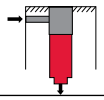
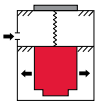
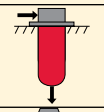
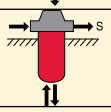
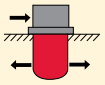
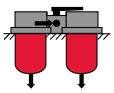
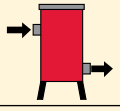
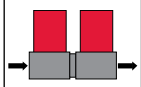
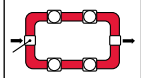
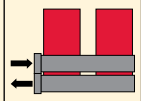
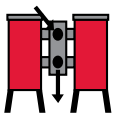
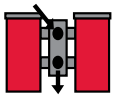
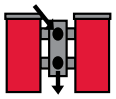
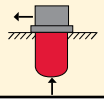
Low Pressure Filters

Filter Type	Maximum Pressure psi (bar)	Maximum Flow gpm (l/min)	Port Size Range (in)	Flow Path	Indicator D = Diff. S = Static	Filter Model Page	Features
Inside Tank	145 (10)	43 (165)	2 (outlet)		S	RFM...S*** page H2	Unique design places entire filter inside of the reservoir tank. Consult Factory.
	145 (10)	132 (500)	1.26 (outlet)		S	RFM...Set*** page H2	Unique design places entire filter inside of the reservoir tank plenum. Consult Factory. Ideal for low tank top clearances and multiple inlets to reservoir.
	145 (10)	317 (1200)	shroud		S	RKT*** page H12	Optimized system size and performance through air separation technology and versatile return flow options.
	145 (10)	317 (1200)	shroud		S	RKB*** page H24	Optimized system size and performance in large return flow applications, through air separation technology and versatile return flow options.
In-Tank	360 (25)	343 (1300)	1/2 - 4		S D-size 660 & up with DE option	RF page D2	HYDAC standard in-tank/in-line filters. Threaded or flanged outlets and one piece casting enable in-line use. Robust design.
	360 (25)	450 (1700)	4		S (in-tank; 1.x) D (in-line; 2.x)	NF** page D72	Configurable for in-tank or in-line applications. Low weight, water tolerant aluminum alloy-high flow capability.
	145 (10)	300 (1100)	3/4 - 2 1/2		S	RFM page D20	In-tank low cost high performance mobile filters – Sizes 75, 90, 150, 165, & 185 have a built-in breather option. All sizes allow oil filling through element.
	100 (7)	26 (100)	1" hose barb			RFMP*** page H8	In-tank return filter made of polyamide-housing and plastic lid-low cost.
	100 (7)	100 (378)	1 1/2		S	HF4R page D36	Meets HF4 automotive specs and uses industry standard-size HF4 spec elements. Threaded outlet permits in-line use.
	145 (10)	211 (800)	3/4 - 2 1/2		S & Vac.	RKM page D40	Single filter functions as return line and charge pump filter in single housing. *(up to two charge pumps)*
	145 (10)	634 (2400)	1 1/2 - 4 (inlet)		S	RFT*** page H30	Top-tank filtration with air separation technology, designed for small and large return flow applications.
	145 (10)	158 (600)	1 3/8 (inlet)		S	RFB*** page H46	Optimized system size and performance through air separation technology and versatile return flow options.
In-Tank Duplex	360 (25)	343 (1300)	3/4 - 4		S	RFD page D12	For return lines in continuously operating systems; tank mounting or in-line due to one piece casting.
	360 (25)	450 (1700)	4		S (1.x) D (2.x)	NFD page D86	For return lines in continuously operating systems; tank mounting (1.x) and in-line (2.x).
In-Line	360 (25)	350 (1325)	3, 4		D	RFL Cast page D145	Back Mount single filter with metric threads.
	145 / 232 (10 / 16)	3963 (15000)	2 - 12		D	RFL Welded page D155	Floor mounted. Holds up to ten 2600 high capacity elements. ASME and CRN versions available. For High flow applications.
	360 (25)	105 (400)	1 1/4		D	FLN (DIN) page D64	HYDAC standard DIN low pressure filter. Low weight, water-tolerant aluminum alloy.
	500 (34.5)	450 (1700)	4		D	NFH (modular) page D94	Filters can be manifolded for high viscosity applications. Housings designed for high flow up to 450 gpm, and/or high viscosity fluid *(e.g. in lube systems)*.

