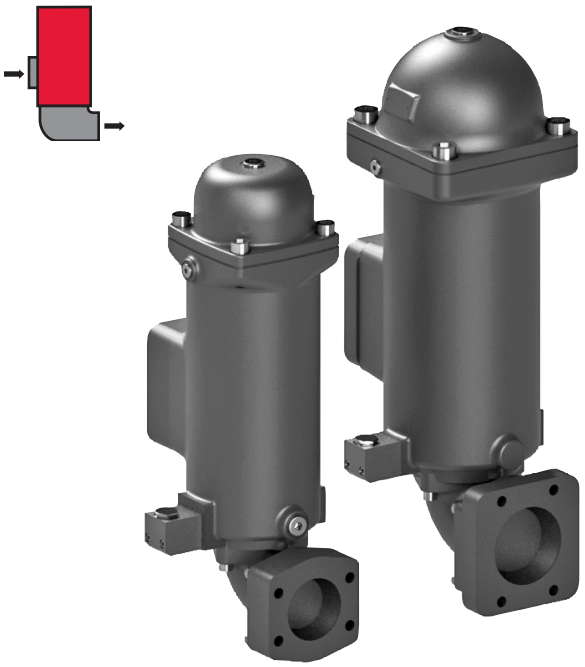
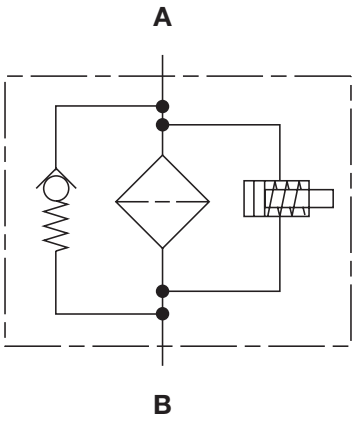
RFL Cast Series

Inline Filters

360 psi • up to 350 gpm



Hydraulic Symbol



Features

- Models 851 and 1301 are made of ductile cast iron and consist of a two part filter housing with bolt-on cast iron lid. The two part construction makes it possible to arrange the inlet and outlet either one above the other on one side or, by turning the base part 180°, on opposite sides of the housing.
- Inlet/outlet ports for models 851 and 1301 comply with SAE 4-bolt flange Code 61 configuration.
- Clogging indicators have no external dynamic seal. High reliability is achieved and magnetic actuation eliminates a leak point.

Note: This filter is configured with an …..R…. type (return/low pressure) element, so if the filter requires a bypass, the bypass is located in the closed end cap of the cartridge element.

Technical Specifications

Mounting Method	Support by means of pipe clamps
Port Connection	
851	3” SAE DN 76 Code 61 Flange
1301	4” SAE DN 102 Code 61 Flange
Flow Direction	Inlet: Side Outlet: Side
Construction Materials	
Head, Lid, Elbow	Ductile iron
Flow Capacity	
851	225 gpm (850 lpm)
1301	343 gpm (1300 lpm)
Housing Pressure Rating	
Max. Allowable Working Pressure	360 psi (25 bar)
Fatigue Pressure	360 psi (25 bar)
Burst Pressure	> 1440 psi (100 bar)
Element Collapse Pressure Rating	
SN, W/HC	290 psid (20 bar)
BN4AM, ECON2, AM, P/HC	145 psid (10 bar)
Fluid Temperature Range	14°F to 212°F (-10°C to 100°C)
Consult HYDAC for applications below 14˚F (-10˚C)	
Fluid Compatibility	
Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected.	
Indicator Trip Pressure	
ΔP = 29 psid (2 bar) -10%	
ΔP = 72 psid (5 bar) -10%	
Bypass Valve Cracking Pressure	
ΔP = 43 psid (3 bar) +10%	
ΔP = 87 psid (6 bar) +10%	

Applications



PN#02081318 / 04.26 / FIL1907-2109

Model Code

RFL SN 851 D P 3 A 1 . X / V

Filter Type
RFL = Inline Filter

Element Media
SN = Sustainmicron
BN/AM = Betamicron®/Aquamicron®
ECON2 = ECOmicron®
W/HC = Wire Mesh
XSX = Stat-X®
AM = Aquamicron®
P/HC = Polyester

