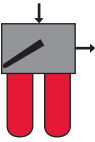


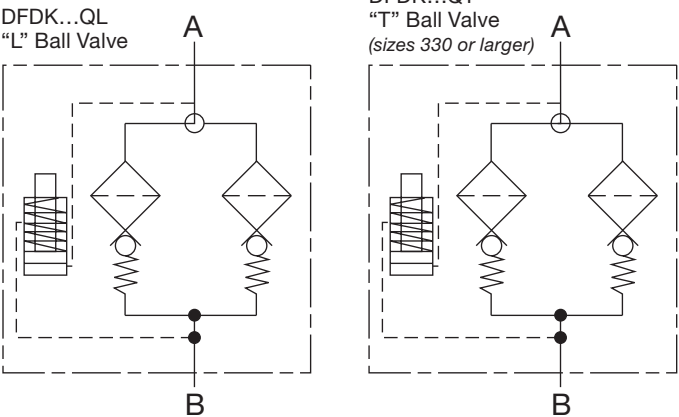
HIGH PRESSURE FILTERS

DFDK Series

Inline Duplex Filters
4568 psi • up to 90 gpm



Hydraulic Symbol



Features

- The DFDK Filters have a filter head of ductile iron and a screw-in bowl of cold-formed steel.
- The filter housings are designed to withstand pressure surges as well as high static pressure loads.
- The screw-in bowl or lid, allows the filter element to be easily removed for replacement or cleaning.
- A visual (*pop-up*), electrical, electrical/visual (lamp), or other electronic differential types of clogging indicators are available to suit each application.
- DFDK filters are available only with high collapse pressure elements since no bypass is provided.
- DFDK sizes 330 and above can be ordered with a T Ball Valve which can operate in mid position with both elements fully open and online in parallel.

Note: QPD is available in sizes 160-1320 only.

Applications



Automotive



Industrial



Power Generation



Pulp & Paper



Railways



Steel / Heavy Industry

Technical Specifications

Mounting Method		4 mounting holes
Port Connection		60/110 SAE-12 160/240/280 SAE-24 330/660/1320 2" SAE-DN 51 Code 62 Flange
Flow Direction		60 - 280 330 - 1320 Inlet Top Outlet Side Back
Construction Materials		Head Ductile iron Bowl Steel Housing (1320) Steel Lid/Cap (1320) Ductile iron
Flow Capacity		60/110 13 gpm (50 lpm) 160/240/280 35 gpm (132 lpm) 330/660/1320 90 gpm (340 lpm)
Housing Pressure Rating		Max. Allowable Working Pressure 4568 psi (315 bar) Fatigue Pressure Contact HYDAC Office Burst Pressure > 18,270 psi (1260 bar)
Element Collapse Pressure Rating		BH4HC, V 3045 psid (210 bar)
Fluid Temperature Range		14°F to 212°F (-10°C to 100°C) Consult HYDAC for applications operating 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		$\Delta P = 116 \text{ psid (8 bar) } -10\%$ (standard) Non-bypass Only

Model Code

DFDK BH/HC 60 Q L C 3 A 1 . 2 - QPD

Filter Type _____
DFDK = Duplex Pressure Filter with Ball Valve Selector

Element Media _____
BH/HC = Betamicon® (High Collapse) **V = Metal Fiber**

Size _____
60, 110, 160, 240, 280, 330, 660, 1320 (larger sizes available - contact HYDAC)

Pressure Range _____
K = 2320 psi (160 bar) (sizes 1320 with type code 3 only - larger sizes upon request)
Q = 4568 psi (315 bar) (sizes 30 - 1320 with type code 1 or 2 only)

Valve _____
L = ball change-over valve in "L" configuration (standard)
T = ball change-over valve in "T" configuration (full simultaneous flow through both sides - sizes 330 and larger)

Connection _____
B = 1/2" SAE 8 (size 30 only) **L** = 2" SAE DN 51 Code 62 (sizes 330 - 1320 only)
C = 3/4" SAE 12 (sizes 60/110 only) **M** = 2 1/2" SAE DN 64 Code 62 (sizes 1320 only) - 3.0 only
F = 1 1/2" SAE 24 (sizes 160 - 280 only)