**For a Set version of this filter, refer to Set Series section of the catalog. ***Special Order Filter. Refer to catalog information for details.

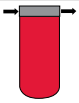
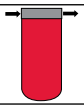
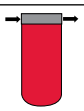
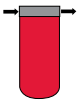
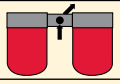
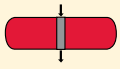
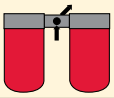
Low Pressure *(cont.)*

Filter Type	Maximum Pressure psi (bar)	Maximum Flow gpm (l/min)	Port Size Range (in)	Flow Path	Indicator D = Diff. S = Static	Filter Model Page	Features
In-Line Staged	360 (25)	300 (1136)	2 - 4		D	NF...UHE page D110	Ultra-high efficiency staged filter combinations to increase separation efficiencies far above levels achieved by single elements, for cleaning fluids and transferring.
	360 (25)	300 (1136)	4		D	NFD...UHE page D125	Ultra-high efficiency staged filter combinations to increase separation efficiencies far above levels achieved by single elements, for cleaning fluids and transferring.
In-Line Modular Manifold-Parallel	360 (25)	1350 (5110)	4		D	NF MMP page D133	In-line manifolded modular parallel filter assemblies for high flow and high viscosity applications particularly in primary metals and pulp and paper applications. Fully isolatable in maintenance mode-element changeout.
In-Line Duplex	(360 / 580) (25 / 40)	343 (1300)	1 - 4		D	RFLD Cast page D149	Back mounted duplex filter with metric threads. Ball valve changeover.
	145 / 232 (10 / 16)	3900 (14,763)	2 - 8		D	RFLD Welded page D165	Floor mounted. Holds up to ten 2600 high capacity elements per side. ASME and CRN versions available. For high flow applications. Large ball valve changeovers available.
	145 (10)	793 (3000)	2 - 6		D	RFLDH Welded*** page H54	Floor mounted. Holds up to 5 high cap. elements/side. ASME standard; Ball valve changeover. Carbon & stainless steel.
	232 (16)	634 (2400)	1 - 6		D	AFLD (API)*** page H64	In-line duplex filter series which are API 614 compliant. These filters are available with CRN, AS1210 and GOST certifications. Material certificate is standard.
	360 (25)	105 (400)	1 1/4 - 1 1/2		D	FLND (DIN) page D68	Integrated equalization valve with transfer valve. Light weight. CRN available. Water tolerant aluminum alloy.
	500 (34.5)	450 (1700)	4		D	NFHD (modular) page D102	Filters can be manifolded for high flow/ viscosity applications in continuously operating systems.
In-Tank Suction	360 (25)	200 (757)	3/4 - 4		Mechanical Bypass In Element	SF*** page H74	Mounts in-tank. Modified vacuum gauge indicators are available.

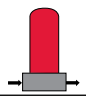
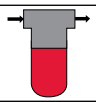
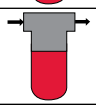
**For a Set version of this filter, refer to Set Series section of the catalog. ***Special Order Filter. Refer to catalog information for details.

