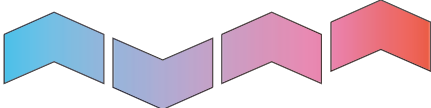




E N G I N E E R E D A I R D I S T R I B U T I O N

W SERIES

EXTERNAL LOUVRES



SPECIFY WITH CONFIDENCE

Colman Weather Louvres

- Almost 40 years research and development
- High performance
- Architectural appeal

Standard Range

Tailored products to meet the precise size, colour and finish required;

- Irregular and complex shapes
- Mitred corners
- Multi-bank assemblies
- Single and Double Doors

Penthouse Louvres

- Transform roof-top terminals into a design feature
- Integration of access doors

Continuous appearance Louvres

- Clear unbroken designs
- Integration with cladding systems, glazing systems, brickwork, timbered and cast openings

Weatherproof features with optimum free airflow, in the most severe conditions;

- Blade profiles have water blow-back, anti cascade traps

Liverpool University



Bolton Railway Station

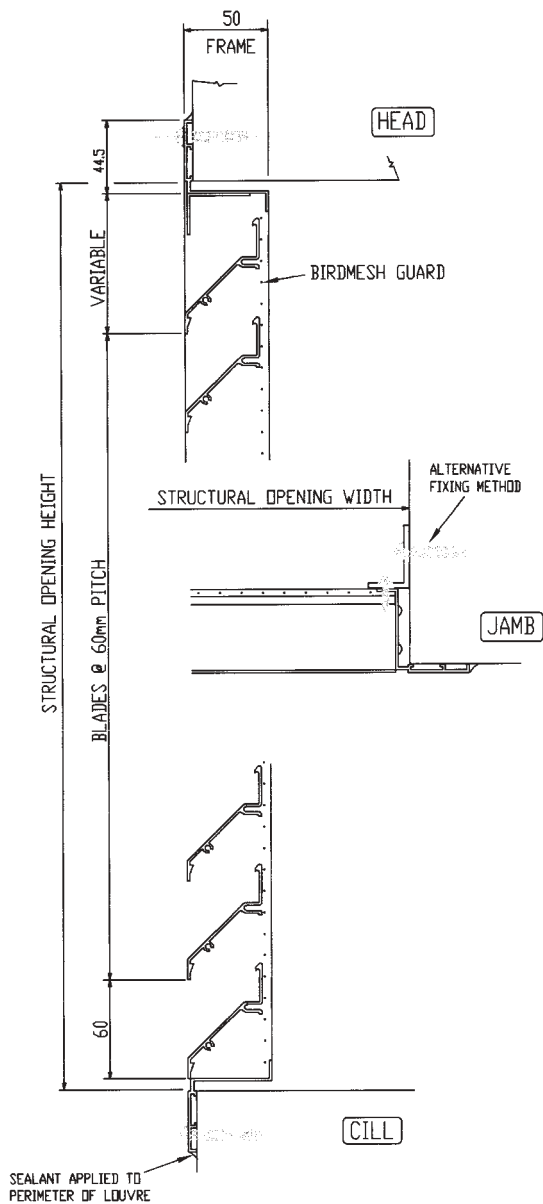


Manchester Airport



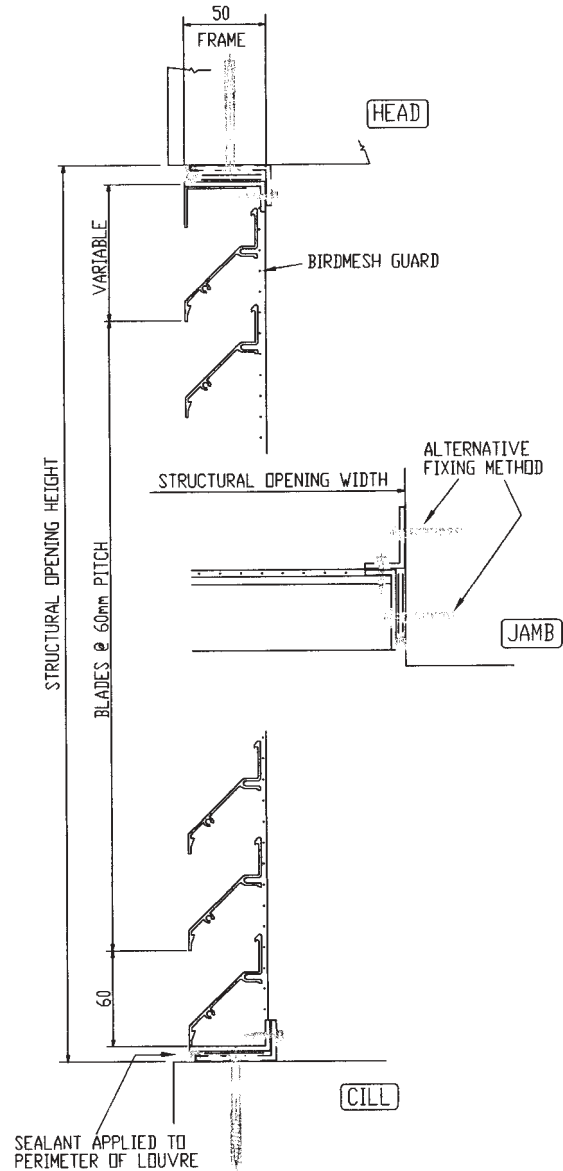
SHELTERED EXPOSURE

Type WSA (Flanged)



Typical Section Through WSA Louvre

Type WRA (Flangeless)



