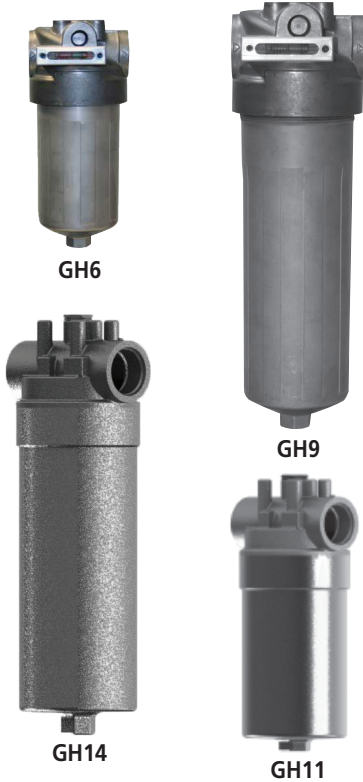


# HydraSPIN Filter Series

# GH



## Features and Benefits

- Variety of differential indicator port options (visual and electrical indicators)
- Leak proof bar indicator, rugged visual indicator with protective aluminum shield is standard
- Proprietary bowl to element seal - minimizes potential leakage point by use of one seal on element
- Cartridge style element (non spin-on) that is proprietary and patented with integrated bypass valve features
- Wide variety of media grades that can be application specific
- Light weight bowl design with replaceable element minimizes landfill waste
- Mounting interchangeability with competitor's filter head
- The inherent capability to pre-print the perforated outer element wrap provides a branding solution that helps to capture after-market replacement element sales
- Same day shipment model available (GH6 & GH9)

Part of Schroeder Industries Energy Savings Initiative

**35-112 gpm** **GH**  
**130-425 L/min** **RLT**  
**500-725 psi**  
**35-50 bar** **KF5**

**SRLT**

**K9**

**2K9**

**3K9**

**QF5**

**QF5i**

**2QF5/3QF5**

**QFD5**

**QF15**

**QLF15**

**SSQLF15**

Model No. of filters in photograph are GH6, GH9, GH11, and GH14.

