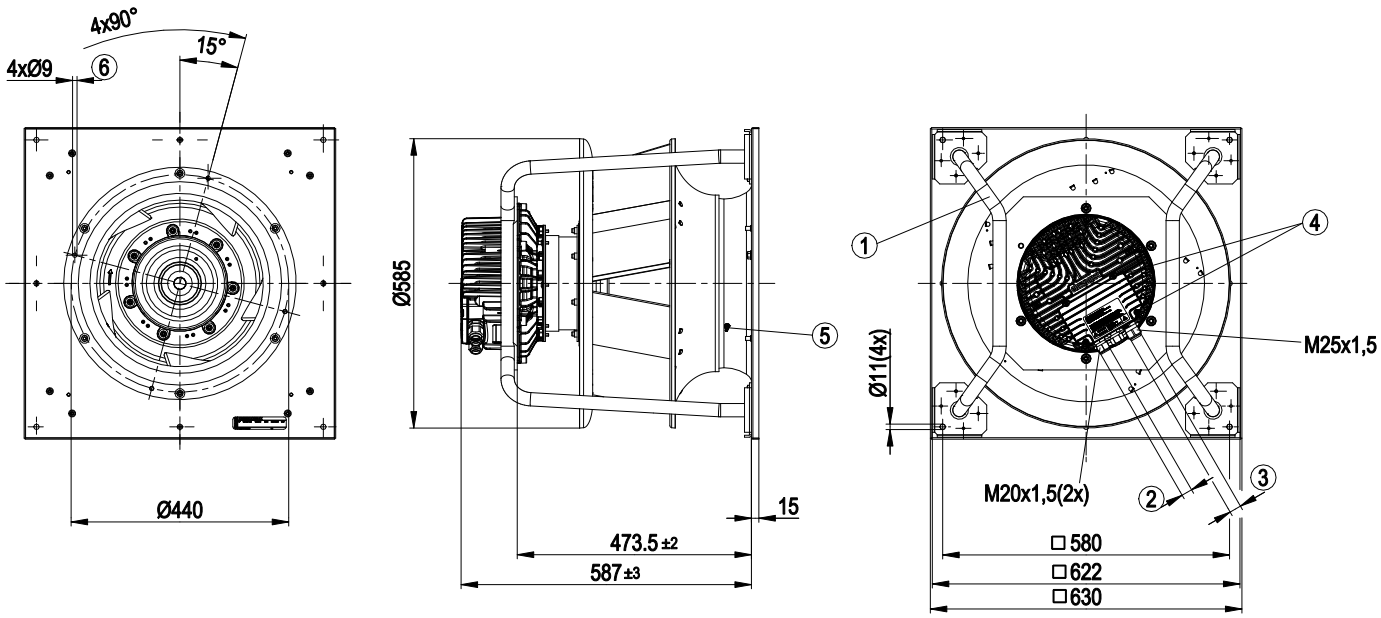
EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

Product drawing



1	Installed position: shaft horizontal (install support struts only vertically as illustrated) or rotor on bottom; rotor on top on request
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
3	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6 ± 0.9 Nm
4	Tightening torque 3.5 ± 0.5 Nm
5	Inlet ring with pressure tap (k-factor 281)
6	Mounting holes for FlowGrid

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EC centrifugal module - RadiPac

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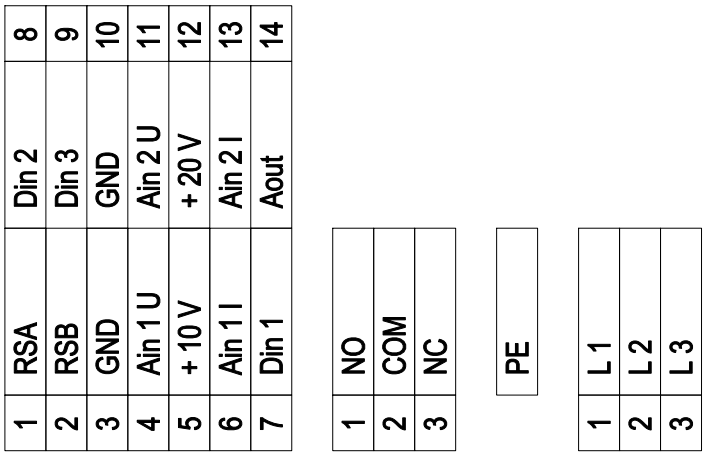
Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	2	L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	3	L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
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 Ain1 I; SELV
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±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, Ri = 100 Ω, 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 as normal/inverse via bus or digital input 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, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof power supply for external devices (e.g. sensors); SELV

