

Test Report No. 7191292190-MEC22-EMK
dated 9 Sep 2022
5693217



PSB Singapore

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SUBJECT:

Laboratory measurement of noise reduction of office pod submitted by Wintech Metal Processing Sdn Bhd on 1 Sep 2022.

TESTED FOR:

Wintech Metal Processing Sdn Bhd
180, Jalan 5, Kompleks Perabot Olak Lempit,
Mukim Tanjung 12, Kuala Langat,
42700 Banting, Selangor,
Malaysia

Attn: Mr. Clement Tee

DATE OF TEST:

1 Sep 2022

DESCRIPTION OF SAMPLES:

The following office pod was installed in the reverberation room.

Type of Product : Acoustic / Phone / Work Booth
Brand / Model Name : Wintech / S Pod 2.0
Nominal External Dimension : 1000mm (width) x 1000mm (length) x 2170mm (height)
Type of Material : Acoustic Felt Interior, Electro galvanized steel exterior, Sponge Material

METHOD OF TEST:

The test was conducted in accordance with the following test standards.

- a) ISO 23351-1 : 2020 "Acoustics – Measurement of speech level reduction of furniture ensembles and enclosures - Part 1: Laboratory method
- b) ISO 3741 : 2010 "Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Precision methods for reverberation test rooms.

Temperature in reverberation room: 24°C
Relative humidity in reverberation room: 60%
Reverberation room volume: 158m³
Location of the test: Acoustics Lab of TÜV SÜD PSB Pte Ltd



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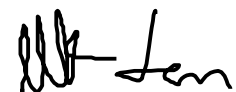
TEST EQUIPMENT:

The following instruments were used for the test.

- 1) LAN-XI Data Acquisition Unit (B & K Type 3160-A-042) with Pulse Labshop (v.16)
- 2) 1 unit of loudspeaker (JBL MPro MP415)
- 3) 1 unts of omni loudspeaker (B&K 4296)
- 4) 1 unit of rotating microphone boom (B&K Type 3923)
- 5) 1 set of ½" diffuse-field microphone (B & K Type 4943) and pre-amplifier (B & K Type 2669)
- 6) A sound source amplifier (Crown Model CE 1000)
- 7) A sound pressure level calibrator (Norsonic Type 1251)

TEST PROCEDURES:

- 1) The acoustic pod and test equipment were set up inside a reverberation room as shown in Figure 2.
- 2) Measurement system was calibrated.
- 3) Omni loudspeaker (B&K 4296) was placed inside the acoustic pod at a height of 1.4m to generate "Pink" noise.
- 4) Sound pressure level outside the acoustic pod was measured using rotating microphone.
- 5) Step 3 and 4 was repeated after the acoustic pod moved to another position.
- 6) Omni loudspeaker (B&K 4296) was placed in the reverberation room without the acoustic pod (empty room) generated to "Pink" noise.
- 7) Sound pressure level without the acoustic pod was measured using rotating microphone.
- 8) Step 6 and 7 was repeated without the acoustic pod for another position.
- 9) The reverberation time in the receiving room was conducted with and without acoustic pod.
- 10) Speech level Reduction, $D_{S,A}$ determined according to ISO 23351-1.





TEST RESULTS:

The test results were tabulated in the following tables.

- a) Table 1 shows the background noise level of Reverberation room with and without the acoustic pod.
- b) Table 2 shows the A-weighted sound power level of speech within the frequency ranged from 125Hz to 8000Hz of the acoustic pod.

Table 1 : Background Noise Level Reverberation Room

Octave Frequency (Hz)	Background Noise Level (dBA)	
	With Pod (Ventilator Fan Activated)	Without Pod
125	28.4	24.5
250	38.5	22.4
500	37.5	19.6
1000	35.9	19.8
2000	36.3	16.9
4000	30.7	13.8
8000	21.0	12.5
Overall A-weighted (dBA)	43.6	28.7

