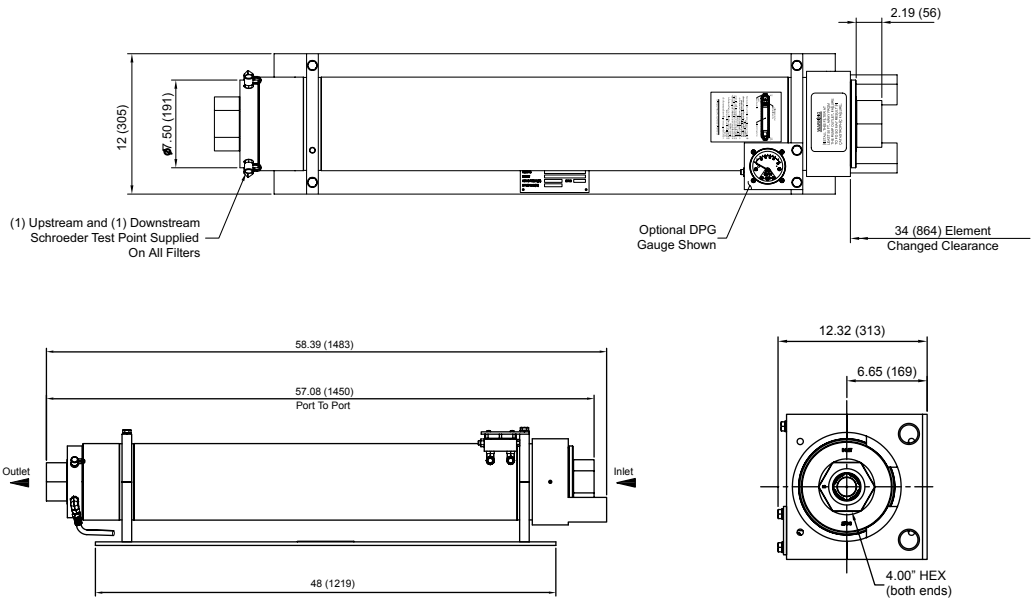


# LW60

# 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 <sub>x</sub> (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

- Horizontal alignment allows straight-through flow, maximizing efficiency and minimizing pressure drop
- Proprietary 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

## Features

LW60

Excellement MD

Mining  
Specific  
Elements

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

## Element Selection Based on Flow Rate

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

Exercise:

Determine  $\Delta P$  at 250 gpm (950 L/min) LW6039ZPZ3VB32 using 150 SUS (32 cSt) fluid.

Solution:

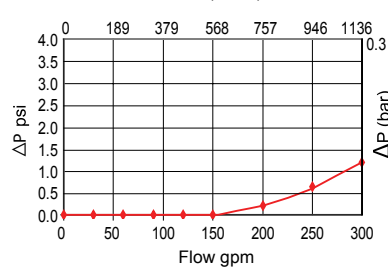
$$\Delta P_{\text{housing}} = 0.7 \text{ psi } [0.05 \text{ bar}]$$

$$\begin{aligned} \Delta P_{\text{element}} &= 250 \times .06 \times (150 \div 150) = 150 \text{ psi} \\ &\text{or} \\ &= [950 \times (.06 \div 54.9) \times (32 \div 32) = 1.1 \text{ bar}] \end{aligned}$$

$$\begin{aligned} \Delta P_{\text{total}} &= 0.7 + 15.0 = 15.7 \text{ psi} \\ &\text{or} \\ &= [0.05 + 1.1 = 1.15 \text{ bar}] \end{aligned}$$

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

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



sp gr = specific gravity

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

$$\Delta P_{\text{element}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor}$$

El.  $\Delta P$  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).

## Pressure Drop Information Based on Flow Rate and Viscosity

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 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

## Filter Model Number Selection