



FIS2

In-Tank Return Line Filter Assemblies

Donaldson FIS2 in-tank filter assemblies are ideal for contamination removal in medium- to high-flow rate applications on mobile equipment and hydraulic power units. Multiple inlet ports help simplify plumbing and reduce space and cost

Max Operating Flow: 200 gpm (757 lpm)

Max Operating Pressure: 150 psi (10 bar)



Go beyond industry standard.

Advanced DFE rated filter elements deliver lower operating ISO Codes with high efficiency particulate removal and retention efficiency. With integral element bypasses and a range of media options down to $\beta_{3_{cl}} > 4000$ + water absorption, you get the perfect element for your application, every time.

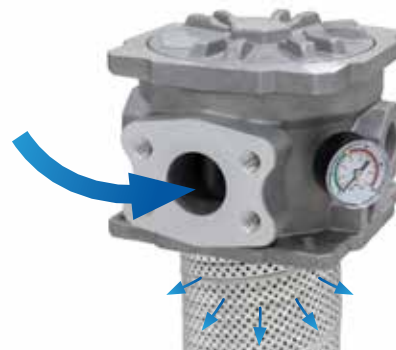


Minimize the mess.

The top-loading FIS2 housing provides easy and clean access during element service — no slippery spin-ons to handle. A threaded cover allows for quick element changes with no special tools required. The integrated handle on the top of the filter element allows a sturdy lift point during servicing.

Inside to out flow.

The FIS2 housings utilizes an inside-to-outside element flow, meaning all the dirt captured by the element stays in the element during service. The raised bypass valve design prevents dirt from being released back into the system during filter changes like traditional in-tank filters do. Since the bypass is incorporated into the element, it is replaced with each element service, ensuring optimal performance.

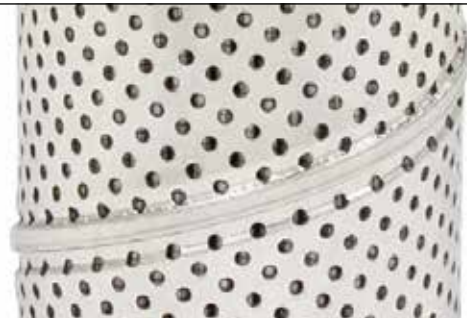


Dirt removal has never been so easy.

Packed with features, including easy service threaded aluminum cover, slotted mounting holes to meet common industry mounting patterns, auxiliary return ports, and case drain ports. Hold down springs are not required due to the patented element design. The bypass valve in the filter makes servicing easier and delivers consistent performance of the bypass valve over the life of your equipment.

Eliminate aeration.

Smaller reservoirs, high return flow and high velocity through outside-to-in flow elements add up to tank turbulence and reservoir aeration with poor air release. FIS2 prevents aeration by diffusing return flow and creating laminar conditions inside the hydraulic tank.

