

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



PSB Singapore

**Add value.**  
**Inspire trust.**

**Note:** This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

**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: 158m<sup>3</sup>  
Location of the test: Acoustics Lab of TÜV SÜD PSB Pte Ltd



Laboratory:  
TUV SÜD PSB Pte. Ltd.  
15 International Business Park  
TUV SÜD @ IBP  
Singapore 609937

Phone : +65-6778 7777  
E-mail: info.sg@tuvsud.com  
<https://www.tuvsud.com/sg>  
Co. Reg : 199002667R

Regional Head Office:  
TÜV SÜD Asia Pacific Pte. Ltd.  
15 International Business Park  
TUV SÜD @ IBP  
Singapore 609937  
**TUV®**

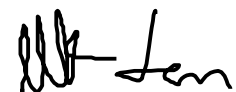
**TEST EQUIPMENT:**

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
<b>Overall A-weighted (dBA)</b>	43.6	28.7

**Table 2 : Sound Power level of Speech of Office Pod**

Octave band (Hz)	Without Pod, L <sub>W,P,1,i</sub> (dBL)	With Pod, L <sub>W,P,2,i</sub> (dBL)	D <sub>i</sub> (dBL)	L <sub>W,S,1,i</sub> (dBL)	L <sub>W,S,2,i</sub> (dBL)	A <sub>j</sub>	L <sub>W,SA,1,i</sub> (dBA)	L <sub>W,SA,2,i</sub> (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
<b>Total Values (dBA)</b>							68.4	40.1
<b>Speech Level reduction, D<sub>S,A</sub> (dBA)</b>							28.3	

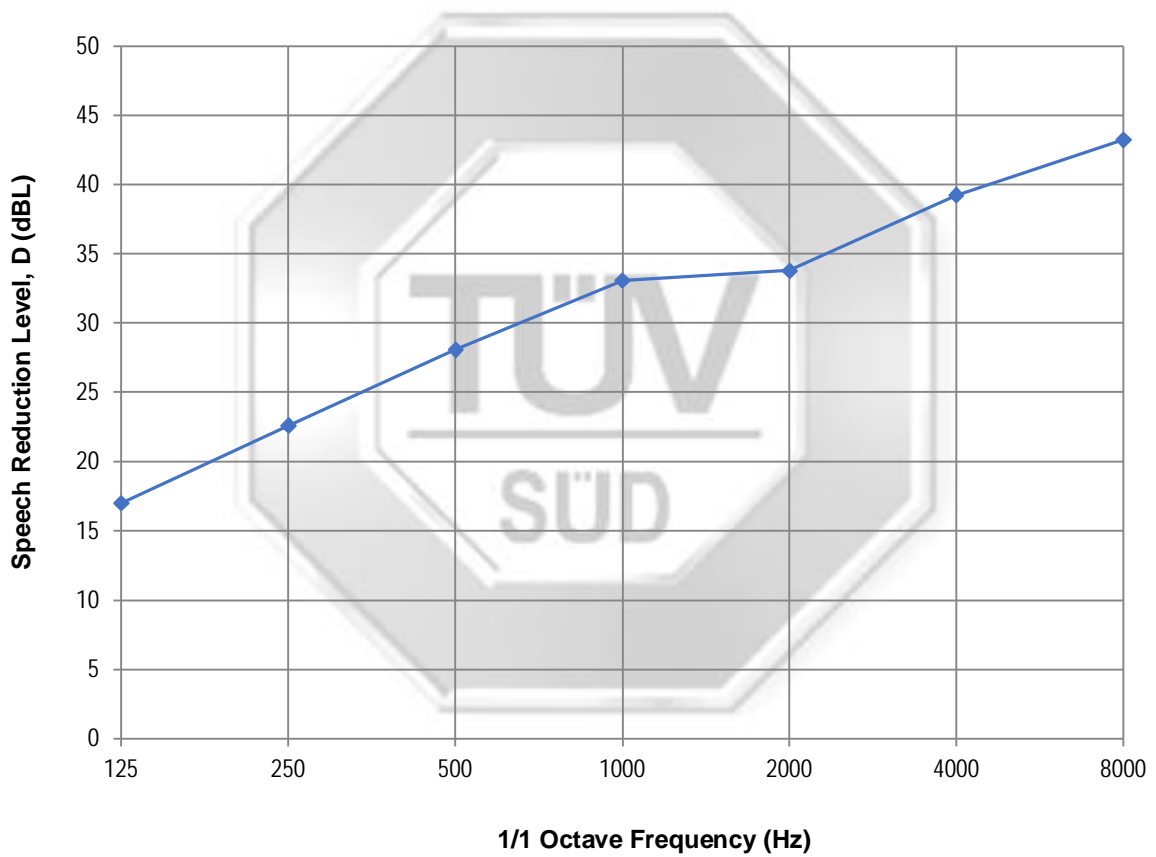
Remark: The classification of tested "Wintech / S Pod 2.0" Office Pod according to speech level reduction, D<sub>S,A</sub>, achieved a Class B rating.