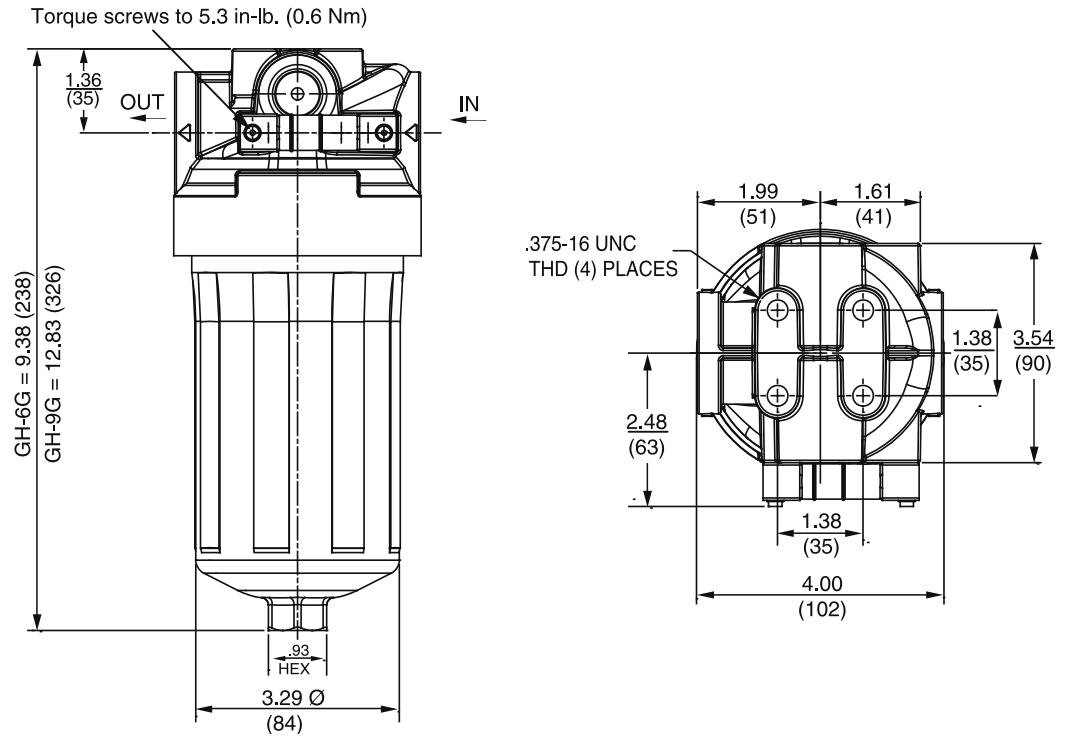
	GH6	GH9	GH11	GH14
Flow Rating: (150 SUS (32 cSt) fluids)	Up to 35 gpm (130 L/min)	Up to 35 gpm (130 L/min)	Up to 87 gpm (325 L/min)	Up to 112 gpm (425 L/min)
Max. Operating Pressure:	725 psi (50 bar)	725 psi (50 bar)	500 psi (35 bar)	500 psi (35 bar)
Min. Yield Pressure:	2600 psi (179 bar)	2600 psi (179 bar)	2700 psi (186 bar)	2700 psi (186 bar)
Rated Fatigue Pressure:	725 psi (50 bar)	725 psi (50 bar)	500 psi (35 bar)	500 psi (35 bar)
Temp. Range:	-20°F to 225°F (-29°C to 107°C)	-20°F to 225°F (-29°C to 107°C)	-22°F to 212°F (-30°C to 100°C)	-22°F to 212°F (-30°C to 100°C)
Bypass Setting:	25 psi (1.7 bar) standard 50 psi (3.5 bar) optional Non-Bypassing	25 psi (1.7 bar) standard 50 psi (3.5 bar) optional Non-Bypassing	43 psi (3 bar) standard 87 psi (6 bar) optional Non-Bypassing	43 psi (3 bar) standard 87 psi (6 bar) optional Non-Bypassing
Porting Head:	Cast Aluminum	Cast Aluminum	Cast Aluminum	Cast Aluminum
Element Case:	Aluminum	Aluminum	Aluminum	Aluminum
Weight:	3.2 lbs (1.4 kg)	3.8 lbs (1.7 kg)	8.0 lbs (3.6 kg)	10.0 lbs (4.5 kg)
Element Change Clearance:	2" (50 mm)	2" (50 mm)	7.4" (187 mm)	7.4" (187 mm)

## Filter Housing Specifications

## Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All media (synthetic) and H media (Hydraspin)

## Dimensions (GH6 & GH9)



Metric dimensions in ( ).

## Element Performance Information & Dirt Holding Capacity

Media Type	Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
		$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
Resin Impregnated Cellulose Media	6G3/9G3	6.8	7.5	10.0	N/A	N/A
	6G10/9G10	15.5	16.2	18.0	N/A	N/A
Traditional Excellement® Z-Media®	6GZ3 / 9GZ3	<1.0	<1.0	<2.0	<4.0	4.8
	6GZ5 / 9GZ5	2.5	3.0	4.0	4.8	6.3
	6GZ10 / 9GZ10	7.4	8.2	10.0	8.0	10.0
	6GZ25 / 9GZ25	18.0	20.0	22.5	19.0	24.0
Hydraspin H Media, designed to specifically reduce filter pressure drop	6GH10/ 9GH10	N/A	N/A	N/A	10.6	13.0

Media Type	Element	DHC (gm)
Resin Impregnated Cellulose Media	6G3/9G3	18/30
	6G10/9G10	15/25
Traditional Excellement® Z-Media®	6GZ3 / 9GZ3	30/51
	6GZ5 / 9GZ5	24.5/42
	6GZ10 / 9GZ10	31/49
	6GZ25 / 9GZ25	34/58
Hydraspin H Media, designed to specifically reduce filter pressure drop	6GH10/9GH10	12/20

