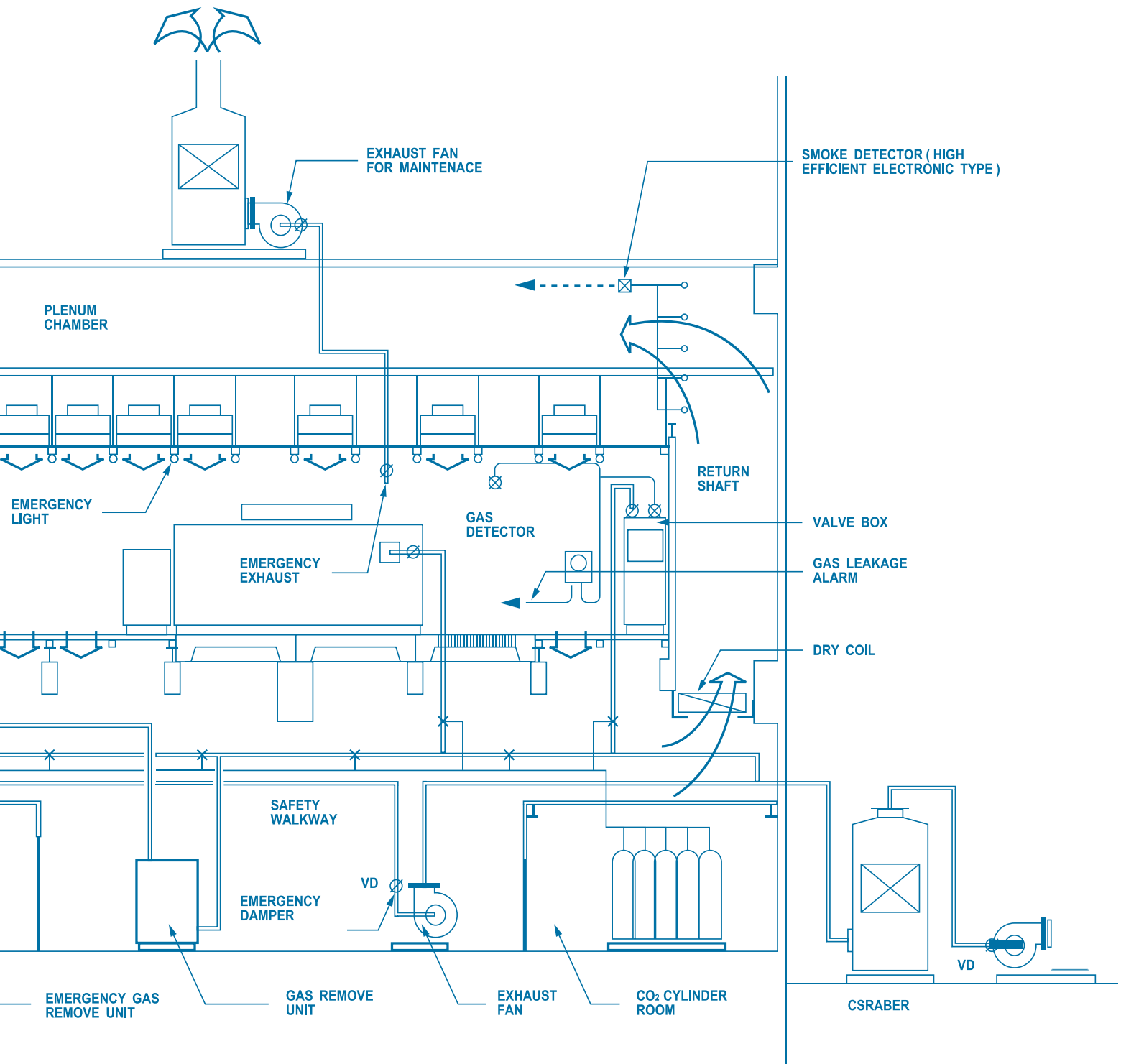


潔淨室系統設備材料

Clean room system equipment & material



公司簡介

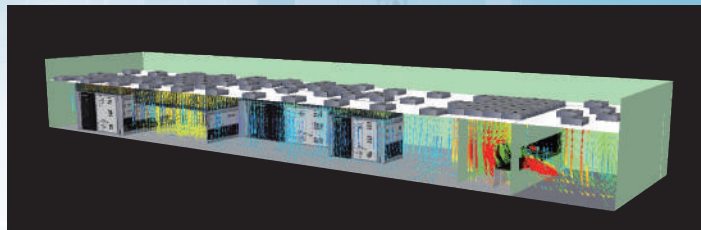
TOPWELL結合中日雙方的菁英技術，並承續先進的無塵室興建經驗，積極投入無塵室相關設施之開發與生產，同時考量產業運用之普及性，更將特定的無塵室設備與材料加以標準化及模組化，並配合電腦軟體之設計輔助，在高規格的無塵室標準下，建立簡化無塵室興建工程之運用平台。

研究開發

針對設計開發上需求，設置有專業用之"3D立體模型輸出系統 (FDM 200MC&PRODIGY PLUS)" 及"微電腦萬能拉力試驗機"，能針對各項材料開發後之強度加以驗證，以確保材料之實用性及安全性。在與學術單位合作下，TOPWELL也開發出內裝設計輔助電腦軟體，將開發材料之工程數據建置於設計軟體內，藉此可提供業界一套系統化之無塵室內裝設計及應用標準。同時，本公司也建置有"3D氣流模擬軟體 (FloVENT CFD software)"，除了輔助設計開發需求之外，亦可配合客戶特殊製程需求，針對機台量身訂做其Clean Booth 或Mini-environment。

廠房設施

在林口及台南分別成立研發中心與工廠，除了具備新穎自動化的加工機具外，所有產品在出廠前之生產、清潔與包裝，皆在Class 10,000潔淨室內完成。



3D氣流模擬軟體



微電腦萬能拉力試驗機



3D立體模型輸出系統

INTRODUCTION

Topwell is a joint venture of Japanese and Taiwanese engineering company which are specialized in cleanroom construction. Through the technical integration of both companys and years of experience, Topwell is formed to develop cleanroom products including interior materials and HVAC equipments.

Core Competence

1.Extensive knowledge and experience in cleanroom system construction.

2.R&D competence:

- 3D production system (FDM 200MC&PRODIGY PLUS)

A advanced fused deposition modeling (FDM) additive fabrication systems for advanced prototypes and parts.

- 10 Ton Micro-Computer Universal Testing Machine For testing of tension, compression, elongation, tearing, torsion, breakage, shearing of materials.