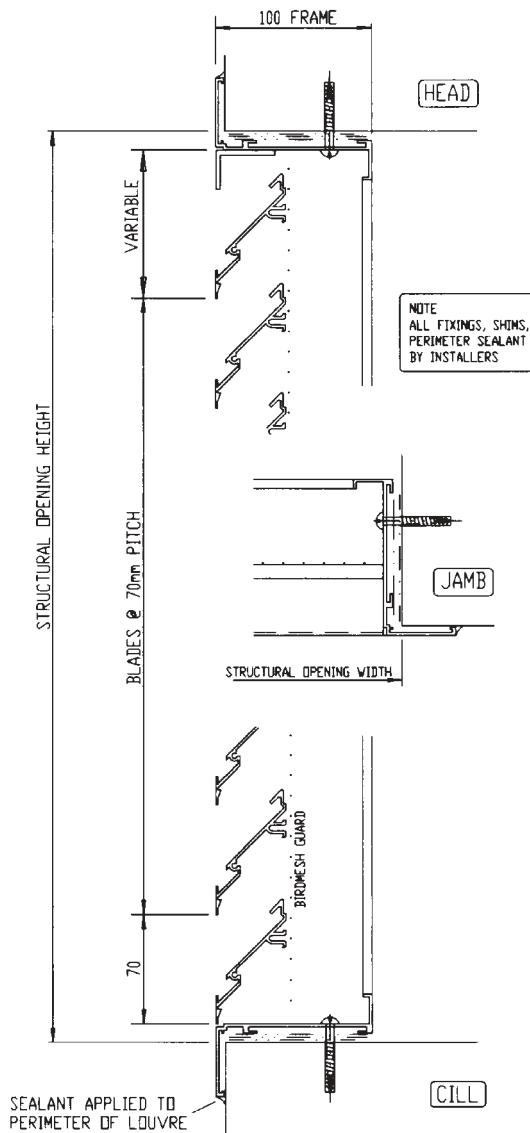
Typical Section Through WRA Louvre

Blade Style A Primary usage for individual louvre panels in sheltered conditions

Models	WSA– Flanged for surface mounting within depth of 50 mm. WRA – Flangeless for recessed mounting within depth of 50 mm
Blade Profile	Front & Rear rain lips
Blade Pitch	60mm pitch inclined at 45 degrees
Construction	Single panel construction
Applications	Both regular and irregular shapes, e.g. – circular, triangular,
Dimensions	Single panel 2500mm wide x 1200mm high 1200mm wide x 2500mm high

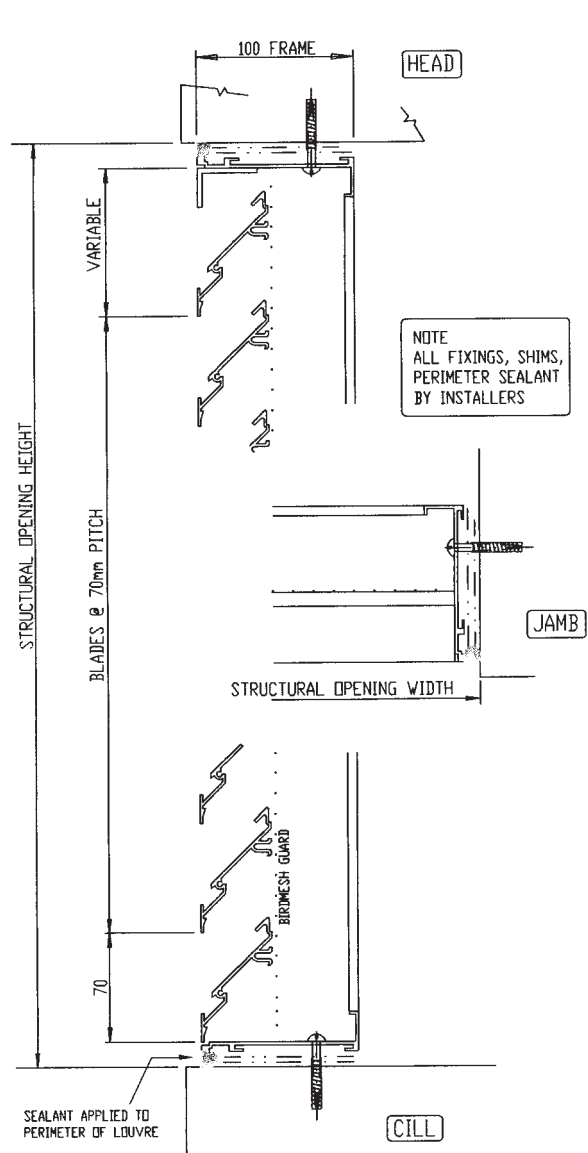
MODERATE EXPOSURE

Type WMB (Flanged)



Typical Section Through WMB Louvre

Type WNB (Flangeless)



