HydraSPIN Filter Series GH


GH6


GH9


GH14


GH11

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

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
- GH6 – Bolt up cartridge element replacement for the Donaldson DURAMAX HMK04 w/ 5.9" Spin-On Can
- GH9 – Bolt up cartridge element replacement for the Donaldson DURAMAX HMK04 w/ 9.4" Spin-On Can
- GH11 – Bolt up cartridge element replacement for the Donaldson DURAMAX HMK05 w/ 11.6" Spin-On Can
- GH14 – Bolt up cartridge element replacement for the Donaldson DURAMAX HMK05 w/ 14.3" Spin-On Can
- Same day shipment model available (GH6 & GH9)

Part of Schroeder Industries' Energy Sustainability Initiative

35-112 gpm
130-425 L/min
500-725 psi
35-50 bar

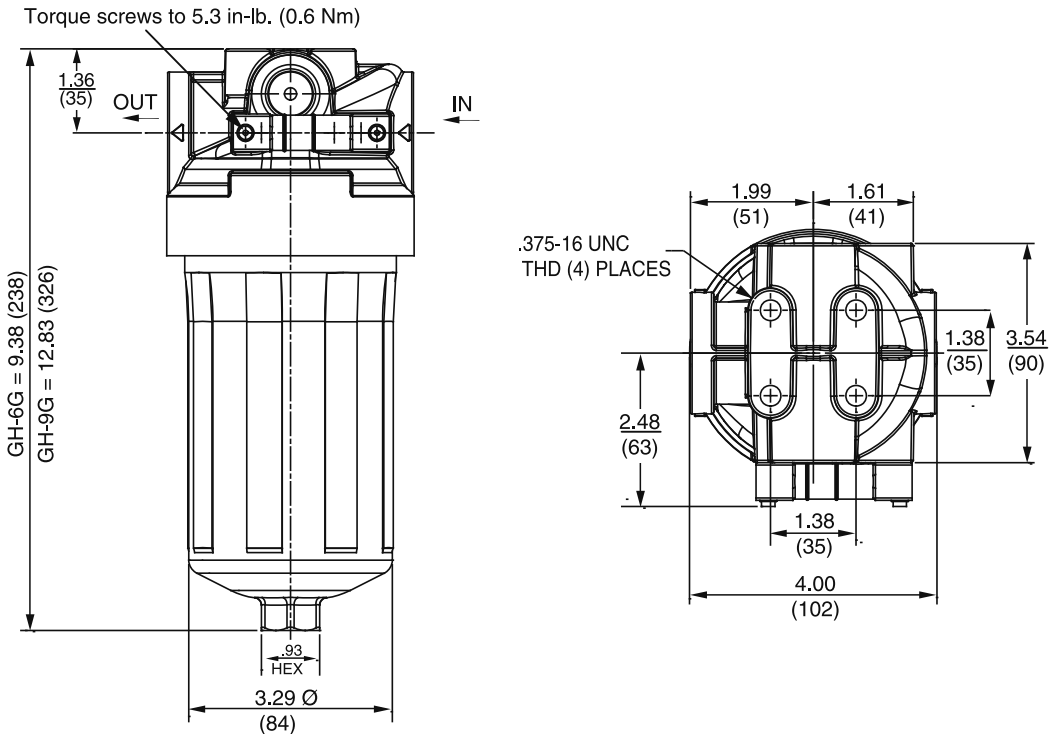
Filter Housing Specifications

	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)

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 $ß_x \geq 75$	$ß_x \geq 100$	$ß_x \geq 200$	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171 $ß_x(c) \geq 200$	$ß_x(c) \geq 1000$
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

