



UR699 Series Ultipleat® SRT Return Line Filters

Description

Features

- ▶ Flows to 835 L/min (220 US gpm)
- ▶ Pressures to 28 bard (400 psid)
- ▶ Port size 2", 2½" and 3"
- ▶ Unique Ultipleat (laid-over pleat) filter medium pack
- ▶ Coreless, cageless element configuration
- ▶ Pall Stress-Resistant Technology (SRT) Media
- ▶ In-to-out filter element flow path

Please Note:

The UR699 Series is a Preferred Product Line utilizing Stress-Resistant Technology. Please See Ordering Information for available options

All replacement filter elements, differential pressure indicators and sealkits remain available for this series. See 'Ordering Information' tab above for details of spares.



Specifications

Filter Housing

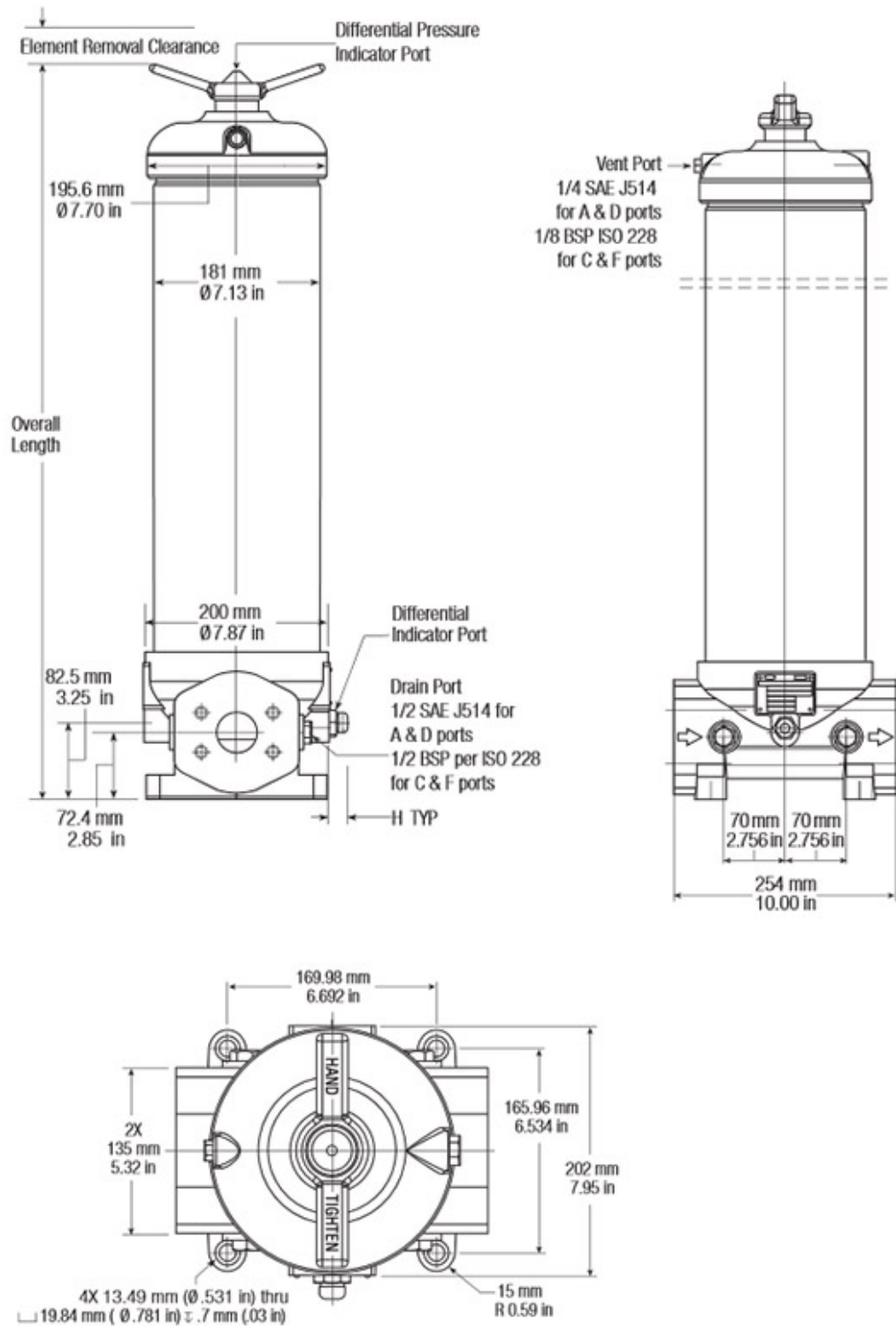
- ▶ **Maximum Allowable Working Pressure:**
28 bard (400 psid)
- ▶ **Rated Fatigue Pressure:**
23 bard (330 psid) 106 cycles per NFPA T2.06.01R2-2001
- ▶ **Typical Burst Pressure:**
145 bard (2100 psid)
- ▶ **Fluid Compatibility:**
Compatible with all petroleum oils, water glycols, water-oil emulsions 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
- ▶ **Materials of Construction:**
Tube: Aluminum alloy
Head and Cover: Ductile Iron

Filter Housing

- ▶ **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.