QUICK REFERENCE

Spin-on Filters

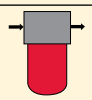
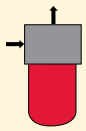
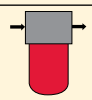
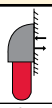
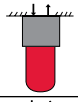
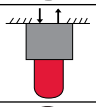
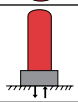
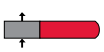
Filter Type	Maximum Pressure psi (bar)	Maximum Flow gpm (l/min)	Port Size Range (in)	Flow Path	Indicator D = Diff. S = Static	Filter Model Page	Features
Spin-On Single Element *(available in BSPP ports)*	120 (8.3)	7 (26.5)	3/8		N/A	MF 40 page D54	Standard length element. Not available with 3 µm Betamicron elements.
	120 (8.3)	15 (57)	3/4 - 1		S	MF 80 page D54	Standard length element. Not available with 3 µm Betamicron elements.
	120 (8.3)	25 (95)	3/4 - 1		S	MF 85 page D54	Extended length element. Same head as size 80. 10 µm paper elements only. 25 psid bypass standard.
	120 (8.3)	30 (113)	1 1/4 - 1 1/2		S	MF 160 page D54	Standard length element.
	120 (8.3)	60 (227)	1 1/4 - 1 1/2		S	MF 180 page D54	Extended length element. Same head as size 160.
	120 (8.3)	30 (113)	1 1/4 - 1 1/2		D	MF 190 page D54	Standard length element. ΔP Sensing Indicators for applications where tank not vented to atmosphere.
	120 (8.3)	60 (227)	1 1/4 - 1 1/2		D	MF 195 page D54	Extended length element. Same head as size 190. ΔP Sensing Indicators for applications where tank not vented to atmosphere.
	250 (17)	15 (57)	3/4 - 1		D	MF 90 page D54	Standard length element. 250 psi rating minimizes leakage in case of flow surges. ΔP sensing indicators. Not available in 3 µm or 25 µm paper elements.
	250 (17)	25 (95)	3/4 - 1		D	MF 95 page D54	Extended length element. 250 psi rating minimizes leakage in case of flow surges. Same head as size 90. ΔP sensing indicators. 20 µm Betamicron or 25 µm paper elements not available.
Spin-On Dual Elements	120 (8.3)	60 (227)	1 1/2		S	MFD 160 page D54	Parallel flow through two standard length elements mounted end to end.
	120 (8.3)	60 (227)	1 1/2 - 2		S	MFDS 160 page D54	Parallel flow through two standard length elements mounted side by side.
	120 (8.3)	120 (454)	1 1/2		S	MFD 180 page D54	Parallel flow through two extended length elements mounted end to end. Same head as MFD 160.
	120 (8.3)	120 (454)	1 1/2 - 2		S	MFDS 180 page D54	Parallel flow through two extended length elements mounted side by side. Same head as MFDS 160.

Medium Pressure Filters

Filter Type	Maximum Pressure psi (bar)	Maximum Flow gpm (l/min)	Port Size Range (in)	Flow Path	Indicator D = Diff. S = Static	Filter Model Page	Features
In-Line	750 (52)	90 (341)	1 1/2		D	HF4RL page E2	In -line top loaded simplex filter which meets HF4 automotive, specification requirements and performance.
	725 (50)	74 (280)	1/2 - 1 1/4		D	LPF** page E6	Multiple uses: pressure lines, returns, off-line loops, and lube lines. Aluminum for low weight and water tolerance.
	1450 (100)	174 (660)	1/2 - 1 1/2		D	LF** page E12	HYDAC standard filter. Aluminum for low weight and water tolerance.
	500 (34)	112 (425)	1 1/2		D	LPFH** page E16	Cost effective, high performance alternative to spin-on filters with integrated retrofit protection.
	725 (50)	35 (130)	3/4 - 1		D	MFX** page E20	ECO-friendly, cost effective high performance alternative to spin-on filters.

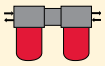
**For a Set version of this filter, refer to Set Series section of the catalog. ***Special Order Filter. Refer to catalog information for details.