Table 2 : Sound Power level of Speech of Office Pod

Octave band (Hz)	Without Pod, L _{W,P,1,i} (dBL)	With Pod, L _{W,P,2,i} (dBL)	D _i (dBL)	L _{W,S,1,i} (dBL)	L _{W,S,2,i} (dBL)	A _j	L _{W,SA,1,i} (dBA)	L _{W,SA,2,i} (dBA)
125	92.8	75.8	17.0	60.9	43.9	-16.1	44.8	27.8
250	100.0	77.4	22.6	65.3	42.7	-8.6	56.7	34.1
500	95.5	67.4	28.1	69.0	40.9	-3.2	65.8	37.7
1000	91.4	58.3	33.1	63.0	29.9	0.0	63.0	29.9
2000	92.2	58.5	33.8	55.8	22.0	1.2	57.0	23.2
4000	86.8	47.5	39.2	49.8	10.6	1.0	50.8	11.6
8000	82.0	38.8	43.2	44.5	1.3	-1.1	43.4	0.2
Total Values (dBA)							68.4	40.1
Speech Level reduction, D_{S,A} (dBA)							28.3	

Remark: The classification of tested "Wintech / S Pod 2.0" Office Pod according to speech level reduction, D_{S,A}, achieved a Class B rating.

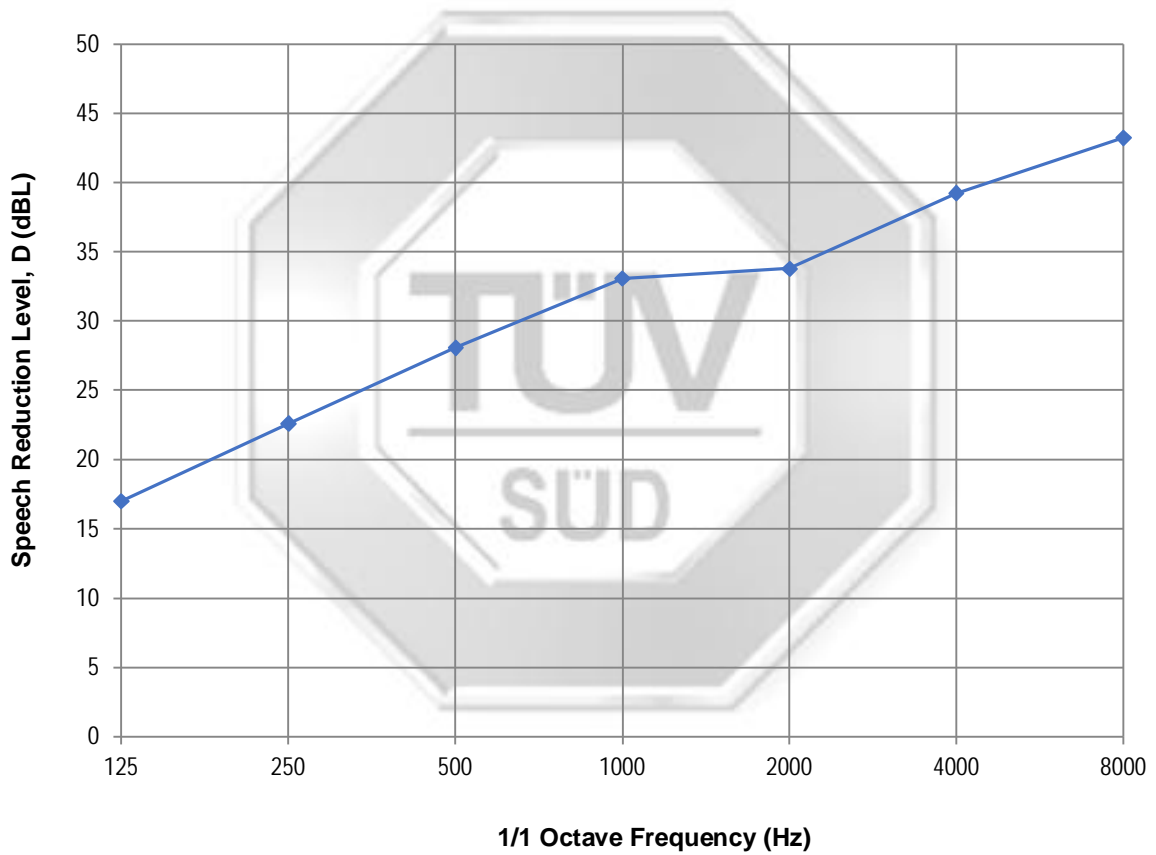

Francis Ee Min Kuen
Testing Officer


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Acoustics
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RESULTS: (cont'd)

