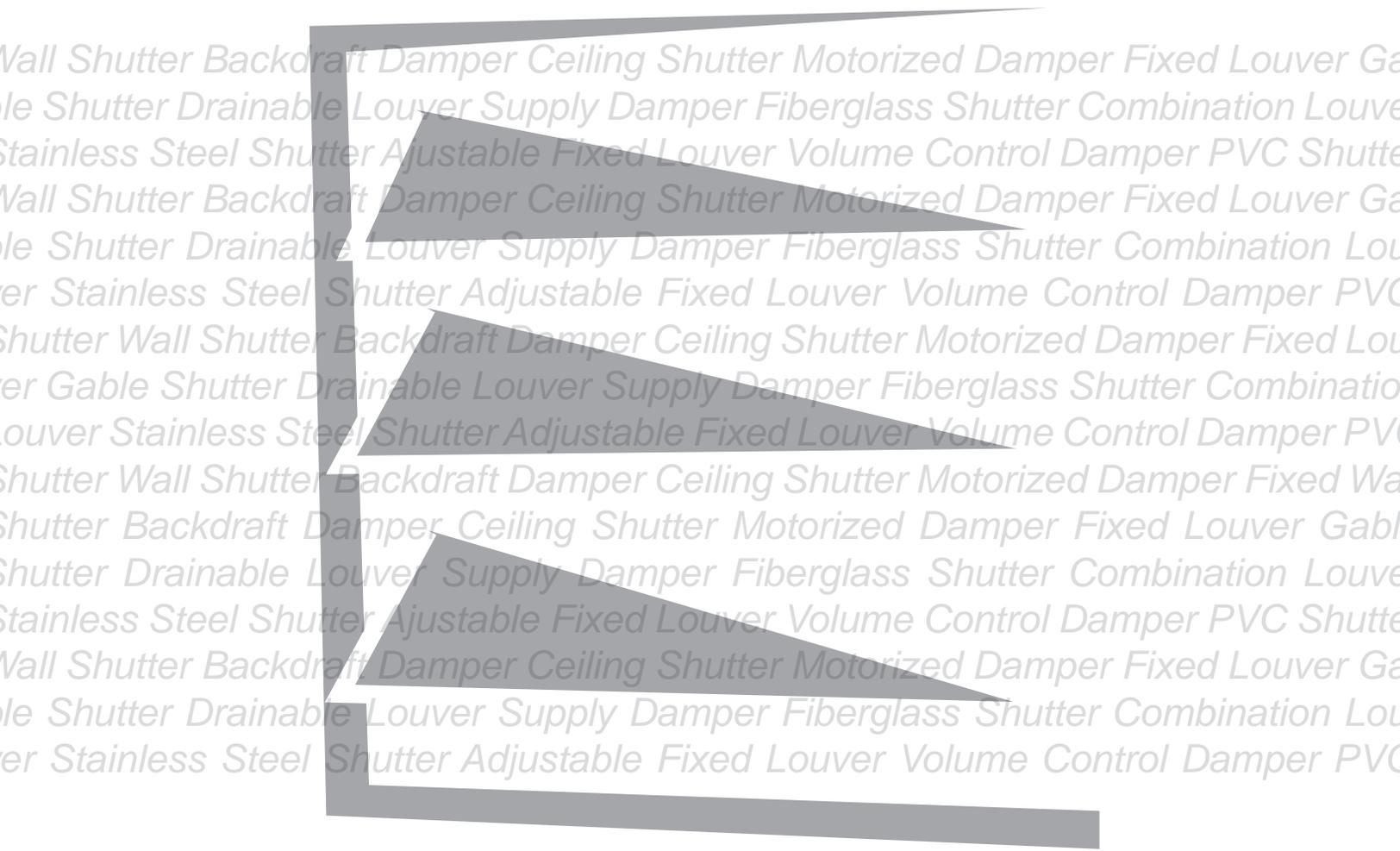




Quality Products

Fixed Louvers

AIR CONDITIONING PRODUCTS COMPANY



Manufacturer

SHUTTERS • DAMPERS • LOUVERS

Air Conditioning Products Company

30350 Ecorse Road, Romulus, Michigan 48174

Phone: 734.326.0050 • Fax: 734.326.9632 • www.acpshutters.com

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LOUVER SELECTION GUIDE

Select Models AFL/GFL:

- When you need Excellent resistance to rain and weather (water penetration) while providing minimum resistance to airflow (pressure drop) at an economical price.
- 4" deep channel frame with non-drainable fixed blades, K-style, 45 degrees.
- Installed into an opening or ductwork and NO flange is needed.
- Beginning water penetration of 709 fpm.

Select Models AAFL/GAFL:

- When you need Excellent resistance to rain and weather (water penetration) while providing minimum resistance to airflow (pressure drop) and you need adjustability in the sizing (width).
- 4" deep flanged frame with non-drainable fixed blades, J-style, 45 degrees.
- Installed into an opening and a flange is needed.
- Beginning water penetration of 766 fpm.

Select Model DFL:

- When you need Superior resistance to rain and weather (water penetration) while providing minimum resistance to airflow (pressure drop).
- Best performance.
- 4" deep channel frame with drainable fixed blades, 45 degrees.
- Installed into an opening or ductwork and NO flange is needed.
- Beginning water penetration of 910 fpm.

Select Model ACL:

- When you need Superior resistance to rain and weather (water penetration) while providing minimum resistance to airflow (pressure drop) and you need the ability to close the opening off.
- Combination fixed louver and adjustable damper in one frame.
- 4" deep channel frame with drainable fixed blades in the front and adjustable blades in the back, 45 degrees. Can be motorized or manually operated.
- Installed into an opening or ductwork and NO flange is needed.
- Beginning water penetration is above 1250 fpm. (1250 fpm is the maximum test capabilities)

Sizing for ALL Louver Models:

- Sizing: Take your Design CFM and divide it by the Maximum Recommended Velocity for your Model (Beginning Water Penetration fpm). This will give you your Minimum Required Free Area to select your louver size. Go to the Free Area Chart and select your louver size.
- Example (Model AFL):
 - Design CFM is 5,000. $5,000/709 \text{ fpm} = 7.06 \text{ sq. feet required.}$
 - Approximate louver size will be: 48" x 48" (7.07 sq. ft.).

Terminology:

- Water Penetration – the free area velocity at which water begins to pass through the louver.
- Pressure Drop – the difference between the pressures on each side of the louver.
- Free Area – the minimum area through which air can pass; it varies with louver size and/or design.
- Drainable blades – utilizes a gutter at the leading edge of the blade to channel water out to the jambs, where the water is then drained to the bottom of the unit and away from the opening. This will eliminate any cascading of water from blade to blade. Best performing design.
- K-style / J-style blades – these blade designs are typically used in exhaust applications or where water penetration is not an issue. Water will cascade from blade to blade. Most economical design.



SUBMITTAL DRAWINGS

ALUMINUM FIXED LOUVER MODEL AFL

Heavy duty modular construction designed to protect the air intake and exhaust openings in the exterior walls of any building from rain and weather while still providing efficient airflow. Aluminum finish is ready for you to paint in the field or leave as mill finish.

Standard Construction:

Frame

- 4" deep channel x .060 thick Aluminum.

Blades

- K style, .060 thick Aluminum, positioned at a 45 degree angle and spaced approximately 4" centers.

Construction

- Tabbed.

Birdscreen

- ½" Flattened Aluminum in a removable frame mounted on the interior.

Finish

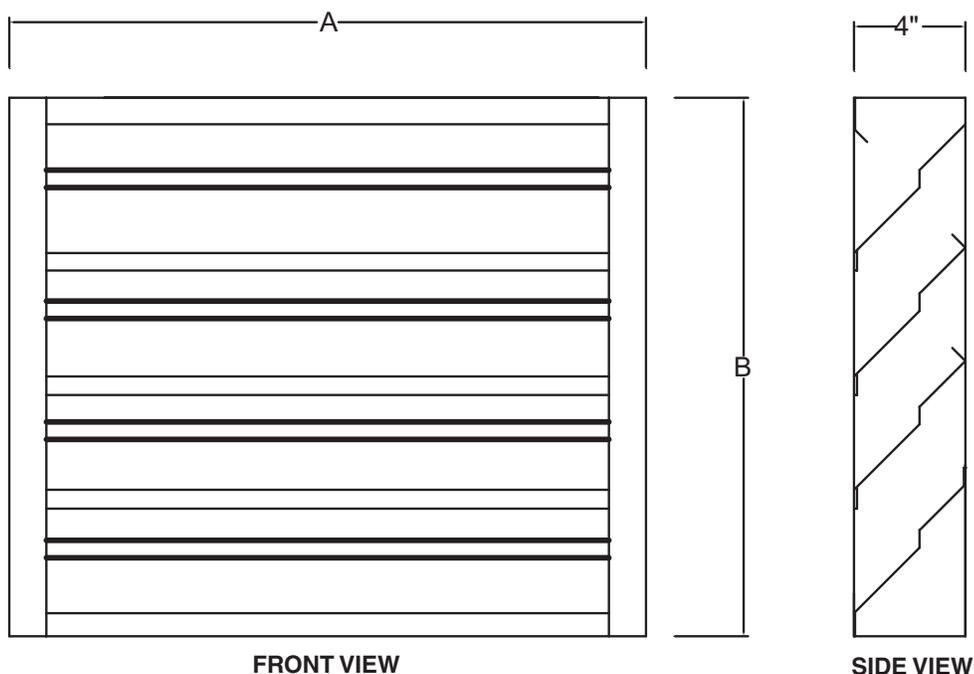
- Mill.

