**Description and Operation**

The Spirax Sarco 3" (DN80) and 4" (DN100) FA450 is a high capacity Liquid Drain trap. The float adjusts the position of the double seated main valve so that liquid is discharged continuously at the same rate as it enters the trap. To prevent gas binding and allow liquid to flow freely into the trap, a pressure balancing pipe must be connected between the trap and the space to be drained. A 3/4" NPT tapping is provided for this purpose.

**Troubleshooting**

Like any other double-seated valve, the FA450 main valve may leak very slightly in the closed position. In the extremely unlikely event that the liquid load drops below the residual leakage rate (approximately 0.4% of full load), the valve may pass a very small amount of gas. This will happen only in very unusual circumstances.

**Spare Parts**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Stock No.</th>
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</thead>
<tbody>
<tr>
<td>Valve Mechanism Kit</td>
<td>D,E,F 66365</td>
</tr>
<tr>
<td>Gasket Kit (pkt of 3 each)</td>
<td>B,F 66796</td>
</tr>
<tr>
<td>Float Kit</td>
<td>P 66798</td>
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</tbody>
</table>

For additional technical information, contact Spirax Sarco Applications Engineering Department Toll Free 1-800-883-4411

SPIRAX SARCO, INC. • 1150 NORTHPOINT BLVD. • BLYTHEWOOD, SC 29016
Phone 803-714-2000 • Fax 803-714-2222
spiraxsarco.com/global/us

* For liquids with a specific gravity less than 0.75, the PMO will be reduced. See TIS 7.318
Installation

Before installing the trap, the inlet piping should be carefully blown down to remove any existing pipe debris.

Caution: Before installation, inspection or maintenance, the trap must be completely isolated from both supply and return line pressure.

The trap must be supported firmly in a horizontal position. The four feet are drilled 5/8"Ø (15.9 mm) to accept 1/2" (12.7 mm) mounting bolts. The total weight of the trap partially filled with liquid is approximately 550 lb (250 kg). Observe the “in” and “out” markings on the body.

The trap should be positioned with the inlet no higher than, or preferably below, the equipment drain point. If possible, a drop leg and dirt pocket should be provided ahead of the trap.

A pipeline strainer should be installed ahead of the trap, and full-flow isolating valves should be located to permit servicing. A check valve after the trap is recommended to prevent backflow.

A pressure-balancing pipe, preferably 3/4" (19 mm), must be installed between the tapping on the top of the trap and the space to be drained. If a pipeline or separator is being drained, the balance pipe connection should be downstream of the drainage point. For process equipment, the balance pipe connection must be above the maximum liquid level.

Access above the trap must be provided for servicing. (The cover weighs approximately 150 lb [68 kg].) Bypass piping is not recommended because of the possibility of misuse. If a bypass is installed, it should be at least one size smaller than the trap line size, and the bypass valve must be capable of tight shut off.

NPT and SW traps are shipped with a companion flange bolted to the inlet. This flange can be welded (or threaded) to the inlet piping.

The trap is supplied with a flanged, NPT or SW outlet connection as required. The bolted outlet casting is not a flange, and must not be removed.

The trap must be isolated from both supply and return line pressure before any servicing or disassembly. Pressure which may be present in the trap after the isolating valves are closed must be relieved before the trap is opened. This can be accomplished by opening the blowdown valve on the strainer ahead of the trap. Do not attempt to remove the bolted outlet casting.

Maintenance and Repair

This trap can be serviced without disturbing the piping connections.

Caution: The trap must be isolated from both supply and return line pressure before any servicing or disassembly. Pressure which may be present in the trap after the isolating valves are closed must be relieved before the trap is opened. This can be accomplished by opening the blowdown valve on the strainer ahead of the trap. Do not attempt to remove the bolted outlet casting.

Remove and save the cover bolts and lockwashers. Lift the cover from the body.

Remove the bottom plug to drain the liquid remaining in the body.

Using a suitable solvent, remove all dirt and incrustation from the mechanism, body and cover. Inspect the body and cover for corrosion or damage.

The main valve mechanism assembly is secured to the body by two cap screws. Remove the mechanism and gasket, and inspect the valve linkage and pins for signs of wear or damage. Ensure that the pins are properly secured by the retaining washers. Inspect the valve heads and seats for damage, wear or wiredrawing. If any of the valve mechanism parts are worn or damaged, it is recommended that the entire assembly be replaced.

Liquid drain traps can be used to drain most liquids from most gases. However, some applications, particularly those involving hazardous or unusual fluids, may be subject to regulation or may otherwise require special consideration.

Spirax Sarco will endeavor to provide whatever data is necessary to assist in product selection.