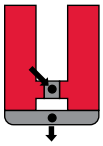
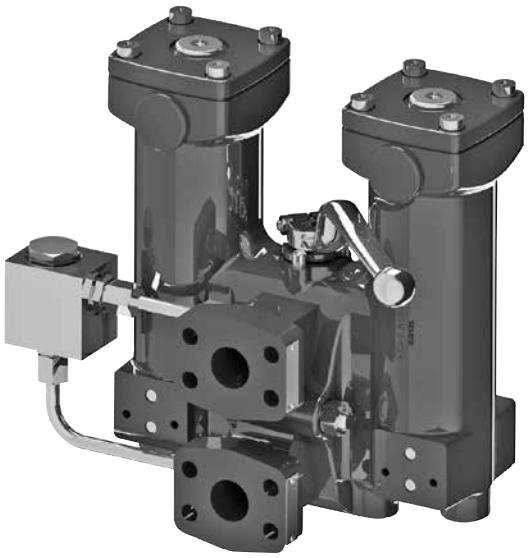
RFLD Cast Series

Inline Duplex Filters

580 psi • up to 340 gpm





Features

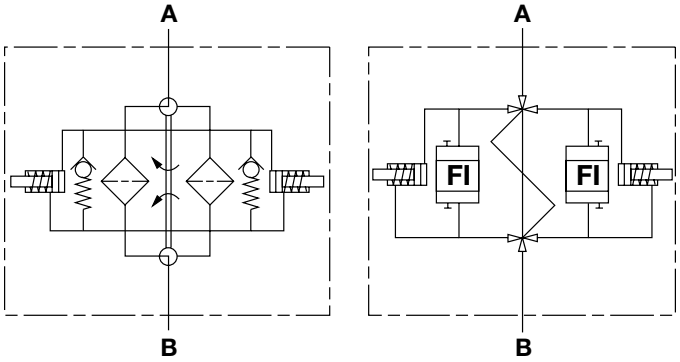
- Inlet and outlet connections are located on the same side of the transfer valve. Inlet on top and the outlet on bottom.
- Transfer valve and pressure equalization line allows easy changeover between filter housings without costly system shutdown. *(standard with 851, 951 & 1301)*
- Clogging indicators 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.

Applications



Hydraulic Symbol



Technical Specifications

Mounting Method	Mounting holes on opposite side from Inlet/Outlet port faces	
Port Connection	Flange ports with metric threads	
111	1” SAE DN 25 Code 61	
241	1 1/2” SAE DN 38 Code 61	
331	1 1/2” SAE DN 38 Code 61, 2” SAE DN 51 Code 61	
501	1 1/2” SAE DN 38 Code 61, 2” SAE DN 51 Code 61	
661	2” SAE DN 51 Code 61, 2 1/2” SAE DN 64 Code 61 3” SAE/DIN DN 76 Code 61	
851	2” SAE DN 51 Code 61, 2 1/2” SAE DN 64 Code 61 3” SAE/DIN DN 76 Code 61	
951 1301	3” SAE/DIN DN 76 Code 61, 4” SAE/DIN DN 102 Code 61 3” SAE/DIN DN 76 Code 61, 4” SAE/DIN DN 102 Code 61	
Flow Direction	Inlet: Front Top	Outlet: Front Bottom
Construction Materials		
Head, Lid, Elbow	Ductile iron	
Flow Capacity		
111	29 gpm (110 lpm)	
241	63 gpm (240 lpm)	
331	87 gpm (330 lpm)	
501	132 gpm (500 lpm)	
661	174 gpm (660 lpm)	
851	225 gpm (850 lpm)	
951	251 gpm (950 lpm)	
1301	343 gpm (1300 lpm)	
Housing Press. Rating	**111 - 241**	**501 - 1301**
Max. Allowable Working Pressure	580 psi (40 bar)	360 psi (25 bar)
Fatigue Pressure	580 psi (40 bar)	360 psi (25 bar)
Burst Pressure	>2320 psi (160 bar)	>1440 psi (100 bar)
Element Collapse Pressure Rating		
SN, W/HC		290 psid (20 bar)
ECON2, BN4AM, AM, P/HC		145 psid (10 bar)
Fluid Temp. 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% *(standard)* ΔP = 72 psid (5 bar) -10%		
Bypass Valve Cracking Pressure		
ΔP = 43 psid (3 bar) +10% *(standard)* ΔP = 87 psid (6 bar) +10%		