Typical Section Through WNB Louvre

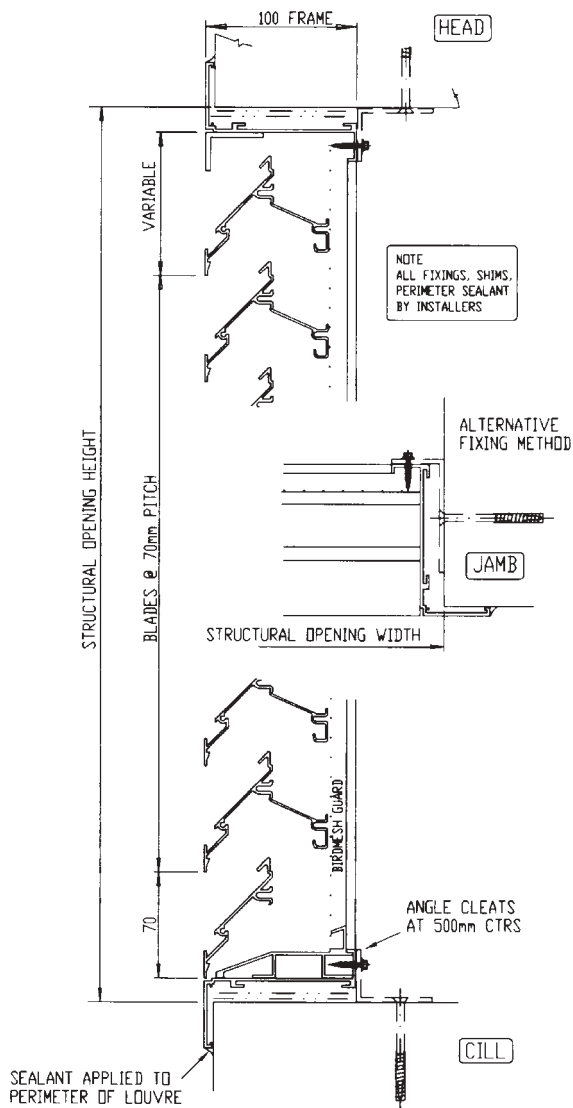
Blade Style B Provides increased weathering in moderate exposure conditions

Models	WMB – Flanged for surface mounting within depth of 100 mm WNB – Flangeless for recessed mounting within depth of 100 mm
Blade Profile	Anti-Cascade Traps, Integrated Drainage Channel
Blade Pitch	70 mm inclined at 45 degrees
Construction	Single or Multi-panel construction, visible or non-visible mullions
Applications	Both regular and irregular shapes, e.g. – circular, triangular etc, doors, penthouse louvres, roof top screens & enclosures
Dimensions	Single panel 2500mm wide x 1200mm high 1200mm wide x 2500mm high

No limit to the overall size of multi-bank assemblies with supporting structure being provided where required to meet the specified loadings

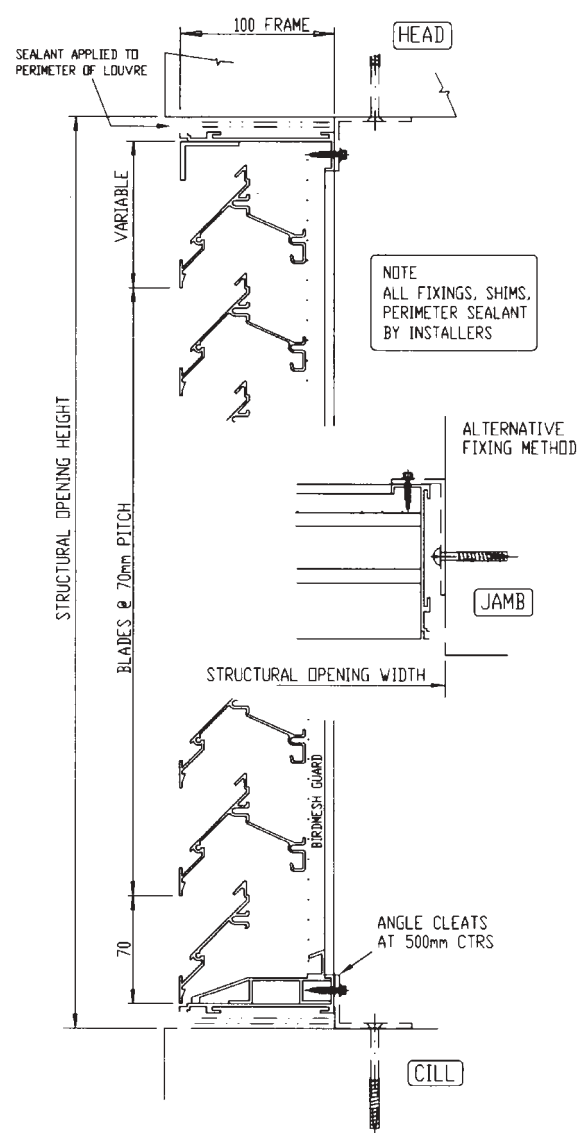
SEVERE EXPOSURE

Type WMV (Flanged)



Typical Section Through WMV Louvre

Type WNV (Flangeless)



