

# Box

## Centrifugal fans for rectangular ducts

### Use

- Supply and exhaust ventilation systems installed in various premises.
- Compatible with 400x200 up to 1000x500 mm rectangular air ducts.



**Air flow:**  
up to 15000 m<sup>3</sup>/h  
4167 l/s



**Power:**  
from 136 W



**Noise level:**  
from 50 dBA



### Design

- Atmospheric resistant galvanized steel casing.
- The fan is rated for continuous operation.
- Fitted with standard 20 mm connecting flanges for connection to rectangular air ducts.
- Access cover on the casing for inspection and maintenance operations.
- The fan is equipped with a built-in terminal box with a leaded outside sealed electrical lead-in for connection to power mains.

### Motor

- Two-, four- or six-pole asynchronous motor with external rotor and centrifugal impeller with backward curved blades.
- Single-phase (**E**) or three-phase (**D**) motor modifications.
- Equipped with ball bearings for longer service life.
- Dynamically balanced impeller.
- Overheating protection by built-in thermal switches with automatic restart or with leaded outside terminals for connection to external protecting controls.
- The thermal switch terminal leads are designed for connection to respective circuit of the contactor, overload relay or respective terminals of the autotransformer or thyristor speed controller.

### Speed control

- Step speed control with an external auto transformer (available upon separate order).

### Mounting

- The fan is designed for mounting inside rectangular air ducts and can be installed in any position.
- The fan flanges are connected to the air ducts through the bolts inserted into the flange holes.
- The fan is suitable for mounting into round duct at intake flange with a round reducer (available upon separate order).
- If vibration-absorbing flexible connectors are used to connect the fan to the air ducts provide their fixation to mounting structures with supports or brackets.
- While mounting provide enough space for accessing the cover for service operations.

INLINE FANS FOR RECTANGULAR DUCTS

### Designation key

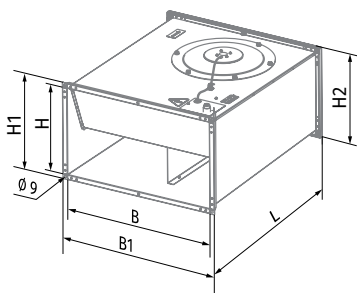
Series	Flange size (width x height) [cm]	Motor Number of poles	Phase
Box	40x20; 50x25; 50x30; 60x30; 60x35; 70x40; 80x50; 100x50	2; 4; 6	E: single-phase D: three-phase

### Accessories

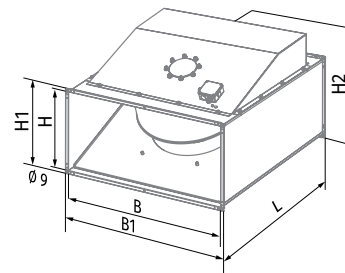
Silencers	Filter boxes	Electric heaters	Water heaters	Air dampers	Gravity dampers	Flexible antivibration connectors	Speed controllers
SD	KFBK	KFBT	EKH	WKH	SL	VG	EVA
							CDR5E E...TP
							CDR5E D... M

**Dimensions [mm]**

Type	B	B1	H	H1	H2	L	Weight [kg]
Box 40x20 2E	400	440	200	240	240	500	11.25
Box 50x25 2E	500	540	250	290	290	640	17.88
Box 50x30 4E	500	540	300	340	340	680	19.80
Box 50x30 4D	500	540	300	340	340	680	19.80
Box 60x30 4E	600	640	300	340	342	680	27.77
Box 60x30 4D	600	640	300	340	342	680	27.77
Box 60x35 4E	600	640	350	390	390	735	36.38
Box 60x35 4D	600	640	350	390	390	735	36.38
Box 60x35 4E max	600	640	350	390	390	652	30.0
Box 70x40 4D	700	740	400	440	440	753	41.0
Box 80x50 4D	800	840	500	540	540	903	54.0
Box 100x50 4D	1000	1040	500	540	720	1150	126.0
Box 100x50 6D	1000	1040	500	540	720	1150	120.0



