

## **TROUBLE SHOOTING**

1. It is normal for a new trap to cycle rapidly when it is first put into operation. The cycle rate should stabilize at 3 to 15 per minute within one or two days.
2. If the trap blows through or continues to cycle rapidly after a day or two, dirt or pipe scale may be preventing the trap from seating properly. See below for cleaning instructions.
3. Partial clogging of the strainer screen ahead of the trap can also cause rapid cycling. Remove and clean the screen or operate the blowdown valve.
4. If the trap stops cycling and remains closed, either an unusual amount of foreign material has plugged the orifices, or the strainer screen is completely occluded.
5. Oil contamination in compressed air systems can sometimes interfere with the controlled bleed between the disc and the seating surfaces, so that the trap remains closed. Installing a special slotted disc (see "spare parts") will usually allow the trap to cycle properly. In extreme cases it may be necessary to add one or more slots (using a carbide-tipped scriber).

## **MAINTENANCE**

1. The trap must be isolated from supply and return line pressure before it is disassembled.
2. Remove the cap and clean the disc and seating surfaces with a soft cloth and a suitable solvent. Never use abrasives on the disc or seating surfaces. Do not use a pipe wrench to remove the cap.
3. The seal between the cap and the body is formed by the contact between the lower circumference of the cap and the upper surface of the body (no gasket is required). Ensure that neither sealing surface is nicked or damaged.
4. Ensure that the internal passages (in particular the three outlet orifices) are open. Carefully blowing air through the body with the cap removed will clear the inlet.
5. Examine the disc and seating surfaces for wear or damage. If the seating surfaces are flat and completely free from marks or wire-drawing lines, a new disc will improve the performance. If the seating surfaces are visibly worn or damaged in any way, the trap may be beyond reasonable repair.
6. To reassemble, place the disc in the cap with the grooved side facing out (toward the trap body). Apply a small amount of anti-seize compound to the body threads, being careful not to smear compound on the disc or seating surfaces. Tighten the cap to a torque of 90 ft•lb (do not overtorque).

**spirax**  
**/sarco®**

# **INSTALLATION AND MAINTENANCE INSTRUCTIONS**

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## **THERMO-DYNAMIC® DRAIN TRAP TDA52**

### **DESCRIPTION AND OPERATION**

The Spirax Sarco TDA52 Thermo-Dynamic® Drain Trap cycles open and closed to drain water or other liquid while preventing the passage of air or other gas. The disc, which is the only moving part, is driven onto and away from the seating surfaces by dynamic forces produced by fluid flowing through the trap. Liquid entering through the central orifice moves the disc away from the seating surfaces. The liquid is then discharged through the three outlet orifices. Air or other gas entering the trap passes at high velocity across the surface of the disc and collects in the control chamber in the cap. The resulting pressure imbalance forces the disc onto the seat, stopping the flow. The pressure holding the disc onto the seat gradually bleeds past the disc, allowing the cycle to repeat.

When a new trap is first put into operation it may cycle rapidly. This is normal. After a few hours the cycle rate should stabilize at 3 to 15 per minute.

As long as liquid is present ahead of the trap it will remain open and discharge at a rate of approximately 3.3 gpm at 100 psi. Normally, water formation in compressed air systems will seldom reach this rate, and the normal cycle rate of 3 to 15 cycles per minute will keep the system completely drained.

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## LIMITING OPERATING CONDITIONS

**Max. operating pressure (PMO)** 250 psig (17 barg)

**Minimum operating Pressure** 50 psig (3.5 barg)

**Max. return line pressure** 80% of inlet pressure

**Maximum operating temperature**

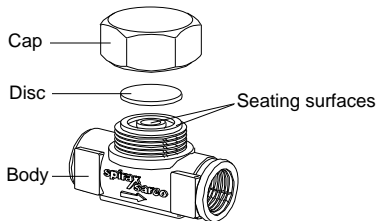
800°F (427°C) at all operating pressures

The TDA52 may be subjected to a cold hydraulic test pressure of 900 psig (62 barg)

## SPARE PARTS

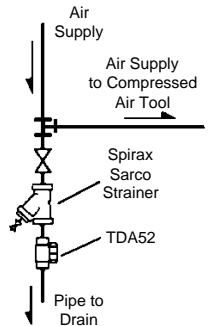
Name	Part Number
Standard Disc	56634
Slotted Disc*	57448

\* The slotted disc has a radial slot which provides a bleed path across the outer seating surface. It is used when oil contamination may prevent the trap from cycling properly.

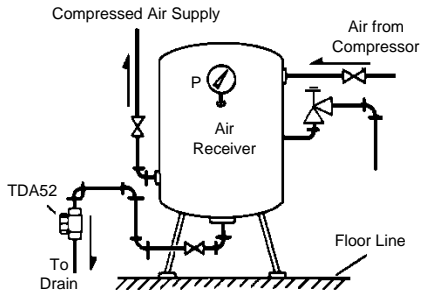


## INSTALLATION

1. The TDA52 must be installed in a vertical position with the flow arrow on the body pointing down.
2. Inlet and outlet piping must be at least 1/2".
3. The trap should be protected by a Spirax Sarco y-pattern strainer (preferably fitted with a blowdown valve).
4. Full-port isolating valves should be installed as required to permit servicing.
5. The trap discharge should be piped to drain or to a safe place.



**Draining a Compressed Air Supply Main**



**Draining a Compressed Air Receiver**