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UH209 Series Filters

ULTIPLEAT * SRT HIGH PRESSURE FIL TERS

Port Size $\frac{3}{4}$ " and 1"



Features

- Patented Ultipleat (laid-over pleat) filter medium pack
- Coreless, cageless element configuration
- Pall Stress-Resistant Technology (SRT) Media
- In-to-out filter element flow path
- Flows to 110 L/min (30 US gpm)
- Pressures to 350 bar (5075 psi)
- Port size ¾" and 1"

Notes and Specifications

Filter Housing

- **Maximum Working Pressure:**
350 bar (5075 psi)
- **Rated Fatigue Pressure:**
0-300 bar (4350 psi) per NFPA T2.06.01R2-2001 CAT C/90/* (1 million cycles), verified by testing at 0-353 bar (5120 psi) for 1 million cycles.
Contact Pall for applications with higher pressures at lower cycles
- **Typical Burst Pressure:**
1050 bar (15,225 psi)
- **Fluid Compatibility:**
Compatible with all petroleum oils, water glycols, water-oil emulsions and most synthetic hydraulic and lubrication fluids
- **Temperature Range:**
Fluorocarbon Seals:
-29 °C to 120 °C (-20 °F to 250 °F)
60 °C (140 °F) maximum in HWCF or water glycol fluids
- **Bypass Valve Setting:**
4.5 bard (65 psid)
- **Indicator Pressure Setting:**
3.5 bard (50 psid)
- **Materials of Construction:**
Head: Ductile Cast Iron
Tube: Carbon steel

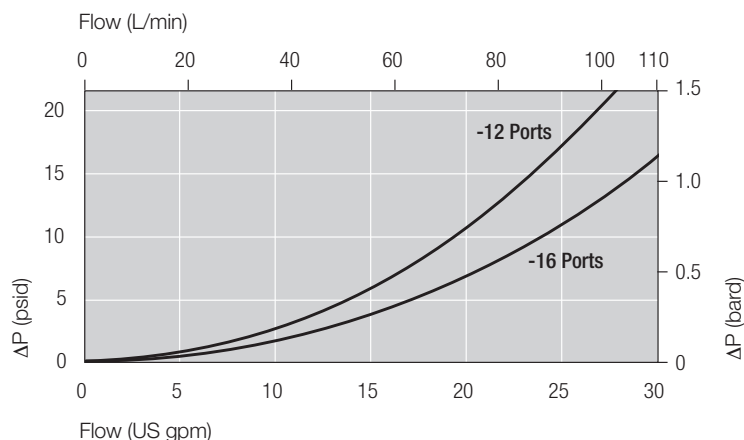
Filter Element

- **Filter Element Burst Pressure:**
10 bard (150 psid)
- **Ultipleat SRT Element Construction:**
Inorganic fibers impregnated and bonded with epoxy resins. Polymer endcaps. Anti-static media design

Pressure Drop Information

Housing pressure drop using fluid with 0.9 S.G.

Housing pressure drop is directly proportional to specific gravity.



Element Pressure Drop

Multiply actual flow rate times factor in table below to determine pressure drop with fluid at 32 cSt (150 SUS), 0.9 S.G. Correct for other fluids by multiplying new viscosity in cSt/32 (SUS/150) x new S.G./0.9. Note: factors are per 1000 L/min and per 1 US gpm.

209 Series Filter Elements — bard/1000 L/min (psid/US gpm)

Length Code	AZ	AP	AN	AS	AT
03	34.75 (1.904)	13.92 (0.763)	10.62 (0.582)	9.00 (0.493)	7.67 (0.420)
07	15.69 (0.860)	6.29 (0.345)	4.79 (0.262)	4.06 (0.222)	3.46 (0.190)

Sample ΔP calculation

UH209 Series 7" length housing with C16 (1" BSP) threaded ports using AN grade media. Operating conditions 50 L/min flow rate using a hydraulic fluid of 50 cSt and specific gravity (s.g.) 1.2.

Total Filter ΔP

$$\begin{aligned}
 &= \Delta P_{\text{housing}} + \Delta P_{\text{element}} \\
 &= (0.2 \times 1.2/0.9) \text{ bard (housing)} \\
 &+ ((50 \times 4.79/1000) \times 50/32 \times 1.2/0.9) \text{ bard element)} \\
 &= 0.24 \text{ bard (housing)} + 0.50 \text{ bard (element)} \\
 &= \mathbf{0.74 \text{ bard (11.2 psid)}}
 \end{aligned}$$

UH209 Series Filters

Ordering Information

For new installations, select one complete part number from each section below

Section 1

Housing P/N:

Note: Pall Ultipleat SRT filter housings are supplied without filter elements or warning devices fitted. Never operate the filter unless a filter element is fitted and all warning device ports are sealed.

Seal Kit P/N:

Table 1: Housing Port Options

Code	Port
A12	¾" SAE J514 straight thread
A16	1" SAE J514 straight thread
C12	¾" BSP ISO 228 threads
C16	1" BSP ISO 228 threads

UH 209 H  ++  Z G 1

Table 1 Table 2

Note: Z indicates fluorocarbon seals are standard. Other options are available; contact Pall. The suffix '1' at the end of the Housing P/N designates an indicator port, fitted with a plastic shipping plug.

UH 209 SKZ

*Other seal material options are available; Contact Pall.