Model Code

RFLD SN 1301 D A T 10 D 1 . X / V

Filter Type
RFLD = Duplex Inline Filter

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

Sizes
111, 241, 331, 501, 661, 851, 951, 1301

Operating Pressure
D = 25 bar *(sizes 331, 501, 661, 851, 951, 1301)*
E = 40 bar *(sizes 111, 241)*

Type of Change-over
A = ball type change-over valve

Type of Connection / Connection Sizes
I = 1" SAE DN 25 Code 61 *(size 111 only)*
K = 1 1/2" SAE DN 38 Code 61 *(sizes 241, 331, 501)*
L = 2" SAE DN 51 Code 61 *(sizes 331, 501, 661, 851)*
M = 2 1/2" SAE DN 64 Code 61 *(sizes 661, 851)*
S = 3" SAE/DIN DN 76 Code 61 *(sizes 661, 851, 951, 1301)*
T = 4" SAE/DIN DN 102 Code 61 *(sizes 951, 1301)*

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
DE = Dual Indicator Option *(one indicator per duplex side)*
SB = Pressure equalization line *(sizes 111 - 661; included standard on larger sizes)*
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

0110 R 010 SN / V B6

Size
0110, 0240, 0330, 0500, 0850, 0950, 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 / V

Indicator Prefix
VM = G 1/2 3000 psi

Trip Pressure
2 = 29 psid (2 bar) *(standard)*
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

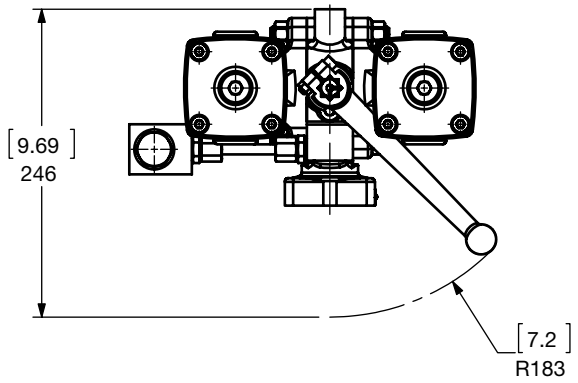
Underwriter's Approval *(VM type C, D, J, J4 only)*
cRUus = Electrical Indicator with underwriter's approval

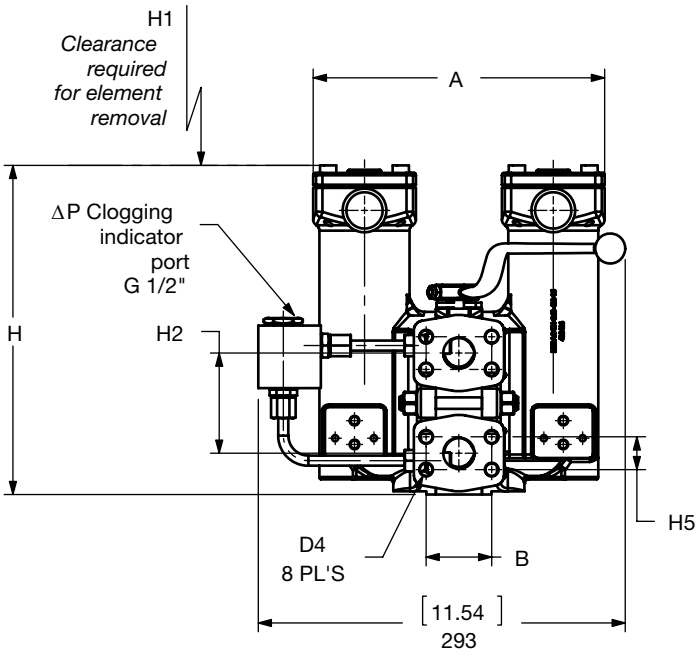
(For additional details and options, see Clogging Indicators section.)