Filtration Rating (micron) _____
3, 5, 10, 20 = BH/HC **3, 5, 10, 20 = V**

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

Type Code _____
1 = One Piece Bowl (sizes 60 - 660 only)
2 = Two Piece Bowl (size 660 to 1320 only)
3 = Upside down mounting - Element top access (size 1320 only - larger sizes upon request)

Modification Number (latest version always supplied) _____

Port Configuration _____
(omit) = 2" SAE DN 50 Flange Ports (sizes 330-1320 only)
12 = SAE Straight thread O-ring Boss Ports (sizes 60-280 only)

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

Version _____
(omit) = No quality protection
QPD = Quality Protection Design

Supplementary Details _____
L24, L48, L110, L220 = Lamp for D-type clogging indicator (LXX, XX = voltage)
W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC)
SO263 = Modification of elements for Skydrol or HYJET phosphate ester fluids
T100 = Thermal lockout on indicator at 100°F (C, D, J, and J4 indicators only)
cRUus = Electrical Indicator with underwriter's recognition
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

0060 D 003 BH4HC / V QPD

Size _____
0060, 0110, 0160, 0240,
0280, 0330, 0660, 1320

Filtration Rating (micron) _____
3, 5, 10, 20 = BH4HC
3, 5, 10, 20 = V

Element Media _____
BH4HC, **V**

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

Version _____
(omit) = No quality protection
QPD = Quality Protection Design

Supplementary Details _____
SO263 = (same as above)
SFREE = (same as above)
W = Modification of "V" elements for use with oil water emulsions (HFA) and water polymer solutions (HFC)
SO376 = (same as above)

Clogging Indicator Model Code

VD 8 B . X /

Indicator Prefix _____
VD = G 1/2 6000 psi

Trip Pressure _____
8 = 116 psid (8 bar)

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 and LED light - SPDT

Modification Number _____

Supplementary Details _____

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

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

Thermal Lockout (VM, VD types C, D, J, and J4 only) _____
T100 = Lockout below 100°F

Underwriters Recognition (VM, VD types C, D, J, and J4 only) _____
cRUus = Electrical Indicator with underwriter's recognition
W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC)

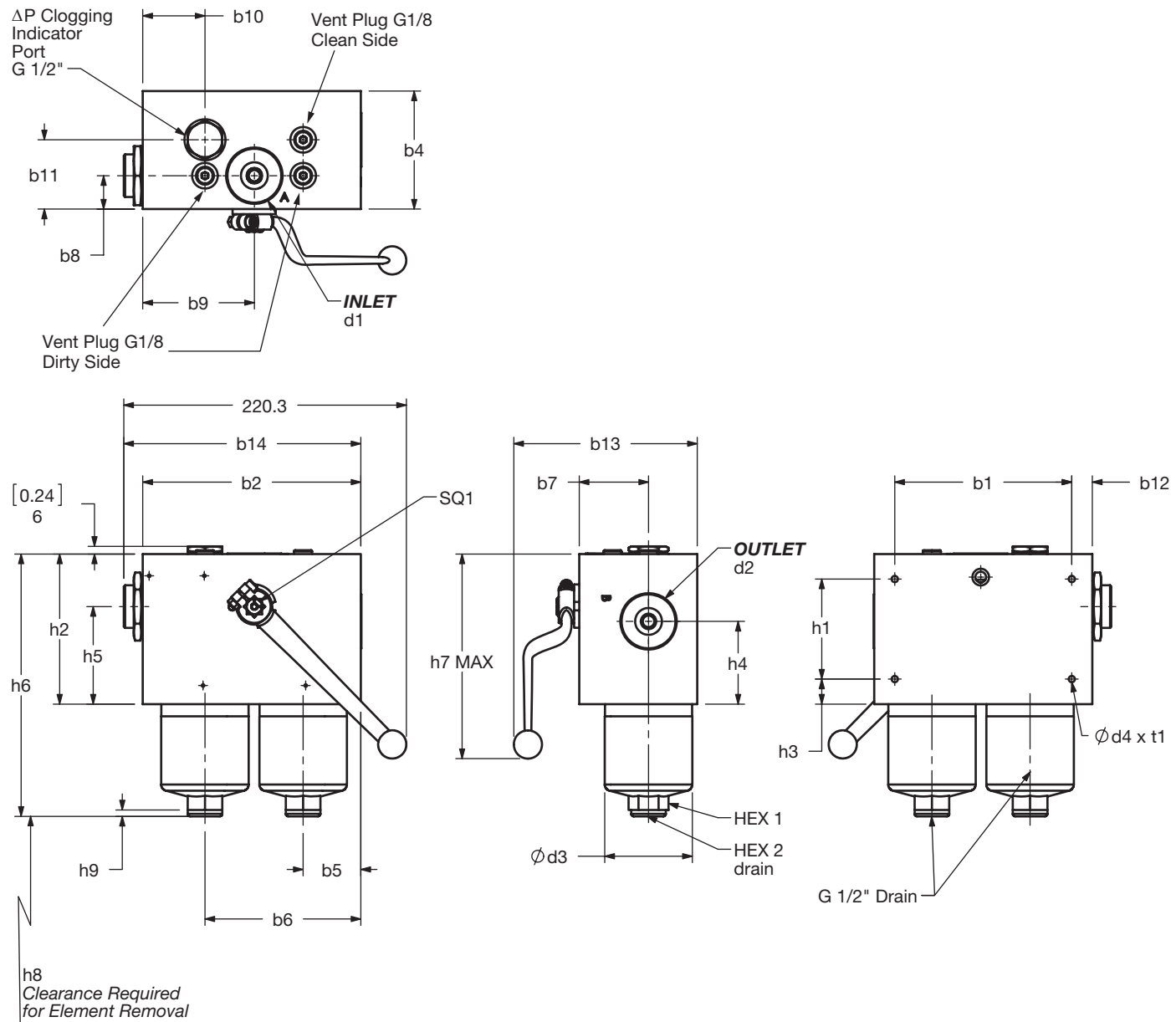
(For additional details and options, see Clogging Indicators section.)

