



香港煌商佑鋼鐵實業有限公司

HK HuangShangYou Steel Industrial Limited



隔音百葉

ACOUSTIC LOUVER

Contents

目錄

01	Company introduction	公司介紹	01
02	Series acoustic louvers	系列声学百叶窗	02
03	Project cases	工程案例	03
	Project cases 1		03
	Project cases 2		04
04	Introduction to soundproof louvers	隔音百葉介紹	05
	General	概述	06
05	Product introduction	產品介紹	07
	Louver type HSY-ACL-150SF		07
	Louver type HSY-ACL-300SF		08
	Multi – combination louvers	多組合百葉1	09
	Multi – combination louvers	多組合百葉2	10
	Soundproof door	隔音門	11
	Turret / Penthouse acoustic louvers	天面 / 屋頂隔聲百葉	12
06	Node connection	節點連接	13
07	Surface treatment	表面處理	15
08	Sound insulation calculation formula	隔音计算公式	16
09	Assembly	裝配	17

公司介紹

Company introduction

INDUSTRIAL & ENVIRONMENTAL NOISE CONTROL SOLUTIONS

工業及環境噪音控制解決方案

HongKong

香港

HSY Steel specialises in the design and fabrication of a wide range of noise control technologies. Since our formation in 2012, the company has developed a range of solutions for both industrial and commercial applications.

煌商佑專注於各類噪音控制技術的設計與製造。自 2012 年成立以來，公司已研發出一系列適用於工業及商業領域的解決方案。

Acoustic louvers are commonly used as air intake paths for air intake and exhausts to plant rooms, and as environmental screens or barriers. Sound-absorbing ventilation for low-noise façades The beauty of architecture.

聲學百葉窗常用作機房進排風的進風通道，亦可用作環境屏障或遮擋結構。用於低噪音建築立面的吸聲通風系統，兼具建築之美。

Products are fabricated in our modern 12,000 sqm. facility in Dongguan city, Guangdong province and we are accredited to ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007, hence ensuring our products are fabricated to the highest levels of quality, with health and safety and environmental compliance being at the heart of our operations.

產品在我們位於廣東東莞的 12,000 平方米現代化廠房內製造，並已獲得 ISO 9001:2015、ISO 14001:2015 及 OHSAS 18001:2007 認證，確保產品以最高品質標準製造，而健康安全及環境合規則是我們運營的核心。

Special

專長

HSY Steel has the capability to undertake projects of all sizes from single louver modules, to full turnkey packages involving large complex louver banks or screens complete with associated support structures.

煌商佑具備承接各種規模項目的能力，從單個百葉模組，到包含大型複雜百葉組群或屏障（配備相關支撐結構）的全套總承包方案均可承接。

PRODUCT DESCRIPTION

產品說明

Standard single bank acoustic louvers are available in depths of 150mm and 300mm, with high-performance chevron style louvers also available at an overall thickness of 300mm and 600mm. Non-standard louver depths can also be accommodated to suit specific applications.

標準單排聲學百葉窗的深度為 150 毫米及 300 毫米，高性能人字形百葉窗亦有總厚度 300 毫米及 600 毫米的規格可供選擇。非標準百葉深度亦可根據特定應用需求定制。

Louvers can be manufactured from a variety of materials including pre-galvanised sheet steel, pre-coated / coloured steel, stainless steel 316L/1.4404 or aluminium.

百葉窗可採用多種材料製造，包括預鍍鋅鋼板、預塗層 / 彩色鋼板、316L/1.4404 不鏽鋼或鋁材。

To ensure a quality installation, and to guarantee a noise reduction solution, our range of acoustic louvers has been independently tested at Hoklas in HongKong to BS EN ISO 10140-2:2010. Like traditional weather louvers, these acoustic louvers can be fitted with a wide range of ancillaries including solid blanking, insect or vermin mesh, volume control dampers or integral duct plenums.

為確保安裝品質及降噪效果，我們的聲學百葉窗系列已在香港 HOKLAS 認可實驗室依據 BS EN ISO 10140-2:2010 標準進行了獨立測試。與傳統防風百葉窗一樣，這些聲學百葉窗可配備多種輔件，包括實心擋板、防蟲或防鼠網、風量控制風閥或一體式風管靜壓箱。

系列声学百叶窗

Series acoustic louvers

Preventing noise pollution is crucial in today's high-density environments. Huangshangyou's acoustic ventilation products help control and absorb sound generated by buildings.

在當今高密度環境中，防止噪音污染至關重要。煌商佑的聲學通風產品有助於控制和吸收建築物產生的聲音。

These acoustic louvers are made of aluminium, color-coated steel or stainless steel, and are equipped with high-density mineral wool sound-absorbing materials. What makes them unique is that the exposed front side is equipped with an optional triple-structure and a tested weather-resistant louver profile. This enables the acoustic louvers to not only have excellent pressure drop and acoustic performance, but also significantly reduce the amount of water blown through the louvers under storm conditions. There are four different models available, with spacings ranging from 100 mm to 600 mm. In most cases, the required attenuation level in the building design and the available space will determine the selection of the model.

這些聲學百葉窗由鋁、彩塗鋼或不銹鋼製成，並配備高密度礦棉吸音材料。其獨特之處在於，外露的正面配有可選的三重結構和經過測試的防風百葉窗型材。這使得聲學百葉窗不僅具有出色的壓降和聲學性能，還能顯著減少暴風雨條件下吹過百葉窗的水量。有四種不同的型號可供選擇，間距從100毫米到600毫米不等。在大多數情況下，建築設計中所需的衰減水平和可用空間將決定型號的選擇。

Independently tested by the University of Auckland, the louvers all come with complete test reports (complying with the ISO 10140 - 2 standard) and can be provided on demand. Pressure drop values can also be provided to assist in determining the louver size or mechanical equipment requirements.

經奧克蘭大學獨立測試，這些百葉窗都配有完整的測試報告（符合 ISO 10140 - 2 標準），可按需提供。也可提供壓降數值，以協助確定百葉窗尺寸或機械設備需求。

Similar to traditional weather-resistant louvers, these acoustic louvers can be equipped with various accessories, including solid blanking pieces, insect or rodent screens, volume control dampers, or integral duct plenums.

與傳統的防風百葉窗類似，這些聲學百葉窗可配備各種配件，包括實心封堵件、防蟲或防鼠網、音量控制風門或整體式風管靜壓箱。

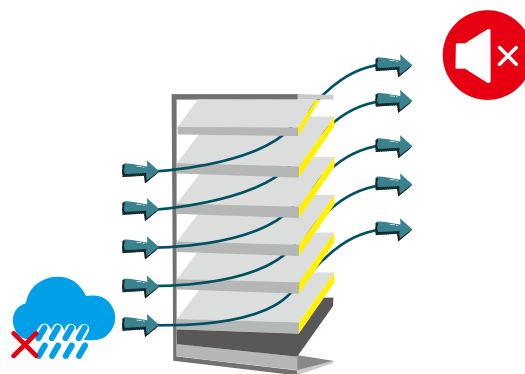


Fig. 1 - Huangshangyou acoustic louvers allow air to enter and exit the building while minimizing the entry of wind-driven rain and reducing the transmission of noise generated by the building.

圖 1 - 煌商佑聲學百葉窗可讓空氣進出建築物，同時盡可能減少風吹雨的進入，並降低建築物產生之噪音的傳播。



Fig. 2 - Louvers undergoing acoustic testing at the University of Auckland laboratory.

