

BC 07



***BETEC CAD.***

## Weather Louvers



**WL-AB-40C**

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



Globally Recognized. Industry Respected.

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## Weather Louver - WL

### Weather Louvers

**BETEC CAD.** manufactures weather louver, which are designed for both intake and exhaust air applications. These weather louvers have been designed to ensure that the basic parameters of minimum pressure loss, low self-generated aerodynamic noise, minimum water ingress and aesthetical appearance are satisfied.



WL-AB-31A

Standard Types and Models				
Item	Series	Model	Specification	Construction
WL	B - 10	1	Light Duty Louvers	Aluminium*
				Galvanized
				Stainless Steel
	B - 20	1 2	Non - Drainable Louvers Aerofoil Blade Louvers	Aluminium*
				Galvanized
				Stainless Steel
	BC - 30	1 2	Stationary Louvers (Heavy Duty) Wind Driven Rain Louvers	Aluminium*
				Aluminium*
MWL	B-50	1 2	Motorized Single Skin Blade - Louvers Motorized Aerofoil Blade - Louvers	Aluminium*
				Galvanized
				Stainless Steel

#### Material Details

All types and models of Weather Louvers are available in Galvanized Steel, Stainless Steel & Aluminium according to the design and application.

#### Sheet Metal Galvanized Steel (GI)

Zinc coating Z-22 to Z-27 as per **ASTM-A653** Standards.

#### Sheet Metal Aluminium (AL)

Aluminium Sheet as per Alloy **A1100** Standards.  
Extruded aluminium as per Alloy **6063 A** Standards.

#### Sheet Metal Stainless Steel (SS)

Stainless steel **304 / 316L**.

#### Applications:

**GI Construction :** For **HVAC** commercial, Residential etc.

**AL Construction:** For Hospitals, Labs, Green Building etc.

**SS Construction:** For Offshore, Oil & Gas etc.

**The respective alphabet indicates the type of material.**

**G** - Galvanized steel (**GI**)

**S** - Stainless steel (**SS**)

**A** - Aluminum (**AL**)

Alphabet indicates the type of installation.

**A** - Wall Mounted.

**B** - Duct Mounted.

**C** - Flush Mounted.

**BETEC CAD's** Weather Louvers are manufactured as per international standards and confirmed to **ADC 1062 ; GRD 84 and AMCA standards 500-83.**

**Note:** \* Indicates **BETEC CAD's** Standard Construction.

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## AMCA500-L Tested Weather Louver

Light Duty Non-Drinable Louver

Model : WL-AB-11A/B/C

Type : **A\*** - Wall Mounted; **B** - Duct Mounted; **C** - Flush Mounted

**BETEC CAD.** Manufactures Model WL AB 11 A/B/C weather louver to suit various ventilation applications.

Weather louvers B-10 series is light duty model construction, suitable for the duct or wall mounting applications in **HVAC** systems, for air ventilation i.e, intake or exhaust these louvers are available with filters and dampers suitable for AHU's fresh air intake.

### Standard Construction

#### Frame

45 mm deep, 1mm thick extruded aluminum.

#### Blades

1.2 mm thick extruded aluminum.

#### Blade Orientation

Horizontal.

#### Blade Type

Fixed.

#### Blade Angle

45° Degree

#### Finish :

Mill finish

### Optional Fittings

#### Screen

Galvanized Steel 0.4mm thick

S-3 SS Bird screen

S-10 SS Fly screen

#### Filter

13 / 25 mm thick aluminum filter

#### Damper

Control Damper

#### Finish

Available with RAL Powder coating, please specify color.

### Optional Construction Details

**Frame** : Thickness up to 4 mm

**Blade** : Thickness up to 4 mm

#### Note :

Please contact **BETEC CAD.** for customized design & additional information.

## B-10 Series



**BETEC CAD.** Industries FZC. certifies that model WL-AB-11A/B/C Weather louver is licensed to bear the **AMCA** seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** seal applies to air performance and water penetration for Weather louvers only.

### Features

- Closely spaced horizontal blades minimize the penetration of wind-driven rain, reducing damage and additional operating expenses.
- Free Area - 41.8%
- Performance as per AMCA 500 - L
- Excellent pressure drop performance.
- Aluminum construction for low maintenance and high resistance to corrosion.

B10 Series Models details				
Material Construction				
Model	Frame		Blade	
	Material	Thick	Material	Thick
WL-AB-11A/B/C	AL	1 mm	AL	1.2 mm
WL-GB-11A/B/C	GI	0.9 mm	GI	1.2 mm
WL-SB-11A/B/C	SS	0.9 mm	SS	1.2 mm

Alphabet indicates the type of installation

**A** - Wall Mounted

**B** - Duct Mounted

**C** - Flush Mounted

Any Combination of W x H										
WL-AB-11A/B/C										
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"

#### Note:

Maximum single module construction - 1200 x 1200 mm

Multiple module available with mullion.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

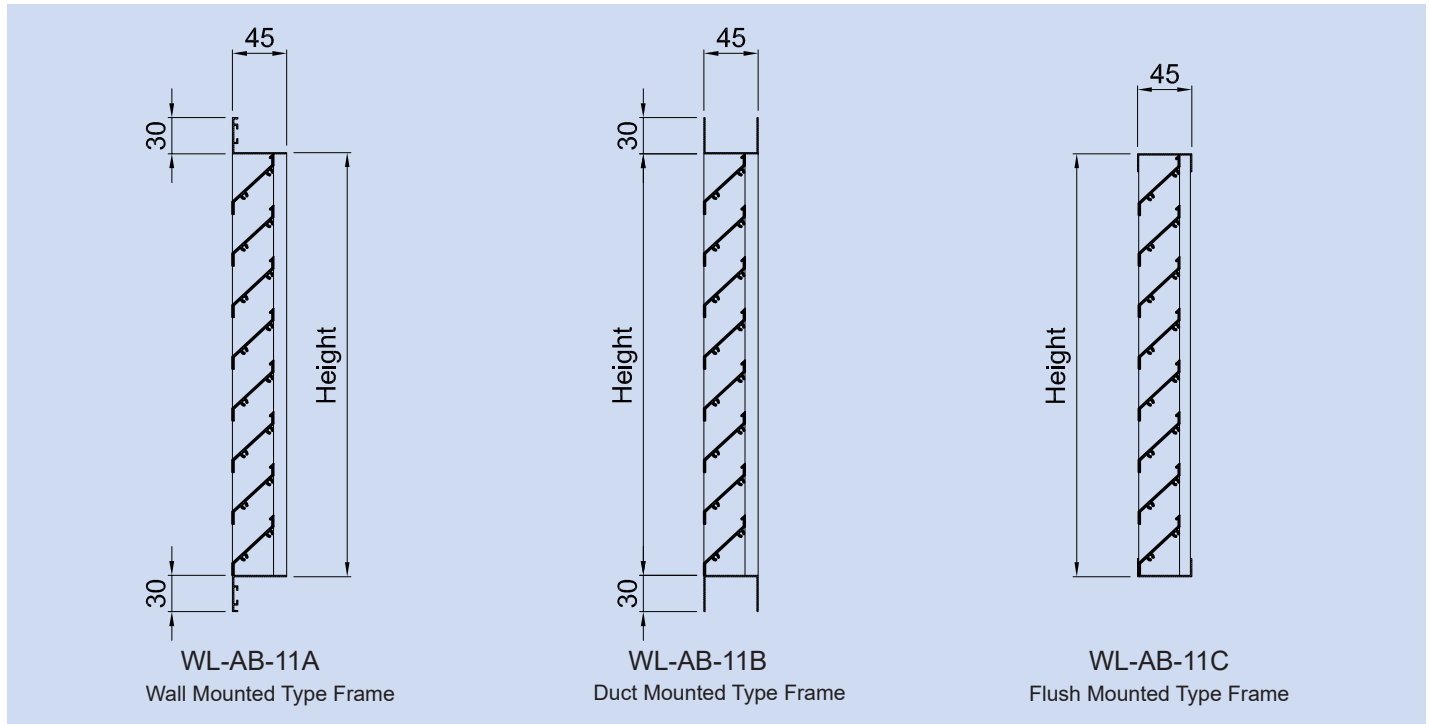


## AMCA500-L Tested Weather Louver Constructional Details

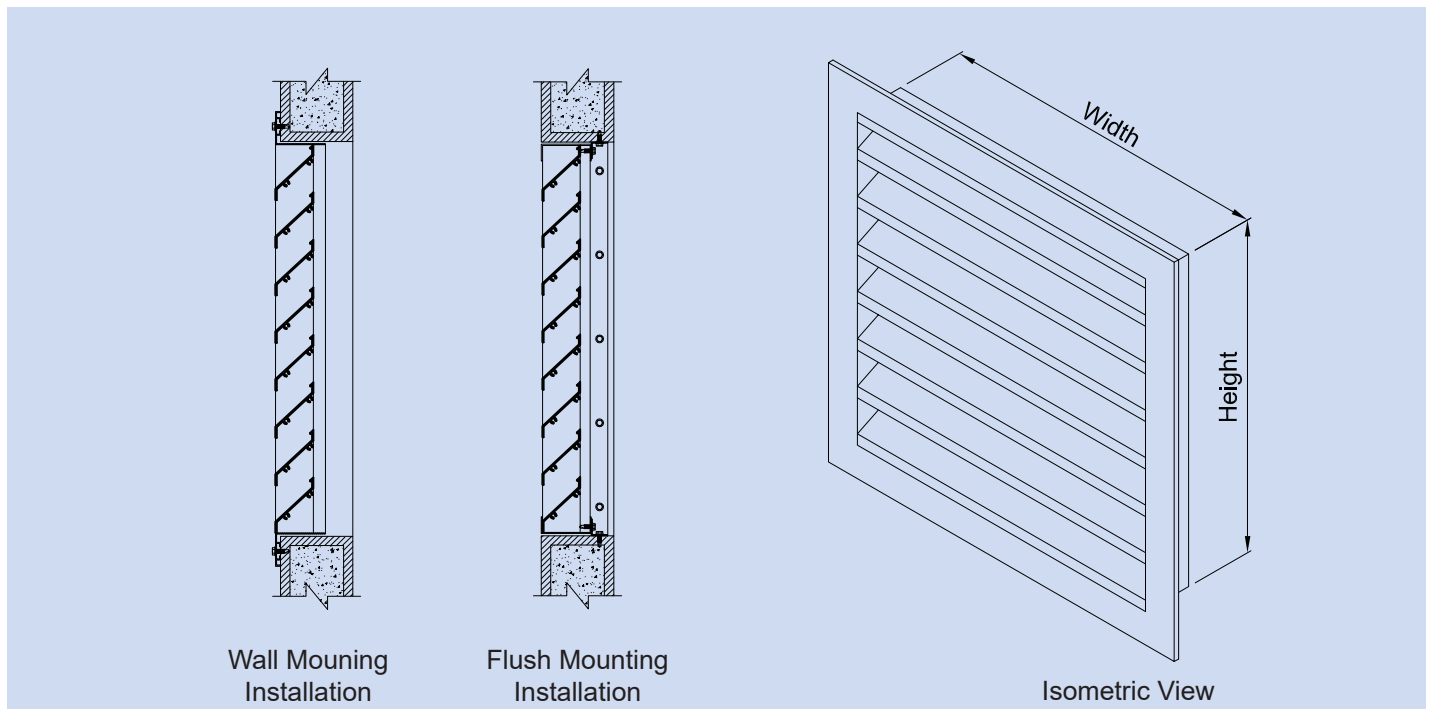
**B-10 Series**

Model : WL-AB-11A/B/C

A\* - Wall Mounted; B - Duct Mounted; C - Flush Mounted



## Installation Details



Selected Products of the company have been Classified, Listed, Tested by various international testing authorities.



