

# CARBON FILTER HOUSING UNIT

MODEL: CFHU

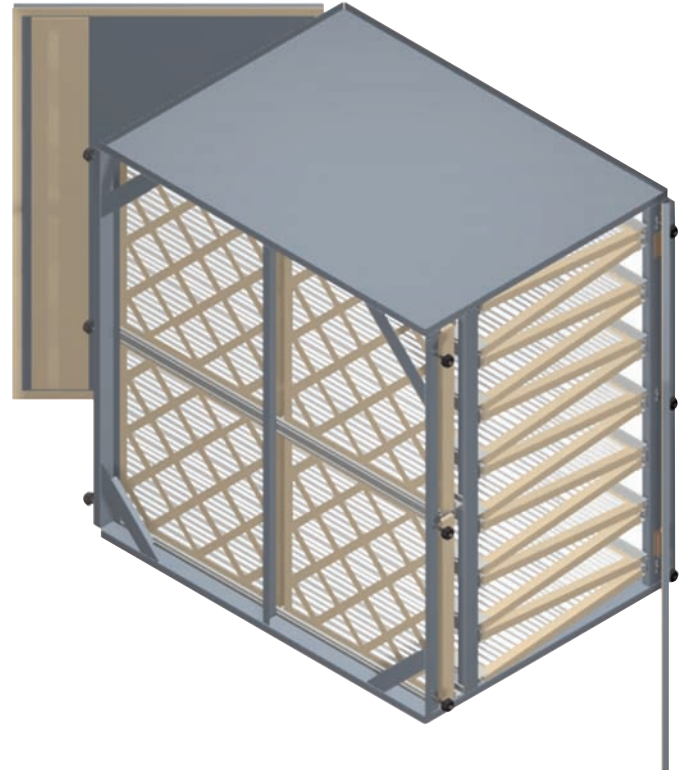
2 STAGES OF FILTRATION • PRE-FILTER • GAS PHASE FILTRATION

SIDE ACCESS



## OVERVIEW:

CFHU's are designed as a 2 stage filtration system. Accommodating 2" (51), or optional 4" (102), pre-filters each unit filters particulate in the first stage and removes gaseous contaminants, via activated charcoal panels or trays, in the second. CFHU's can complement existing air handling equipment. Other uses include laboratory, industrial and IAQ sensitive applications and are especially effective when combined with other filter type housings. Expressed in module sizes, units range from .5 to 6 wide to .5 to 4 high. There are two depths, 36" (914) and optionally 38" (965), to accommodate combinations of pre-filters and carbon panels/trays. Integrated 1" (25) mounting flanges, on both the inlet and discharge, allow for quick installation onto air handlers, ductwork or other filter housings. Every unit includes a standard right mounted access door. Housings over 2 modules in width will include a second access door for easier filter access. 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 filter sides. 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 CFHU Series include custom sizing, custom flanges, specialty materials, insulated housings, weatherproof construction and more.



## STANDARD CONSTRUCTION:

**SIZE:** Available in ½ width and height module sizes, up to size 6 wide and size 4 high. Housing depth will accommodate ¾" (19) deep by 24" (610) high, carbon panels/trays laid in Vee pattern, with 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.

**CARBON:** .080" (2.03) Type 6063-T6 extruded aluminum alloy to accommodate standard ¾" (19) carbon panels/trays.

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

**DOOR:** Hinged side access door (right hand as standard) with positive pressure 4-arm hand knobs, located on non-hinge sides. Hinges are lift off quick disconnect type. Closed cell neoprene gasketing installed around perimeter of door. Entire inside of door is covered with urethane foam gasket to seal pre-filter and carbon filter sides 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

CFHU

SUPERSEDES: 10 - 15 - 10

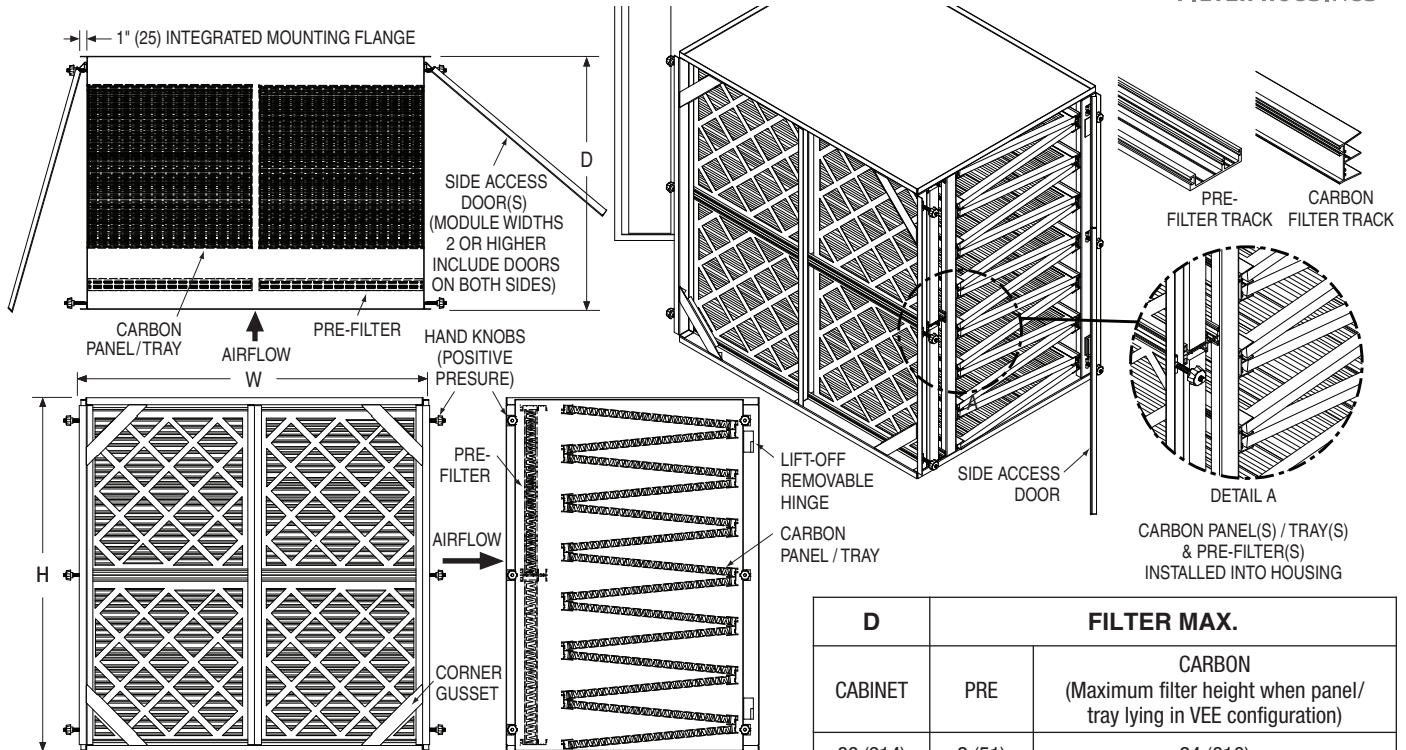
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D	FILTER MAX.	
	PRE	CARBON (Maximum filter height when panel/ tray lying in VEE configuration)
CABINET		
36 (914)	2 (51)	24 (610)
38 (965)	4 (102)	24 (610)

