



MSC Manifolds - ASTM

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 manifolds can be used for either steam distribution duty or condensate collection duty depending on the way they are installed.

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. Please note that manifolds without piston valves fitted are also available.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 2014/68/EU.

Certification

The product is available with certification to EN 10204 3.1.

Note: All certification/inspection requirements must be stated at the time of order placement.

Available types, sizes and pipe connections

MSC manifolds are available with 4, 8 or 12 connections designated:

MSC04, MSC08 and **MSC12** respectively and flanged BS 1560 (ASME) class 150 or 300 or socket weld to ASME B 16.11 Class 3000 or screwed BSP or NPT.

Available in 125 mm and 160 mm pitch.

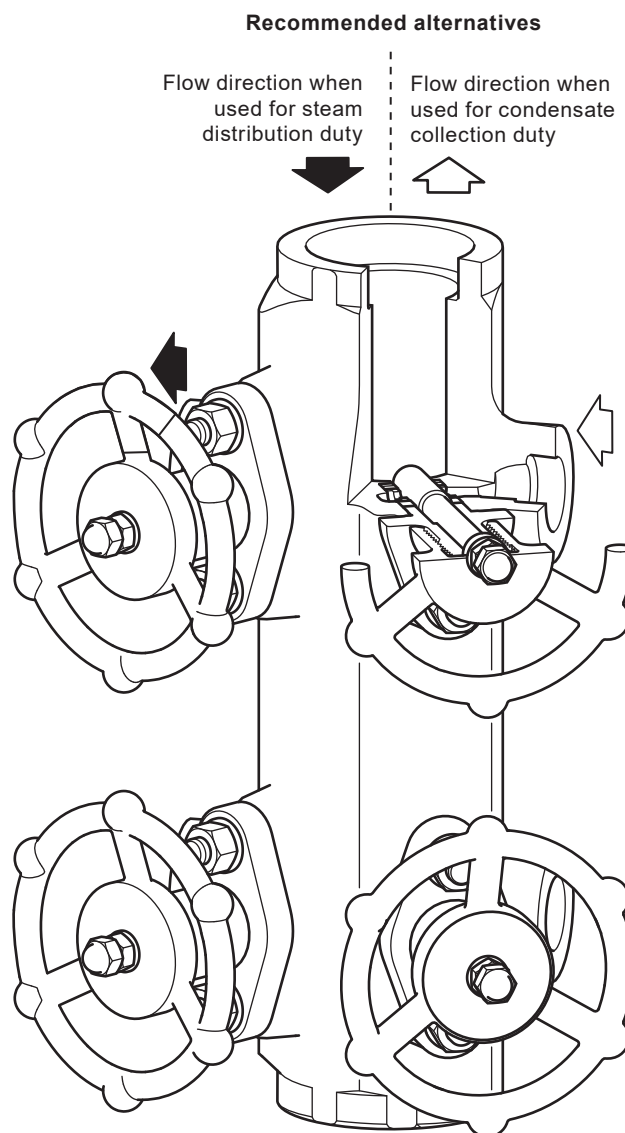
The steam main/condensate return connection is **DN40**.

The tracer line and drain connections are available as **DN15, DN20** flanged, screwed BSP, NPT and SW to ASME B 16.11.

Optional extras

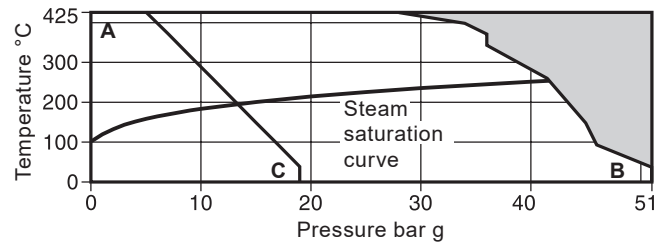
The following are available at extra cost:

- Mounting kit comprising of studs, spacers and nuts.
- Insulating jacket.
- Fitted with steam traps for quick installation projects.



MSC04 shown having socket weld connections

Pressure / temperature limits



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

A - B Flanged ASME Class 300, screwed and socket weld.

A - C Flanged ASME Class 150.