Box 40x20...Box 60x35



Box 100x50

**Technical data**

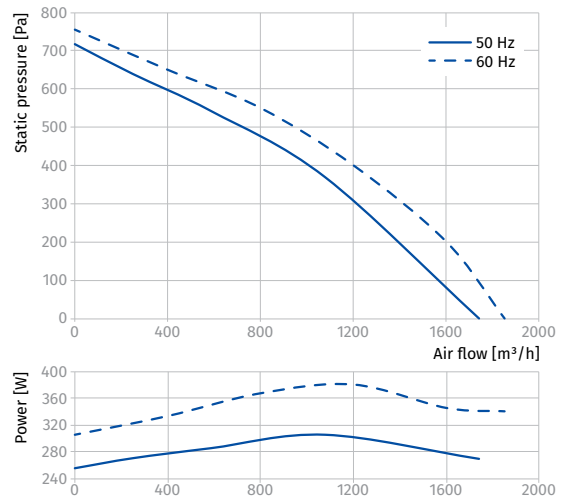
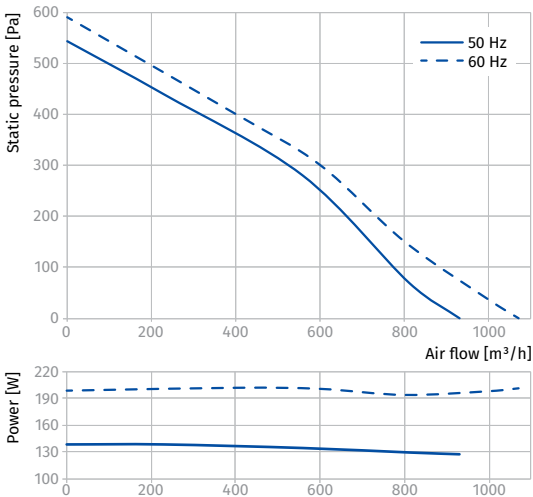
Parameters	Box 40x20 2E		Box 50x25 2E		Box 50x30 4E		Box 50x30 4D	
Voltage [V]	1 ~ 230		1 ~ 230		1 ~ 230		3 ~ 400	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	138	200	305	380	140	175	136	165
Current [A]	0.6	0.88	1.32	1.65	0.57	0.73	0.34	0.53
Maximum air flow [m³/h (l/s)]	930 (258)	1070 (297)	1720 (478)	1850 (514)	1700 (472)	1855 (515)	1380 (383)	1620 (450)
RPM [min <sup>-1</sup> ]	2600	2850	2550	2830	1390	1530	1360	1600
Sound pressure at 3 m [dBA]	50	52	57	58	53	55	52	55
Transported air temperature [°C]	-25...+45		-25...+45		-25...+45		-25...+55	
IP rating	IPX4		IPX4		IPX4		IPX4	
Motor IP rating	IP44		IP44		IP44		IP44	
ErP	2018		2018		2018		2018	

**BOX 40x20 2E**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	78	67	74	74	69	63	63	61	53	58	68
LWA to outlet [dBA]	82	69	74	76	75	72	72	71	63	61	71
LWA to environment [dBA]	71	46	58	66	65	66	56	51	41	50	60

**BOX 50x25 2E**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	83	69	77	79	67	70	74	71	66	62	72
LWA to outlet [dBA]	85	69	74	77	76	80	77	77	71	65	75
LWA to environment [dBA]	77	43	60	73	73	70	64	58	48	57	67