Minimum Size

- 12" W x 12" H

Maximum Single Section Size

- 48" W x 72" H
- Sizes over 48" Wide constructed in multiple sections. Modular design provides seamless mullions from the front side. No need for mullion covers.



Note: Above "A" and "B" dimensions are undersized by ½" + or - normal tolerance of .0625".

Free Area Chart (Sq. ft.):

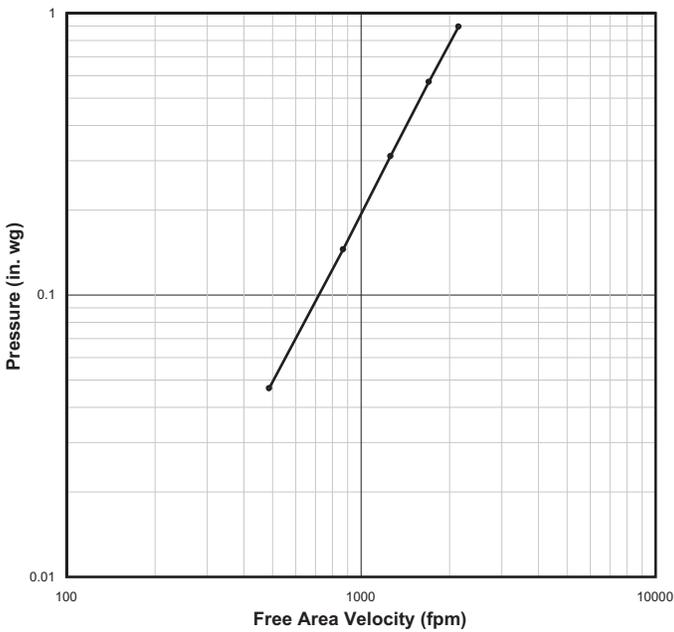
		Louver Width in Inches								
		12	18	24	30	36	42	48	54	60
Louver Height in Inches	12	0.24	0.40	0.57	0.73	0.89	1.05	1.21	1.31	1.47
	18	0.52	0.87	1.22	1.57	1.92	2.27	2.62	2.82	3.17
	24	0.76	1.26	1.77	2.27	2.78	3.28	3.79	4.08	4.59
	30	0.92	1.54	2.15	2.77	3.38	4.00	4.61	4.97	5.58
	36	1.09	1.81	2.53	3.26	3.98	4.71	5.43	5.85	6.58
	42	1.25	2.08	2.92	3.75	4.58	5.42	6.25	6.74	7.57
	48	1.41	2.36	3.30	4.42	5.19	6.13	7.07	7.62	8.56
	54	1.58	2.63	3.68	4.73	5.79	6.84	7.89	8.50	9.56
	60	1.74	2.90	4.07	5.23	6.39	7.55	8.71	9.39	10.55
	66	1.91	3.18	4.45	5.72	6.99	8.26	9.53	10.73	11.54
72	2.07	3.45	4.83	6.21	7.59	8.97	10.35	11.16	12.54	

Note: Listed widths over 48" built in two panels.
 Estimated Free Area calculations are based upon AMCA standard 500-L, actual performance may vary.

PRESSURE DROP

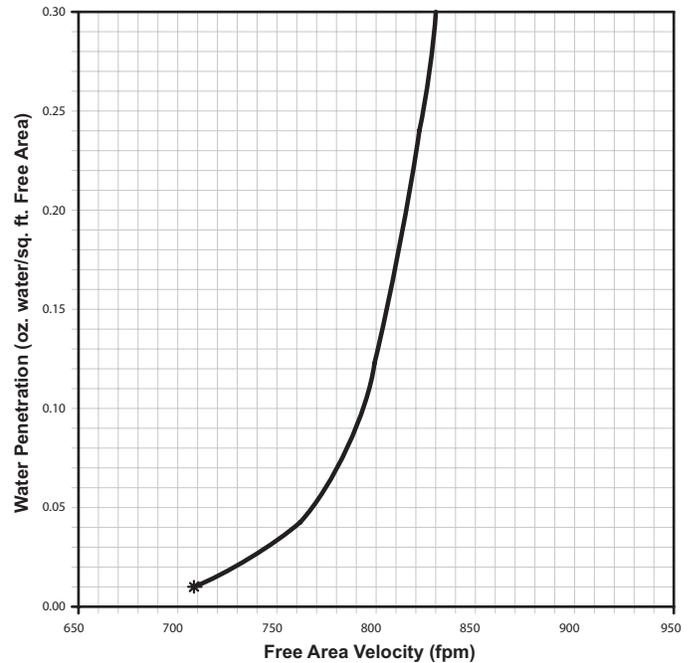
Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" (Intake)

Ratings do not include the effect of a birdscreen



WATER PENETRATION

Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" for a 15 minute duration



The beginning point of water penetration at .01 oz./sq. ft. is 709 fpm free area velocity.

Air Conditioning Products certifies that the Model AFL was tested according to AMCA Standard 500. These tests were performed under certain sets of laboratory conditions. These performance ratings do not guarantee that other environmental conditions may actually occur. Use safety factors when selecting louver sizes based upon performance.

LIMITED WARRANTY

All products manufactured are warranted by Air Conditioning Products Company (ACP) to be free from original defects in workmanship for a period of one year from date of shipment, under conditions of normal use and service. ACP will replace or repair any defective parts upon return to our plant, freight prepaid. This limited warranty will, in no way, include the payment of labor charges for field replacement of defective parts, installation, repairs of adjustments, or any other work done. Back charges will not be accepted for any reason unless ACP has given prior written permission, nor will ACP be responsible for consequential damages of any character, no limited warranty expressed or implied will supersede the foregoing.

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GALVANEAL STEEL FIXED LOUVER

MODEL GFL

Heavy duty modular construction designed to protect the air intake and exhaust openings in the exterior walls of any building from rain and weather while still providing efficient airflow. Galvaneal Steel finish is ready for you to paint in the field or leave as mill finish.

Standard Construction:

Frame

- 4" deep channel x 16 gauge A-60 Galvaneal Steel.

Blades

- K style, 16 gauge A-60 Galvaneal Steel, positioned at a 45 degree angle and spaced approximately 4" centers.

Construction

- Tabbed.

Birdscreen

- 1/2" Flattened Aluminum in a removable frame mounted on the interior.

Finish

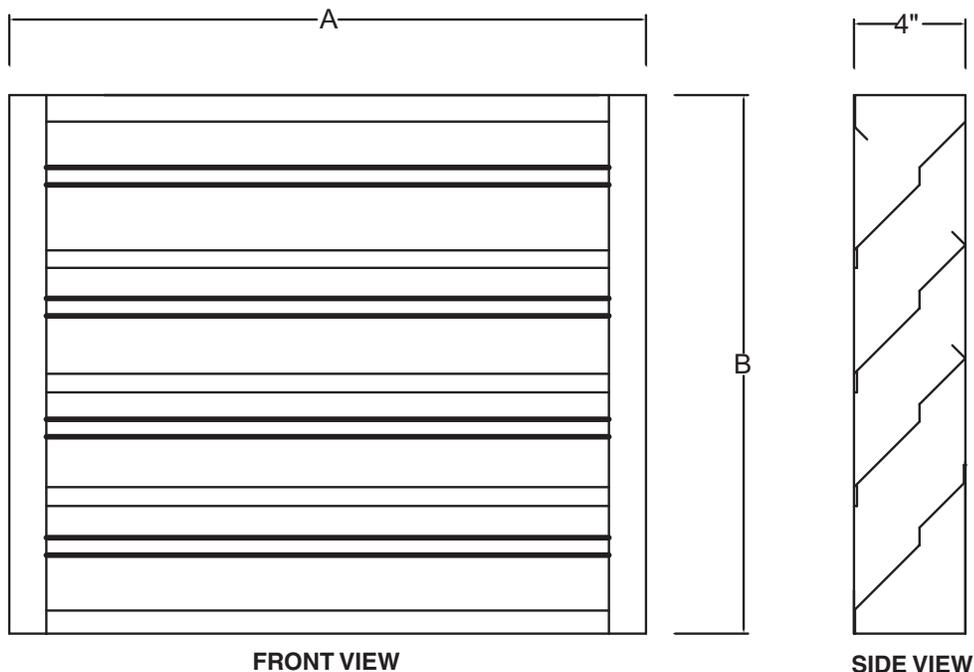
- Mill.

Minimum Size

- 12" W x 12" H

Maximum Single Section Size

- 48" W x 72" H
- Sizes over 48" Wide constructed in multiple sections. Modular design provides seamless mullions from the front side. No need for mullion covers.



Note: Above "A" and "B" dimensions are undersized by 1/2" + or - normal tolerance of .0625".