Body design conditions	ASME Class 300	
PMA Maximum allowable pressure	51 bar g @ 38 °C	
TMA Maximum allowable temperature	425 °C @ 28 bar g	
Minimum allowable temperature	-46 °C	
PMO Maximum operating pressure for saturated steam service	ASME 150	14 bar g
	ASME 300, SW, NPT	41.5 bar g
TMO Maximum operating temperature	ASME 150	425 °C @ 5.5 bar g
	ASME 300, SW, 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 Kv 1.8

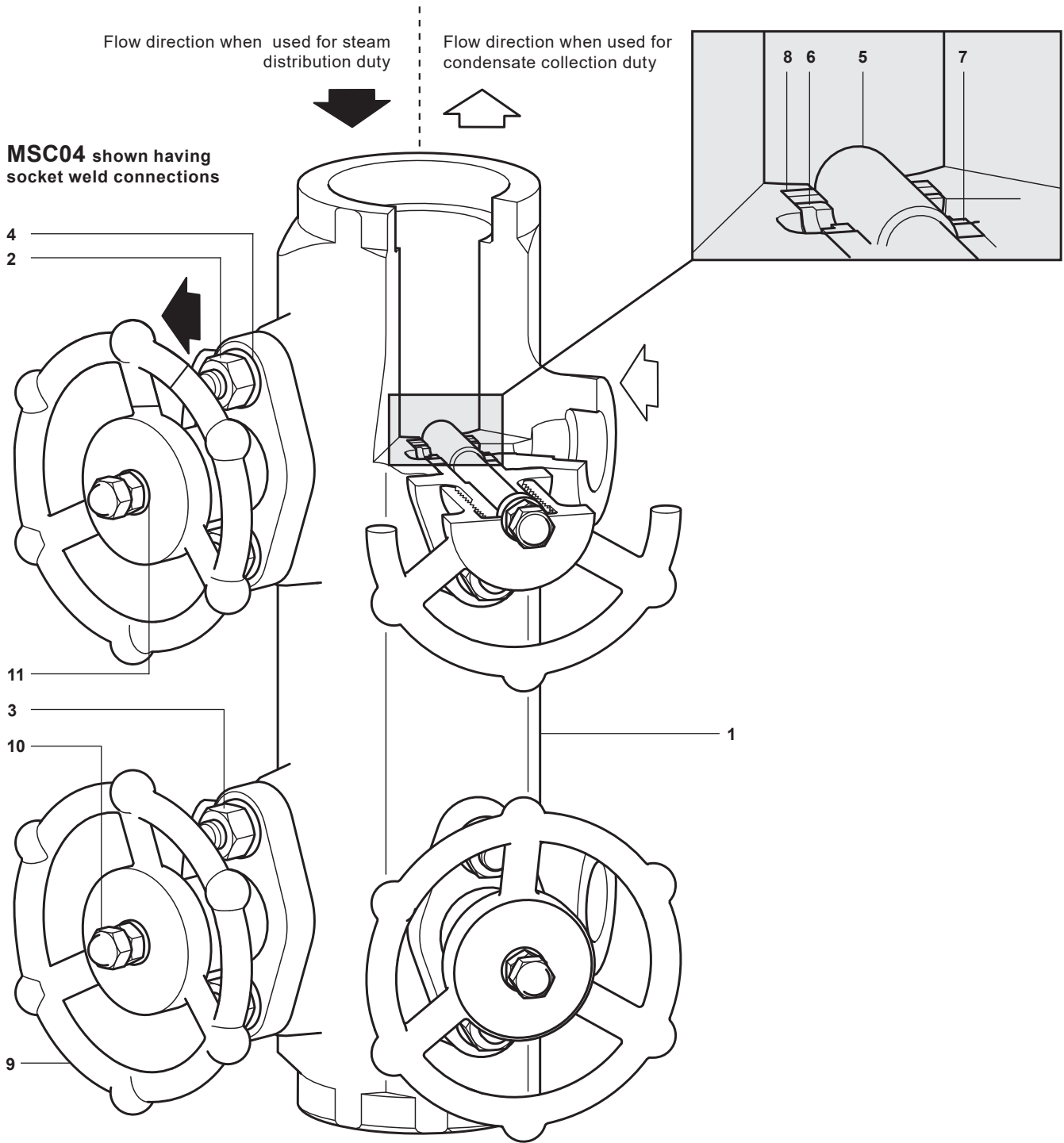
For conversion:

$$C_V (\text{UK}) = K_V \times 0.963$$

$$C_V (\text{US}) = K_V \times 1.156$$

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

Recommended alternatives



Materials

No.	Part	Material	
1	Body	Carbon steel (Zinc plated)	ASTM A105N/LF2
2	Studs	Steel (plated)	ASTM A193 B7
3	Nuts	Steel (plated)	ASTM A194 2H
4	Washers	Stainless steel	
5	Piston	Stainless steel	AISI 410 : 1.4006
6	Lantern bush	Stainless steel	ASTM A276 : AISI 431

No.	Part	Material	
7	Upper ring	Graphite and stainless steel	
8	Lower ring	Graphite and stainless steel	
9	Handwheel	Carbon steel (Zinc plated)	EN 10213 : 1.0619N
10	Handwheel nuts	Stainless steel	
11	Nitronic 60 washers	Steel	

