

Pressure Filters

LV4P Series

Flows to 330 L/min (87 USgpm)
Pressures to 100 bar (1,500 psi)

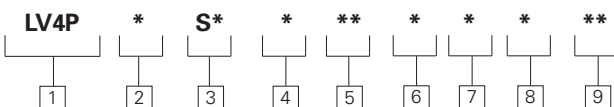


Features and Benefits

- Beta Ratio: $\beta_{X(C)} = 1000$ to ISO 16889
- Designed to comply with ANSI specifications and ISO cleanliness standards
- Visual, electrical, and electrical indicators with lamp options for system design flexibility
- High efficiency replacement elements in standard configurations (C-Pak) to meet Target Cleanliness Levels
- Poppet type by-pass valve construction
- High collapse elements available for non-bypass applications

DESIGN SPECIFICATIONS

Rated flow:	Length 5 Length 7	160 L/min (42 USgpm) 330 L/min (87 USgpm)
Fluid compatibility:	Compatible with most petroleum oil, oil-in-water and water-in-oil fluids. Optional seals available for phosphate esters.	
Temp range:	-40°C to +121°C (-40°F to +250°F)	
Pressure rating:	Operating Fatigue	100 bar (1500 psi) 100 bar (1500 psi)
Material:	Head Bowl	Aluminum Aluminum
Dry weight: (Approximate)	Length 5 Length 7	3,7 kg (8.2 lbs) 8,0 kg (17.6 lbs)



LV4P Series Filter Assembly Model Code

Sample model code:
LV4P1SC4LNB5C05

1 Filter Series - LV4P

2 Element Collapse Rating

- 1** - 17 bar (250 psi)
Low Collapse
- 4** - 103 bar (1500 psi)
High Collapse

3 Port Options

- Length 5:**
SC - 1.625 - 12UN SAE-20
Str. thd. (1¹/₄" tube)
- Length 7:**
SD - 1.875 - 12UN SAE-24
Str. thd. (1¹/₂" tube)

4 Valve Options

- 1** - Non-Bypass
- 4** - Bypass set at 2.9 bar (43 psi) cracking pressure
- 6** - Bypass set at 6 bar (90 psi) cracking pressure

5 Indicator Options

- AN** - Visual 4.9 bar (70 psi),
No Connector
- LN** - Visual 2 bar (30 psi),
No Connector
- JN** - No Indicator (plug),
No Connector
- RB** - Electrical 2 bar (30 psi),
Brad Harrison
- RJ** - Electrical 2 bar (30 psi),
Hirschmann w 24 volt light
- RK** - Electrical 2 bar (30 psi),
Hirschmann w 115 volt light
- RL** - Electrical 2 bar (30 psi),
Hirschmann w 230 volt light
- RH** - Electrical 2 bar (30 psi),
Hirschmann
- UB** - Electrical 2 bar (70 psi),
Brad Harrison
- UJ** - Electrical 4.9 bar
(70 psi), Hirschmann
w 24 volt light
- UK** - Electrical 4.9 bar
(70psi), Hirschmann
w 115 volt light

UL - Electrical 4.9 bar (70 psi),
Hirschmann w 230 volt
light

UH - Electrical 4.9 bar
(70 psi), Hirschmann

6 Seal Material

- B** - Buna-N
- V** - Viton-A

7 Assembly Length

- mm (inch)
- 5** - 247 (9.73)
- 7** - 312 (12.29)

8 Element Construction

- C** - C-Pak (code 03, 05, 10, 20)
- H** - H-Pak (code 03, 05, 10)
- X** - no element

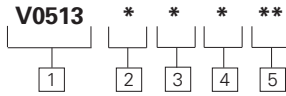
9 Fluid Cleanliness Rating

Code	Target fluid cleanliness level
03	16/14/12 or better
05	18/16/14 or better
10	20/18/15 or better
20	22/19/16 or better

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V0513 Element Model Codes

Sample model code:

V0513B5C05

1 Filter Element

V0513 - For use with LV4P series housings

2 Seal Material

B - Buna-N
V - Viton-A

3 Element Length

mm (inch)
5 - 147 (5.8)
7 - 180 (7.09)

4 Element Construction

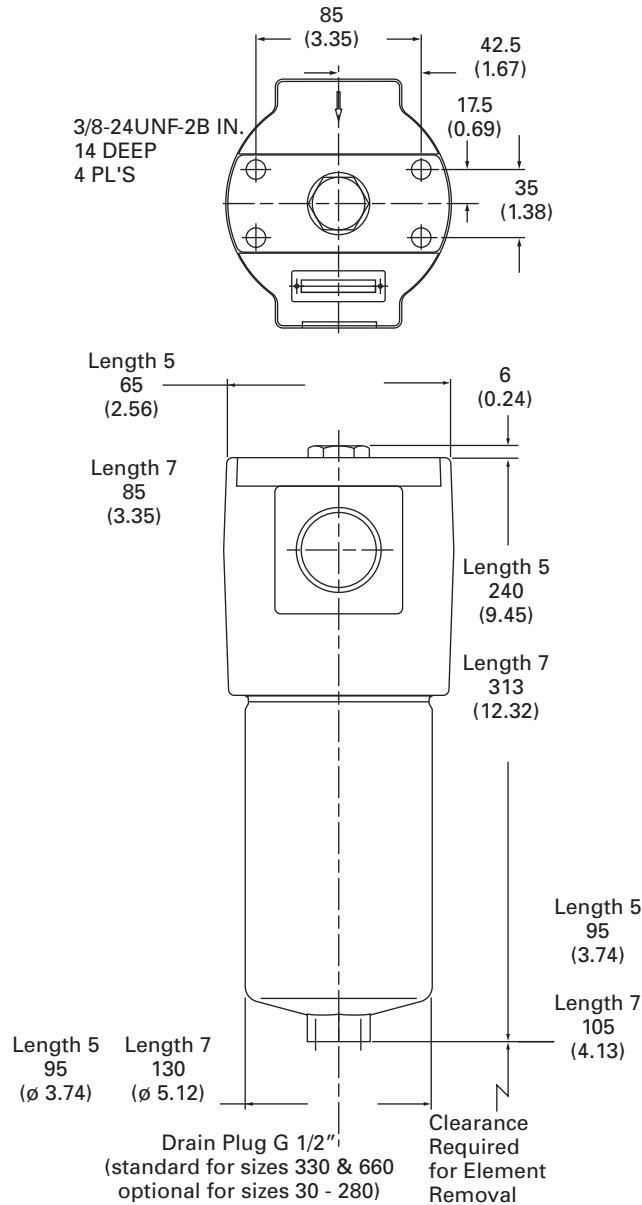
C - C-Pak (code 03, 05, 10, 20)
H - H-Pak (code 03, 05, 10)

Fluid Cleanliness Rating

Code	Target fluid cleanliness level
03	16/14/12 or better
05	18/16/14 or better
10	20/18/15 or better
20	22/19/16 or better

Housing Dimensions

mm (inch)



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Flow Data

Flow versus pressure drop:

150 SUS (32 cSt) oil with specific gravity of ≤ 0.9

LV4P Filter Elements Flow Data

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

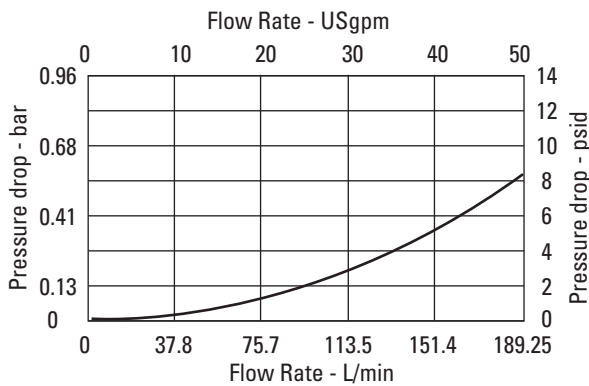
ELEMENT TYPE / SIZE		MICRON RATING			
		03	05	10	25
C - pak	5	0.013 (0.717)	0.009 (0.479)	0.005 (0.252)	0.004 (0.193)
	7	0.005 (0.294)	0.004 (0.214)	0.003 (0.162)	0.002 (0.095)
H - pak	5	0.017 (0.919)	0.010 (0.569)	0.006 (0.321)	xxx
	7	0.008 (0.421)	0.004 (0.244)	0.003 (0.153)	xxx

