

# HEPA FILTER HOUSING CRANK

MODEL: HFHC

2 STAGES OF FILTRATION • PRE-FILTER • HEPA FILTER • CRANK STYLE  
SIDE ACCESS



## OVERVIEW:

Side access HEPA filter housings with Crank-Lock assemblies are designed to be final or 2 stage filter enclosures. Accepting 6" (152) or 12" (305) HEPA filters, each unit can be ordered with a 2" (51), or optional 4" (102), pre-filter. Crank-Lock provides a convenient method of quickly changing and sealing HEPA filters into the housing. Using a top and bottom hand crank, each gasketed filter is secured against a sealing frame by mechanical cranks. Each crank drives a screw with attached pivoting knuckles and as the screw moves these knuckles, with spring loaded plungers, applies pressure against the back of the HEPA filter. No less than four points of contact ensure an even and constant pressure is placed against the filter for maximum sealing integrity. Width and height sizing of the housing is based on the HEPA filter and is expressed in module sizes that range from .5 to 6 and .5 to 4 respectively. There are five standard depths, 22" (559), 26" (660), 28" (711), 32" (813) and 34" (864) which accommodate combinations of pre-filters and HEPA filters. Integrated 1" (25) mounting flanges, on both the inlet and discharge, allow for quick installation onto air handlers or ductwork. Every unit includes a standard right hand access door with quick removal hinges as standard. Housings that equal or exceed 2 modules in width will have a second door added for easier access to filters. Each door is fully gasketed around the perimeter to provide an airtight seal when closed. Additional gasketing is applied to the interior of the door to seal against pre-filters. Reinforcing gussets are added to housings to increase strength. Center legs on units 2 modules or larger will be added to the pre-filter, or inlet side, and will typically be placed on 24" (610) centers. Options on the HFHB Series are abundant and include custom sizing, custom flanges, specialty materials, insulated housings and weatherproofing construction.



## STANDARD CONSTRUCTION:

**SIZE:** Available in ½ width and height module sizes, up to size 6 wide and size 4 high. Five depths will accommodate 6" (152) or 12" (305) HEPA filters with or without 2" (51) deep pre-filters.

**FRAME:** 14 ga. (2.00) galvanized steel frame with 4 sided integrated 1" (25) mounting flanges, turned outward, located on inlet and discharge.

## FILTER TRACK:

**PRE:** .080" (2.03) Type 6063-T6 extruded aluminum alloy filter track with integral nylon fiber pile seal. Filter track accommodates 2" (51) deep filter.

## HEPA:

**Sealing:** .065" (1.65) wall structural steel tubing, seam welded, ground, polished and coated to provide a smooth surface for sealing HEPA filters against.

**Shelf:** 14 ga. (2.00) galvanized steel to provide support for filter weight. Shelf allows filters to slide into position from access doors. Stops are located on track to properly locate HEPA filters within housing.

**CLAMPING:** The crank locking assembly utilizes a hand crank to secure the filter in place. Turning the crank applies even pressure onto the HEPA

filter by moving pivoting knuckles fitted with spring loaded plungers. Each filter requires 4 points of contact to ensure a seal. Two cranks are needed, one on top and one on bottom, to secure 1 bank of filters. On units greater than three modules wide, cranks will be split between sides, requiring access to both sides of the housing. Remote access to the opposite side is not available.

**FINISH:** Mill finish interior and exterior.

**DOOR:** Hinged side access door (right hand as standard on single module widths, otherwise two access doors as standard) with positive pressure 4-arm hand knobs located on both hinge and non-hinge sides. Hinges are lift off quick disconnect type. Closed cell neoprene gasketing installed around perimeter of door. Urethane foam gasket applied to inside of door to seal pre-filter against door.

**BRACING:** Corner gussets for added rigidity. For units wider than 2 modules, formed center legs are added for strength and rigidity to pre-filter side. Center legs will typically be on 24" (610) centers.

DIMENSION: INCHES (mm) P. 1 of 3.

SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR

# Submittal

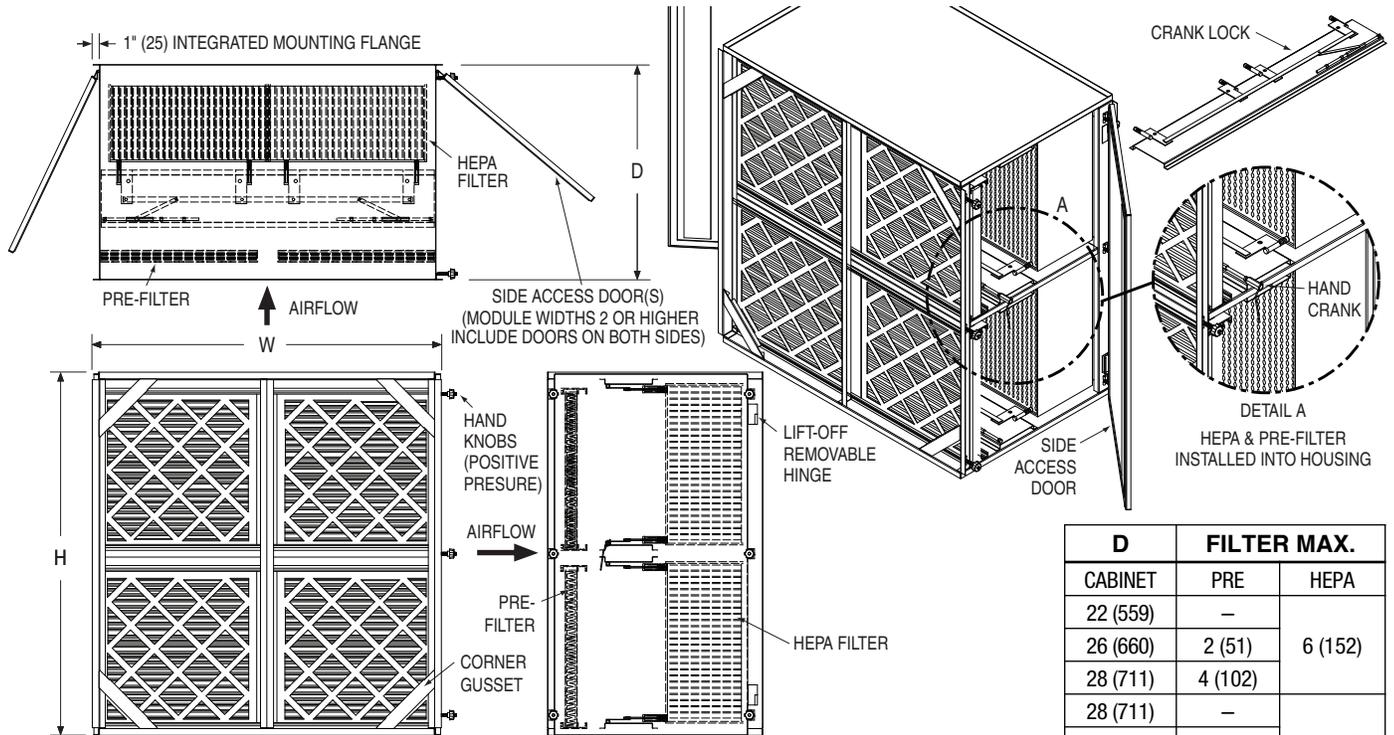
HFHC

SUPERSEDES: 10 - 15 - 10 REV.: 1 - 20 - 11

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D	FILTER MAX.	
	PRE	HEPA
CABINET	—	6 (152)
22 (559)	—	6 (152)
26 (660)	2 (51)	6 (152)
28 (711)	4 (102)	6 (152)
28 (711)	—	12 (305)
32 (813)	2 (51)	12 (305)
34 (864)	4 (102)	12 (305)

**SIZING\* W/ MAX AIRFLOW CAPACITY RATED @ 500 FPM**

MODULE	H	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
W	HOUSING	15 1/2 (394)	27 1/2 (699)	42 (1067)	54 (1372)	68 1/2 (1740)	80 1/2 (2045)	95 (2413)	107 (2717)
0.5	16 (406)	—	1000 (472)	1500 (708)	2000 (944)	2500 (1180)	3000 (1416)	3500 (1652)	4000 (1888)
1.0	28 (711)	1000 (472)	2000 (944)	3000 (1416)	4000 (1888)	5000 (2360)	6000 (2831)	7000 (3303)	8000 (3775)
1.5	40 (1016)	1500 (708)	3000 (1416)	4500 (2124)	6000 (2831)	7500 (3539)	9000 (4247)	10500 (4955)	12000 (5663)
2.0	52 (1321)	2000 (944)	4000 (1888)	6000 (2831)	8000 (3775)	10000 (4719)	12000 (5663)	14000 (6607)	16000 (7550)
2.5	64 (1626)	2500 (1180)	5000 (2360)	7500 (3539)	10000 (4719)	12500 (5899)	15000 (7079)	17500 (8258)	20000 (9438)
3.0	76 (1930)	3000 (1416)	6000 (2831)	9000 (4247)	12000 (5663)	15000 (7079)	18000 (8494)	21000 (9910)	24000 (11326)
3.5	88 (2235)	3500 (1652)	7000 (3303)	10500 (4955)	14000 (6607)	17500 (8258)	21000 (9910)	24500 (11562)	28000 (13213)
4.0	100 (2540)	4000 (1888)	8000 (3775)	12000 (5663)	16000 (7550)	20000 (9438)	24000 (11326)	28000 (13213)	32000 (15101)
4.5	112 (2845)	4500 (2124)	9000 (4247)	13500 (6371)	18000 (8494)	22500 (10618)	27000 (12741)	31500 (14865)	36000 (16988)
5.0	124 (3250)	5000 (2360)	10000 (4719)	15000 (7079)	20000 (9438)	25000 (11798)	30000 (14157)	35000 (16517)	40000 (18876)
5.5	136 (3354)	5500 (2595)	11000 (5191)	16500 (7786)	22000 (10382)	27500 (12977)	33000 (15573)	38500 (18168)	44000 (20764)
6.0	148 (3759)	6000 (2831)	12000 (5663)	18000 (8494)	24000 (11326)	30000 (14157)	36000 (16988)	42000 (19820)	48000 (22651)

