

Forged Steel Manifolds – Type MSC

Description

The type MSC forged steel manifolds centralize steam distribution and condensate collection for up to 12 sources. Both models have integral piston valves with a variety of connections, making them particularly well suited for tracing applications. The compact design provides easy access for trap maintenance and monitoring, while the mounting arrangement permits quick installation. The condensate collection manifold includes an internal siphon tube to promote even temperature distribution and ensure single phase discharge of condensate. All units are hydrotested to 1.5 times design pressure and painted with industrial grade high temperature paint.

Limiting Conditions

Body design rating:	ANSI Class 300 (PN 50)
PMA	740 psig up to 100°F (50 barg up to 38°C)
PMO	600 psig @ 500°F (41 barg @ 260°C)
Hydrotest pressure	1,110 psig (76 barg)

Installation

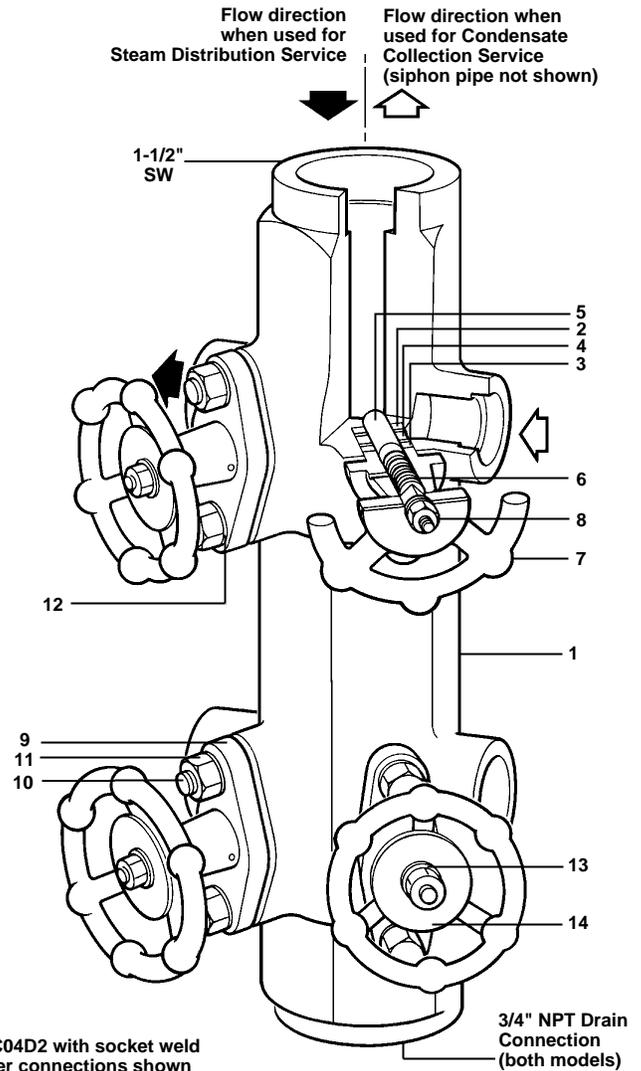
The type MSC manifolds have been designed for vertical installation. Steam traps, strainers, isolation valves, and other ancillary equipment are attached at the tracing connections provided. Threaded M12 connections have been included for attachment to a supporting structure. An optional mounting kit is available.

The steam distribution manifold has a top inlet connection and bottom drain, which should be provided with an isolation valve and steam trap. It is recommended that a system isolation valve be installed directly upstream of the inlet connection. The top connection on the condensate manifold is the outlet, and the bottom drain connection should be provided with a blowdown valve. For cold weather installations, a freeze protection device is also recommended.

It is recommended that the manifolds are insulated for personnel protection and to minimize radiated heat losses. An optional custom designed insulating cover is available for this purpose.

A set of colored valve stem tags (red for steam service, blue for condensate) is provided for identification purposes.