- 3D simulation system (FloVENT)

A powerful Computational Fluid Dynamics (CFD) software that predicts 3D airflow, heat transfer and contamination distribution in and around environment of all types and sizes.



Class 10,000 Cleanroom Production Facility



Production Facility

The R&D center and factory are located In Linkuo and Tainan, respectively. In addition to the automatic processing machines, our facility is equipped with Class 10,000 cleanroom for cleaning and packing.

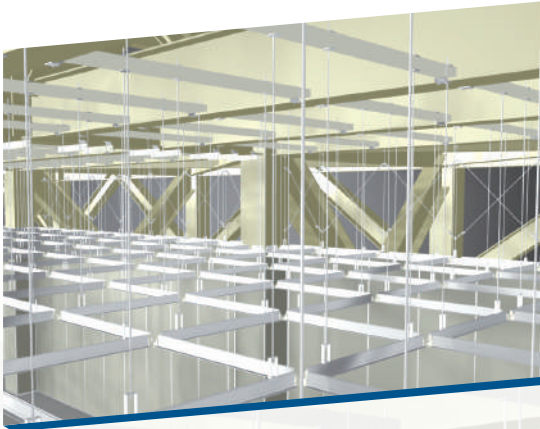
TOPWELL Ceiling Grid System 天花板吊架系統

鋁擠型天花板吊架系統考量要點

1. 表面平滑防止灰塵堆積
2. 耐荷重、耐蝕、耐磨性高
3. 拆組簡易
4. 抗靜電表面處理
5. 模組化設計
6. 無揮發性氣體逸出
7. 接頭可安裝消防灑水頭及電源線

TOPWELL天花板吊架系統特點

1. FM認證合格
2. 鋁骨連接可採接頭式或跨接式
3. 接頭可安裝消防灑水頭及電源線
4. 鋁骨料採Al-Mg-Si 鍊合金
5. 表面酸鹼化學霧化陽極處理,任一點膜 厚>10µm
6. 接頭採用鋅合金三號材質,尺寸精準穩定,撓度強,抗拉不斷裂
7. 專利防脫落設計調整器



Ceiling Grid Selection Criteria

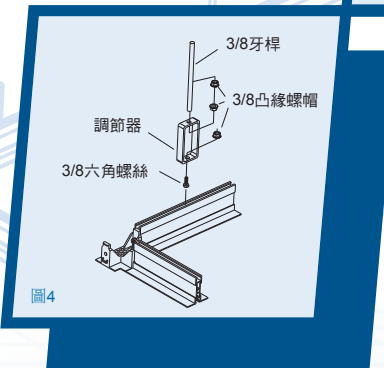
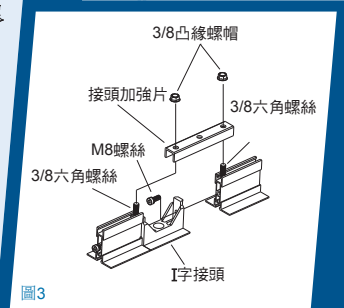
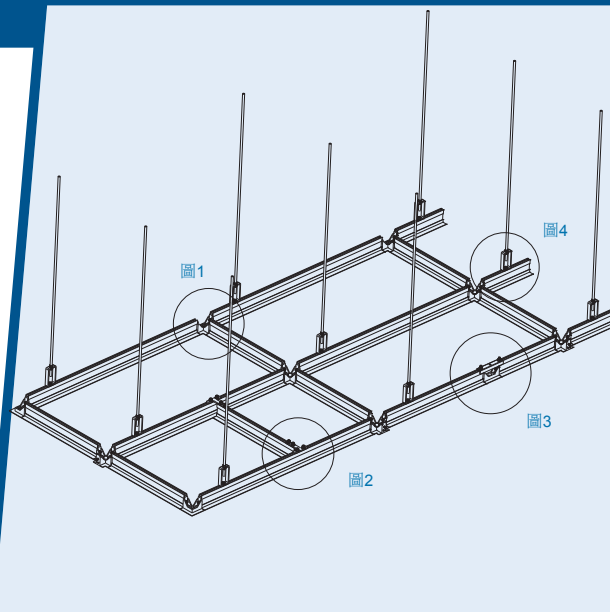
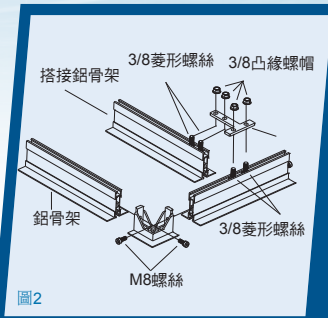
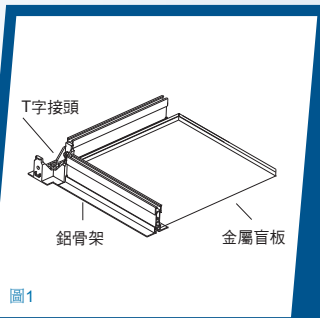
1. Smooth surface to prevent dust accumulation
2. Durable, anti-corrosive and anti-abrasive
3. Easy assembly and disassembly
4. Anti-static surface
5. Modular design
6. Out-gassing free
7. Connector available for sprinkler and electrical wiring

TOPWELL Ceiling Grid Characteristic:

1. FM Approval
2. Grid connection by connector or lock-in type
3. Connector available for sprinkler and electrical wiring
4. T Grid Material: Al-Mg-Si Alloy
5. Surface treatment: Anodic processing Anodic film:>10µm
6. Connector made by zinc alloy #3 for high standard of strength, precision and surface treatment
7. Patented safety design of turn buckle

Cross Joint Type Ceiling Grid Assembly

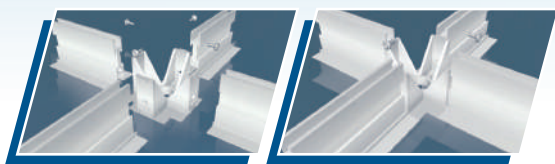
接頭式天花板吊架系統組裝大樣圖



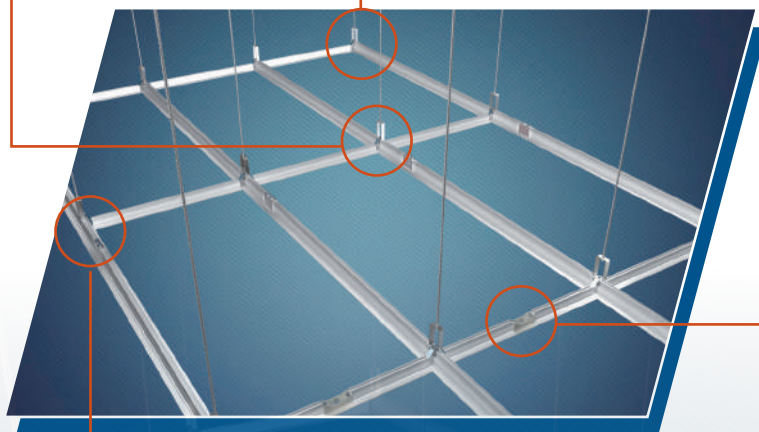
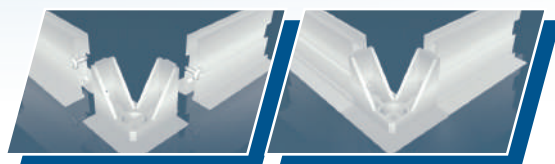
Cross Joint Type Ceiling Grid Assembly