## AMCA500-L Tested Weather Louver

## B-10 Series

### Engineering and Performance Data

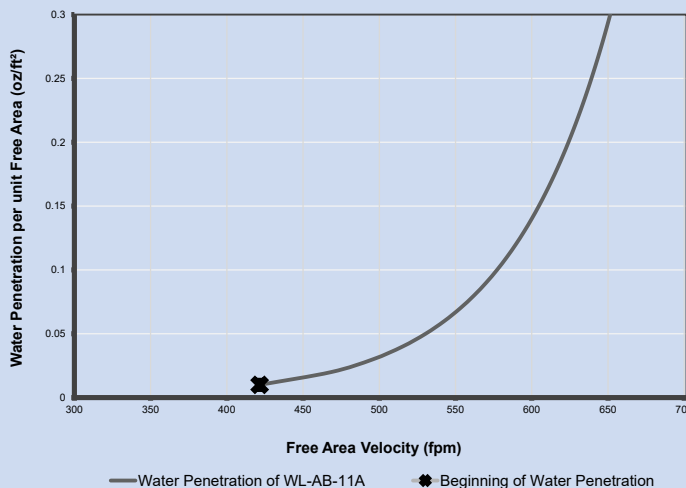
Louver Free Area **Model : WL-AB-11A/B/C**

Free area in sq. meters											
W/H	100	200	300	400	500	600	700	800	900	1000	1200
100	0.001	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.010
200	0.005	0.006	0.012	0.018	0.025	0.032	0.039	0.045	0.052	0.059	0.072
300	0.009	0.011	0.022	0.034	0.047	0.060	0.072	0.085	0.097	0.110	0.134
400	0.013	0.016	0.032	0.050	0.069	0.087	0.106	0.124	0.143	0.161	0.196
500	0.017	0.020	0.042	0.066	0.090	0.115	0.139	0.163	0.188	0.212	0.258
600	0.021	0.025	0.052	0.082	0.112	0.142	0.173	0.203	0.233	0.263	0.320
700	0.025	0.030	0.062	0.098	0.134	0.170	0.206	0.242	0.278	0.314	0.382
800	0.030	0.035	0.072	0.114	0.156	0.198	0.240	0.281	0.323	0.365	0.444
900	0.034	0.040	0.082	0.130	0.177	0.225	0.273	0.321	0.368	0.416	0.506
1000	0.038	0.045	0.092	0.146	0.199	0.253	0.306	0.360	0.414	0.467	0.568
1200	0.046	0.055	0.112	0.177	0.243	0.308	0.373	0.439	0.504	0.569	0.692

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-11A/B/C; Size : 48" x 48"

Water Penetration of WL-AB-11A



AMCA Standard 500-L Water Penetration Test (15 minutes test duration)  
The beginning point of water penetration @ 425 fpm.

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-11A/B/C; Size : 48" x 48"

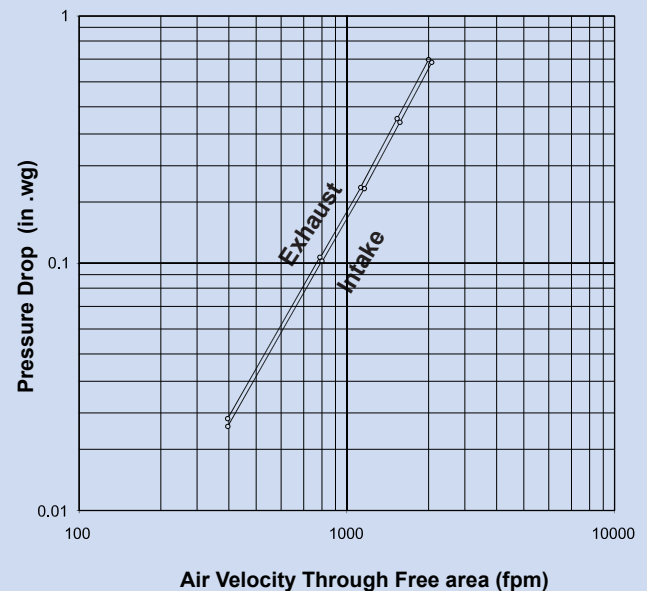


Fig 5.5

AMCA Standard 500-L Pressure Drop Test.  
Data is corrected to standard air density.

**BETEC CAD.** Industries FZC. certifies that model **WL-AB-11A/B/C** Weather louver is licensed to bear the **AMCA** seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** seal applies to air performance and water penetration for Weather louvers only.



Selected Products of the company have been Classified Listed Tested by various international testing authorities.



## AMCA500-L Tested Weather Louver

## B-20 Series

Heavy Duty Non-Drinable Louver

Model : WL-AB-21A/B/C

Type : **A\*** - Wall Mounted; **B** - Duct Mounted; **C** - Flush Mounted

**BETEC CAD.** Manufactures Model WL AB 21A/B/C weather louver with and without damper combinations, which are designed for both intake and exhaust air applications. These louvers have been designed for minimum pressure loss and low self-generated aerodynamic noise.

### Standard Construction

#### Frame Material

70 mm deep 2mm thick extruded aluminum angle.

#### Blade Material

1.5 mm thick extruded aluminum.

#### Blade Orientation

Horizontal.

#### Blade Type

Fixed.

#### Blade Angle

45° Degree.

#### Finish

Mill finish.

### Optional Fittings

#### Screen

Galvanized Steel 0.4mm thick

S-3 SS Bird screen

S-10 SS Fly screen

#### Filter

13 / 25 mm thick aluminum filter

#### Damper

Control Damper.

#### Finish

Available with RAL Powder coating, please specify color.

### Optional Construction Details

**Frame** : Thickness up to 4 mm

**Blade** : Thickness up to 4 mm

#### Note :

Please contact **BETEC CAD.** for customized design & additional information.



**BETEC CAD.** Industries FZC. certifies that model **WL-AB-21A/B/C** Weather louver is licensed to bear the **AMCA** seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** seal applies to air performance and water penetration for Weather louvers only.

### Features

- Closely spaced horizontal blades minimize the penetration of wind-driven rain, reducing damage and additional operating expenses.
- Free Area 45.4%
- Performance as per AMCA 500 - L
- Excellent pressure drop performance.
- Aluminum construction for low maintenance and high resistance to corrosion.

B-20 Series Models details				
Material Construction				
Model	Frame		Blade	
	Material	Thick	Material	Thick
WL-AB-21A/B/C	AL	2 mm	AL	1.5 mm
WL-GB-21A/B/C	GI	1.5 mm	GI	1.2 mm
WL-SB-21A/B/C	SS	1.5 mm	SS	1.2 mm

Alphabet indicates the type of installation

**A** - Wall Mounted

**B** - Duct Mounted

**C** - Flush Mounted

Any Combination of W x H										
WL-AB-21A/B/C										
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"

#### Note:

Maximum single module construction - 2 x 1.5 meters.

Multiple module available with mullion.

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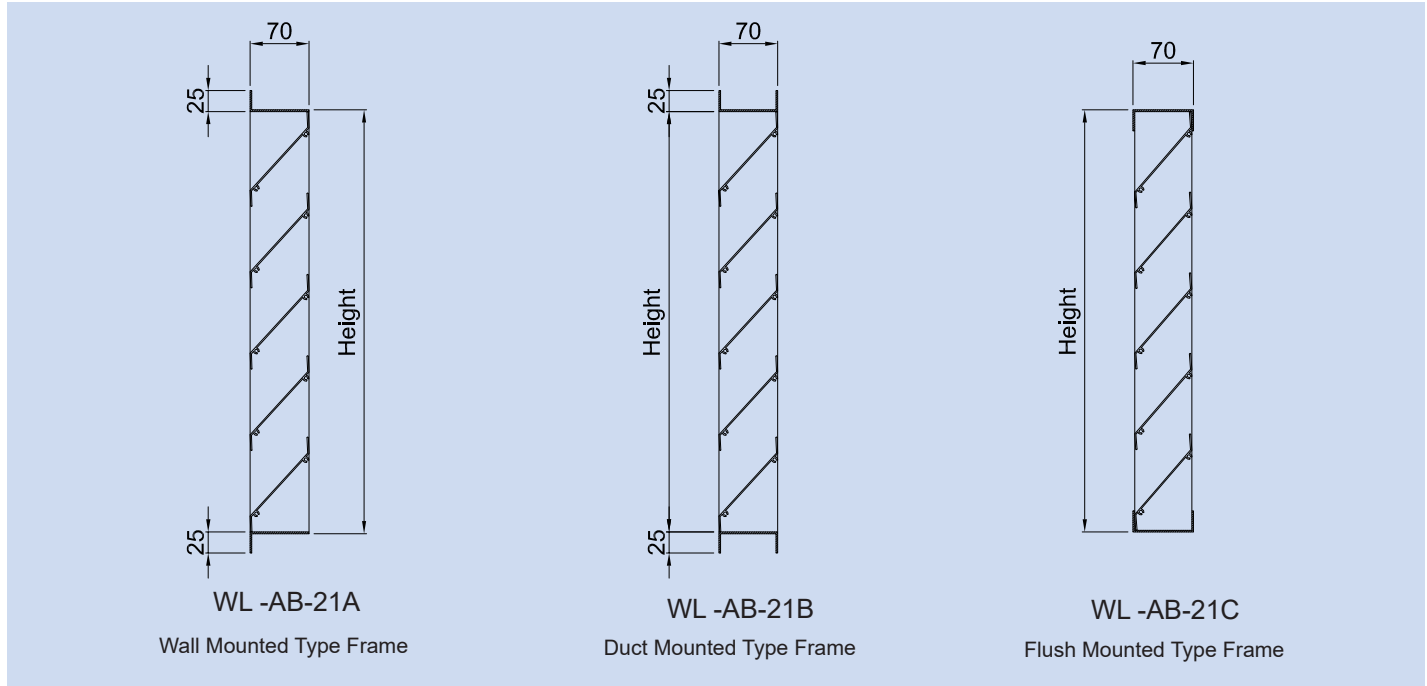


