



W610

Max Flow: 50 gpm (189 lpm)

W610 In-Line Cartridge Filters

Working Pressures to: 6,000 *psi*
41,368 kPa
414 bar

Rated Static Burst to: 20,000 *psi*
138,000 kPa
1380 bar

Fatigue Pressure Rating: 3,500 *psi*
24,131 kPa
241 bar

Flow Range to: 50 *gpm*
180 *lpm*



Features

The W610 filter assembly can be manifold mounted to the hydraulic system. Other port options include SAE straight thread and 4-bolt flange. Donaldson DT high-performance 4-layer media is offered in five different media grades. The differential pressure indicator line is designed to work with the wide assortment of bypass valves. Thermal lockout and surge control are two key features incorporated in many of the differential pressure indicators.

- Head material: cast iron
- Housing material: steel

Beta Rating

- Performance to $\beta_{<4(c)}=1000$

Porting Size Options

- SAE- 12, -16 O-ring
- 1" SAE 4-Bolt Flange Code 61 or 62
- Manifold Mounting

Assembly Weight

- 6.75": 9.72 lbs / 4.4 kg
- 10.40": 12.33 lbs / 5.6 kg

Replacement Filter Lengths

- 4.41" / 111.9mm
- 4.46" / 113.2mm
- 8.16" / 207.2mm
- 8.28" / 210.3mm

Standard Bypass Ratings

- 90 psi / 621 kPa / 6.2 bar
- 50 psi / 345 kPa / 3.5 bar
- No Bypass

Operating Temperatures

- -20° to 250°F (-29° to 121°C)

Filter Collapse Ratings

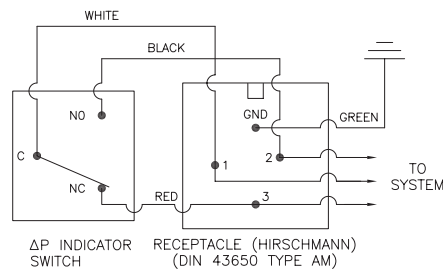
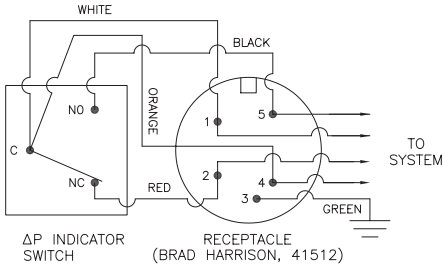
- 150 psi / 1034 kPa / 10.3 bar (standard)
- 3000 psi / 20,700 kPa / 206.8 bar (high collapse)

W610 Specification Illustrations

All dimensions are shown in millimeters [inches].

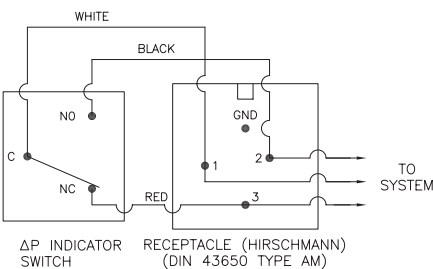
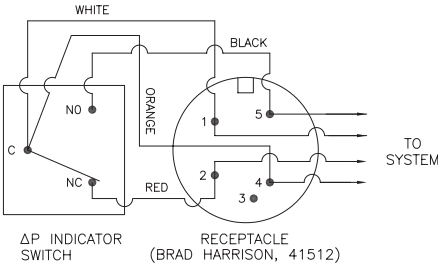
Indicator Switch Schematic Wiring Diagram

Aluminum Electrical Housings



Note: The female plug (connector) is to be furnished by customer.

