

HARMSCO® UP-FLOW FILTERS

Up-Flow -

A design so superior it's patented!

Harmsco® Up-Flow Cartridge Filters outperform conventional filter designs!

Venting valves are not necessary and filtration efficiency is improved.

Fail safe wing nuts

Wing nuts are used so no tools are required. Finger tight is generally sufficient. Hex nuts are recommended with 75 inch lbs. of torque above 100 psi.



HIF 7

HIF 24

HIF 200FL

Features:

- Rugged 304 stainless steel construction (316 optional)
- Electro-polished for increased resistance to corrosion
- Extensive choice of cartridge micron ratings and media including carbon
- Flow rates to 800 GPM
- Pressure rated to 150 psi and hydrostatically tested
- Individual studs for safe, secure lid closure
- Easy cartridge installation, removal and service
- Optional high temperature ratings
- Chemical resistant coating optional

Specifications:

Filter vessel & metal components
Holding rods, lifting rods & standpipes
Pipe caps
Rim gaskets
O-Rings
Bottom seals
Wing nuts
Temperature

Pressure
Flow

304 stainless steel, electropolished for increased resistance to corrosion.
CPVC, standard models; 304 stainless steel, All-Stainless models
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EPDM, standard. Buna-N and Viton available.
Buna-N, standard. EPDM and Viton available.
Natural gum rubber, standard. EPDM and Buna-N available.
Brass. (Brass hex nuts and stainless steel flat washers available.)
Rated to 140° F (60° C) with CPVC rods, pipe caps, standpipes and standard Harmsco cartridges.
To 200° F (93° C) for all stainless models with stainless steel rods, pipe caps and standpipes and Harmsco High-Temp cartridges. Temperature limits vary and depend on pressure and time under load.
Rated for pressures to 150 psi (10 bar) maximum.
Up to 800 GPM (Typical flow rates are 4-6 GPM per single length (9-3/4") Harmsco cartridge.
Published data is for guidelines only. Please consult pressure drop charts.)



Harmsco® Filtration Products

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Harmsco® Up-Flow Filters

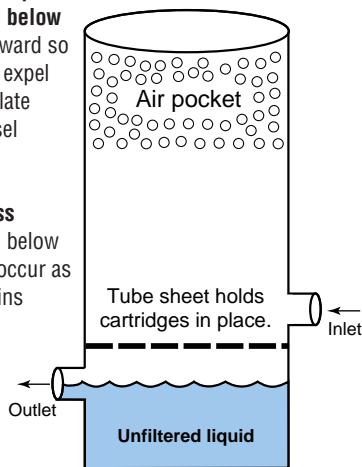


Filter Model	HIF 7	HIF 14	HIF 16	HIF 21	HIF 24	HIF 42	HIF 75	HIF 100	HIF 150FL	HIF 200FL
Flow rate(U.S. GPM)	Up to 30	Up to 60	Up to 75	Up to 90	Up to 100	Up to 175	Up to 300	Up to 400	Up to 600	Up to 800
Flow rate (LPM)	Up to 113	Up to 226	Up to 284	Up to 340	Up to 397	Up to 662	Up to 1,135	Up to 1,514	Up to 2,271	Up to 3,028
Flow rate (M3HR)	Up to 7	Up to 14	Up to 16	Up to 21	Up to 24	Up to 42	Up to 75	Up to 100	Up to 150	Up to 200
Cartridges	7RD 9-3/4 7 Singles	7RD 19-1/2 7 Doubles	8RD 19-1/2 8 Doubles	7RD 29-1/4 7 Triples	8RD 29-1/4 8 Triples	14RD 29-1/4 14 Triples	25RD 29-1/4 25 Triples	50RD 19-1/2 50 Doubles	50RD 29-1/4 50 Triples	100RD 19-1/2 100 Doubles

Typical Competitive Multi-Cartridge Filters

Potential for air entrapment.

With outlets located **below** inlets, air travels upward so vents are needed to expel air that can accumulate within the filter vessel during operation.



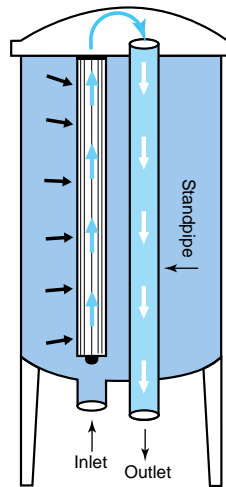
Potential for by-pass

With outlets located below inlets, by-pass can occur as unfiltered liquid drains downward to the sump while the cartridges are removed. This may result in by-pass when the filter is put back into service.

Harmsco® HIF Up-Flow Filters

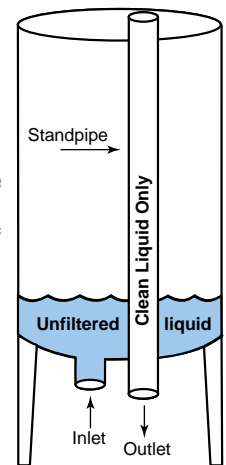
No air entrapment

Air is self purged from Harmasco® Up-Flow filters because outlets (top of standpipes) are at the high point of the filters.



No by-pass during service

No liquid can by-pass Harmasco® filters during servicing because outlet standpipes are always on the "clean side" of the filter.



Harmsco® All Stainless Filter Housing

Filters come with stainless steel holding rods, bottom plate and standpipes for high temperatures 200°F, (93°C) and aggressive chemicals. O-rings are Buna-N; rim gaskets are EPDM; other options, including viton available.

Note:

Optional 222 by flat end configuration accepts seven cartridges and is available for HIF 7SS through HIF 24SS.



Model	A	B	C	D	Service Ht. Clear	Inlet/Outlet	Drain
HIF 7	19-1/2"	13"	13"	3-1/2"	35"	1-1/2" NPT	1" NPT
HIF 14	28"	13"	13"	3-1/2"	48"	1-1/2" NPT	1" NPT
HIF 16	28"	13"	13"	4"	48"	2" NPT	1" NPT
HIF 21	37"	13"	13"	3-1/2"	68"	1-1/2" NPT	1" NPT
HIF 24	37"	13"	13"	4"	68"	2" NPT	1" NPT
HIF 42	40"	18"	18"	5-3/8"	68"	2" NPT	1" NPT
HIF 75	42"	20"	20"	6-3/8"	70"	3" NPT	1-1/2" NPT
HIF 100	52"	20"	20"	5-7/8"	87"	3" NPT	1-1/2" NPT
HIF 150FL	48"	28"	28"	5-3/16"	76"	4" flange	1-1/2" NPT
HIF 200FL	58"	28"	28"	5-3/16"	93"	4" flange	1-1/2" NPT

** To center of flange fittings



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