

Dear Martin

Following our previous e-mails regarding sound levels for the central waste handling system to be installed at your Boston, Lealand Way site please find our comments below.

The outdoor part of system consist of several main components.

- Main fan in sound enclosure with pipe silencer
- Waste / Air separator to be mounted on top of the containers
- Automatic self-cleaning filter
- Balance ventilator on the outlet side of the separator with pipe silencer

In terms of noise levels the most critical component in the system is the main fan, hence it is built into a AB acoustic booth as described in the attached file and the fan is also equipped with a silencer on the pipe system to further reduce the noise levels. The expected noise level of the fan, when operating the full system, is 80 dB or below measured at 1 meter distance from the ventilator.

We have previously talked about the sounds levels of the filter, however we consider the filter noise level to be less critical compare to the main fan. Hence, the sound of the main fan is where focus should be put, eg. placement of the fan behind other components to block the sound. If the sound level of the fan is not acceptable it is possible to place to put additional sounds absorbing panels around the main fan to prevent sound pollution – however these panels are not included in the quote.

Please do let us know if you need any further information from our side.

Best Regards/ Med venlig hilsen

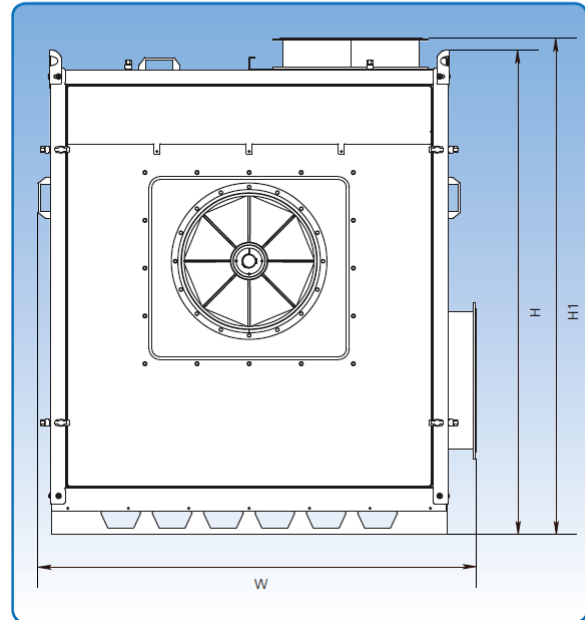
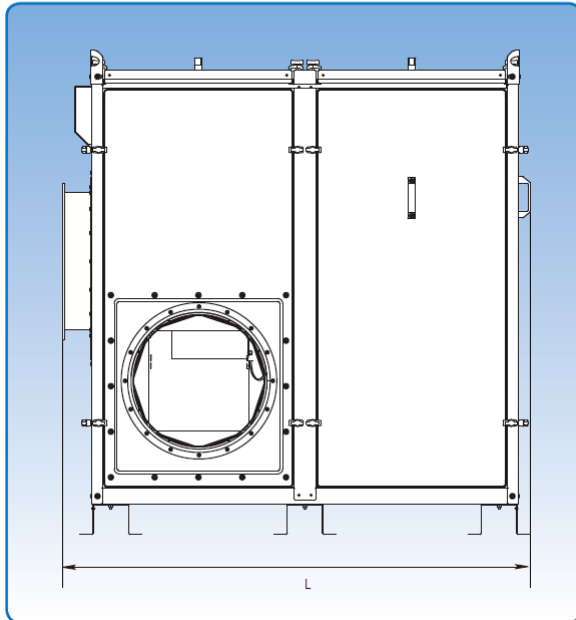
Karsten Kejlhof

Chief Commercial Officer (CCO)



Foldagervej 12
4623 Lille Skensved
Denmark

Acoustic booths type AB



For dimensional specifications, see below.

The type AB acoustic booths are used for noise reduction. The acoustic booths are supplied with fitted fan or in kit form. The acoustic booth is as standard supplied with rotatable flange fitted on in- and outlet. This provides easy connection to the remaining ducting. Acoustic booths are supplied with same dimension of inlet and outlet flange as the fan.

Acoustic booths are assembled by means of clamps that hold the big panels to the steel frame.

At service/inspection you can then quickly remove the sides and have easy access to the fan. The panels are provided with handle for easy handling. The panels tighten with rubber strip against the frame. Noise and vibrations are in this way reduced. Acoustic booths are made from galvanized sheet (Z275).

The damping material is an environment friendly material, made from recycling material from polyethylene production, covered with foil and fire resistant material.

The acoustic booth is as standard supplied with cooling fan fitted in bottom, for optimum cooling.

Extras

The acoustic booths are supplied with light fixture to the ceiling lights, thermostat control for cooling fan and connection box for assembly of cables as extras.