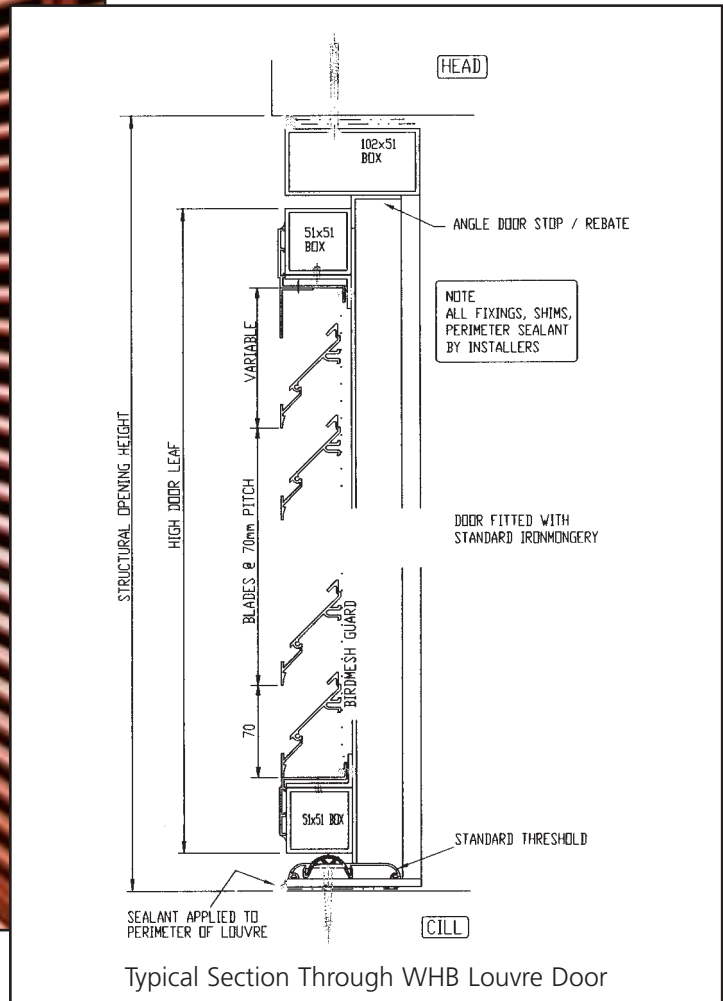
Typical Section Through WNV Louvre

Blade Style V Provides increased weathering in severe exposure conditions

Models	WMV– Flanged for surface mounting within depth of 100 mm WNV – Flangeless for recessed mounting within depth of 100 mm
Blade Profile	Chevron style double bank, Anti-Cascade Traps, Integrated Drainage Channel & Special Cill Section to collect and drain water away from the louvre assembly
Pitch	70 mm pitch inclined at 45 degrees
Construction	Single or Multi-panel construction, visible or non-visible mullions
Applications	Both regular and irregular shapes, e.g. – circular, triangular etc, doors, penthouse louvres, roof top screens & enclosures
Dimensions	Single panel 2500mm wide x 1200mm high 1200mm wide x 2500mm high

No limit to the overall size of multi-bank assemblies with supporting structure being provided where required to meet the specified loadings

LOUVRE DOORS

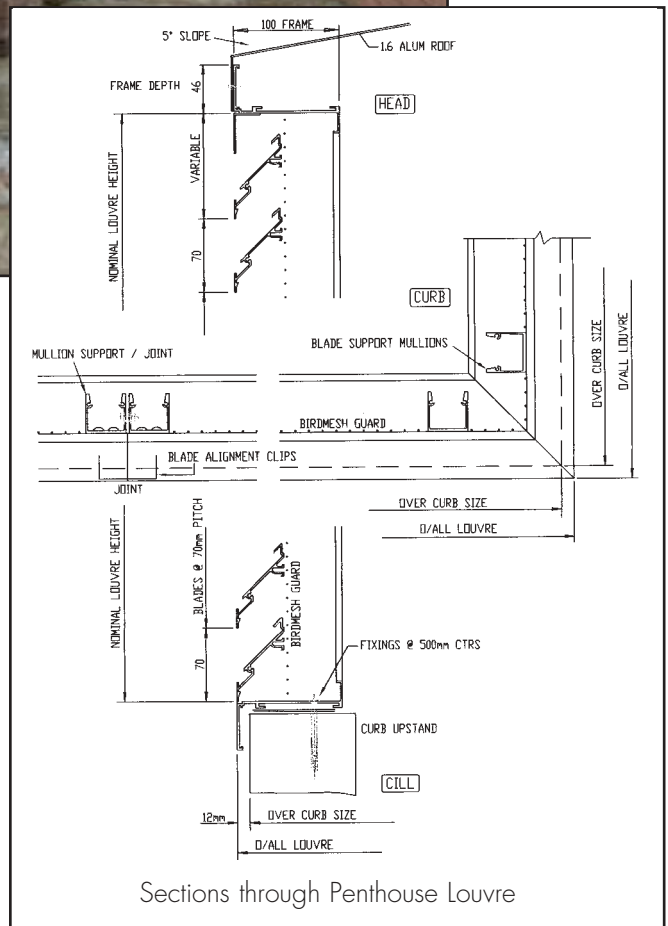
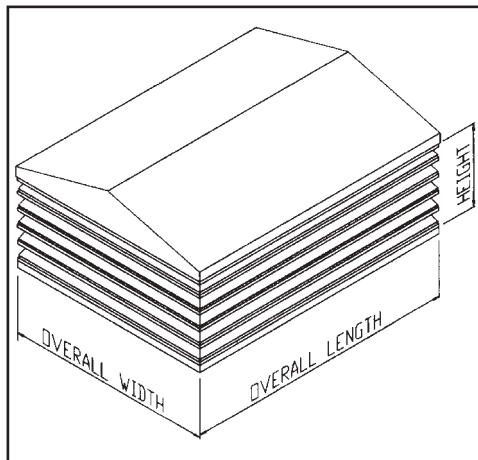


Type WD (Continuous Line Door)
Type WH (Framed Style Door)

Blade Style Available in A, B, & V blade styles

Models	WD – Continuous blade line door, single or double leaf. WH – Framed style door, single or double leaf
Blade Profile	A - Sheltered, B - Moderate or V - Severe profiles
Pitch	A style – 60 mm pitch inclined at 45 degrees, B & V styles – 70 mm pitch inclined at 45 degrees
Construction	Available as a stand alone Doorset or as an integral Doorset within louvre screening
Applications	Access doors, Boiler House, Generator / Transformer Rooms, Plant Rooms
Ironmongery	Guardian Imperial Deadlock, Euro Profile Keyed Cylinder & Thumbturn, Doorpulls, Top & Bottom Barrel Bolts to first closing leaf of Double Leaf Doorsets
Dimensions	No limit to the size of single leaf / double leaf doorsets – all are manufactured custom made to suit each particular requirement

PENTHOUSE LOUVRE



Type WPB (Moderate Exposure)
Type WPV (Severe Exposure)

Blade Style Available in B, & V blade styles

Models	WPB – Flanged for curb mounting - moderate exposure WPV – Flanged for curb mounting - severe exposure
Blade Profile	B - Moderate or V - Severe profiles
Pitch	70 mm pitch inclined at 45 degrees
Construction	Multi panel construction having TIG welded & mitred corners
Applications	Roof top terminals – available with access doors, removable panels and having a ridge roof
Dimensions	No limit to the overall size of multi-bank assemblies with supporting structure being provided where required to meet the specified loadings.

