Pall Corporation

UP319

UP319 Series Filters

ULTIPLEAT® SRT HIGH PRESSURE FILTERS

Port Size 1¼", 1½" and 2"

Filtration. Separation. Solution.SM

UP319

HIGH PRESSURE FILTERS

UP319 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 250 bar (3625 psi)
- Port size 1¼", 1½" and 2"

Notes and Specifications

Filter Housing

- **Maximum Working Pressure**: 250 bar (3625 psi)
  For high cyclic applications, use UH319 series
- **Typical Burst Pressure:** 1050 bar (15,230 psi)
- **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
  Consult sales for other fluid group suitability
- **Bypass Valve Setting:** 4.5 bard (65 psid)
- **Indicator Pressure Setting:** 3.5 bard (50 psid)
- **Materials of Construction:**
  Tube: Carbon steel
  Head and Cover: Ductile Cast Iron

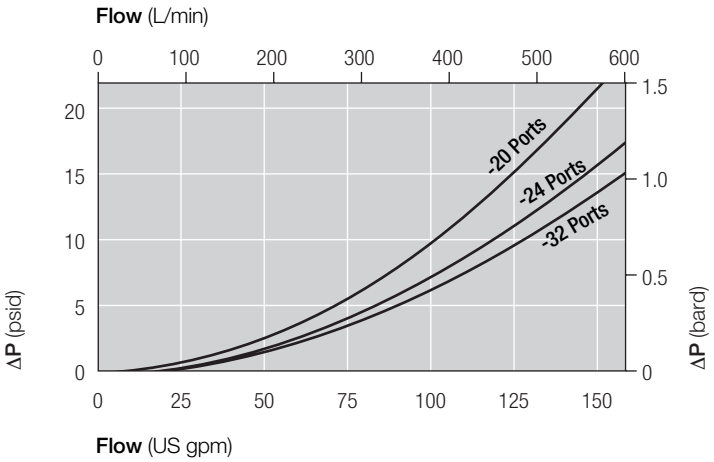
Filter Element

- **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

UP319 Series 13" length housing with F24 (1½" SAE) split flange ports using AN grade media. Operating conditions 200 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

= (0.14 x 1.2/0.9) bard (housing)

+ ((200 x 1.09/1000) x 50/32 x 1.2/0.9) bard (element)

= 0.19 bard (housing) + 0.45 bard (element)

= 0.64 bard (9.3 psid)

UP319 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.

UP 319 ☐ ☐ ++ ☐ ZG9
Table 1 Table 2 Table 3

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 bleed plug.

Seal Kit P/N:

UP 319 SK Z

*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: Port Options

Code	Port
A20	1¼" SAE J514 straight thread
D20	1¼" Flange J518C code 61 with 7/16"-14 UNC holding bolts
A24	1½" SAE J514 straight thread
D24	1½" Flange J518C code 61 with ½"-13 UNC holding bolts
A32	2" SAE J514 straight thread
D32	2" Flange J518C code 61 with ½"-13 UNC holding bolts
C20	1¼" BSP ISO 228 threads
F20	1¼" ISO 6162 split flange with M10 x 1.5 holding bolts -250 bar rating
C24	1½" BSP ISO 228 threads
F24	1½" ISO 6162 split flange with M12 x 1.75 holding bolts -200 bar rating
C32	2" BSP ISO 228 threads
F32	2" ISO 6162 split flange with M12 x 1.75 holding bolts -200 bar rating

Table 3: Housing & Element Length Options

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

* Nominal length

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: Housing & 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:

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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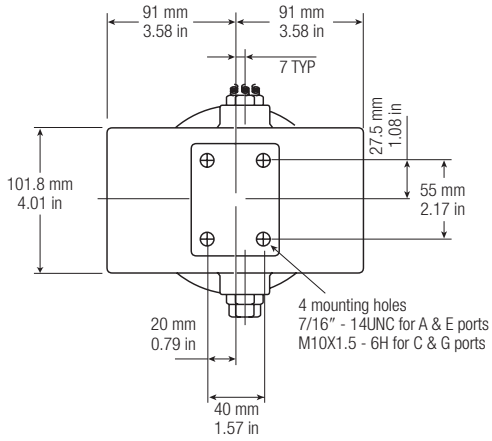
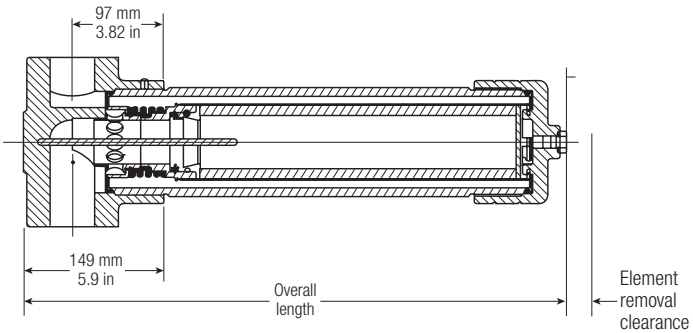
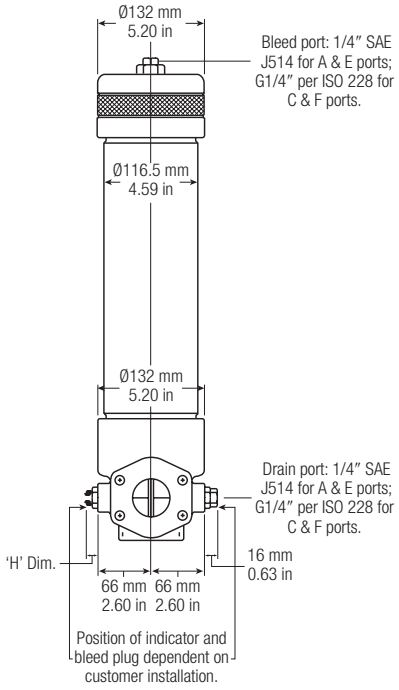


Length Code	'C' Option Overall Length mm (in)	'H' Option Overall Length mm (in)	'C' Option Element Removal Clearance mm (in)	'H' Option Element Removal Clearance mm (in)	Empty Weight kg (lb)
08	442 (17.4)	455 (17.9)	205 (8.07)	138 (5.43)	29.7 (65.5)
13	577 (22.7)	590 (23.2)	340 (13.4)	138 (5.43)	33.4 (73.6)
20	747 (29.4)	760 (29.9)	510 (20.1)	138 (5.43)	38 (83.8)
40	1255 (49.4)	1268 (49.9)	1020 (40.2)	138 (5.43)	52 (114.6)





PALL Pall Corporation

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January 2008. Printed in England. IMUP319ENb

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