

Return Line Filters

DLR DIN Series Filters

Flows to 400 L/min (106 USgpm)
Pressures to 25 bar (363 psi)

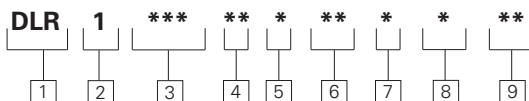


Features and Benefits

- Beta Ratio: $\beta_{X(c)} = 1000$ to ISO 16889
- Visual, electrical and electrical indicators with light options for system design flexibility
- Fully serviceable without tools
- Zero leak by-pass valve construction
- Wide range of element lengths for maximum design flexibility
- High efficiency replacement elements in standard configurations (C-Pak) to meet Target Cleanliness Levels

DESIGN SPECIFICATIONS

Rated flow:	160 250 400	160 L/min (42.2 USgpm) 250 L/min (66.0 USgpm) 400 L/min (105.7 USgpm)
Fluid compatibility:	Compatible with most petroleum oil, oil-in-water and water-in-oil fluids. Optional seals available for phosphate esters	
Temp range:	-30°C to +100°C (-22°F to +212°F)	
Pressure rating:	Operating	25 bar (363 psi)
Material:	Aluminum	
Dry weight:	160 250 400	4,3 kg (9.5 lbs) 4,9 kg (10.8 lbs) 5,9 kg (13.0 lbs)



DLR Series Filter

Sample model code:

DLR1160BE6ANBC03

1 Filter Series

DLR - DIN Low Pressure Return

2 Element Collapse Rating

1 - Low Collapse

3 Nominal Size

160 - 160L/min (42.2USgpm)
250 - 250L/min (66.0USgpm)
400 - 400L/min (105.7USgpm)

4 Port Size

BE - G 1-1/4 (Length 160 only)
BF - G 1-1/2 (Length 250 only)
BK - 1-1/2" SAE Flange Code 61 with M16 bolts (DN38) (Length 400 only)

5 Valve Options

1 - Non-Bypass
6 - 7 Bar (100 psi)

6 Indicator Options

AN - Visual 4.9 bar (70 psi) No Connector
JN - No Indicator, No Connector
TH - Electrical 4.9 bar (70 psi) Hirschmann

7 Seal Material

B - Buna-N
V - Viton-A

8 Element Construction

C - Standard Construction
X - no element

9 Fluid Cleanliness Rating

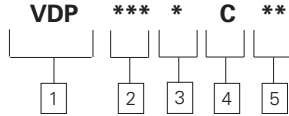
Code	Target fluid cleanliness level
03	16/14/12 or better
06	18/16/14 or better
10	20/18/15 or better
25	22/19/16 or better
XX	no element

Items not in bold are non-standard and may have a longer lead time

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Element model code

Sample model code:

VDP160BC06

1 Filter Element
VDP - DIN Standard Element

2 Nominal Size - Flow Assembly Length
160 - 160L/min (42.2USgpm)
297mm(11.7")
250 - 250L/min (66.0USgpm)
375mm(14.8")
400 - 400L/min
(105.7USgpm)
525mm(20.7")

3 Seal Material
B - Buna-N
V - Viton-A

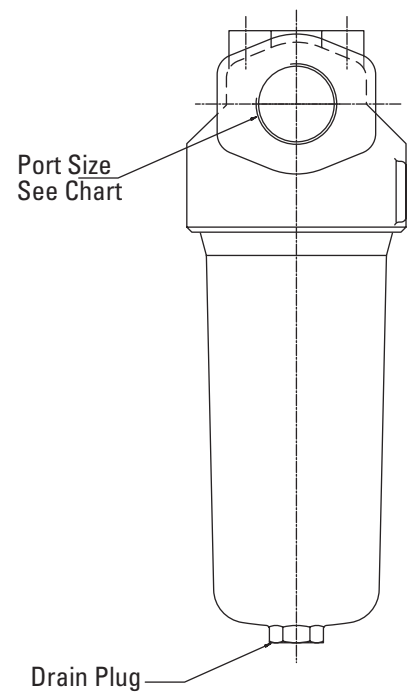
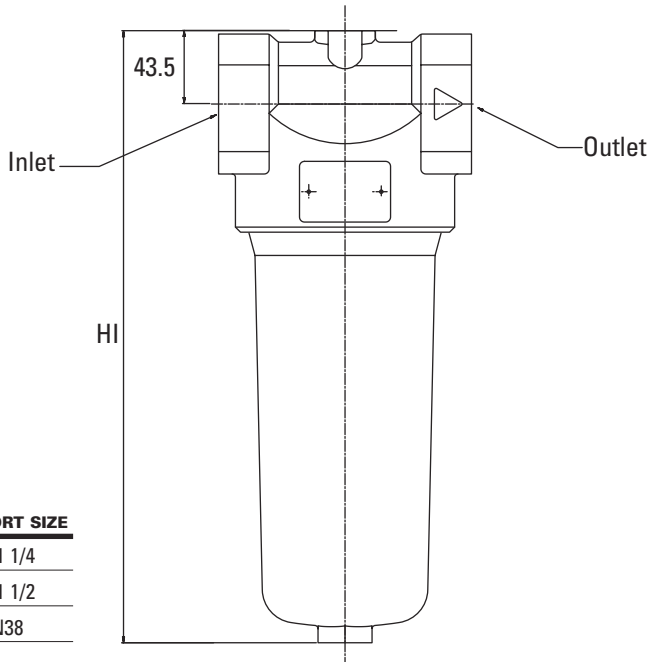
4 Element Construction
C - Standard Construction