圖 2 - 在奧克蘭大學實驗室進行聲學測試的百葉窗。

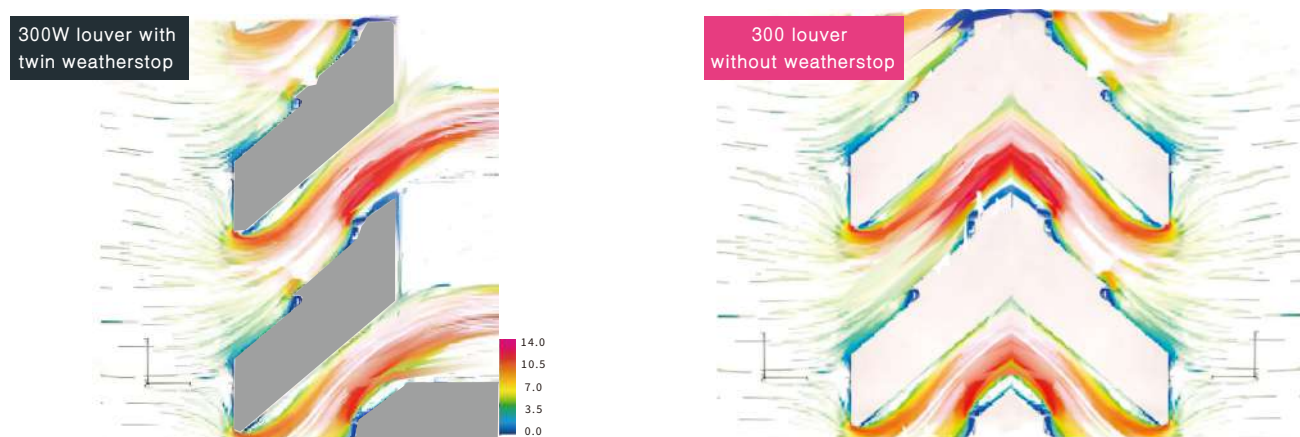


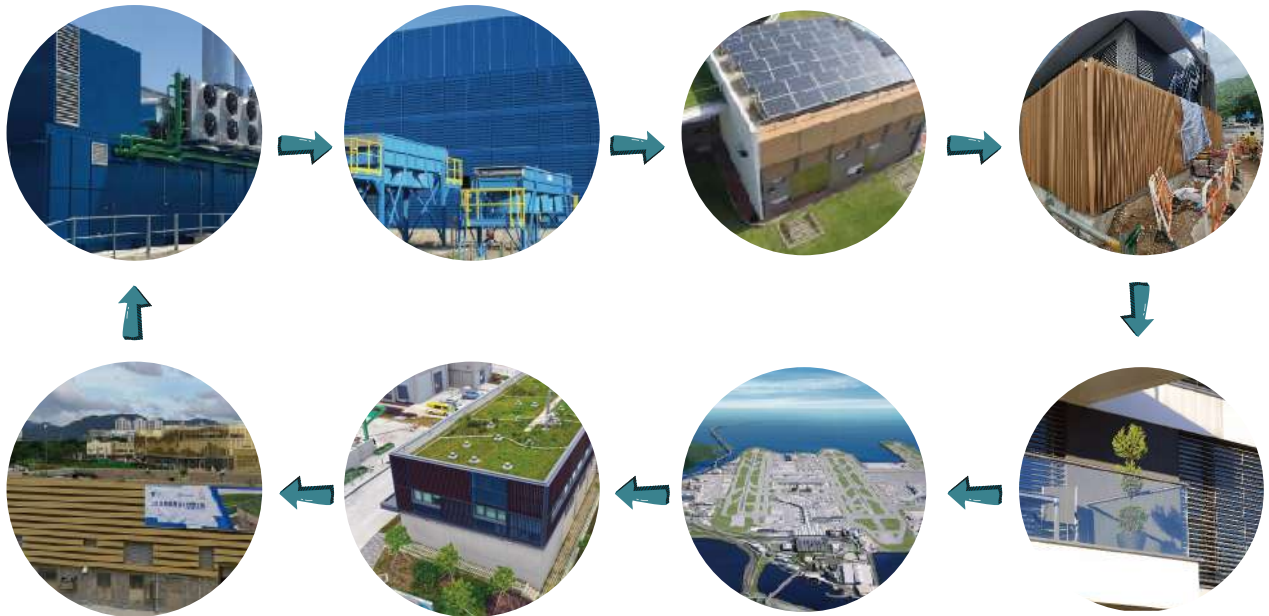
Fig. 3 - The series of acoustic louvers can be manufactured with either a twin-weatherstop nosing profile (denoted with a "W" in the product code) or a flat nosing profile. The twin-weatherstop profile assists in preventing the ingress of wind-driven rain, but is more restrictive to air flow compared to the flat nosing profile. The images above show the Computational Fluid Dynamics (CFD) modelling carried out during the early design stage to demonstrate pressure drop differences.

圖 3 系列聲學百葉窗可製造為配備雙擋雨鼻型剖面（在產品代碼中以「W」標示）或平直鼻型剖面。雙擋雨鼻型剖面有助於防止風吹雨的侵入，但相比平直鼻型剖面，對氣流的限制更大。上方圖像顯示了在早期設計階段進行的計算流體動力學（CFD）建模，用於展示壓降差異。

工程案例

Project cases

Contract name 工程合約名稱	Work amount 工程量	Work type 工程種類	Start 開工	Complete 完工	Client 業主
CV/2021/05 Public Housing Developments at Long Bin, Yuen - Castle Peak Road (Phing Shan) and Long Tin Road 元朗朗邊公營房屋發展之工地平整和基礎設施工程	30m ²	The Glazing and Louver System for FB-A, B and C FB-A、B和C的玻璃和百葉系統	2024	In-process 在建	CNCEC - CRCC15 JV 中國化學-中鐵十五局 聯營 CEDD 土木工程拓展署
DE/2018/03 Design, Supply, Install, Testing and Commissioning of Louvers at Sidestream Treatment Facilities 上水石湖墟污水處理廠	96m ²	Stainless Steel Waterproof Louvers 不銹鋼防水百葉	2024	Completed 完成	The Jardine Engineering Corporation Limited Drainage Services Department 渠務署
ND/2018/02 The Establishment of an Agricultural Park in Kwu Tung South (Phase 1) 上水古洞泵房	30m ²	Stainless Steel Waterproof Louvers 不銹鋼防水百葉	2024	Completed 完成	Tsun Yip Waterworks Construction Co. Ltd. 進業水務建築有限公司 CEDD 土木工程拓展署
DC/2018/02 Upgrading of Sewage Pumping Stations and Sewerage along Ting Kok Road 改善現有汀角路污水泵房及污水收集系統和建造大尾督海濱設施污水收集系統	16m ²	Acoustic Louver 隔音百葉窗	2023	Completed 完成	Drainage Services Department 渠務署 Shanghai Construction Overseas Engineering Ltd 上海建工海外工程有限公司
.....
.....
.....