Free Area Chart (Sq. ft.):

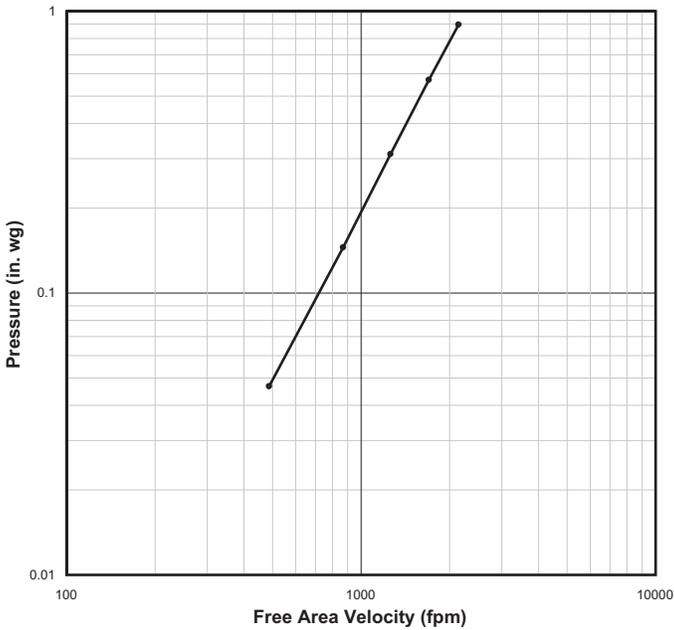
		Louver Width in Inches								
		12	18	24	30	36	42	48	54	60
Louver Height in Inches	12	0.24	0.40	0.57	0.73	0.89	1.05	1.21	1.31	1.47
	18	0.52	0.87	1.22	1.57	1.92	2.27	2.62	2.82	3.17
	24	0.76	1.26	1.77	2.27	2.78	3.28	3.79	4.08	4.59
	30	0.92	1.54	2.15	2.77	3.38	4.00	4.61	4.97	5.58
	36	1.09	1.81	2.53	3.26	3.98	4.71	5.43	5.85	6.58
	42	1.25	2.08	2.92	3.75	4.58	5.42	6.25	6.74	7.57
	48	1.41	2.36	3.30	4.42	5.19	6.13	7.07	7.62	8.56
	54	1.58	2.63	3.68	4.73	5.79	6.84	7.89	8.50	9.56
	60	1.74	2.90	4.07	5.23	6.39	7.55	8.71	9.39	10.55
	66	1.91	3.18	4.45	5.72	6.99	8.26	9.53	10.73	11.54
72	2.07	3.45	4.83	6.21	7.59	8.97	10.35	11.16	12.54	

Note: Listed widths over 48" built in two panels.
 Estimated Free Area calculations are based upon AMCA standard 500-L, actual performance may vary.

PRESSURE DROP

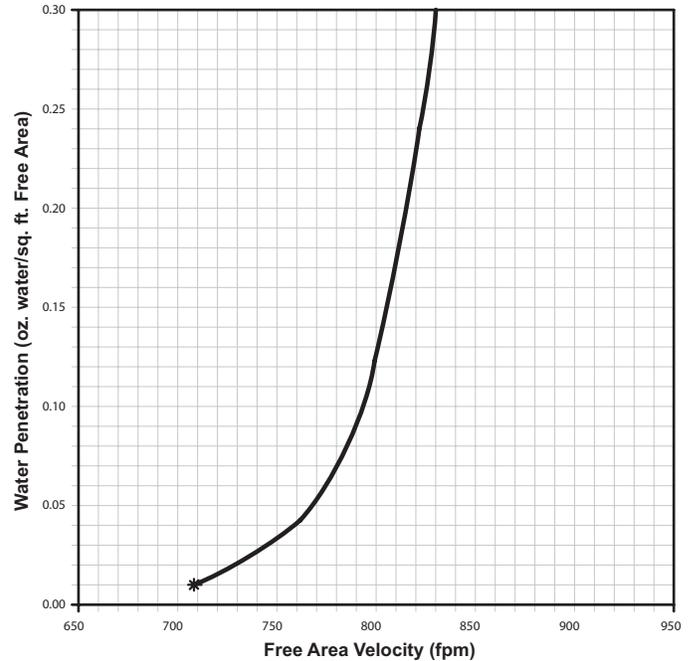
Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" (Intake)

Ratings do not include the effect of a birdscreen



WATER PENETRATION

Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" for a 15 minute duration



The beginning point of water penetration at .01 oz./sq. ft. is 709 fpm free area velocity.

Air Conditioning Products certifies that the Model GFL was tested according to AMCA Standard 500. These tests were performed under certain sets of laboratory conditions. These performance ratings do not guarantee that other environmental conditions may actually occur. Use safety factors when selecting louver sizes based upon performance.

LIMITED WARRANTY

All products manufactured are warranted by Air Conditioning Products Company (ACP) to be free from original defects in workmanship for a period of one year from date of shipment, under conditions of normal use and service. ACP will replace or repair any defective parts upon return to our plant, freight prepaid. This limited warranty will, in no way, include the payment of labor charges for field replacement of defective parts, installation, repairs of adjustments, or any other work done. Back charges will not be accepted for any reason unless ACP has given prior written permission, nor will ACP be responsible for consequential damages of any character, no limited warranty expressed or implied will supersede the foregoing.

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Sizing and Free Area Chart:

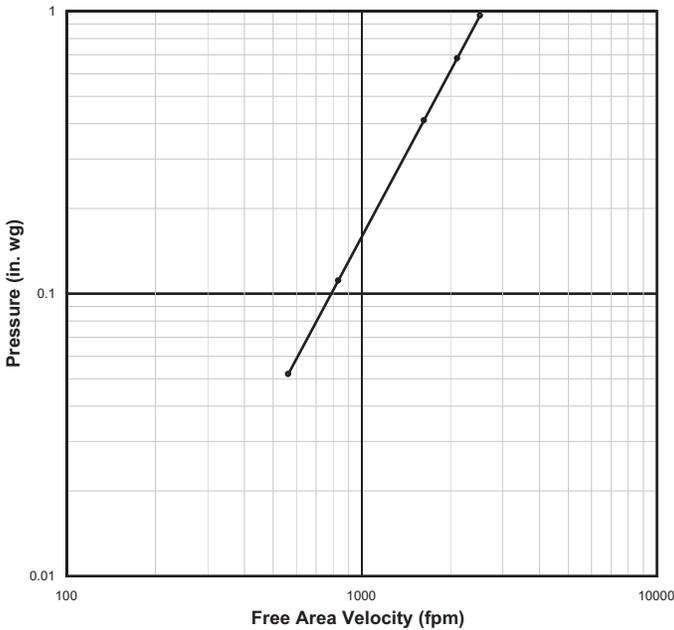
OUTSIDE WIDTH (In.) A	OUTSIDE HEIGHT (In.) B	INSIDE HEIGHT (In.) C	INSIDE WIDTH (In.) D	NUMBER OF BLADES*	MINIMUM FREE AREA (Sq. Ft.)	MAXIMUM FREE AREA (Sq. Ft.)
16 TO 22	18	14	12 TO 18	1	0.36	0.55
28 TO 46	18	14	24 TO 42	1	0.74	1.31
22 TO 28	22	18	18 TO 24	2	0.73	0.98
28 TO 46	22	18	24 TO 42	2	0.98	1.75
22 TO 34	28	24	18 TO 30	3	1.14	1.95
40 TO 52	28	24	36 TO 48	3	2.35	3.15
25 TO 40	34	30	21 TO 36	5	1.62	2.83
28 TO 40	40	36	24 TO 36	6	2.35	3.57
40 TO 52	40	36	36 TO 48	6	3.57	4.79
28 TO 46	46	42	24 TO 42	7	3.16	5.61
28 TO 40	52	48	24 TO 36	9	3.23	4.90
40 TO 52	52	48	36 TO 48	9	4.90	6.57

(*) Not including integral top and bottom blades.

PRESSURE DROP

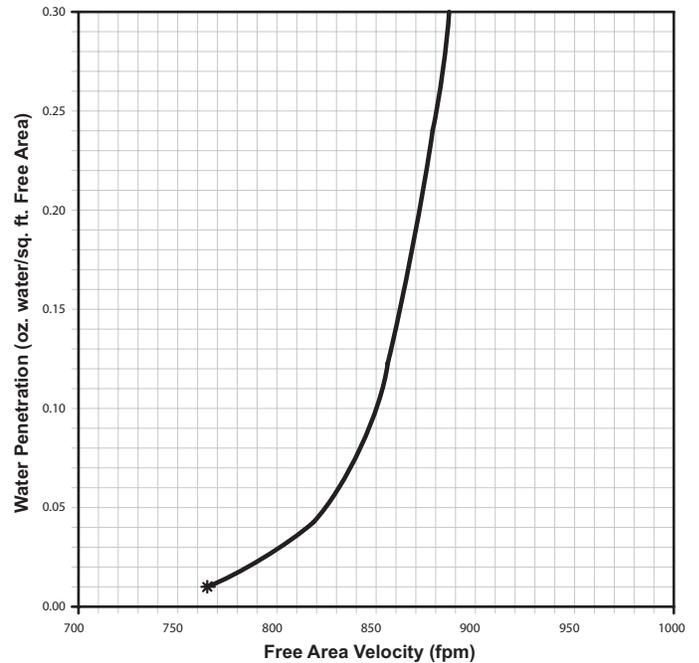
Standard Air - .075 lbs per cubic foot
Test size - 48" x 48" (Intake)

Ratings do not include the effect of a birdscreen



WATER PENETRATION

Standard Air - .075 lbs per cubic foot
Test size - 48" x 48" for a 15 minute duration



The beginning point of water penetration at .01 oz./sq. ft. is 766 fpm free area velocity.

