FEATURES

Our dual element spin-on filter provides an economical solution for use on mobile equipment and industrial power units. Our head configuration allows use of a wide variety of gauges, switches and ΔP indicators. The popular E0211 series spin-on elements interchange with our W015 and W021/023 filter heads.

Western Filter's spin-ons fit many competitor heads and are shipped with both a narrow and rectangular gasket.

W022

120 gpm (454 l/min)

Both gauge ports and differential ΔP ports available

Available in W-Pore™ water absorbent media

Wide choice of service indicators, gauges and switches

Canister interchangeable with other heads

Technical Data:

Maximum Working Pressure		200 psi (14 bar)
Rated Burst Pressure		300 psi max (20.7 bar)
Temperature Range		Operating -45°F to + 225°F (-43°C to + 107°C)
Head Material		Cast aluminum
Canister Material		Steel
Seal Material		Buna N
Weight		
Assembly		
Length 1	10.0 lbs.	(4,5 kg.)
Length 2	12.0 lbs.	(5,4 kg.)
Canister (two per assembly)		
Length 1	2.5 lbs.	(1,3 kg.)
Length 2	3.5 lbs.	(1,6 kg.)

ACCESSORIES

Color coded pressure gauge for 25 psid bypass	P-232965-01
Color coded pressure gauge for 50 psid bypass	P-238114-01
Electrical switch 18 psi, Hirschmann	P-233051-01
Electrical switch 18 psi, Brad Harrison	P-234117-01
Electrical switch 35psi, Hirschmann	P-233573-01
Electrical switch 35 psi, Brad Harrison	P-234118-01

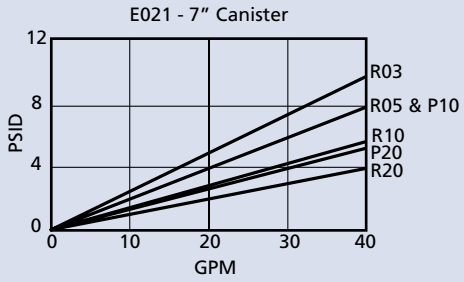
Housing and Filter Element
Flow versus Pressure Drop
150 SUS (32 cst.) oil with specific gravity ≤ 0.9

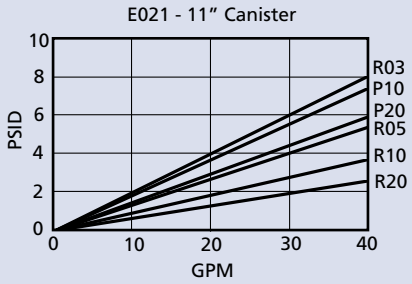
Viscosity Correction Formula

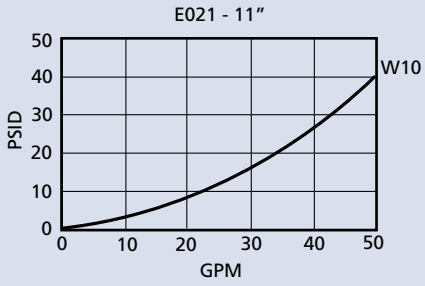
ΔP Element = psid from catalog X $\frac{\text{New Viscosity (SUS)}}{150}$ X $\frac{\text{New Specific Gravity}}{0.90}$

ΔP Element = psid from catalog X $\frac{\text{New Specific Gravity}}{0.90}$

ΔP Assembly = ΔP Element + ΔP Housing







Filter Assembly	W022	1	D	4	L | N	B	1	R	10
	TABLE 1	TABLE 2	TABLE 3	TABLE 4	TABLE 5	TABLE 6	TABLE 7	TABLE 8	TABLE 9
Service Element	E021	1	B	1	R	10			
	TABLE 1	TABLE 2	TABLE 6	TABLE 7	TABLE 8	TABLE 9			

Table 1

Filter Assembly / Service Element	
CODE	DESCRIPTION
W022	Assembly
E021	Element

Table 2

Element Collapse Options	
CODE	DESCRIPTION
1	150 psid for housing w/bypass valve

Table 3

Port Size Options	
CODE	PORT SIZE
D	1-7/8" - 12 UN (SAE-24)
E	1-1/2" SAE 4 Bolt Flange Code 61
U	1-1/2" NPT

Table 4

Bypass Setting Options	
CODE	BYPASS SETTING
1	Non-bypassed (plugged)*
2	15 psid
3	25 psid
4	50 psid

*80 psid maximum operating pressure

Table 5 (Primary)

Indicator Style and Setting	
CODE	ΔP INDICATOR STYLE & SETTING
C	Electrical/visual 15 psid
D	Electrical/visual 35 psid
F	Electrical/visual 15 psid & TL
G	Electrical/visual 35 psid & TL
H	Electrical/visual 15 psid with 12" 3-wire flying lead
J	ΔP indicator plug
K	Visual indicator 15 psid
L	Visual indicator 35 psid
N	Electrical/visual 35 psid with 12" 3-wire flying lead
Q	Electrical switch 15 psid
R	Electrical switch 35 psid
X	Electrical/visual 15 psid with TL and surge
Y	Electrical/visual 35 psid with TL and surge

TL (thermal lockout)

Table 5

Upstream Pressure Gauge and Switch Option	
CODE	INDICATOR STYLE & SETTING
1	Gauge ports drilled, tapped and plugged
3	0-60 psi pressure gauge**
4	0-60 psi pressure gauge*
6	Pressure switch 18 psi Brad Harrison (5-pin)
7	Pressure switch 35 psid Brad Harrison (5-pin)
8	Pressure switch 18 psi Hirschmann (4-pin)
9	Pressure switch 35 psid Hirschmann (4-pin)

