



# ALE 452

*Acoustical Louvers with Extruded Aluminum*

鋁擠型消音百葉



*Acoustical Louvers with Extruded Aluminum*

## THE FLOWTECH GROUP

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AGENT(經銷商):

領先群雄 · 完美典範



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陽鼎實業股份有限公司特此證明，此處所示ALE-452獲得了加蓋AMCA印章的授權。所示額定值係依據AMCA出版物511所進行的測試和程序確定，並符合AMCA認證額定值計畫的要求。

AMCA認證額定值印章僅適用於滲水、聲音和空氣性能額定值。



# 世·界·級·的·認·證

GLOBALLY RECOGNIZED  
CERTIFICATIONS AND STANDARDS

## 通風設備性能與耐溫測試實驗室

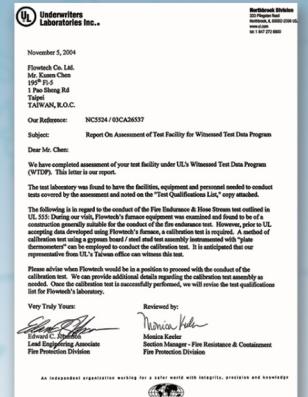
Ventilation Performance and Smoke Management Laboratory

舉凡通風設備產品如風機、風門所需之性能及品質要求，皆可由本實驗室提供一系列完整的測試服務。並在財團法人全國認證TAF基金會的品質及技術要求監督下，獨立並公正執行每項測試。因此，國內公共工程及消防安全之相關通風設備產品，不必再千里迢迢將產品送到國外測試，也不需業主及顧問公司人員舟車勞頓至國外見證，節省更多的時間費用。

除此之外，本實驗室為求能邁入國際化，分別於西元2003年12月29日、2004年11月5日及2004年12月22日取得到AMCA 210、UL555/555S和AMCA 300之實驗認證。AMCA及UL實驗室在風機及風門的產品測試要求，一直是大部分國家採用的規範，AMCA及UL在透過定期的能力對比之下、監督其認證過的實驗室測試能力即精確度。因此，本實驗室為國內第一家風機製造商通過AMCA及UL認證的實驗室，對於產業將會造成良性的競爭與提升。



AMCA 300



亞洲唯一UL認證實驗室



AMCA 210



實驗室TAF證書



## 常溫風機性能測試設備

Fan performance Testing Facility

■ 測試標準(Standards)

- AMCA 210
- ISO 5801
- BS 848-1
- DIN 24163-2

## 風門、百葉壓損測試設備

Louver Pressure Drop Testing Facility

■ 測試標準(Standards)

- AMCA 500

## 隧道通風機振動/推力測試設備

Jet Fan Thrust Testing Facility

■ 測試標準(Standards)

- ISO 13350
- BS 848-10

## 排煙閘門洩漏測試設備

Smoke Damper Leakage Testing Facility

■ 測試標準(Standards)

- AMCA 500
- UL 555S
- ISO 10294
- GB 15930

## 消音箱/消音百葉測試設備

Silencer / Acoustical Louver Tesring Facility

■ 測試標準(Standards)

- ASTM-E477
- ISO 7235

## 防火風門測試設備

Fire Damper Testing Facility

■ 測試標準(Standards)

- UL 555

## 測試標準

- AMCA 210
- ASHRAE 149
- BS 848-10
- ISO 7235
- AMCA 300
- DIN 24163-2
- GA 211
- ISO 10294
- AMCA 500
- BS 7346-2
- GB 15930
- ISO 13350
- AS 4429
- BS 848-1
- EN 12101-3
- UL 555
- ASTM-E477
- BS 848-2
- ISO 5801
- UL 555S

全響室迴風道出口  
Exhaust Duct exit of Revererant流量噴嘴  
Multiple Nozzles for Flow Measurement全響室迴風道裝置  
Silencer in Exhaust Duct全響室  
Reverberant Room  
360°旋轉噪音器  
360°Routing Microphone in Reverberant整流裝置  
Flow Straightener

