

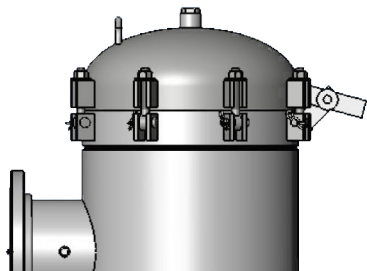


Graver Technologies

FILTRATION | SEPARATION | PURIFICATION

High Flow Series Filter Housings

Filter Housings for High Flow Applications



Product Specifications

Shell/O-Ring:

Buna-N, EPDM, Silicone, Viton

Optional:

300 psig (20.6 bar) Flanged Head designs available – Consult Factory
Not for use with compressed gases

Operating Parameters

Maximum operating pressure:

Carbon Steel

150 psig (10.3 bar) @ 500°F (260°C)
in liquid service

Stainless Steel

150 psig (10.3 bar) @ 300°F (149°C)
in liquid service

Not for use with compressed gases

Available Options

- Vertical Housing Inlet/outlet
Side in/side out, Side in/bottom out
- Horizontal Housing Inlet/Outlet
Side in/bottom out
- Tilted Horizontal
Side in/side out, Side in/bottom out
- Gauge ports
- Hinged cover
- Davit arm

Graver High Flow Series filter housings are designed to accept Graver and competitive High Flow Series large geometry filter elements. Available in both vertical and horizontal orientations, the High Flow housings can accept from 1 to 7 filter elements. Also available is a single round tipped horizontal design that allows easier removal without the need for a platform and readily drains from back of vessel to eliminate fluid spills.

FEATURES & BENEFITS

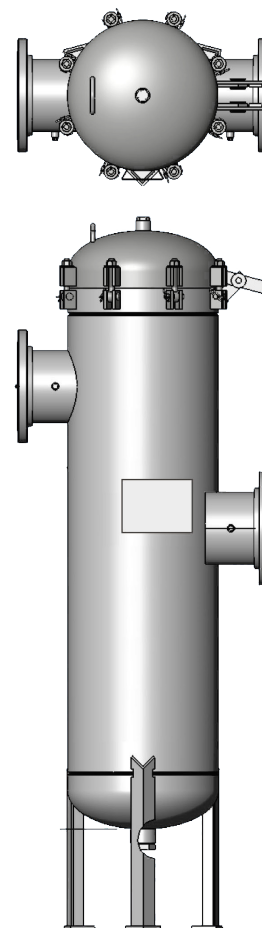
- Industrial grade housings available in 304, 316 and carbon steel wetted parts
- ASME U code available
- Designs for 1, 3, 4 or 7 filters per housing for flows up to 3500 GPM*
- 150 psig designs
- Accepts 20", 40" and 60" High Flow cartridges
- Vertical and horizontal designs offered
- Hold down plate prevents elements from unseating due to back pressure
- Filter removal tool available to facilitate element changeout
- Swing bolts on 150 psig design
- Equipped with 1" vent and 2" drain (1" drain on tipped horizontal style).

TYPICAL APPLICATIONS

- Pre RO
- Food and Beverage
- Water
- Pulp and Paper
- Desalination
- Petrochemicals
- Oil and Gas

FLOW CAPACITY

Flow capacity based on light dirt load and low viscosity. Actual flow rate may be lower with vessel sizing based on fluid dirt loads, nature of contaminant, viscosity, micron rating and temperature.