接頭式天花板吊架系統組裝示意圖

Cross Type Connector
鋅鋁合金十字接頭



L Type Connector
鋅鋁合金L字接頭



T Type Connector
鋅鋁合金T字接頭



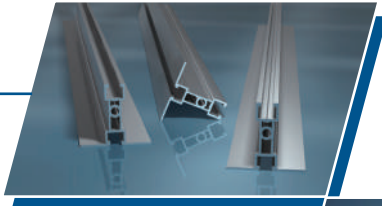
I Type Connector
鋅鋁合金I字接頭



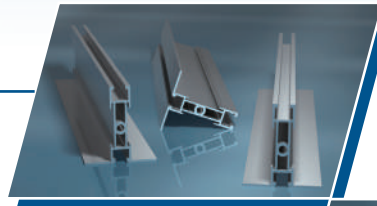
Cross Joint Type Ceiling Grid (Heavy Duty)

接頭式天花板吊架系統 (荷重型)

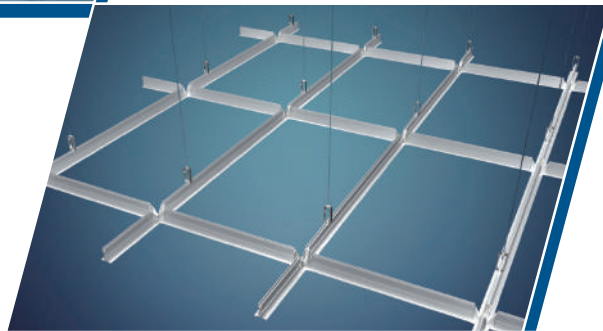
Standard T Grid (H57xW65)
標準型鋁骨料(H57xW65)



Heavy duty T Grid(H70xW65)
荷重型鋁骨料(H70xW65)



Cross Type Connector
鋅鋁合金十字接頭



T Type Connector
鋅鋁合金T字接頭

I Type Connector
鋅鋁合金I字接頭

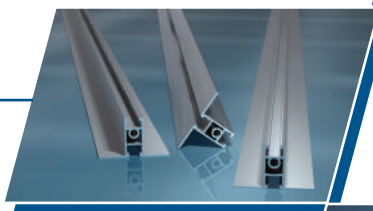


L Type Connector
鋅鋁合金L字接頭

Cross Joint Type Ceiling Grid (Light Duty)

接頭式天花板吊架系統 (輕量型)

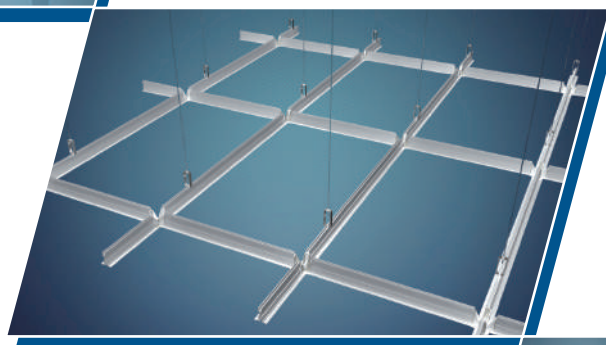
Light Duty T Grid (H40xW70)
輕量型鋁骨料(H40xW70)



Cross Type Connector
鋅鋁合金十字接頭



T Type Connector
鋅鋁合金T字接頭



I Type Connector
鋅鋁合金I字接頭



L Type Connector
鋅鋁合金L字接頭



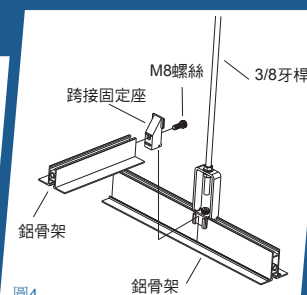
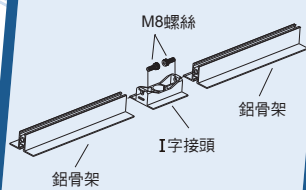
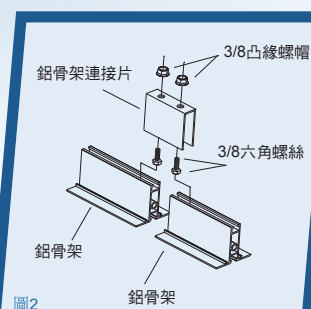
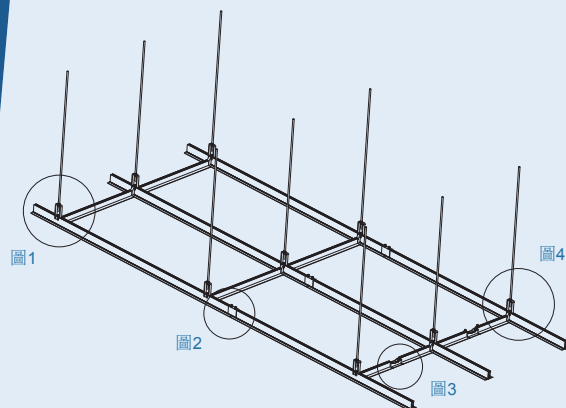
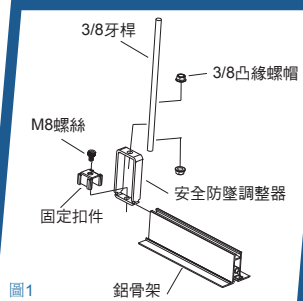
Ceiling Grid System 天花板吊架系統		Cross Joint Type 接頭式		
		Heavy Duty (荷重型)	Standard (標準型)	Light Duty (輕量型)
Specification (規格)	T Grid Size (鋁骨架尺寸)	70x65	57x65	40x70
	Aluminum material (材質)	A6063-T5	A6063-T5	A6063-T5
	Surface treatment (表面處理)	Anodic Processing >10µm	Anodic Processing >10µm	Anodic Processing >10µm
	Tension Strength (Bottom) 抗拉強度(下槽) *1	>1300Kg	>1300Kg	>1100Kg
	Tension Strength (Top) 抗拉強度(上槽) *1	>1000Kg	>1000Kg	>1000Kg
	Deflection 撓度(*2)	1,43mm	2.40mm	5.12mm
	Deformation 變形量(*2)	0.00mm	0.00mm	0.02mm