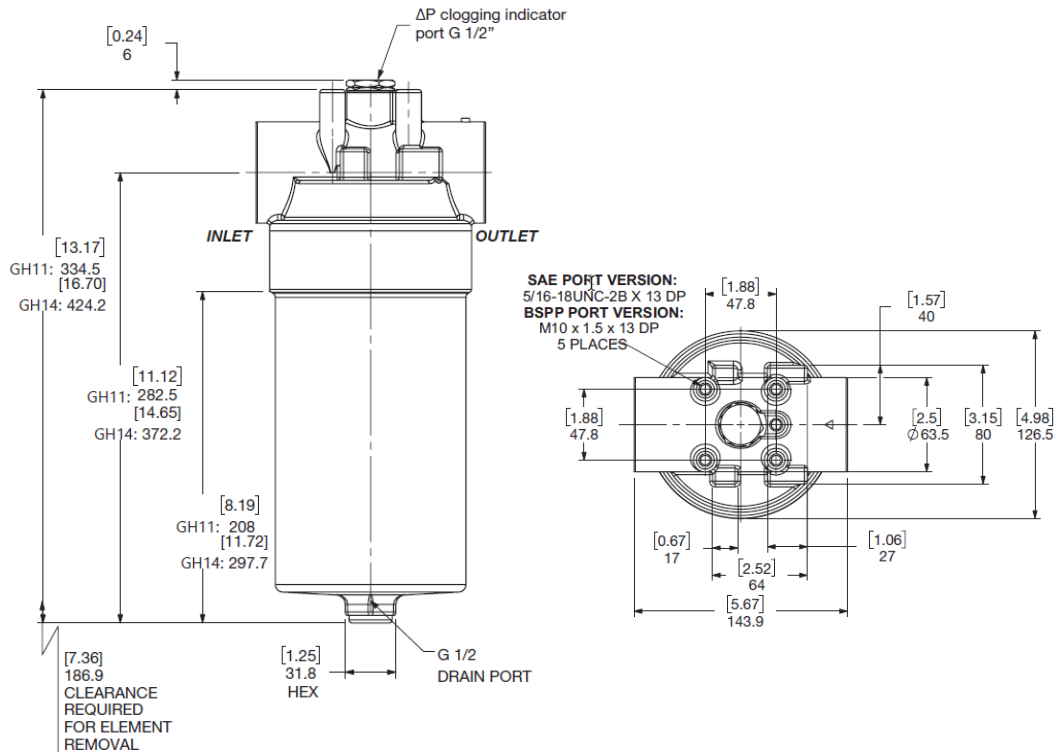
Element Collapse Rating: 250 psid (17.2 bar) for standard and non-bypassing elements

Flow Direction: Outside In

Element Nominal 6G: 3.25" (82 mm) O.D. x 5.7" (144 mm) long

Dimensions: 9G: 3.25" (82 mm) O.D. x 9.0" (229 mm) long

## Dimensions (GH11 & GH14)



Metric dimensions in ( ).

Media Type	Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
		$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
Traditional	11GZ3/14GZ3	<1.0	<1.0	<2.0	<4.0	4.8
	11GZ5/14GZ5	2.5	3.0	4.0	4.8	6.3
Excellement®	11GZ10/14GZ10	7.4	8.2	10.0	8.0	10.0
Z-Media®	11GZ25/14GZ25	18.0	20.0	22.5	19.0	24.0

## Element Performance Information & Dirt Holding Capacity

Media Type	Element	DHC (gm)
Traditional	11GZ3/14GZ3	53/75
	11GZ5/14GZ5	75/105
Excellement®	11GZ10/14GZ10	60/84
Z-Media®	11GZ25/14GZ25	61/85

Element Collapse Rating: 290 psid (17.2 bar) for standard and non-bypassing elements

Flow Direction: Outside In

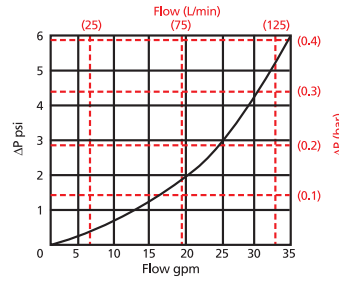
Element Nominal Dimensions: 11G: 3.7" (94 mm) O.D. x 7.6" (193 mm) long