5 Fluid Cleanliness Rating

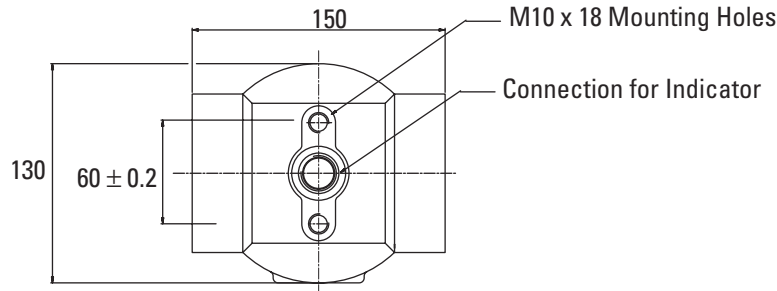
Code	Target fluid cleanliness level
03	16/14/12 or better
06	18/16/14 or better
10	20/18/15 or better
25	22/19/16 or better

DLR Housing

Dimensions in mm



TYPE	HI	PORT SIZE
DLR 160	285	G 1 1/4
DLR 250	363	G 1 1/2
DLR 400	513	DN38



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DLR DIN Filter Elements Flow Data

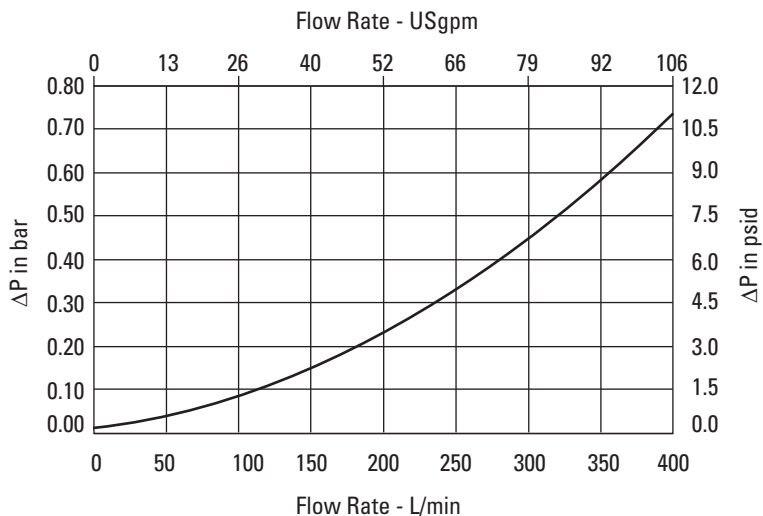
'K' factor - bar/lpm (psi/gpm)

ELEMENT TYPE / SIZE	MICRON RATING				
	03	6	10	25	
C -pak	160	0.013 (0.717)	0.009 (0.479)	0.005 (0.252)	0.004 (0.193)
	250	0.005 (0.275)	0.003 (0.178)	0.002 (0.111)	0.001 (0.091)
	400	0.003 (0.178)	0.002 (0.111)	0.001 (0.073)	0.001 (0.055)

Note: For flow in gpm, use the values inside the brackets.

Note: The values for bar/lpm have been rounded to the third decimal.

DLR 160/250/400 Housing



Sample ΔP Calculation :

DLR1160BE6ANBC03 - Filter assembly having '160' size filter element with micron rating code '03' at 100 L/min flow rate using a hydraulic fluid at 46 cSt viscosity & specific gravity (sp.gr.)0.8.

ΔP Assembly	=	ΔP Housing	+	ΔP Element
	=	Housing factor from graph x sp.gr.(actual)/0.9	+	Flow Rate (Lpm) x Element 'K' factor (bar/lpm) x [actual cSt / 32] x [Sp.Gr(actual) / 0.9]
	=	0.8x 0.8/0.9	+	100 x 0.013 x 46/32 x 0.8/0.9
	=	0.700	+	1.65
	=	2.35 bar		

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