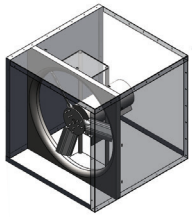
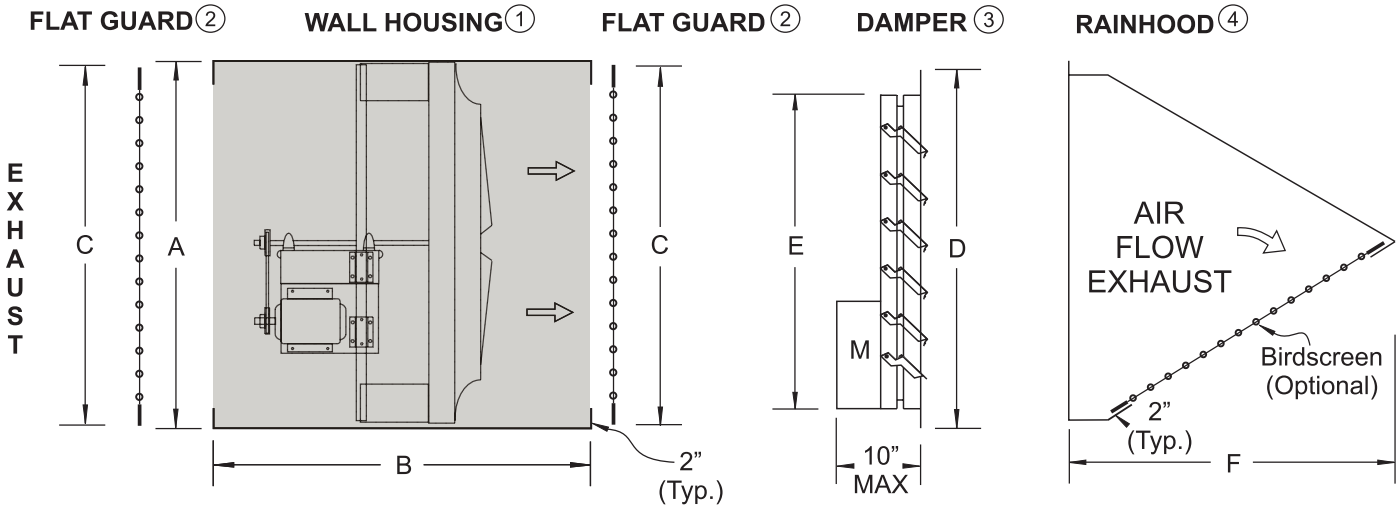
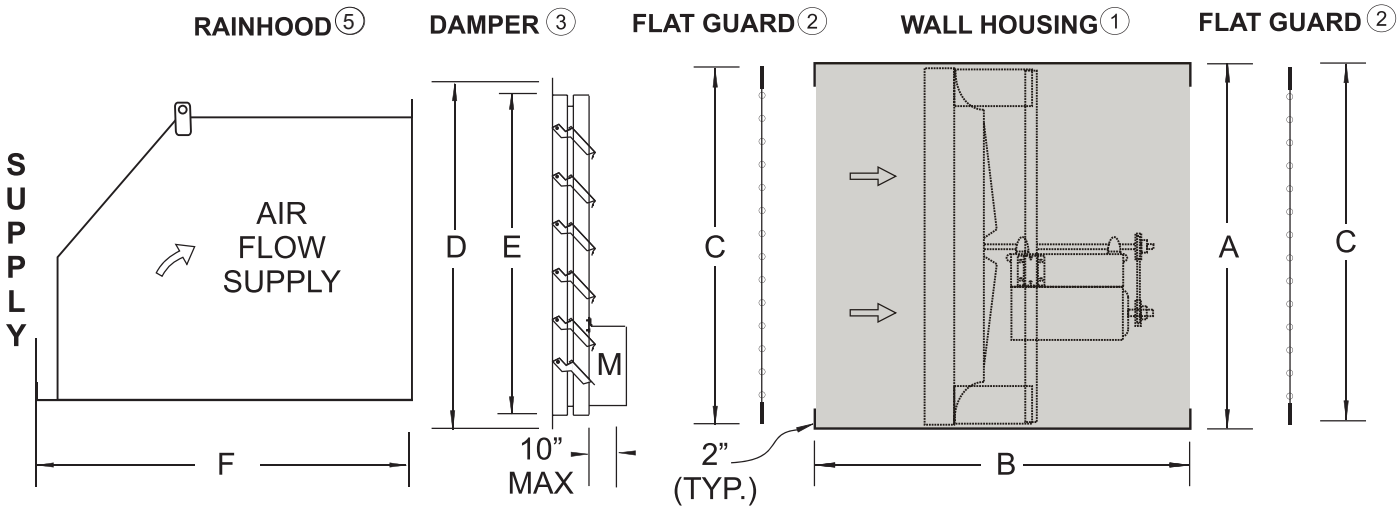
WALL HOUSING MOUNTING OPTION



This heavy-gauge, all galvanized G-90 steel housing provides a simple solution to installing a fan and all required accessories in a rough wall opening. It can be used in exhaust or supply applications and in fan sizes 20 through 72 inch. Depending on space and maintenance requirements, the wall housing may be installed inward or outwards of the building. All housings ship assembled with the fan to lessen job site installation costs. Wire guards, shutters and/or rainhoods may be attached to the prepunched flange. We strongly recommend rainhoods and motorized shutters for all supply applications and whenever additional weather protection is desired.



