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UH319

UH319 Series Filters

ULTIPLEAT® SRT HIGH PRESSURE FILTERS

Port Size 1¼", 1½" and 2"

UH319

HIGH PRESSURE FILTERS

UH319 Series Filters
Technical Information

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 600 L/min (160 US gpm)
- Pressures to 420 bar (6100 psi)
- Port size 1¼", 1½" and 2"

Notes and Specifications
Filter Housing
- **Maximum Working Pressure**: 420 bar (6100 psi) (See Section 1, Table 2)
- **Rated Fatigue Pressure:** 0-240 bar (3500 psi) per NFPA T2.06.01R2-2001 CAT C/90/*(1 million cycles), verified by testing at 0-280 bar (4050 psi) for 1 million cycles. Contact Pall for applications with higher pressures at lower cycles
- **Typical Burst Pressure:** 1500 bar (21,750 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 and Cover: Carbon steel

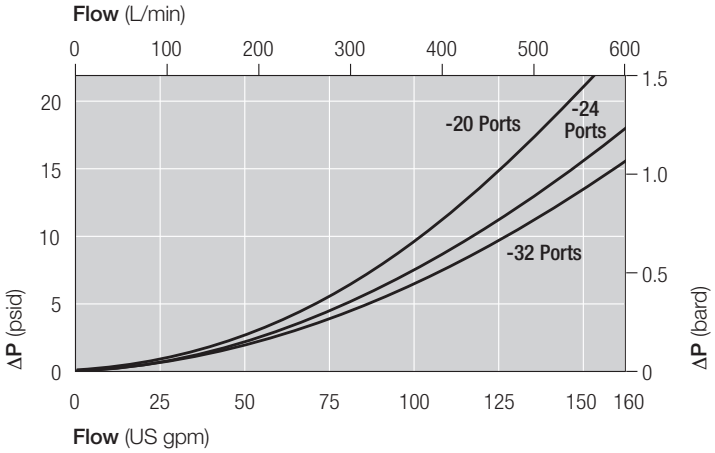
Filter Element
- **Filter Element Burst Pressure:** 10 bard (150 psid)
- **Ultipleat SRT Element Construction:** Inorganic fibers impregnated and bonded with epoxy resins. Polymer endcaps. Anti-static media design

The equipment has been assessed in accordance with the guidelines laid down in The European Pressure Directive 97/23/EC and has been classified within Sound Engineering Practice S.E.P. Suitable for use with Group 2 fluids only. Consult Sales for other fluid gas group suitability.

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.

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

Length Code	AZ	AP	AN	AS	AT
08	5.52 (0.302)	2.30 (0.126)	1.82 (0.100)	1.32 (0.072)	0.82 (0.045)
13	3.31 (0.182)	1.38 (0.076)	1.09 (0.060)	0.79 (0.043)	0.49 (0.027)
20	2.18 (0.120)	0.91 (0.050)	0.72 (0.040)	0.52 (0.029)	0.33 (0.018)
40	1.10 (0.060)	0.46 (0.025)	0.36 (0.020)	0.26 (0.014)	0.16 (0.009)

Sample ΔP calculation

UH319 Series 13" length housing with G24 (1 1/2"SAE) split flange ports using AN grade media. Operating conditions 300 L/min flow rate using a hydraulic fluid of 50 cSt and specific gravity (s.g.) 1.2.

Total Filter ΔP

= ΔP housing + ΔP element

= (0.34 x 1.2/0.9) bard (housing)

+ ((300 x 1.09/1000) x 50/32 x 1.2/0.9) bard (element)

= 0.45 (housing) + 0.68 bard (element)

= 1.13 bard (16.4 psid)

UH319 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.

UH 319 ☐ ☐ ++ ☐ Z ☐ 9 X106
Table 1 Table 2 Table 3 Table 4

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

The number '9' at the end of the Housing P/N designates 2 indicator ports, one fitted with a plastic shipping plug and the other with a plug.

Seal Kit P/N:

UH 319 SKZ

*Other seal material options are available; Contact Pall.

Table 1: Housing Orientation Options

Code	Port
C	Cap service (tube up) -standard
H	Head service (tube down)

Table 2: Housing Port Options

Code	Port	Max. Operating Pressure
A20	1¼" SAE J1926 straight thread	420 bar (6100 psi)
A24	1½" SAE J1926 straight thread	
A32	2" SAE J1926 straight thread	
C20	1¼" BSP ISO 228 threads	
C24	1½" BSP ISO 228 threads	
C32	2" BSP ISO 228 threads	
D20	1¼" Flange J518C code 61 with 7/16"-14 UNC holding bolts	275 bar (4000 psi)
D24	1½" Flange J518C code 61 with ½"-13 UNC holding bolts	207 bar (3000 psi)
D32	2" Flange J518C code 61 with ½"-13 UNC holding bolts	207 bar (3000 psi)
E20	1¼" Flange J518C code 62 with ½"-13 UNC holding bolts	414 bar (6000 psi)
E24	1½" Flange J518C code 62 with ⅝"-11 UNC holding bolts	
E32	2" Flange J518C code 62 with ¾"-10 UNC holding bolts	
F20	1¼" ISO 6162 split flange with M10 x 1.5 holding bolts	250 bar (3625 psi)
F24	1½" ISO 6162 split flange with M12 x 1.75 holding bolts	200 bar (2900 psi)
F32	2" ISO 6162 split flange with M12 x 1.75 holding bolts	200 bar (2900 psi)
G20	1¼" ISO 6162 split flange with M12 x 1.75 holding bolts	400 bar (5800 psi)
G24	1½" ISO 6162 split flange with M16 x 2.00 holding bolts	
G32	2" ISO 6162 split flange with M20 x 2.50 holding bolts	