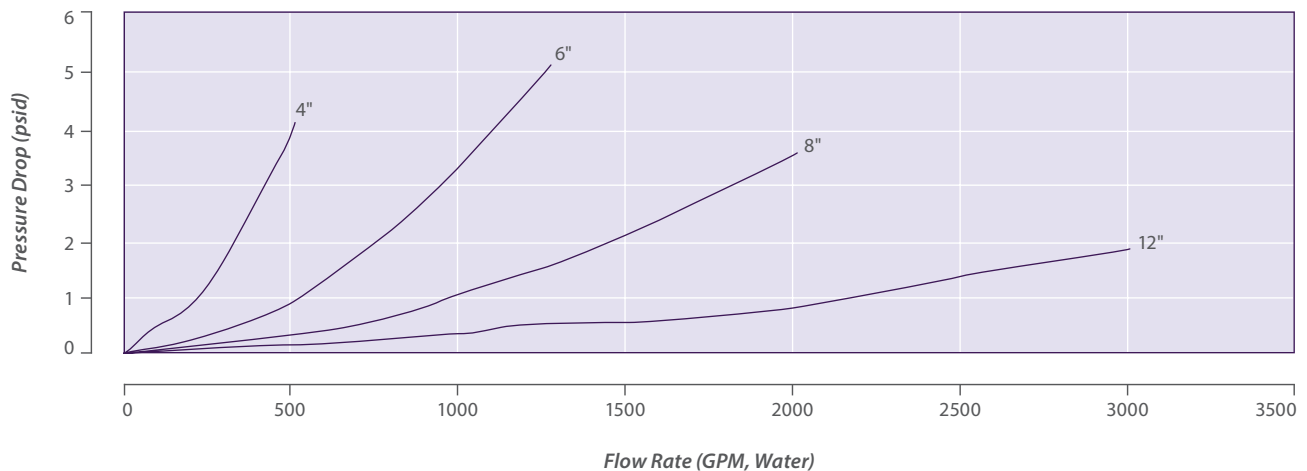


HIGH FLOW NOMENCLATURE INFORMATION

Model	Number of Filters Around	Orien-tation	Cartridge Height (inches)	Material	Inlet/ Outlet Size	Inlet/ Outlet Config.	Pressure Rating	Gasket	Options
HFH Series	-1	V Vertical H Horizontal HT Tipped Horizontal (1 Round Only)	20	R 304 SS	-4	-SS Side In/ Side Out -SB Side In/ Bottom Out	150 150 psig	-B Buna-N	-H Hinge -DA Davit Arm -PA Passivation
	-3		40	T 316 SS	-6		300 300 psig	-E EDPM	
	-4		60	C Carbon Steel	-8		(Consult Factory)	-S Silicone	
	-7				-12			-V Viton	
Example: HFH1H40T-4-SS150-S-H									
HFH	1	H	40	T	-4	-SS	150	-S	-H