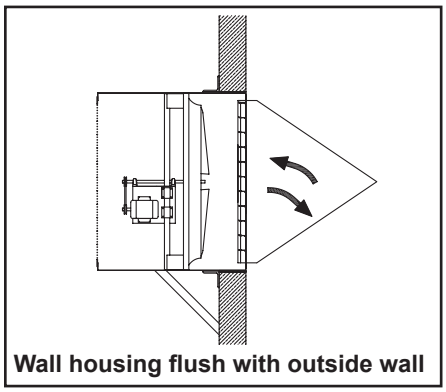
Fan Size	Wall Housing ① A (Sq.) O.D	Wall Housing ① B Length Exh/Sup	Minimum Wall Opening	Flat Guard ②	Damper ③		Exhaust Optional Rainhood 45 Deg. ④	Supply Required Rainhood 90 Deg. ⑤
		LC, L2 & L3	(Sq)	C (Sq)	D (O.D)	E	F	F
20	25	44	25 1/2	24	22 1/2	20	24 1/4	27 3/4
24	31	44	31 1/2	30	28 1/2	26	28 1/2	38 1/2
30	37	44	37 1/2	36	34 1/2	32	34 1/2	44 1/2
36	43	44	43 1/2	42	40 1/2	38	40 1/2	49
42	49	44	49 1/2	48	46 1/2	44	44 1/2	56 1/2
48	55	44	55 1/2	54	52 1/2	50	49 1/2	62 1/2
54	61	44	61 1/2	60	58 1/2	56	55	73
60	67	44	67 1/2	66	64 1/2	62	69	73
72	81	44	81 1/2	80	78 1/2	76	75 1/2	73



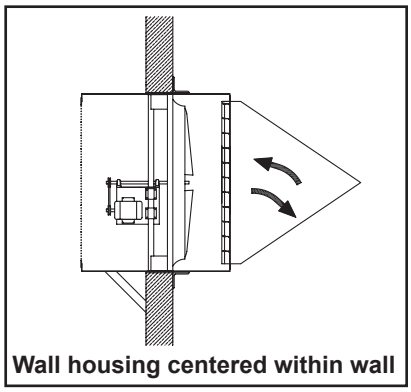
Rainhood recommended for supply applications.

WALL HOUSING STANDARD MOUNTING ARRANGEMENTS

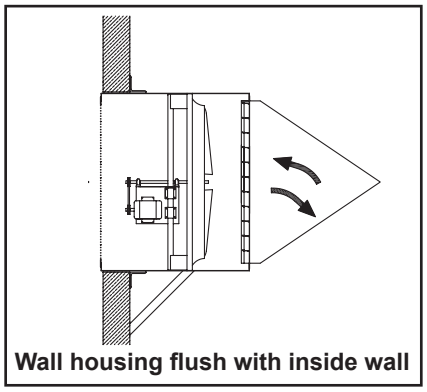
The most common mounting arrangement (below left) leaves a clean building exterior and allows access to the fan, motor and drives from inside the building. Additional bracing angle, rod or cable (field provided) should be used in addition to the mounting angles to support the fan and wall housing assembly.



Wall housing flush with outside wall



Wall housing centered within wall

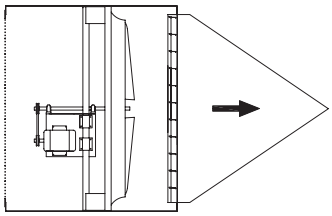


Wall housing flush with inside wall

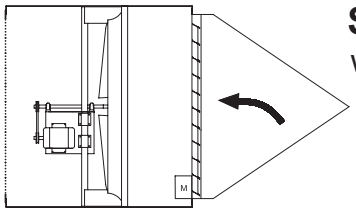
NOTE: Supply applications have the fan venturi spun on the opposite side of the fans shown above. The fans shown are exhaust. Rainhoods are required on supply applications and recommended on exhaust applications where additional weather protection is desired. Exhaust and/or supply fans installed as shown should be serviced from the interior of the building. Where service is required from the exterior of the building, consult the factory or representative for recommendations. All bracing shown is field provided. Field flashing and caulking of wall housing seams and unused mounting holes, will ensure a weather resistant installation.