14G: 3.7" (94 mm) O.D. x 11.1" (282 mm) long

**Pressure Drop Information (GH6 & GH9)**  
Based on Flow Rate and Viscosity

$\Delta P_{\text{housing}}$

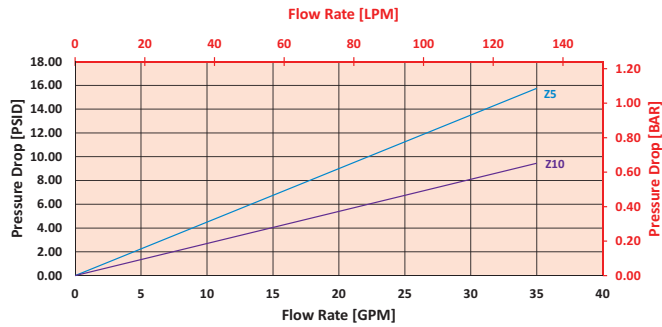
GH  $\Delta P_{\text{housing}}$  for fluids with sp gr (specific gravity) = 0.86:



$\Delta P_{\text{element}}$

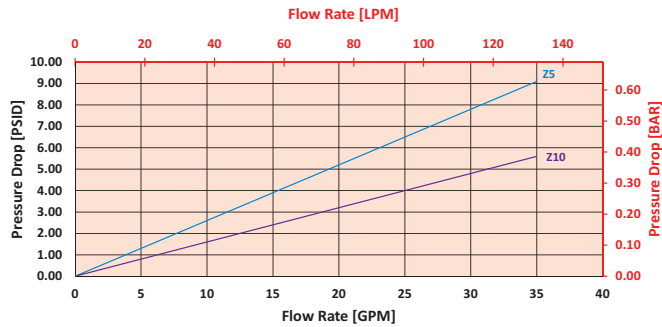
6GZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



9GZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + (\Delta P_{\text{element}} * \mathbf{V}_f)$$

**Exercise:**

Determine  $\Delta P_{\text{filter}}$  at 15 gpm (57 L/min) for GH6GZ10S12L using 160 SUS (34 cSt) fluid.

Use the housing pressure curve to determine  $\Delta P_{\text{housing}}$  at 15 gpm. In this case,  $\Delta P_{\text{housing}}$  is 1.5 psi (0.10 bar) on the graph for the GH housing.

Use the element pressure curve to determine  $\Delta P_{\text{element}}$  at 15 gpm. In this case,  $\Delta P_{\text{element}}$  is 4 psi (0.27 bar) according to the graph for the 6GZ10 element.

Because the viscosity in this sample is 160 SUS (34 cSt), we determine the **Viscosity Factor ( $\mathbf{V}_f$ )** by dividing the **Operating Fluid Viscosity** with the **Standard Viscosity** of 150 SUS (32 cSt). To best determine your Operating Fluid Viscosity, please reference the chart in Appendix D.

Finally, the overall filter pressure differential,  $\Delta P_{\text{filter}}$ , is calculated by adding  $\Delta P_{\text{housing}}$  with the true element pressure differential,  $(\Delta P_{\text{element}} * \mathbf{V}_f)$ . The  $\Delta P_{\text{element}}$  from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

**Solution:**

$\Delta P_{\text{housing}} = 1.5 \text{ psi [0.10 bar]} \mid \Delta P_{\text{element}} = 4 \text{ psi [0.27 bar]}$

$\mathbf{V}_f = 160 \text{ SUS (34 cSt)} / 150 \text{ SUS (32 cSt)} = 1.1$

$\Delta P_{\text{filter}} = 1.5 \text{ psi} + (4 \text{ psi} * 1.1) = 5.9 \text{ psi}$

**OR**

$\Delta P_{\text{filter}} = 0.10 \text{ bar} + (0.27 \text{ bar} * 1.1) = 0.40 \text{ bar}$

Note:

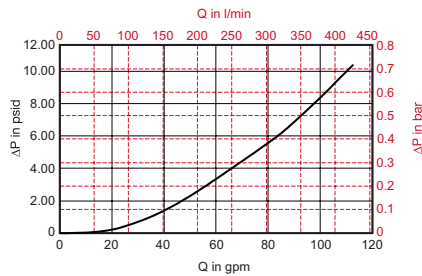
If your element is not graphed, you can obtain your  $\Delta P_{\text{element}}$  by multiplying the flow rate by the following:  $\Delta P_{\text{element}} \text{ Factors} * \mathbf{V}_f$  (Visc. Factor)