HIGH FLOW HOUSING PRESSURE DROP

For Various Pipe Sizes



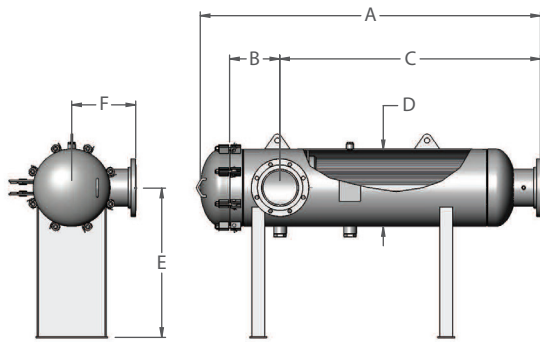
HFH DIMENSIONAL DATA: HORIZONTAL/SWING BOLT

Model	Rated Flow Capacity ¹ GPM (LPM)	No. 10" Elements	Filter Lengths	Dim. "A" inches (cm)	Dim. "B" inches (cm)	Dim. "C" inches (cm)	Dim. "D" ² inches (cm)	Dim. "E" ² inches (cm)	Dim. "F" ² inches (cm)	Max. Flange	Drain	Vent	Gauge
HFH 3H-40	1050 (3975)	3	40	79 ¾" (203)	11 ¾" (30)	61 ⅞" (155)	18" (46)	44" (112)	15" (38)	8"	2" NPT	1" NPT	¼" NPT
HFH 4H-40	1400 (5300)	4	40	80 ¼" (204)	11 ¾" (30)	61 ⅞" (155)	20" (51)	46" (117)	16" (41)	8"	2" NPT	1" NPT	¼" NPT
HFH 7H-40	2450 (9275)	7	40	91 ⅞" (233)	15 ½" (39)	68" (173)	24" (61)	48" (122)	18" (46)	12"	2" NPT	1" NPT	¼" NPT
HFH 1H-60	500 (1893)	1	60	85" (216)	8" (20)	73" (185)	8 ⅝" (22)	40" (102)	9" (23)	4"	2" NPT	1" NPT	¼" NPT
HFH 3H-60	1500 (5680)	3	60	99 ¾" (253)	11 ¾" (30)	81 ⅞" (206)	18" (46)	44" (112)	15" (38)	8"	2" NPT	1" NPT	¼" NPT
HFH 4H-60	2000 (7570)	4	60	100 ¼" (255)	11 ¾" (30)	81 ⅞" (206)	20" (51)	46" (117)	16" (41)	8"	2" NPT	1" NPT	¼" NPT
HFH 7H-60	3500 (13248)	7	60	111 ⅞" (284)	15 ½" (39)	88" (224)	24" (61)	48" (122)	18" (46)	12"	2" NPT	1" NPT	¼" NPT

1. Dimensions are based on the maximum connection sizes. 2. Dimensions include support legs. 3. Dim. "A" will increase by approx. 3" for SS swing bolt housings.

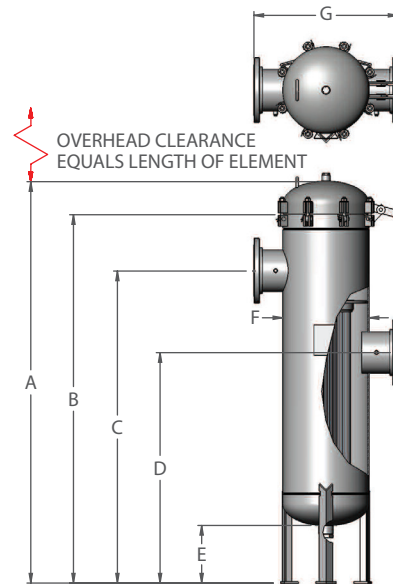
HFH DIMENSIONAL DRAWING

Horizontal Swing Bolt Design



HFH DIMENSIONAL DRAWING

Vertical Swing Bolt Design



HFH DIMENSIONAL DATA: VERTICAL/SWING BOLT

Model	Rated Flow Capacity ¹ GPM (LPM)	No. 10" Elements	Filter Lengths	Dim. "A" in (cm)	Dim. "B" in (cm)	Dim. "C" in (cm)	Dim. "D" ² in (cm)	Dim. "E" ² in (cm)	Dim. "F" ² in (cm)	Dim. "G" ² in (cm)	Max. Flange	Drain	Vent	Gauge
HFH 1V-20	175 (662)	1	20	51 ⅞" (132)	48" (122)	40" (102)	28" (71)	12" (30)	8 ⅝" (22)	18" (46)	4"	2" NPT	1" NPT	¼" NPT
HFH 3V-20	525 (1986)	3	20	63 ⅞" (162)	56 ¾" (144)	45" (114)	28" (71)	12" (30)	18" (46)	30" (76)	8"	2" NPT	1" NPT	¼" NPT
HFH 1V-40	350 (1325)	1	40	71 ⅞" (183)	68" (173)	60" (152)	48" (122)	12" (30)	8 ⅝" (22)	18" (46)	4"	2" NPT	1" NPT	¼" NPT
HFH 3V-40	1050 (3975)	3	40	83 ⅞" (212)	76 ¾" (195)	65" (165)	48" (122)	12" (30)	18" (46)	30" (76)	8"	2" NPT	1" NPT	¼" NPT
HFH 4V-40	1400 (5300)	4	40	84 ⅞" (214)	76 ¾" (195)	65" (165)	48" (122)	12" (30)	20" (51)	32" (81)	8"	2" NPT	1" NPT	¼" NPT
HFH 7V-40	2450 (9275)	7	40	95 ⅞" (244)	87 ½" (222)	72" (183)	52" (132)	12" (30)	24" (61)	36" (91)	12"	2" NPT	1" NPT	¼" NPT

1. Dimensions are based on the maximum connection sizes. 2. Dimensions include support legs. 3. Dim. "A" will increase by approx. 3" for SS swing bolt housings.