Air Conditioning Products certifies that the Model AAFL was tested according to AMCA Standard 500. These tests were performed under certain sets of laboratory conditions. These performance ratings do not guarantee that other environmental conditions may actually occur. Use safety factors when selecting louver sizes based upon performance.

LIMITED WARRANTY

All products manufactured are warranted by Air Conditioning Products Company (ACP) to be free from original defects in workmanship for a period of one year from date of shipment, under conditions of normal use and service. ACP will replace or repair any defective parts upon return to our plant, freight prepaid. This limited warranty will, in no way, include the payment of labor charges for field replacement of defective parts, installation, repairs of adjustments, or any other work done. Back charges will not be accepted for any reason unless ACP has given prior written permission, nor will ACP be responsible for consequential damages of any character, no limited warranty expressed or implied will supersede the foregoing.

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Sizing and Free Area Chart:

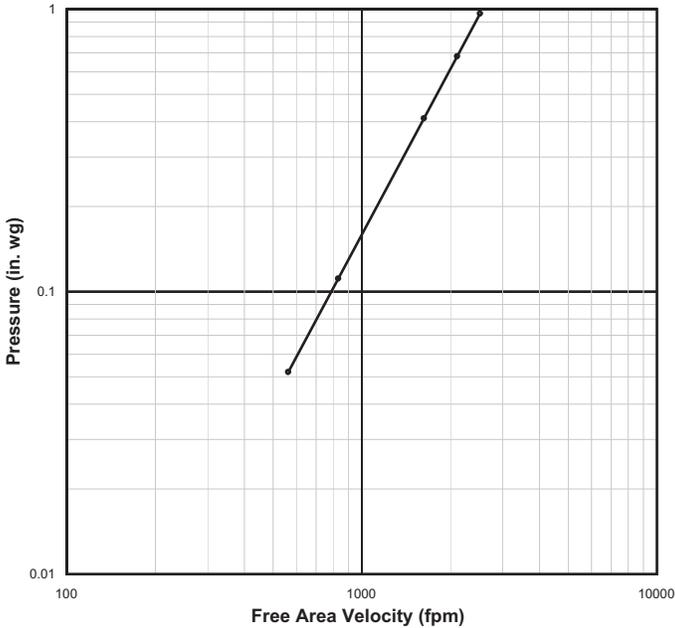
OUTSIDE WIDTH (In.) A	OUTSIDE HEIGHT (In.) B	INSIDE HEIGHT (In.) C	INSIDE WIDTH (In.) D	NUMBER OF BLADES*	MINIMUM FREE AREA (Sq. Ft.)	MAXIMUM FREE AREA (Sq. Ft.)
16 TO 22	18	14	12 TO 18	1	0.36	0.55
28 TO 46	18	14	24 TO 42	1	0.74	1.31
22 TO 28	22	18	18 TO 24	2	0.73	0.98
28 TO 46	22	18	24 TO 42	2	0.98	1.75
22 TO 34	28	24	18 TO 30	3	1.14	1.95
40 TO 52	28	24	36 TO 48	3	2.35	3.15
25 TO 40	34	30	21 TO 36	5	1.62	2.83
28 TO 40	40	36	24 TO 36	6	2.35	3.57
40 TO 52	40	36	36 TO 48	6	3.57	4.79
28 TO 46	46	42	24 TO 42	7	3.16	5.61
28 TO 40	52	48	24 TO 36	9	3.23	4.90
40 TO 52	52	48	36 TO 48	9	4.90	6.57

(*) Not including integral top and bottom blades.

PRESSURE DROP

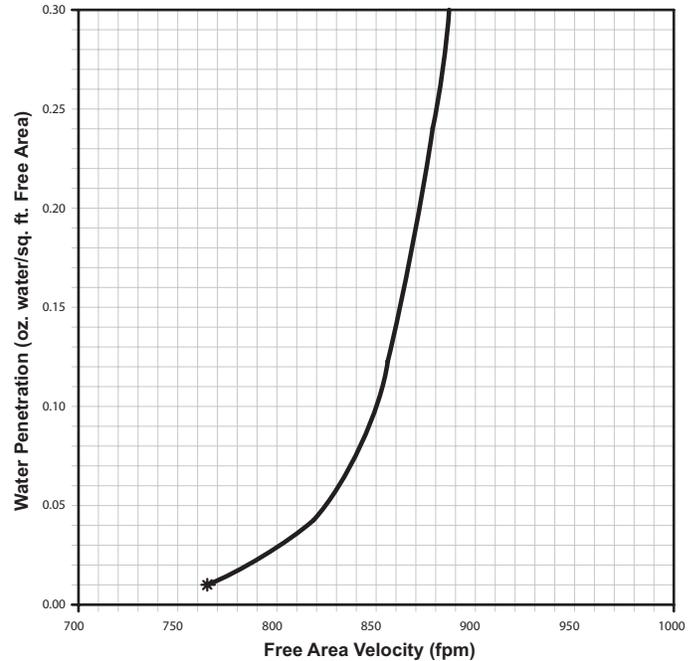
Standard Air - .075 lbs per cubic foot
Test size - 48" x 48" (Intake)

Ratings do not include the effect of a birdscreen



WATER PENETRATION

Standard Air - .075 lbs per cubic foot
Test size - 48" x 48" for a 15 minute duration



The beginning point of water penetration at .01 oz./sq. ft. is 766 fpm free area velocity.

Air Conditioning Products certifies that the Model GAFL was tested according to AMCA Standard 500. These tests were performed under certain sets of laboratory conditions. These performance ratings do not guarantee that other environmental conditions may actually occur. Use safety factors when selecting louver sizes based upon performance.

LIMITED WARRANTY

All products manufactured are warranted by Air Conditioning Products Company (ACP) to be free from original defects in workmanship for a period of one year from date of shipment, under conditions of normal use and service. ACP will replace or repair any defective parts upon return to our plant, freight prepaid. This limited warranty will, in no way, include the payment of labor charges for field replacement of defective parts, installation, repairs of adjustments, or any other work done. Back charges will not be accepted for any reason unless ACP has given prior written permission, nor will ACP be responsible for consequential damages of any character, no limited warranty expressed or implied will supersede the foregoing.

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EXTRUDED ALUMINUM DRAINABLE BLADE FIXED LOUVER MODEL DFL

Heavy duty Extruded Aluminum construction designed to protect the air intake and exhaust openings in the exterior walls of any building from rain and weather while still providing efficient airflow. The drainable blade design provides the best protection against water entering the opening by channeling water away from the blades and down the jambs. This eliminates water cascading from blade to blade. Aluminum finish is ready for you to paint in the field or leave as mill finish.

Standard Construction:

Frame

- 4" deep channel x .080 thick Extruded Aluminum.

Blades

- Drainable style, .080 thick Extruded Aluminum, positioned at a 45 degree angle and spaced approximately 4" centers.

Construction

- Screwed.

Birdscreen

- 1/2" Flattened Aluminum in a removable frame mounted on the interior.

Finish

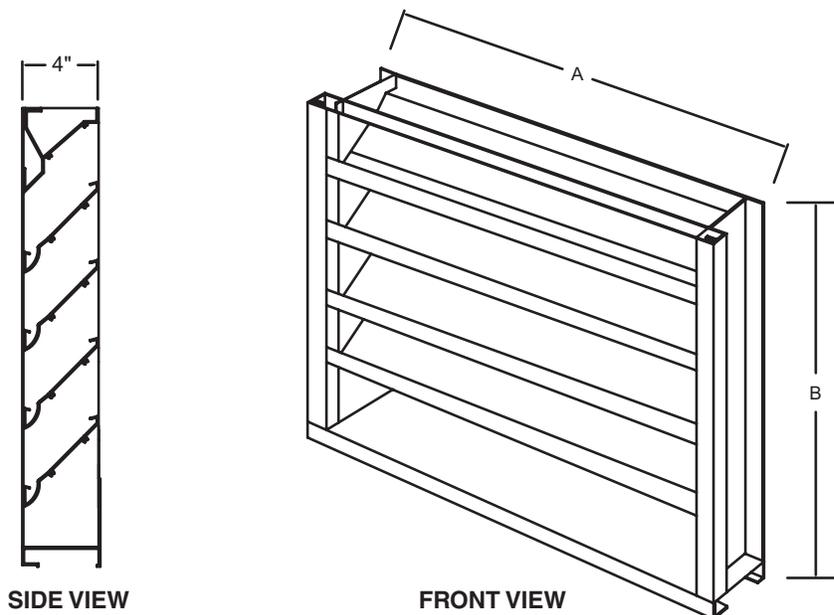
- Mill.

Minimum Size

- 12" W x 12" H

Maximum Single Section Size

- 48" W x 60" H



Note: Above "A" and "B" dimensions are undersized by 1/2" + or - normal tolerance of .0625".