  
Francis Ee Min Kuen  
Testing Officer

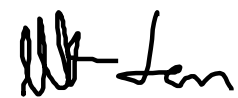
  
Lem Chee Meng  
Product Manager  
Acoustics  
Real Estate & Infrastructure - Mechanical

**RESULTS: (cont'd)**

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



—◆— Measured Speech level Reduction, D



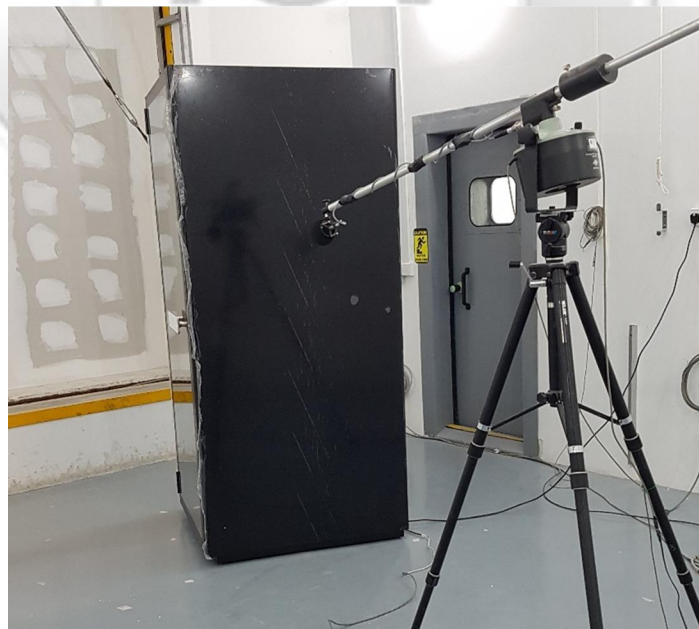
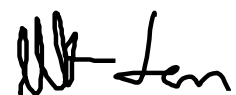
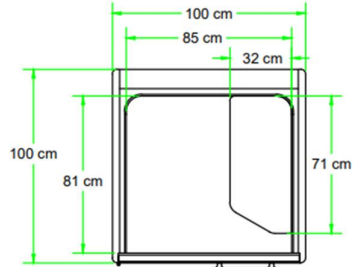
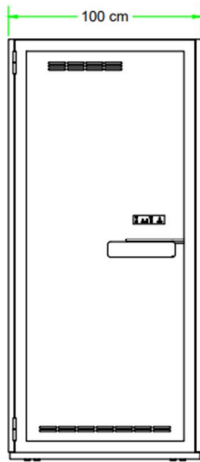


Figure 2 : Test setup of “Wintech / S Pod 2.0” Acoustic Pod inside the reverberation room

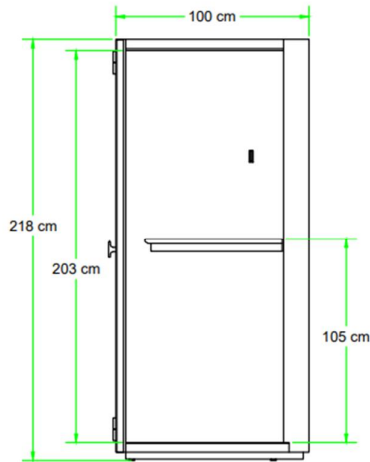




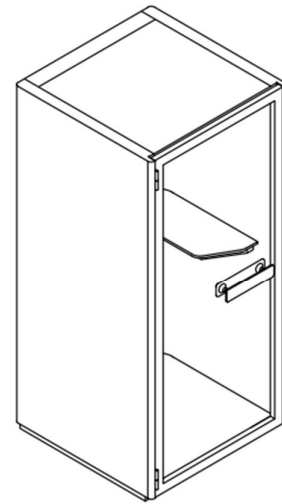
TOP VIEW



FRONT VIEW



SIDE VIEW



ISOMETRIC VIEW

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



# Test Report No. 7191292190-MEC22-EMK

dated 9 Sep 2022

5693217



PSB Singapore

Please note that this Report is issued under the following terms :

1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
2. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
3. Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
4. This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, 15 International Business Park TÜV SÜD @ IBP Singapore 609937.
6. The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

Effective 26 January 2021