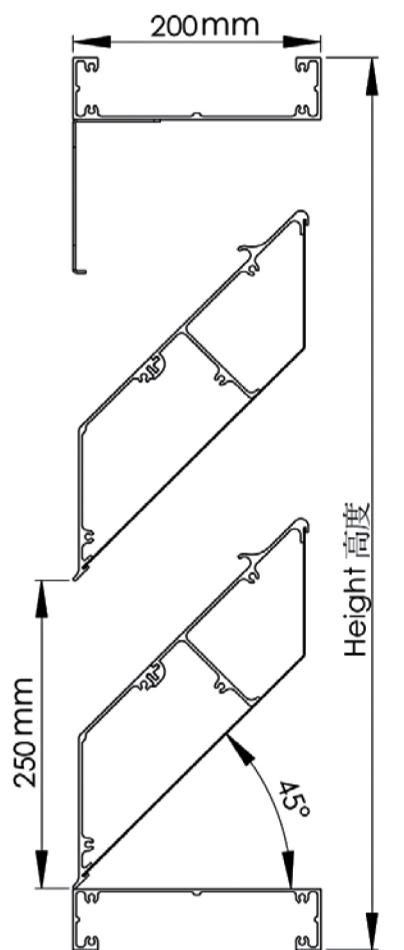
## 設計原理 Application and design

ALE-452 is an acoustical louver designed to air intake and exhaust openings in building exterior walls. Design the blades to prevent water penetration. The insulated acoustical blades and high free area to provide maximum resistance to sound transmission. The ALE-452 is an extremely efficient louver with AMCA Certified enabling designers to select and apply with confidence.

ALE-452是安裝在大樓外牆用以保護空調排煙系統出入風口的消音百葉，其葉片設計為防止雨水的滲透，可在最大的自由通風面積下有效的阻絕聲音傳遞，ALE-452(鋁擠型消音百葉)本身通過AMCA認證，可確實保證產品的性能及消音效果，並有各種尺寸提供選用。

## 標準結構 Construction

Model Name 型號	ALE-452	ALE-452-S
Material 材質	6063 Extruded Aluminum 鋁擠型6063鋁合金材質	AISI 304/316 Stainless Steel SUS 304或316 不銹鋼板材質
Frame 框架	2.5mm	
Blade 葉片	2.5mm	
Construction 結構	Screw 螺絲組裝	
Louver Depth 百葉深度	200mm	
Acoustical Insulation 消音材質	Fiberglass 玻璃纖維棉	
Blade Centers Distance 葉片中心距	250mm	
Blade Angle 葉片角度	45°	
Min. Size 最小尺寸	305mm x 610mm (12" x 24")	
Max. Size 最大尺寸	1829mm x 2438mm (72" x 96")	
Free Area 自由面積 1220 mm x 1220 mm unit單位測試尺寸	0.334 m <sup>2</sup> Free Area 自由面積 22.5% Free Area Coefficient 自由通風率	
Finish 表面處理	Standard Mill 標準塗裝	



## 選購配件 Options

- The birdscreen material could be option 1.0mm, 1.2mm or others diameter galvanized wire steel or stainless wire steel. The size pitch may be 10~20 mm square mesh or the others size.
- Filter racks.
- Flanged frame.

## 建議事項 Suggested Specification

Furnish and install louvers as hereinafter specified where shown on plans or as described in schedules. Louvers shall be stationary acoustical type contained within a 200 mm frame. Louver components (jambs, mullions, sills and blades) shall be factory assembled by the louver manufacturer. Louver sizes too large for shipping shall be built up by the contractor from factory assembled louver sections to provide overall sizes required.

本消音百葉提供安裝說明，方便確認及進行消音百葉的安裝，所有零件包覆在 200 mm 的框架內，可以穩定的消除噪音，百葉零件(框架、補強底檻及葉片)皆在百葉製造商工廠內組裝完成，不會有半成品至現場組裝，若有超出標準尺寸的百葉需求，會由工廠端與客戶確認契約，若尺寸太大無法運送，將採多個百葉組裝方式進行，以達成客戶需求。

## 特徵 Features

The ALE-452 offers 特性

- Over 10% Free Area Coefficient.  
10%以上自由通風率。
- Architecturally styled hidden mullions allowing continuous line appearance.  
所有零組件全部被框架包覆沒有突出。
- Published performance ratings based on testing in accordance with AMCA Standard 500-L.  
型錄呈現的性能確實依據AMCA 500-L的標準所進行測試認證。