*Bypass setting option code 3 only
**Bypass setting option code 4 only

Table 5 (Secondary)

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

Table 6

Seal Options	
CODE	MATERIAL
B	Buna N

Table 7

Assembly & Element Length	
CODE (LGTH)	CANISTER LENGTH
1 (10.4")	7.0"
2 (14.4")	11.0"

Table 8

Element Code	
CODE	DESCRIPTION
P	(Cellulose) 10, 20
R	(Glass) 03, 05, 10, 20
W	(Water absorbent) 10 canister length 2 only

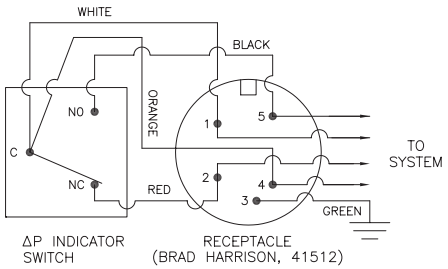
Table 9

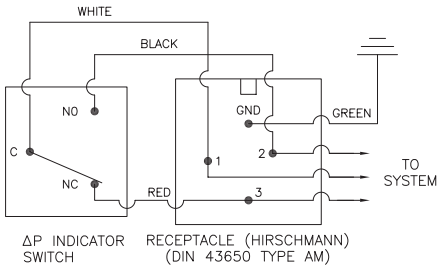
Media Rating	
CODE	TARGET FLUID CLEANLINESS LEVEL
03	16/14/12 or better
05	18/16/14 or better
10	20/18/15 or better
20	22/19/16 or better

Note: Information concerning fluid cleanliness codes is on page 6, the Media Grade Selection Guide.

Indicator Switch Schematic Wiring Diagram

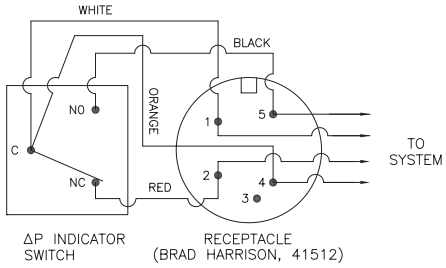
Aluminum Electrical Housings

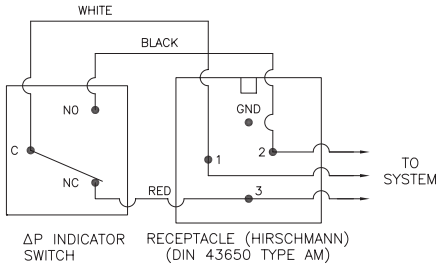




Note: The female plug (connector) is to be furnished by customer.

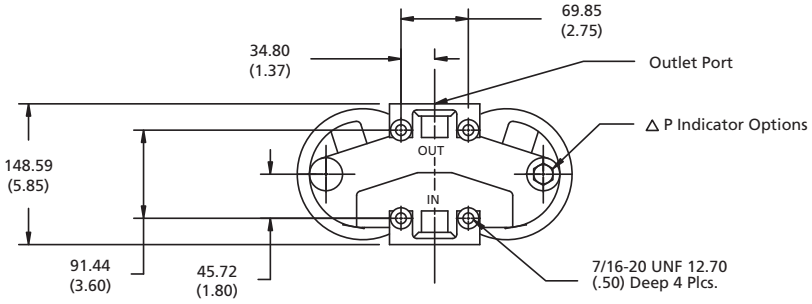
Plastic Electrical Housings

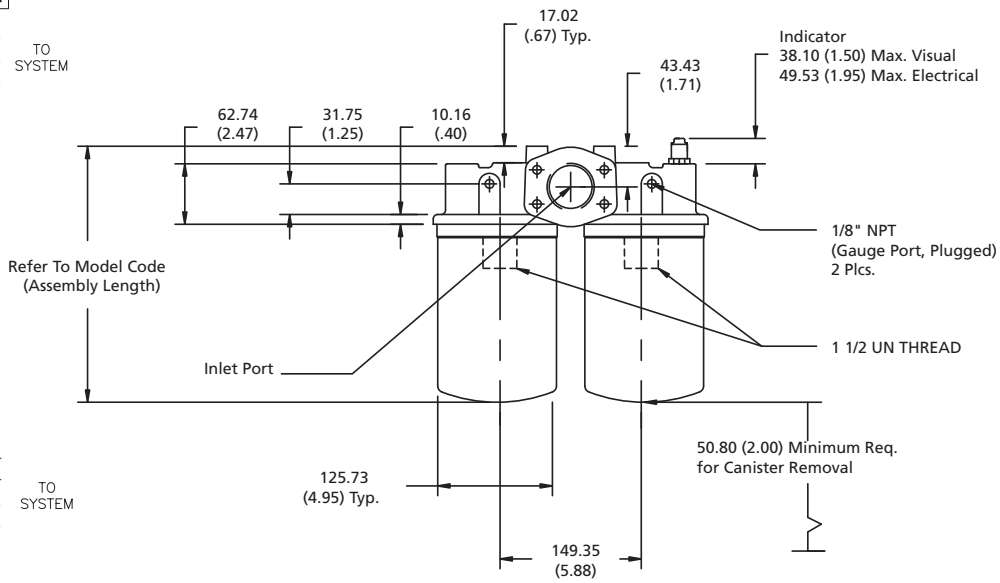




Note: The female plug (connector) is to be furnished by customer.

Dimensions: millimeter/inch





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:
Thermal Lockout (TL), prevents actuation below 60˚F and allows actuation above 100˚F system operating temperature. It's purpose is to avoid false actuations during periods of high fluid viscosity such as experienced during cold start.