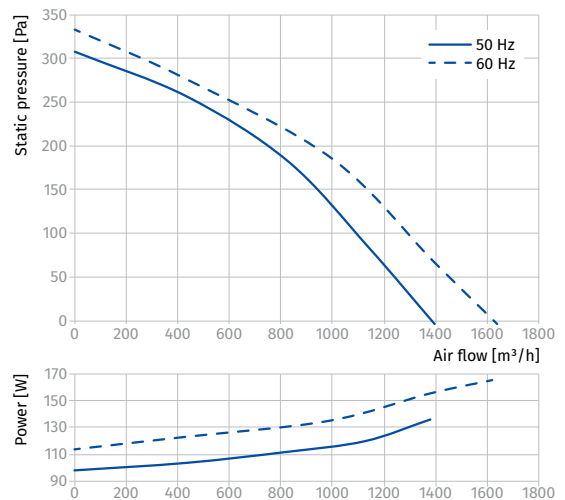
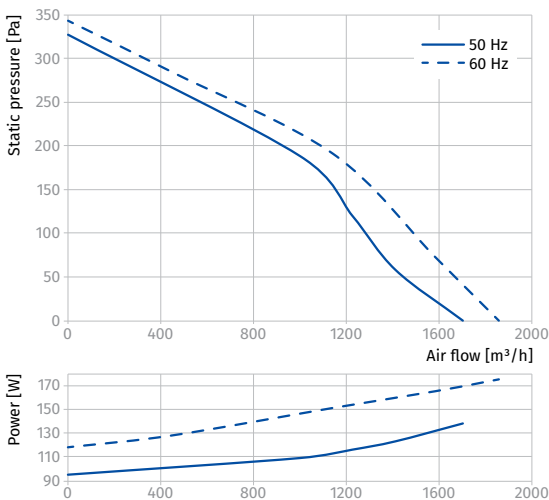


**BOX 50x30 4E**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	81	62	70	73	64	77	75	70	64	60	70
LWA to outlet [dBA]	85	59	70	75	75	80	79	77	72	65	75
LWA to environment [dBA]	74	50	63	70	66	66	65	61	55	53	63

**BOX 50x30 4D**

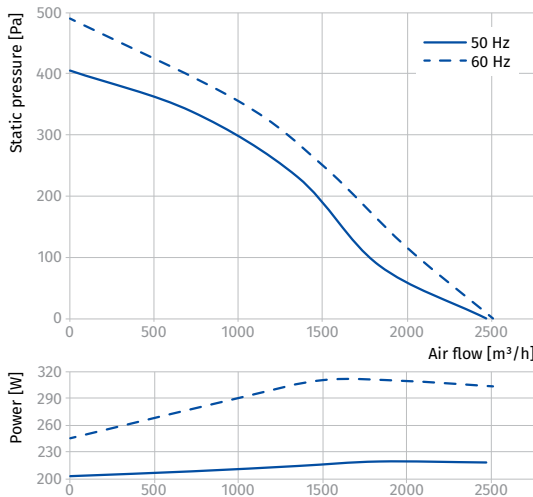
Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	80	61	69	72	63	75	74	69	63	59	69
LWA to outlet [dBA]	83	58	69	74	74	78	77	75	71	63	73
LWA to environment [dBA]	73	50	62	69	65	65	64	60	54	52	62



Parameters	Box 60x30 4E		Box 60x30 4D		Box 60x35 4E		Box 60x35 4E max	
Voltage [V]	1 ~ 230		3 ~ 400		1 ~ 230		1 ~ 220-240	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	220	310	230	235	470	700	447	679
Current [A]	0.9	1.38	0.52	0.53	2.37	3.15	1.97	2.99
Maximum air flow [m³/h (l/s)]	2470 (686)	2510 (697)	2530 (703)	2630 (731)	2950 (820)	3515 (976)	4070 (1131)	4500 (1250)
RPM [min⁻¹]	1400	1450	1360	1600	1370	1460	1380	1600
Sound pressure at 3 m [dBA]	52	52	51	53	52	53	54	56
Transported air temperature [°C]	-25...+45	-25...+40	-25...+70	-25...+65	-40...+80	-40...+55	-30...+60	-30...+60
IP rating	IPX4		IPX4		IPX4		IPX4	
Motor IP rating	IP44		IP44		IP44		IP44	
ErP	2018		2018		2018		2018	