Table 2: Housing Length Options

Code	Length (in)*
03	3
07	7

* Nominal length

Section 2

Element P/N:

Table 1: Filter Element Options

Code	$\beta_{X(c)} \geq 1000$ based on ISO 16889	CST Rating*
AZ	3	08/04/01
AP	5	12/07/02
AN	7	15/11/04
AS	12	16/13/04
AT	22	17/15/08

* CST: Cyclic Stabilization Test to determine filter rating under stress conditions, based on SAE ARP4205

UE 209   Z

Table 1 Table 2

Note: Z indicates fluorocarbon seals are standard. Other options are available; contact Pall.

Table 2: Filter Element Length Options

Code	Length (in)*
03	3
07	7

* Nominal length

Section 3

Differential Pressure Indicator P/N:

Table 1: Differential Pressure Indicator Options*

Code	Indicator	'H' Dim.
778NZ	'P' type Visual indicator with thermal lockout	21mm (0.83in)
860MZ	'D' type Visual indicator with no thermal lockout	21mm (0.83in)
861CZ	'L' type Electrical switch (SPDT) with 6" leads	38mm (1.50in)
861CZ	'M' type Electrical switch (SPDT) with DIN43650 connector and matching cap	78mm (3.07in)
861CZ	'R' type Electrical switch (SPDT) and neon light indicator with DIN43650 connector and cap	89mm (3.50in)
771BZ	'S' type Electrical switch (SPDT) with 3-pin MS connector	57mm (2.24in)

* Other options available on application.

RC  091 Z   

Table 1 Table 2 Table 3 Table 4

Note: Z indicates fluorocarbon seals are standard. Other options are available; contact Pall.

Table 2: Differential Pressure Indicator Material

Code	Pressure Setting
Omit	Aluminium Alloy Indicator: use at operating pressures < 200 bard (3000 psid)
SS	Stainless Steel Indicator: use at operating pressures > 200 bard (3000 psid)

* Other setting options are available; contact Pall.

Table 3: 'M' & 'R'-Type Indicator Codes*

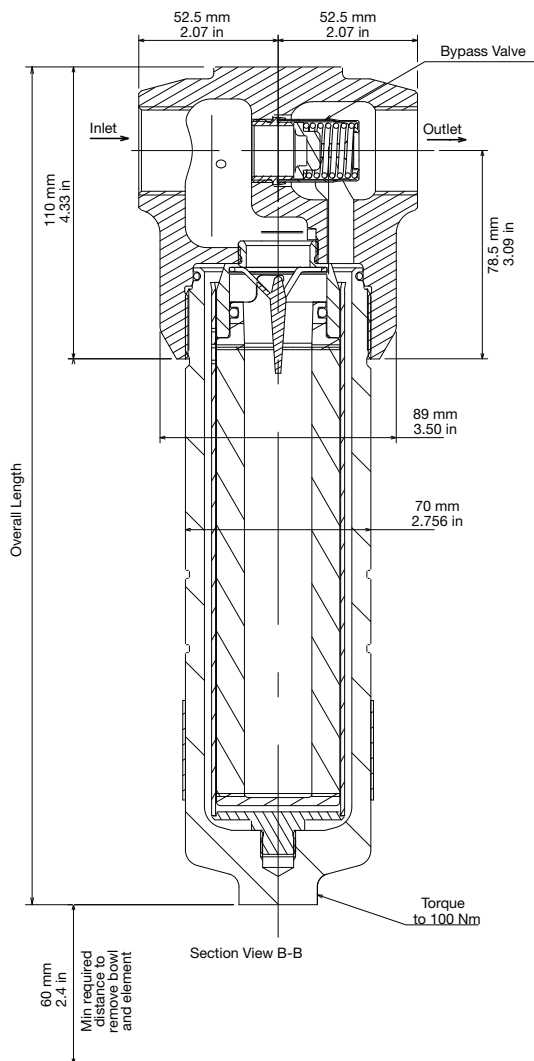
Code	Option
YM	'M' option
YR	'R' option

* Use only if 'R' or 'M' Indicator is selected from Table 1

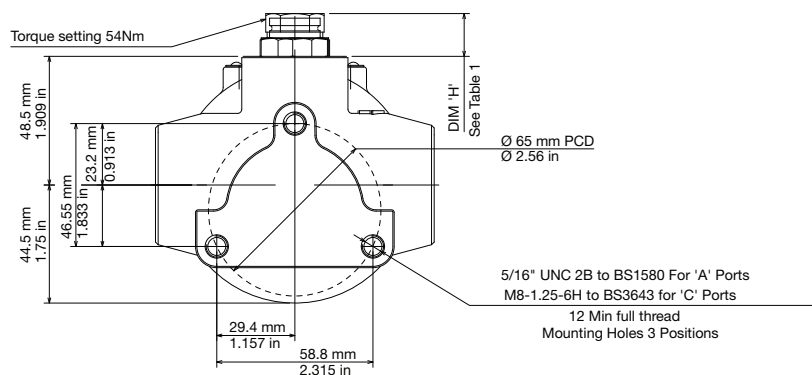
Table 4: 'R' Indicator Options

Code	Option
110AC	110V AC
220AC	220V AC
24DC	24V DC

* Use only if 'R' Indicator is selected from Table 1



Length Code	Overall Length mm (in)	Element Removal Clearance mm (in)	Empty Weight kg (lb)
03	225 (8.9)	60 (2.4)	5.3 (11.7)
07	316 (12.4)	60 (2.4)	6.3 (13.9)



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