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

HIGH PRESSURE FILTERS

Dimensions

DFDK 60 / 110 / 160 / 240 / 280



Size	60	110	160	240	280
Weight (lbs.)	33.1	37.5	72.8	79.4	99.3

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.

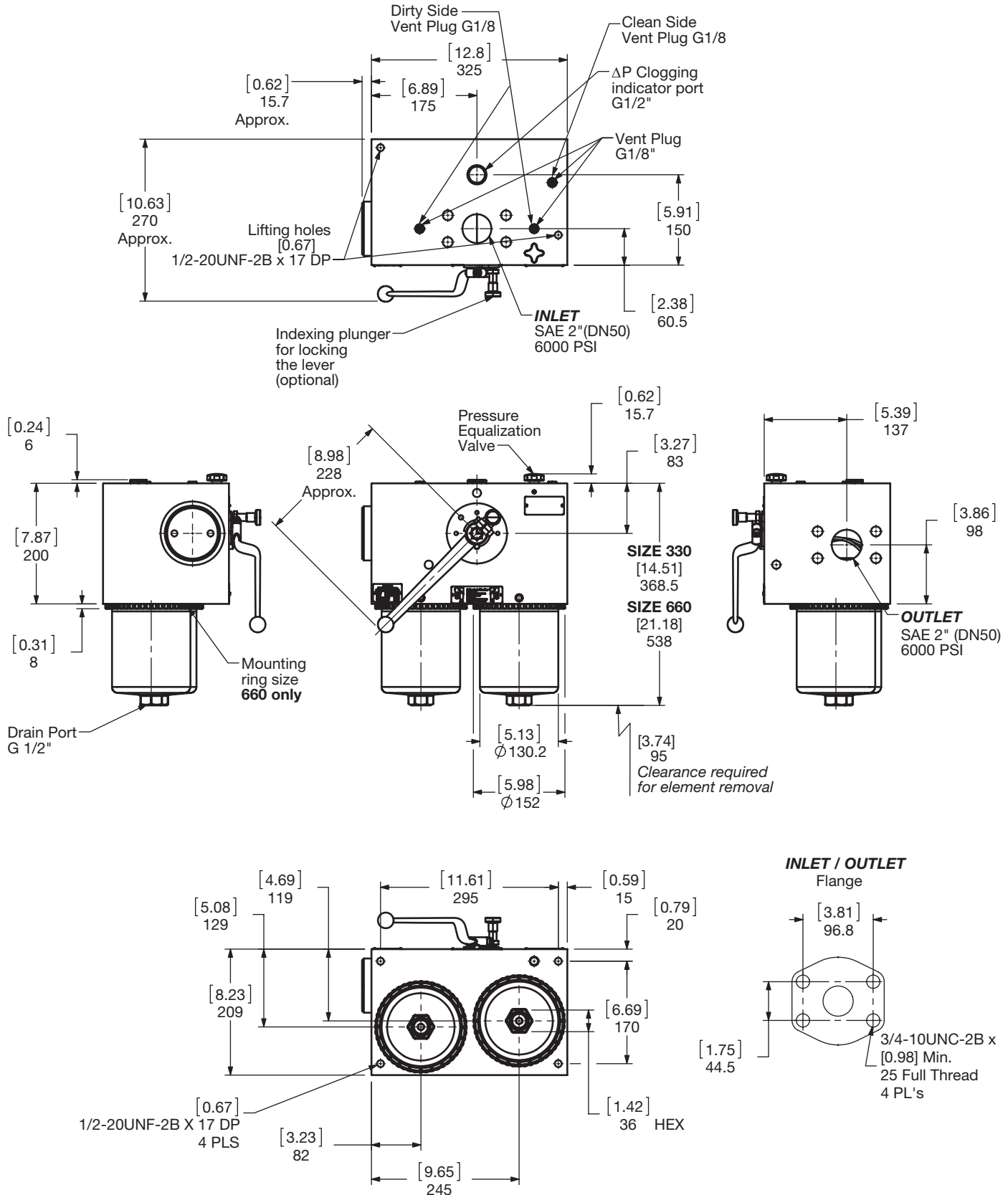
DFDK	60	110	160	240	280
b1	[5.43] 138	[5.43] 138	[7.48] 190	[7.48] 190	[7.48] 190
b2	[6.69] 170	[6.69] 170	[8.27] 210	[8.27] 210	[8.27] 210
b4	[3.62] 92	[3.62] 92	[5.04] 128	[5.04] 128	[5.04] 128
b5	[1.77] 45	[1.77] 45	[2.07] 52.5	[2.07] 52.5	[2.07] 52.5
b6	[4.78] 121.5	[4.78] 121.5	[6.20] 157.5	[6.20] 157.5	[6.20] 157.5
b7	[2.13] 54	[2.13] 54	[2.97] 75.5	[2.97] 75.5	[2.97] 75.5
b8	[1.02] 26	[1.02] 26	[1.40] 35.5	[1.40] 35.5	[1.40] 35.5
b9	[3.43] 87	[3.43] 87	[4.13] 105	[4.13] 105	[4.13] 105
b10	[1.91] 48.5	[1.91] 48.5	[2.07] 52.5	[2.07] 52.5	[2.07] 52.5
b11	[2.13] 54	[2.13] 54	[2.97] 75.5	[2.97] 75.5	[2.97] 75.5
b12	[0.63] 16	[0.63] 16	[0.39] 10	[0.39] 10	[0.39] 10