Table 3: Housing Length Options

Code	Length (in)*
08	8
13	13
20	20
40	40

* Nominal length

Table 4: Housing by-pass valve options

Code	Option
G	4.5 bard (65 psid) by-pass valve
C	4.5 bard (65 psid) by-pass valve with reverse flow

Section 2

Element P/N:

UE 319 ☐ ☐ Z
Table 1 Table 2

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

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

Table 2: Filter Element Length Options

Code	Length (in)*
08	8
13	13
20	20
40	40

* Nominal length

Section 3 (At least one Differential Pressure Indicator or 'B' type blanking plug must be ordered)

Differential Pressure Indicator P/N:

Note: Two Differential Pressure Indicators can be fitted on this housing

RC ☐ 091 Z ☐ ☐ ☐
Table 1 Table 2 Table 3 Table 4

Note: If no differential pressure indicator is selected, 'B' type blanking plug (P/N HC9000A104Z) must be ordered separately and fitted to replace the plastic shipping plug.

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

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.

Table 2: Differential Pressure Indicator Material

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

* 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

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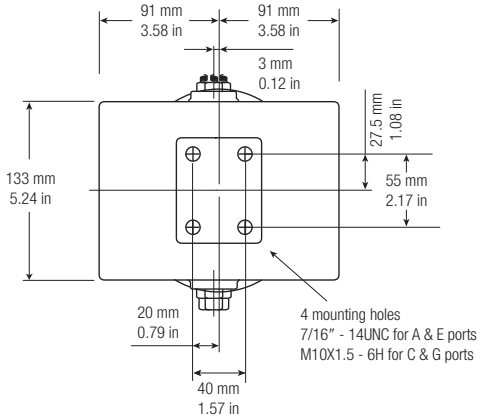
HIGH PRESSURE FILTERS Technical Information

('C' option housing with 'G' option bypass shown)

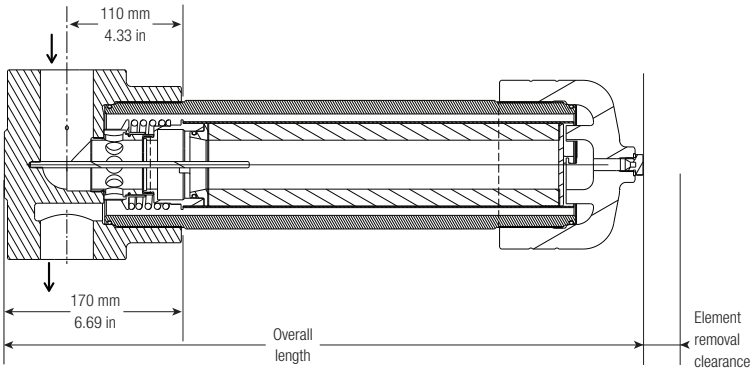


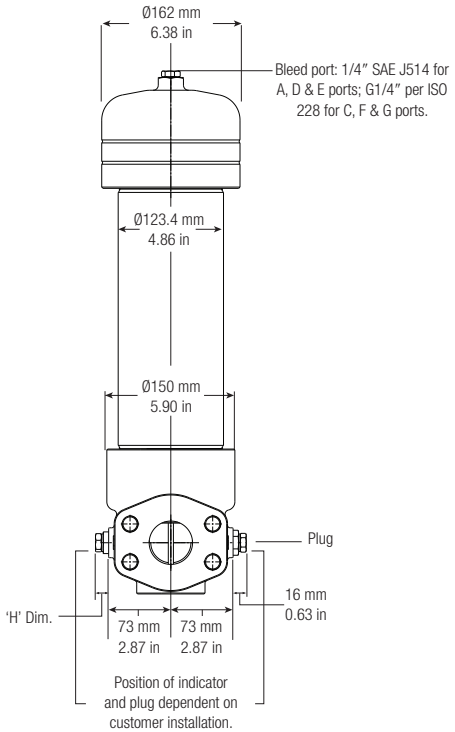
'C' & 'H' Housings with 'G' option bypass valve

Length Code	'C' Option Overall Length mm (in)	'H' Option Overall Length mm (in)	'C' Option Element Removal Clearance mm (in)	'H' Option Element Removal Clearance mm (in)	Empty Weight kg (lb)
08	477 (18.78)	490 (19.29)	286 (11.26)	140 (5.51)	38.7 (85.3)
13	612 (24.09)	624 (24.57)	421 (16.57)	140 (5.51)	43.7 (96.3)
20	782 (30.79)	795 (31.30)	591 (23.27)	140 (5.51)	50 (110.2)
40	1290 (50.79)	1303 (51.30)	1099 (43.27)	140 (5.51)	68.8 (151.7)

'C' & 'H' Housings with 'C' option bypass valve

Length Code	'C' Option Overall Length mm (in)	'H' Option Overall Length mm (in)	'C' Option Element Removal Clearance mm (in)	'H' Option Element Removal Clearance mm (in)	Empty Weight kg (lb)
08	537 (21.14)	551 (21.69)	459 (18.07)	140 (5.51)	42.3 (93.3)
13	672 (26.46)	686 (27)	594 (23.39)	140 (5.51)	47.3 (104.3)
20	842 (33.15)	856 (33.70)	746 (30.08)	140 (5.51)	53.6 (118.2)
40	1350 (53.15)	1351 (53.19)	1272 (50.08)	140 (5.51)	72.4 (159.6)





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