應用 (Application)

- 建築通風 (Building Ventilation)
- 發電機房進排風口 (Generator Room Intake and Discharge Vents)
- 整合至聲屏障牆系統 - 交叉通風 (Incorporated into an Acoustic Barrier Wall System - Cross Ventilation)
- 聲學外殼通風 (Acoustical Enclosure Ventilation)
- 空冷式冷水機外殼系統 (Air - Cooled Chiller Enclosure System)
- 泵房通風 (Pump Room Ventilation)
- 設計為單扇或雙扇門 - 確保暢通出入及適當通風 (Designed as single or Double Doors - Allowing unfettered access and proper ventilation)

性能機制 (Mechanism of Performance)

- 葉片傾斜以防止直接視線 (The blades are angled to prevent direct line of sight)
- 每片水平葉片的頂部為實心。每片葉片的下側有穿孔 (The top of each horizontal blade is solid. The underside of each blade is perforated)
- 葉片內填滿聲學介質以吸收聲能 (Blades are filled with acoustic media to absorb sound energy)
- 相對大的吸聲表面積，彌補了深度的不足 (Relatively large absorptive surface area which compensates for lack of depth)

Introduction to soundproof louvers

Essential Noise Control for Modern Environments

In today's noisy world, managing sound while maintaining proper ventilation is crucial. Acoustic louvers offer an innovative solution, balancing noise reduction with air flow management. Acoustic louvers are specialised architectural elements designed to allow air passage while significantly reducing noise transmission.

现代环境中必不可少的噪音控制方案

在当今嘈杂的世界里，在维持适当通风的同时管理声音至关重要。隔音百叶窗提供了一种创新的解决方案，平衡了降噪与气流管理。隔音百葉窗是專為建築設計的特殊構件，其功能在於允許空氣流通，同時大幅降低噪音傳播。

Soundproof louvers (also called acoustic louvers) are specialized devices that combine ventilation and noise reduction functions. Featuring sound-absorbing materials, perforated metal structures, and optimally angled blades, they ensure air circulation while effectively blocking noise from machinery, HVAC systems, and more. With excellent sealing and weather resistance, these louvers reduce noise leakage and withstand wind, rain, and dust. They are ideal for factories, data centers, commercial buildings, and noise-sensitive areas like schools and hospitals, helping environments meet noise control standards.

隔音百葉（亦稱聲學百葉）是兼具通風與降噪功能的專用設備。其內部採用吸音材料與穿孔金屬結構，搭配優化角度的葉片設計，能在保證空氣流通的同時有效阻擋機器運轉、空調系統等產生的噪音。這類百葉具備良好的密封性與耐候性，可減少噪音洩漏，抵禦風雨灰塵侵蝕，適用於工廠、數據中心、商業大樓及學校、醫院等噪音敏感區域，幫助環境達到噪音管制標準。



概述

General

At Huangshangyou, we develop acoustic aluminium louver systems for building facades. The primary function of acoustic louvers is noise reduction, while simultaneously facilitating ventilation and air flow management. Beyond acoustics, these louvers also contribute to energy efficiency (by optimizing airflow), provide weather protection, safeguard internal equipment, and maintain long-term performance. To align with diverse architectural designs, acoustic louvers can be customized with or without visible mullions.

在煌尚佑，我們為各類建築的立面開發 隔音百葉系統。隔音百葉的核心功能是 聲學隔離，同時實現通風與氣流調控。除此之外，隔音百葉還有助於提升能源效率（通過優化氣流）、抵禦氣候侵蝕、保護室內設備，並長期穩定運行。為匹配多樣化的建築外牆設計，百葉可設計為可見或隱藏式豎框結構。

隔音百葉的優勢

Advantages of Soundproof Louvers



Efficient Noise Reduction

高效降噪

Soundproof louvers are engineered to effectively block and absorb unwanted noise. Whether it's traffic din, industrial roar, or ambient hubbub, they create a quieter indoor environment, letting you enjoy peace and focus.

隔音百葉經過專業設計，可有效阻隔、吸收多餘噪音。不管是交通噪音、工業轟鳴，還是環境雜音，都能打造更安靜的室內環境，讓你享受寧靜、專注的空間。



Flexible Ventilation

靈活通風

These louvers strike a smart balance—while keeping noise out, they allow fresh air to flow. You get good ventilation without sacrificing a quiet space, perfect for spaces needing both airflow and sound control.

這類百葉巧妙平衡功能 —— 隔絕噪音的同時，能讓新鮮空氣流通。無需犧牲安靜環境，就能實現良好通風，特別適用於既需要空氣流動又要控制聲音的場所。



Versatile Design

設計多元

Adaptable to various architectural styles and building types, soundproof louvers come in diverse sizes, shapes, and colors. They blend seamlessly into facades, interiors, or enclosures, adding functionality without clashing with design aesthetics.

隔音百葉可適配各類建築風格與建築類型，有不同尺寸、形狀與顏色選擇。能自然融入建築立面、室內空間或圍欄結構，增添實用功能的同時，不與設計美學衝突。



Long - lasting Performance

持久耐用

Built with durable materials and robust construction, they withstand weather, wear, and tear over time. You won't have to worry about frequent repairs or replacements, ensuring lasting sound - dampening benefits.

採用耐用材料與結實結構打造，可長期抵禦天氣侵蝕、日常磨損。無需頻繁維修或更換，確保長久發揮隔音減噪效益。



Huangshangyou's acoustic louvers have undergone independent third-party testing, complying not only with the European standard for simulated rain performance of louvers (BS EN 13030:2001) but also with acoustic performance test specifications (e.g., EN ISO 140-3 for sound insulation evaluation of building elements), ensuring both acoustic isolation and structural reliability.

煌尚佑隔音百葉透過獨立第三方測試驗證，不僅符合歐洲模擬降雨百葉性能測試標準 BS EN 13030:2001，更依循隔音性能測試規範（如 EN ISO 140-3 建築構件隔音評測），確保聲學隔離與結構可靠性的雙重達標。

Louver type HSY-ACL-150SF

150mm deep single bank louver

Specification: Single bank acoustic louver 150mm deep, manufactured with horizontally mounted blades on a 150mm pitch, housed in an outer casing.

Louver supplied with birdguard and polyester powder paint finish to a standard RAL / BS colour

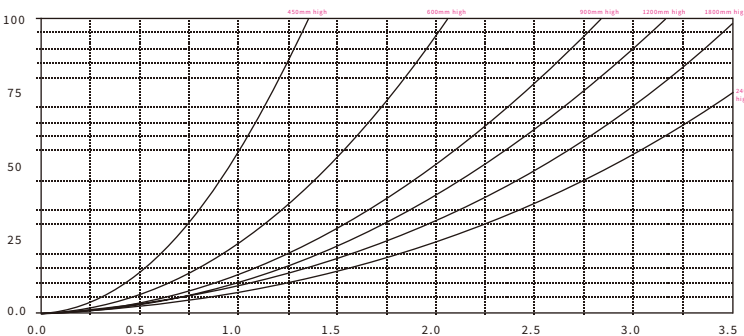
150 毫米深單排百葉窗

規格: 150 毫米深的單排聲學百葉窗, 採用水平安裝的葉片, 葉片間距為 150 毫米, 置於外殼內。
百葉窗配有防鳥網, 並採用聚酯粉末塗層, 顏色符合標準 RAL/BS 色卡。



Louver 百葉			Sound Reduction (dB) at Octave Band Centre Frequency (Hz) 隔音量 (dB) 倍頻帶中心頻率 (Hz)							
深度 (Depth)	類型 (Style)	產品代碼 (Product Code)	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
150mm	單層 (Single Bank)	HSY-ACL-150SF	4	4	6	8	10	11	11	10

Pressure Loss Details 壓力損失詳細資料



Pressure loss correction factors based upon installation conditions are given below:
Fresh air intake, ducted to rear +0%
Exhaust air to atmosphere, ducted to rear +10%
Non - ducted +50%
依安裝條件給出之壓力損失修正係數如下:
新風進氣, 管道接至後端 +0%
排風至大氣, 管道接至後端 +10%
無管道連接 +50%

重量 (Weight)	高度 (Height)	有效通風面積 (Free Area)
約 56 公斤 / 平方公尺 (56kg/m2 Approx)	450	33%
	600	38%
	900	42%
	1200	44%
	1500	46%
	1800	46%
	2100	46%
	2400	47%

可選配置 (Options Available)
防鳥網 (Birdguard (BG))
粉末塗層表面處理 (Powder Coat finish (PC))
預塗層鋼材 (Pre - coated steel (CS))
外凸法蘭 (Externally Flanged (F))
支撐框架 (Support Frame (SF))

Louver type HSY-ACL-300SF

150mm deep single bank louver

Specification: Single bank acoustic louver 150mm deep, manufactured with horizontally mounted blades on a 150mm pitch, housed in an outer casing.