(*1) Tested at loading speed of 1000Kg/min 測試速率 1000Kg/min 下之抗拉強度

(*2) Concentrated load of 100Kg at 1M of interval 跨距一米時集中荷重一百公斤下之抗彎強度

Lock-in Type Ceiling Grid Assembly

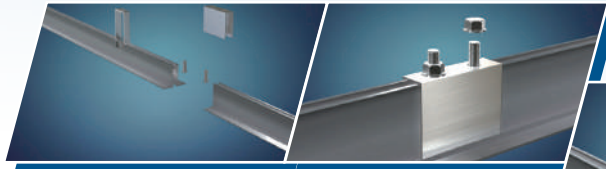
跨接式天花板吊架系統組裝大樣圖



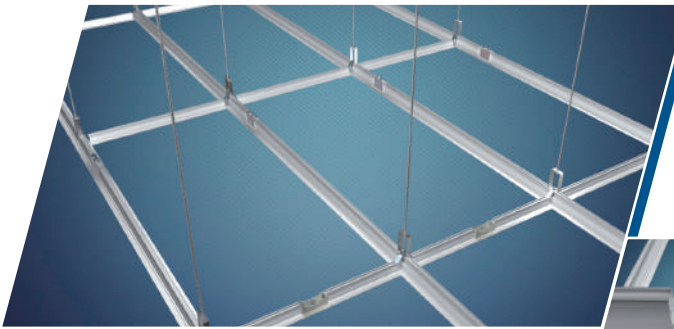
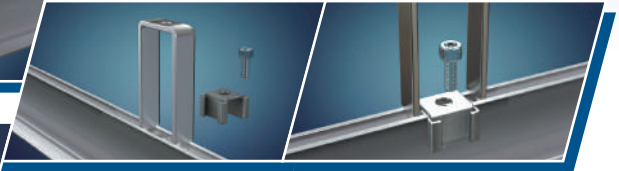
Lock-in Type Ceiling Grid Assembly

跨接式天花板吊架系統組裝示意圖

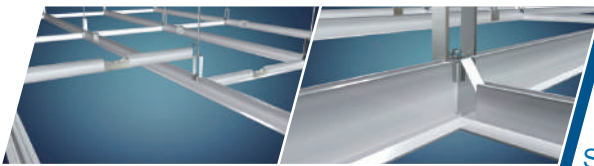
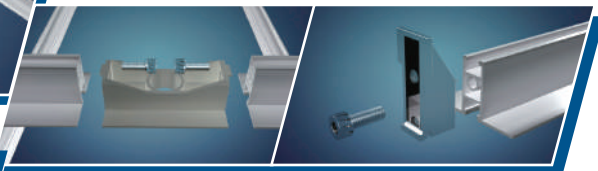
Main grid assembly 主骨架組裝



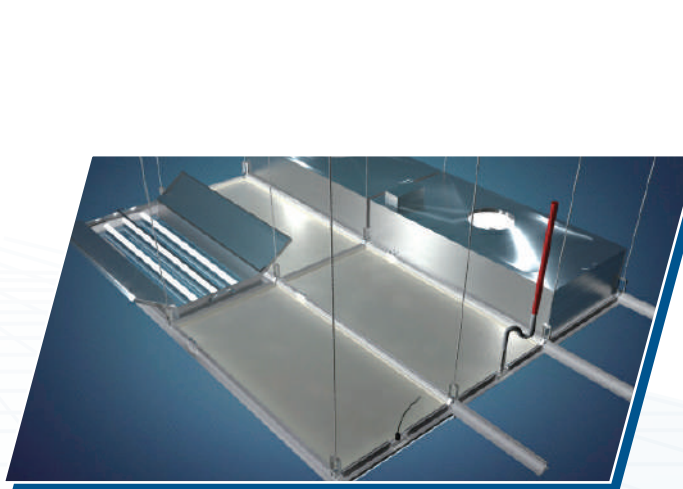
Lock-in connector assembly 固定座安裝



Sub grid assembly 次骨架組裝



Sub grid installation 次骨架連接至主骨架



Lock-in Type Ceiling Grid Assembly
跨接式天花板吊架系統組裝示意圖

Electrical wiring installation
電線安裝



Sprinkler installation
消防撒水管安裝

Lock-in Type Ceiling Grid

跨接式天花板吊架系統

Main T Grid (H60xW70)
主鋁骨料(H60xW70)



Sub T Grid (H40xW70)
次鋁骨料(H40xW70)



Lock-in Connector (female)
跨接固定座(母)



Lock-in Connector (male)
跨接固定座(公)

Main T Grid Connection Piece
主鋁骨料連接片



I Type Cross Connector
鋅鋁合金I字接頭

Ceiling Grid System 天花板吊架系統		Lock-in Type 跨接式	
		Main Grid 主骨架	Sub Grid 次骨架
Specification (規格)	T Grid Size (鋁骨架尺寸)	60x70	40x70
	Aluminum material (材質)	A6063-T5	A6063-T5
	Surface treatment (表面處理)	Anodic Processing >10µm	Anodic Processing >10µm
	Tension Strength (Bottom) 抗拉強度(下槽) *1	>1100Kg	>1100Kg
	Tension Strength (Top) 抗拉強度(上槽) *1	>1000Kg	>1000Kg
	Deflection 撓度(*2)	1,85mm	5.12mm
	Deformation 變形量(*2)	0.00mm	0.02mm

