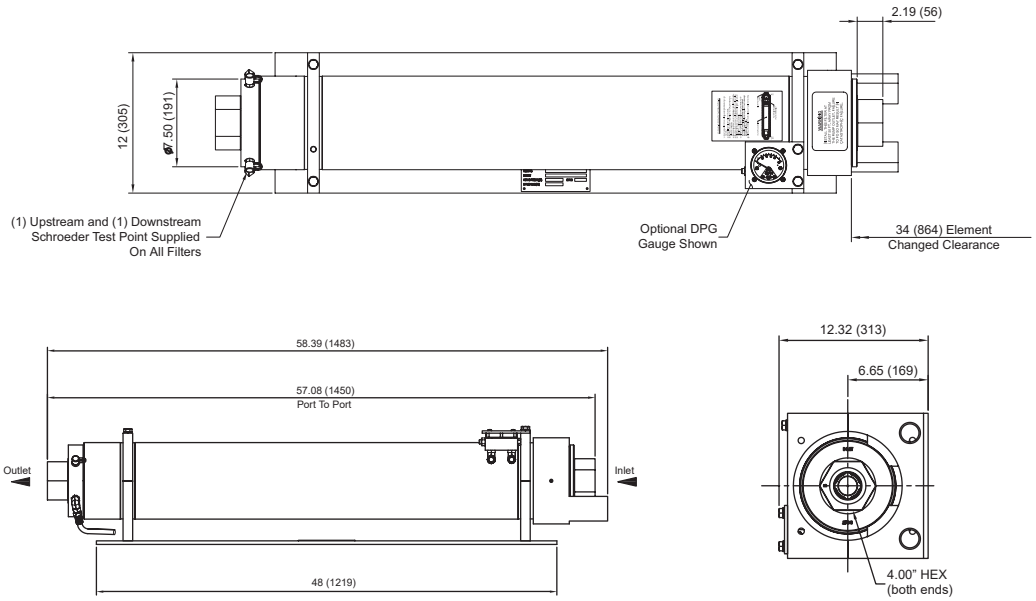
LW60 Longwall Filter

300 gpm
1135 L/min

6000 psi
400 bar



Filter Housing Specifications

Flow Rate:	Up to 300 gpm (1135 L/min) for use with 95/5 fluids
Max. Operating Pressure:	6,000 psi (400 bar)
Min. Yield Pressure:	18,000 psi (1240 bar)
Rated Fatigue Pressure:	4500 psi (310 bar)
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 50 psi (3.4 bar) LWN60 non-bypassing model available with high crush element
Porting Cap & Housing Cap:	Steel
Element Change Clearance:	34.0” (864 mm)
Weight:	550 lb (250 kg)

Element Performance Information

Element	Abs. Rating wrt ISO 16889 Using APC calibrated per ISO 11171 B_x (c) 1000	Dirt Holding Capacity (gm)
39ZPZ3V	5.1	449
39ZPZ5V	6.1	359
39ZPZ10V	12.1	429
39ZPZ25V	17.7	284

Element Collapse Rating:	**150 psi (10 bar)**
Flow Direction:	Outside In
Element Nominal Dimensions:	50" (127 mm) O.D. x 38" (365 mm) long

Fluid Compatibility

Specifically designed for use with 95/5 fluids in mining longwall applications

Features

- Horizontal alignment allows straight-through flow, maximizing efficiency and minimizing pressure drop
- Propriety synthetic media designed specifically for the mining industry, Excellement®-MD, provides level of filtration not achievable using alternative wire mesh elements because of their lack of absolute ratings
- Two-inch BSPP ports are easily adaptable to Super Stecko fittings commonly used underground
- Stainless steel bypass valve that ensures smooth integration with 95/5 fluid
- Non-bypassing version available with high crush (4500 psid) cleanable metal mesh (25 micron) element

Element Selection Based on Flow Rate

Pressure	Element Series	Element Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 50 psi (3.4 bar) bypass valve.
6000 psi	Z Media	39ZPZ3V	
		39ZPZ5V	
		39ZPZ10V	
		39ZPZ25V	
	Flow	gpm	0 100 150 200 250 300
		(L/min)	0 400 600 800 1000 1150

Pressure Drop Information Based on Flow Rate and Viscosity

$\Delta P_{filter} = \Delta P_{housing} + \Delta P_{element}$

Exercise:
Determine ΔP at 250 gpm (950 L/min) LW6039ZPZ3VB32 using 150 SUS (32 cSt) fluid.

Solution:

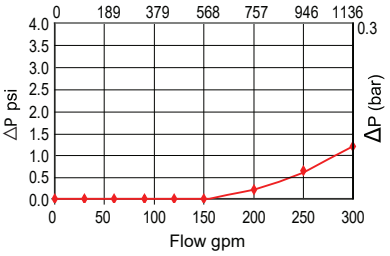
$\Delta P_{housing}$ = 0.7 psi [0.05 bar]

$\Delta P_{element}$ = 250 x .06 x (150 ÷ 150) = 15.0 psi
or
= [950 x (.06 ÷ 54.9) x (32 ÷32) = 1.1 bar]

ΔP_{total} = 0.7 + 15.0 = 15.7 psi
or
= [0.05 + 1 .1 = 1.15 bar]

$\Delta P_{housing}$

LW60 $\Delta P_{housing}$ for fluids with sp gr = 0.86:
Flow (L/min)



sp gr = specific gravity

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x viscosity factor

El. ΔP factors @ 150 SUS (32 cSt):

39ZPZ3V	.06
39ZPZ5V	.05
39ZPZ10V	.04
39ZPZ25V	.01

If working in units of bars & L/min, divide above factor by 54.9.

Viscosity factor:
Divide viscosity by 150 SUS (32 cSt).

Sizing of elements should be based on element flow information provided in the Element Selection chart above.
Please note that 95/5 fluid has a lower viscosity than 150 SUS and therefore pressure drops for 95/5 will actually be lower.

Filter Model Number Selection

Filter Series	Element Part Number	Porting	Bypass Setting	Dirt Alarm
LW60	39ZPZ3V 39ZPZ5V 39ZPZ10V 39ZPZ25V	B32=ISO 228 G-2" (2-11 BSPP)	(Omit)= 50 psi Cracking 30 = 30 psi cracking	DPG= Differential Pressure Gauge
LWN60	39ZPMX25V	B32=ISO 228 G-2" (2-11 BSPP)	(Omit)= Blocked	DPG= Differential Pressure Gauge