THE COMPLETE SERVICE

Colman have an experienced team who will work in close liaison with the Construction team from initial design through to final installation. A fully comprehensive design service is offered with Special Assemblies to the Architect's Specifications being an important part of the Colman service with advice on Applications, Design and Fixing Details readily available. This co-ordinated service will ensure that the louvres are carefully selected, designed and installed for optimum performance and aesthetic appeal.

Design and Engineering

Working closely with the client, Colman are able to prepare CAD drawings for both approval and construction containing the relevant detail which will accurately reflect the original design concept and enable all trades to interface as necessary with each particular element of the louvre assembly.



Manufacturing



Manufacturing is carried out at our modern 100,000 square feet production facility, using machinery and equipment dedicated solely to the manufacture of External Louvre products. Colman having gained ISO 9001 accreditation in 1991 are continually aiming to achieve the highest standards of quality throughout all its operations.



THE COMPLETE SERVICE

Test Laboratory



The acoustic test laboratories have a fully silenced air supply provided by a variable speed centrifugal fan. The duty of the fan ranges from 1 m³/s @ 1250 Pa. to 3 m³/s @ 300 Pa. This facility enables louvres to be acoustically tested at all frequencies. The acoustic testing is controlled by personal computers incorporating data-acquisition and instrument control programs to increase efficiency and presentation of test results.

Finishing

Polyester powder coating is carried out consisting of metal pre-treatment, powder coating and stoving ovens. Both RAL and BS colour ranges are available.



Installation



Colman offer a fully comprehensive installation service for the UK which can include the initial site survey to obtain accurate site dimensions through to the final installation of the External Louvres. Our experienced installation team work in close liaison with the client to ensure that the louvres are fitted for both optimum performance and appearance.

Project: Aberdeen Maritime Museum

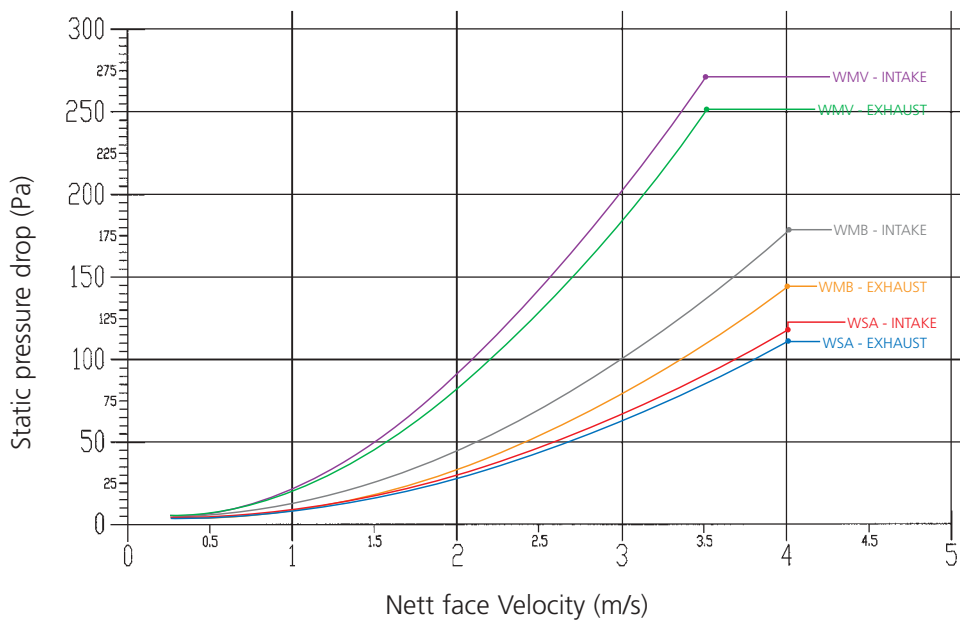
Architect: Aberdeen City Council

Consultant: Cameron Chrisholm Dawson Partnership

LOUVRE SELECTION GUIDE

To determine the size of louvre panel required:

1. What is the Volume Flow Rate you want to pass through the louvre? (m³/sec)
2. What is the maximum Pressure drop you can accept (pascals)
3. From the pressure drop chart, select the face velocity against your maximum pressure drop
4. Divide the volume flow rate by the face velocity to face the required nett face area



EXAMPLE

Determine the face velocity and Louvre Panel Size for a Severe Exposure External Louvre (blade type "V") handling a volume flow rate of 2.7 m³/sec (intake) with a maximum permissible pressure drop of 50 pascals.

Maximum face velocity (from pressure drop chart) = 1.5m/sec

$$\text{Face Area (m}^2\text{)} = \frac{2.7 \text{ m}^3\text{/sec}}{1.5\text{m/sec}} = 1.8\text{m}^2$$

From the NETT FACE AREA CHART (type B & V blades), select the size of louvre required:

2500mm wide x 800mm high

NOTE

There will be more than one size option, based upon the aspect ration (width x height) of Louvre.