## 自由面積表(sq. m.) Free Area Chart

Louver Height(m)	Louver Width (m)										
	0.3	0.45	0.6	0.75	0.9	1.05	1.22	1.35	1.5	1.65	1.8
0.6	0.04	0.07	0.1	0.13	0.16	0.19	0.224	0.250	0.280	0.310	0.340
0.75	0.035	0.062	0.088	0.115	0.141	0.167	0.197	0.220	0.247	0.273	0.300
0.9	0.065	0.114	0.163	0.212	0.261	0.310	0.365	0.408	0.457	0.506	0.555
1	0.050	0.088	0.126	0.164	0.202	0.240	0.283	0.316	0.353	0.391	0.429
1.05	0.060	0.106	0.151	0.197	0.242	0.287	0.339	0.378	0.423	0.469	0.514
1.22	0.060	0.105	0.149	0.194	0.239	0.284	0.334	0.373	0.418	0.463	0.508
1.35	0.086	0.150	0.214	0.279	0.343	0.407	0.480	0.536	0.600	0.664	0.729
1.5	0.081	0.142	0.202	0.263	0.324	0.385	0.453	0.506	0.567	0.627	0.688
1.65	0.111	0.194	0.277	0.361	0.444	0.527	0.621	0.694	0.777	0.860	0.943
1.8	0.106	0.186	0.266	0.345	0.425	0.504	0.595	0.664	0.743	0.823	0.903
1.95	0.101	0.178	0.254	0.330	0.406	0.482	0.568	0.634	0.710	0.786	0.862
2.1	0.131	0.230	0.329	0.427	0.526	0.624	0.736	0.822	0.920	1.019	1.117
2.25	0.127	0.222	0.317	0.412	0.507	0.602	0.709	0.792	0.887	0.982	1.077
2.4	0.157	0.274	0.392	0.509	0.627	0.744	0.877	0.979	1.097	1.214	1.332