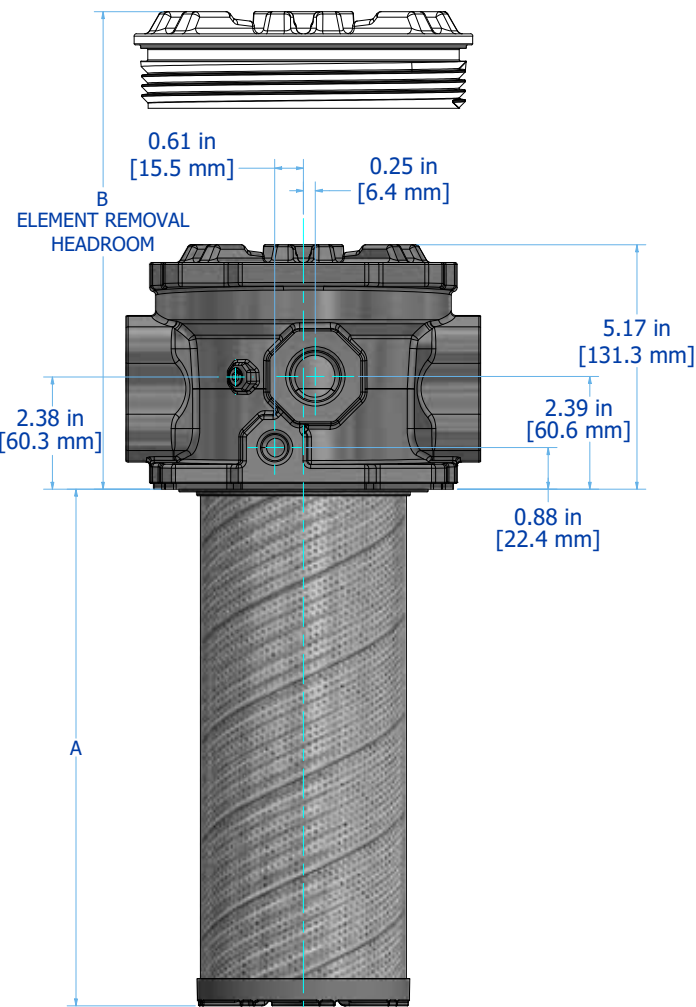
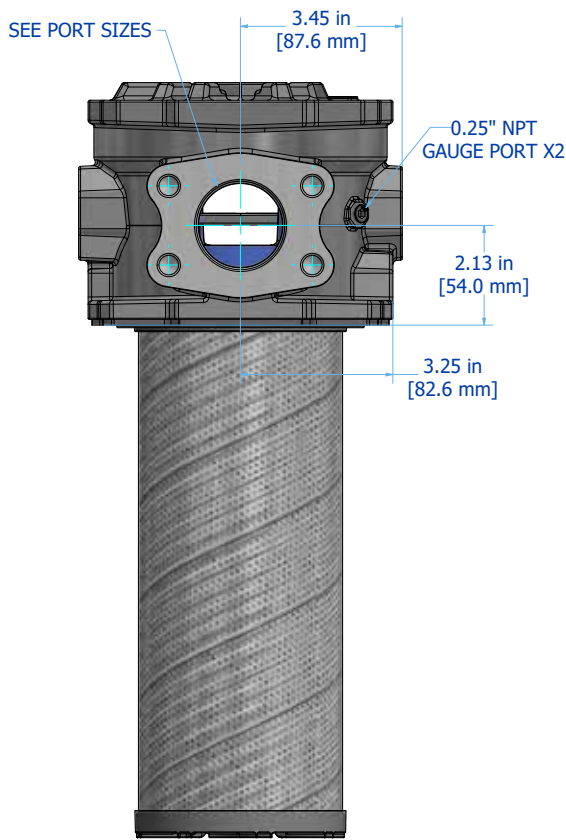
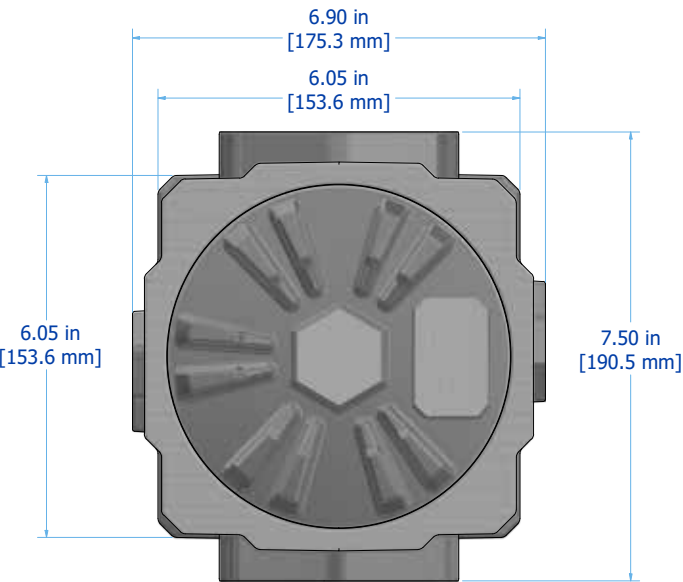
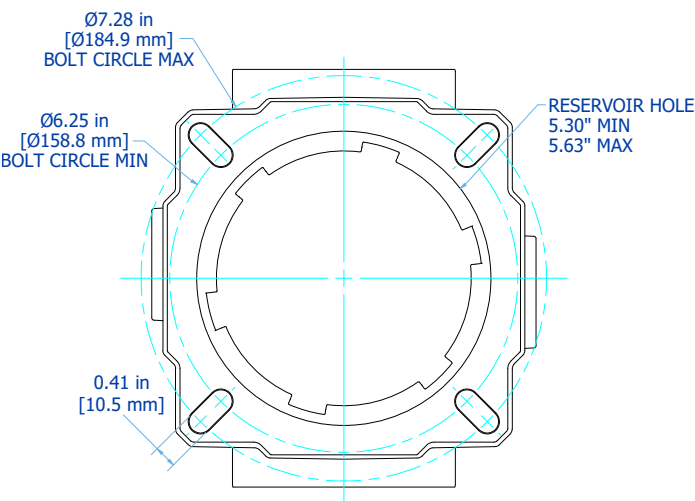