PRESSURE LOSS GUIDE FOR WALL HOUSING ACCESSORIES

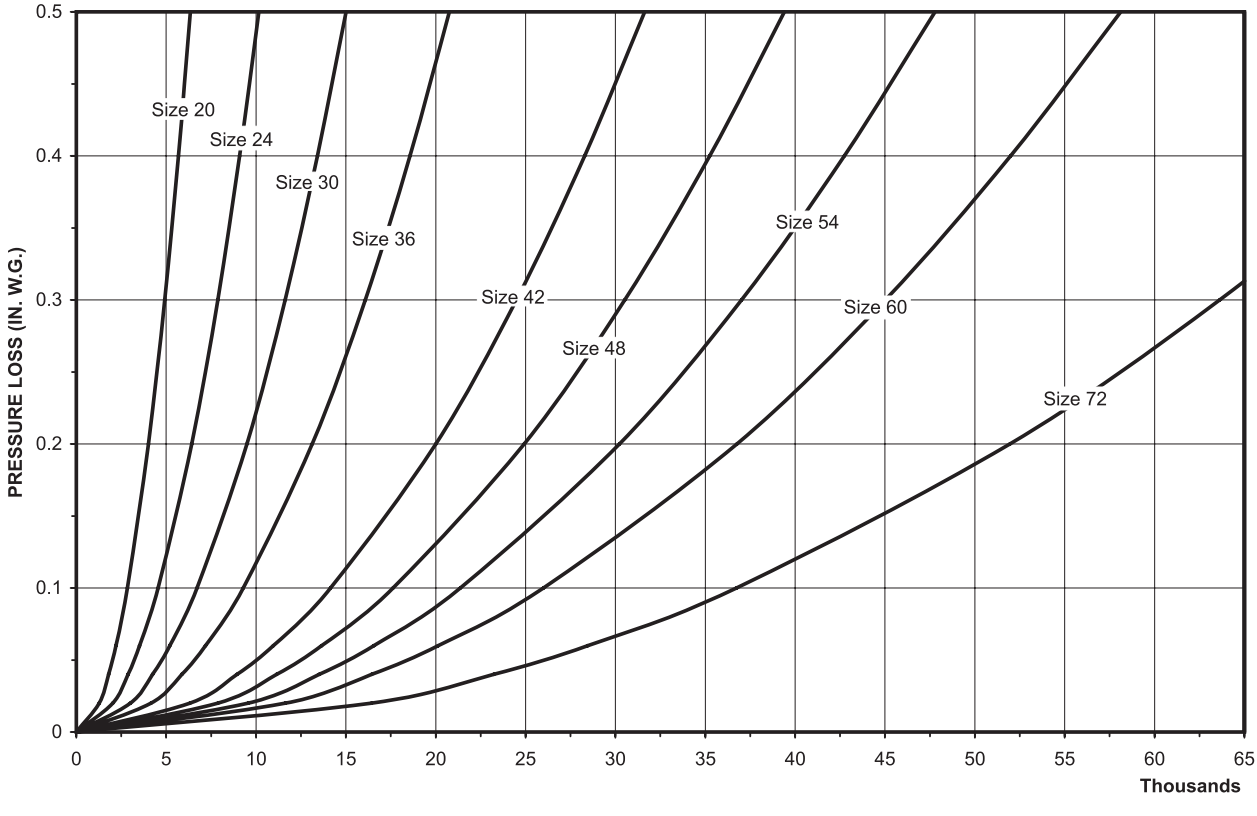
Use the estimated pressure drop graphs to help select the proper exhaust or supply fan package that will deliver the desired airflow. Enter the graph from the bottom at the specified CFM and move vertically upward to the fan curve for the desired fan size, then horizontally to the left and read the estimated static pressure drop resulting from these typical accessory packages. Add the accessory pressure loss to the system (or building) design static pressure loss to obtain the total static pressure loss to be used for the proper fan selection.



Exhaust Airflow
with Wall Housing
Gravity Damper
Rainhood
Motorside Guard



Supply Airflow
with Wall Housing
Gravity Damper
Rainhood
Motorside Guard

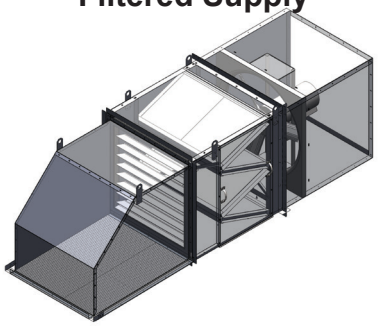


FILTERED WALL HOUSING MOUNTING OPTIONS

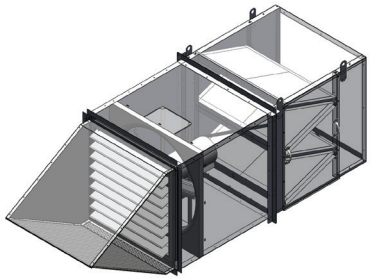
Filtered wall housings are available in both supply and exhaust configurations. They are available in eight (8) sizes for fans ranging from size 20 to 60 inches. They are designed with the draw-thru concept to achieve the highest filter and fan efficiencies.

Standard construction is galvanized steel. Mounting flanges are factory installed for either flush exterior or flush interior. Permanent 2-inch (51 mm) washable filters are accessed through a bolted or hinged panel and can be easily removed for cleaning.

Filtered Supply



Filtered Exhaust



FILTERED SUPPLY WALL HOUSING

Standard Features and Options

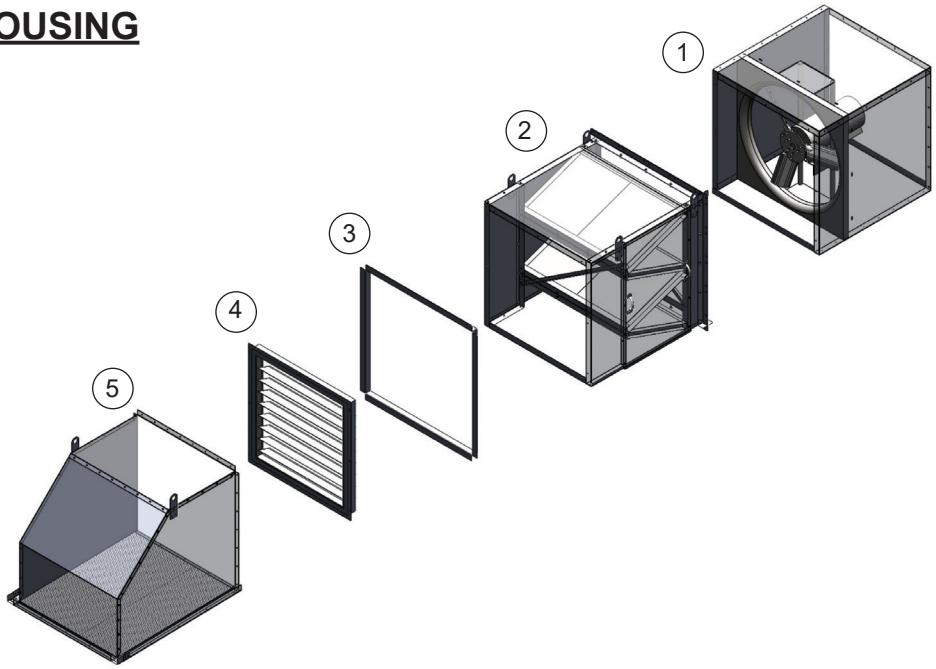
1. **Wall Housing Box (Standard)**

2. **Filter Box (Standard)**
   - Bolted or Hinged Door
   - Includes 2 sets of flanges for mounting filter box to wall housing.