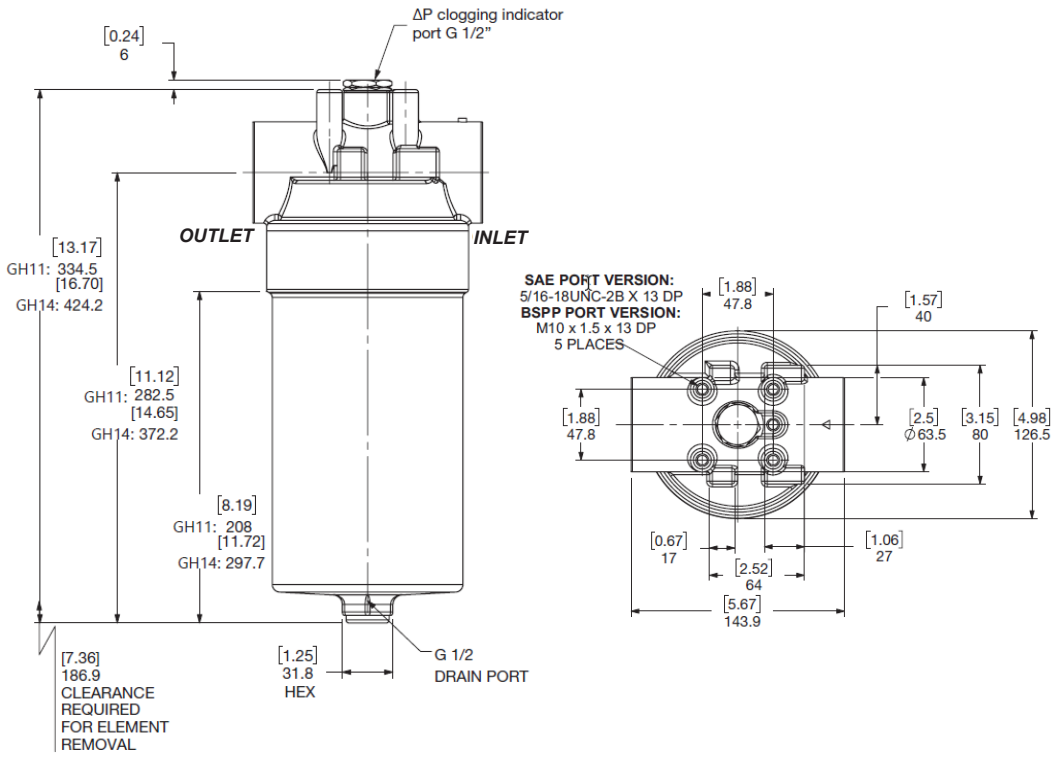
Media Type	Element	DHC (gm)
Resin Impregnated Cellulose Media	6G3/9G3	18/30
	6G10/9G10	15/25
Traditional Excellement® Z-Media®	6GZ3 / 9GZ3	30/51
	6GZ5 / 9GZ5	24.5/42
	6GZ10 / 9GZ10	31/49
	6GZ25 / 9GZ25	34/58
Hydraspin H Media, designed to specifically reduce filter pressure drop	6GH10/9GH10	12/20

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

Flow Direction: Outside In

Element Nominal Dimensions: 6G: 3.25" (82 mm) O.D. x 5.7" (144 mm) long
9G: 3.25" (82 mm) O.D. x 9.0" (229 mm) long

Dimensions (GH11 & GH14)



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	
		$ß_x \geq 75$	$ß_x \geq 100$	$ß_x \geq 200$	$ß_x(c) \geq 200$	$ß_x(c) \geq 1000$
Traditional Excellement® Z-Media®	11GZ3/14GZ3	<1.0	<1.0	<2.0	<4.0	4.8
	11GZ5/14GZ5	2.5	3.0	4.0	4.8	6.3
	11GZ10/14GZ10	7.4	8.2	10.0	8.0	10.0
	11GZ25 /14GZ25	18.0	20.0	22.5	19.0	24.0