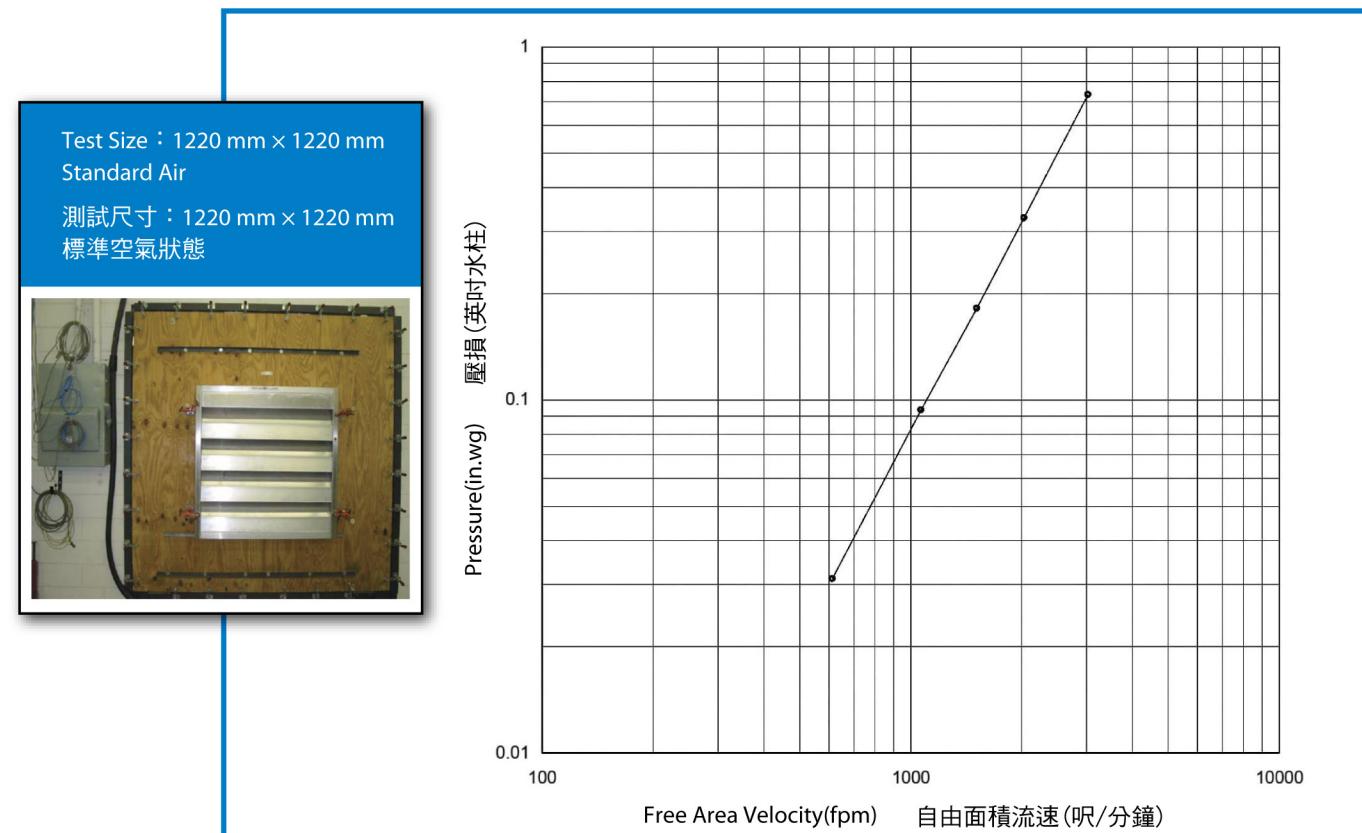
## 測試用百葉結構 Test Construction

Frame 框架	6063 Extruded Aluminum 鋁擠型6063 鋁合金材質
Blades 葉片	6063 Extruded Aluminum 鋁擠型6063 鋁合金材質
Sizes 尺寸	1220 mm × 1220 mm
Insulation 填充物	Fiberglass insulation 玻璃纖維棉填充消音
Free Area 自由通風率	22.5% Free Area Coefficient 22.5%自由通風率

## 壓損性能 Air Performance

Published louver performance data bearing the AMCA Certified Ratings Seal for Water Penetration、Sound & Air Performance must be submitted for approval prior to fabrication and must demonstrate pressure drop equal to or less than the model specified. Label the pressure drop graph as "Exhaust".

消音百葉通過AMCA認證實驗室測試，保證其防滲水、消音效果及性能、壓損值僅等於或小於型錄標示壓損，**本壓損曲線為入風口測試**。



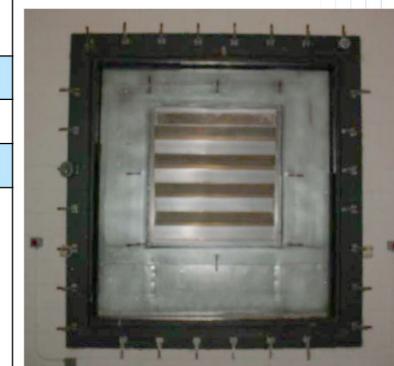
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## 聲音 Sound

- Test Size : 1220 mm × 1220 mm
- Sound Absorbing Material : Fiberglass
- 測試尺寸：1220 mm × 1220 mm
- 消音填充物：玻璃纖維棉

ASTM Standard E90-2004						
Octave Band 八音頻帶	2	3	4	5	6	7
Freq. (Hz)	125	250	500	1000	2000	4000
TL (dB)	5	5	7	12	12	11
NR (dB)	11	11	13	18	18	17

- Full Octave Band Specimen Sound Transmission Loss 全八音頻樣品聲傳損失  
TL = Transmission Loss 傳遞損失  
NR = Free Field Noise Reduction 噪音遞減  
NR = TL + 6 dB
- ASTM E413 – 2004 : STC = 10



## 聲音傳遞等級 Sound Transmission Class

The Sound Transmission Class (STC) is a rating of the effectiveness of an assembly in isolating or reducing airborne sound transmission. STC is a single number that summarizes airborne sound transmission loss data. Assemblies with higher STC ratings are more efficient at reducing sound transmission. STC is determined in accordance with ASTM E413-04.

聲音傳遞等級(STC)是有效將固定目標隔絕噪音或是降低噪音的一種等級劃分，其總括所有在空氣傳遞所造成聲音損失數據的一種指標，STC的測試是依據ASTM E413-04規範標準，可確定高STC值能有效的阻絕聲音。