**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
<b>W</b>	HOUSING	14 1/4 (362)	26 1/4 (667)	38 1/2 (978)	50 1/2 (1283)	62 3/4 (1594)	74 3/4 (1899)	87 (2210)	99 (2515)
0.5	14 (356)	—	1000 (472)	1500 (708)	2000 (944)	2500 (1180)	3000 (1416)	3500 (1652)	4000 (1888)
1.0	26 (660)	1000 (472)	2000 (944)	3000 (1416)	4000 (1888)	5000 (2360)	6000 (2831)	7000 (3303)	8000 (3775)
1.5	38 (965)	1500 (708)	3000 (1416)	4500 (2124)	6000 (2831)	7500 (3539)	9000 (4247)	10500 (4955)	12000 (5663)
2.0	50 (1270)	2000 (944)	4000 (1888)	6000 (2831)	8000 (3775)	10000 (4719)	12000 (5663)	14000 (6607)	16000 (7550)
2.5	61 (1549)	2500 (1180)	5000 (2360)	7500 (3539)	10000 (4719)	12500 (5899)	15000 (7079)	17500 (8258)	20000 (9438)
3.0	73 (1854)	3000 (1416)	6000 (2831)	9000 (4247)	12000 (5663)	15000 (7079)	18000 (8494)	21000 (9910)	24000 (11326)
3.5	84 5/8 (2149)	3500 (1652)	7000 (3303)	10500 (4955)	14000 (6607)	17500 (8258)	21000 (9910)	24500 (11562)	28000 (13213)
4.0	96 1/2 (2451)	4000 (1888)	8000 (3775)	12000 (5663)	16000 (7550)	20000 (9438)	24000 (11326)	28000 (13213)	32000 (15101)
4.5	108 1/8 (2746)	4500 (2124)	9000 (4247)	13500 (6371)	18000 (8494)	22500 (10618)	27000 (12741)	31500 (14865)	36000 (16988)
5.0	120 1/8 (3051)	5000 (2360)	10000 (4719)	15000 (7079)	20000 (9438)	25000 (11798)	30000 (14157)	35000 (16517)	40000 (18876)
5.5	131 3/4 (3346)	5500 (2595)	11000 (5191)	16500 (7786)	22000 (10382)	27500 (12977)	33000 (15573)	38500 (18168)	44000 (20764)
6.0	143 3/4 (3651)	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) P. 2 of 3.

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## OPTIONS:

- 4" (102) pre-filter track
- Filter track to accommodate ½" (13) deep carbon filters.
- Filter track to accommodate 1" (25) deep carbon filters.
- 304SS frame and track construction, up to 12 ga. (2.67).
- 316SS frame and track construction, up to 12 ga. (2.67).
- .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>) density rigid fiberglass insulation installed between door panels.
- 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 pre-filter

Standard Housing Sizes:

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.

Custom Housing Sizes:

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:

- Carbon filter size is typically 24" (610) wide by 24" (610) high and can range from ½" (13) to 1" (25) in depth.
- Module Width sizing of units is based on 24" (610) wide carbon panel/tray type filters. Module Height is based on stacking 12 filter panels/trays per 24" (610) of height (trays arranged in Vee pattern). For example, a module 2W x 2H is constructed of forty eight 24" x 24" (610 x 610) filters that are arranged 2 wide by 24 high (stacked in Vee configuration). ½ increments refer to filters 12" (305) in size. Depth of the unit accounts for the 24" (610) height of the filter and is determined by selection of pre-filter.
- Carbon Filters are panel or tray type. Panel type carbon filters are typically constructed with a carbon panel, pleat or pad secured by a beverage board outer frame. Most panel type filters are disposable. Tray type carbon filters are refillable and reusable. Typical panel or tray depth is ¾" (19). Filters are arranged in Vee pattern within housing to maximize surface area.
- 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 housing mounting hardware, clips, screws, etc. by others.
- All orders require approval of Engineered Submittal Drawings before manufacture.

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