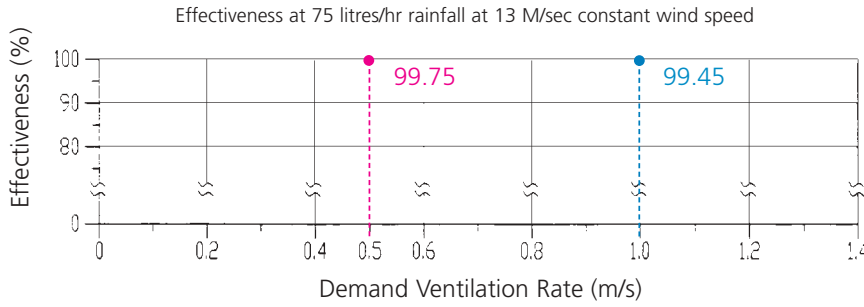
It is important to note the following:

The Effective (Nett) Face Area is: Width of Louvre (m) Height of Louvre (m) minus 1 blade pitch

The Blade Pitch is : type A = 60mm types B & V = 70mm

The Design Velocity (m/sec) is: Flow Rate (m³/sec) ÷ Effective Face Area (m²)

PERFORMANCE



The design wind pressure can be calculated by the reference to the method described in BS6399 Part 2 1997 or the wind loading requirement can be expressed as sheltered, moderate or severe exposure grade.

Exposure	Design Wind Pressure
Sheltered	1500 Pascals
Moderate	1900 Pascals
Severe	2300 Pascals

Effective (nett) Face Area for types "B" & "V" blades																								
Width	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
Height																								
300	0.066	0.088	0.11	0.132	0.154	0.176	0.198	0.22	0.242	0.264	0.286	0.308	0.33	0.352	0.374	0.396	0.418	0.44	0.462	0.484	0.506	0.528	0.55	
400	0.096	0.128	0.16	0.192	0.224	0.256	0.288	0.32	0.352	0.384	0.416	0.448	0.48	0.512	0.544	0.576	0.608	0.64	0.672	0.704	0.736	0.768	0.8	
500	0.126	0.168	0.21	0.252	0.284	0.336	0.378	0.42	0.462	0.504	0.546	0.588	0.63	0.672	0.714	0.756	0.798	0.84	0.882	0.924	0.966	1.008	1.05	
600	0.156	0.208	0.26	0.312	0.364	0.416	0.468	0.52	0.572	0.624	0.676	0.728	0.78	0.832	0.884	0.936	0.988	1.04	1.092	1.144	1.196	1.248	1.3	
700	0.186	0.248	0.31	0.372	0.434	0.496	0.558	0.62	0.682	0.744	0.806	0.868	0.93	0.992	1.054	1.116	1.178	1.24	1.302	1.364	1.426	1.488	1.55	
800	0.216	0.288	0.36	0.432	0.504	0.576	0.648	0.72	0.792	0.864	0.936	1.008	1.08	1.152	1.224	1.296	1.368	1.44	1.512	1.584	1.656	1.728	1.8	
900	0.246	0.328	0.41	0.492	0.574	0.656	0.738	0.82	0.902	0.984	1.066	1.148	1.23	1.312	1.394	1.476	1.558	1.64	1.722	1.804	1.886	1.968	2.05	
1000	0.276	0.368	0.46	0.552	0.644	0.736	0.828	0.92	1.012	1.104	1.196	1.288	1.38	1.472	1.564	1.656	1.748	1.84	1.932	2.024	2.116	2.208	2.3	
1100	0.306	0.408	0.51	0.612	0.714	0.816	0.918	1.02	1.122	1.224	1.326	1.428	1.53	1.632	1.734	1.836	1.938	2.04	2.142	2.244	2.346	2.448	2.55	
1200	0.336	0.448	0.56	0.672	0.784	0.896	1.008	1.12	1.232	1.344	1.456	1.568	1.68	1.792	1.904	2.016	2.128	2.24	2.352	2.464	2.576	2.688	2.8	
1300	0.366	0.488	0.61	0.732	0.854	0.976	1.098	1.22	1.342	1.464	1.586	1.708	1.83	1.952	2.074	2.196	2.318	2.44	2.562	2.684	2.806	2.928	3.05	
1400	0.396	0.528	0.66	0.792	0.924	1.056	1.188	1.32	1.452	1.584	1.716	1.848	1.98	2.112	2.244	2.376	2.508	2.64	2.772	2.904	3.036	3.168	3.3	
1500	0.426	0.568	0.71	0.852	0.994	1.136	1.278	1.42	1.562	1.704	1.846	1.988	2.13	2.272	2.414	2.556	2.698	2.84	2.982	3.124	3.266	3.408	3.55	
1600	0.456	0.608	0.76	0.912	1.064	1.216	1.368	1.52	1.672	1.824	1.976	2.128	2.28	2.432	2.584	2.736	2.888	3.04	3.192	3.344	3.496	3.648	3.8	
1700	0.486	0.648	0.81	0.972	1.134	1.296	1.458	1.62	1.782	1.944	2.106	2.268	2.43	2.592	2.754	2.916	3.078	3.24	3.402	3.564	3.726	3.888	4.05	
1800	0.516	0.688	0.86	1.032	1.204	1.376	1.548	1.72	1.892	2.064	2.236	2.408	2.58	2.752	2.924	3.096	3.268	3.44	3.612	3.784	3.956	4.128	4.3	
1900	0.546	0.728	0.91	1.092	1.274	1.456	1.638	1.82	2.002	2.184	2.366	2.548	2.73	2.912	3.094	3.276	3.458	3.64	3.822	4.004	4.186	4.368	4.55	
2000	0.576	0.768	0.96	1.152	1.344	1.536	1.728	1.92	2.112	2.304	2.496	2.688	2.88	3.072	3.264	3.456	3.648	3.84	4.032	4.224	4.416	4.608	4.8	
2100	0.606	0.808	1.01	1.212	1.414	1.616	1.818	2.02	2.222	2.424	2.626	2.828	3.03	3.232	3.434	3.636	3.838	4.04	4.242	4.444	4.646	4.848	5.05	
2200	0.636	0.848	1.06	1.272	1.484	1.696	1.908	2.12	2.332	2.544	2.756	2.968	3.18	3.392	3.604	3.816	4.028	4.24	4.452	4.664	4.876	5.088	5.3	
2300	0.666	0.888	1.11	1.332	1.554	1.776	1.998	2.22	2.442	2.664	2.886	3.108	3.33	3.552	3.774	3.996	4.218	4.44	4.662	4.884	5.106	5.328	5.55	
2400	0.696	0.928	1.16	1.392	1.624	1.856	2.088	2.32	2.552	2.784	3.016	3.248	3.48	3.712	3.944	4.176	4.408	4.64	4.872	5.104	5.336	5.568	5.8	
2500	0.726	0.968	1.21	1.452	1.694	1.936	2.178	2.42	2.662	2.904	3.146	3.388	3.63	3.872	4.114	4.356	4.598	4.84	5.082	5.324	5.566	5.808	6.05	