Free Area Chart (Sq. ft.):

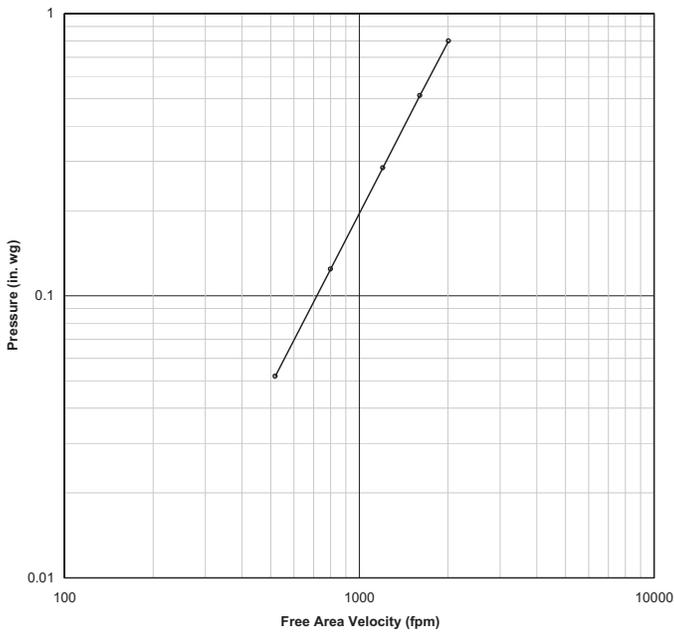
		Louver Width in Inches								
		12	18	24	30	36	42	48	54	60
Louver Height in Inches	12	0.36	0.60	0.84	1.08	1.32	1.56	1.80	1.94	2.18
	18	0.53	0.89	1.24	1.59	1.95	2.30	2.66	2.86	3.22
	24	0.81	1.34	1.88	2.41	2.95	3.49	4.02	4.34	4.87
	30	0.98	1.63	2.28	2.93	3.58	4.23	4.88	5.26	5.91
	36	1.25	2.08	2.92	3.75	4.58	5.42	6.25	6.74	7.57
	42	1.42	2.37	3.32	4.27	5.21	6.16	7.11	7.66	8.61
	48	1.70	2.83	3.96	5.09	6.22	7.35	8.48	9.14	10.27
	54	1.87	3.11	4.36	5.60	6.85	8.09	9.34	10.06	11.31
	60	2.14	3.57	5.00	6.42	7.85	9.28	10.70	11.54	12.96

Note: Listed widths over 48" built in two panels.
 Estimated Free Area calculations are based upon AMCA standard 500-L, actual performance may vary.

PRESSURE DROP

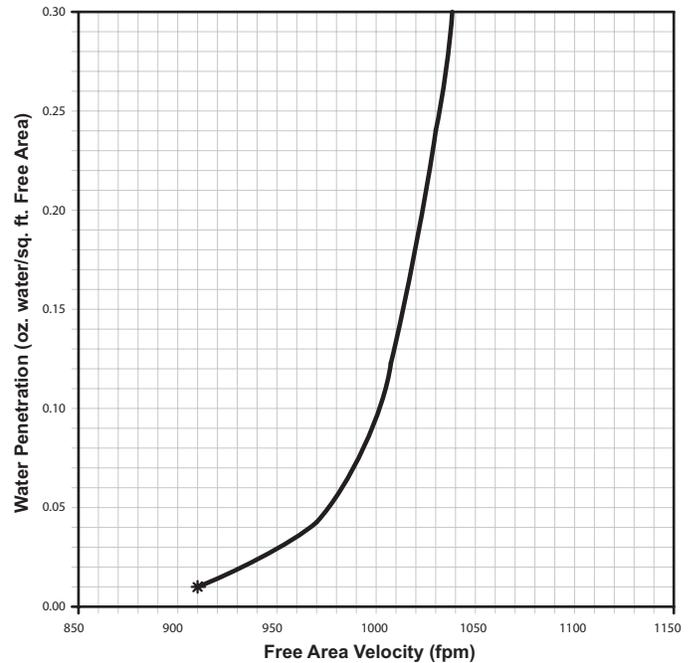
Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" (Intake)

Ratings do not include the effect of a birdscreen



WATER PENETRATION

Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" for a 15 minute duration



The beginning point of water penetration at .01 oz./sq. ft. is 910 fpm free area velocity.

Air Conditioning Products certifies that the Model DFL was tested according to AMCA Standard 500. These tests were performed under certain sets of laboratory conditions. These performance ratings do not guarantee that other environmental conditions may actually occur. Use safety factors when selecting louver sizes based upon performance.

LIMITED WARRANTY

All products manufactured are warranted by Air Conditioning Products Company (ACP) to be free from original defects in workmanship for a period of one year from date of shipment, under conditions of normal use and service. ACP will replace or repair any defective parts upon return to our plant, freight prepaid. This limited warranty will, in no way, include the payment of labor charges for field replacement of defective parts, installation, repairs of adjustments, or any other work done. Back charges will not be accepted for any reason unless ACP has given prior written permission, nor will ACP be responsible for consequential damages of any character, no limited warranty expressed or implied will supersede the foregoing.

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EXTRUDED ALUMINUM COMBINATION LOUVER / DAMPER MODEL ACL

Heavy duty Extruded Aluminum construction designed to protect the air intake and exhaust openings in the exterior walls of any building from rain and weather while still providing efficient airflow. The drainable blade design provides the best protection against water entering the opening by channeling water away from the blades and down the jambs. This eliminates water cascading from blade to blade. The adjustable rear blades allow for tight shutoff of the opening when needed.

Standard Construction:

Frame

- 4" deep channel x .080 thick Extruded Aluminum.

Blades

- Drainable style, .080 thick Extruded Aluminum, positioned at a 45 degree angle and spaced approximately 4" centers.

Seals

- Extruded TPV.

Linkage

- On-blade type with a Thumb Screw Operator as standard.

Birdscreen

- 1/2" Flattened Aluminum in a removable frame mounted on the exterior.

Construction

- Screwed.

Finish

- Mill.

Minimum Size

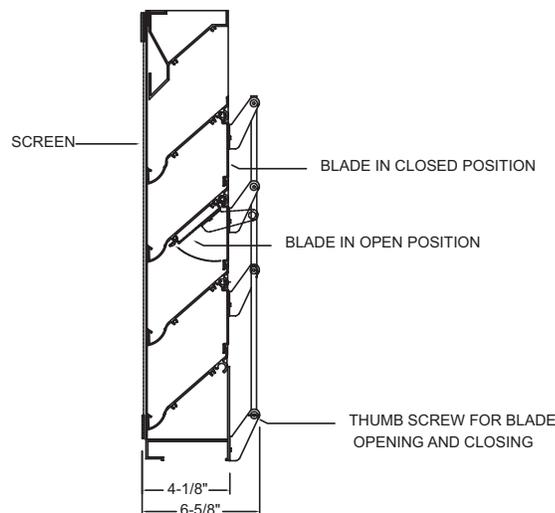
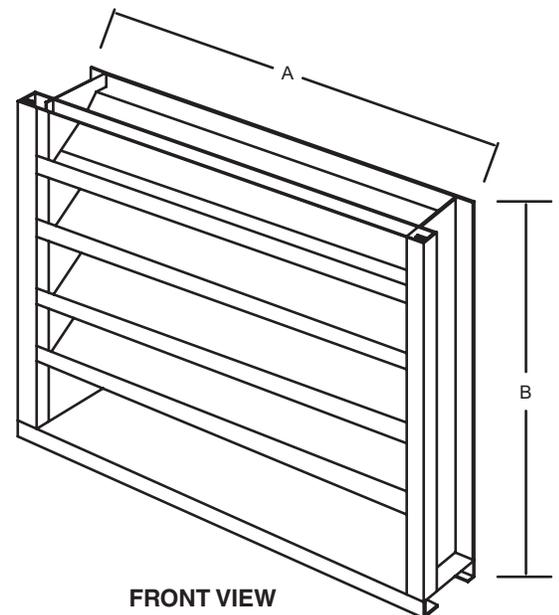
- 18" W x 18" H

Maximum Single Section Size

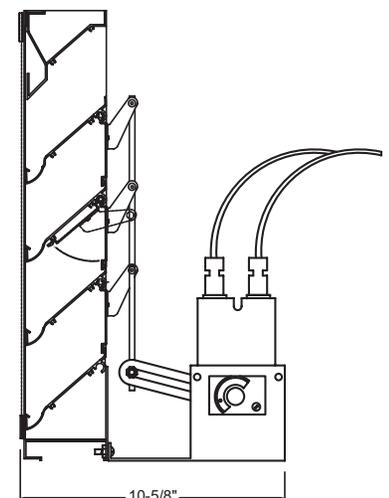
- 48" W x 60" H

Options (at additional cost)

- 100 to 240 VAC, 50/60 Hz Motor Pack.



**SIDE VIEW
(W/ STD. THUMB SCREW)**



**SIDE VIEW
(W/ OPTIONAL MOTOR)**

Note: Above "A" and "B" dimensions are undersized by 1/2" + or - normal tolerance of .0625".