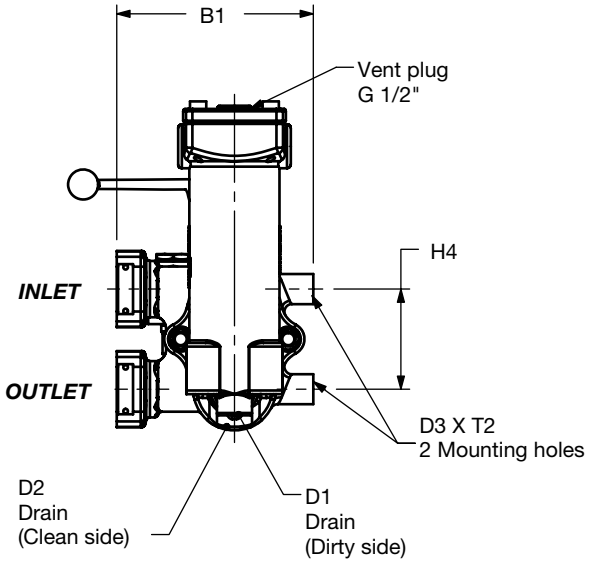
Model Codes Containing RED are non-stock items — Minimum quantities may apply – Contact HYDAC for information and availability

LOW PRESSURE FILTERS

Dimensions
RFLD 111 - 1301







Size	A	B	B1	H	H1	H2	H4	H5	D1	D2	D3	D4	T2	Wt. (lbs)
RFLD 111 EAI (DN 25)	[9.17] 233	[2.06] 52.4	[6.18] 157	[10.35] 263	[6.89] 175	[3.15] 80	[3.15] 80	[1.03] 26.2	G 1/4	G 1/4	M12	M10	[0.98] 25	37.4
RFLD 241 EAK (DN 40)	[11.89] 302	[2.75] 69.8	[6.57] 167	[12.28] 312	[8.27] 210	[3.74] 95	[5.51] 140	[1.41] 35.7	G 1/4	G 1/4	M12	M12	[0.71] 18	59.4
RFLD 331 DAL (DN 50)	[14.96] 380	[3.06] 77.8	[7.36] 187	[12.72] 323	[7.87] 200	[4.33] 110	[6.50] 165	[1.69] 42.9	G 1/2	G 1/4	M12	M12	[0.71] 18	81.4
RFLD 501 DAL (DN 50)	[14.96] 380	[3.06] 77.8	[7.36] 187	[15.75] 400	[11.02] 280	[4.33] 110	[6.50] 165	[1.69] 42.9	G 1/2	G 1/4	M12	M12	[0.71] 18	85.8
RFLD 661 DAM (DN 65)	[19.52] 496	[3.50] 88.9	[9.92] 252	[18.58] 472	[13.39] 340	[4.33] 110	[6.50] 165	[2.00] 50.8	G 1/2	G 1/4	M12	M12	[0.71] 18	162.8
RFLD 851 DAS (DN 80)	[19.52] 496	[4.19] 106.4	[8.74] 222	[25.59] 650	[16.54] 420	[9.06] 230	[9.06] 230	[2.44] 61.9	G 1/2	G 1/4	M12	M16	[0.91] 23	193.6
RFLD 951 DAS (DN 80)	[21.57] 548	[4.19] 106.4	[8.74] 222	[23.43] 595	[14.57] 370	[9.06] 230	[9.06] 230	[2.44] 61.9	G 1/2	G 1/4	M12	M16	[0.91] 23	231
RFLD 1301 DAT (DN 100)	[21.85] 555	[5.13] 130.2	[9.76] 248	[29.37] 746	[19.29] 490	[9.84] 250	[9.84] 250	[3.06] 77.8	G 1/2	G 1/4	M16	M16	[0.91] 23	275