Effective (nett) Face Area for types "A" blades																								
Width	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
Height																								
300	0.069	0.092	0.115	0.138	0.161	0.184	0.207	0.23	0.253	0.276	0.299	0.322	0.345	0.368	0.391	0.414	0.437	0.46	0.483	0.506	0.529	0.552	0.575	
400	0.099	0.132	0.165	0.198	0.231	0.264	0.297	0.33	0.363	0.396	0.429	0.462	0.495	0.528	0.561	0.594	0.627	0.66	0.693	0.726	0.759	0.792	0.825	
500	0.129	0.172	0.215	0.258	0.301	0.344	0.387	0.43	0.473	0.516	0.559	0.602	0.645	0.688	0.731	0.774	0.817	0.86	0.903	0.946	0.989	1.032	1.075	
600	0.159	0.212	0.265	0.318	0.371	0.424	0.477	0.53	0.583	0.636	0.689	0.742	0.795	0.848	0.901	0.954	1.007	1.06	1.113	1.166	1.219	1.272	1.325	
700	0.189	0.252	0.315	0.378	0.441	0.504	0.567	0.63	0.693	0.756	0.819	0.882	0.945	1.008	1.071	1.134	1.197	1.26	1.323	1.386	1.449	1.512	1.575	
800	0.219	0.292	0.365	0.438	0.511	0.584	0.657	0.73	0.803	0.876	0.949	1.022	1.095	1.168	1.241	1.314	1.387	1.46	1.533	1.606	1.679	1.752	1.825	
900	0.249	0.332	0.415	0.498	0.581	0.664	0.747	0.83	0.913	0.996	1.079	1.162	1.245	1.328	1.411	1.494	1.577	1.66	1.743	1.826	1.909	1.992	2.075	
1000	0.279	0.372	0.465	0.558	0.651	0.744	0.837	0.93	1.023	1.116	1.209	1.302	1.395	1.488	1.581	1.674	1.767	1.86	1.953	2.046	2.139	2.232	2.325	
1100	0.309	0.412	0.515	0.618	0.721	0.824	0.927	1.03	1.133	1.236	1.339	1.442	1.545	1.648	1.751	1.854	1.957	2.06	2.163	2.266	2.369	2.472	2.575	
1200	0.339	0.452	0.565	0.678	0.791	0.904	1.017	1.13	1.243	1.356	1.469	1.582	1.695	1.808	1.921	2.034	2.147	2.26	2.373	2.486	2.599	2.712	2.825	
1300	0.369	0.492	0.615	0.738	0.861	0.984	1.107	1.23	1.353	1.476	1.599	1.722	1.845	1.968	2.091	2.214	2.337	2.46	2.583	2.706	2.829	2.952	3.075	
1400	0.399	0.532	0.665	0.798	0.931	1.064	1.197	1.33	1.463	1.596	1.729	1.862	1.995	2.128	2.261	2.394	2.527	2.66	2.793	2.926	3.059	3.192	3.325	
1500	0.429	0.572	0.715	0.858	1.001	1.144	1.287	1.43	1.573	1.716	1.859	2.002	2.145	2.288	2.431	2.574	2.717	2.86	3.003	3.146	3.289	3.432	3.575	
1600	0.459	0.612	0.765	0.918	1.071	1.224	1.377	1.53	1.683	1.836	1.989	2.142	2.295	2.448	2.601	2.754	2.907	3.06	3.213	3.366	3.519	3.672	3.825	
1700	0.489	0.652	0.815	0.978	1.141	1.304	1.467	1.63	1.793	1.956	2.119	2.282	2.445	2.608	2.771	2.934	3.097	3.26	3.423	3.586	3.749	3.912	4.075	
1800	0.519	0.692	0.865	1.038	1.211	1.384	1.557	1.73	1.903	2.076	2.249	2.422	2.595	2.768	2.941	3.114	3.287	3.46	3.633	3.806	3.979	4.152	4.325	
1900	0.549	0.732	0.915	1.098	1.281	1.464	1.647	1.83	2.013	2.196	2.379	2.562	2.745	2.928	3.111	3.294	3.477	3.66	3.843	4.026	4.209	4.392	4.575	
2000	0.579	0.772	0.965	1.158	1.351	1.544	1.737	1.93	2.123	2.316	2.509	2.702	2.895	3.088	3.281	3.474	3.667	3.86	4.053	4.246	4.439	4.632	4.825	
2100	0.609	0.812	1.015	1.218	1.421	1.624	1.827	2.03	2.233	2.436	2.639	2.842	3.045	3.248	3.451	3.654	3.857	4.06	4.263	4.466	4.669	4.872	5.075	
2200	0.639	0.852	1.065	1.278	1.491	1.704	1.917	2.13	2.343	2.556	2.769	2.982	3.195	3.408	3.621	3.834	4.047	4.26	4.473	4.686	4.899	5.112	5.325	
2300	0.669	0.892	1.115	1.338	1.561	1.784	2.007	2.23	2.453	2.676	2.899	3.122	3.345	3.568	3.791	4.014	4.237	4.46	4.683	4.906	5.129	5.352	5.575	
2400	0.699	0.932	1.165	1.398	1.631	1.864	2.097	2.33	2.563	2.796	3.029	3.262	3.495	3.728	3.961	4.194	4.427	4.66	4.893	5.126	5.359	5.		