(*1) Tested at loading speed of 1000Kg/min 測試速率 1000Kg/min下之抗拉強度

(*2) Concentrated load of 100Kg at 1M of interval 跨距一米時集中荷重一百公斤下之抗彎強度

Ceiling Grid Accessories

天花板吊架系統五金配件

M8 Screw/Nut
M8 螺絲/螺母



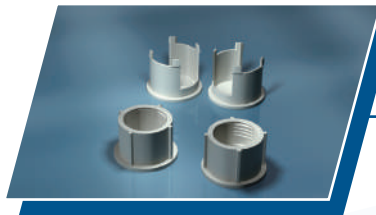
Reinforcing Plate
補強片



Reinforcing Plate/Turn Buckle
補強片/方型調節器



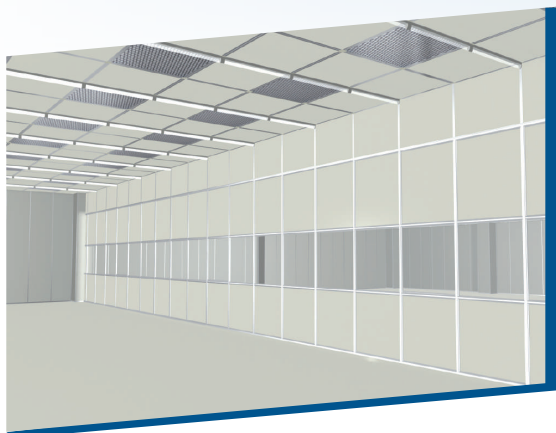
Safety Type Turn Buckle
安全型方型調節器



Connector Cap
接頭孔塞



Electrical Wiring Adaptor
電線承接頭



TOPWELL機台隔間系統特點

- 1.輕量化設計的鋁合金骨架
- 2.隱藏式固定螺絲保持表面平順
- 3.視窗可連續組裝透視性佳
- 4.耐荷重、耐蝕、耐磨性高
- 5.現場可快速安裝及拆解
- 6.可單側施工避免機台干涉
- 7.施作空間需求小(約一米寬度即可)
- 8.抗靜電表面處理
- 9.氣密結構以保持高潔淨度
- 10.彈性大擴充性高可配合既有空間及系統
- 11.可從原系統擴充延伸
- 12.維修簡便可局部更換
- 13.施工時發塵量低
- 14.因應大形機台，高度可達10米

TOPWELL Tool Partition Characteristic:

- 1.Light Weight design
- 2.Flushing surface design by inner screw fixing
- 3.Continuous vision window is possible
- 4.Durable, anti-corrosive and anti-abrasive
- 5.Fast and easy on-site installation and disassembly
- 6.Allow installation work at one side to eliminate process interference
- 7.Limited space(minimum width of 1 meter) for construction is possible
- 8.Anti-static surface
- 9.Air tight Structure to maintain high class of cleanness
- 10.Flexibility and extension availability, accommodate existing space and HVAC system
- 11.Extension capability from existing system
- 12.Easy for routine maintenance, partial replacement is possible
- 13.Minimized particle generation during installation
- 14.Partition height up to 10 meters available

Tool Partition Assembly

機台隔間系統組裝示意圖

Top / bottom rail and vertical post installation

上下軌/立柱安裝



Rail cover installation

下槽蓋安裝



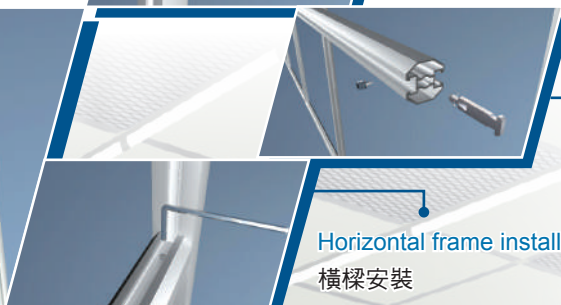
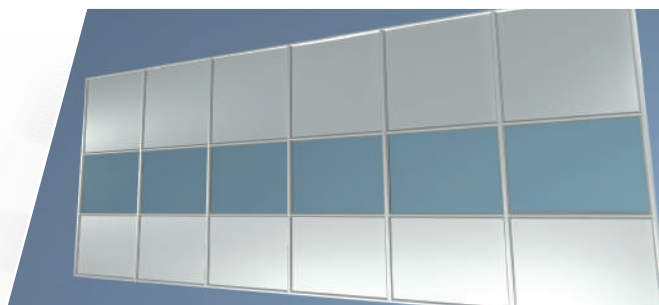
rail cover installation