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

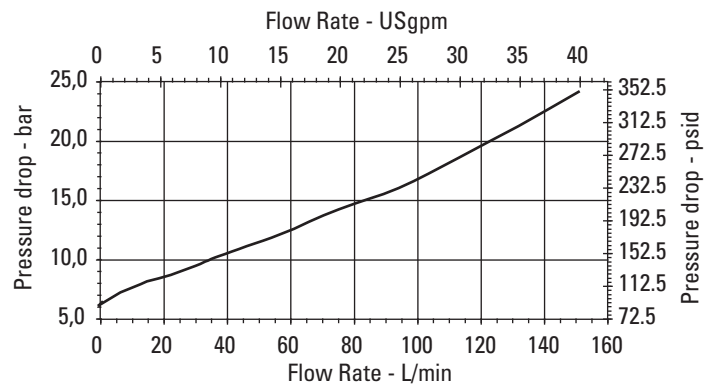
Note: The values for bar/lpm have been rounded to the third decimal.

Housing/Bypass Valve Flow Data

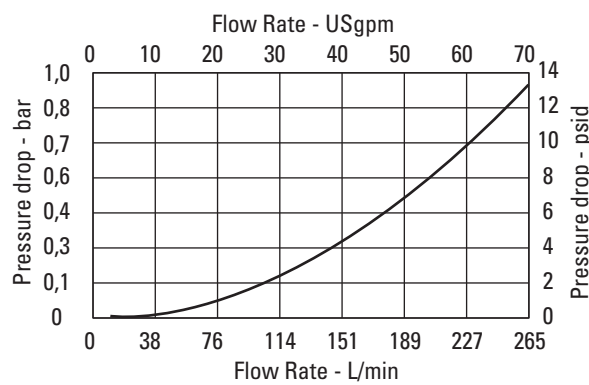
Length 5 Housing



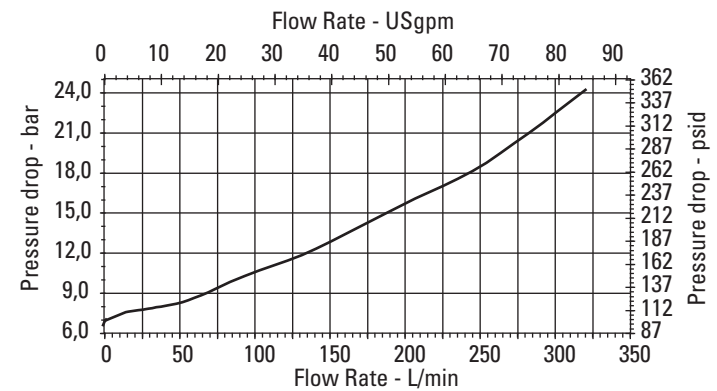
Length 5 Bypass



Length 7 Housing



Length 7 Bypass



Sample ΔP Calculation :

LV4P1SC4LNB5C05 - Filter assembly having '5' length filter element with micron rating code '05' 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 $\times \text{sp.gr.}(\text{actual})/0.9$	+	Flow Rate (Lpm) \times Element 'K' factor (bar/lpm) \times [actual cSt / 32] \times [Sp.Gr(actual) / 0.9]
	=	0.10 \times 0.8/0.9	+	100 \times 0.009 \times 46/32 \times 0.8/0.9
	=	0.088	+	1.143
	=	1.23 bar		