3. **Wall Mount Flanges (Standard)**
   - Set of 4 - shipped loose

4. **Damper (Optional)**
   - Supply Type
   - Gravity, Motorized, or Center Pivot

5. **Rain Hood (Optional)**
   - 90 Degree - Supply Type



FILTERED EXHAUST WALL HOUSING

Standard Features and Options

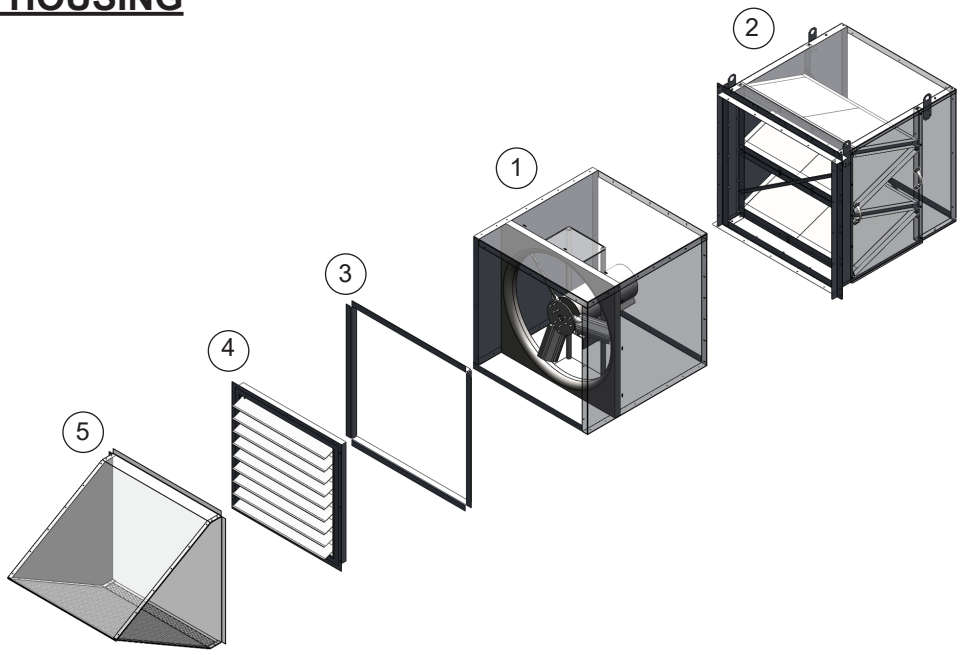
1. **Wall Housing Box (Standard)**

2. **Filter Box (Standard)**
   - Bolted or Hinged Door
   - Includes 2 sets of flanges for mounting filter box to wall housing.

3. **Wall Mount Flanges (Standard)**
   - 1 set of 4 - shipped loose

4. **Damper (Optional)**
   - Exhaust Type
   - Gravity, Motorized, or Center Pivot

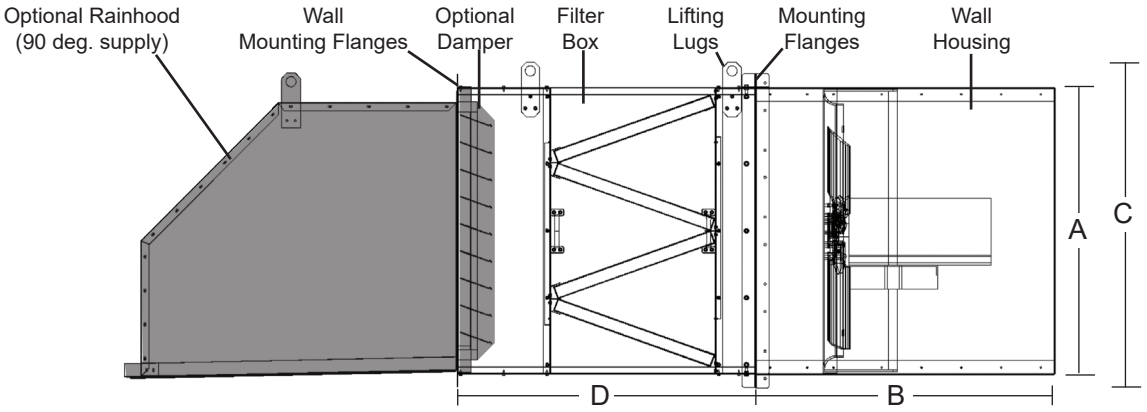
5. **Rain Hood (Optional)**
   - 45 Degree - Exhaust Type



FILTERED WALL HOUSING MOUNTING OPTIONS Cont.

