

# 7400/7500/ 7502 Filter Series Service Instructions

## 1. General Sources of Information

Reference should be made to the appropriate product brochure for dimensions, operating parameters assembly and element part numbering, ordering information and notes and specifications. The brochure is available through your local Pall Industrial Hydraulics Distributor or directly from Pall Industrial Hydraulics Company, 30 Sea Cliff Avenue, Glen Cove, New York 11542. Telephone (516) 671-4000.

## 2. Specifications

### Housing Materials

Head: Gray Cast Iron  
Spin-On Element: Steel Can

### Maximum Operating Pressure

7400: 250 psi (17 Bar)  
7500: 200 psi (14 Bar)  
7502: 200 psi (14 Bar)

### Maximum Operating Temperature Range

-45°F to 225°F (-43°C to 107°C) with Nitrile Seals  
-20°F to 250°F (-29°C to 121°C)  
with Fluorocarbon Seals  
140°F (60°C) Maximum in HWCF or  
Water Glycol Fluids

### Element Collapse Rating

150 psid (10 Bar) Minimum

### Bypass Valve Setting Options:

50 ± 5 psid (3.4 ± 0.34 Bar) Cracking Pressure  
25 ± 5 psid (1.7 ± 0.34 Bar) Cracking Pressure

*CAUTION: If non-bypass configuration is selected, do not use in system with a maximum operating pressure over 100 psi (7 bar)*

### Seals

Nitrile or Fluorocarbon Standard O-Rings

The actual operating conditions should be checked by the user to ensure that the element, housing and all seals are compatible with the fluid and application, and are within local safety codes. Please contact Pall Industrial Hydraulics Company or approved distributor if further information is required.

*CAUTION: Maximum surge flow should not exceed 1.3 times normal flow.*

## 3. Installation of Housing

- 3.1 The filter can be installed in any attitude, but for ease of servicing, it is recommended that it is installed vertically with the can pointing downwards. A minimum clearance of 2 (64mm) should be allowed beneath the can for installation and removal of the spin-on can.
- 3.2 Flanged differential pressure devices, when fitted, must have screws torque tightened to (23 lb. in., 2.6 Nm). Threaded differential pressure devices, when fitted, must be torque tightened to 40 lb. ft. (54 Nm). All visual indicators must be clearly visible.

NOTE: Head has a machined port for a differential pressure warning device; flanged ports may be sealed with an H\*8630BL or threaded ports may be sealed with an HA9000-kit port plug kit. Never place the port plug kit in this port without first installing the lower O-ring in lower groove, otherwise a small bypass flow will result, allowing contaminant downstream of the filter element.

- 3.3 Mount the filter assembly in position as follows:

7400: using two bolts in the 5/16-UNC X .58" full threaded holes in the head assembly.

7500 and 7502: using two and four bolts in the 5/16-UNC X .75" full threaded holes in the head assembly.

- 3.4 Use check valve on outlet if there is a possibility of reverse flow.

*CAUTION: Reverse flow through filter element will cause damage.*

- 3.5 Connect lines or hose to ports.

WARNING! USE FITTINGS OR ADAPTERS COMPATIBLE WITH PORTS SUPPLIED AS SHOWN BY PART NUMBER ON NAMEPLATE AND NOTED IN DATA SHEETS: USE OF INCORRECT FITTINGS OR ADAPTERS CAN CAUSE FILTER HOUSING OR MANIFOLD FAILURE RESULTING IN LOSS OF PRESSURE AND POSSIBLE SYSTEM FAILURE OR PERSONAL INJURY.

- 3.6 Bleed filter prior to operation: open bleed plug, if fitted, one and one half turns. Jog system and fill filter until all air bleeds through plug, then tighten plug. Pressurize system fully and check for leaks; if leaks occur, refer to Section 4.

*CAUTION: Failure to bleed filter housing adequately will increase the dissolved air content of the system fluid which will shorten fluid life and may cause other problems in the system.*

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- 3.7 Painting of the filter is optional. The black coating on the filter is a suitable painting base.