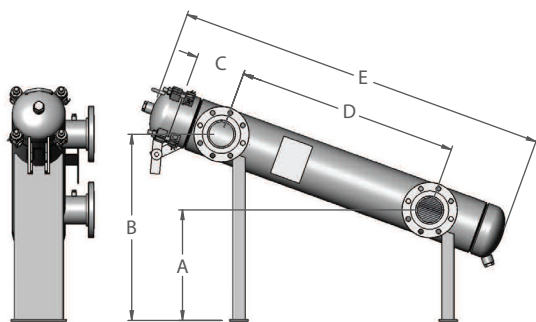
HFH DIMENSIONAL DATA: HORIZONTAL TIPPED (SIDE IN/SIDE OUT, SWING BOLT)

Model	Rated Flow Capacity GPM (LPM)	No. 10" Elements	Filter Lengths	Dim. "A" inches (cm)	Dim. "B" inches (cm)	Dim. "C" inches (cm)	Dim. "D" inches (cm)	Dim. "E" ¹ inches (cm)	Max. Flange	Drain	Vent	Gauge
HFH 1HT-20	175 (662)	1	20	18" (46)	23 ½" (60)	8" (20)	16" (41)	40 ½" (103)	4"	1" NPT	1" NPT	¼" NPT
HFH 1HT-40	350 (1325)	1	40	18" (46)	30 ⅝" (77)	8" (20)	36" (91)	60 ½" (154)	4"	1" NPT	1" NPT	¼" NPT
HFH 1HT-60	525 (1986)	1	60	18" (46)	37 ⅞" (94)	8" (20)	56" (142)	80 ½" (204)	4"	1" NPT	1" NPT	¼" NPT

¹Dim. "E" will increase by approx. 3" for SS swing

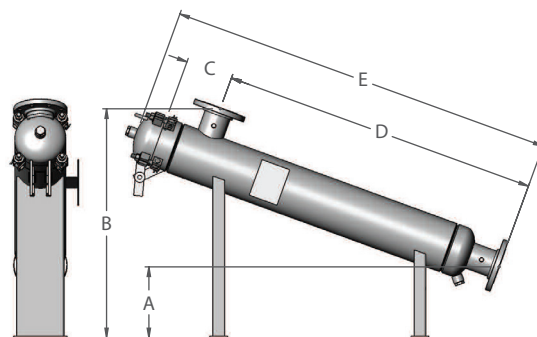
HFH DIMENSIONAL DRAWING

1-Around Tilted Horizontal Side in/Side out Swing Bolt Design



HFH DIMENSIONAL DRAWING

1-Around Tilted Horizontal Side in/Bottom out Swing Bolt Design



HFH DIMENSIONAL DATA: HORIZONTAL TIPPED (SIDE IN/BOTTOM OUT, SWING BOLT)

Model	Rated Flow Capacity GPM (LPM)	No. 10" Elements	Filter Lengths	Dim. "A" inches (cm)	Dim. "B" inches (cm)	Dim. "C" inches (cm)	Dim. "D" inches (cm)	Dim. "E" ¹ inches (cm)	Max. Flange	Drain	Vent	Gauge
HFH 1HT-20	175 (662)	1	20	12" (30)	31 ⅝" (81)	8" (20)	33 ½" (85)	45 ⅜" (115)	4"	1" NPT	1" NPT	¼" NPT
HFH 1HT-40	350 (1325)	1	40	12" (30)	38 ¾" (98)	8" (20)	53 ½" (136)	65 ⅜" (166)	4"	1" NPT	1" NPT	¼" NPT
HFH 1HT-60	525 (1986)	1	60	12" (30)	45 ⅝" (116)	8" (20)	73 ½" (187)	85 ⅜" (217)	4"	1" NPT	1" NPT	¼" NPT

¹Dim. "E" will increase by approx. 3" for SS swing bolt housings.

FOR MORE INFORMATION

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