Figure 1 : Speech Level Reduction of “Wintech / S Pod 2.0” Office Pod



—◆— Measured Speech level Reduction, D

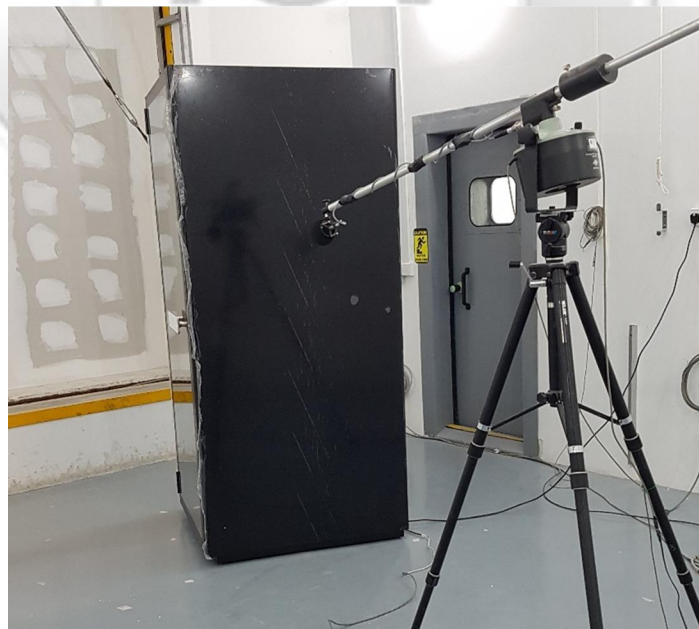
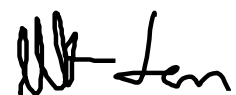
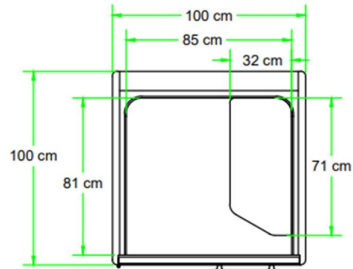
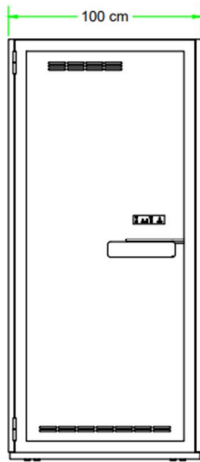


Figure 2 : Test setup of “Wintech / S Pod 2.0” Acoustic Pod inside the reverberation room

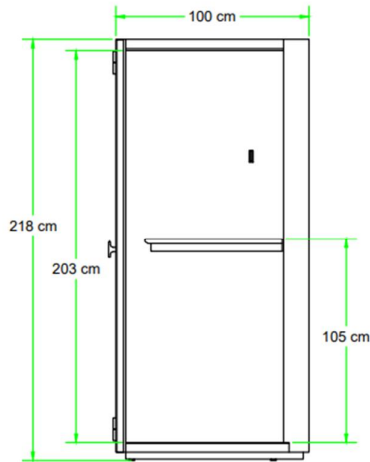




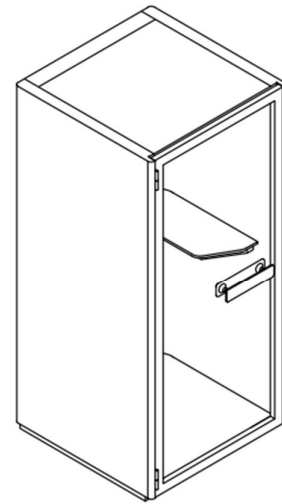
TOP VIEW



FRONT VIEW

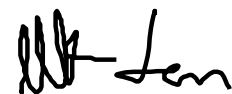


SIDE VIEW



ISOMETRIC VIEW

Appendix 1: Technical drawing of the "Wintech / S Pod 2.0" Acoustic Pod.
(Overall View)



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Effective 26 January 2021