上槽蓋安裝



Horizontal frame installation

橫樑安裝



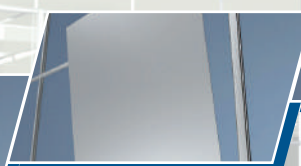
Panel fixing piece installation

面板壓條安裝



Panel installation

面板安裝



Panel fixing piece installation

面板壓條安裝



Hanging Type Tool Partition Assembly

懸吊式隔間系統組裝大樣圖

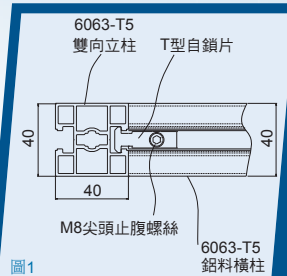


圖1

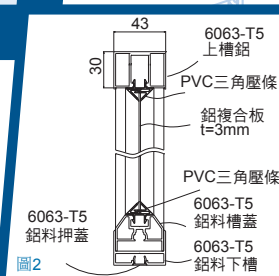


圖2

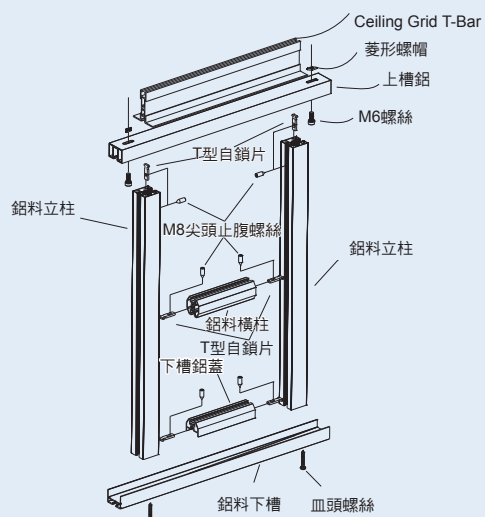


圖3

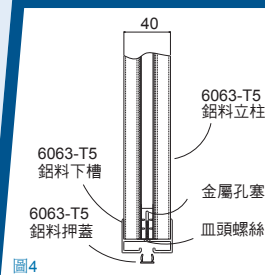


圖4

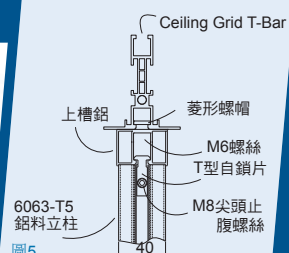


圖5

Hanging Type Tool Partition - Aluminum frame

懸吊式隔間系統-鋁骨料



40x40 2-way Aluminum Frame
40x40雙向鋁立柱



40x40 3-way Aluminum Frame
40x40三向鋁立柱



40x40 4-way Aluminum Frame
40x40四向鋁立柱



Aluminum Bottom Rail
鋁地軌



40x40 Horizontal Aluminum Frame
40x40鋁橫柱



Aluminum Top Rail
鋁天軌



Stand Type Tool Partition Assembly

標準站立式隔間系統組裝大樣圖

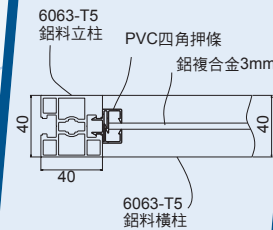


圖1

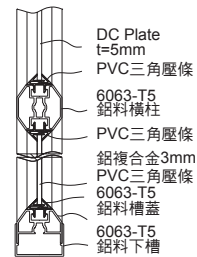


圖2

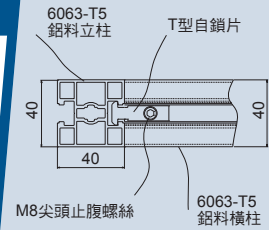
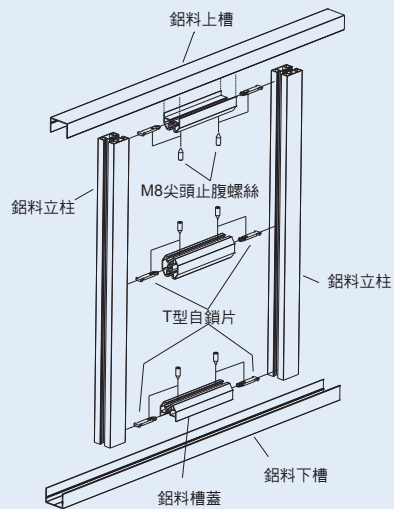


圖3

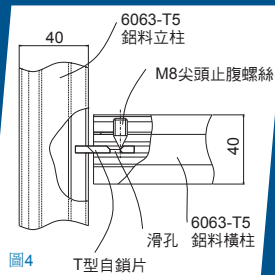


圖4

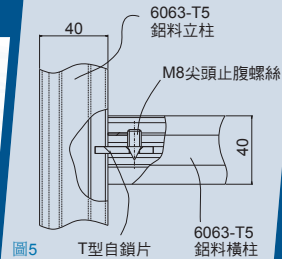


圖5

Stand Type Tool Partition - Aluminum frame

標準站立式隔間系統-鋁骨料



40x40 2-way Aluminum Frame
40x40 雙向鋁立柱



40x40 3-way Aluminum Frame
40x40 三向鋁立柱



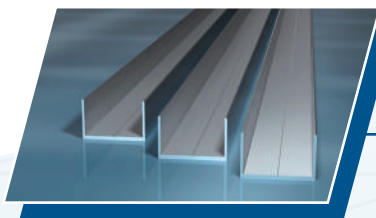
40x40 4-way Aluminum Frame
40x40 四向鋁立柱



Aluminum Rail Cover
鋁槽蓋



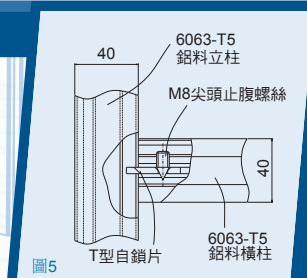
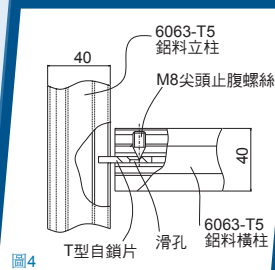
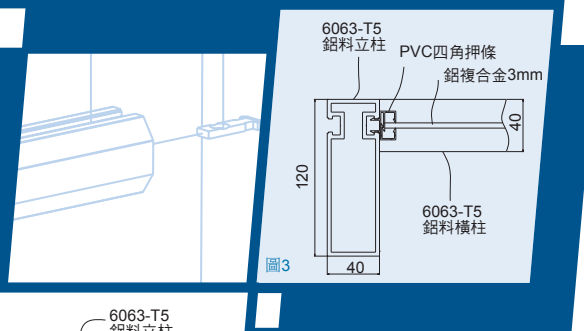
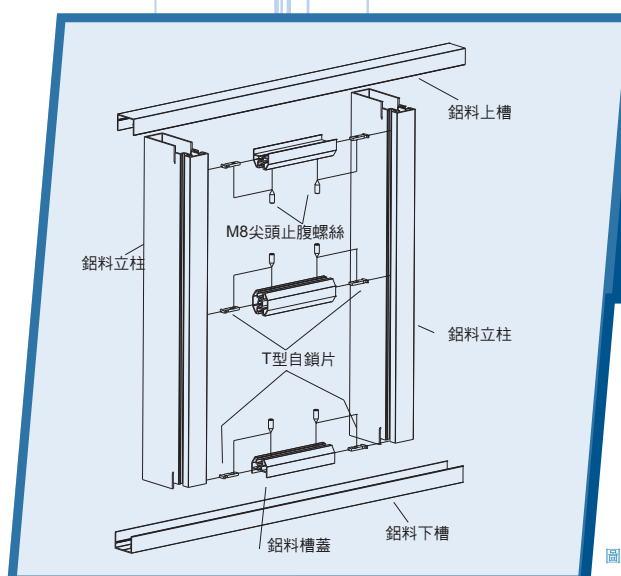
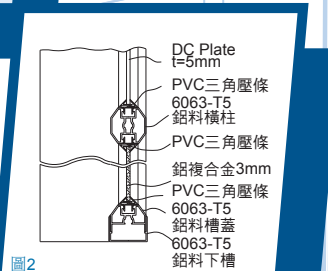
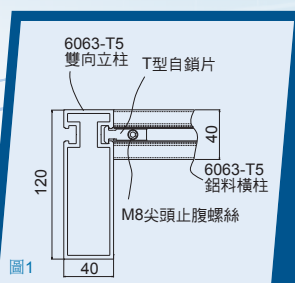
40x40 Horizontal Aluminum Frame
40x40 鋁橫柱



Aluminum Rail
鋁軌

Reinforced Stand Type Tool Partition

挑高站立式隔間系統組裝大樣圖



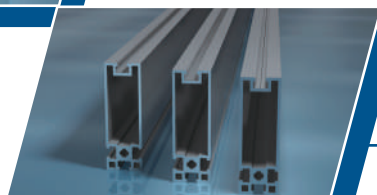
Reinforced Stand Type Tool Partition - Aluminum frame

挑高站立式隔間系統-鋁骨料

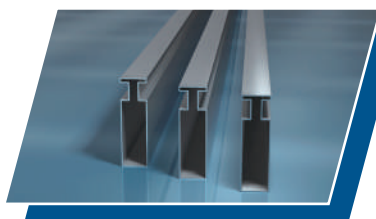
120x40 2-way Aluminum Frame
120x40 雙向鋁立柱