Size
851
1301

Operating Pressure
D = 363 psi (25 bar)

Type of Connection
N = SAE DN 76 3"Code 61 *(size 851)*
P = SAE DN 102 4" Code 61 *(size 1301)*
] with metric threads

Filtration Rating *(microns)*
3, 5, 10, 20 = SN
40 = AM
3, 5, 10, 20 = XSX
25, 50, 100, 200 = W/HC
3, 10 = BN4AM
10, 20 = P/HC
3, 5, 10, 20 = ECON2

Type of ΔP Clogging Indicator
A, B, BM, C, D *(Others available upon request, see Clogging Indicators section.)*

Type Code
1

Modification Number *(latest version always supplied)*

Seals
(omit) = Nitrile rubber (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)

Bypass Valve
(omit) = 43 psid (3 bar) *(standard)*
B1 = 14.5 psid (1 bar) *(lube or coolant)*
B6 = 87 psid (6 bar) *(return line extended life)*
KB = no bypass *(flushing systems)*
] not available with ECON2

Supplementary Details
SO263 = Modification of elements for Skydrol or HYJET phosphate ester fluids
L24, L48, L110, L220 = Lamp for D-type clogging indicator *(LXX, XX = voltage)*
cRUus = Electrical Indicator with underwriter's approval
SFREE = Element specially designed to minimize electrostatic charge generation
SO376 = Modification of ON and W/HC elements for HFA, HFB, HFC, and HFD flame retardant liquids

Replacement Element Model Code

0850 R 010 SN / V B6

Size
0850, 1300

Filtration Rating *(micron)*
3, 5, 10, 20 = SN
3, 5, 10, 20 = XSX
3, 5, 10, 20 = ECON2
25, 50, 100, 200 = W/HC
3, 10 = BN4AM
40 = AM
10, 20 = P/HC

Element Media
SN, XSX, BN4AM, ECON2, AM, W/HC, P/HC

Seals
(omit) = Nitrile rubber (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)

Bypass Valve
(omit) = 43 psid (3 bar) *(standard)*
B1 = 14.5 psid (1 bar)
B6 = 87 psid (6 bar)
KB = No Bypass

Supplementary Details
SO263 = *(same as above)*
SFREE = *(same as above)*
SO376 = *(same as above)*

Clogging Indicator Model Code

VM 2 B . X /

Indicator Prefix
VM = G 1/2 3000 psi

Trip Pressure
2 = 29 psid (2 bar)
5 = 72 psid (5 bar)
] *(optional)*

Type of Indicator
A = No indicator, plugged port
B = Pop-up indicator *(auto reset)*
BM = Pop-up indicator *(manual reset)*
C = electric switch - SPDT
D = electric switch & LED light – SPDT

Modification Number

Supplementary Details

Seals
(omit) = Nitrile (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)

