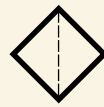




Donaldson®



LPS05 Series

Hydraulic Filters



Features

Economical, low-pressure filter offering spin-on convenience and a broad choice of media ratings.

Working Pressures up to:
150 psi / 1035 kPa / 10.3 bar

Minimum Burst (Rated Static) Pressures to
250 psi / 1725 kPa / 17.2 bar

Flow Ranges: 1 - 60 gpm / 0 - 227 l/min

Port Size: 1 1/4" NPT

Bypass Ratings:

25 psid/ 172.5 kPa/ 1.7 bar

5 psid/ 34.5 kPa/ .34 bar

Construction: Die cast aluminum head & steel body for strength and durability

Spin-On Service Elements:

- Economical
- Available in full range of media: 3μ, 10μ, 25μ, wire mesh, and water absorbing
- Operating Temperatures:
-20° F to 225° F / -27° C to 107° C
- Available in master carton quantities

Typical Applications: Low pressure applications on in-plant equipment and vehicles.

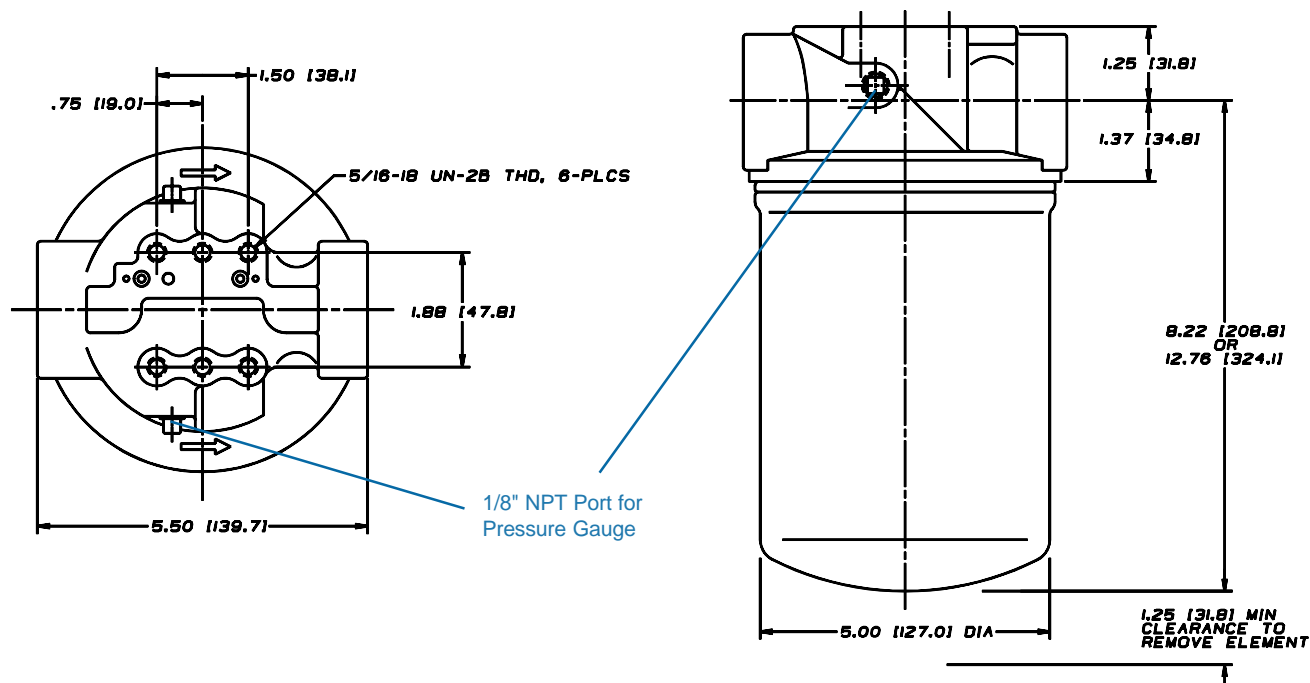
LPS05 Mix 'n Match Head & Spin-On Choices