Louver supplied with birdguard and polyester powder paint finish to a standard RAL / BS colour

150 毫米深單排百葉窗

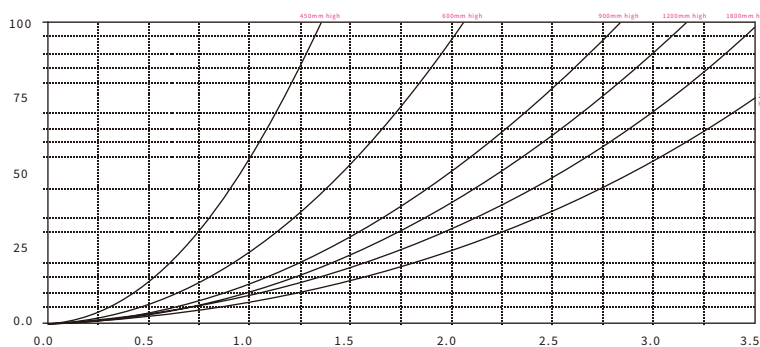
規格: 150 毫米深的單排聲學百葉窗, 採用水平安裝的葉片, 葉片間距為 150 毫米, 置於外殼內。

百葉窗配有防鳥網, 並採用聚酯粉末塗層, 顏色符合標準 RAL/BS 色卡。



Louver 百葉			Sound Reduction (dB) at Octave Band Centre Frequency (Hz) 隔音量 (dB) 倍頻帶中心頻率 (Hz)							
深度 (Depth)	類型 (Style)	產品代碼 (Product Code)	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
300mm	單層 (Single Bank)	HSY-ACL-300F	5	6	8	12	19	19	20	18

Pressure Loss Details 壓力損失詳細資料



Pressure loss correction factors based upon installation conditions are given below:

Fresh air intake, ducted to rear +0%

Exhaust air to atmosphere, ducted to rear +10%

Non - ducted +50%

依安裝條件給出之壓力損失修正係數如下:

新風進氣, 管道接至後端 +0%

排風至大氣, 管道接至後端 +10%

無管道連接 +50%

重量 (Weight)	高度 (Height)	有效通风面积 (Free Area)
約 72 公斤 / 平方公尺 (72kg/m2 Approx)	450	33%
	600	38%
	900	42%
	1200	44%
	1500	45%
	1800	46%
	2100	46%

可選配置 (Options Available)
防鳥網 (Birdguard (BG))
粉末塗層表面處理 (Powder Coat finish (PC))
預塗層鋼材 (Pre - coated steel (CS))
外凸法蘭 (Externally Flanged (F))
支撐框架 (Support Frame (SF))

多組合百葉

Multi - combination louvers

Air velocity 空氣流速	Class							
	Single Bank 112		Double Bank 112		Single Bank 150		Double Bank 150	
	STND	+OPT	STND	+OPT	STND	+OPT	STND	+OPT
0 m/s	B	B	B	A	C	B	B	A
0.5 m/s	C	B	A	A	D	C	B	A
1 m/s	D	C	C	B	D	D	C	B
1.5 m/s	D	C	C	A	D	C	C	A
2 m/s	D	D	D	C	D	D	D	C
2.5 m/s	D	D	D	D	D	D	D	D

This table introduces the classification of sound-insulating louvers under different air velocities. For Single Bank 112 (both STND and +OPT versions), Double Bank 112 (STND and +OPT), Single Bank 150 (STND and +OPT), and Double Bank 150 (STND and +OPT), the class varies with air velocity. At 0 m/s, the classes have different values; as the air velocity increases from 0.5 m/s to 2.5 m/s, the classes generally show a tendency to change, with most classes becoming D at 2.5 m/s.

此表格介紹了隔音百葉在不同空氣流速下的分級情況。針對 Single Bank 112 (STND 和 +OPT 版本)、Double Bank 112 (STND 和 +OPT)、Single Bank 150 (STND 和 +OPT) 以及 Double Bank 150 (STND 和 +OPT)，其等級隨空氣流速而變化。在 0 m/s 時，各等級有不同數值；隨著空氣流速從 0.5 m/s 增加到 2.5 m/s，等級總體呈現變化趨勢，多數在 2.5 m/s 時等級變為 D。