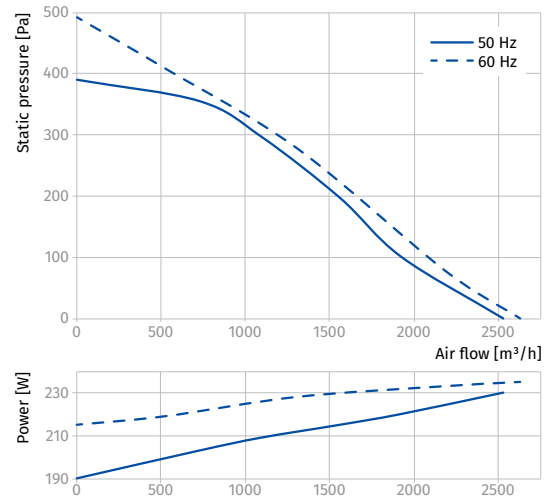
**BOX 60x30 4E**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	86	74	81	81	76	69	69	67	58	65	75
LWA to outlet [dBA]	89	76	81	84	83	79	79	78	69	69	79
LWA to environment [dBA]	73	47	60	68	67	68	58	53	42	52	62



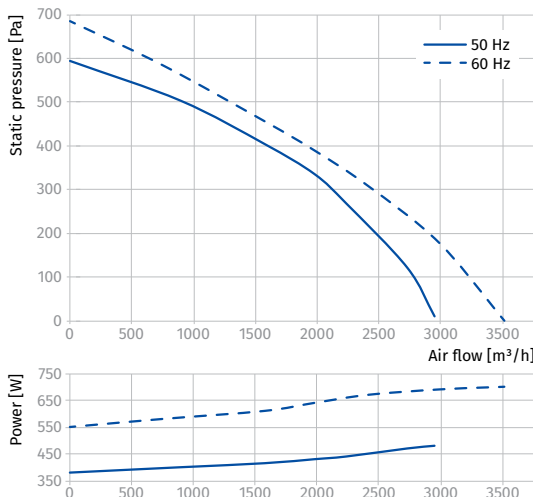
**BOX 60x30 4D**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	84	73	79	79	74	68	68	66	57	63	73
LWA to outlet [dBA]	88	74	79	82	81	77	77	76	68	67	77
LWA to environment [dBA]	72	47	59	67	66	67	57	52	42	51	61



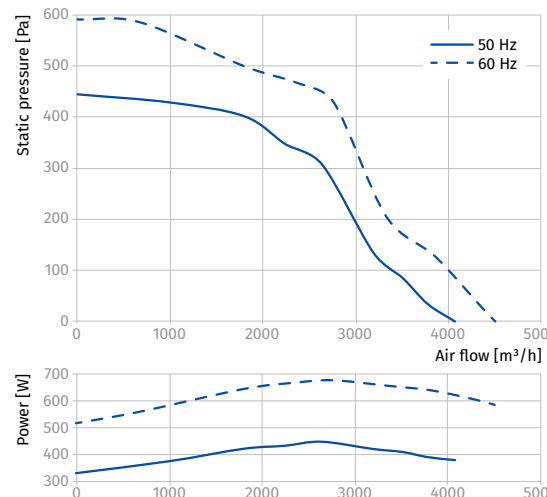
**BOX 60x35 4E**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	87	79	83	79	75	77	75	74	62	67	77
LWA to outlet [dBA]	90	78	78	79	81	85	83	81	68	69	79
LWA to environment [dBA]	72	44	59	65	68	67	61	58	50	52	62



**BOX 60x35 4E MAX**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	82	48	80	72	74	74	69	65	59	62	72
LWA to outlet [dBA]	88	53	84	78	81	81	74	68	62	67	77
LWA to environment [dBA]	74	53	71	67	66	64	61	57	47	54	64