NOTE: Cover the differential pressure warning device and nameplate if painting of assembly takes place.

#### 4. Routine Maintenance

- 4.1 Pall filters do not normally require special attention except for periodic monitoring of the differential pressure warning device. Schedule replacement of filter element every six months or sooner, and have ample supply of spare elements available.

**CAUTION:** Continued operation of 7400/7500/7502 bypass filters (valve options A or B) with differential pressure device actuated can allow unfiltered flow downstream. Continued operation of 7400/7500/7502 non-bypass filters (valve options W) may cause collapse or premature fatigue failure of the plugged filter element, which could allow contaminant and unfiltered flow downstream. Refer to element change instructions in paragraphs 6.1 through 6.7.

- 4.2 If external leakage is noted, replace O-ring at leak. For bowl seal leaks, replace gasket. If leakage persists, check sealing surfaces for scratches or cracks; replace any defective parts.
- 4.3 Differential pressure devices actuate when the element needs changing or because of high fluid viscosity in "cold start" conditions. If "cold start" conditions exist, see Section 5.2 and 5.3.
- 4.4 A dirty system can quickly plug a new filter element, especially with Pall silt removal grade media. It may require one or two initial element changes to stabilize element life. If element life is short or differential pressure excessive, filter may be undersized; refer to the sizing and selection section of the product literature.
- 4.5 Make sure element change labels are clean and undamaged. Replace illegible labels with the appropriate new labels.

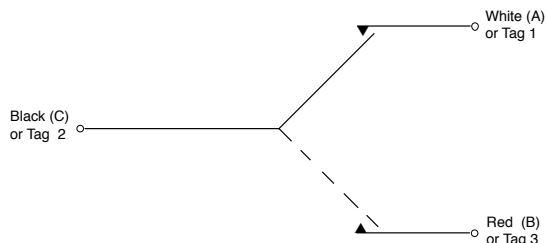
#### 5. Differential Pressure Devices

Reference should be made to the product literature for dimensions, operating parameters, part numbering, ordering information and specifications. The brochure is available through your local Pall Industrial Hydraulics Distributor or directly from Pall Industrial Hydraulics Company, 30 Sea Cliff Avenue, Glen Cove, New York 11542. Telephone (516) 671-4000.

- 5.1 Differential pressure devices actuate when the element needs changing or because of high fluid viscosity in "cold start" conditions.
- 5.2 If visual indicator is fitted and actuates during "cold start" (orange sleeve or red button is visible), reset by depressing the button when the normal operating temperature is reached. If indicator actuates after resetting, replace element.

NOTE: Option "PL" visual indicator has thermal lockout and manual reset. No signal below 32°F (0°C) signal above 80°F (29°C).

- 5.3 If electrical switch actuates (red light comes on) during cold start, continue operating until red light goes out as system warms to normal operating temperature (this feature can be used as "warm up" indication in operating procedures). If warning signal (red light) remains or appears when system is warm, replace element.
- 5.4 Use of both positive indication (green light) and negative indication (red light for dirty element) is recommended to effectively monitor filter element life.



Electrical Connections and Ratings for all differential pressure switch options

110 VAC =	4A (inductive), 4A (resistive)
220 VAC =	4A (inductive), 4A (resistive)
28 VDC =	3A (inductive), 5A (resistive)
48 VDC =	1A (inductive), 1.5A (resistive)
125 VDC =	0.25A (inductive), 0.5A (resistive)

Maximum inrush - 24 amps  
UL, Inc. listed rating of Microswitch™  
4 amps at 250 VAC  
½ amp inductive at 110 VDC  
½ amp resistive at 110 VDC

Electrical Differential Pressure Switch Operation:  
When preset differential pressure is exceeded, continuity switches from "C" - "A" to "C" - "B"  
When differential pressure decreases, continuity returns to "C" - "A"

™Honeywell

#### 6. Filter Element Servicing

Refer to Figure 1 or Service Parts List (Section 8) for item numbers. Remove and replace element as follows:

- 6.1 Turn off and depressurize the system. Open bleed plug (if fitted) one and one half turns.