## AMCA500-L Tested Weather Louver Constructional Details

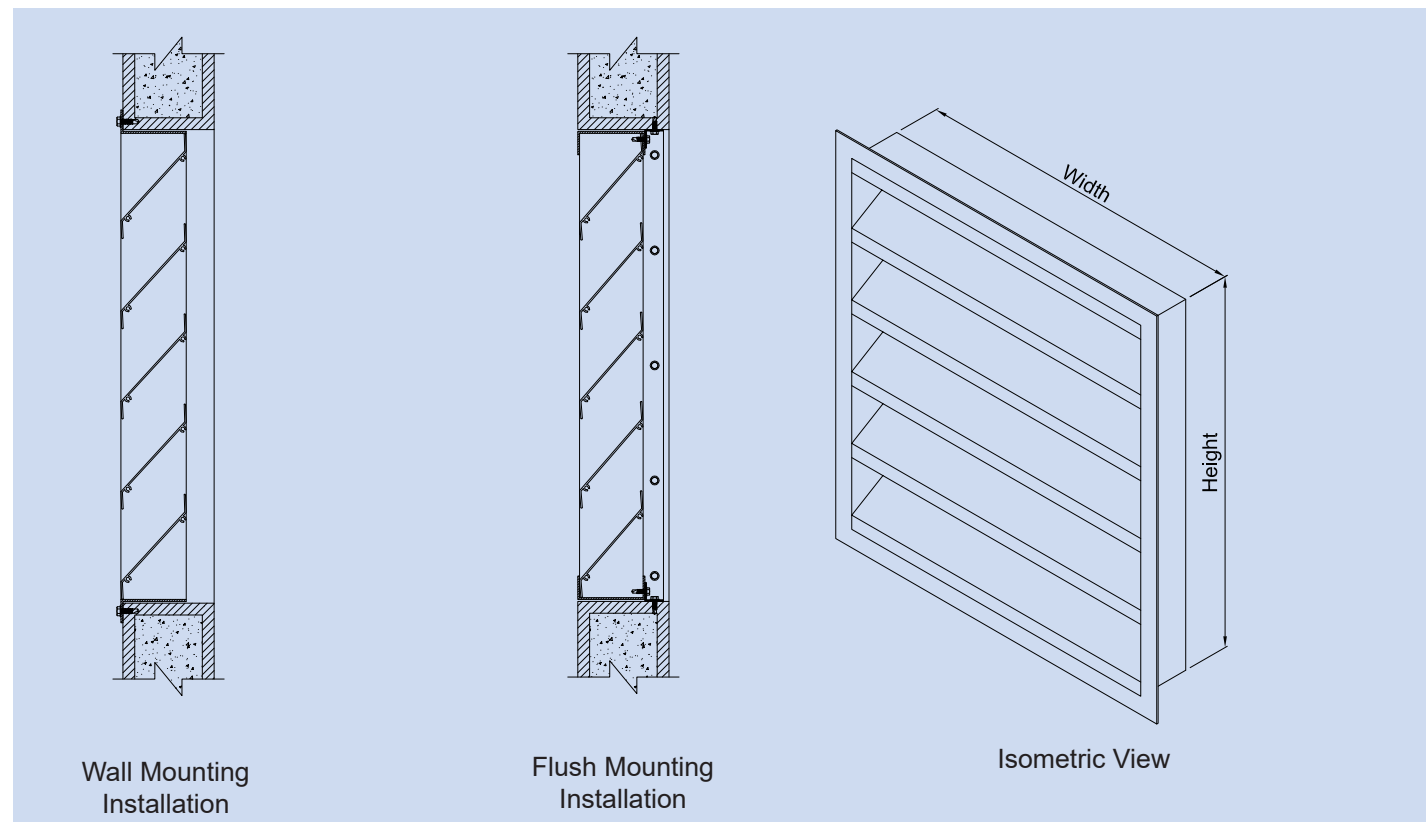
**B-20 Series**

Model : WL-AB-21A/B/C

A\* - Wall Mounted; B - Duct Mounted; C - Flush Mounted



## Installation Details



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## AMCA500-L Tested Weather Louver

## B-20 Series

### Engineering and Performance Data

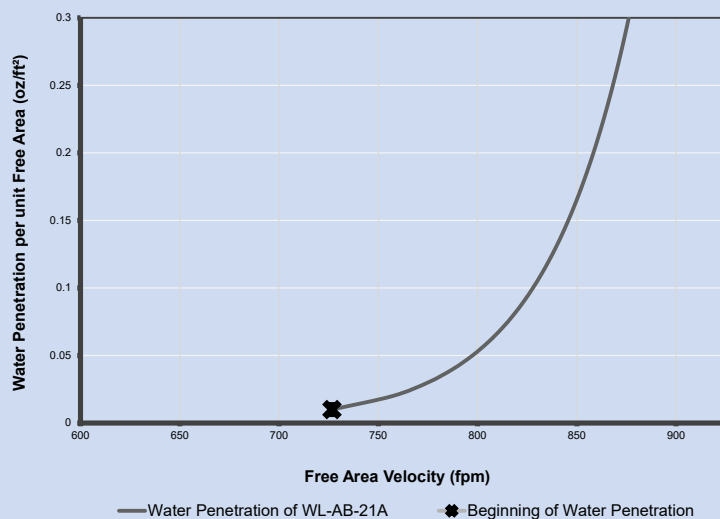
Louver Free Area Model : WL- AB-21A/B/C

Free area in sq. meters											
W/H	100	200	300	400	500	600	700	800	900	1000	1200
100	0.001	0.001	0.002	0.003	0.005	0.006	0.008	0.009	0.011	0.012	0.015
200	0.005	0.004	0.010	0.017	0.025	0.032	0.039	0.047	0.054	0.062	0.076
300	0.008	0.007	0.017	0.031	0.044	0.057	0.071	0.084	0.098	0.111	0.138
400	0.012	0.010	0.025	0.045	0.064	0.083	0.102	0.122	0.141	0.160	0.199
500	0.016	0.014	0.033	0.058	0.083	0.109	0.134	0.159	0.184	0.209	0.260
600	0.019	0.017	0.041	0.072	0.103	0.134	0.165	0.196	0.228	0.259	0.321
700	0.023	0.020	0.049	0.086	0.123	0.160	0.197	0.234	0.271	0.308	0.382
800	0.027	0.023	0.056	0.099	0.142	0.185	0.228	0.271	0.314	0.357	0.443
900	0.030	0.026	0.064	0.113	0.162	0.211	0.260	0.309	0.358	0.406	0.504
1000	0.034	0.029	0.072	0.127	0.182	0.236	0.291	0.346	0.401	0.456	0.565
1200	0.041	0.036	0.087	0.154	0.221	0.287	0.354	0.421	0.488	0.554	0.688

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-21A/B/C; Size : 48" x 48"

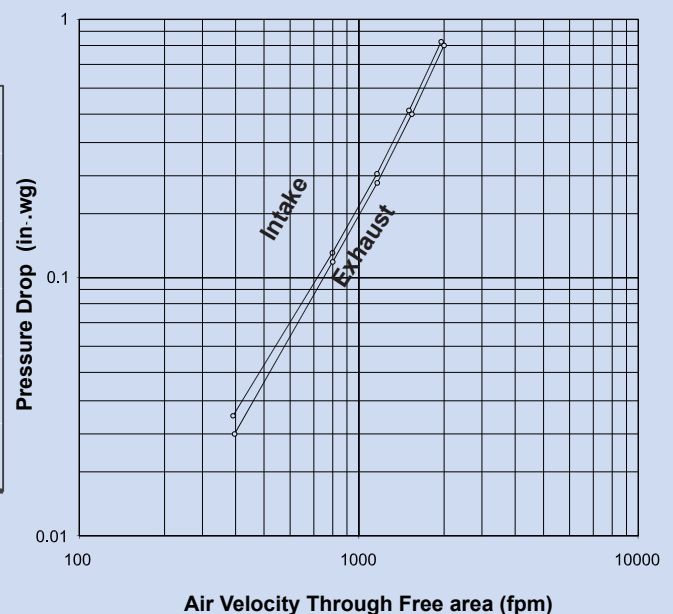
Water Penetration of WL-AB-21A



AMCA Standard 500-L Water Penetration Test (15 minutes test duration)  
The beginning point of water penetration @ 725 fpm.

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-21A/B/C; Size : 48" x 48"



Air Velocity Through Free area (fpm)

Fig 5.5

AMCA Standard 500-L Pressure Drop Test.  
Data is corrected to standard air density.

**BETEC CAD. Industries FZC.** certifies that model **WL-AB-21A/B/C** Weather louver is licensed to bear the **AMCA** seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** seal applies to air performance and water penetration for Weather louvers only.



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## AMCA500 - L Tested Weather Louvers

## B-20 Series

**Heavy Duty Non-Drinable Louver**

**Model : WL-AB-22A/A/B/C**

**Type : A\*** - Wall Mounted; **B** - Duct Mounted; **C** - Flush Mounted

**BETEC CAD.** Manufactures Model WL AB 22A/B/C Aerofoil blade weather louver which are designed for both intake and exhaust air applications. These louvers have been designed to ensure to meet minimum pressure loss and water ingress with high free area.

Aerofoil blade design ensure less pressure drop at high air volume & velocity.

### Standard Construction

#### Frame Material

100 mm deep, 3 mm thick extruded aluminum.

#### Blade Material

2 mm thick Aerofoil extruded aluminum.

#### Blade Orientation

Horizontal.

#### Blade Type

Fixed.

#### Blade Angle

45° Degree.

#### Finish

Mill finish.

### Optional Fittings

#### Screen

Galvanized Steel 0.4mm thick

S-3SS Bird screen

S-10 SS Fly screen

#### Filter

13 / 25 mm thick aluminum filter.

#### Damper

Control Damper.

#### Finish

Available with RAL Powder coating, please specify color.

### Note :

Please contact **BETEC CAD.** for customized design & additional information.



**BETEC CAD.** Industries FZC. certifies that model **WL-AB-22A/B/C** Weather louver is licensed to bear the **AMCA** seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** seal applies to air performance and water penetration for Weather louvers only.

### Features

- Low pressure drop performance with high free area.
- Aluminum construction for low maintenance and high resistance to corrosion.
- Free Area - 34.1%
- Performance as per AMCA 500 - L
- Excellent pressure drop performance.

B-20 Series Model Details				
Material Construction				
Model	Frame		Blade	
	Material	Thick	Material	Thick
WL-AB-22A/B/C	AL	3 mm	AL	2 mm

- Alphabet indicates the type of installation

**A** - Wall Mounted

**B** - Duct Mounted

**C** - Flush Mounted

Any Combination of W x H										
WL-AB-22A/B/C										
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"

Note:

Maximum single module construction - 2 x 2 meters

Multiple module available with mullion.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



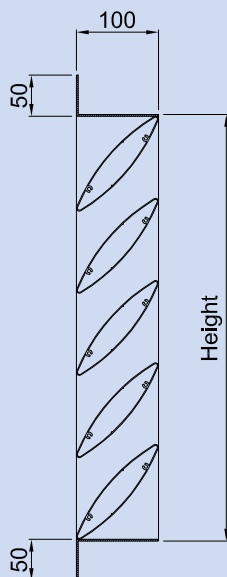
## AMCA500 - L Tested Weather Louvers

## B-20 Series

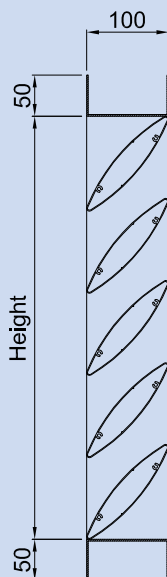
### Constructional Details

Model : WL-AB-22A/B/C

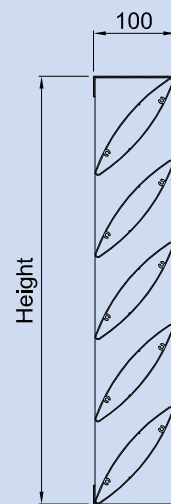
A\* - Wall Mounted; B - Duct Mounted; C - Flush Mounted



WL -AB-22A  
Wall Mounted

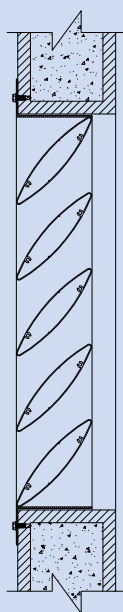


WL -AB-22B  
Duct Mounted

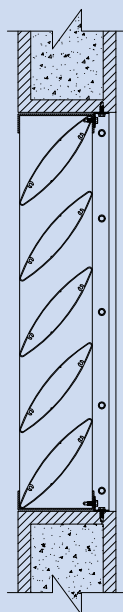


WL -AB-22C  
Flush Mounted

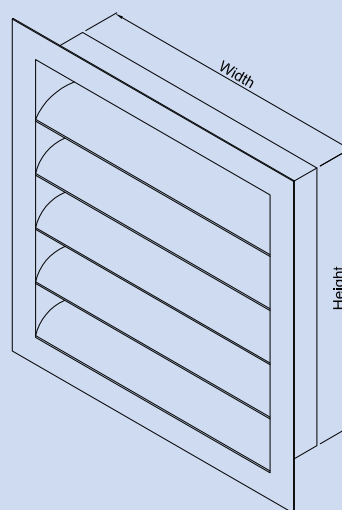
### Installation Details



Wall Mounting  
Installation



Flush Mounting  
Installation



Isometric View

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

## AMCA500-L Tested Weather Louver

## B-20 Series

### Engineering and Performance Data

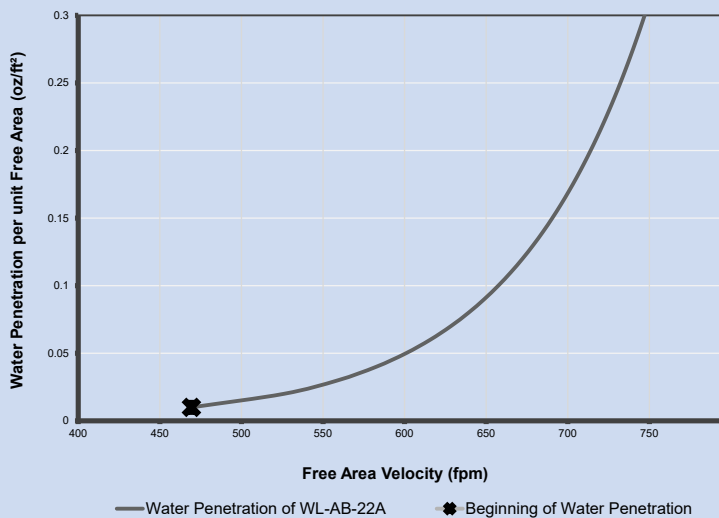
Louver Free Area **Model : WL-AB-22A/B/C**