$\Delta P_{\text{element}} \text{ Factors @ 150 SUS (32 cSt)}$

Ele.	$\Delta P$	Ele.	$\Delta P$
6G3	0.60	9G3	0.35
6G10	0.40	9G10	0.24
6G25	0.08	9G25	0.05
6GH10	C/F	9GH10	C/F
6GZ3	0.60	9GZ3	0.35
6GZ25	C/F	9GZ25	C/F

$\Delta P_{\text{housing}}$

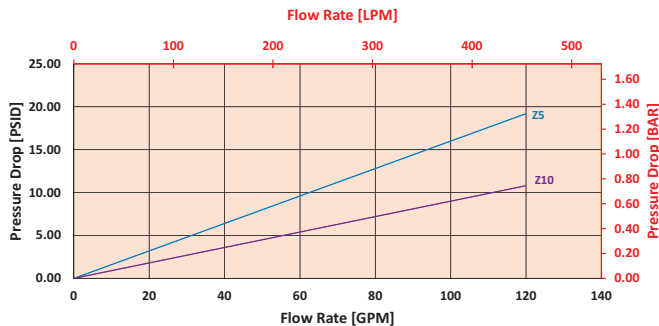
GH  $\Delta P_{\text{housing}}$  for fluids with sp gr (specific gravity) = 0.86:



$\Delta P_{\text{element}}$

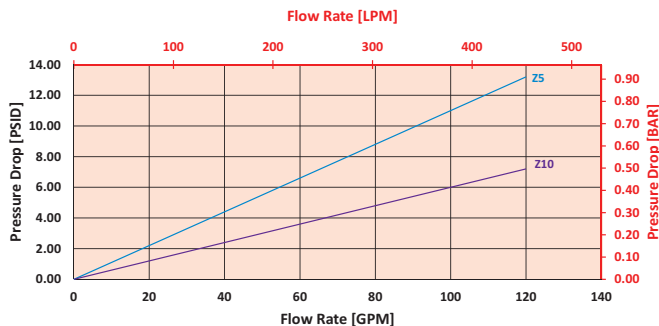
11GZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



14GZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + (\Delta P_{\text{element}} * \mathbf{V}_f)$$

### Exercise:

Determine  $\Delta P_{\text{filter}}$  at 60 gpm (227.4 L/min) for GH11GZ10S24VA using 160 SUS (34 cSt) fluid.

Use the housing pressure curve to determine  $\Delta P_{\text{housing}}$  at 60 gpm. In this case,  $\Delta P_{\text{housing}}$  is 3 psi (0.21 bar) on the graph for the GH housing.

Use the element pressure curve to determine  $\Delta P_{\text{element}}$  at 60 gpm. In this case,  $\Delta P_{\text{element}}$  is 5 psi (0.34 bar) according to the graph for the 11GZ10 element.

Because the viscosity in this sample is 160 SUS (34 cSt), we determine the **Viscosity Factor ( $\mathbf{V}_f$ )** by dividing the **Operating Fluid Viscosity** with the **Standard Viscosity** of 150 SUS (32 cSt). To best determine your Operating Fluid Viscosity, please reference the chart in Appendix D.

Finally, the overall filter pressure differential,  $\Delta P_{\text{filter}}$ , is calculated by adding  $\Delta P_{\text{housing}}$  with the true element pressure differential, ( $\Delta P_{\text{element}} * \mathbf{V}_f$ ). The  $\Delta P_{\text{element}}$  from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

### Solution:

$$\Delta P_{\text{housing}} = 3 \text{ psi [0.21 bar]} \quad | \quad \Delta P_{\text{element}} = 5 \text{ psi [0.34 bar]}$$

$$\mathbf{V}_f = 160 \text{ SUS (34 cSt)} / 150 \text{ SUS (32 cSt)} = 1.1$$

$$\Delta P_{\text{filter}} = 3 \text{ psi} + (5 \text{ psi} * 1.1) = 8.5 \text{ psi}$$

OR

$$\Delta P_{\text{filter}} = 0.21 \text{ bar} + (0.34 \text{ bar} * 1.1) = 0.58 \text{ bar}$$