Light Voltage *(D type indicators only)*
L24 = 24V L110 = 110V

Thermal Lockout *(VM type C, D, J, J4 only)*
T100 = Lockout below 100°F

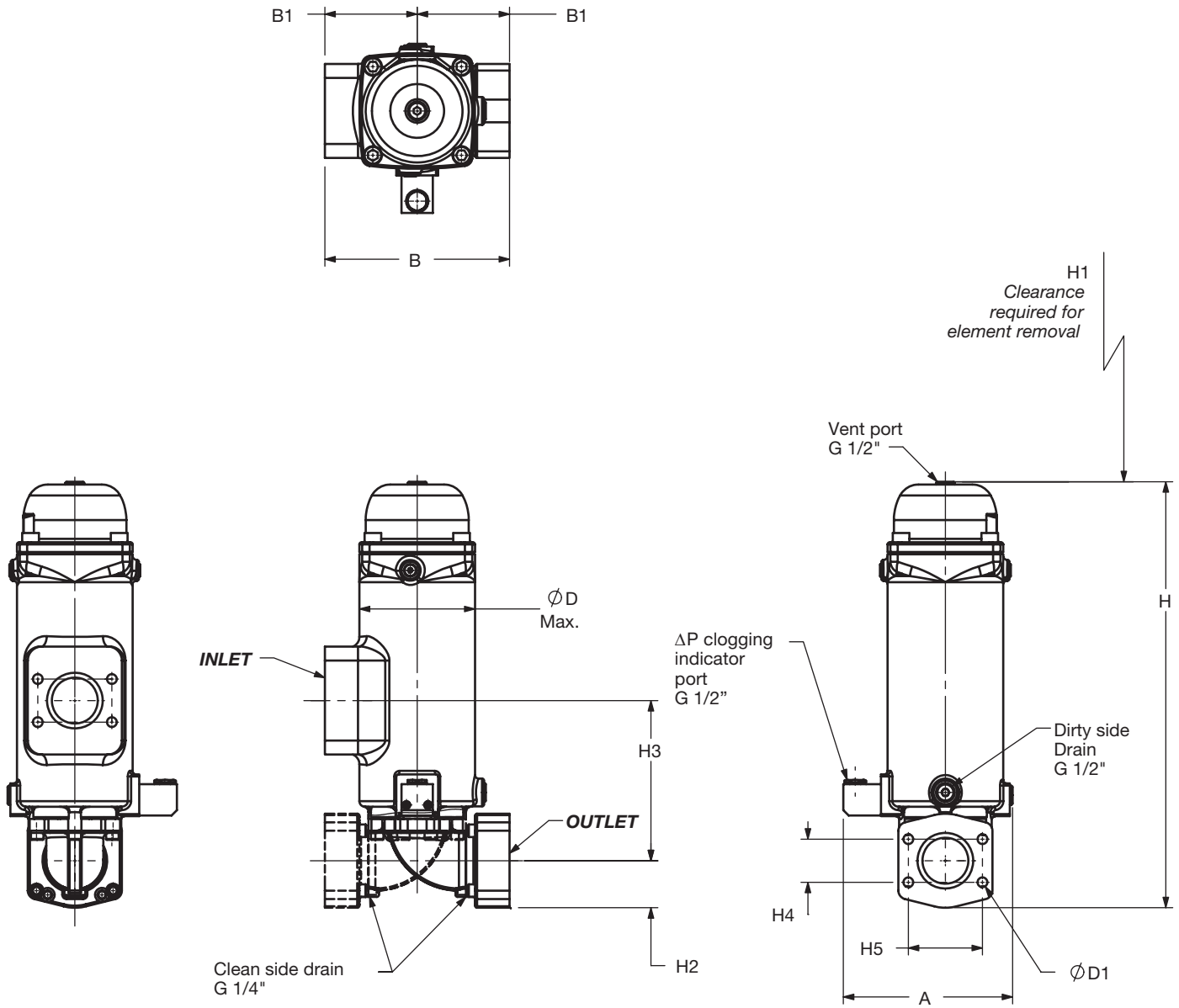
Underwriter's Approval *(VM type C, D, J, J4 only)*
cRUus = Electrical Indicator with underwriter's approval

(For additional details and options, see Clogging Indicators section.)

Model Codes Containing RED are non-stock items — Minimum quantities may apply – Contact HYDAC for information and availability

LOW PRESSURE FILTERS

Dimensions
RFL Cast 851-1301



Size	A	B	B1	H	H1	H2	H3	H4	H5	D	D1	Weight (lbs)
RFL 851	[7.56] 192	[8.78] 266	[5.23] 133	[24.09] 612	[16.54] 420	[2.66] 67.5	[9.05] 230	[2.44] 61.9	[4.19] 106.4	[6.77] 172	M16	84.9
RFL 1301	[8.78] 223	[11.26] 286	[5.63] 143	[27.99] 711	[19.69] 500	[3.05] 77.5	[9.84] 250	[3.06] 77.8	[5.13] 130.2	[8.66] 220	M16	122.4

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include element.
For complete dimensions please contact HYDAC to request a certified print.