120x40 4-way Aluminum Frame
120x40 四向鋁立柱



120x40 4-way Aluminum Frame Connection Insert
120x40 四向鋁立柱連接料



120x40 2-way Aluminum Frame Connection Insert
120x40 雙向鋁立柱連接料

Tool Partition System 機台隔間系統		Stand type 標準站立式	Reinforced stand type 挑高站立式	Hanging type 懸吊式
Installation Dimension 安裝尺寸	Pitch 間距	~1200 mm	~1200 mm	~2000 mm
	Height 高度	~4800 mm	~9000 mm	~1500 mm
Specification (規格)	Frame Size 鋁骨尺寸	40x40	40x120	40x40
	Aluminum material 材質	A6063-T5	A6063-T5	A6063-T5
	Surface treatment (表面處理)	Anodic Processing >10µm	Anodic Processing >10µm	Anodic Processing >10µm
	Aluminum Composite 鋁複合板	3~5 mm	3~5 mm/	3~5 mm
	Coated Steel 烤漆鋼板			1.2~2mmt
	Anti-static Vision Plate 抗靜電透明板	3~5 mm	3~5 mm	3~5 mm
Characteristic (特性)	1. Light weight(輕量化) 2. Air tight structure(氣密結構) 3. Flexibility and extension availability(設置之彈性及擴充性高) Accommodate existing system ; extension capability from existing system (可將原系統併入或從原系統延伸) 4. Easy Maintenance(維修容易)			

Tool Partition-Accessories

機台隔間系統-五金配件

Screw
螺絲



Locking Screw
自鎖片



Partition Base
腳座



Panel Fixing Piece
面板壓條

TOPWELL Ceiling Divider 天花板高低差封板

TOPWELL 天花板高低差封板特點

- 1.輕量化設計的鋁合金骨架
- 2.保持表面平順,外觀與天花板一致
- 3.耐荷重、耐蝕、耐磨性高
- 4.現場可快速安裝及拆解
- 5.施作空間需求小(約一米寬度即可)
- 6.氣密結構以保持高潔淨度
- 7.維修簡便可局部更換
- 8.施工時發塵量低
- 9.收邊可現場處理，無需工廠預製

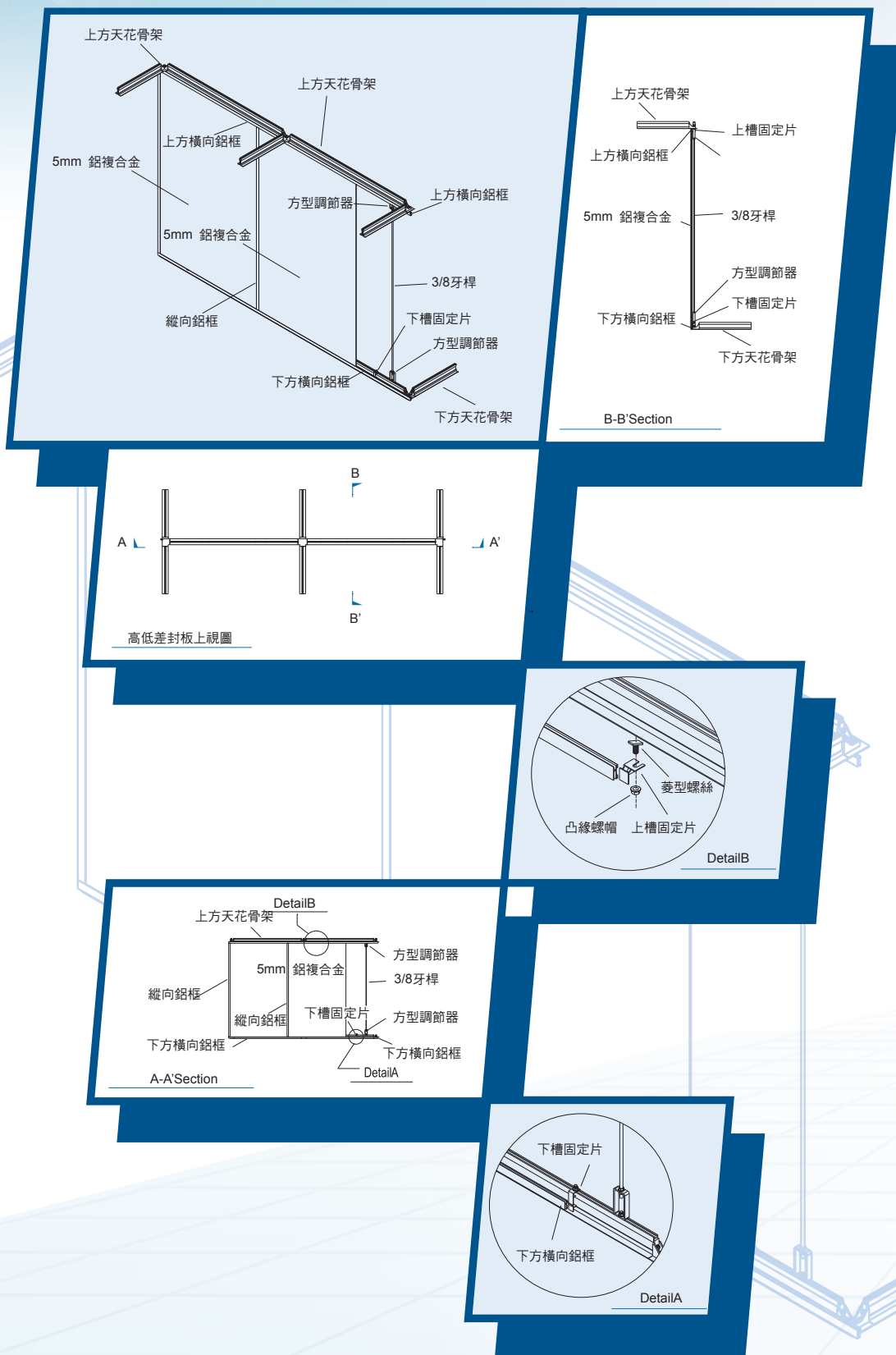


TOPWELL Ceiling Divider Characteristic:

- 1.Light Weight design
- 2.Flushing surface design
- 3.Durable, anti-corrosive and anti-abrasive
- 4.Fast and easy on-site installation and disassembly
- 5.Limited space (minimum width of 1 meter) for construction is possible
- 6.Air tight Structure to maintain high class of cleanness
- 7.Easy for routine maintenance, partial replacement is possible
- 8.Minimized particle generation during installation
- 9.Finishing work can be completed on-site, eliminate pre-fabrication lead time.