**WARNING! FAILURE TO DEPRESSURIZE THE FILTER BEFORE SERVICING THE ELEMENT COULD RESULT IN EXPLOSIVE LOSS OF FLUID, DAMAGE TO EQUIPMENT AND POSSIBLE PERSONAL INJURY.**

- 6.2 Unscrew and remove the spin-on can from head assembly, counterclockwise when viewed from below. It may be necessary to use a strap wrench on the spin-on can to loosen it initially.
- 6.3 Discard both the filter can and its gasket. The filter element is NOT CLEANABLE. Any attempt to clean the filter element can cause degradation of the filter medium and allow contaminated fluid to pass through the filter element.

**WARNING! DO NOT ATTEMPT TO CLEAN OR RE-USE ELEMENT.**

- 6.4 DO NOT run the system without a filter element installed. Check that the gasket provided with the new can is not damaged. Use replacement filter element part number called for on the element change label.

- 6.5 Wet threads and seal surfaces with clean system fluid and screw new spin-on element onto head, hand tighten until it makes contact. Hand tighten  $\frac{1}{4}$  to  $\frac{1}{2}$  turn more. Hand tighten only, using suitable strap wrench only if required by space limitations. Position the band of the wrench as close to the head as possible to avoid damaging the element outer can. GASKET SEALING IS NOT IMPROVED BY OVER TIGHTENING.

WARNING! DO NOT USE PIPE WRENCH, HAMMER OR ANY OTHER TOOL TO TIGHTEN CAN.

- 6.6 Bleed the system and check for leaks as per Section 4.
- 6.7 After element change ENSURE DIFFERENTIAL PRESSURE DEVICE IS RESET BY PUSHING IN THE BUTTON; electrical switches reset automatically. When system reaches normal operating temperature, check that the electrical switch has not actuated and/or the visual warning button has remained depressed. If visual indicator rises due to a cold start condition, reset again as per Section 5.

## 7. Warranty, Limitation of Liability and Remedies

*There is no warranty of merchantability or fitness for any particular purpose with respect to any of the products, nor is there any other warranty express or implied, except as provided for herein.*

For a period of twelve months from the date of delivery from Seller or three thousand hours of use, whichever occurs first (the "Warranty Period"), Seller warrants that products manufactured by Seller when properly installed and maintained, and operated at ratings, specifications and design conditions, will be free from defects in material and

workmanship. By way of explanation and not limitation, the Seller does not warrant the service life of the filter element as this is beyond the Seller's control and depends upon the condition of the system into which the filter is installed.

Seller's liability under any warranty is limited solely (in Seller's discretion) to replacing (FOB original ship point), repairing or issuing credit for products which become defective during the Warranty Period. Purchaser shall notify Seller promptly in writing of any claims and provide Seller with an opportunity to inspect and test the product claimed to be defective. Buyer shall provide Seller with a copy of the original invoice for the product, and prepay all freight charges to return any products to Seller's factory, or other facility designated by Seller. All claims must be accompanied by full particulars, including system operating conditions, if applicable.

Seller shall not be liable for any product altered outside of the Seller's factory except by Seller or Seller's authorized distributor, and then, as to the latter, only for products which have been assembled by the distributor in accordance with Seller's written instructions. Nor shall Seller be liable for a product subjected to misuse, abuse, improper installation, application, operation, maintenance or repair, alteration, accident or negligence in use, storage transportation or handling.

In no event will Seller be liable for any damages, incidental, consequential or otherwise, whether arising out of or in connection with the manufacture, packaging, delivery, storage, use, misuse or non use of any of its products or any other cause whatsoever.

*Turn to next page for Service Parts List.*

## 8. Service Parts List:

Item No.	Description	Part Number
1	Head Assembly	N/A
2	Filter Element	See Brochure
3	Head to Element Gasket	N/A
4	Indicator	See Brochure
5	Indicator O-ring	Flanged Size - 017
6	Indicator O-ring	Flanged Size - 015

NOTE: O-ring sizes are SAE-ARP568 Uniform Standard Sizes.

Contact your local Pall Distributor when ordering service spare parts.