Sound absorbing
up to 17 dB
吸音效果可達
17 分貝



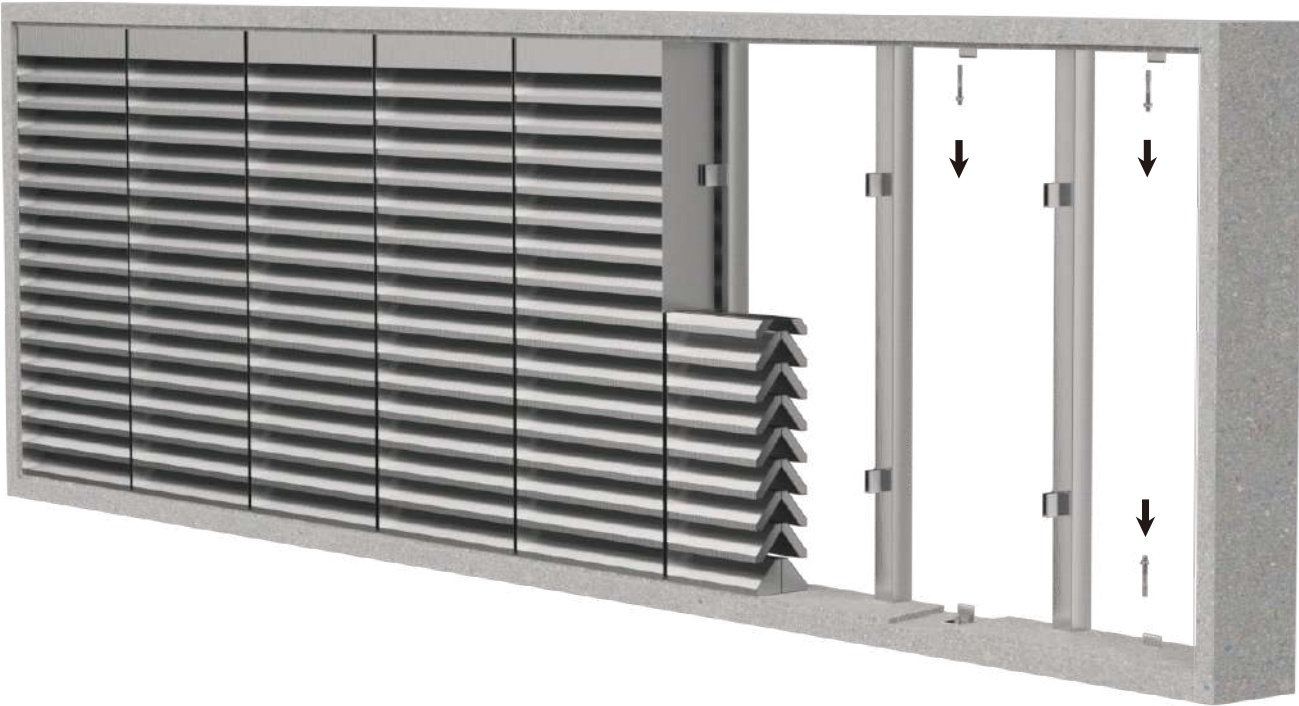
多組合百葉

Multi - combination louvers

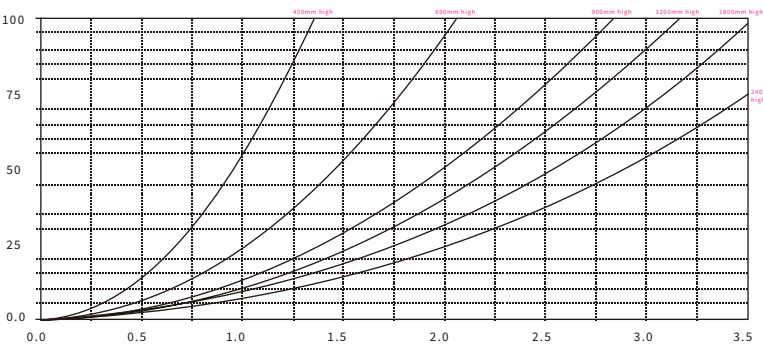
Soundproof louvers feature excellent flexibility in assembly. They come in various types, and these different types can be combined and arranged in multiple ways to meet diverse application needs. Whether for specific air velocity requirements (as shown in the table, where the classification changes with air velocity) or to achieve a sound absorption effect of up to 17 dB, soundproof louvers can be flexibly spliced, making them suitable for a wide range of scenarios.

隔音百葉在組裝上具備出色的靈活性。它們有多種類型，這些不同類型能透過多種方式組合排列，以滿足多樣的應用需求。無論是針對特定的空氣流速要求（如表格所示，分級會隨空氣流速而變），還是要達到最高 17 分貝的吸音效果，隔音百葉都能靈活拼接，使其能適用於廣泛的場景。

Louver 百葉			Sound Reduction (dB) at Octave Band Centre Frequency (Hz) 隔音量 (dB) 倍頻帶中心頻率 (Hz)							
深度 (Depth)	類型 (Style)	產品代碼 (Product Code)	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
300mm	單層 (Single Bank)	HSY-ACL-300F	5	6	8	12	19	19	20	18



Pressure Loss Details 壓力損失詳細資料



Pressure loss correction factors based upon installation conditions are given below:
Fresh air intake, ducted to rear +0%
Exhaust air to atmosphere, ducted to rear +10%
Non - ducted +50%
依安裝條件給出之壓力損失修正係數如下：
新風進氣，管道接至後端 +0%
排風至大氣，管道接至後端 +10%
無管道連接 +50%

隔音門

Soundproof door

Product Introduction

This soundproof door, with its scientific structural design and high-quality soundproof materials, can effectively block external noise from entering the room, creating a quiet and comfortable space environment for you. It is suitable for various scenarios such as homes, offices, and recording studios, meeting the needs of different people for a quiet space.

產品介紹

這款隔音門（Soundproof door），憑藉科學的結構設計與優質的隔音材料，可有效阻隔外界噪音傳入室內，為您營造安靜、舒適的空間環境，適用於家庭、辦公場所、錄音室等多種場景，滿足不同人群對靜謐空間的需求。

Product Advantages

- Excellent Soundproofing Effect: It can greatly reduce external noise interference, keep the room quiet, and improve the quality of life and work.
- Wide Range of Applicable Scenarios: Whether it is for resting at home, focusing on work, or using in professional acoustic spaces, it can play a good role.
- Strong Durability: Made of high-quality materials, it has a stable structure and is durable. It can maintain good soundproofing performance and use status for a long time.

產品優勢

- 出色隔音效果：能大幅降低外界噪音干擾，讓室內保持安靜，提升生活與工作的品質。
- 適用場景廣泛：無論是居家休息，還是辦公專注思考，亦或是專業聲學空間使用，都能發揮良好作用。
- 耐用性強：採用高品質材質打造，結構穩固，經久耐用，可長期保持良好的隔音性能與使用狀態。



天面 / 屋頂隔聲百葉

Turret / Penthouse acoustic louvers

Product Introduction

This penthouse acoustic louver, with its scientific structural design and high - quality sound - insulating materials, can effectively block external noise from entering the room while ensuring proper air circulation. It creates a quiet and comfortable space environment for you. It is suitable for various scenarios such as penthouses, attics, and areas where both ventilation and noise reduction are needed, meeting the needs of different people for a quiet space.

產品介紹

這款屋頂隔音百葉（Penthouse Acoustic Louver），憑藉科學的結構設計與優質的隔音材料，能在確保空氣適當流通的同時，有效阻隔外界噪音傳入室內，為您營造安靜、舒適的空間環境。適用於閣樓、頂層公寓以及需兼具通風與降噪需求的各種場景，滿足不同人群對靜謐空間的需求。

Product Advantages

- Excellent Sound - insulating & Ventilation Performance: It can greatly reduce external noise interference while ensuring smooth air circulation, keeping the room quiet and well - ventilated, and improving the quality of life and work.
- Wide Range of Applicable Scenarios: Whether it is for daily rest in the penthouse, focusing on work in the attic, or use in spaces that require both ventilation and noise control, it can play a good role.
- Strong Durability: Made of high - quality materials, it has a stable structure and is durable. It can maintain good sound - insulating and ventilation performance and use status for a long time.

產品優勢

- 出色隔音通風效果：大幅降低外界噪音干擾，同時確保空氣流通順暢，讓室內保持安靜且通風良好，提升生活與工作品質。
- 適用場景廣泛：不論是閣樓日常休憩、頂層公寓專注工作，或是有通風與噪音控制需求的空間使用，都能發揮良好作用。
- 耐用性強：採用高品質材料打造，結構穩固，經久耐用，可長期保持良好的隔音通風性能與使用狀態。