Sizing Information

Total pressure loss through the filter is as follows:

Assembly ΔP = Housing ΔP + Element ΔP

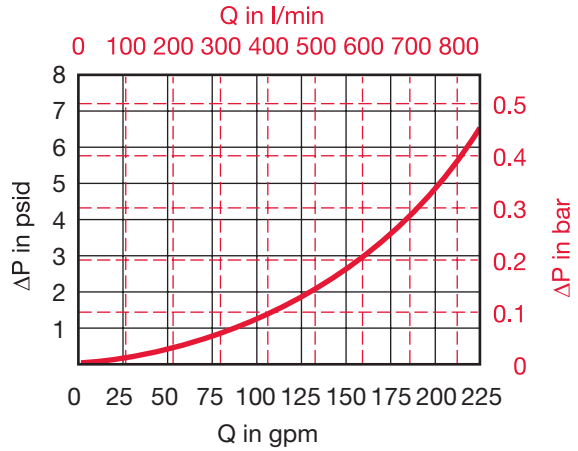
Housing Curve:

Pressure loss through housing is as follows:

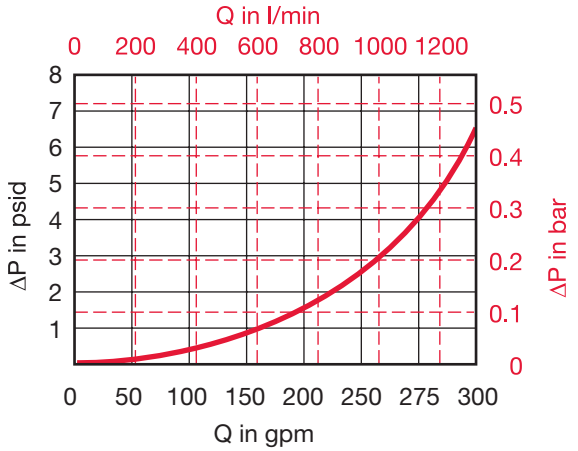
$$\text{Housing } \Delta P = \text{Housing Curve } \Delta P \times \frac{\text{Actual Specific Gravity}}{0.86}$$

Adjustments must be made for viscosity & specific gravity of the fluid to be used! *(see "Sizing HYDAC Filter Assemblies" in Section B - Overview)*

RFL 851 HOUSING



RFL 1301 HOUSING



Element K Factors

$$\Delta P \text{ Elements} = \text{Elements (K) Flow Factor (From Tables Below)} \times \text{Flow Rate (gpm)} \times \frac{\text{Actual Viscosity (SUS)}}{141 \text{ SUS}} \times \frac{\text{Actual Specific Gravity}}{0.86}$$

Sustainmicron	...R...SN Elements			
Size	3 µm	5 µm	10 µm	20 µm
0850 R XXX SN	0.0662	0.0523	0.0279	0.0152
1300 R XXX SN	0.0338	0.0306	0.0169	0.0092

Stat-X	...R...XSX			
Size	3 µm	5 µm	10 µm	20 µm
0850 R XXX XSX	0.072	0.055	0.032	0.02
1300 R XXX XSX	0.04	0.032	0.019	0.012

ECOmicron	...R...ECON2			
Size	3 µm	5 µm	10 µm	20 µm
0850 R XXX ECON2	0.082	0.055	0.038	0.022
1300 R XXX ECON2	0.044	0.033	0.022	0.016

Betamicron/Aquamicron	...R...BN4AM	
Size	3 µm	10 µm
0850 R XXX BN4AM	0.154	0.049
1300 R XXX BN4AM	0.088	0.033

Aquamicron	...R...AM
Size	40 µm
0850 R 040 AM	0.040
1300 R 040 AM	0.026

Wire Screen	...R...W/HC
Size	25, 50, 100, 200 µm
0850 R XXX W/HC	0.003
1300 R XXX W/HC	0.002

Polyester	...R...P/HC	
Size	10 µm	20 µm
0850 R XXX P/HC	0.007	0.003
1300 R XXX P/HC	0.004	0.002

All Element K Factors in psi / gpm.