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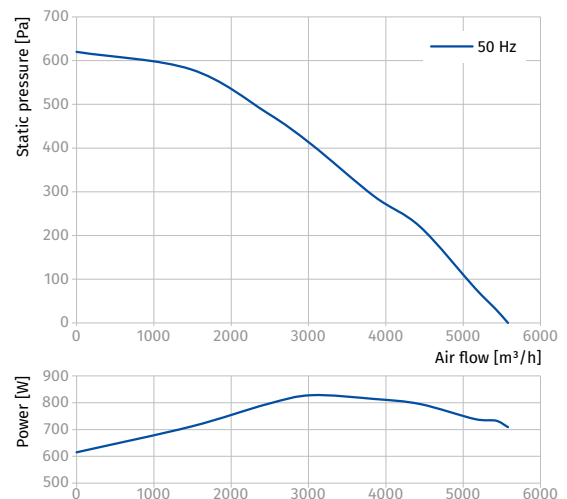
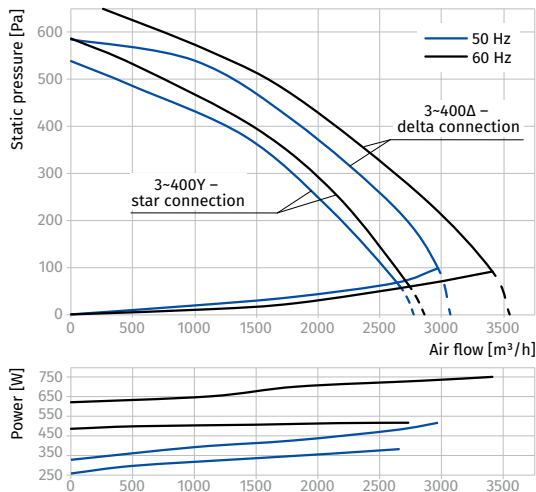
Parameters	Box 60x35 4D				Box 70x40 4D		Box 80x50 4D	
Voltage [V]	3 ~ 400 Δ				3 ~ 400 Y		3 ~ 400	
Frequency [Hz]	50	60	50	60	50	50	50	
Power [W]	510	750	380	515	828	1508		
Current [A]	1.41	1.44	0.7	0.93	1.62	2.71		
Maximum air flow [m³/h (l/s)]	2970 (825)	3410 (947)	2660 (739)	2730 (758)	5580 (1550)	7800 (2167)		
RPM [min <sup>-1</sup> ]	1415	1610	1235	1220	1418	1440		
Sound pressure at 3 m [dBA]	51	53	50	50	57	58		
Transported air temperature [°C]	-40...+60		-40...+80		-30...+60		-30...+60	
IP rating	IPX4				IPX4		IPX4	
Motor IP rating	IP44				IP44		IP44	
ErP	2018				2018		2018	

**BOX 60x35 4D**

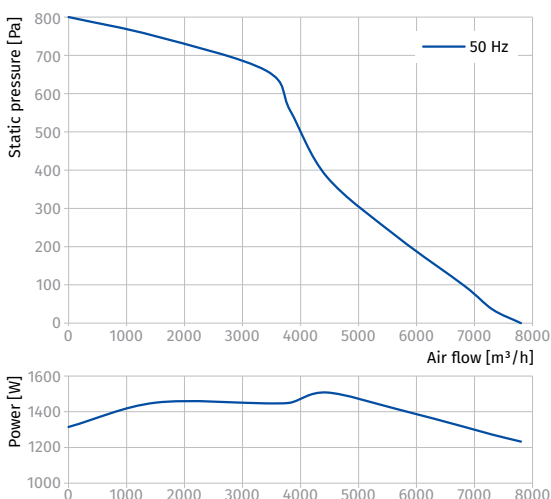
Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
L <sub>WA</sub> to inlet [dBA]	86	78	82	78	74	76	74	73	61	65	75
L <sub>WA</sub> to outlet [dBA]	88	77	77	78	79	83	82	79	67	68	78
L <sub>WA</sub> to environment [dBA]	72	43	58	65	67	66	61	57	50	51	61