Free area in sq. meters											
W/H	200	300	400	500	600	700	800	900	1000	1100	1200
200	0.007	0.006	0.013	0.020	0.027	0.034	0.041	0.048	0.055	0.062	0.069
300	0.015	0.012	0.026	0.040	0.054	0.068	0.082	0.096	0.110	0.124	0.138
400	0.022	0.017	0.038	0.060	0.081	0.102	0.123	0.143	0.165	0.186	0.207
500	0.029	0.023	0.051	0.079	0.108	0.136	0.164	0.191	0.220	0.248	0.276
600	0.037	0.029	0.064	0.099	0.134	0.170	0.205	0.239	0.275	0.310	0.345
700	0.044	0.035	0.077	0.119	0.161	0.203	0.246	0.287	0.330	0.372	0.414
800	0.051	0.041	0.090	0.139	0.188	0.237	0.287	0.334	0.385	0.434	0.483
900	0.059	0.046	0.103	0.159	0.215	0.271	0.327	0.382	0.440	0.496	0.552
1000	0.066	0.052	0.115	0.179	0.242	0.305	0.368	0.430	0.495	0.558	0.621
1100	0.073	0.058	0.128	0.199	0.269	0.339	0.409	0.478	0.550	0.620	0.690
1200	0.081	0.064	0.141	0.218	0.296	0.373	0.450	0.525	0.605	0.682	0.759

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-22A/B/C; Size : 48" x 48"

Water Penetration of WL-AB-22A



AMCA Standard 500-L Water Penetration Test (15 minutes test duration)  
The beginning point of water penetration @ 460 fpm.

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-22A/B/C; Size : 48" x 48"

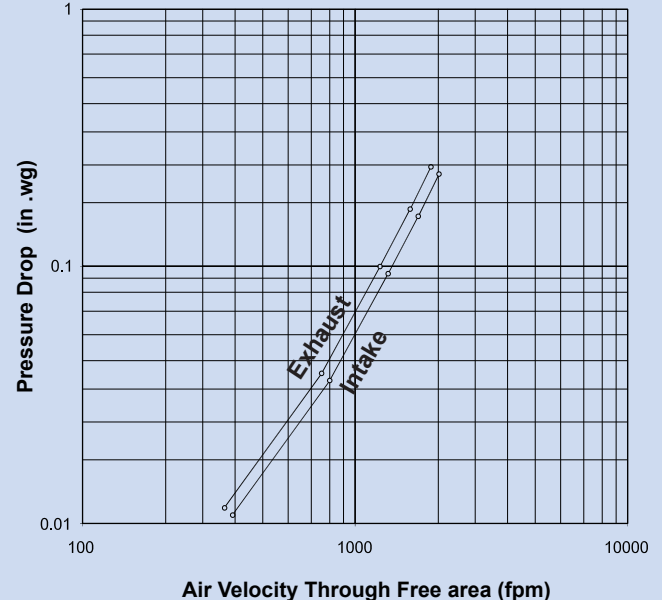


Fig 5.5

AMCA Standard 500-L Pressure Drop Test.  
Data is corrected to standard air density.

**BETEC CAD.** Industries FZC. certifies that model **WL-AB-22A/B/C** Weather louver is licensed to bear the **AMCA** seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** seal applies to air performance and water penetration for Weather louvers only.



Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



## AMCA500-L Tested Weather Louver

## B-30 Series

Heavy duty Stationary Louver

Model : WL-AB-31A/B/C

Type : **A\*** - Wall Mounted; **B** - Duct Mounted; **C** - Flush Mounted

**BETEC CAD.** Manufactures Model WL AB 31 A/B/C Weather Louvers is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the AMCA Certified Ratings Program. The AMCA Seal applies to air performance and water penetration ratings for Aluminum louvers only.

### Standard Construction

#### Frame Material

100 mm deep, 3 mm thick extruded aluminum.

#### Blade Material

2 mm thick extruded aluminum.

#### Blade Orientation

Horizontal.

#### Blade Type

Fixed.

#### Blade Angle

45° Degree

#### Finish

Mill finish

### Optional Fittings

#### Screen

Galvanized Steel 0.4mm thick

S-3 SS Bird screen

S-10 SS Fly screen

#### Filter

13 / 25 mm thick aluminum filter

#### Damper

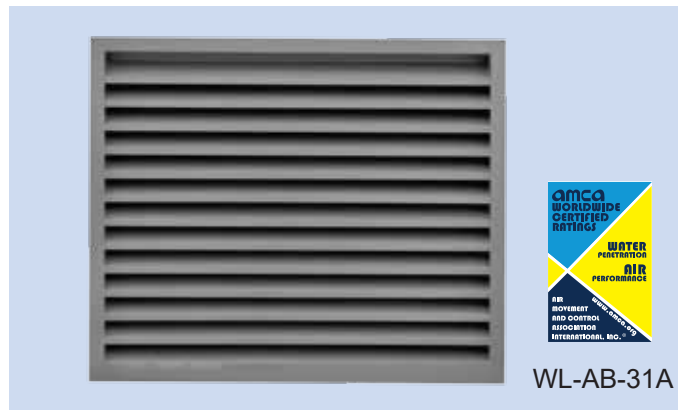
Control Damper.

#### Finish

Available with RAL Powder coating, please specify color.

### Note :

Please contact **BETEC CAD.** for customized design & additional information.



**BETEC CAD.** Industries (FZC) Certifies Model **WL-AB-31A/B/C** Weather Louvers is licensed to bear the **AMCA** Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** Seal applies to air performance and water penetration ratings for Aluminum louvers only.

### Features

- Performance as per AMCA 500 - L
- Excellent pressure drop performance.
- Aluminum construction for low maintenance and high resistance to corrosion.
- Heavy duty durable construction.
- Free area - 52%
- Beginning of water Penetration @ fpm 1045

B-30 Series Model Details				
Material Construction				
Model	Frame		Blade	
	Material	Thick	Material	Thick
WL-BC-31A/B/C	AL	3 mm	AL	2 mm

Alphabet indicates the type of installation

**A** - Wall Mounted

**B** - Duct Mounted

**C** - Flush Mounted

Any Combination of W x H										
WL-AB-31A/B/C										
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"

### Note:

Maximum single Module Construction - 2 x 1.5 meters.

Multiple module available with mullion.

Selected Products of the company have been Classified Listed Tested by various international testing authorities.



Globally Recognized. Industry Respected. Globally Recognized. Industry Respected.