GENERAL INFORMATION

Materials:

Aluminum Extrusions to: BS 1474: 1987 Grade 6063
General Thickness: Frame 2 mm
Blade 1.5 mm
Mullion 3 mm

Aluminium Sheet to: BS1470: 1987 5251 – H22
General Thickness

Bird Screen (standard): Galvanised Mild Steel Weldmesh

Insect Screen (optional): Corlene (nylon reinforced mesh)
Other materials available on request

Finishes:

Mill Aluminum: Standard Finish

Anodised: To BS 1615

Colours: Satin Silver, Black, Bronze, Blue-Grey

Polyester Powder: To BS 6496 / BS 6497

Colours: BS 4800 & RAL ranges

Syntha Pulvin: By licensed approved applicator

Pvf2: By licensed approved applicator

Stockport Magistrates Court



PRODUCT CODING

1 W SERIES											
2 FRAME		3 BLADE		4 ACCESSORIES		5 CILLS/HEADS		6 FIXING		7 FINISH	
O	None	O	None	O	None	O	None	O	None	O	None
D	Continuous Appearance Style Door	A	Sheltered Exposure	B	Birdmesh	A	Cill Section for Flanged Frame	A	Screw Holes through the Face Flanges	P	Powder Coat - specify colour
G	Glazing Style Louvre	B	Moderate Exposure	F	Insect Mesh	B	Cill Section for Flangeless Frame	B	Screw Holes through the Frame Web	E	RAL 9010 Gloss
H	Framed Style Door	S	Sand Trap	P	Blanking Plate	C	Weather Drip Cill Section	C	Fixing Strap / Bracket	F	RAL 9010 Matt
L	Hinged Panel	V	Severe Exposure	R	Bird Mesh + Blanking Plate	H	Weather Drip Head Section	1	Special	3	RAL 9006
M	Flanged Frame 100mm deep	1	Special	S	Insect Mesh + Blanking Plate	1	Special			8	Matt Black
N	Flangeless Frame 100mm deep			X	Burglar Bars					A	Satin Silver Anodised
P	Penthouse Louvre			1	Special					1	Special
R	Flangeless Frame 50mm deep										
S	Flanged Frame 50mm deep										
1	Special										

Experian - Nottingham



LOUVRE APPLICATIONS

COVENTRY UNIVERSITY LIBRARY



- Project:** COVENTRY UNIVERSITY LIBRARY
- Architect:** Short & Associates
- Consultant:** Environmental Design
- Client:** Emcor, Drake & Scull Eng.
- Louvre Type:** WNB
- Application:** Continuous low level Plenum Louvres having electrically controlled dampers.

BUCKINGHAM BINGO



- Project:** BUCKINGHAM BINGO HUYTON
- Architect:** Business Environments
- Consultant:** D.S.S.R.
- Client:** Williams Tarr Construction
- Louvre Type:** W1A
- Application:** Arched Head Louvre assembly incorporating front removable access panels.

CIS BUILDING - MANCHESTER



- Project:** CIS BUILDING MANCHESTER
- Architect:** Flood & Wilson Ltd
- Consultant:** Flood & Wilson Ltd
- Client:** C I S Limited
- Louvre Type:** W1B
- Application:** Self-supporting louvre screen having integral access doors

LOUVRE APPLICATIONS

MURRAYFIELD STADIUM - EDINBURGH



Photos courtesy of S.R.U

Project: MURRAYFIELD STADIUM
EDINBURGH

Architect: The Miller Partnership

Consultant: J. A. Kirkpatrick

Client: Tilbury Douglas
Construction

Louvre Type: WDB

Application: Low level louvre
screening which
includes a series of
continuous appearance
louvre doorsets

TOUCHWOOD CENTRE - SOLIHULL



Project: TOUCHWOOD CENTRE
SOLIHULL

Architect: BDG McColl

Consultant: W S P

Client: Haden Young Limited

Louvre Type: WPV

Application: Special Irregular Shaped
Penthouse Louvres which
include an integral
supporting structure.

DIAGEO PENSION TRUSTEE LTD - BASINGSTOKE



Project: DIAGEO PENSION TRUSTEE LTD
BASINGSTOKE

Architect: Scott Brownrigg & Turner

Client: Pearce Construction Ltd

Louvre Type: WNB

Application: Louvre Screen to Chiller Plant
and Services, for ventilation
and architectural appearance.

PRODUCT RANGE

AIR HANDLING UNITS

PACKAGED AIR CONDITIONING UNITS

SPLIT SYSTEM AIR CONDITIONING UNITS

TERMINAL PRODUCTS

Fan Coil

VAV

Constant Volume

Induction

Fan Assisted VAV

HEAT RECOVERY PLANT

HEAT PUMPS

CONTROL SYSTEMS

REFRIGERATION

DAMPERS

FILTERS

DIFFUSERS

Linear Slot

Louvre Face

Sidewall

Perforated Face

Vee Face Two Way

Circular

Swirl

Ceiling

Sidewall Fixed and Adjustable

Jet Flow

ACOUSTIC PRODUCTS

Attenuators

DISPLACEMENT

GRILLES

Linear Bar

Ceiling

Sidewall

Floor

Computer Floor

Cill

Single and Double Deflection

Egg Crate

Hinged Core

Door Transfer

Security and Prison

LOUVRES

External

Circular

Door

Screens

Penthouse

Acoustic



Air Distribution and Air Handling

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