**BOX 70x40 4D**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
L <sub>WA</sub> to inlet [dBA]	87	78	75	74	74	80	80	77	74	66	76
L <sub>WA</sub> to outlet [dBA]	91	74	74	78	82	86	85	82	78	71	81
L <sub>WA</sub> to environment [dBA]	78	56	65	70	70	73	71	70	66	57	67


**BOX 80x50 4D**

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
L <sub>WA</sub> to inlet [dBA]	90	63	83	79	82	85	82	78	74	70	80
L <sub>WA</sub> to outlet [dBA]	99	64	87	90	94	94	90	83	77	78	88
L <sub>WA</sub> to environment [dBA]	79	61	75	72	71	70	66	58	52	58	68



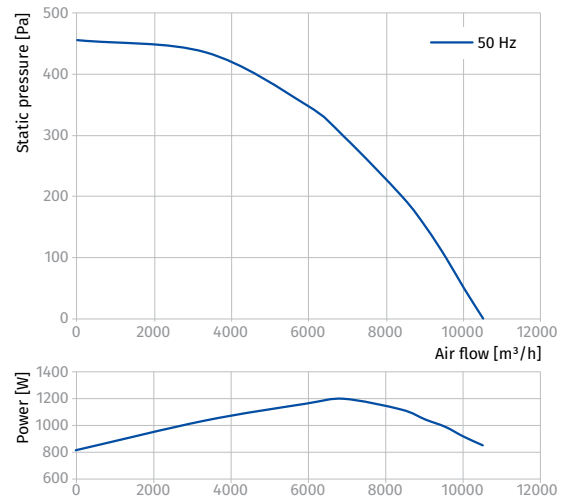
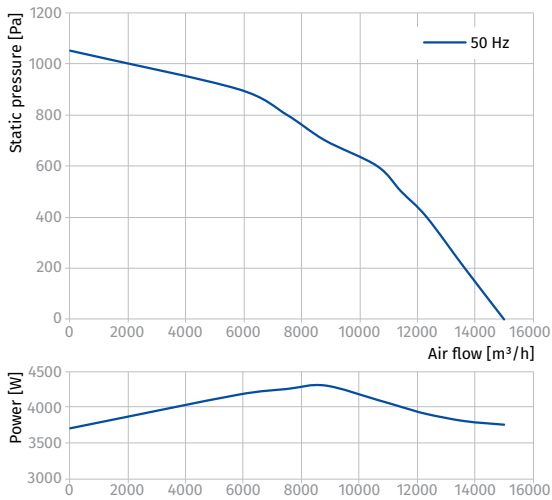
Parameters	Box 100x50 4D	Box 100x50 6D
Voltage [V]	3 ~ 400	3 ~ 400
Frequency [Hz]	50	50
Power [W]	4300	1198
Current [A]	6.8	2.7
Maximum air flow [m³/h (l/s)]	15000 (4167)	10500 (2917)
RPM [min <sup>-1</sup> ]	1370	900
Sound pressure at 3 m [dBA]	70	69
Transported air temperature [°C]	-30...+60	-25...+50
IP rating	IPX4	IPX4
Motor IP rating	IP44	IP44
ErP	2018	2018

### BOX 100x50 4D

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	99	92	96	92	87	89	87	86	72	79	89
LWA to outlet [dBA]	98	86	86	87	89	93	92	89	74	77	87
LWA to environment [dBA]	90	55	75	83	86	85	78	73	64	70	80

### BOX 100x50 6D

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to inlet [dBA]	92	65	86	81	85	87	85	80	76	72	82
LWA to outlet [dBA]	98	66	89	92	87	89	92	86	79	77	87
LWA to environment [dBA]	89	70	86	82	81	80	76	66	60	69	79



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