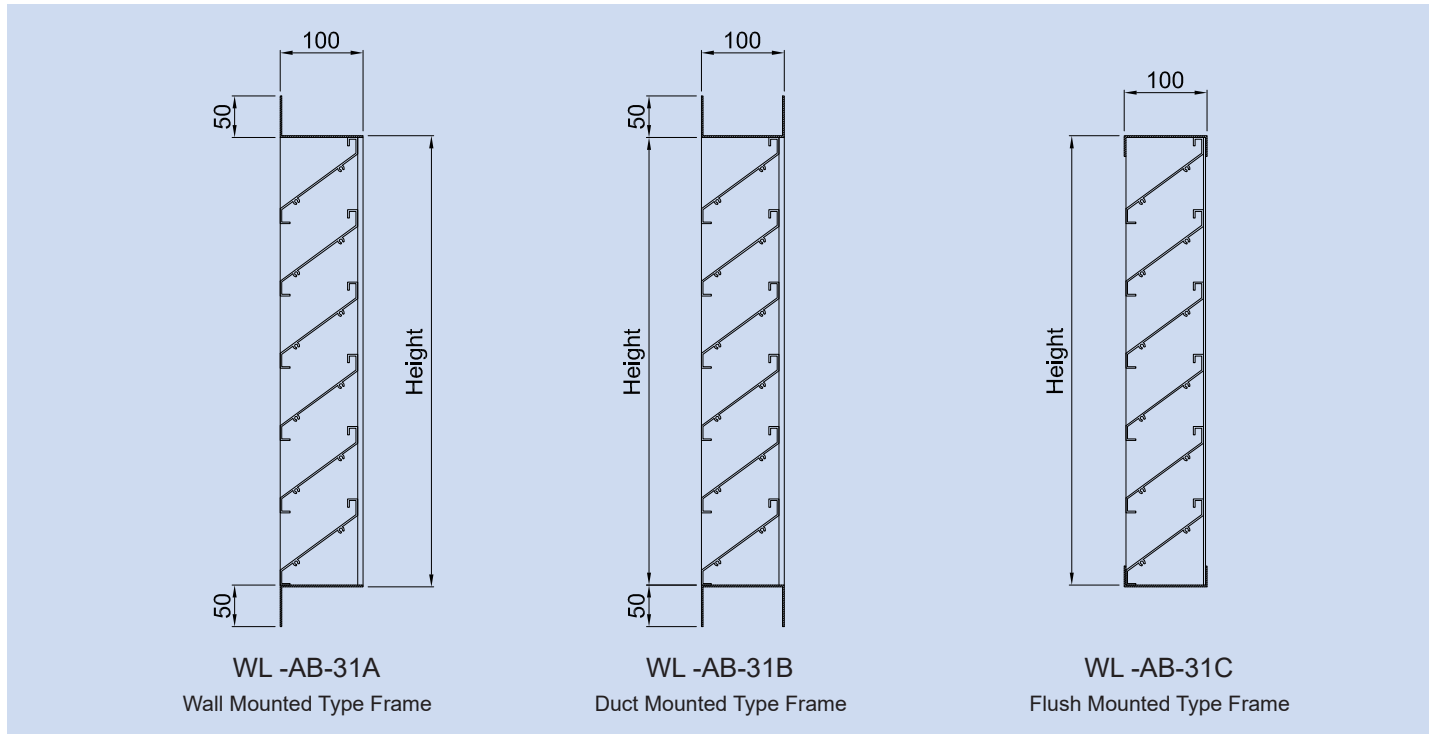
## AMCA500-L Tested Weather Louver

**B-30 Series**

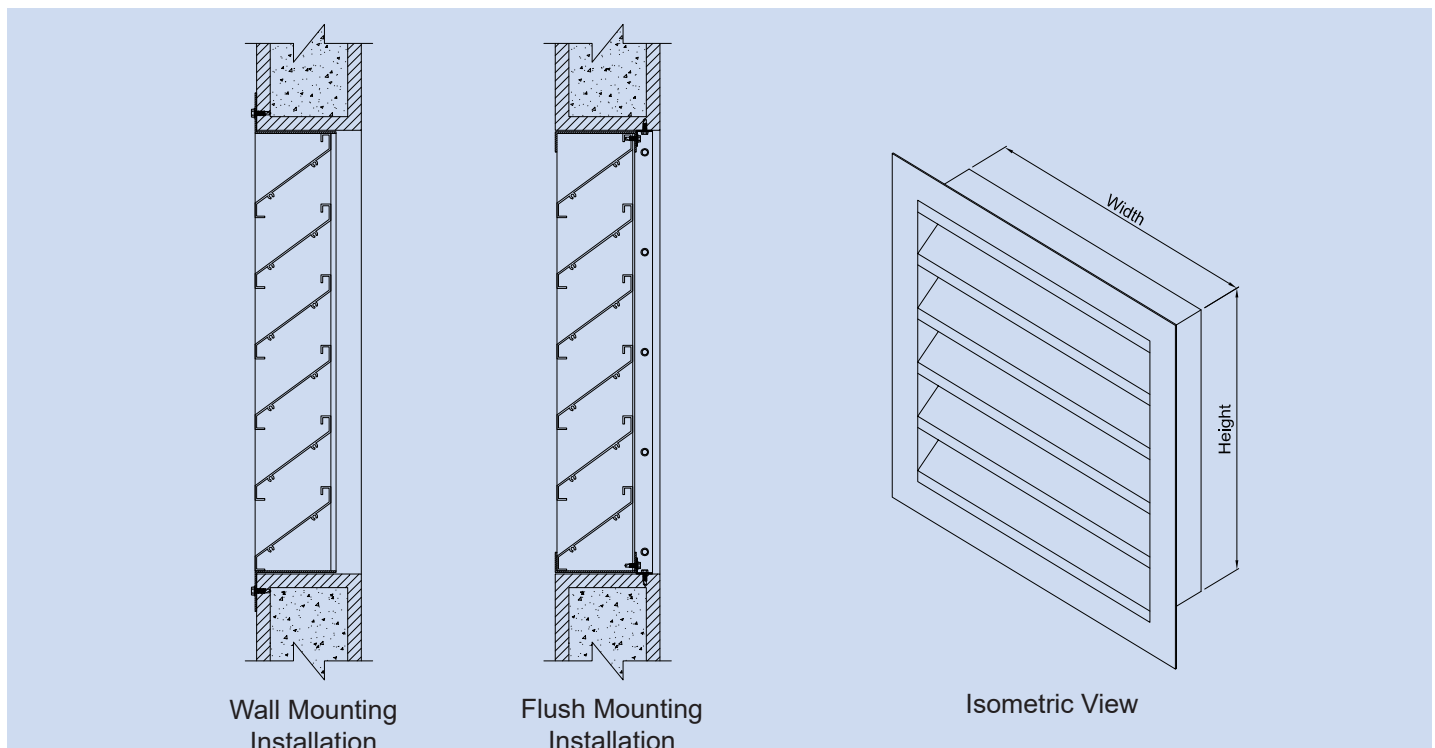
### Constructional Details

Model : WL-AB-31A/B/C

A\* - Wall Mounted; B - Duct Mounted; C - Flush Mounted



### Installation Details :



Selected Products of the company have been Classified, Listed, Tested by various international testing authorities.



## AMCA500-L Tested Weather Louver

## B-30 Series

### Engineering and Performance Data

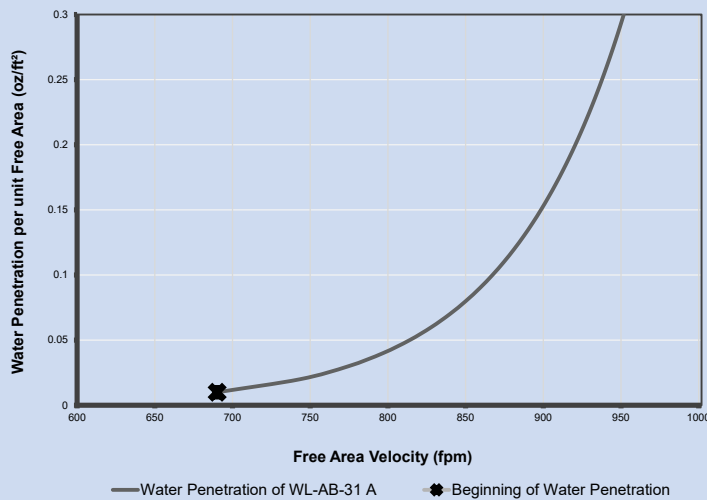
Louver Free Area **Model : WL-AB-31A/B/C**

Free area in sq. meters											
W/H	300	450	600	750	900	1050	1200	1500	1800	2100	2400
300	0.011	0.028	0.047	0.064	0.080	0.099	0.116	0.152	0.187	0.223	0.256
450	0.020	0.049	0.083	0.111	0.140	0.174	0.203	0.265	0.328	0.391	0.448
600	0.029	0.070	0.118	0.159	0.200	0.249	0.290	0.379	0.469	0.558	0.641
750	0.037	0.091	0.153	0.207	0.261	0.323	0.377	0.493	0.609	0.725	0.833
900	0.046	0.112	0.189	0.255	0.321	0.398	0.464	0.607	0.750	0.893	1.025
1050	0.054	0.133	0.224	0.302	0.381	0.472	0.551	0.721	0.890	1.060	1.217
1200	0.063	0.154	0.259	0.350	0.441	0.547	0.638	0.834	1.031	1.227	1.409
1500	0.080	0.195	0.330	0.446	0.561	0.696	0.812	1.062	1.312	1.562	1.794
1800	0.097	0.237	0.401	0.541	0.682	0.845	0.985	1.289	1.593	1.897	2.178
2100	0.114	0.279	0.472	0.637	0.802	0.994	1.159	1.517	1.874	2.232	2.563
2400	0.131	0.321	0.542	0.732	0.922	1.143	1.333	1.744	2.155	2.567	2.947

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-31A/B/C; Size : 48" x 48"

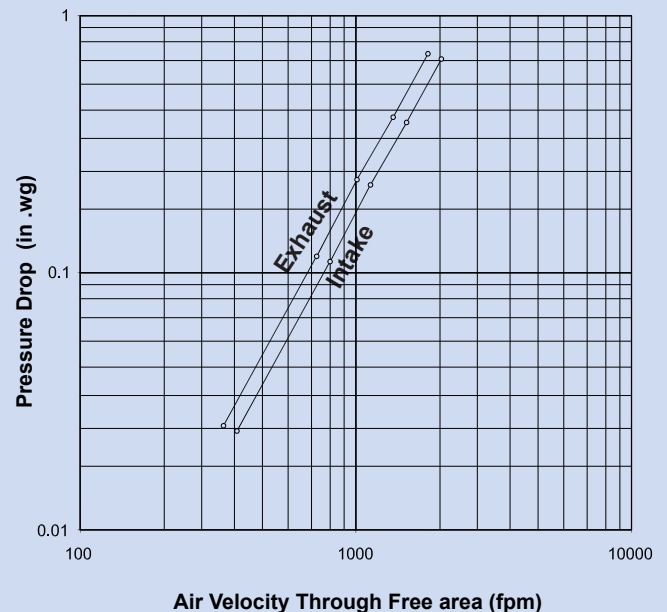
Water Penetration of WL-AB-31 A



AMCA Standard 500-L Water Penetration Test (15 minutes test duration)  
The beginning point of water penetration @ 694.1 fpm.

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-31A/B/C; Size : 48" x 48"



Air Velocity Through Free area (fpm)

Fig 5.5

AMCA Standard 500-L Pressure Drop Test.  
Data is corrected to standard air density.

**BETEC CAD.** Industries (FZC) Certifies Model **WL-AB-31A** Weather Louvers is licensed to bear the **AMCA** Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** Seal applies to air performance and water penetration ratings for Aluminum louvers only.



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## AMCA500-L Tested Weather Louver

## B-30 Series

Wind Driven Rain Louver

Model : WL-AB-32C

Type : C - Flush Mounted

**BETEC CAD.** Manufactures Model WL AB 32C weather louver which are designed for both intake and exhaust air applications, with and without damper combinations. These louvers have been designed for minimum pressure loss and low self-generated aerodynamic noise.

### Standard Construction

#### Frame Material

120 mm deep, 2 mm thick extruded aluminum.

#### Blade Material

2 mm extruded aluminum.

#### Blade Orientation

Horizontal.

#### Blade Type

Fixed.

#### Finish

Mill finish.

### Optional Fittings

#### Screen

Galvanized Steel 0.4mm Thick

S-3 SS Bird screen

S-10 SS Fly screen

#### Finish

Available with RAL Powder coating, please specify color.



**BETEC CAD.** Industries (FZC) Certifies Model **WL-AB-32C** Weather Louvers is licensed to bear the **AMCA** Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** Seal applies to air performance, wind-driven rain and water penetration ratings for Aluminum louvers only.

### Features

- Closely spaced horizontal blades minimize the penetration of wind-driven rain, reducing damage and additional operating expenses.
- Excellent pressure drop performance.
- Free area - 38.8%
- Performance as per AMCA 500 - L
- Aluminum construction for low maintenance and high resistance to corrosion.

AB-30Series Model Details				
Material Construction				
Model	Frame		Blade	
	Material	Thick	Material	Thick
WL-AB-32C	AL	2 mm	AL	2 mm

- Alphabet indicates the type of installation

**C** - Flush Mounted

Any Combination of W x H										
WL-AB-32C										
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"

Note: Maximum single module Construction - 2 x 2 meters  
Multiple module available with mullion.

### Note :

Please contact **BETEC CAD.** for customized design & additional information.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.





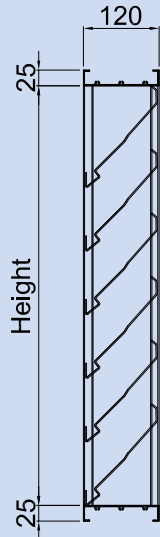
## AMCA500-L Tested Weather Louver

**B-30 Series**

### Constructional Details

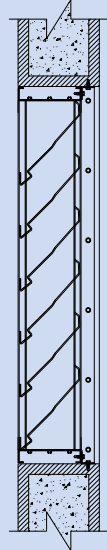
Model : WL-AB-32C

Type : C\* - Flush Mounted



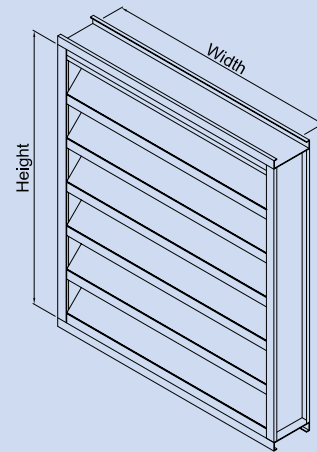
WL-AB-32C

Flush Mounted Type



Installation

Flush Mounted Type



Isometric View

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



**AMCA500-L Tested Weather Louver**
**B-30 Series**
**Engineering and Performance Data**

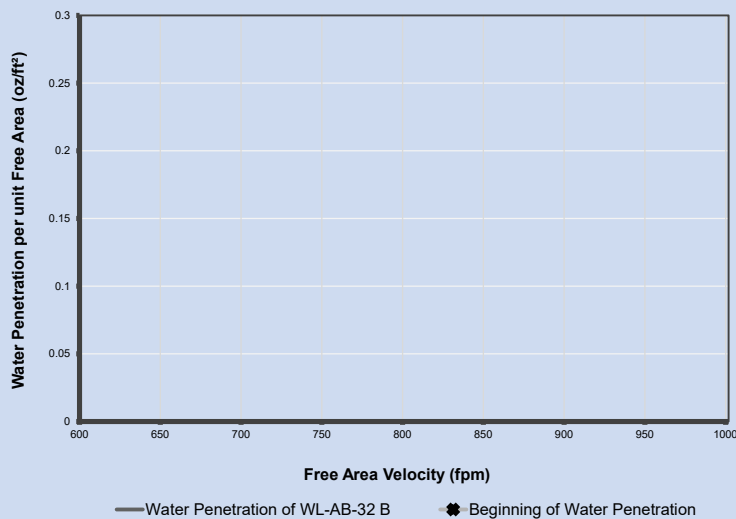
 Louver Free Area **Model : WL-AB-32C**

Free area in sq. meters											
W/H	300	450	600	750	900	1050	1200	1500	1800	2100	2400
300	0.011	0.028	0.047	0.064	0.080	0.099	0.116	0.152	0.187	0.223	0.256
450	0.020	0.049	0.083	0.111	0.140	0.174	0.203	0.265	0.328	0.391	0.448
600	0.029	0.070	0.118	0.159	0.200	0.249	0.290	0.379	0.469	0.558	0.641
750	0.037	0.091	0.153	0.207	0.261	0.323	0.377	0.493	0.609	0.725	0.833
900	0.046	0.112	0.189	0.255	0.321	0.398	0.464	0.607	0.750	0.893	1.025
1050	0.054	0.133	0.224	0.302	0.381	0.472	0.551	0.721	0.890	1.060	1.217
1200	0.063	0.154	0.259	0.350	0.441	0.547	0.638	0.834	1.031	1.227	1.409
1500	0.080	0.195	0.330	0.446	0.561	0.696	0.812	1.062	1.312	1.562	1.794
1800	0.097	0.237	0.401	0.541	0.682	0.845	0.985	1.289	1.593	1.897	2.178
2100	0.114	0.279	0.472	0.637	0.802	0.994	1.159	1.517	1.874	2.232	2.563
2400	0.131	0.321	0.542	0.732	0.922	1.143	1.333	1.744	2.155	2.567	2.947