Multiple inlet ports.

Two high flow return ports are standard to allow multiple returns to be plumbed to the filter, eliminating the need for a header block. Optional ports include two 1" auxiliary returns ports and two ½" case drain ports. Contact Donaldson customer service for non-catalog porting options.

FIS2 INSTALLATION DRAWINGS

Dimension Table				
Length	L8	L11	L18	L27
A	8.18 in 207.8 mm	10.93 in 277.6 mm	19.22 in 488.2 mm	27.20 in 690.9 mm
B	15.37 in 390.4 mm	18.12 in 460.2 mm	26.41 in 670.8 mm	34.36 in 872.7 mm



LOW PRESSURE FILTRATION

FIS2

In-Tank Assembly

Part Number

Port Connection



Max Flow: 150 gpm (568 lpm)

Max Pressure: 200 psi (1380 kPa) / 13.8 bar

- Common 2-bolt and 4-bolt mounting options
- Integrated breather with anti-splash design
- Reverse flow element prevents fluid aeration and allows for a smaller reservoir
- Raised bypass valve design keeps the dirt in the filter during servicing
- Easy servicing with common hand tools
- Optional auxiliary ports
- Visual and electrical indicator options

P583634

1" SAE thread

P583554

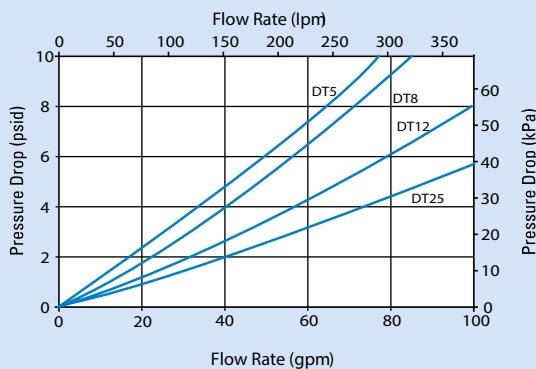
1-1/4" SAE thread

X220872

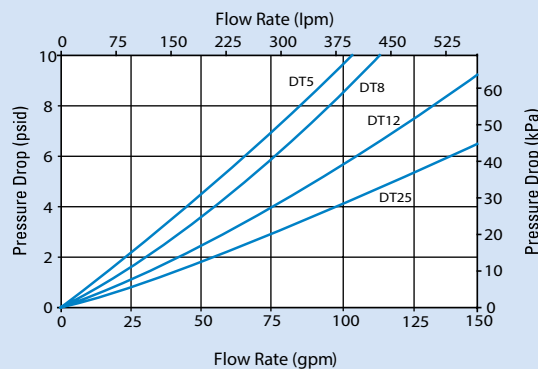
Weld Flange

PERFORMANCE DATA

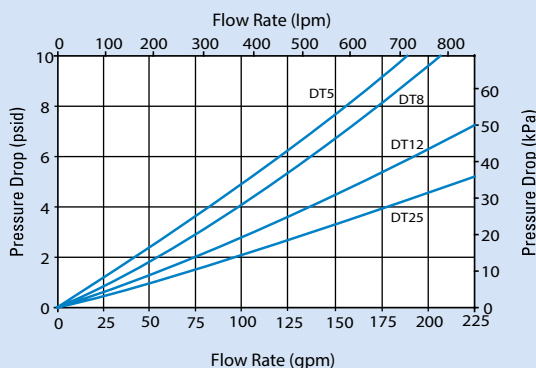
FIS2 8" Assembly



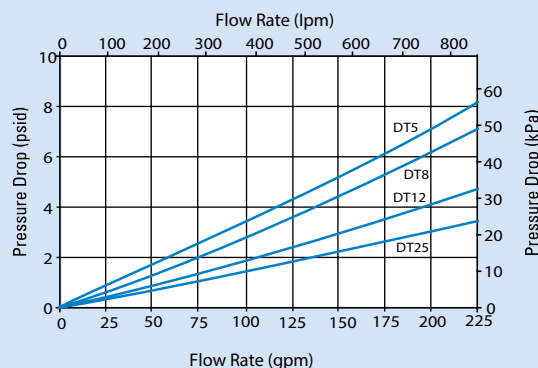
FIS2 11" Assembly



FIS2 18" Assembly



FIS2 27" Assembly



SIZING GUIDE

Filter Assembly Sizing Guidelines

Effective filter sizing requires consideration of flow rate, viscosity (operating and cold start), fluid type, and degree of filtration. The filter assembly differential pressure values provided for sizing differ for each media code, and assume 32 cSt (150 SUS) viscosity and 0.86 fluid specific gravity. Use the following steps to calculate clean element assembly pressure drop.