Plastic Electrical Housings



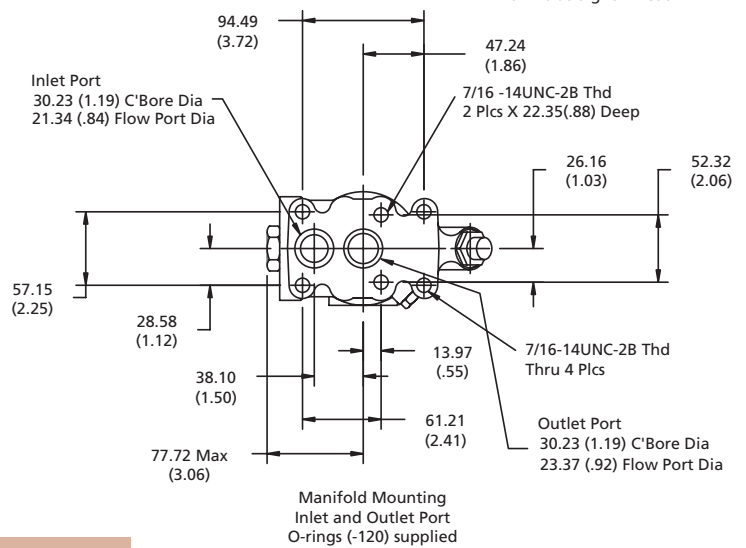
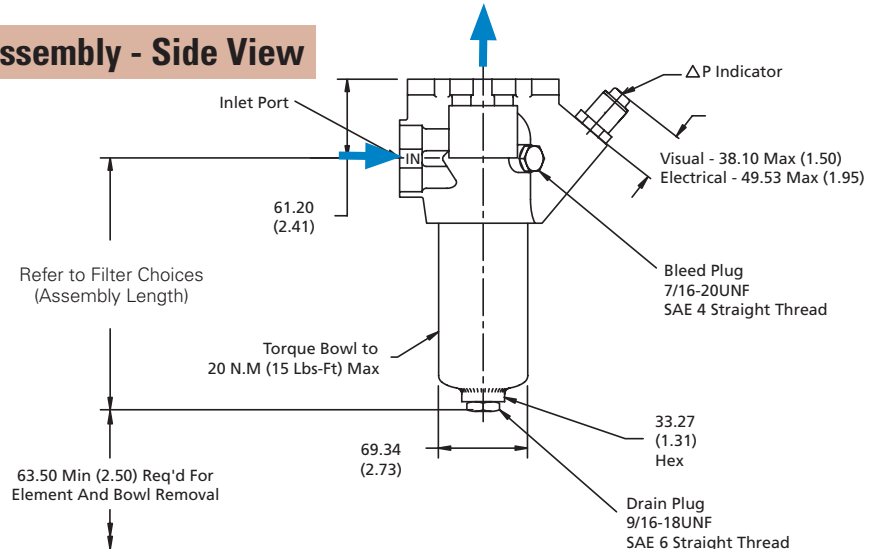
Note: The female plug (connector) is to be furnished by customer.

Differential Indicators: Indicators are designed to actuate at approximately 80% of bypass valve cracking pressure. It is recommended that an indicator with a bypass setting of 100 psid is used with a non-bypass housing.

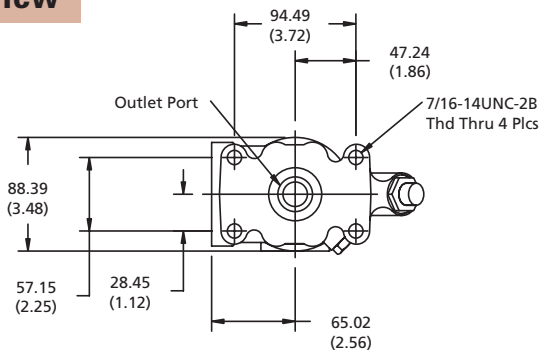
Surge Control: This optional feature is used to dampen pressure surges or spikes to avoid premature actuation of the indicator. Surge control delays the indicator response.

Thermal Lockout: The Thermal Lockout prevents premature signaling of a bypass condition created by viscous fluid during cold start-ups. Normal indicator actuation capability is resumed once the operating temperature of the fluid reaches approximately 80°F / 27°C.