Type	Dimensions			Weight kg
	L mm	W mm	H(H1) mm	
AB-20	990	1133	1265 (1305)	139
AB-30	1410	1315	1460 (1499)	198
AB-40	1549	1453	1595 (1633)	252
AB-50	2140	1823	2247	501
AB-60	2500	2071	2477	644
AB-70	2871	2262	2549	871
AB-80	3075	2615	2884	970
AB-85	3075	2615	3135	1013

Acoustic booths type AB

Technical data

Cooling fan is fitted in a sound absorbent box with washable intake filter.

Cooling fan type 4656 Z:

Power supply 230 V, 50/60 Hz

at 230 V, 18 W, 0,1 A

For use with max. 5,5 kW electric motor

For use with type AB-20 and AB-30 acoustic booth

Cooling fan type W 2 E 200 HH 38-05:

Power supply 230 V, 50/60 Hz or 230/400 V, 50/60 Hz

at 230 V, 80 W, 0,35 A

For use with 7,5 – 22 kW electric motor

For use with type AB-30 – AB-50 acoustic booth

Cooling fan type W 2 E 250 HL 06-01:

Power supply 230 V, 50/60 Hz or 230/400 V, 50/60 Hz

at 230 V, 127 W, 0,83 A

For use with 30 – 90 kW electric motor

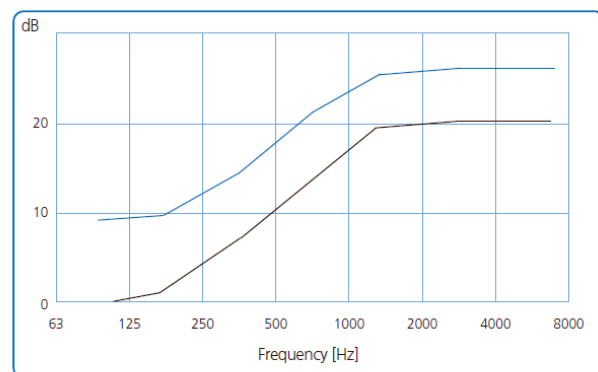
For use with type AB-50 – AB-85 acoustic booth

Noise reduction

The diagram shows the noise-suppression values for fans in acoustic booth.

Individual reports for each combination of fan and acoustic booth can be provided.

Noise measurement made by DELTA.



Black diagram shows general damping values for fans in acoustic booth. Blue diagram shows equivalent damping values, when structure borne noise from fan and acoustic booth is not transmitted.

Fan	Position		
	RV, LO	RN, LN	RO, LV
JK-20D	AB-20	AB-20	AB-20
JK-22D	AB-20	AB-20	AB-20
JK-25D	AB-20	AB-20	AB-20
JK-30D	AB-20	AB-20	AB-20
JK-35D	AB-30	AB-30	AB-30
JK-40D	AB-30	AB-30	AB-30
JK-30K	AB-30	AB-30	AB-30
JK-40K	AB-40	AB-40	AB-40
JK-45K	AB-40	AB-40	AB-50*
JK-55K	AB-50	AB-50	AB-50
JK-75K	AB-60	AB-60	AB-60
T-200K/D	AB-40	AB-40	AB-40
T-300K/D	AB-50	AB-50	AB-50
T-400K/D	AB-50	AB-50	AB-50
T-500K/D	AB-60	AB-60	AB-60
JK-30MTD/MTDP	AB-30	AB-30	AB-30
JK-40MTD/MTDP	AB-30	AB-30	AB-40*
JK-50MTD/MTDP	AB-50	AB-50	AB-50
JK-55MTD	AB-60	AB-60	AB-60
JK-60MTD/MTDP	AB-60	AB-60	AB-60
JK-70MTD/MTDP	AB-60	AB-60	AB-70*
JK-80MTD/MTDP	AB-70	AB-70	AB-80*
JK-90MTD/MTDP	AB-70	AB-80*	AB-80*
JK-30MT	AB-30	AB-30	AB-30
JK-40MT	AB-40	AB-40	AB-40
JK-50MT	AB-50	AB-50	AB-50
JK-50MT L	AB-50	AB-50	AB-50
JK-60MT	AB-50	AB-50	AB-50
JK-60MT L	AB-60	AB-60	AB-60
JK-70MT	AB-60	AB-60	AB-60
JK-70MT L	AB-70	AB-70	AB-70
JK-80MT	AB-60	AB-60	AB-70*
JK-80MT L	AB-70	AB-70	AB-70
JK-90MT	AB-70	AB-80*	AB-80*
JL-90MT L	AB-80	AB-80	AB-80
JK-100MT	AB-80	AB-80	AB-85*
JK-100MT L	AB-80	AB-80	AB-85*

Choice of acoustic booth:

L after fan description indicates long version with guide vane.

* The fan can with alternative position, be installed in a smaller acoustic booth.