Sizing Recommendations to Optimize Performance and Permit Future Flexibility

- To avoid or minimize bypass during cold start, the actual assembly clean ΔP calculation should be repeated for start-up conditions if cold starts are frequent.
- Actual assembly clean ΔP should not exceed 10% of bypass ΔP gauge/indicator set point at normal operating viscosity.
- If suitable assembly size is approaching the upper limit of the recommended flow rate at the desired degree of filtration, consider increasing the assembly to the next larger size if a finer degree of filtration might be preferred in the future.
- Once a suitable filter assembly size is determined, consider increasing the assembly to the next larger size to optimize filter element life and avoid bypass during cold start.
- When using water glycol or other specified synthetics, we recommend increasing the filter assembly by 1~2 sizes.

Step 1: Calculate ΔP coefficient for actual viscosity

Using Saybolt Universal Seconds (SUS)

ΔP Coefficient	=	$\frac{\text{Actual Operating Viscosity}^1 \text{ (SUS)}}{150}$	X	$\frac{\text{Actual Specific Gravity}}{0.86}$
------------------------	---	---	---	---

Using Centistokes (cSt)

ΔP Coefficient	=	$\frac{\text{Actual Operating Viscosity}^1 \text{ (cSt)}}{32}$	X	$\frac{\text{Actual Specific Gravity}}{0.86}$
------------------------	---	--	---	---

Step 2: Calculate actual clean filter assembly ΔP at both operating and cold start viscosity

Actual Assembly Clean ΔP	=	Flow Rate	X	ΔP Coefficient (from Step 1)	X	Assembly ΔP Factor (from sizing table)
----------------------------------	---	-----------	---	--------------------------------------	---	--

¹Max flow rates and ΔP factors assume μ = 150 SUS, 32 cSt.