b13 (≈)	[5.91] 150	[5.91] 150	[7.60] 193	[7.60] 193	[7.60] 193
b14 (≈)	[7.13] 181	[7.13] 181	[8.70] 221	[8.70] 221	[8.70] 221
d1*	1-1/16-12UN-2B SAE-12		1-7/8-12UN-2B SAE-24		
d2*					
d3	[2.69] 68.2	[2.69] 68.2	[3.75] 95.2	[3.75] 95.2	[3.75] 95.2
d4	1/4-28UNF-2B		3/8-24UNF-2B		
h1	[3.07] 78	[3.07] 78	[3.78] 96	[3.78] 96	[3.78] 96
h2	[4.61] 117	[4.61] 117	[6.38] 162	[6.38] 162	[6.38] 162
h3	[0.77] 19.5	[0.77] 19.5	[1.30] 33	[1.30] 33	[1.30] 33
h4	[2.54] 64.5	[2.54] 64.5	[4.17] 106	[4.17] 106	[4.17] 106
h5	[2.99] 76	[2.99] 76	[3.94] 100	[3.94] 100	[3.94] 100
h6	[8.07] 205	[10.89] 276.5	[11.20] 284.5	[13.60] 345.5	[20.69] 525.5
h7 (≈)	[8.07] 205	[8.07] 205	[9.65] 245	[9.65] 245	[9.65] 245
h8	[2.95] 75	[2.95] 75	[3.35] 85	[3.35] 85	[3.35] 85
h9	[0.20] 5	[0.20] 5	[0.20] 5	[0.20] 5	[0.20] 5
t1	[0.28] 7	[0.28] 7	[0.43] 11	[0.43] 11	[0.43] 11
HEX1	[1.06] 27	[1.06] 27	[1.26] 32	[1.26] 32	[1.26] 32
HEX2	[0.39] 10	[0.39] 10	[0.39] 10	[0.39] 10	[0.39] 10
SQ1	[0.47] 12	[0.47] 12	[0.55] 14	[0.55] 14	[0.55] 14