Ceiling Divider Assembly

天花板高低差封板組裝大樣圖



Ceiling Divider Assembly

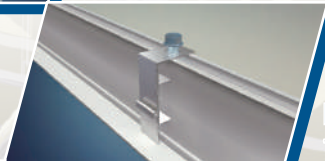
天花板高低差封板組裝示意圖



Top Frame Fixing Piece installation
上槽固定片安裝



Top Frame installation
上槽安裝



Bottom Frame Fixing Piece installation
下槽固定片安裝



Bottom Frame installation
下槽安裝



Divider panel installation
封板安裝



Ceiling Divider Accessories

天花板高低差封板組-五金配件



Aluminum composite panel
鋁覆合板



Bottom Frame Fixing Piece
下槽固定片



Divider Frame
隔板框架



Top Frame Fixing Piece
上槽固定片

TOPWELL Clean Booth

潔淨棚

TOPWELL潔淨棚特點

- 1.輕量化設計的鋁合金骨架,可安裝滑輪以便輕易移動
- 2.耐荷重、耐蝕、耐磨性高
- 3.現場可快速安裝及拆解
- 4.抗靜電表面處理
- 5.承接頭可貫穿管路及電源線
- 6.氣密結構以保持高潔淨度
- 7.彈性大擴充性高可配合既有空間及系統
- 8.可從原系統擴充延伸
- 9.維修簡便
- 10.潔淨度復原快速
- 11.因工期短且原系統無需更動可降低建造成本
- 12.因應大形機台,長跨距型模組可達6米
- 13.可配合機台建構成mini-environment



TOPWELL Clean Booth Characteristic:

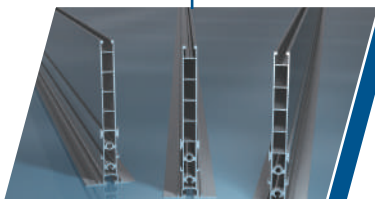
- 1.Light Weight design, wheel mounted is available for re-location
- 2.Durable, anti-corrosive and anti-abrasive
- 3.Fast and easy on-site installation and disassembly
- 4.Anti-static surface
- 5.Connector for piping and wiring penetration available
- 6.Air tight Structure to maintain high class of cleanness
- 7.Flexibility and extension availability, accommodate existing space and HVAC system
- 8.Extension capability from existing system
- 9.Easy for routine maintenance
- 10.Prompt recovery from contamination
- 11.Low cost of construction resulted from shorten installation time, minimized existing system modification and re-location.
- 12.Long span (up to 6 meters) model available
- 13.Integrated into process equipment as mini-environment



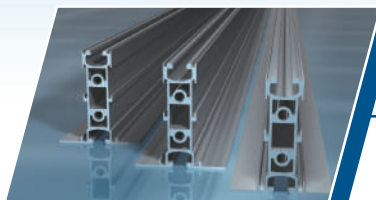
Clean Booth-Aluminum Frame

潔淨棚-鋁骨料

200x70 Ceiling Frame
200x70 天花鋁骨料



80x70 Ceiling Frame
80x70 天花鋁骨料



Soft Wall Type(class1,000-10,000)
軟簾式(class1,000-10,000)



Hard Wall Type(class10-1,000)
硬板式(class10-1,000)



50x80 Aluminum Frame
50x80 鋁骨料



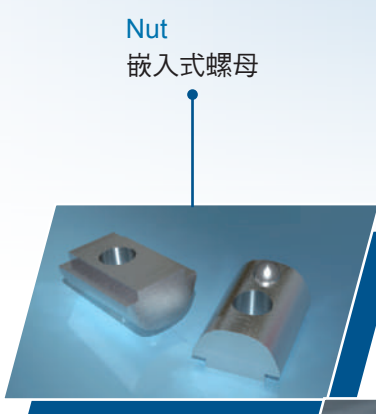
50x50 Aluminum Frame
50x50 鋁骨料



Clean Booth-Accessories

潔淨棚-五金配件

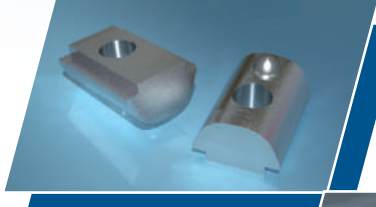
Nut
嵌入式螺母



Locking Screw
自鎖片



Ceiling Connection Piece
天花鋁骨連接片



Ceiling Connection Piece
天花鋁骨連接片



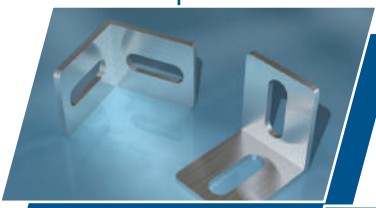
Ceiling Extension
L型天花勾片



Partition Plate Fixing Piece
面板固定片



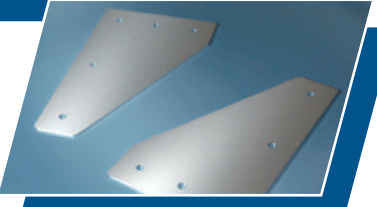
Connecting Piece
連接片



Reinforcing Plate
補強片



Reinforcing Plate
補強片



End Plate
端板



End Plate
端板



Clean Booth System 潔淨棚		Hard Wall Type 硬板式	Soft Wall Type 軟簾式
Specification (規格)	Cleanness 潔淨度	Class 10-1,000	Class 1,000-10,000
	Frame Size 鋁骨尺寸	50x50	50x50
	Aluminum material 材質	T6030	T6030
	Surface treatment (表面處理)	Anodic Processing >10µm	Anodic Processing >10µm
	Aluminum Composite 鋁複合板	3 mm	
	Anti-static Vision Plate 抗靜電透明板	3 mm	
	Anti-static PVC Curtain 抗靜電PVC軟簾		0.3 mm
Characteristic (特性)	1. Light weight(輕量化) 2. Air tight structure(氣密結構) 3. Flexibility and extension availability(設置之彈性及擴充高) Accommodate existing system ; extension capability from existing system (可將原系統併入或從原系統延伸) 4. Easy maintenance (維修容易) 5. Low cost of construction (建造成本低) : shorten installation time ; existing system modification or re-location is minimized (安裝時間短,減少原系統修改或移位)		

Door and Accessories

門及五金配件

Lever handle
水平把手



Flush handle
平面把手



Single Door
單開門



Double Door
雙開門



Hinges
絞鏈



Door Closer
門弓器