PART NUMBERS

Donaldson Part Number	$\beta_{x(c)} = 1000$ per ISO 16889	Media Type	Filter Length	Bypass Rating (psid)
P584197	5 μm	DT Synthetic	8" (208 mm)	25 psid (1.7 bar)
P584198	8 μm			
P584199	12 μm			
P584200	25 μm			
P584201	5 μm	DT Synthetic	11" (278 mm)	
P584202	8 μm			
P584203	12 μm			
P584204	25 μm			
P584205	5 μm	DT Synthetic	18" (488mm)	
P584206	8 μm			
P584207	12 μm			
P584208	25 μm			
P584209	5 μm	DT Synthetic	27" (691 cm)	
P584210	8 μm			
P584211	14 μm			
P584212	25 μm			
P584213	5 μm	DT Synthetic	8" (208 mm)	50 psid (3.4 bar)
P584214	8 μm			
P584215	12 μm			
P584216	25 μm			
P584217	5 μm	DT Synthetic	11" (278 mm)	
P584218	8 μm			
P584219	12 μm			
P584220	25 μm			
P584221	5 μm	DT Synthetic	18" (488 mm)	
P584222	8 μm			
P584223	12 μm			
P584224	25 μm			
P584225	5 μm	DT Synthetic	27" (691 mm)	
P584226	8 μm			
P584227	14 μm			
P584228	25 μm			

FIS2 SPECIFICATIONS

Operating Temperature	-20°F to 250°F (-29°C to 121°C)		
Operating Pressure	150 psi (10.3 bar) maximum		
Pressure Switch Trigger	22 psi (1.5 bar) or 45 psi (3.1 bar)		
Visual Gauge	0-22 psi (0-1.5 bar), green to red 0-45 psi (0-3.1 bar), green to red		
Element Burst Rating	100 psid (6.9 bard)		
Integral Bypass Setting	25 psid (1.7 bard) standard.		
Materials of Construction	Head Cast aluminum	Cover Cast aluminum	Element End Caps Nylon glass-filled

ACCESSORIES

Description	Part Number	Indicator Pressure	Connection
Electrical Indicator	X011064	35 psi	Hirschman
Electrical Indicator	X011061	18 psi	Hirschman
Pressure Indicator	X011059	25 psi	Dial Gauge
Pressure Indicator	X011075	50 psi	Dial Gauge
Pressure Gauge	P579716	25 psi	Color Dial Gauge
Pressure Gauge	P579714	0-100 psi	Dial Gauge

MORE THAN JUST FILTRATION

Upgrade to a Lower Total Cost of Ownership

Upgrading to Donaldson filter elements is a good first step in improving oil cleanliness. Keeping fluids clean can increase the efficiency and reliability of your equipment while reducing repairs, downtime, and total overall cost of ownership.

Delivery in Days, Not Weeks

Donaldson's flexible manufacturing process and large inventory of ready-to-ship filter elements help ensure a quick response time, so you get the right filter when you need it most.

Quality Products Backed by an Industry Leader

High-quality Donaldson filter elements are backed by the unrivaled knowledge and support of a company with over 100 years of filtration experience.



donaldson.com
shop.donaldson.com

Donaldson Company, Inc.
Minneapolis, MN

Australasia 61-02-4350-2033
Brazil 55-11-4894-6339 Greater
China 86-400-650-0610
Europe 32-16-38-3811

India 91-124-4807-400
Japan 81-42-540-4112
Korea 82-2-517-3333
Mexico, Latin America & Caribbean 52-449-300-2400

North America 800-374-1374
South Africa 27-11-997-6000
Southeast Asia 65-6311-7373

Important Notice: Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the condition under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, product specifications, availability and data are subject to change without notice, and may vary by region or country.

Brochure No. F115420 ENG (07/25)

©2025 Donaldson Company, Inc. All rights reserved. Donaldson Company, Inc. reserves the right to change or discontinue any model or specification at any time and without notice. Printed in the U.S.A.