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-32C; Size : 48" x 48"

Water Penetration of WL-AB-32 B



AMCA Standard 500-L Water Penetration Test (15 minutes test duration)  
The beginning point of water penetration is greater than 1250 fpm.

\* Test data that goes above 1250 fpm, is beyond the limitations of chamber / software and is considered excellent as far as a "beginning point of water penetration".

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-32C; Size : 48" x 48"

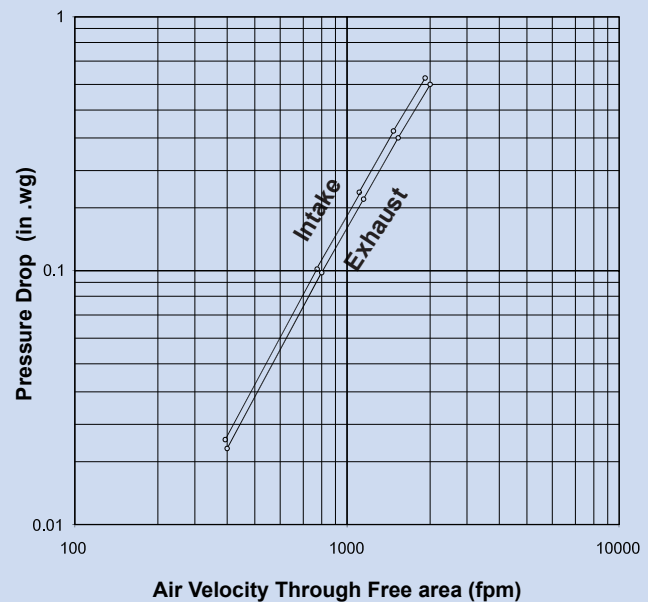


Fig 5.5

AMCA Standard 500-L Pressure Drop Test.  
Data is corrected to standard air density.

**BETEC CAD.** Industries (FZC) Certifies Model **WL-AB-32AC** Weather Louvers is licensed to bear the **AMCA** Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** Seal applies to air performance, wind-driven rain and water penetration ratings for Aluminum louvers only.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



**AMCA500-L Tested Weather Louver**
**B-30 Series**
**Wind - Driven Rain Performance**

Test size is **39.375" x 39.375"** Core area

29 mph (46 kph) wind & 3" per hour rain condition			
Ventilation Air Velocity (fpm)	Ventilation Air Flow (cfm)	Water Penetration Effectiveness %	Water Penetration Classification
0	0	98.3	B
136	1463	97.3	B
196	2112	97.2	B
279	3003	96.9	B
375	4040	96.9	B
466	5016	95.7	B
584	6293	93.5	C
682	7346	93.1	C
782	8417	91.2	C
864	9307	78.2	D
991	10668	58.7	D

**NOTES**
**1. Wind Driven Rain Penetration Classes:**
**Class Effectiveness**

A	1 to .99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

**2. Intake Discharge Loss Class 2**

Discharge Loss Coefficient is calculated by dividing a louvers' actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louvers' airflow characteristics.

**Discharge Loss Classes:**
**Class Discharge Loss Coefficient:**

1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 and below

(The higher the coefficient, the less resistance to airflow.)

3. The AMCA Wind Driven Rain Test is performed in a laboratory environment and incorporates controlled wind, water and system airflow effects. In actual field installations, storms may create conditions not considered by the AMCA test.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



## AMCA500-L Tested Weather Louver

Wind Driven Rain Louver

Model : WL-AB-40C

Type : C\* - Flush Mounted

## B-40 Series

**BETEC CAD.** Manufactures Model WL AB 40C Weather Louvers is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the AMCA Certified Ratings Program.

The AMCA Seal applies to air performance, water penetration and wind-driven rain ratings for Aluminum louvers only.

### Standard Construction

#### Frame Material

120 mm deep, 2 mm thick extruded aluminum.

#### Blade Material

2 mm thick extruded aluminum.

#### Blade Orientation

Horizontal.

#### Blade Type

Fixed.

#### Finish

Mill finish.

### Optional Fittings

drain sill.

#### Screen

Galvanized Steel 0.4mm Thick

S-3 SS Bird screen

S-10 SS Fly screen

#### Finish

Available with Powder coating , please specify color.

### Note :

Please contact **BETEC CAD.** for customized design & additional information.



**BETEC CAD.** Industries (FZC) Certifies Model **WL-BC-40C** Weather Louvers is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** Seal applies to air performance, wind-driven rain and water penetration ratings for Aluminum louvers only.

### Features

- Closely spaced horizontal blades minimize the penetration of wind-driven rain, reducing damage and additional operating expenses.
- Performance as per AMCA 500 - L
- Excellent pressure drop performance.
- Aluminum construction for low maintenance and high resistance to corrosion.
- Free area - 65.8%
- Beginning of water penetration @ 892.9 fpm

AB-40 Series Model Details				
Material Construction				
Model	Frame		Blade	
	Material	Thick	Material	Thick
WL-AB-40C	AL	2 mm	AL	2 mm

Alphabet indicates the type of installation

**C** - Flush Mounted

Any Combination of W x H										
WL-AB-40C										
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	48"	96"

Note: Maximum single module Construction - 2 x 2 meters  
Multiple module available with mullion.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

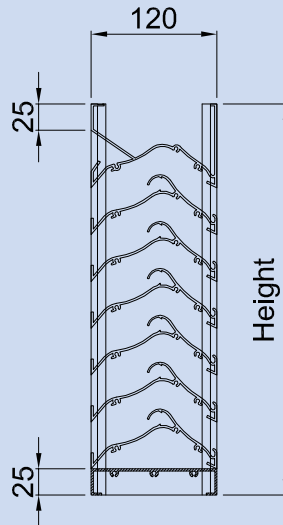


## AMCA500-L Tested Weather Louvers Constructional Details

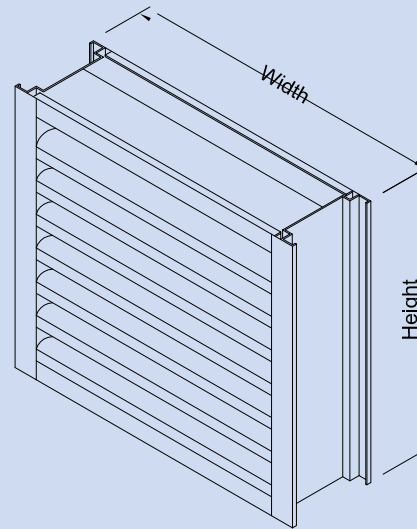
**B-40 Series**

Model : WL-AB-40C

Type : C\* - Flush Mounted

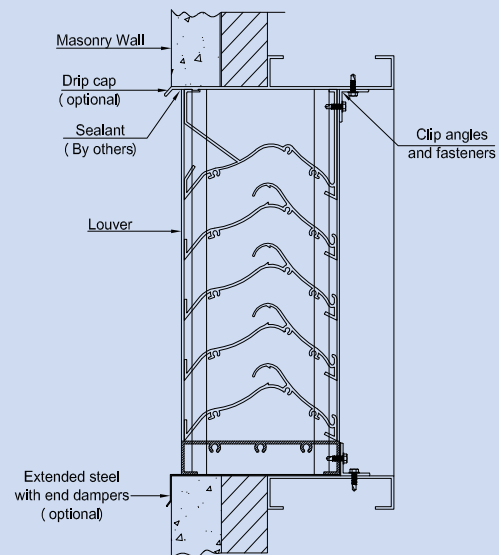
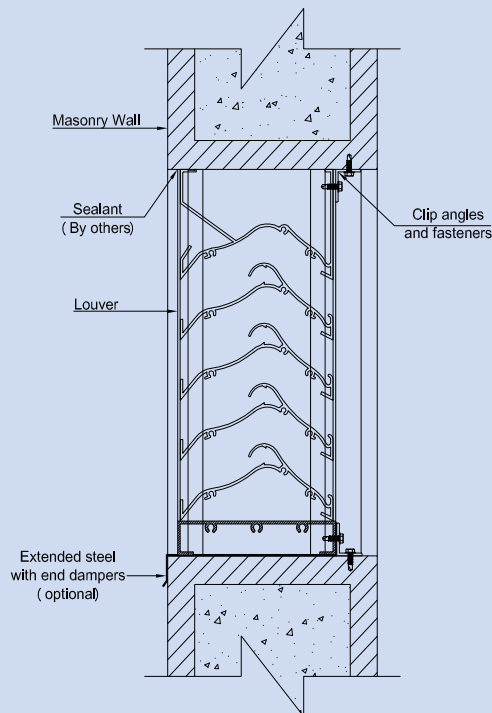


WL-AB-40C  
Flush Mounted Type



Isometric View

## Installation Details



Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



## AMCA500-L Tested Weather Louver

## B-40 Series

### Engineering and Performance Data

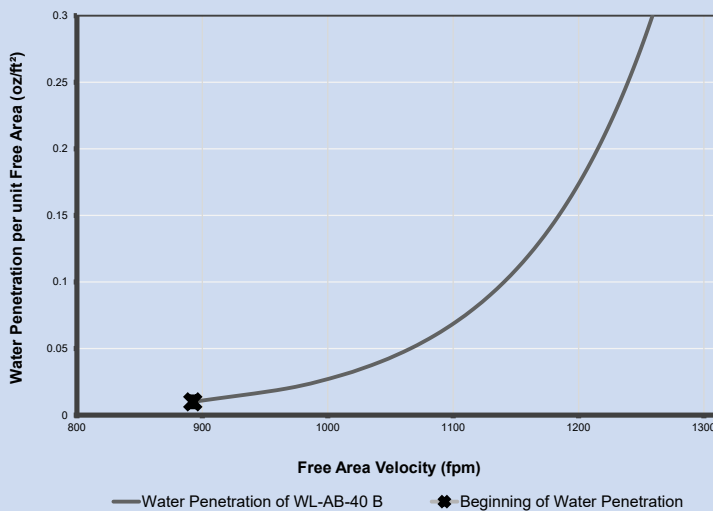
Louver Free Area Model : WL-AB-40C

Free area in sq. meters											
W/H	300	450	600	750	900	1050	1200	1500	1800	2100	2400
300	0.024	0.040	0.055	0.078	0.094	0.113	0.132	0.170	0.208	0.246	0.278
450	0.039	0.065	0.088	0.125	0.151	0.181	0.212	0.272	0.333	0.393	0.444
600	0.053	0.089	0.122	0.172	0.208	0.249	0.291	0.374	0.458	0.541	0.611
750	0.068	0.113	0.155	0.219	0.264	0.317	0.370	0.476	0.582	0.688	0.778
900	0.083	0.137	0.188	0.266	0.321	0.385	0.450	0.578	0.707	0.836	0.944
1050	0.097	0.162	0.221	0.313	0.377	0.453	0.529	0.680	0.832	0.983	1.111
1200	0.112	0.186	0.254	0.360	0.434	0.521	0.608	0.782	0.957	1.131	1.278
1500	0.141	0.234	0.321	0.454	0.547	0.657	0.767	0.986	1.206	1.425	1.611
1800	0.170	0.283	0.387	0.548	0.660	0.793	0.926	1.190	1.456	1.720	1.944
2100	0.199	0.331	0.453	0.642	0.773	0.929	1.084	1.394	1.705	2.015	2.278
2400	0.228	0.380	0.520	0.736	0.887	1.065	1.243	1.599	1.955	2.310	2.611

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-40C; Size : 48" x 48"

Water Penetration of WL-AB-40 B



AMCA Standard 500-L Water Penetration Test (15 minutes test duration)  
The beginning point of water is 892.9 fpm.