Free Area Chart (Sq. ft.):

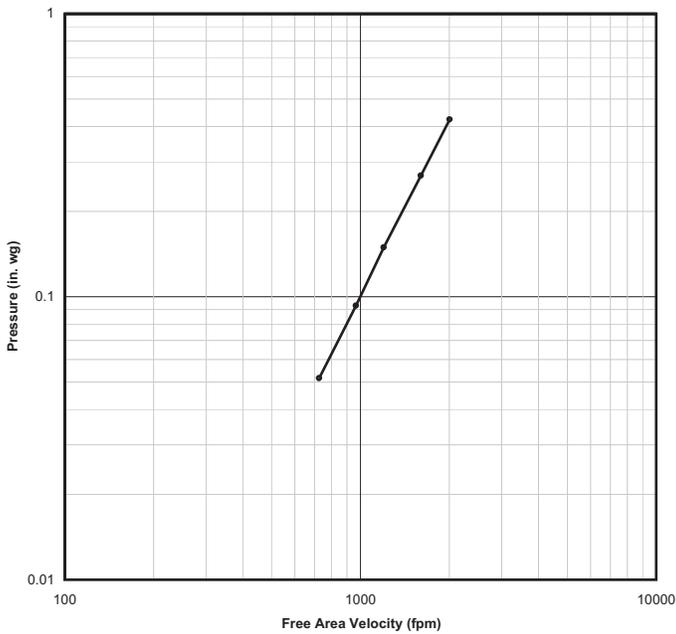
		Louver Width in Inches							
		18	24	30	36	42	48	54	60
Louver Height in Inches	18	0.52	0.73	0.94	1.15	1.35	1.56	1.68	1.89
	24	0.96	1.35	1.73	2.12	2.51	2.89	3.12	3.50
	30	1.22	1.71	2.20	2.69	3.18	3.67	3.96	4.45
	36	1.67	2.33	3.00	3.67	4.33	5.00	5.39	6.06
	42	1.93	2.70	3.47	4.24	5.01	5.78	6.23	7.00
	48	2.37	3.32	4.27	5.21	6.16	7.11	7.66	8.61
	54	2.63	3.68	4.73	5.79	6.84	7.89	8.50	9.56
	60	3.07	4.30	5.53	6.76	7.99	9.22	9.94	11.16

Note: Listed widths over 48" built in two panels.
 Estimated Free Area calculations are based upon AMCA standard 500-L, actual performance may vary.

PRESSURE DROP

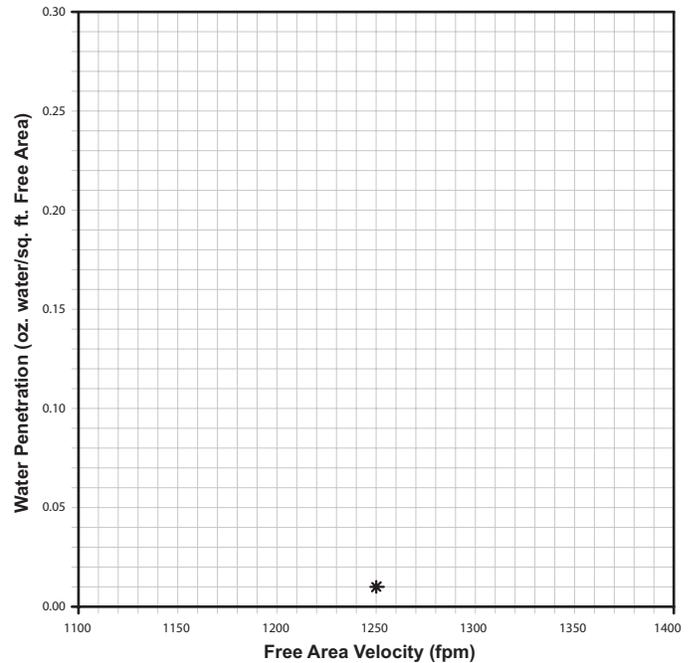
Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" (Intake)

Ratings do not include the effect of a birdscreen



WATER PENETRATION

Standard Air - .075 lbs per cubic foot
 Test size - 48" x 48" for a 15 minute duration



The beginning point of water penetration at .01 oz./sq. ft. is above 1250 fpm free area velocity.

Air Conditioning Products certifies that the Model ACL was tested according to AMCA Standard 500. These tests were performed under certain sets of laboratory conditions. These performance ratings do not guarantee that other environmental conditions may actually occur. Use safety factors when selecting louver sizes based upon performance.

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INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

MODULAR FIXED LOUVER

MODEL AFL/GFL

Description

The Modular Fixed Louvers are designed to be installed individually or in multiples providing seamless mullions from the front side. Heavy gauge .060 Aluminum, or 16 gauge A-60 Galvaneal ready for your custom paint color. Both aluminum and galvaneal models are 4" deep and come with birdscreen installed.

Installation

ENSURE STRUCTURAL INTEGRITY OF WALL BEFORE BREACHING.

1. Clean the opening prior to installation.
2. Wall opening should be 1/4" to 1/2" larger than the OD of the louver.
 - Note: For multiple wide installations as shown in Figure 1, each panel will be undersized by 1/2" plus the frame overlap of 1" for a total of 2".
3. Install head and sill flashing (not provided) if needed in wall opening as per Figure 3.
4. Insert unit into opening and fasten as per Figure 3.
5. To install multiple wide units:
 - Remove birdscreen.
 - Slide "c" channel flange behind flat flange as shown in Figure 1.
 - Replace birdscreen and re-fasten through the birdscreen and the flanges of both units as per Figure 1.
 - Use clip angles (not provided) to secure frame(s) to the wall as per Figure 3.
6. To install multiple high units:
 - Remove birdscreen.
 - Apply bead of caulk between units.
 - Stack units as per Figure 2 and secure by driving corrosion resistant sheet metal screws through the top and bottom at intervals no more than 18" with a minimum of two fasteners per side.
 - Use clip angles (not provided) to secure frame(s) to the wall as per Figure 3.
 - Re-install birdscreen.

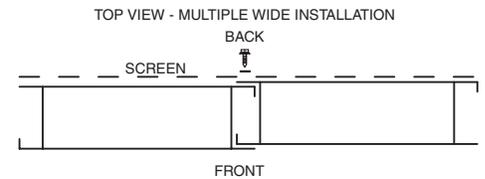


Figure 1

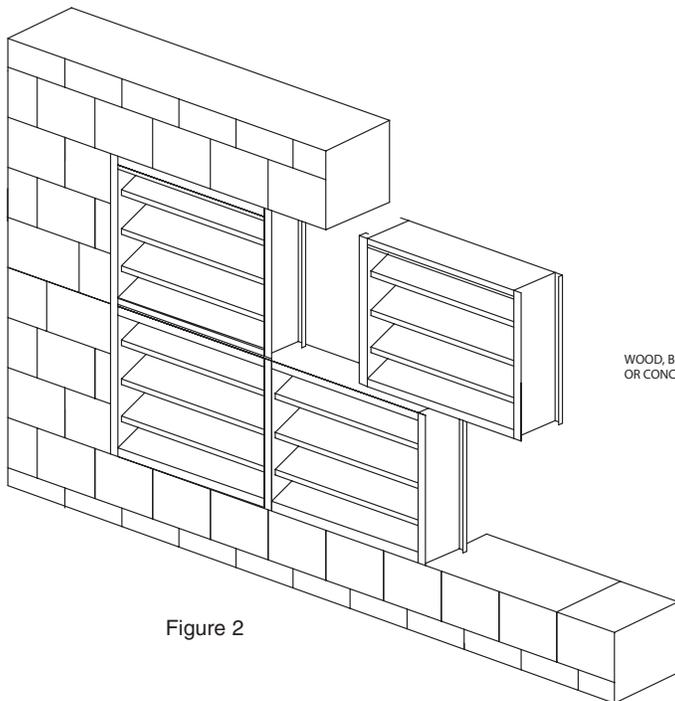
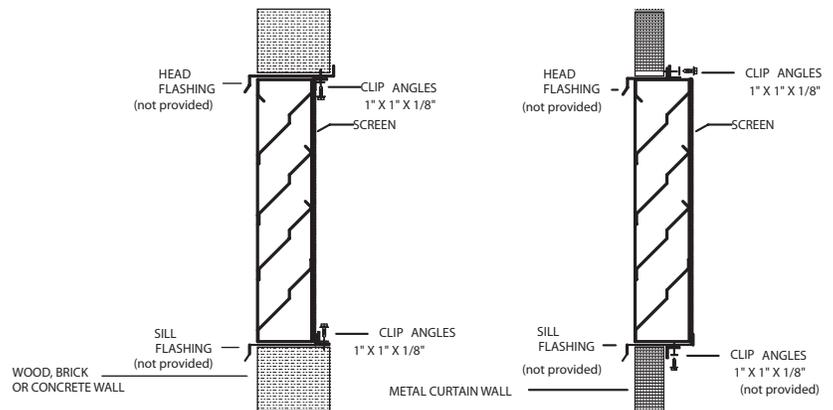


Figure 2



Note: Caulking, mounting hardware or flashing materials are not supplied with louver

Figure 3

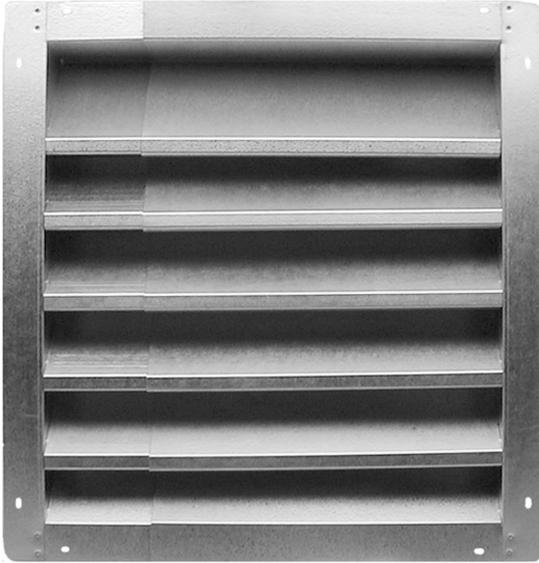
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ADJUSTABLE FRAME LOUVERS FOR INTAKE/EXHAUST

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.