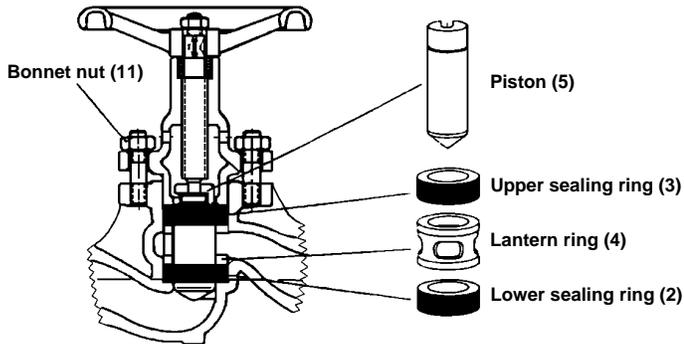
Operation



No.	Part	Material	Specification
1	Body	Carbon Steel	ASTM A105N
2	Lower Ring	Graphite and Stainless Steel	
3	Upper Ring	Graphite and Stainless Steel	
4	Lantern Ring	Steel	
5	Piston	Stainless Steel	ASTM A479 F316
6	Spindle	Stainless Steel	ASTM A479 F410
7	Handwheel	Carbon Steel	ASTM A105N
8	Handwheel Nut	Steel	
9	Bonnet	Carbon Steel	ASTM A105N
10	Studs	Steel	ASTM A193 Gr B7
11	Nuts	Steel	ASTM A194 Gr 2H
12	Washers	Steel	
13	Washer	Steel	
14	Nameplate	Stainless Steel	

The piston valves are intended to be either fully open or fully closed. Throttling service is not recommended.

Maintenance



The integral piston valves are designed for simple replacement of the internal wear parts.

CAUTION: For personnel protection, it is imperative that the manifolds are completely isolated from the system and depressurized before any maintenance is performed.

Wear part replacement is accomplished by the following procedure:

1. Close piston valve.
2. Remove bonnet nuts (11).
3. Withdraw complete valve assembly with bonnet, spindle, and piston.
4. Using the extractor tool, remove the upper sealing ring (3), lantern ring (4), and lower sealing ring (2).
5. Ensure the internal surfaces of the valve and lantern ring are clean.
6. Install new lower sealing ring, replace lantern ring and then the new upper sealing ring.
7. Install valve assembly and tighten nuts.
Recommended tightening torque is 7.5 ft•lb (10 N-m).

Spare Parts

The available spare parts are listed below. An extractor tool is available to facilitate replacement of the sealing rings.

Description	Part No.	Stock No.
Sealing Ring Set	2,3	1170080
Complete Valve Internals Set	2,3,4,5,6,8,13	1170081
Extractor Tool		1170085

Spares are ordered by using the above description with the type of manifold. Example: "One sealing ring set for integral piston valve on MSC04D2 manifold."

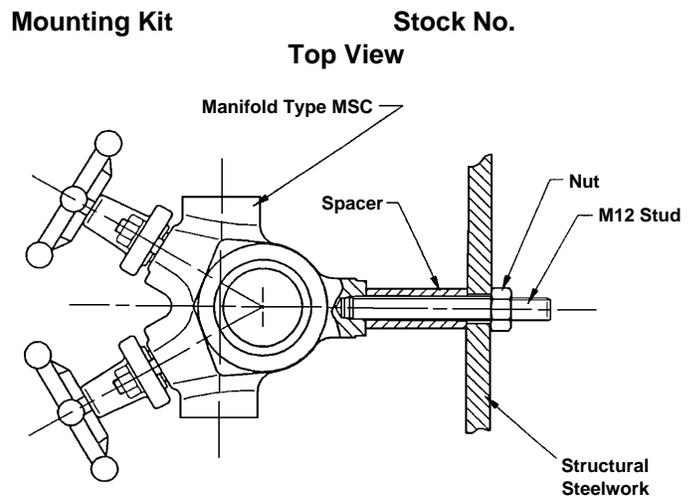
Contact your local Spirax Sarco representative for details.

Optional Equipment

Insulation cover - A custom designed one piece insulation cover is available that does not require any disassembly of the valves for installation. They are made from a silicon coated cloth with a mineral fiber as the insulation material. The covers are fastened using hook and loop velcro and nylon draw cords.

Manifold Model	Insulation Jacket Stock No.
MSC04 (all models)	1170062
MSC08 (all models)	1170262
MSC12 (all models)	1170462

Mounting kit - For ease of installation and insulation, an optional mounting kit is available which will provide a 2 inch stand-off from any adjacent structure. The kit consists of a threaded stud, spacer, and nut, designed to match the M12 mounting holes on the back of the manifold. The MSC04 requires 2 sets of fasteners, the MSC08 requires 3 sets, and the MSC12 requires 4.



Mounting Kit	Stock No.
Single Kit (2 sets)	1170060
Multiple Kit (12 sets)	1170061

Contact your local Spirax Sarco representative for details.

Please refer to the Technical Information Sheet (TIS 6.804) for additional details.

Spirax Sarco Applications Engineering Department
Toll Free at: 1-800-833-3246

SPIRAX SARCO, INC. • 1150 NORTHPOINT BLVD. • BLYTHEWOOD, SC 29016
PHONE 803-714-2000 • FAX 803-714-2200