**Pressure Drop Information (GH11 & GH14)**  
Based on Flow Rate and Viscosity

Note:  
If your element is not graphed, you can obtain your  $\Delta P_{\text{element}}$  by multiplying the flow rate by the following:  $\Delta P_{\text{element}} \text{ Factors} \times \mathbf{V}_f$  (Visc. Factor)  
 **$\Delta P_{\text{element}}$  Factors @ 150 SUS (32 cSt)**

Ele.	$\Delta P$
11GZ3	0.21
11GZ25	0.06
14GZ3	0.14
14GZ25	0.04

## Filter Model Number Selection (GH6 & GH9)

Highlighted product eligible for **QuickDelivery**

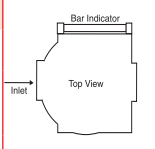
### How to Build a Valid Model Number for a Schroeder GH6/GH9:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
GH						

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
GH	6	GZ10			S16	L	= GH6GZ10S16L

BOX 1	BOX 2	BOX 3	BOX 4
<b>Filter Series</b>	<b>Element Length (in)</b>	<b>Element Part Number</b>	<b>Bypass Setting</b>
GH	6 9	G3 = 3 μ E media (cellulose) G10 = 10 μ E media (cellulose) G25 = 25 μ E media (cellulose)  GZ3 = 3 μ Excellement® Z-Media® (synthetic) GZ5 = 5 μ Excellement® Z-Media® (synthetic) GZ10 = 10 μ Excellement® Z-Media® (synthetic) GZ25 = 25 μ Excellement® Z-Media® (synthetic) GH10 = 10 μ Excellement® Hydraspin media	Omit = 25 psid 50 = 50 psid N = Non-bypassing

BOX 5	BOX 6	BOX 7
<b>Element Seal Material</b>	<b>Inlet Port</b>	<b>Dirt Alarm® Options</b>
Omit = Buna N	S12 = SAE-12 S16 = SAE-16 B12 = ISO 228 G-3/4" B16 = ISO 228 G-1"	Omit = None  Visual: <ul style="list-style-type: none"> <li>L = Bar indicator, left side std</li> <li>R = Bar indicator, right side std</li> <li>B = Bar indicators, left and right side</li> <li>VA = Visual pop-up w/auto reset</li> <li>VM = Visual pop-up w/manual reset</li> </ul> Omit = None M = Drilled, tapped, plugged Electrical: <ul style="list-style-type: none"> <li>DTC = DC 2 wire, normally closed (NC)</li> <li>DTO = DC 2 wire, normally open (NO)</li> <li>DW = AC/DC 3-wire (NO or NC)</li> </ul>
		<b>Indicator Location Option L</b> 

## Filter Model Number Selection (GH11 & GH14)

### How to Build a Valid Model Number for a Schroeder GH11/GH14:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
GH						

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
GH	11	GZ10	87		S24	VA	= GH11GZ1087S24VA

BOX 1	BOX 2	BOX 3	BOX 4
<b>Filter Series</b>	<b>Element Length (in)</b>	<b>Element Part Number</b>	<b>Bypass Setting</b>
GH	11 14	GZ3 = 3 μ Excellement® Z-Media® (synthetic) GZ5 = 5 μ Excellement® Z-Media® (synthetic) GZ10 = 10 μ Excellement® Z-Media® (synthetic) GZ25 = 25 μ Excellement® Z-Media® (synthetic)	Omit = 47 psid 87 = 87 psid N = Non-bypassing

BOX 5	BOX 6	BOX 7
<b>Element Seal Material</b>	<b>Inlet Port</b>	<b>Dirt Alarm® Options</b>
Omit = Buna N V = Viton	B24 = ISO 228 G-1½" S24 = SAE 24 Straight Thread Ports	Omit = None  Visual: <ul style="list-style-type: none"> <li>VA = Visual pop-up w/auto reset</li> <li>VM = Visual pop-up w/manual reset</li> <li>VF = Visual analog</li> </ul> Electrical: <ul style="list-style-type: none"> <li>EC = Electrical switch - SPDT</li> <li>ED = Electrical switch and LED light - SPDT</li> </ul>

**NOTES:**

Box 2. Replacement element part numbers are a combination of Boxes 2, 3 and 4. Replacement elements contain bypass. For 50 psid setting or non-bypassing version, element part number includes suffix. Examples: 11GZ1050, 14GZ10N.

Box 7. VA and VM indicators are available with 50 psid bypass element only.