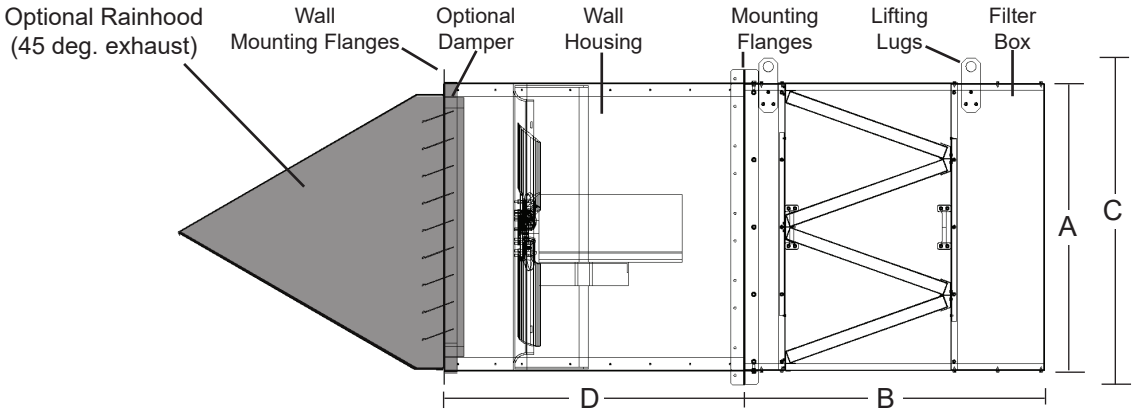
Filtered Wall Housing Dimensions

Filtered Supply



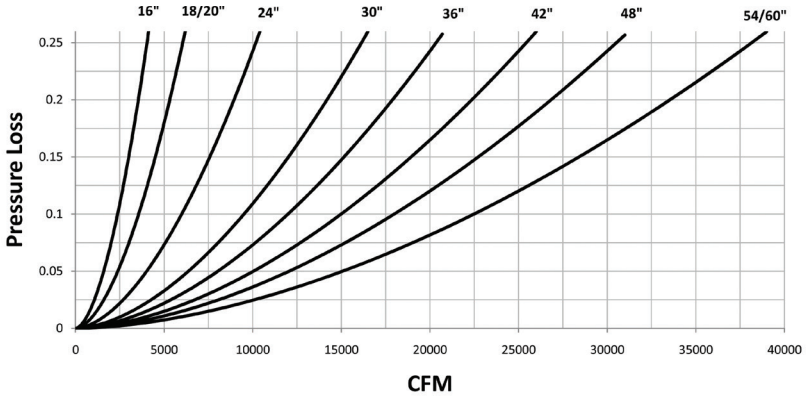
Fan Size	Wall Housing		Minimum Wall Opening	Filter Box			
	A	B Length LC & L2	Sq	C	D	# of Filters	Filter Actual Dimensions
20	25	44	25 1/2	25	44 1/8	3	19 5/8 x 24 5/8 x 1 7/8
24	31	44	31 1/2	31	41 1/8	4	19 5/8 x 24 5/8 x 1 7/8
30	37	44	37 1/2	37	44 1/8	8	15 5/8 x 24 5/8 x 1 7/8
36	43	44	43 1/2	43	44 1/8	8	19 5/8 x 24 5/8 x 1 7/8
42	49	44	49 1/2	49	44 1/8	10	19 5/8 x 24 5/8 x 1 7/8
48	55	44	55 1/2	55	40 1/2	12	19 5/8 x 24 5/8 x 1 7/8
54	61	44	61 1/2	61	44 1/8	15	19 5/8 x 24 5/8 x 1 7/8
60	67	44	67 1/2	67	44 1/8	15	19 5/8 x 24 5/8 x 1 7/8

Filtered Exhaust

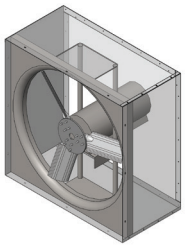


PRESSURE LOSS GUIDE FOR FILTER BOX

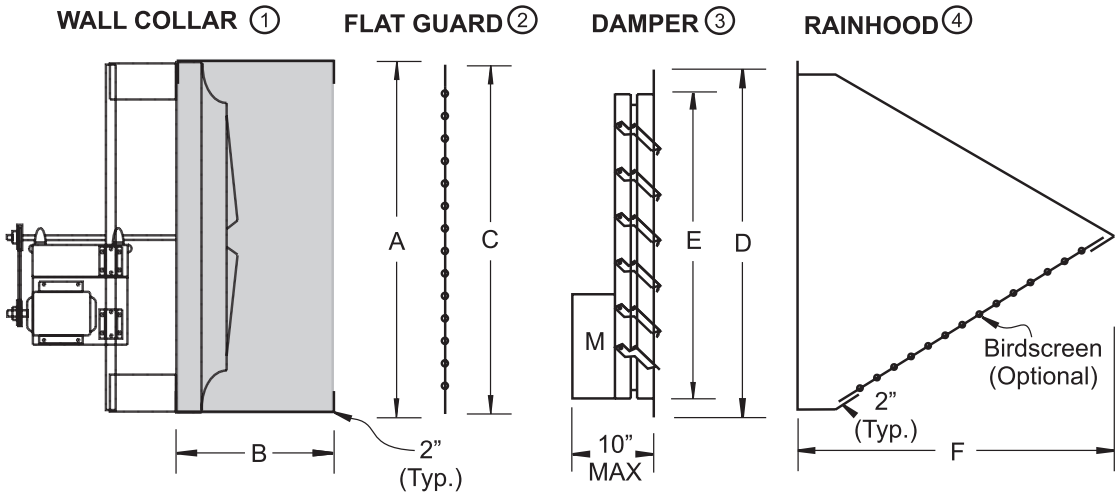
Use the estimated pressure drop graphs to help select the proper exhaust or supply fan that will deliver the desired airflow. Enter the graph from the bottom at the specified CFM and move vertically upward to the fan curve for the desired size, then horizontally to the left and read the estimated static pressure drop resulting from these typical accessory packages. Add the accessory pressure loss to the system (or building) design static pressure loss to obtain the total static pressure loss to be used for the proper fan selection.