## 傳遞損失 Transmission Loss

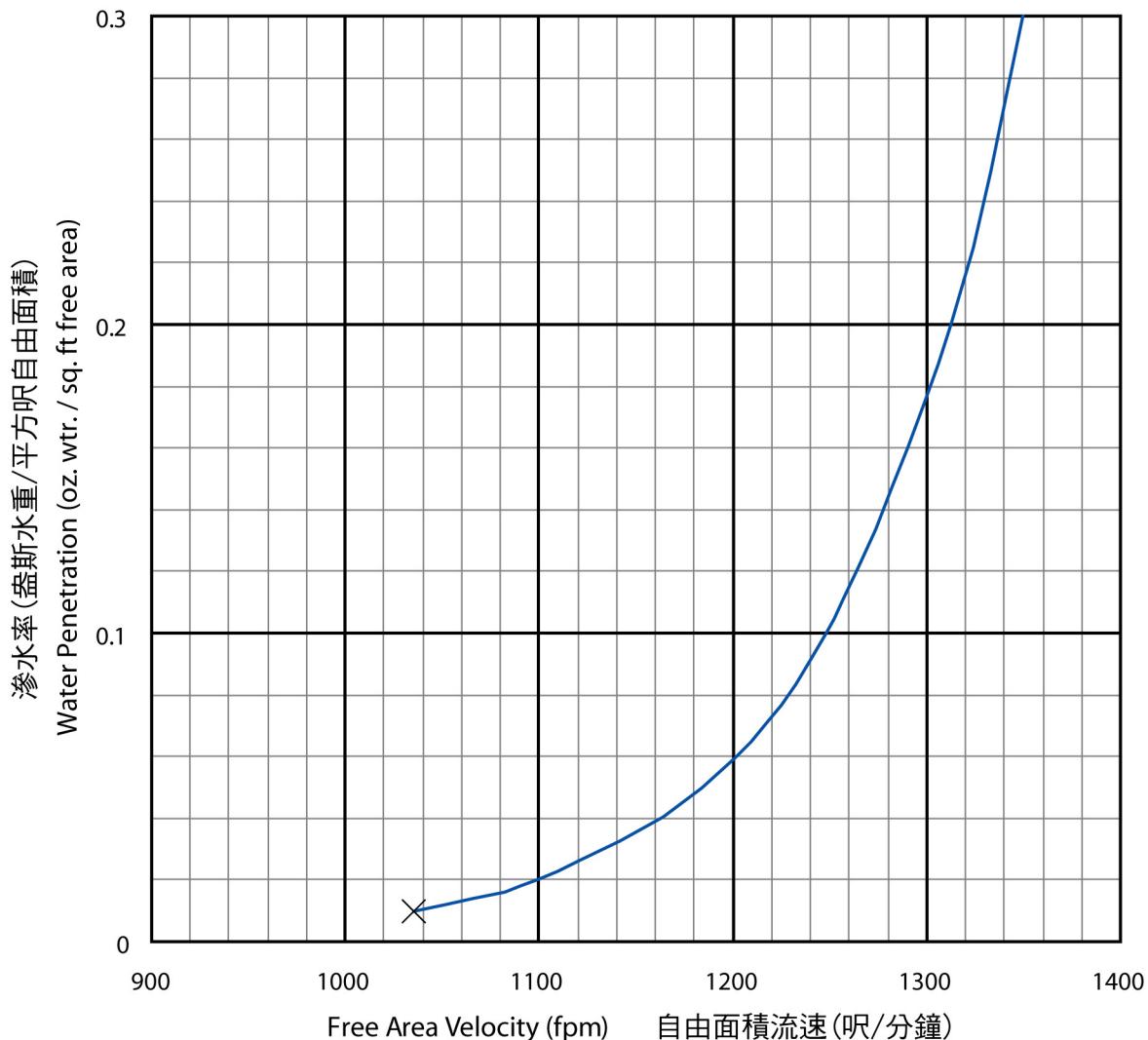
Transmission loss (TL) is a measurement of the reduction of sound power transmission (dB) through an assembly at a given frequency. TL is tested in accordance with ASTM E90-04. Free Field Noise Reduction(dB) is determined by adding 6 dB to the Transmission Loss.

傳遞損失(TL)是在某個頻率下比較聲功率傳遞損失(dB)的測量值，TL的測試依據ASTM E90-04規範標準，聲功率傳遞損失的值會比TL量測高6個dB值。



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## 防滲水性能 Water Penetration



### 滲水風速值

Test Size : 1220 mm × 1220 mm  
Standard Air

測試尺寸 : 1220 mm × 1220 mm  
標準空氣狀態

The Beginning of water penetration is 1036.1 fpm  
(15 min. duration)

開始滲水風速值 : 1036.1 fpm (5.26 m/s)  
(測試時間為15分鐘)



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