Description

The Adjustable Frame Intake/Exhaust Louvers are fabricated from galvanized steel or .040 aluminum. Both galvanized and aluminum products are 4" deep with 2" face flange and come with rear mounted bird screen. Fixed height is standard and width is adjustable. Louvers have end stops to help prevent separation of sections.

Louvers may be used in HVAC intake and exhaust systems and many air moving applications. They are usually installed in openings of interior or exterior walls, roof penthouses and ductwork.

General Safety Information

WARNING: USE CAUTION WHEN HANDLING SHEET METAL PRODUCTS. PROTECTION SHOULD BE USED TO AVOID CONTACT WITH SHARP EDGES OR INJURY MAY OCCUR.

Unpacking

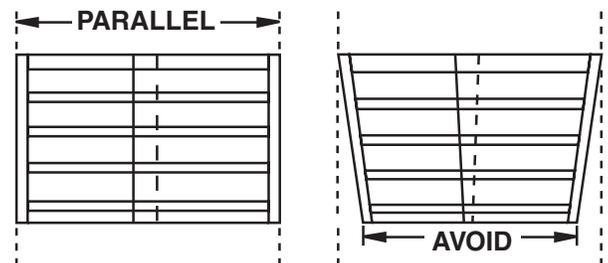
When unpacking, carefully remove louver from carton and inspect for any damage that may have occurred during transit.

Installation

The Adjustable Frame Intake/Exhaust Louvers are galvanized steel or mill finish aluminum, and may be painted, provided proper surface pre-treatment is performed prior to paint application. Note that unit must be adjusted to its final width prior to painting. Refer to paint manufacturers instructions prior to pretreating and painting.

1. To install the louver, first prepare the wall or duct opening to accept the louver. The wall opening should be $\frac{1}{4}$ " to $\frac{1}{2}$ " larger than the final fixed dimension of the louver. Make sure that the opening is plumb and level, and sufficient structural support is provided, as the louver is not load bearing.
2. After the opening is prepared, measure its width by height and, on the ground, adjust the louver to the required opening width.
3. Carefully extend the louvers to the desired width. Take care not to use excessive force, as it is possible to overcome the stops. Open the louver evenly to prevent jamming. Do not exceed maximum width dimension. (See Figure 1)

Figure 1



NOTE: When louver is adjusted to proper width, both jambs must be parallel.

ADJUSTABLE FRAME LOUVERS FOR INTAKE/EXHAUST

Installation (continued)

4. Once the unit is adjusted to the desired width, drill each louver on rear, 1" from the seam, and attach screen and both louver sections using provided hardware. (See Figure 2)

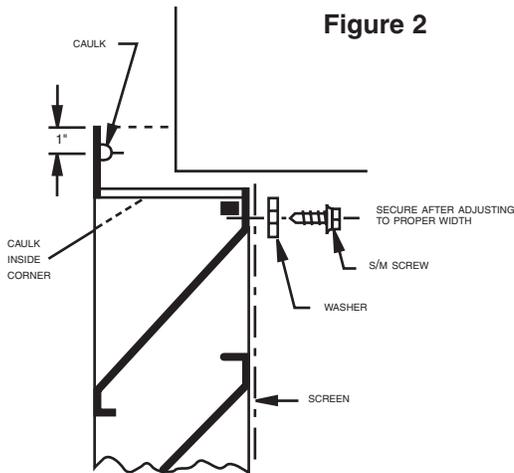


Figure 2

5. Caulk louvers on rear of face flange on top, bottom and sides and inside top and bottom corners prior to installation to prevent water from entering the building as shown in Figures 2 and 3.

6. Secure the louver into opening selecting the most suitable method as shown in Figure 4.

7. Use corrosion protected fasteners to secure the louver in the opening. Once louver is adjusted to the desired width, drill top and bottom through both sections. Hardware should be spaced no more than 18" apart, and all sides should have a minimum of two fasteners.

8. If installation requires the louver to be connected to a duct system, then any ductwork, fans or dampers should be supported by the building structure, and should be sealed to the louver.

Installation Methods

Figure 4

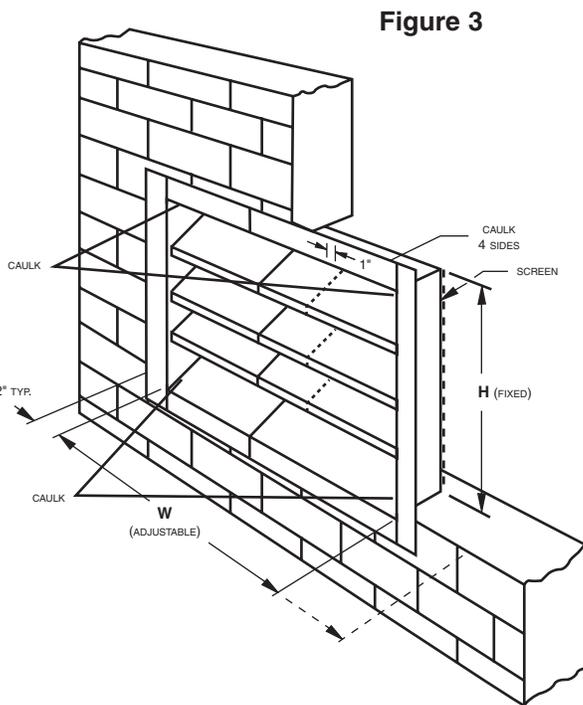
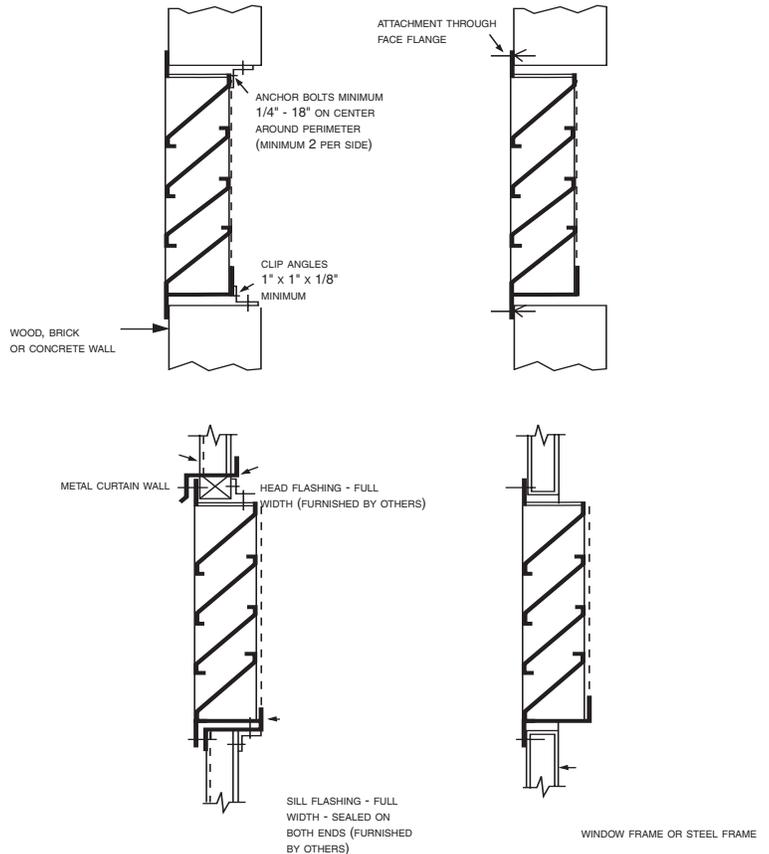


Figure 3

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NOTE: CAULKING, CLIP ANGLES, MOUNTING HARDWARE OR FLASHING MATERIALS ARE NOT SUPPLIED WITH LOUVER

Vertical Section

Maintenance

Periodically clean the screen to prevent buildup of dust and accumulated dirt which could reduce the air flow.

INSTALLATION INSTRUCTIONS

DRAINABLE FIXED LOUVERS

MODEL DFL

Description

The Extruded Aluminum Drainable Fixed Louvers are designed to protect the air intake and exhaust openings in the exterior walls of any building from rain and weather while still providing efficient air flow. Heavy Duty 4" deep .080" thick frame and .080" thick extruded aluminum louvers positioned at 45 degrees and spaced at approximately 4" centers and comes with birdscreen installed.

Installation

ENSURE STRUCTURAL INTEGRITY OF WALL BEFORE BREACHING.

1. Clean the opening prior to installation.
2. Wall opening should be $\frac{1}{4}$ " to $\frac{1}{2}$ " larger than the OD of the louver.
3. Install head and sill flashing (not provided) if needed in wall opening as per Figure 2.
4. Use clip angles (not provided) to attach frame to walls as per Figure 2.