High Pressure Filters

Filter Type	Maximum Pressure psi (bar)	Maximum Flow gpm (l/min)	Port Size Range (in)	Flow Path	Indicator D = Diff. S = Static	Filter Model Page	Features
In-Line	6090 (420)	200 (757)	1/2 - 2		D	DF** page F2	HYDAC standard high pressure filter. Wide choice of models and elements, and optional features.
	6090* / 4060 (420/ 280)	250 (946)	2		D	DF/DFF 1500 page F10	HYDAC high pressure filter, available in bi-directional and single-flow configurations.
	6090 (420)	160 (606)	2		D	DFFX*** page H80	In-line high flow ΔP optimized forward and reverse flow high pressure filter. High Flow and low differential pressure are prominent features.
	4060 (280)	100 (378.5)	1 - 1 1/2		D	HDF/HDFF*** page H88	In-line forward and reverse flow capable "L" ported, high pressure filter which utilizes competitive "9600" geometry filter elements. Available with and without bypass valves. Low and high collapse elements available.
	4000 (276)	25 (95)	3/4		D	HF2P page F18	Meets HF2 automotive specifications and uses industry standard-size elements. In-line configuration.
	6090 (420)	120 (454)	1 - 2		D	HF3P page F24	Meets HF3 automotive specifications and uses industry standard-size elements. In-line configuration.
	5000 (345)	120 (454)	1 1/2		D	HF4P page F28	Meets HF4 automotive specifications and uses industry standard-size elements. Top loading in-line configuration.
	4060 (280)	25 (95)	3/4		D	MFM** page F34	Low cost in-line high pressure filter *(efficient design and construction).*
	5800 (400)	37 (140)	1		D	HFM page F40	In-line high pressure filter.
Manifold Mount	4568 (315)	110 (416.4)	0.551 - 1.181		D	DF...QE page F64	Side mount to manifold; upper inlet, lower outlet. Size (30-280). Lower inlet, upper outlet sizes ≥ 330.
	4568 (315)	125 (473)	0.689 - 1.181		D	DFP page F70	HYDAC standard manifold filter. Ports at top.
	4000 (276)	25 (95)	0.689		D	HF2-P page F18	Meets HF2 automotive specifications and uses industry standard-size elements. Manifold configuration.
	5000 (345)	120 (454)	1.25		D	HF4-P page F28	Meets HF4 automotive specifications and uses industry standard-size elements. Manifold configuration.
Manifold Cartridge	3000 (207)	25 (95)	(1) SAE-16, (1 1/4) SAE-20		NA	CF page F82	Disposable, high pressure manifold cartridge filter. Low weight, water-tolerant aluminum alloy.
	3000 (207)	12 (45)	(1) SAE-16		NA	CP-C16 page F86	Circuit protector, high pressure manifold cartridge filter. Back-up protection for upstream pressure filters. Fits into standard C16-2 manifold port.
	6090 (420)	30 (113)	(5/8) SAE-10, (1) SAE-16, (1 1/2) SAE-24		NA	CP-SAE page F90	Circuit protector, high pressure manifold cartridge filter. Back-up protection for upstream pressure filters. Fits into standard SAE o-ring port.
Modular Stacking In-line	4568 (315)	10 (38)	D03/D05 Patterns (0.25 / 0.44)		D	DFZ page F76	Cartridge valve sandwich mount. Bowl on right side (standard) or left (optional).

*Good to 300,000 cycles. **For a Set version of this filter, refer to Set Series section of the catalog. ***Special Order Filter. Refer to catalog information for details.

High Pressure *(cont.)*

Filter Type	Maximum Pressure psi (bar)	Maximum Flow gpm (l/min)	Port Size Range (in)	Flow Path	Indicator D = Diff. S = Static	Filter Model Page	Features
Duplex	3045 (210)	106 (400)	1 1/4 - 1 1/2		D	FMND page F44	HYDAC standard DIN duplex high pressure filter. Right to left flow option available.
	4568 (315)	90 (340)	3/4 - 2		D	DFDK page F48	HYDAC standard industrial duplex for continuously operating systems.
	4568 (315)	90 (340)	2		D	HFDK4P*** page H92	Meets automotive specifications and uses HF4 standard-size elements. Top loading duplex configuration.
	4568 (315)	90 (340)	2		D	HFDK3P*** page H96	Specifically designed for the Pulp and Paper market.
In-line Reverse Flow	6090 (420)	100 (378.5)	1 1/4 - 2		D	DFFH page F56	Filters in one direction;bypasses in reverse. Common use: hydrostatic circuit.
In-line Bi-Directional Flow	6090 (420)	100 (378.5)	1 1/4 - 2 Flange Only		D	DFFHM page F64	Filters in both directions (bi-directional filtration and flow). Common use: hydrostatic circuit. See DFFH/DFFHM filter brochure.

**For a Set version of this filter, refer to Set Series section of the catalog. ***Special Order Filter. Refer to catalog information for details.

Betterfit® Elements

Description	Types of Elements
HYDAC supplies a wide range of elements that are dimensionally interchangeable with elements of other manufacturers. Elements are of the same media and quality construction as HYDAC proprietary elements. A list of available interchanges can be found under “Betterfit Element Selector” at www.hydac-na.com.	• High efficiency depth filtration, pressure and return • Surface filtration (wire mesh or paper) nominal, low pressure • Tank air-breather filters • Suction Strainers