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

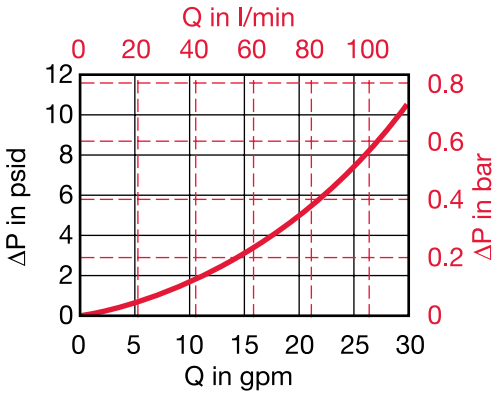
Housing Curve:

Pressure loss through housing is as follows:

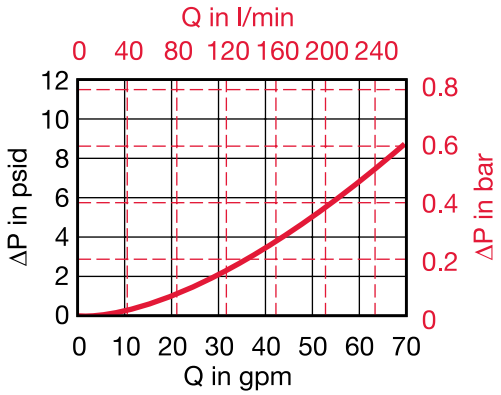
$$\text{Housing } \Delta P = \text{Housing Curve } \Delta P \times \frac{\text{Actual Specific Gravity}}{0.86}$$