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

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

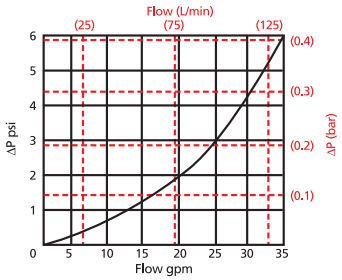
Flow Direction: Outside In

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

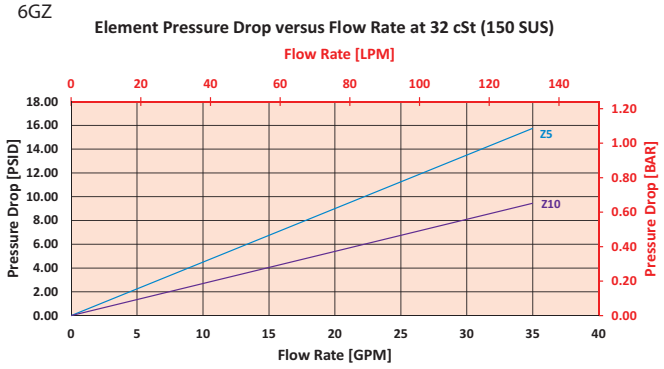
$\Delta P_{housing}$

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

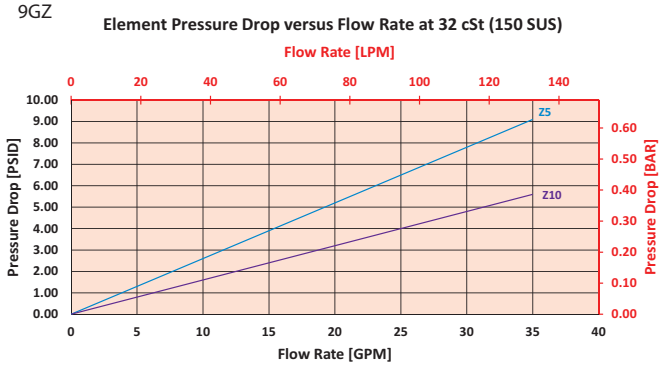


$\Delta P_{element}$

6GZ



9GZ



$$\Delta P_{filter} = \Delta P_{housing} + (\Delta P_{element} * V_f)$$

Exercise:

Determine ΔP_{filter} at 15 gpm (57 L/min) for GH6GZ10S12L using 160 SUS (34 cSt) fluid.

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

Use the element pressure curve to determine $\Delta P_{element}$ at 15 gpm. In this case, $\Delta P_{element}$ 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 (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, ΔP_{filter} , is calculated by adding $\Delta P_{housing}$ with the true element pressure differential, ($\Delta P_{element} * V_f$). The $\Delta P_{element}$ from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

Solution:

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

V_f = 160 SUS (34 cSt) / 150 SUS (32 cSt) = 1.1

ΔP_{filter} = 1.5 psi + (4 psi * 1.1) = 5.9 psi

OR

ΔP_{filter} = 0.10 bar + (0.27 bar * 1.1) = 0.40 bar

Note:
If your element is not graphed, you can obtain your $\Delta P_{element}$ by multiplying the flow rate by the following: $\Delta P_{element}$ Factors x VP (Visc. Factor)

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

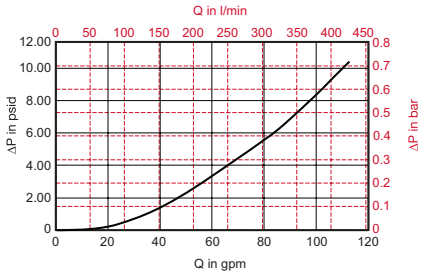
Ele.	ΔP	Ele.	ΔP
6G3	0.60	9G3	0.35
6G10	0.40	9G10	0.24
6G25	0.08	9G25	0.05
6GH10	C/F	9GH10	C/F
6GZ3	0.60	9GZ3	0.35
6GZ25	C/F	9GZ25	C/F

Pressure Drop Information (GH11 & GH14)

