Cert. No. LRQ 0963008

ISO 9001

spirax sarco

TI-P117-35
ST Issue 1

MSC-P and MSC-N Manifolds for Steam Distribution and Condensate Collection

Description

A range of forged carbon steel compact manifolds with integral piston type stop valves for steam distribution and condensate collection duty.
MSC-P and MSC-N manifolds can be used for either steam distribution duty or condensate collection duty depending on the way they are installed.

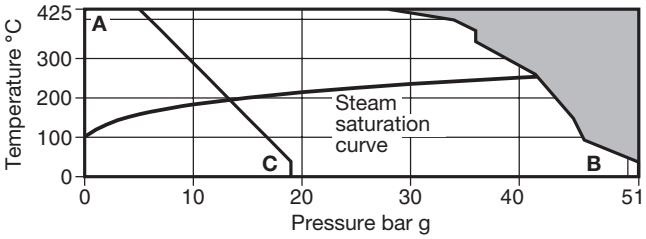
Available types, sizes and connections
MSC-P or N manifolds are available with 4, 8 or 12 connections designated: **MSC04-P** or **N, MSC08-P** or **N** and **MSC12-P** or **N** respectively. As standard they are available with the following connections: Socket weld to ANSI B 16.11 Class 3000. Screwed BSP or NPT.
The steam main/condensate return connection is 1½" SW.
The tracer line and drain connections are available as ½", ¾" flanged, screwed BSP, NPT and SW to ANSI B 16.11.
Please note: Other connections are available upon request.

Optional extras
The following are available at extra cost:
- Mounting kit comprising of studs, spacers and nuts.
- Insulating jacket for body and flanges.

Standards
The MSC-P fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

Certification
This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Pressure/temperature limits



The product **must not** be used in this region.

A - B Flanged ANSI Class 300, screwed and socket weld.
A - C Flanged ANSI Class 150.

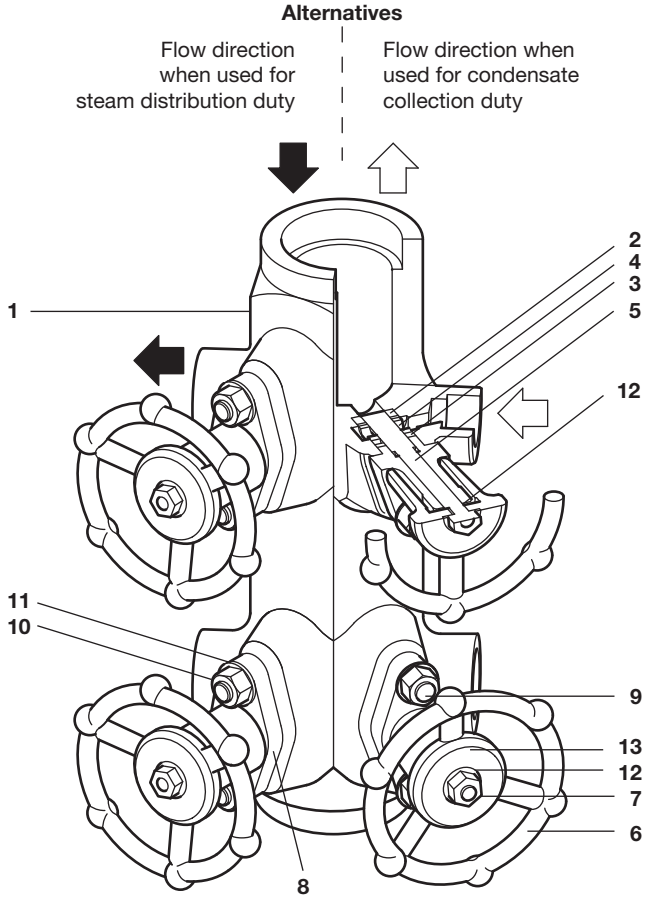
Body design conditions			ANSI Class 300 (PN50)
PMA	Maximum allowable pressure		51 bar g @ 38°C
TMA	Maximum allowable temperature		425°C @ 28 bar g
Minimum allowable temperature			-29°C
PMO	Maximum operating pressure for saturated steam service	ANSI 150	14 bar g
		ANSI 300, SW, BSP, NPT	41.5 bar g
TMO	Maximum operating temperature	ANSI 150	425°C @ 5.5 bar g
		ANSI 300, SW, BSP, NPT	425°C @ 28 bar g
Minimum operating temperature			0°C
Note: For lower operating temperatures consult Spirax Sarco			
Designed for a maximum cold hydraulic test pressure of 76 bar g			

K_V values

All sizes	K_V 1.8

For conversion: C_V (UK) = K_V x 0.963 C_V (US) = K_V x 1.156

The K_V stated is for each valve rather than the complete manifold.