Water Penetration V/S Free Area Velocity Graph

Model : WL-AB-40C; Size : 48" x 48"

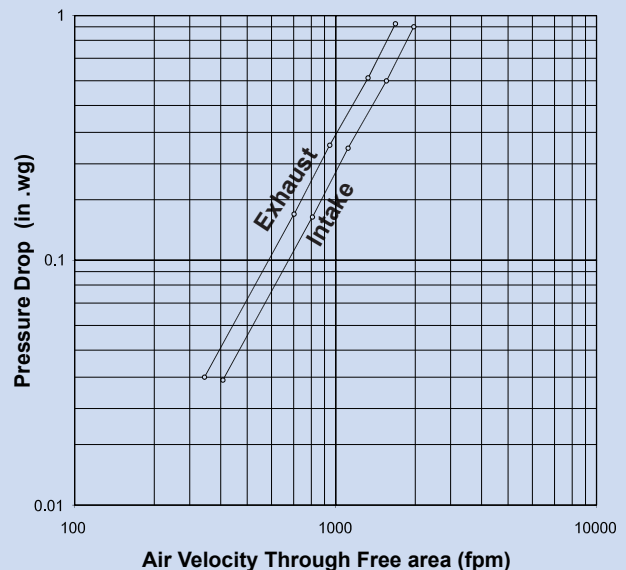


Fig 5.5

AMCA Standard 500-L Pressure Drop Test.  
Data is corrected to standard air density.

**BETEC CAD.** Industries (FZC) Certifies Model **WL-AB-40A/B/C** Weather Louvers is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with the requirements of the **AMCA** Certified Ratings Program. The **AMCA** Seal applies to air performance, wind-driven rain and water penetration ratings for Aluminum louvers only.



Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



**AMCA500 - L Tested Weather Louvers**
**B-40 Series**
**Wind - Driven Rain Performance**

 Test size is **39.375" x 39.375"** Core area

<b>29 mph (46 kph) wind &amp; 3" per hour rain condition</b>			
Ventilation Air Velocity (fpm)	Ventilation Air Flow (cfm)	Water Penetration Effectiveness %	Water Penetration Classification
0	0		
126	1355	99.4	A
188	2021	99.3	A
286	3082	99	A
382	4108	98.6	B
469	5047	88.8	C
582	6271	72.6	D
685	7379	50.2	D
765	8238	38.4	D
866	9323	22.1	D
985	10604	10.9	D

<b>50 mph (80 kph) wind &amp; 8" per hour rain conditions</b>			
Ventilation Air Velocity (fpm)	Ventilation Air Flow (cfm)	Water Penetration Effectiveness %	Water Penetration Classification
0	0	96.10	B
99	1062	93.60	C
198	2130	92.30	C
284	3055	90.70	C
407	4387	88.10	C
488	5252	85.80	C
578	6225	85.20	C
673	7242	78.20	D
783	8432	73.20	D
888	9560	67.60	D
970	10448	63.80	D

**NOTES**

1. Wind Driven Rain Penetration Classes:

Class	Effectiveness
A	1 to .99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

2. Intake Discharge Loss Class 2

Discharge Loss Coefficient is calculated by dividing a louvers' actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louvers' airflow characteristics.

**Discharge Loss Classes:**
**Class      Discharge Loss Coefficient:**

1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 and below

(The higher the coefficient, the less resistance to airflow.)

3. The AMCA Wind Driven Rain Test is performed in a laboratory environment and incorporates controlled wind, water and system airflow effects. In actual field installations, storms may create conditions not considered by the AMCA test.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.





## Motorized Weather Louver - MWL

**Type :** Motorized Louver

**Model :** MWL-GB-51A; Galvanized Construction.

**Blade Type :** Single skin - 3V Blades

**BETEC CAD.** manufactures Motorized weather louvers are square and rectangular type with parallel operation having single skin blade design. These louvers are subjected to medium pressure applications to achieve low leakage efficient operation.

The square and rectangular type Motorized louvers are designed for handling maximum air capacities at minimum pressure drop.

### Louver Performance Ratings

**Operating Pressure** - 4" wg (1000Pa) Max

**Velocity** - 1500 fpm (7.5 m/s)

### Standard Construction

#### Frame

5.1"x 1" x 18 gauge (130 x 28 x 1.2 mm) roll formed galvanized steel 'C' Channel.

#### Blades

6" (152mm) wide, 1.5 mm thick (16 gauge) galvanized steel 3V type roll formed .

#### Bushes

Bronze.

#### Mechanical Linkage

Galvanized steel linkages concealed within the frame.

#### Axles

12mm square galvanized steel.

#### Gasket

Foam gasket.

#### Motor

On/Off

#### Finish

Mill finish.

### Optional Fittings

#### Screen

Galvanized steel 0.4mm Thick

S-3 SS Bird screen

S-10 SS fly screen

#### Motor

Modulate / Spring Return

#### Finish

Available with RAL Powder coating, please specify color.

## B-50 Series



MWL-GB-51A

### Features

- Side jambseal provides tight closure.
- AMCA 500 - L
- Low pressure drop.
- Aluminum construction for low maintenance and high resistance to corrosion.
- Linkage concealed within the frame not exposed to weather conditions.

### Optional Construction Details

**Frame** : Thickness up to 3 mm

**Frame Depth** : Up to 150 mm

**Blade** : Thickness up to 2 mm

**Blade width** : Up to 150 mm

B- 50 Series Single skin Blade Model details			
Material Construction			
Model	Frame	Blade	Actuator
MWL-GB-51	GI	GI	On / Off 230V*
MWL-GSB-51	GI	SS	On / Off 230V*
MWL-SB-51	SS	SS	On / Off 230V*

Any Combination of W x H									
MWL-B-51									
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	40"

Note: Maximum single module construction - 48" x 40"  
Multiple module available with mullion.

### Note :

Please contact **BETEC CAD.** for customized design & additional information.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.





## Motorized Weather Louver - MWL

## B-50 Series

**Type :** Motorized Louver

**Model :** MWL-GB-52A; Galvanized Construction.

**Blade Type :** Aerofoil

**BETEC CAD.** Manufactures motorized weather louvers are square and rectangular type with parallel operation having Aerofoil type double skin blade design. These louvers are subjected to medium pressure applications to achieve low leakage and uniform air distribution.

The square and rectangular type Motorized louvers are designed for handling maximum air capacities at minimum pressure drop.

### Louver Performance Ratings

**Operating Pressure** - 4" wg (1000Pa) Max

**Velocity** - 1500 fpm (7.5 m/s)

### Standard Construction

#### Frame

5.1"x 1" x 18 gauge (130 x 28 x 1.2 mm) rollformed galvanized steel 'C' Channel.

#### Blades

6" (152mm) wide, 1 mm thick (20 gauge) aluminium extruded.

#### Bushes

Bronze.

#### Mechanical Linkage

Galvanized steel linkages concealed within the frame.

#### Axles

12mm square galvanized steel.

#### Gasket

Foam gasket.

#### Motor

On/Off

#### Finish

Mill finish.

### Optional Fittings

#### Screen

Galvanized steel 0.4mm Thick

S-3 SS Bird screen

S-10 SS fly screen

#### Motor

Modulate / Spring Return

#### Finish

Available with RAL Powder coating, please specify color.



MWL-GB-52A

### Features

- Side jambseal provides tight closure.
- AMCA 500 - L
- Low pressure drop.
- Aluminum construction for low maintenance and high resistance to corrosion.
- Linkage concealed within the frame not exposed to weather conditions.

### Optional Construction Details

**Frame** : Thickness up to 3 mm

**Frame Depth** : Up to 150 mm

**Blade** : Thickness up to 2 mm

**Blade width** : Up to 150 mm

B-50 Series Aerofoil Blade Models details			
Material Construction			
Model	Frame	Blade	Actuator
MWL-GB-52	GI	GI	On / Off 230V*
MWL-GAB-52	GI	AL	On / Off 230V*
MWL-SB-52	SS	SS	On / Off 230V*

Any Combination of W x H									
MWL-B-52									
Width in Inches	4"	6"	10"	12"	16"	20"	30"	36"	48"
Height in inches	4"	6"	10"	12"	16"	20"	30"	36"	40"

Note: Maximum single module construction - 48" x 40"  
Multiple module available with mullion.

### Note :

Please contact **BETEC CAD.** for customized design & additional information.

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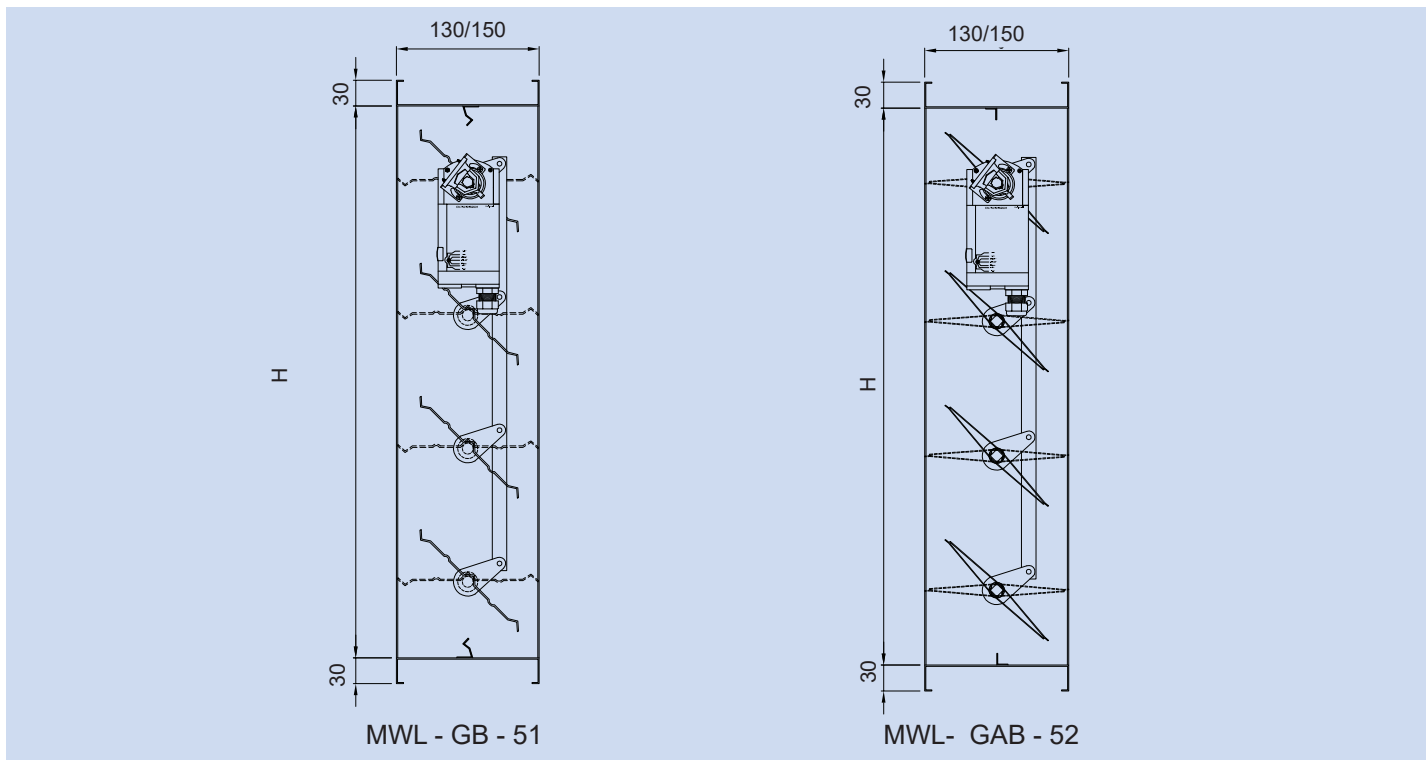