Based on Flow Rate and Viscosity

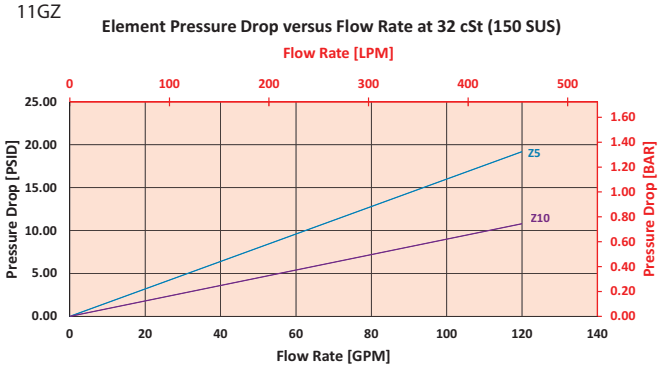
$\Delta P_{housing}$

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

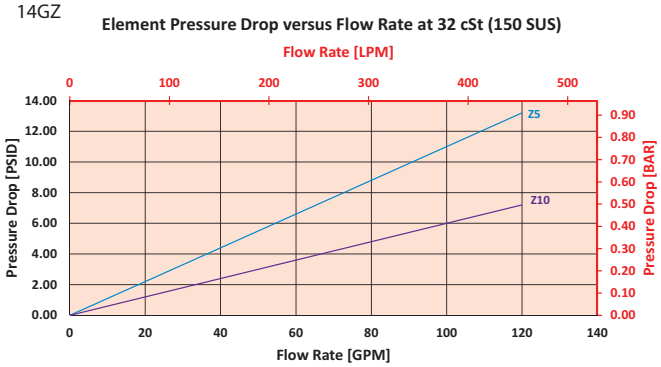


$\Delta P_{element}$

11GZ



14GZ



$$\Delta P_{filter} = \Delta P_{housing} + (\Delta P_{element} * V_f)$$

Exercise:

Determine ΔP_{filter} at 60 gpm (227.4 L/min) for GH11GZ10S24VA using 160 SUS (34 cSt) fluid.

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

Use the element pressure curve to determine $\Delta P_{element}$ at 60 gpm. In this case, $\Delta P_{element}$ 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 (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, ΔP_{filter} , is calculated by adding $\Delta P_{housing}$ with the true element pressure differential, ($\Delta P_{element} * V_f$). The $\Delta P_{element}$ from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

Solution:

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

V_f = 160 SUS (34 cSt) / 150 SUS (32 cSt) = 1.1

ΔP_{filter} = 3 psi + (5 psi * 1.1) = 8.5 psi

OR

ΔP_{filter} = 0.21 bar + (0.34 bar * 1.1) = 0.58 bar

Note:
If your element is not graphed, you can obtain your $\Delta P_{element}$ by multiplying the flow rate by the following: $\Delta P_{element}$ Factors x VP (Visc. Factor)

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

Ele.	ΔP
11GZ3	0.21
11GZ25	0.06
14GZ3	0.14
14GZ25	0.04

GH HydraSPIN Filter Series

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 – Filter Series

GH

BOX 2 – Element Length (in)

6
9

BOX 3 – Element Part Number

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

BOX 4 – Bypass Setting

Omit	= 25 psid
50	= 50 psid
N	= Non-bypassing

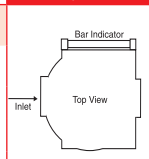
BOX 5 – Element Seal Material

Omit = Buna N

BOX 6 – Inlet Port

S12 =	SAE-12
S16 =	SAE-16
B12 =	ISO 228 G-¾"
B16 =	ISO 228 G-1"

BOX 7 – Dirt Alarm® Options

Omit = None		Indicator Location Option L
Visual	L = Bar indicator, left side std	
	R = Bar indicator, right side std	
	B = Bar indicators, left and right side	
	VA = Visual pop-up w/auto reset	
	VM = Visual pop-up w/manual reset	
Electrical	Omit = None	
	M = Drilled, tapped, plugged	
	DTC = DC 2 wire, normally closed (NC)	
	DTO = DC 2 wire, normally open (NO)	
	DW = AC/DC 3-wire (NO or NC)	

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 – Filter Series

GH

BOX 2 – Element Length (in)

11
14

BOX 3 – Element Part Number

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)

BOX 4 – Bypass Setting

Omit	= 47 psid
87	= 87 psid
N	= Non-bypassing

BOX 5 – Element Seal Material

Omit = Buna N
V = Viton

BOX 6 – Inlet Port

B24 = ISO 228 G-1½"
S24 = SAE 24 Straight Thread Ports

BOX 7 – Dirt Alarm® Options

Omit = None	
Visual	VA = Visual pop-up w/auto reset
	VM = Visual pop-up w/manual reset
	VF = Visual analog
Electrical	EC = Electrical switch - SPDT
	ED = Electrical switch and LED light - SPDT

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 2. Seal Replacement for GH6 & GH9 is PN: 3798638

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