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

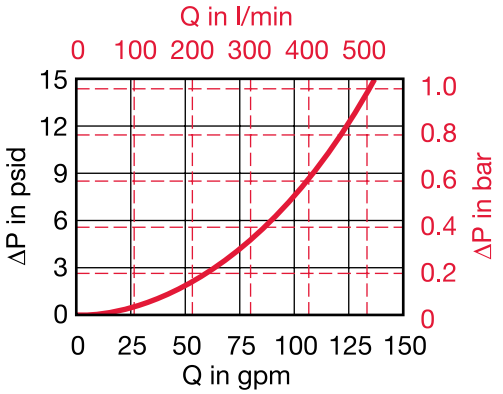
RFLD 111 Housing



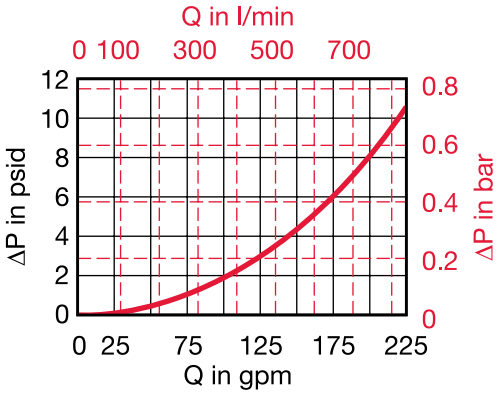
RFLD 241 Housing



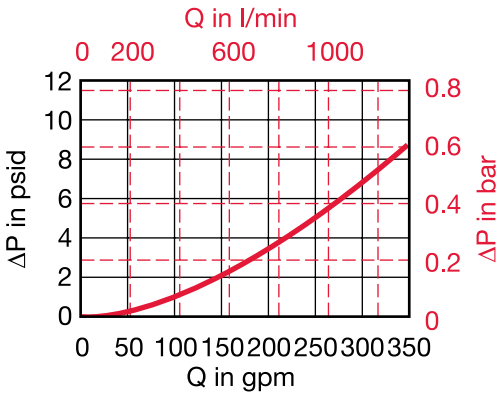
RFLD 331 / 501 Housing



RFLD 661 / 851 Housing



RFLD 951 / 1301 Housing



Required Element Per Housing

Housing Size	Element Size	Elements per Side
111	0110	1
241	0240	1
331	0330	1
501	0500	1
661	0660	1
851	0850	1
951	0950	1
1301	1300	1

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
0110 R XXX SN	0.5446	0.4388	0.2707	0.1457
0240 R XXX SN	0.2248	0.1811	0.1160	0.0648
0330 R XXX SN	0.1771	0.1388	0.0692	0.0455
0500 R XXX SN	0.1158	0.0966	0.0510	0.0297
0660 R XXX SN	0.0852	0.0632	0.0324	0.0196
0850 R XXX SN	0.0662	0.0523	0.0279	0.0152
0950 R XXX SN	0.0482	0.0414	0.0230	0.0129
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
0110 R XXX XSX	0.719	0.487	0.296	0.178
0240 R XXX XSX	0.284	0.201	0.125	0.077
0330 R XXX XSX	0.204	0.15	0.081	0.056
0500 R XXX XSX	0.143	0.104	0.06	0.038
0660 R XXX XSX	0.093	0.066	0.037	0.025
0850 R XXX XSX	0.072	0.055	0.032	0.02
0950 R XXX XSX	0.057	0.043	0.026	0.017
1300 R XXX XSX	0.04	0.032	0.019	0.012

ECOmicron	...R...ECON2			
Size	3 µm	5 µm	10 µm	20 µm
0240 R XXX ECON2	0.340	0.209	0.143	0.099
0330 R XXX ECON2	0.230	0.148	0.093	0.066
0500 R XXX ECON2	0.165	0.104	0.071	0.044
0660 R XXX ECON2	0.104	0.066	0.044	0.027
0850 R XXX ECON2	0.082	0.055	0.038	0.022
0950 R XXX ECON2	0.066	0.044	0.027	0.022
1300 R XXX ECON2	0.044	0.033	0.022	0.016

Betamicron/Aquamicron	...R...BN4AM	
Size	3 µm	10 µm
0330 R XXX BN4AM	0.477	0.165
0500 R XXX BN4AM	0.313	0.11
0660 R XXX BN4AM	0.192	0.066
0850 R XXX BN4AM	0.154	0.049
0950 R XXX BN4AM	0.132	0.044
1300 R XXX BN4AM	0.088	0.033

Aquamicron	...R...AM
Size	40 µm
0330 R 040 AM	0.115
0500 R 040 AM	0.076
0660 R 040 AM	0.051
0850 R 040 AM	0.040
0950 R 040 AM	0.036
1300 R 040 AM	0.026

All Element K Factors in psi / gpm.

Wire Screen	...R...W/HC
Size	25, 50, 100, 200 µm
0110 R XXX W/HC	0.016
0240 R XXX W/HC	0.007
0330 R XXX W/HC	0.011
0500 R XXX W/HC	0.007
0660 R XXX W/HC	0.004
0850 R XXX W/HC	0.003
0950 R XXX W/HC	0.003
1300 R XXX W/HC	0.002

Polyester	...R...P/HC	
Size	10 µm	20 µm
0110 R XXX P/HC	0.050	0.025
0240 R XXX P/HC	0.023	0.012
0330 R XXX P/HC	0.016	0.008
0500 R XXX P/HC	0.011	0.005
0660 R XXX P/HC	0.008	0.004
0850 R XXX P/HC	0.007	0.003
0950 R XXX P/HC	0.006	0.003
1300 R XXX P/HC	0.004	0.002

Notes