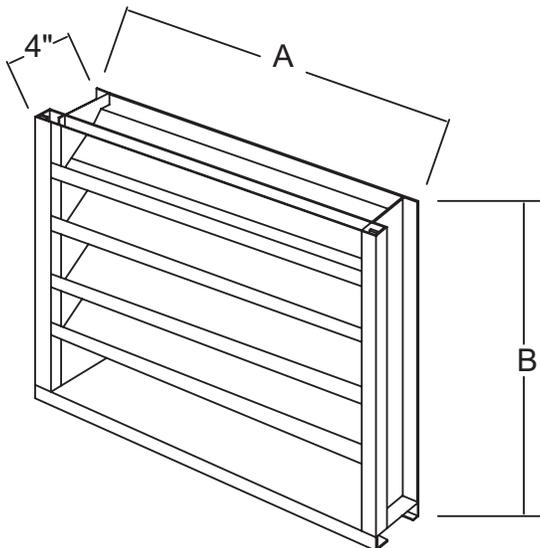


Figure 1

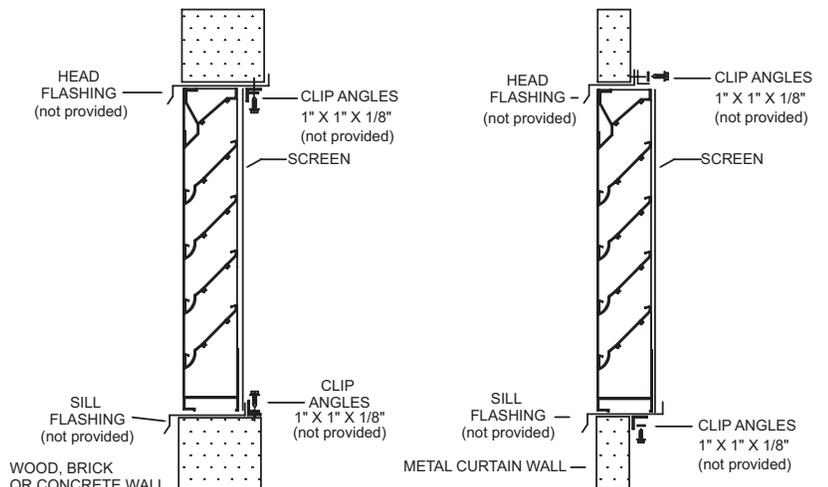


Figure 2

LIMITED WARRANTY

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INSTALLATION INSTRUCTIONS COMBINATION LOUVER/DAMPER MODEL ACL

Description

The Extruded Aluminum Combination Louver/Damper is designed to protect the air intake and exhaust openings in the exterior walls of any building from rain and weather while still providing efficient air flow. Heavy Duty 4" deep .080" thick frame and .080" thick extruded aluminum louvers positioned at 45 degrees and spaced at approximately 4" centers. The rear blade is adjustable to close the opening off if needed. Optional 100-240 VAC 50/60 Hz actuator available.



Installation

ENSURE STRUCTURAL INTEGRITY OF WALL BEFORE BREACHING.

1. Clean the opening prior to installation.
2. Wall opening should be 1/4" to 1/2" larger than the OD of the louver.
3. Install head and sill flashing (not provided) if needed in wall opening as per Figure 1.
4. Use clip angles (not provided) to attach frame to walls as per Figure 1.
5. Adjust the Thumb Screw Operator as needed.



Thumb Screw Operator

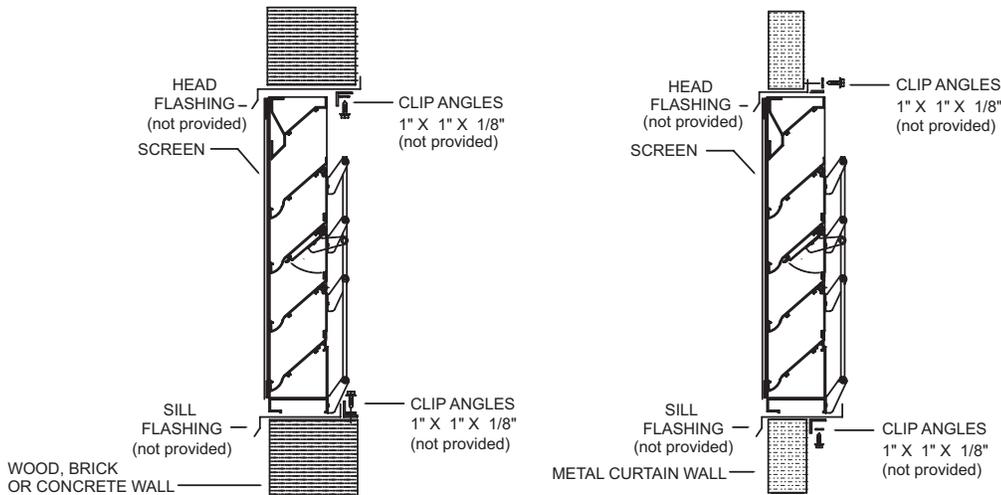


Figure 1

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Description

Optional 100-240 VAC 50/60 Hz power open spring return motor kit that returns to the closed position in the event of loss of power. The motor kit comes pre-assembled for easy installation.

Installation

For use with Model ACL Combination Louver/Dampers

1. Remove the Thumb Screw Bracket from the bottom of the existing louver frame.
2. Bolt the new motor bracket to the louver frame using the predrilled mounting holes.
3. Insert the linkage rod into the crankarm ball joint.
4. Push the linkage rod upward until the louver is fully closed.
5. Tighten the ball joint set screw to secure the linkage rod.
6. Wire the motor as shown in Figure 1.

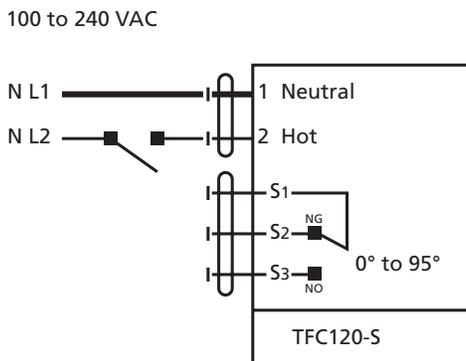
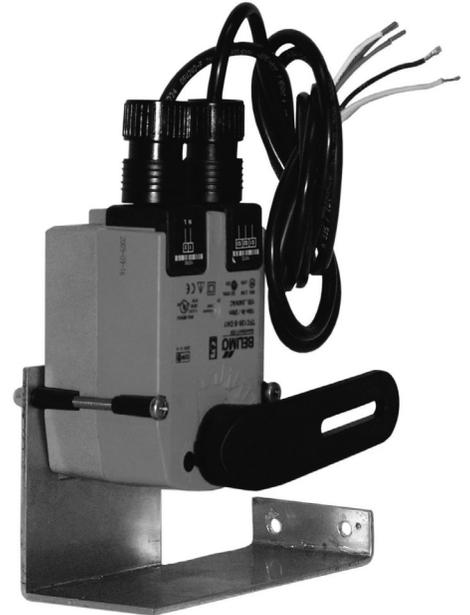


Figure 1 - Wiring Diagram

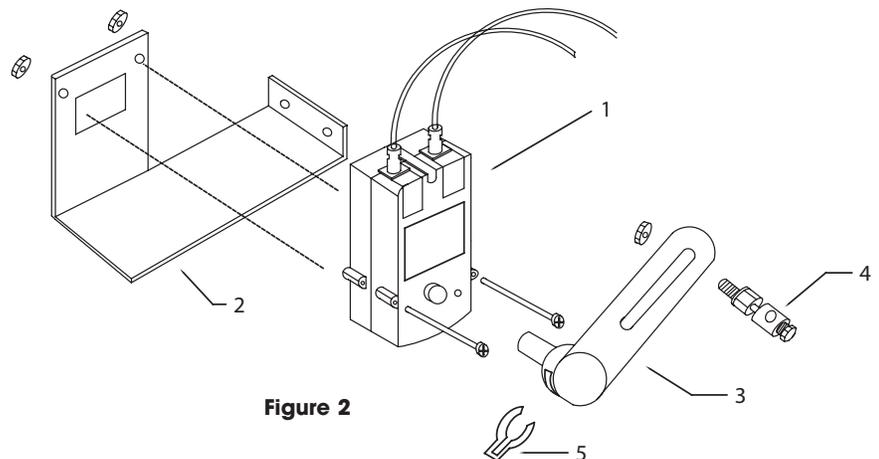


Figure 2

Optional Motor Kit Parts List

Ref. No.	Description	Part Number
1	50/60 Hz, 100-240 VAC Actuator	TFC120-S
2	Motor bracket	Included
3	Crankarm	Included
4	Ball Joint	Included
5	Retaining clip	Included

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Air Conditioning Products Company (ACP) is family owned and operated for 3 generations. For over 60 years, ACP has been an industry leader specializing in manufacturing shutters, dampers, and louvers for the HVAC industry. Our broad customer base includes OEM's, leading HVAC manufacturers, national and regional distributors, as well as industry specific companies. Located in Romulus, MI (near Detroit), our state of the art manufacturing facility (over 100,000 sq. ft. of manufacturing space) allows us to quickly deliver products that will fulfill your requirements for quality and reliability in most air control applications. Our high volume capability combined with short lead times allows us to handle orders of all sizes and quantities. ACP's products are used in commercial/industrial, agricultural, and residential applications. In an ongoing effort to be a leader in our industry, we are active members of the Air Movement and Control Association International (AMCA) and its mission to promote the health and growth of the air movement and control industry consistent with the interest of the public. For more information about our product offering, visit us at www.acpshutters.com.