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No.	Conn.	Designation	Function/assignment
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, 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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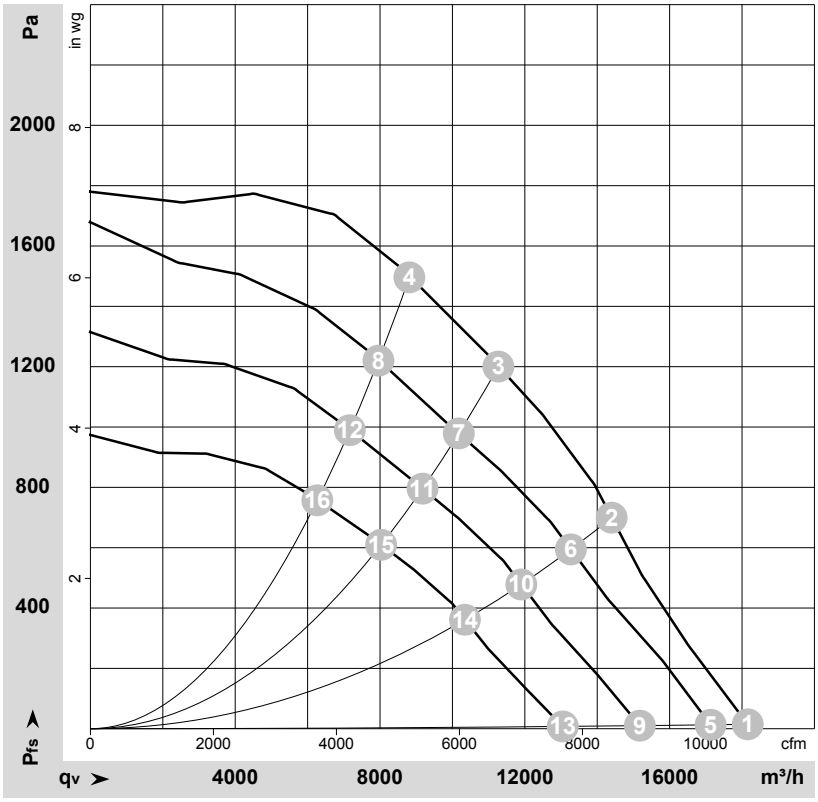
Curves: Air performance 50 Hz



ρ = 1,15 kg/m³ ± 2%

Measurement: LU-173840

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}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	400	50	2250	3240	5.05	98	105	104	18160	0
2	400	50	2250	4860	7.47	88	95	97	14400	700
3	400	50	2250	5700	9.00	81	88	94	11270	1200
4	400	50	2250	5700	8.74	80	87	94	8810	1500
5	400	50	2150	2734	4.30	97	103	103	17130	0
6	400	50	2090	3820	5.91	87	94	96	13270	595
7	400	50	2045	4188	6.46	79	86	92	10175	979
8	400	50	2050	4178	6.44	78	84	91	7955	1223
9	400	50	1910	1954	3.18	93	101	101	15180	0
10	400	50	1875	2762	4.34	84	92	94	11905	479
11	400	50	1845	3059	4.78	77	84	91	9175	796
12	400	50	1845	3052	4.77	75	82	90	7165	991
13	400	50	1650	1305	2.29	92	98	99	13050	0
14	400	50	1630	1837	3.02	81	88	91	10345	362
15	400	50	1615	2063	3.33	73	80	88	8030	610
16	400	50	1615	2061	3.33	72	79	87	6265	759

U = Power supply · f = Frequency · n = Speed · 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 · qv = Air flow · p_{fs} = Pressure increase

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