WALL COLLAR MOUNTING OPTION



The heavy-gauge, all G-90 galvanized mounting collar provides a simple solution to installing a fan in a rough wall opening when a rear safety guard is **NOT** required. A front wire guard, shutter, and/or rainhood can be attached to the front prepunched flanges. The wall collar can be used in exhaust or supply applications for all fan sizes. The wall collar is mounted with the fan on the interior side of the building. All collars ship fully assembled with the fan to lessen jobsite installation costs. We strongly recommend rainhoods and motorized shutter for all supply applications as well as for exhaust applications where additional weather protection is desired.

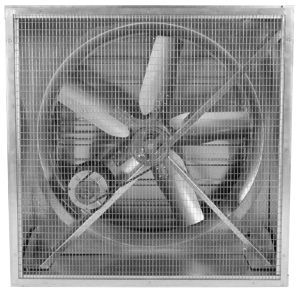


Dimensions

Fan Size	Wall Collar ①		Minimum Wall Opening	Flat Guard ②	Damper ③		Rainhood ④
	A	B	Sq	C	D (O.D)	E	F
20	24 1/4	21	25 1/2	24	22 1/2	20	24 1/4
24	30 1/4	21	31 1/2	30	28 1/2	26	28 1/2
30	36 1/4	21	37 1/2	36	34 1/2	32	34 1/2
36	42 1/4	21	43 1/2	42	40 1/2	38	40 1/2
42	48 1/8	21	49 1/2	48	46 1/2	44	44 1/2
48	54 1/8	21	55 1/2	54	52 1/2	50	49 1/2
54	60 1/8	21	61 1/2	60	58 1/2	56	55
60	66 1/8	21	67 1/2	66	64 1/2	62	69
72	80 1/8	26	81 1/2	80	78 1/2	76	75 1/2

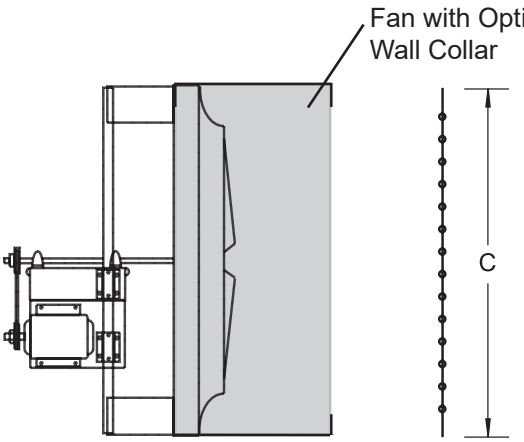
(a) Level 3 Construction requires a deeper motorside guard as shown.
Unless shown otherwise supply and exhaust dimensions are similar.

ACCESSORIES & OPTIONS
FOR MOUNTING ARRANGEMENTS

Accessory or Option	
	**Safety Guards** Safety Guards (Standard or Heavy-Duty Flat Guards) are strongly recommended to protect personnel from accidental injury and to prevent debris from entering the fan. OSHA approved guards are required in many installations including when the fans are within 7 feet of the floor or work/access area.
	**Rainhoods or Weatherhoods** Designed to provide additional weather protection by partially shielding the wall opening and should be used for all supply applications and whenever additional weather resistance is desired. The galvanized (aluminum optional) hood attaches to the wall housing or wall collar flanges. Field flashing and caulking will reduce moisture penetration. Shown with optional birdscreen.
	**Dampers** Used alone or in conjunction with the wall housing or wall collar, a complete line of dampers are available for exhaust or supply configurations.

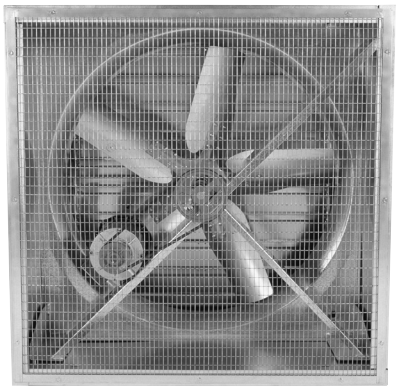
ACCESSORIES & OPTIONS
FOR MOUNTING ARRANGEMENTS Cont.

Safety Guards
Safety guards are strongly recommended to protect personnel from accidental injury and to prevent debris from entering the fan. OSHA approved guards are required in many installations including when the fans are within 7 feet of the floor or work/access area.

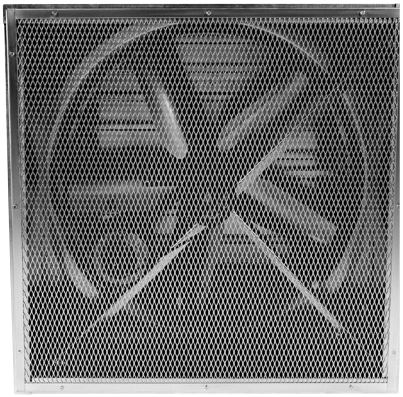


Dimensions

Fan Size	C
20	24
24	30
30	36
36	42
42	48
48	54
54	60
60	66
72	80



Standard Duty Flat Wire Guard
The removable safety guard satisfies OSHA requirements when used with the optional wall housing as a motor-side (rear) guard. The 16 ga. 1/2" X 1" welded wire mesh is mounted in a galvanized frame and attaches to the inward flanges of the wall housing.