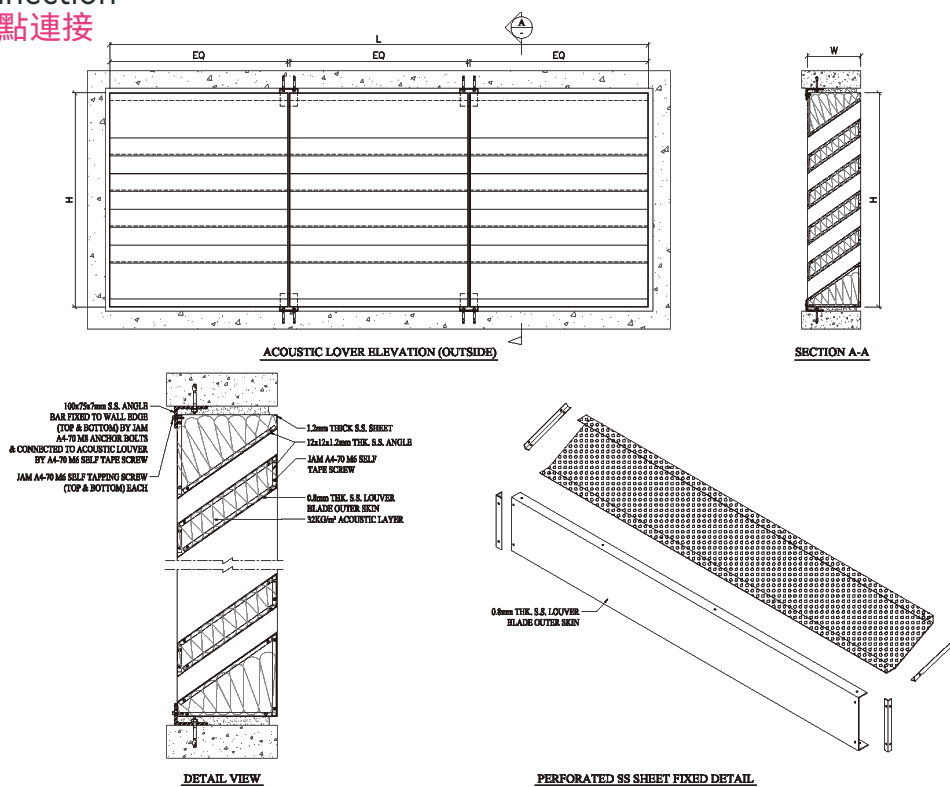


節點連接

Node connection

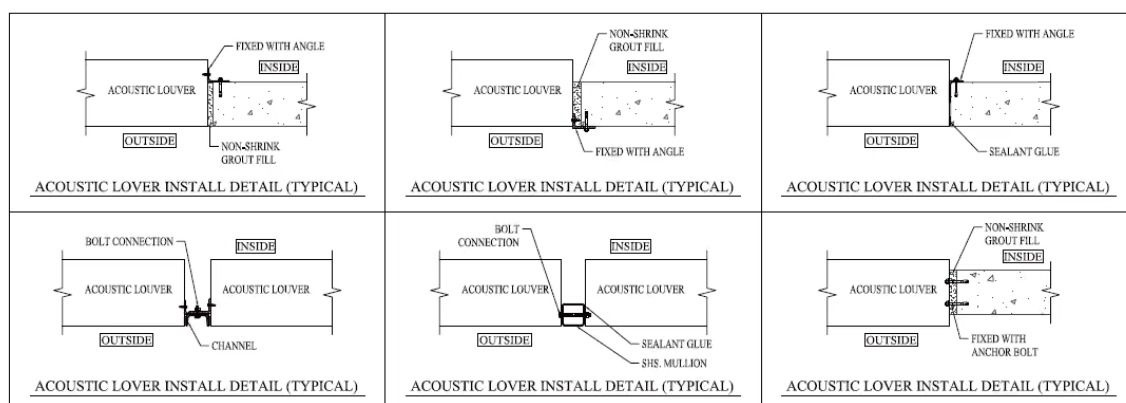
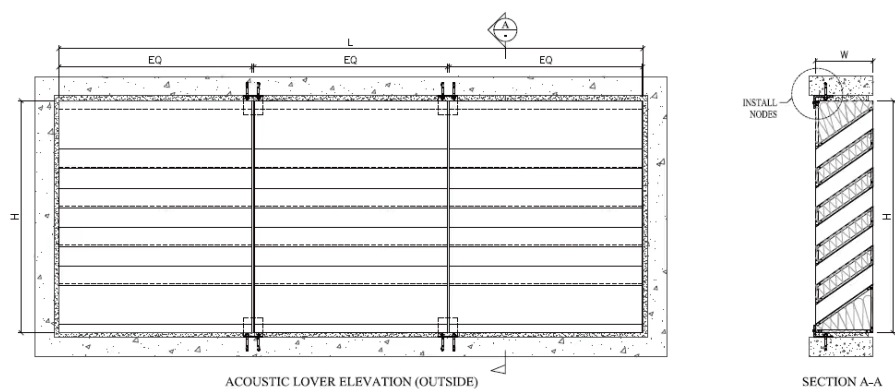
Node Connection

1mx3m節點連接



Installation Node Schematic

安裝節點示意

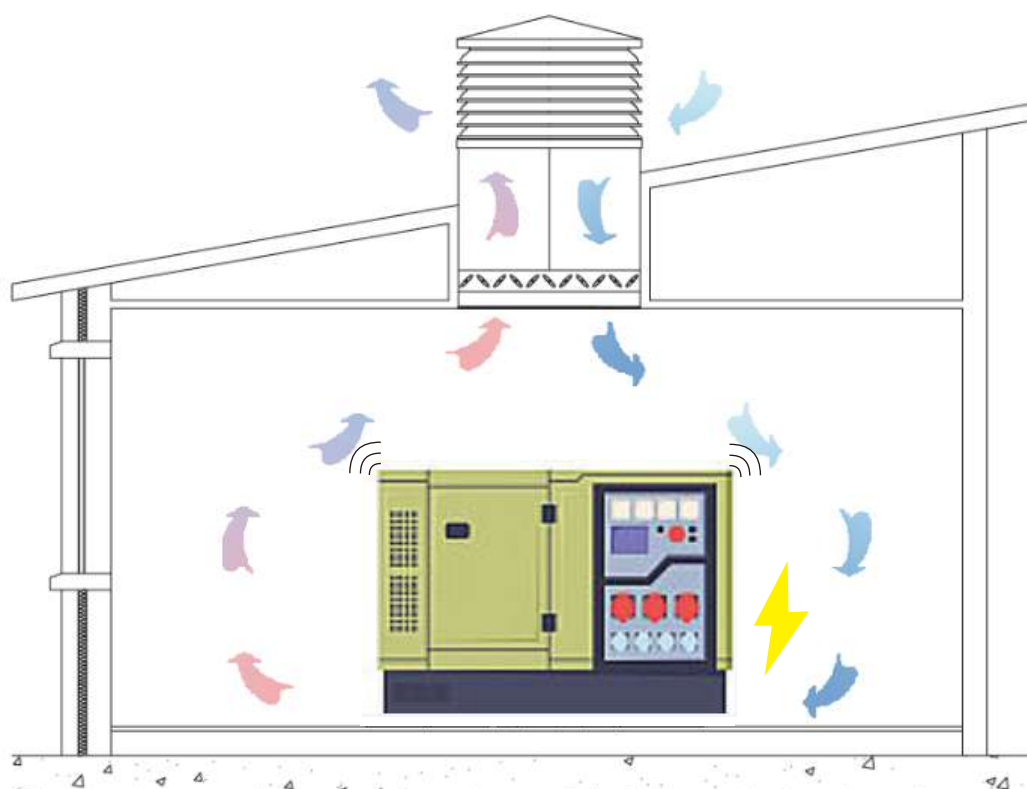
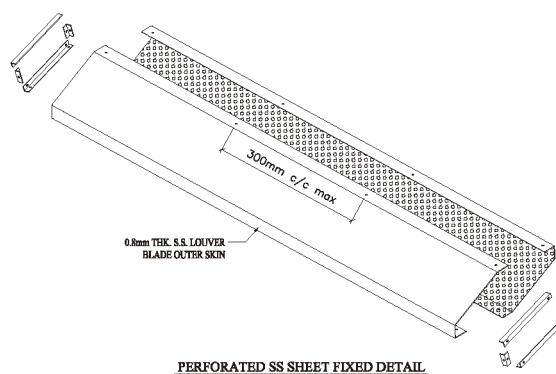
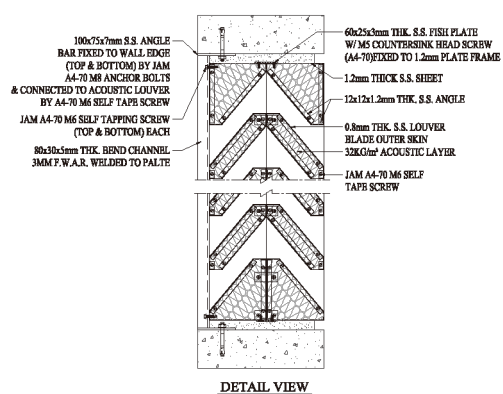
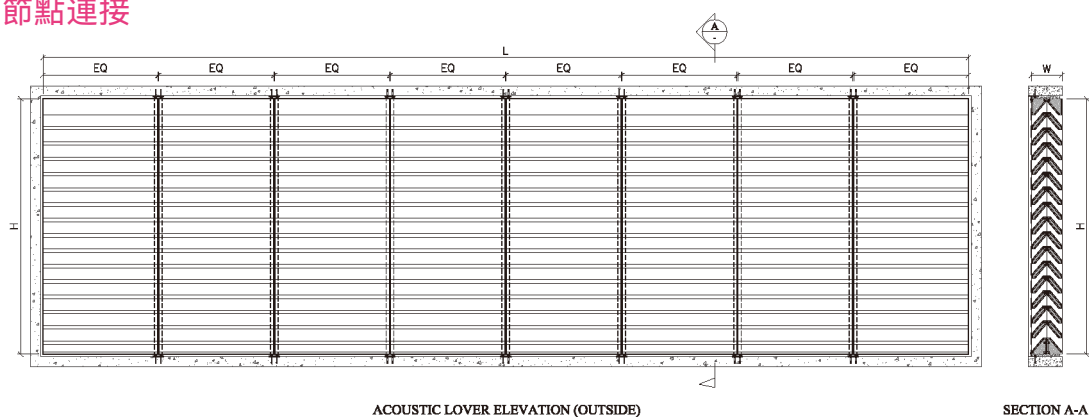