Assembly - Side View



Head - Top View





W610

Max Flow: 50 gpm (189 lpm)



W610 Components

High-Performance DT Filter Choices

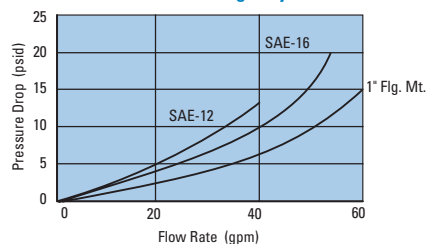
Media Type	$\beta_{x(c)} = 1000$ Rating based on ISO 16889	Length		Donaldson Part No.	Comments
		in	mm		
DT Synteq Synthetic	<4 μm	4.41	111.9	P566391	DT-9800-4-2UM
	5 μm	4.41	111.9	P566392	DT-9800-4-5UM
	8 μm	4.41	111.9	P566393	DT-9800-4-8UM
	12 μm	4.41	111.9	P566394	DT-9800-4-14UM
	23 μm	4.41	111.9	P566395	DT-9800-4-25UM
	<4 μm	8.28	210.3	P566396	DT-9800-8-2UM
	5 μm	8.28	210.3	P566397	DT-9800-8-5UM
	8 μm	8.28	210.3	P566398	DT-9800-8-8UM
	12 μm	8.28	210.3	P566399	DT-9800-8-14UM
	5 μm	4.46	113.2	P566406	DT-9801-4-5UM, High collapse
	12 μm	4.46	113.2	P566407	DT-9801-4-14UM, High collapse
	5 μm	8.16	207.2	P566408	DT-9801-8-5UM, High collapse
	12 μm	8.16	207.2	P566409	DT-9801-8-14UM, High collapse

Filter Notes

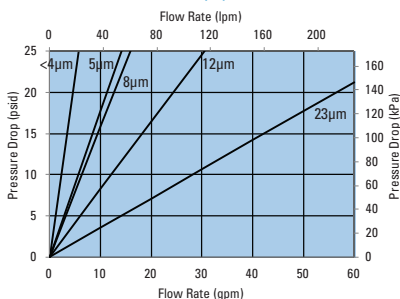
- All Donaldson DT filters utilize glass fiber media with an epoxy-based resin system for the ultimate in chemical compatibility.
- All Donaldson DT filters are potted with epoxy-based adhesives.
- Standard collapse DT designs are double wire-backed using epoxy-coated steel mesh for maximum pleat support and dirt capacity.
- High collapse designs are double wire-backed using stainless steel mesh.
- High collapse designs are also potted into machined aluminum endcaps for greater filter integrity in critical applications.
- Viton® seals are standard on all Donaldson DT filters. Viton® is a registered trademarks of E. I. DuPont de Nemours and Company.

Performance Data

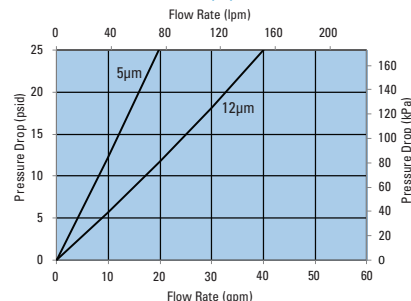
W610 Housing Only



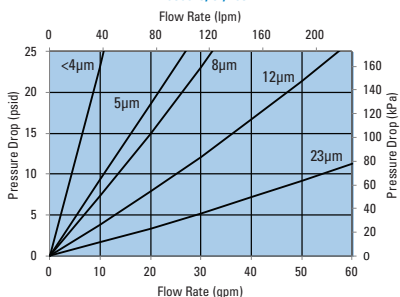
W610 4" DT Filter Only
DT-9800-4, 4"/102mm



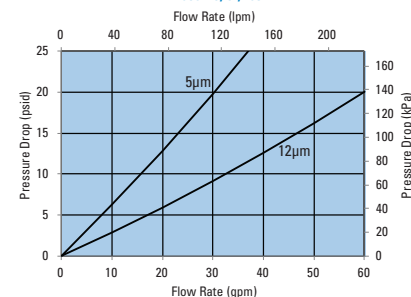
W610 4" DT Filter Only
DT-9801-4, 4"/102mm