Materials

No.	Part	Material	
1	Body	Carbon steel	ASTM A105N
2	Lower sealing ring	Graphite and stainless steel	
3	Upper sealing ring	Graphite and stainless steel	
4	Lantern bush	Stainless steel	ASTM A276 SS410
5	Piston	Stainless steel	ASTM A276 SS316
6	Handwheel	SG iron	
7	Handwheel nut	Stainless steel	
8	Bonnet	Carbon steel	ASTM A105N
9	Studs	Stainless steel	ASTM A193 Gr. B8
10	Nuts	Stainless steel	ASTM A194 Gr. 8
11	Washer	Stainless steel	
12	Washer	Stainless steel	
13	Name-plate	Stainless steel	

How to order

Example: 1 off Spirax Sarco MSC08-P steam distribution and condensate collection manifold in forged carbon steel body with integral piston valve having 8 x ¾" socket weld connections to ANSI B 16.11 Class 3000. Complete with EN 10204 3.1 certification as standard for the body and bonnet.

Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

Dimensions / weights (approximate) in mm and kg

Type	A	B	C	D	E	F	G	H	J	K	L	M	N	Weight
MSC04-P or **N**	330	160	85	110	71	60	45	96	110	130	51	M12	55	10
MSC08-P or **N**	650	160	85	110	71	60	45	96	110	130	51	M12	55	20
MSC12-P or **N**	970	160	85	110	71	60	45	96	110	130	51	M12	55	30

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P117-36) supplied with the product.

General

These manifolds have been designed for vertical installation. The back is provided with threaded connections M12 for ease of installation by attaching to a supporting structure.

Mounting kits

The manifold is generally conveniently attached to the structural steelwork supporting the plant.

For ease of installation it is recommended that spacers are fitted to give the manifold a stand-off of at least 50 mm.

For convenience the following sets of mounting kit are available:

- A single set comprising 2 off each stud, nut and spacer suitable for installing one MSC04-P or N and MSC08-P or N.
- A single set comprising 4 off each stud, nut and spacer suitable for installing one MSC12-P or N.
- A multiple set comprising 12 off each stud, nut and spacer suitable for installing 6 x MSC04-P or N, 6 x MSC08-P or N and 3 x MSC12-P or N

After installation it is recommended that the manifold is insulated to minimise radiated heat losses and to protect personnel from burn risks. This is most easily done using the optional insulating jacket.

Steam distribution duty

The recommended installation is with the steam inlet connection at the top of the manifold. A trap set should be fitted to the bottom. The discharge from this trap set should ideally be returned. If it is to be discharged to atmosphere we recommend that a diffuser is fitted.

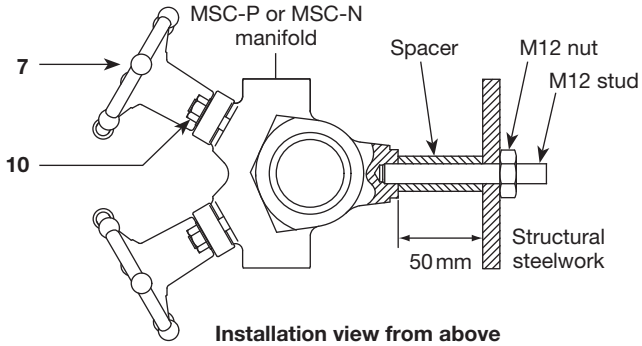
Condensate collection duty

The recommended installation is with the condensate outlet at the top. The bottom of the manifold should be fitted with a stop valve for blowdown purposes. Again, we recommend that a diffuser is fitted.

Operation

In operation the piston valve should be either fully open or fully closed: **It is not intended for throttling duties.**

As the piston valve has such a large sealing area it is not necessary to use a valve key to ensure dead tight shut-off.



Installation view from above

Recommended tightening torques

Item	Part	or	mm	N m
7	Handwheel nut	10 A/F	M6	0.1
10	Bonnet nuts	14 A/F	M8	9 - 10

Spare parts

The spare parts available are detailed below. For ease of replacement an extractor tool is available for removing the sealing rings.

Available spares

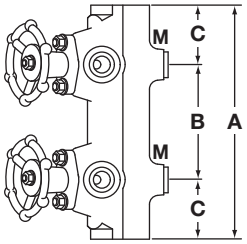
Sealing ring set (set of 10 rings)	**2, 3**
Valve internals set	**2, 3, 4, 5, 7, 12 (2 off)**
Extractor tool and inserter tool	

How to order spares

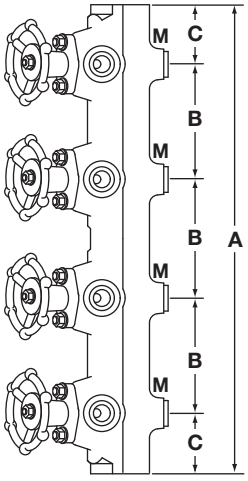
Always order spares by using the description given in the column headed 'Available spares' and state the type and size of manifold.

Example: 1 off Sealing ring set for an integral piston valve on a carbon steel manifold MSC04-P **½"** socket weld.

MSC04-P or N



MSC08-P or N



MSC12-P or N