節點連接

Node connection

Node Connection

2mx9m 節點連接



表面處理

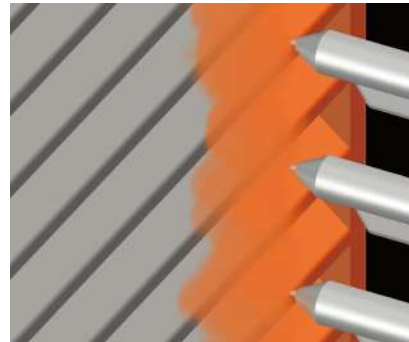
Surface treatment

Standard finishes include:

- Anodised - clear
- Anodised - colour
- Polyester powder coated to any RAL Classic colour
- Zero VOC fluoro-polymer powder coated

標準表面處理包括：

- 陽極氧化—透明
- 陽極氧化—顏色
- 聚酯粉末噴塗成任何RAL經典顏色
- 無VOC氟聚合物粉末塗層



配件和材料

Accessories and Materials

A comprehensive range of optional accessories can be specified with HSY louver systems.

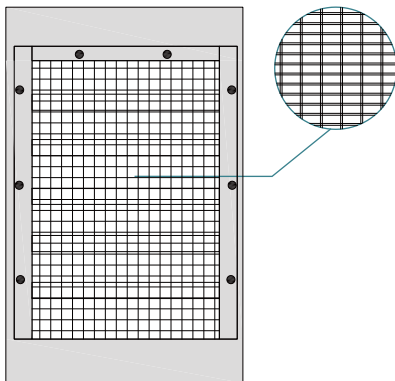
Standard options include:

- **Louver doors**
- **Blanking plates:** single skin aluminium plates (mill finished or polyester powder coated) or insulated panels in a choice of thicknesses to meet insulation requirements
- **Guards:** bird/vermin guards, insect meshes

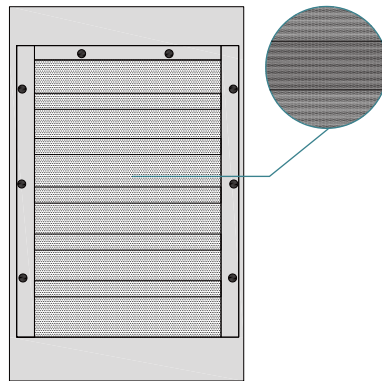
煌商佑百葉系統可提供全面的配件選擇。

標準選項包括：

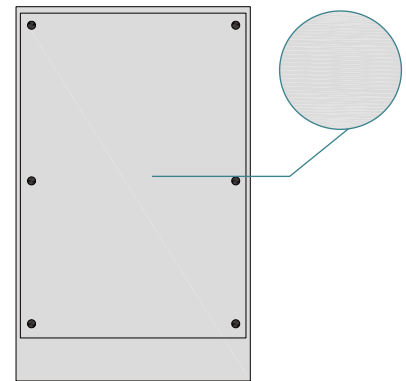
- **百葉門**
- **擋板：**單層鋁板（磨光或聚酯粉末塗層）或厚度可滿足絕緣需求的絕緣板
- **防護裝置：**鳥類/害蟲防護、防蟲網



Rodent-resistant net
防鼠網



Insect mesh
防蟲網



Blanking plate
擋板

Bird/vermin mesh select from the following:

- Galvanised
- Stainless steel
- Plastic
- Perforated metal
- Expanded metal

鳥類/防蟲網從以下選項中選擇：

- 鍍鋅
- 不銹鋼
- 塑料
- 沖孔網
- 擴展網

Insect mesh select from the following:

- Aluminium
- Fiberglass

防蟲網從以下選項中選擇：

- 鋁
- 玻璃纖維

隔音计算公式

Sound insulation calculation formula

Example of calculation:

METHODICS OF DESIGNING ACOUSTIC LOUVER

計算示例:

隔音百葉窗的設計方法

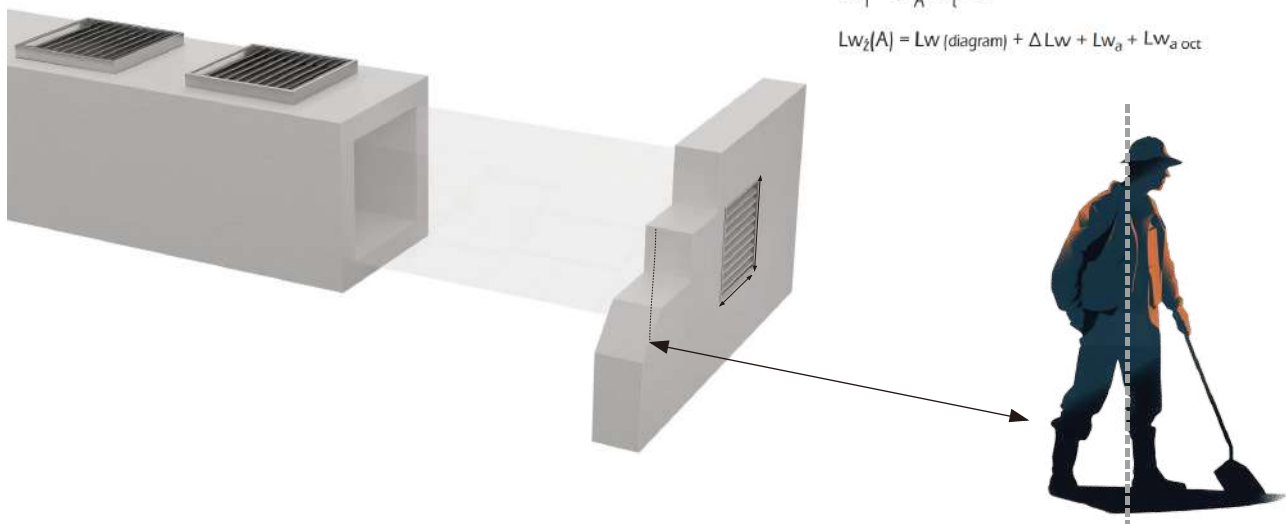
Calculation: $L_v = 10 \log (10^{L_{p_v}/10} + 10^{L_{p_z}/10}) + dL$