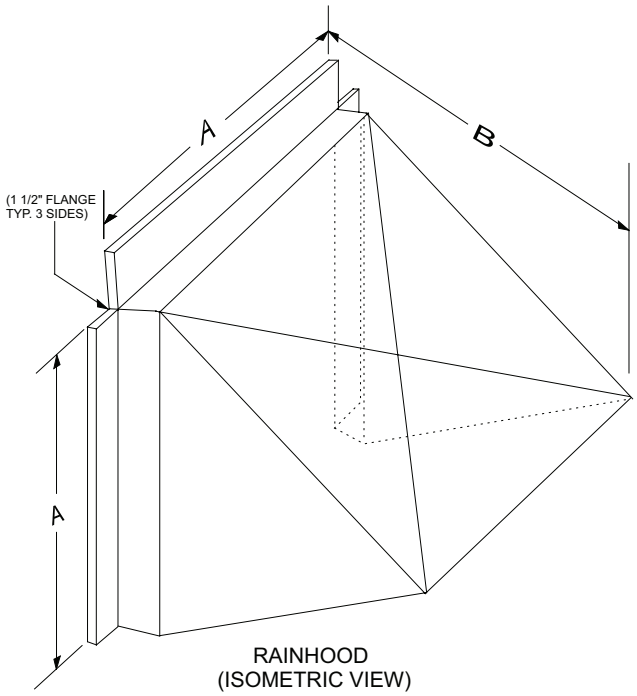
Heavy-Duty Flat Wire Guard
The removable safety guard satisfies OSHA requirements when used with the optional wall housing as a motor-side (rear) guard. The H.D. expanded aluminum mesh is mounted in a galvanized frame and attaches to the inward flanges of the wall housing.

ACCESSORIES & OPTIONS
FOR MOUNTING ARRANGEMENTS Cont.

Rainhoods or Weatherhoods

Designed to provide additional weather protection by partially shielding the wall opening and should be used for all supply applications and whenever additional weather resistance is desired. The galvanized (aluminum optional) hood attaches to the wall housing or wall collar flanges. Field flashing and caulking will reduce moisture penetration. Shown with optional birdscreen.

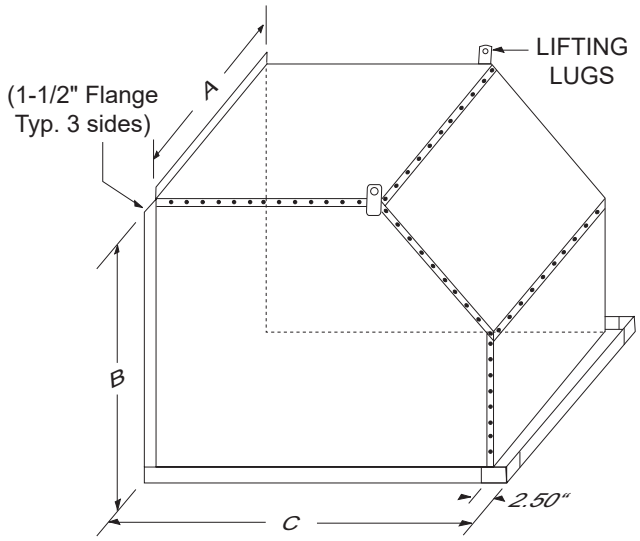
45 Degree Exhaust



RAINHOOD
(ISOMETRIC VIEW)

Fan Size	A	B	GAUGE (2)	AVG. WT.
20	22	24-1/4	18	25
24	28	28-1/2	18	30
30	34	34-1/2	18	40
36	40	40-1/2	18	50
42	46	46-1/2	18	60
48	52	49-1/2	16	70
54	58	58-1/2	16	120
60	64	64-1/2	16	175
72	78	64-1/2	16	200

90 Degree Supply



Fan Size	A	B	C	GAUGE (2)	AVG. WT.
20	22	22	27-3/4	18	25
24	27-1/4	26-1/2	38-1/2	18	30
30	32-1/2	33-1/2	44-1/2	18	40
36	38-1/2	39-1/4	49	18	50
42	44-1/2	45-1/4	56-1/2	18	60
48	50-1/2	51-1/2	62-1/2	18	70
54	56-3/4	57	73	18	120
60	62-3/4	63	73	18	175
72	76-3/4	76-3/4	73	18	200

ACCESSORIES & OPTIONS
FOR MOUNTING ARRANGEMENTS Cont.

Damper Types (Shutters)

Heavy-Duty Galvanized Exhaust Motorized Shutter

This damper has a flanged frame and is designed to fit the inside flanges of the optional wall housing or wall mounting collar. The frame and blades are constructed of galvanized steel and are rated to 3000 FPM with proper clearance as provided by all factory accessories. The damper body recesses into the opening for a flush appearance.

Standard Duty Aluminum Exhaust Gravity Shutter

This damper can greatly reduce the infiltration of outside air and although not completely watertight, will provide weather protection in an economical fashion. Constructed with a galvanized frame and aluminum blades this damper is rated to 2000 FPM with the proper clearance as provided by all factory accessories. The damper body is recessed into the opening for a flush appearance.

Heavy-Duty Galvanized Supply Motorized Shutter

The motorized option improves weather protection by providing a tighter closure seal and is recommended for all supply applications. Heavy-duty dampers are constructed with galvanized frames and blades and are rated to 3000 FPM. The damper body is not recessed providing extra clearance between the fan and damper blades.

Standard Duty Aluminum Supply Motorized Shutter

The motorized option improves weather protection by providing a tighter closure seal and is recommended for all supply applications. Standard duty dampers are constructed with galvanized frames and aluminum blades and are rated to 2000 FPM. The damper body is not recessed providing extra clearance between the fan and damper blades.