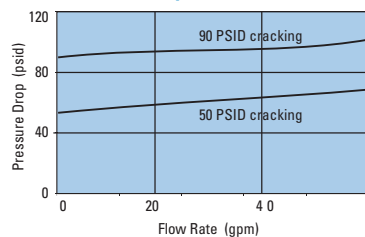
W610 8" DT Filter Only
DT-9800-8, 8"/203mm



W610 8" DT Filter Only
DT-9801-8, 8"/203mm



Bypass Valve





Housing Ordering Guide

Filter Assembly	W610 TABLE 1	1 TABLE 2	A TABLE 3	4 TABLE 4	J N TABLE 5	B TABLE 6	1 TABLE 7
-----------------	-----------------	--------------	--------------	--------------	------------------	--------------	--------------

Service Filter: Filters ordered separately. See previous page for filter options.

LEAD TIME NOTE:

This product is configured with the specifications and features of your choice. Please contact your Donaldson sales representative for lead time details.

Table 1

Filter Assembly	
CODE	DESCRIPTION
W610	Assembly

Table 2

Filter Collapse Options	
CODE	DESCRIPTION
1	150 psid for housing w/bypass valve
4	3000 psid for housing without bypass valve

Table 3

Port Size Options	
CODE	PORT SIZE
A	SAE-12 O-ring
B	SAE-16 O-ring
F	1" SAE 4-Bolt Flange Code 61
M	1" SAE 4-Bolt Flange Code 62
S	Manifold Mounting

Media Ratings

Western Filter elements have been replaced by Donaldson DT high-performance cartridges.

WESTERN MEDIA CODE	DONALDSON DT MEDIA
01	<4 μ m DT Synteq Synthetic
03	5 μ m DT Synteq Synthetic
05	8 μ m DT Synteq Synthetic
10	12 μ m DT Synteq Synthetic
20	23 μ m DT Synteq Synthetic

For a complete filter interchange, visit crossreference.donaldson.com.

Table 4

Bypass Setting Options	
CODE	BYPASS SETTING
1	Non-bypass
4	50 psid
6	90 psid

Note: Use option 1 code only with 3000 psid collapse filter.

Table 5 (Primary)

Indicator Style and Setting	
CODE	Δ P INDICATOR STYLE & SETTING
A	Visual indicator 70 psid w/TL and surge
B	Electrical/visual 70 psid w/TL and surge
D	Electrical/visual 35 psid
E	Electrical/visual 100 psid
G	Electrical/visual 35 psid w/TL
I	Visual indicator 70 psid
J	Δ P indicator plug
L	Visual indicator 35 psid
M	Visual indicator 35 psid w/ TL and surge
N	Electrical/visual 35 psid w/12" 3 wire flying lead
O	Visual indicator 100 psid
P	Visual indicator 100 psid w/TL and surge
R	Electrical switch 35 psid
S	Electrical/visual 100 psid w/12" 3-wire flying lead
T	Electrical switch 100 psid
U	Electrical switch 70 psid
V	Electrical/visual 70 psid w/TL
W	Electrical/visual 100 psid w/TL
Y	Electrical/visual 35 psid w/TL and surge
Z	Electrical/visual 100 psid w/TL and surge

TL (thermal lockout)

Table 5 (Secondary)

Receptacle Options	
CODE	ELECTRICAL STYLE
B	Brad Harrison® (5-pin)
H	Hirschmann® (4-pin)
N	None, for visual Δ P indicator

Table 6

Seal Options	
CODE	MATERIAL
B	Buna-N®
V	Viton®

Table 7

Assembly & Filter Length	
CODE (LGTH)	FILTER LENGTH
1 (6.75")	4.0"
2 (10.40")	8.0"

METRIC PORTING AVAILABLE

Change W610 to G610
 Porting code A becomes G3/4" ISO 228 BSPP
 Porting code B becomes G1" ISO 228 BSPP
 Porting code F becomes 1" SAE 4 bolt flange with M10 mounting threads
 Porting code M becomes 1" SAE 4 bolt flange with M12 mounting threads

Brad Harrison® is a registered trademark of Woodhead Industries, Inc.
 Hirschmann® is a registered trademark of Richard Hirschmann of America Inc.
 Buna-N® and Viton® are registered trademarks of E. I. DuPont de Nemours and Co.