$$L_{p_v} = L_{w_1} + 10 \log \frac{Q}{(4\pi \times R^2)}$$

$$L_{p_z} = L_{w_z}(A) + 10 \log \frac{Q}{(4\pi \times R^2)}$$

$$L_{w_1} = L_{w_A} - D_t - D$$

$$L_{w_z}(A) = L_w(\text{diagram}) + \Delta L_w + L_{w_a} + L_{w_{a \text{ oct}}}$$



Calculation 計算								
	63	125	250	500	1000	2000	4000	8000
L _{wA} - Source of the noise 噪音源	79	80	81	81	79	77	72	66
D _t - attenuation of the transmission 傳輸衰減	18	18	0.9	0.5	0.5	0.5	0.5	0.5
D - attenuation of the louver 百葉窗衰減	7	8	8	17	18	19	19	18
L _{w1} - acoustic pressure of the louver 百葉窗自身噪音	46.5	52.5	43.5	38.5	35.5	31.5	28.5	25
L _v - acoustic pressure [dB(A)] 聲壓級 [dB (A)]	52.7	42.7	45.6	46	46	40	36	29

Example of calculation: 計算示例:

To design the louver based on the parameters of the source of the noise in order to achieve the value of 60 dB(A) in distance of 3m from the louver.

需根据噪音源参数设计百叶, 以实现距离百叶 3 米处噪音值达到 60 分贝 (A 计权) 的目标。

Depth of louver 300 MM - selected size 1000/1000 MM

百葉窗深度 300 毫米 - 選定尺寸 1000/1000 毫米

Air mass 5500 m³/h

空氣質量 5500 立方米 / 小時

Type of installation K-OUT

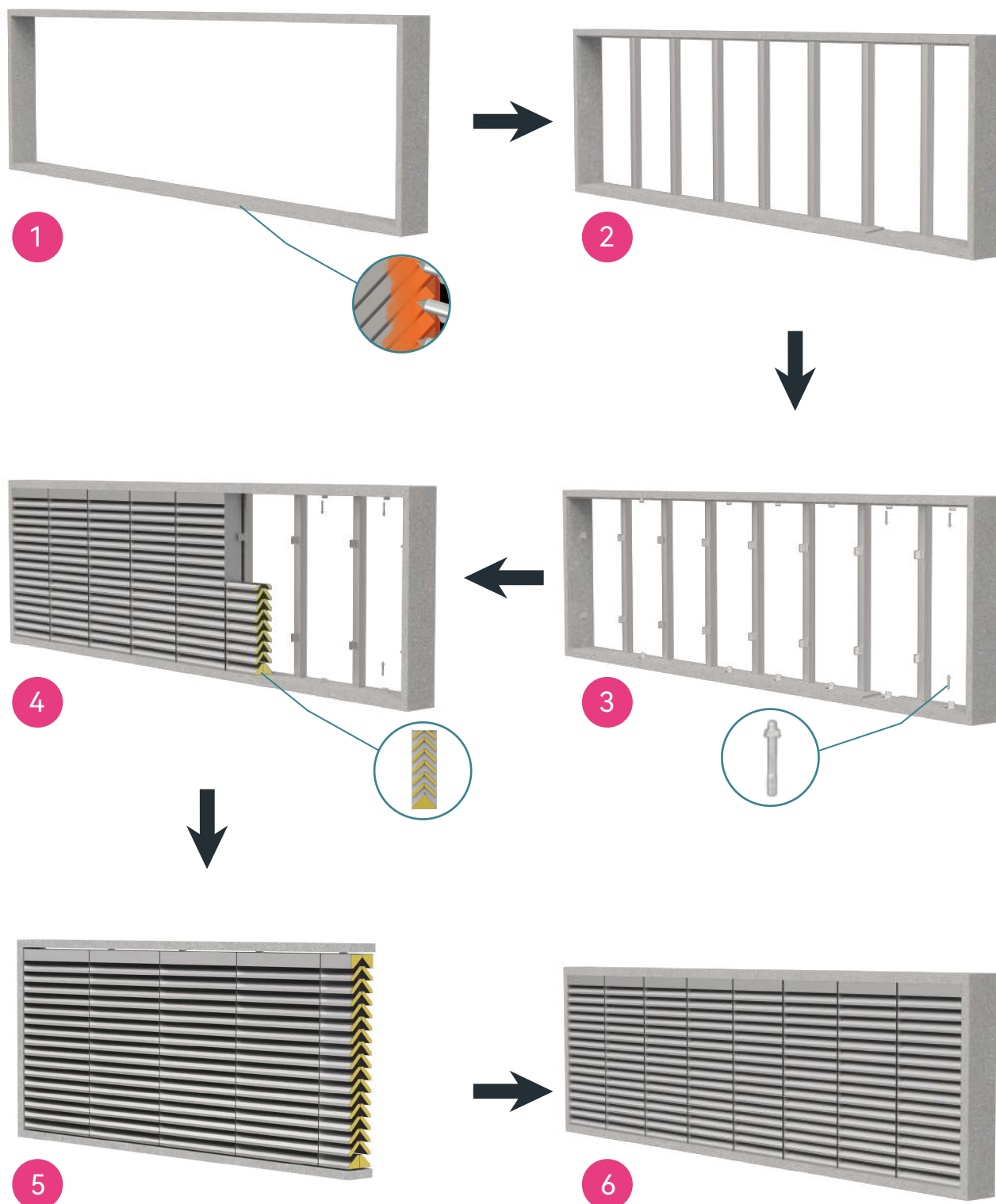
安裝類型 K-OUT

Directional coefficient of sound reflection O = 2

聲反射的方向係數 O = 2

裝配

Assembly





煌商佑鋼鐵

香港煌商佑鋼鐵實業有限公司
HK HuangShangYou Steel Industrial Limited



king@ulsteel.com



Tel: +852-28366968

Phone: +852-92991977 +852-92992577



Web: www.ulsteel.com.hk



Building 1, No.6
Jinhai 1st Road
Xiegang Town
Dongguan City
Guangdong Province
P.R. China

中國廣東省東莞市謝崗鎮金海一路6號1棟



G/F, 69C
Bedford Road
Tai Kok Tsui
Kowloon
Hong Kong

香港九龍大角咀必發道69C地下



king@ulsteel.com

Tel: +852-28366968

Phone: +852-92991977

+852-92992577

Web: www.ulsteel.com.hk