Dimensions shown are [inches] millimeters for general information and overall envelope size only.

HIGH PRESSURE FILTERS

Dimensions

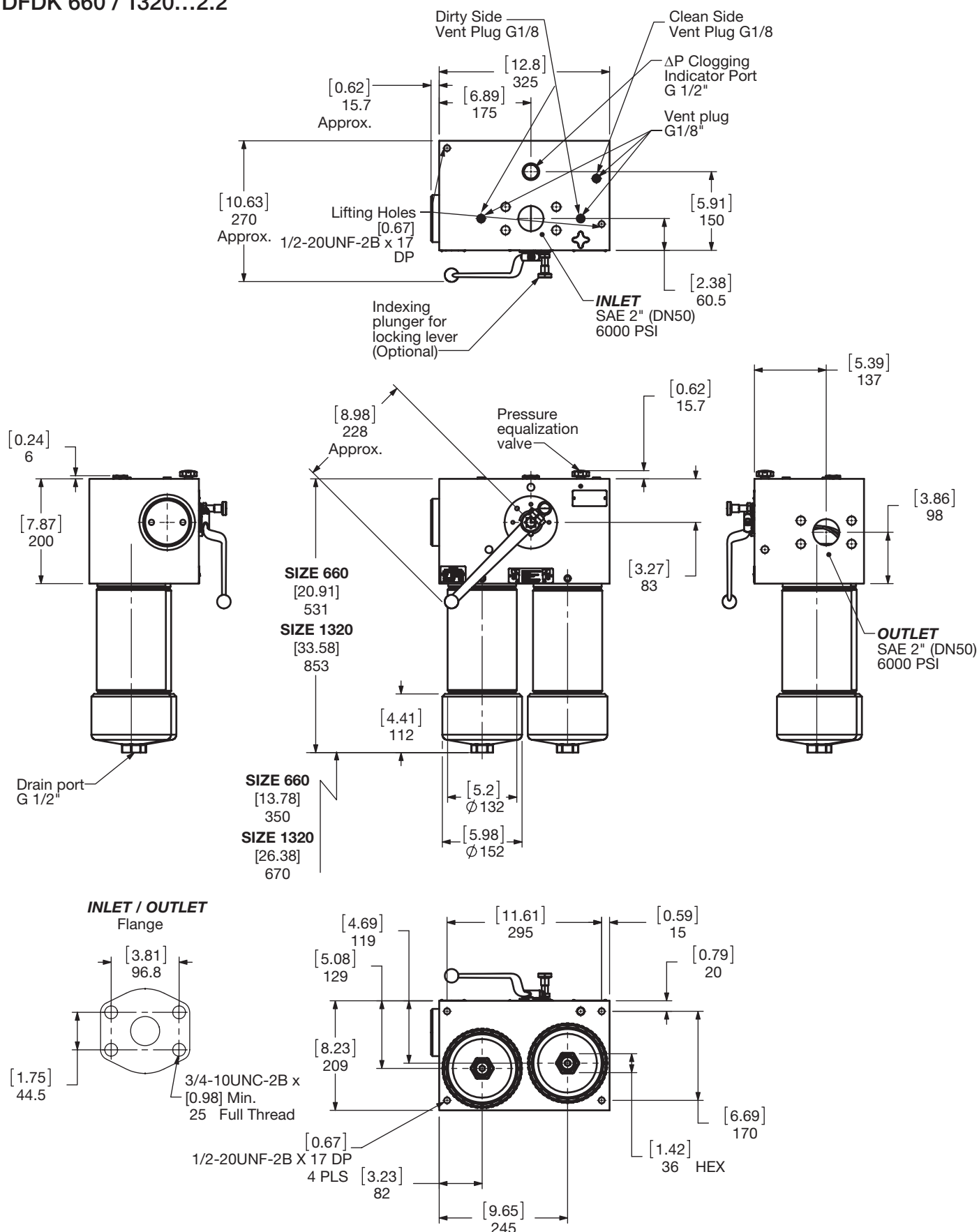
DFDK 330 / 660...1.2



Size	330	660
Weight (lbs.)	213.9	249

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.

Dimensions DFDK 660 / 1320...2.2



Size	660	1320
Weight (lbs.)	262.5	335.1

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.

HIGH PRESSURE FILTERS

Sizing Information

Total pressure loss through the filter is as follows:

Assembly ΔP = Housing ΔP + Element ΔP

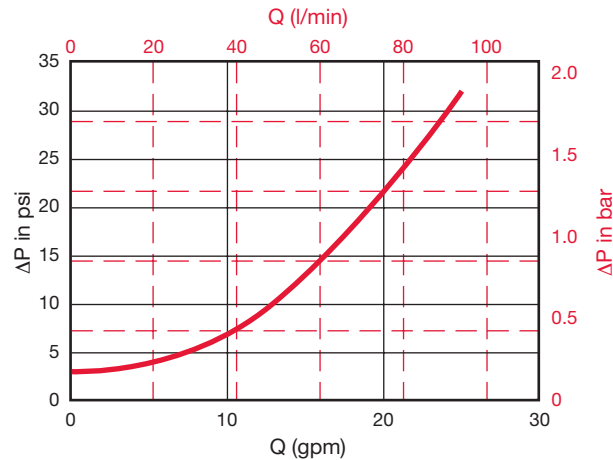
Housing Curve:

Pressure loss through housing is as follows:

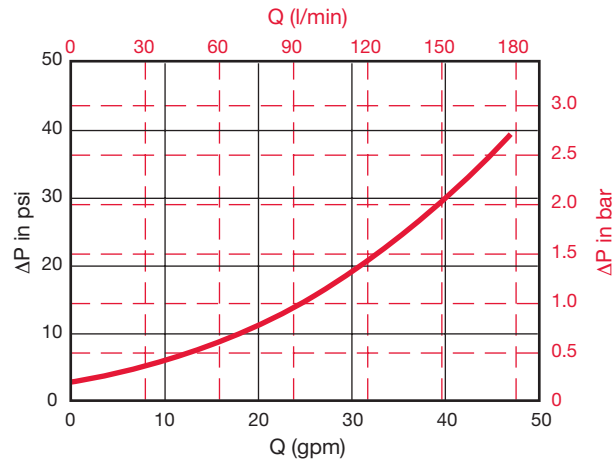
Housing ΔP = Housing Curve $\Delta P \times \frac{\text{Actual Specific Gravity}}{0.86}$

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

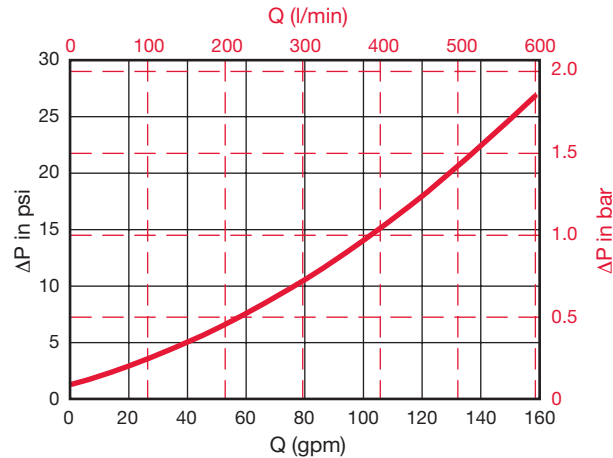
DFDK 60 / 110 Housing



DFDK 160 / 240 / 280 Housing



DFDK 330 / 660 / 1320 QLL Housing "L" Ball Valve



DFDK 330 / 660 / 1320 QTL Housing "T" Ball Valve