Length Code	Overall Length mm (in.)	Element Removal Clearance mm (in.)	Empty Weight kg (lb)
20	762 (30)	443 (17.5)	26 (58)
40	1270 (50)	951 (37.5)	36 (80)

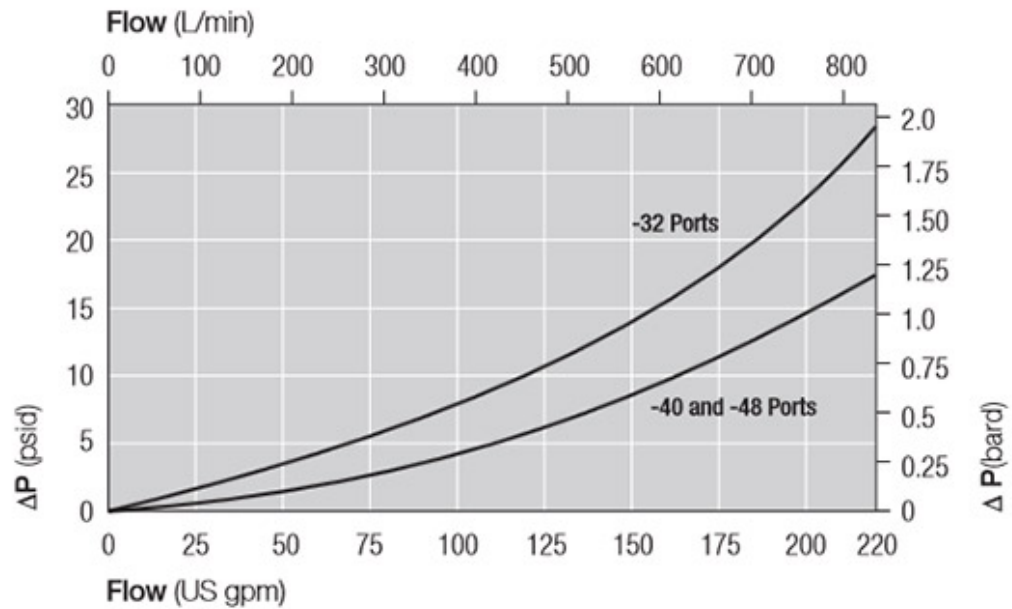


Performance

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.

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

Length Code	AZ	AP	AN	AS	AT
20	1.31 (0.072)	0.56 (0.030)	0.43 (0.023)	0.31 (0.017)	0.19 (0.011)
40	0.70 (0.038)	0.30 (0.016)	0.23 (0.013)	0.17 (0.009)	0.10 (0.006)

Sample ΔP calculation

UR6 99 Series 20" length housing with F32 (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

$$\begin{aligned}
 &= \Delta P \text{ housing} + \Delta P \text{ element} \\
 &= (0.41 \times 1.2/0.9) \text{ bard (housing)} \\
 &+ ((300 \times 0.43/1000) \times 50/32 \times 1.2/0.9) \text{ bard (element)} \\
 &= 0.55 \text{ bard (housing)} + 0.27 \text{ bard (element)} \\
 &= \mathbf{0.82 \text{ bard (11.9 psid)}}
 \end{aligned}$$

Ordering Information

Please select only from the following list of standard filter housing options.

Available UR699 Series Options

UR699A32 20ZA9	UR699A32 20ZG9	UR699A32 20ZN9
UR699C32 20ZA9	UR699C32 20ZG9	UR699C32 20ZN9
UR699D32 20ZA9	UR699D32 20ZG9	UR699D32 20ZN9
UR699F32 20ZA9	UR699F32 20ZG9	UR699F32 20ZN9
UR699A32 40ZA9	UR699A32 40ZG9	UR699A32 40ZN9
UR699C32 40ZA9	UR699C32 40ZG9	UR699C32 40ZN9
UR699D32 40ZA9	UR699D32 40ZG9	UR699D32 40ZN9
UR699F32 40ZA9	UR699F32 40ZG9	UR699F32 40ZN9
UR699D40 20ZA9	UR699D40 20ZG9	UR699D40 20ZN9
UR699F40 20ZA9	UR699F40 20ZG9	UR699F40 20ZN9
UR699D40 40ZA9	UR699D40 40ZG9	UR699D40 40ZN9
UR699F40 40ZA9	UR699F40 40ZG9	UR699F40 40ZN9
UR699F48 40ZA9	UR699F48 40ZG9	UR699F48 40ZN9

The specification of each filter housing part number is outlined in the tables below.

Section 1

Housing P/N: UR 699 C [Table 1] ++ [Table 2] Z [Table 3] 9

Seal Kit P/N: UR 699 SK Z

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 Note: Z indicates fluorocarbon seals are standard. Other options are available; contact Pall. The suffix '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. *Other seal material options are available; Contact Pall.

Table 1: Housing Port Options

Code	Port
A32	2" SAE J514 straight thread
D32	2" Flange J518C code 61 with 1/2"-13 UNC holding bolts
D40	2 1/2" Flange J518C code 61 with 1/2"-13 UNC holding bolts
C32	2" BSP ISO 228 threads
F32	2" ISO 6162 split flange with M12 x 1.75 holding bolts
F40	2 1/2" ISO 6162 split flange with M12 x 1.75 holding bolts
F48	3" ISO 6162 split flange with M16 x 2.00 holding bolts

Table 2: Housing Length Options

Code	Length (in)*
20	20
40	40

* Nominal length

Table 3: Housing Bypass Valve Options

Code	Valve
A	1.7 bard - 25 psid
G	4.5 bard - 65 psid
N	Non-Bypass

Section 2**Element P/N: UE 619 [Table 1] [Table 2] Z**

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)*
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: RC [Table 1] [Table 2] Z [Table 3] [Table 4]

Note: Two Differential Pressure Indicators can be fitted on this housing Note: If no differential pressure indicator is selected, 'B' Type blanking plug (P/N HA9000-P8-Kit Z) 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)

Table 2: Indicator Pressure Setting Option*

Code	Valve
084	For 'A' Valve Option - Housings (1.1 bard - 16 psid)
091	For 'G' and 'N' Valve Options - Housings (3.5 bard - 50 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

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