## Motorized Weather Louver - MWL

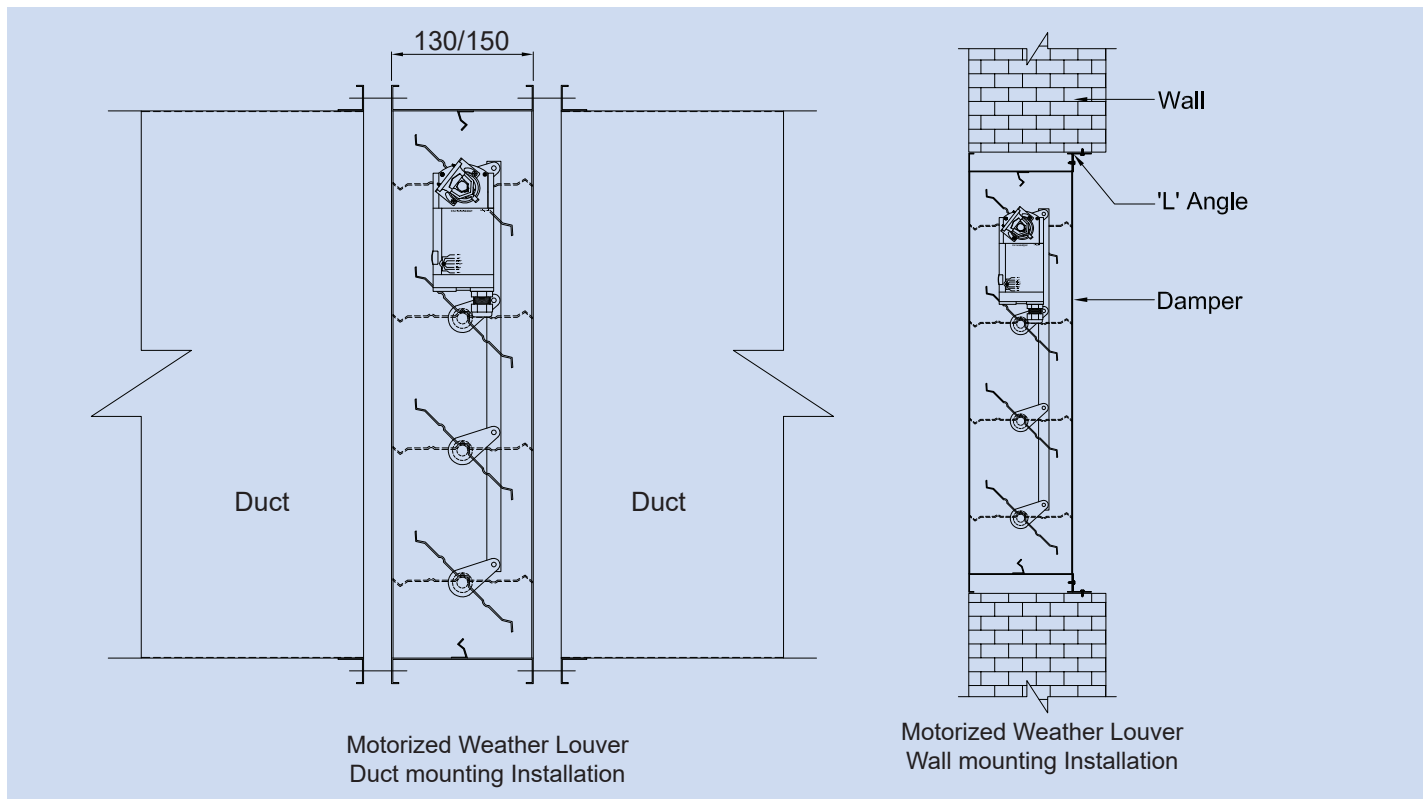
## B-50 Series

### Constructional Details

Models : MWL-GB-51 / MWL-GB-52



### Installation Details



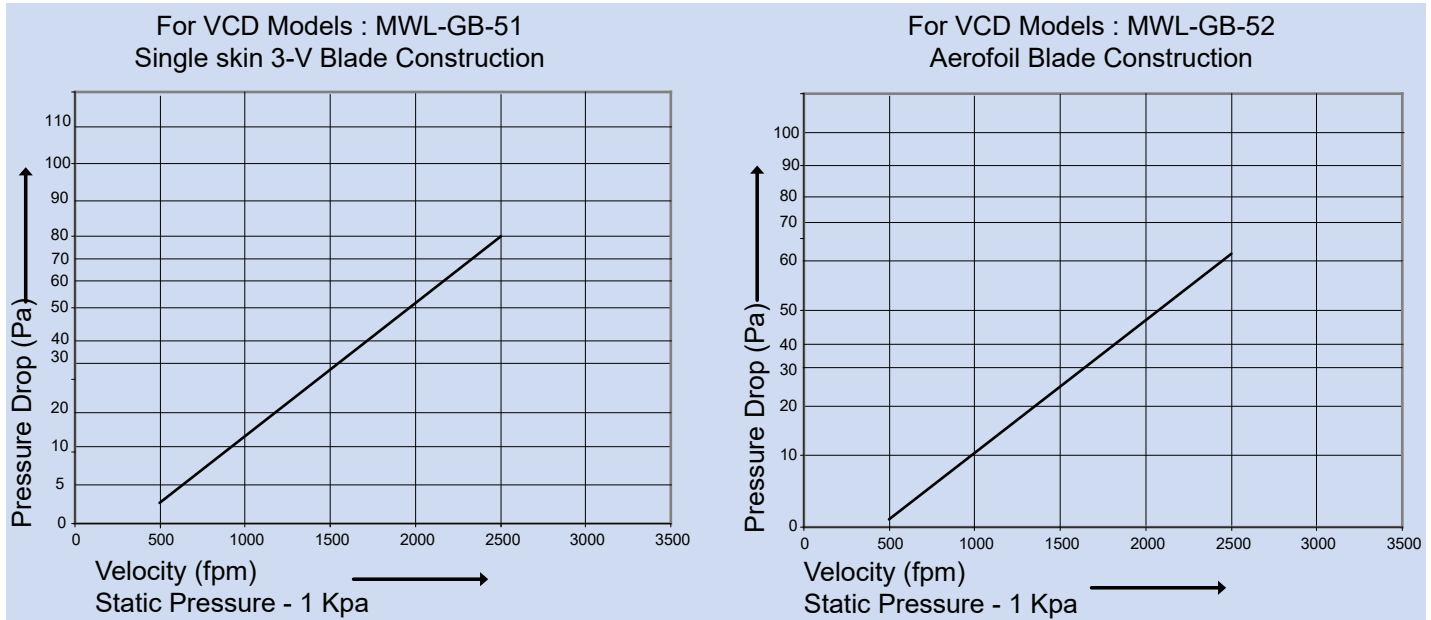
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## Motorized Weather Louver - MWL Engineering And Performance Data

**B-50 Series**

Models : MWL-GB-51/52A

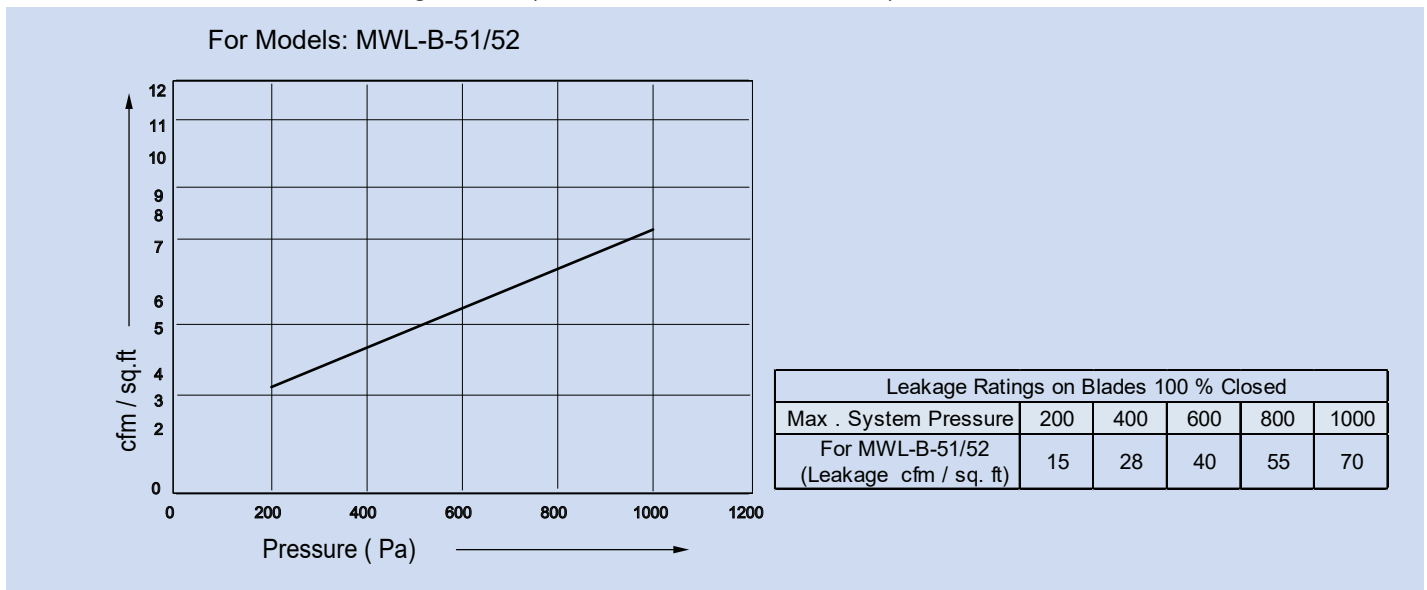
Pressure Losses Vs Face Velocity



Airflow V/S Pressure Damper 100 % (full) open.					
Max. System Pressure 1000-Pa					
Air Velocity (fpm)	500	1000	1500	2000	2500
MWL-B51-A (3-V Blade single skin) Pressure drop (Pa)	3.2	12.8	28.8	51.2	80
MWL-B52 -A (Aerofoil Blade) Pressure drop (Pa)	2.8	11	25	46	63

### Leakage Characteristics

Models : MWL-GB-51/52 - Leakage Curve (Blades 100% Closed Position)



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BC07, Sept-2018