Center Pivot Motorized Damper - Supply or Exhaust

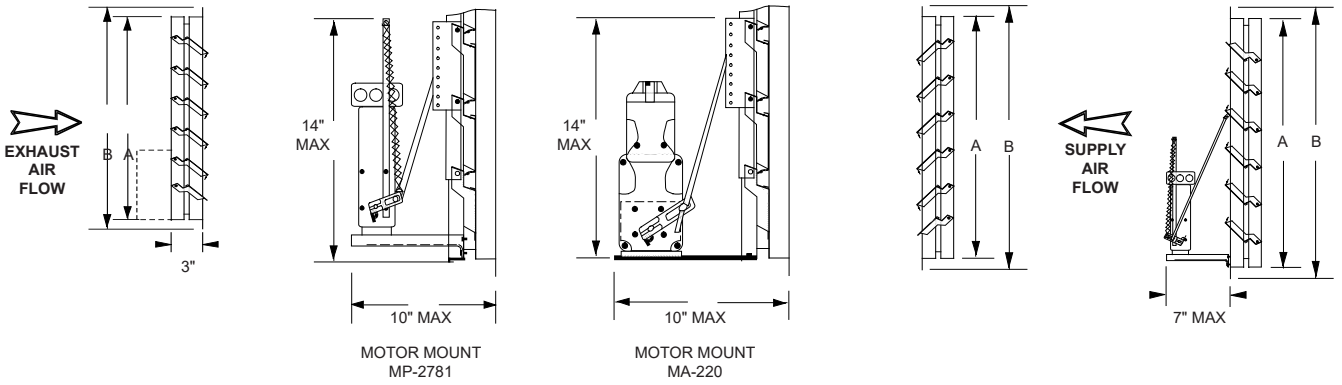
The flanged frame damper is designed to recess inside the flanges of the optional wall housing or wall mounting collar. The center pivot style damper provides superior weather resistance. Galvanized (optional aluminum) construction is rated to 3500 FPM with proper clearance as provided by all factory accessories.

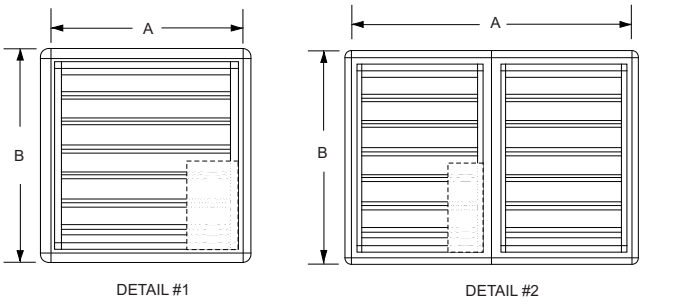
Electric Damper Operators

Electric damper operators provide more positive open and closed damper positions which helps increase weather resistance. Power open - spring close (POSC) motor and linkage kits are field installed (except for center pivot style) and are available in 24, 120/240, or 460 volts (single phase) and require approximately 0.5 amps at 120/1/60 power supply. Transformers are available for voltage reduction. For fan motors 5HP and larger, we recommend a factory tilt switch or "delay-on" timer in the control circuit (by others) to allow the damper to open prior to allowing fan operation, which will protect the damper blades and fan from damage when the fan is first energized.

ACCESSORIES & OPTIONS
FOR MOUNTING ARRANGEMENTS Cont.

Dimensions (Standard and Heavy-Duty Dampers)





Fan Size	A Sq. Size	B Sq. OD Flange	Panels (Detail)	Motor Type			
				Exhaust		Supply	
				Type	Qty	Type	Qty
20	20	22 1/2	1	MP-2781	1	MP-2781-S	1
24	26	28 1/2	1	MP-2781	1	MP-2781-S	1
30	32	34 1/2	1	MP-2781	1	MA-220-S	1
36	38	40 1/2	1	MA-220	1	MA-220-S	1
42	44	46 1/2	2	MA-220	1	MA-220-S	2
48	50	52 1/2	2	MA-220	1	MA-220-S	2
54	56	58 1/2	3	MA-220	2	MA-220-S	2
60	62	64 1/2	3	MA-220	2	MA-220-S	2
72	77	79 1/2	4	MA-220	4	MA-220-S	4

Heavy Duty Dampers required on all units with 7 1/2HP motors and above.

Dimensions (Center Pivot Motorized Damper)

Fan Size	Opening Required	A O.D.	B (1)	C "Size"	D (Center of Holes)	# of Panels	G	
							Closed (E-1)	Open (E-2)
24	27	29	24-1/2	26	-	1 x 1	7-1/4	8-1/2
30	33	35	30-1/2	32	-	1 x 1	10-1/4	13-3/4
36	39	41	36-1/2	38	19-1/2	1 x 1	10-1/4	13-3/4
42	45	47	42-1/2	44	22-1/2	1 x 1	10-1/4	13-3/4
48	51	53	48-1/2	50	25-1/2	2 x 1	10-1/4	13-3/4
54	57	59	54-1/2	56	28-1/2	2 x 1	10-1/4	12-3/4
60	63	65	60-1/2	62	31-1/2	2 x 1	10-1/4	12-3/4
72	77	79	76-1/2	76	39-1/2	2 x 1	10-1/4	12-3/4

Fan Size	Motor (2)		
	Power Supply	Max Amps	Stall Torque (in. lbs)
24-48	120-240V 60Hz	0.3/0.6	25
54-60	240V 60Hz	0.5	60

(1) Minimum opening to clear pins.
(2) Motor is 60 Hz, single phase continuous duty with 104°F (40°C), maximum ambient temperature