\*Housings are ordered in Module designations. See notes for details.

AIRFLOW: **CFM (l/s)**

DIMENSION: INCHES (mm)

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SCHEDULE TYPE  
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SUPERSEDES: NEW

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## OPTIONS:

- 4" (102) pre-filter track.
- Left side crank access.
- Gel seal framing system. Contact factory for knife edge dimensions.
- 304SS frame and track construction.
- 316SS frame and track construction.
- .080" (2.03) Type 3003 aluminum alloy housing construction.
- Weatherproof construction to include pitched roof and rain guards over side access door(s).
- Non-hinged access door applications. Contact factory for details.
- Air dried epoxy painted surfaces, gray as standard. Other Color: \_\_\_\_\_ .
- Insulated housing. Standard insulation is 1" (25) thick, 4 lb./cu. ft. (64 kg/m<sup>3</sup>) density rigid fiberglass with a fire resistant reinforced aluminum foil-scrim-kraft (FSK) facing.
- Double wall insulated door. Includes 1" (25) 4 lb./cu. ft. (64 kg/m<sup>3</sup>) fiberglass insulation installed between door panels.
- Available positive or negative high pressure construction. Includes additional bracing for rigidity. Contact factory for information.
- High temperature construction. Contact factory for information.
- Custom housing sizes. Please indicate custom dimensions under **ORDERING: CUSTOM MODULES**.
- Custom mounting flange sizes (flanges turned outward or inward). Indicate custom flange sizes under **ORDERING: CUSTOM MODULES**.
  - 1 side (Inlet or Discharge)
  - 2 sides (Inlet and Discharge)
- Other: \_\_\_\_\_ .

## ORDERING:

### STANDARD MODULES

Step 1: Select module W

Step 2: Select module H

Step 3: Select housing Depth based on filter selection(s)

W \_\_\_\_\_ x H \_\_\_\_\_ x D \_\_\_\_\_

Module

Module

## CUSTOM MODULES

Step 1: Enter overall outside filter housing width including mounting flanges.

Step 2: Enter overall outside filter housing height including mounting flanges.

Step 3: Enter overall filter housing depth.

W \_\_\_\_\_ x H \_\_\_\_\_ x D \_\_\_\_\_

Step 4: Enter custom flange sizes, if needed. These will be subtracted from overall dimensions listed above to find inside cabinet dimensions.

Inlet:

Top: \_\_\_\_\_ Bottom: \_\_\_\_\_ Left: \_\_\_\_\_ Right: \_\_\_\_\_

Discharge:

Top: \_\_\_\_\_ Bottom: \_\_\_\_\_ Left: \_\_\_\_\_ Right: \_\_\_\_\_

## NOTES:

- Module Width x Height sizing of units is based on 24" x 24" (610 x 610) HEPA filter face size. For example, a module 2W x 2H is constructed of four 24" x 24" (610 x 610) filters that are arranged 2 wide by 2 high. 1/2 increments refer to filters 12" (305) in size. Pre-filters will be arranged and include same quantity as HEPA filters. Depth of the unit is determined by HEPA filter depth combined with selection of pre-filter option.
- Capacities are based on a filter airflow velocity of 500 fpm (2.54 m/s).
- When numbers of filter modules exceed 2 wide, side access doors are included on both sides as standard.
- Selecting the weatherproofing option changes the overall dimensions. Width is reduced by 2" (51) and 1" (25) is added to the height. All mounting flanges are turned inward to prevent water penetration.
- All filter mounting hardware, brackets will be supplied.
- All housing mounting hardware, clips, angles, etc. by others.
- All orders require approval of Engineered Submittal Drawings before manufacture.

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SCHEDULE TYPE

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ENGINEER

CONTRACTOR

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HFHC

UPERSEDES: 10 - 15 - 10

REV.: 1 - 20 - 11