Description	Outer Dia.		Length		Media		Part Number
	inches	mm	inches	mm	Type	Beta(x) = 2 (nominal)	
LPS05 Spin-on Element: 1½" -16 Thread	5	127	6.85	174	Cellulose	3μ	P550386
			11.39	289			P550250
			6.85	174	Cellulose	10μ	P550388
			11.39	289			P550251
			6.85	174	Cellulose	25μ	P550387
			11.39	289			P550252
			11.39	289	Cellulose	25μ Water Absorption*	P550253
			6.63	168	Wire Mesh	150μ	P550275
			10.66	271	Wire Mesh	150μ	P550276
LPS05 Head (1¼" NPT)	Bypass Rating = 5 psid/ 34.5 kPad/ 0.34 bar						P171208
							P169545 <i>(with top-mounted visual indicator)</i>
LPS05 Head (1¼" NPT)	Bypass Rating = 25 psid/ 172.4 kPad/ 1.72 bar						P167849
							P169544 <i>(with top-mounted visual indicator)</i>

Find information on
gaskets and service
indicators on page 4.

* P550253 absorbs approximately 24 ounces/ 700 milliliters of water @ 20 psid.

LPS05 Dimensions



Flow Curve Notes:

1. All flow measurements were made with 150 SSU hydraulic oil at 100°F (37.7°C).
2. The numbers on the curves at right refer to specific Donaldson media formulations. Refer to service element listing on page 2 for beta ratings and part numbers.

3. Pressure Drop Calculation:

$$\text{Clean Filter Assembly} = \text{head } \Delta P + \text{element } \Delta P$$

This applies for any given flow when the fluid specific gravity is 0.9 and the fluid viscosity is 150 SSU (32 cSt).

Calculation Definitions:

- ΔP_E = Element pressure drop from curve
- ΔP_M = Corrected element pressure drop
- S.G. = New specific gravity
- SSU = New SSU viscosity (Saybolt Seconds Universal)
- cSt = New cSt viscosity (centistokes)
- cP = New cP viscosity (centipoise)

Head Assembly pressure drop is that contributed by the internal flow passages of the filter head and filter housing. Head assembly & element pressure drop may be added together to obtain the pressure drop to which the bypass valve and/or filter indicator react.

Element pressure drop is that which is contributed by the filter media only. Element pressure drop is directly proportional to absolute viscosity. Absolute viscosity (measured in centipoise, cP) is dependent on kinematic viscosity and specific gravity; therefore, element pressure drop from the curve should be corrected for fluid with a different viscosity or specific gravity. To correct element drops for viscosity and/or specific gravity, use one of these formulae:

$$\Delta P_M = \Delta P_E \times (\text{SSU}/150) \times (\text{S.G.} / 0.9)$$

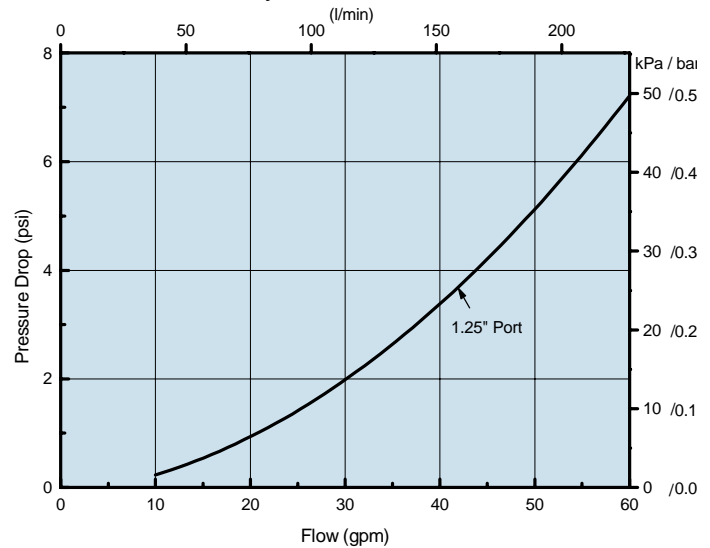
or

$$\Delta P_M = \Delta P_E \times (\text{cSt}/32) \times (\text{S.G.} / 0.9)$$

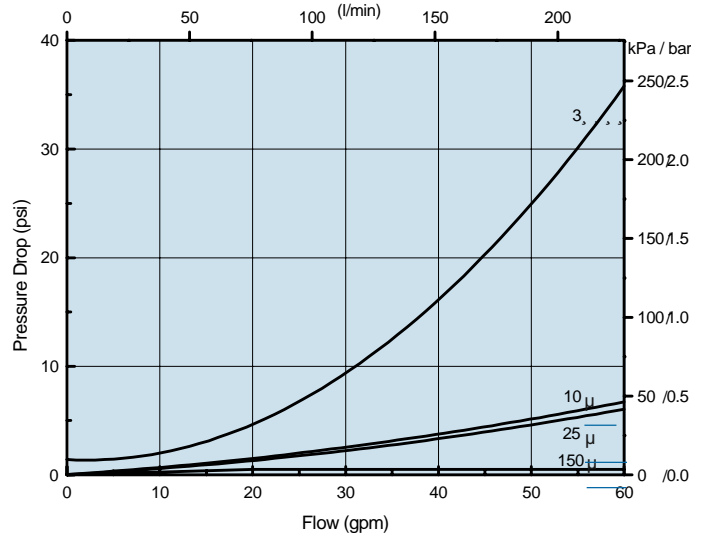
or

$$\Delta P_M = \Delta P_E \times (\text{cP}/29)$$

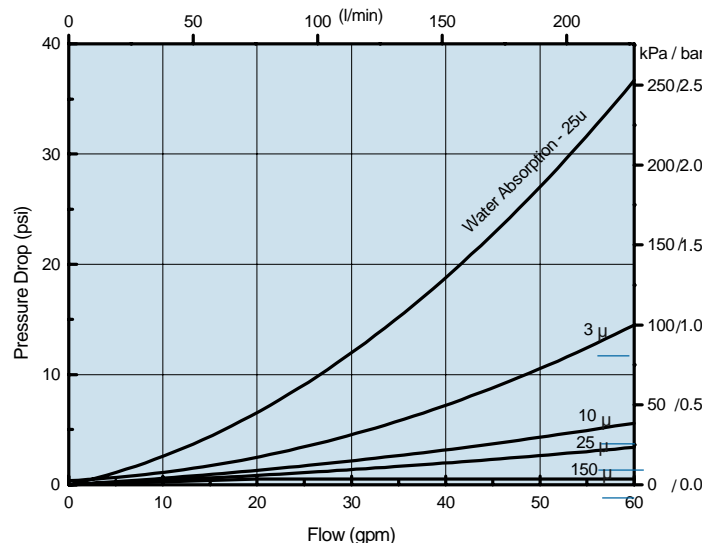
LPS05 Head Only



LPS05 Element Only (6.8 inch/ 174mm length)






LPS05 Element Only (11.4 inch/ 289mm length)



LPS05 Accessories

Gaskets

The LPS05 spin-on filters accept 3 styles of gasket: L-shaped, square cut, and o-ring.

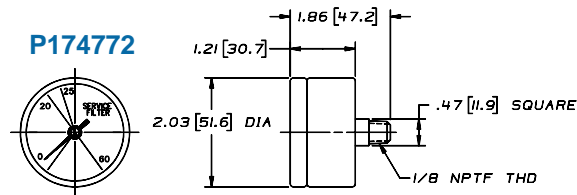
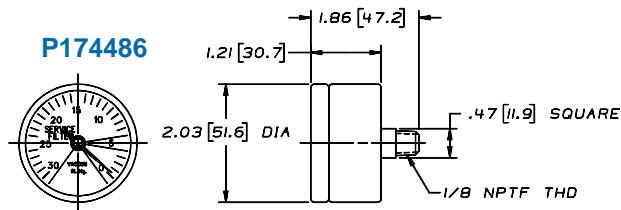
Part No.	Shape		When to Use	How to Obtain
P170894	L Shaped		With Donaldson LPS05 heads	Shipped with each spin-on element
P171184	Square Cut		With non-Donaldson head	Shipped with each spin-on element
P166435	O Ring		With Donaldson HBK05 heads & elements	Order as separate item

Filter Service Indicator



This handy pressure gauge, mounted on top of an LPS05 filter head, will tell you when it's time to service the filter element.

Filter Bypass Rating & LPS05 Head	Gauge Part No.	Face Scale
5 psi / 34.5 kPa / 0.3 bar (P171208 LPS05 head)	P174486	0 - 30" Hg
25 psi / 172.5 kPa / 1.7 bar (P167849 LPS05 head)	P174772	0 - 60 psi



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