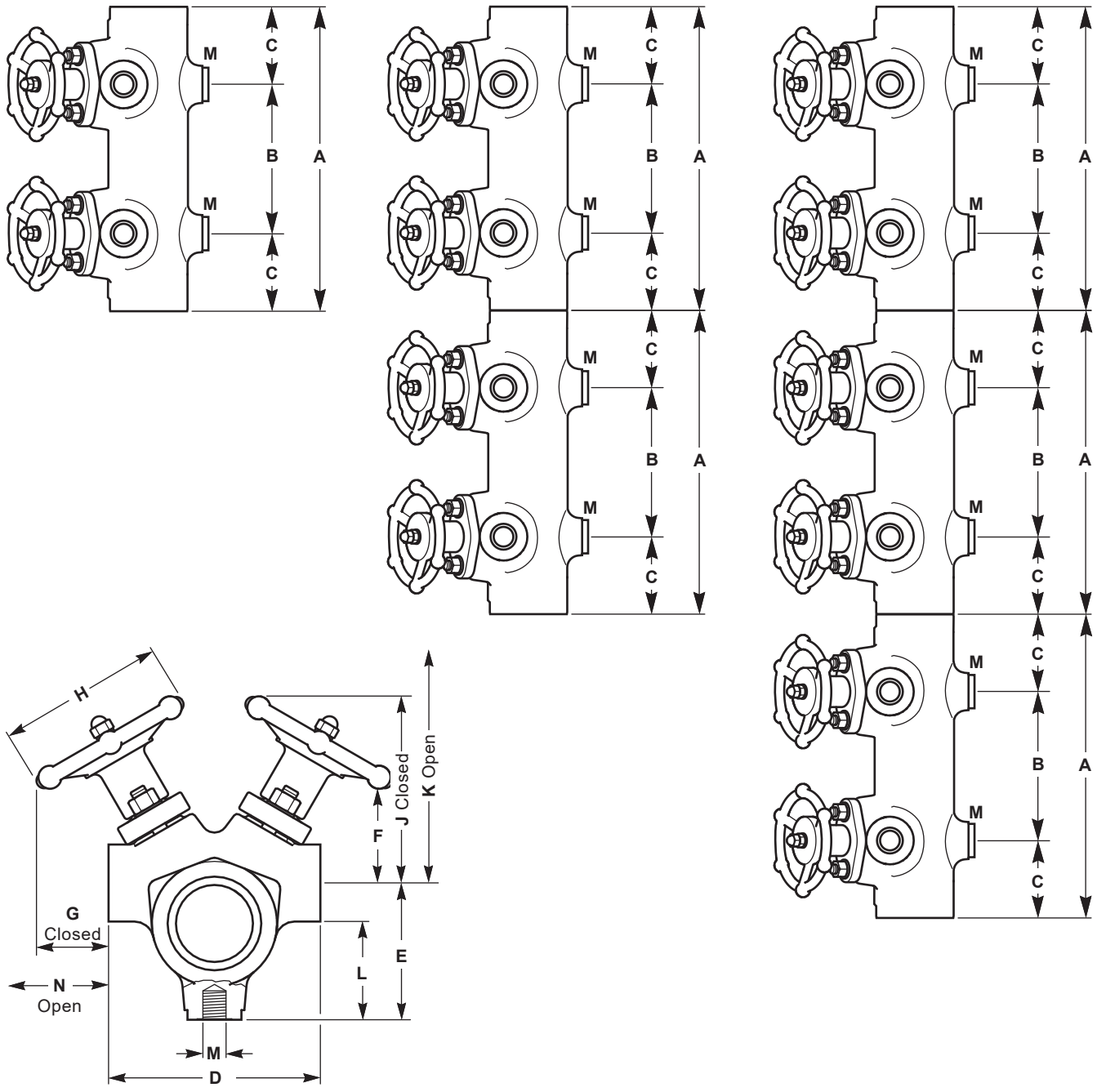
Dimensions/weights (approximate) in mm and kg

160 mm pitch version														
Type	A	B	C	D	E	F	G	H	J	K	L	M	N	Weight
MSC04	330	160	85	110	71	48	37.5	75	102	120	50	M12	45	10
MSC08	650	160	85	110	71	48	37.5	75	102	120	50	M12	45	20
MSC12	970	160	85	110	71	48	37.5	75	102	120	50	M12	45	30
125 mm pitch version														
Type	A	B	C	D	E	F	G	H	J	K	L	M	N	Weight
MSC04	255	125	65	110	71	48	37.5	75	102	120	50	M12	45	9
MSC08	505	125	65	110	71	48	37.5	75	102	120	50	M12	45	18
MSC12	755	125	65	110	71	48	37.5	75	102	120	50	M12	45	26

MSC04

MSC08

MSC12

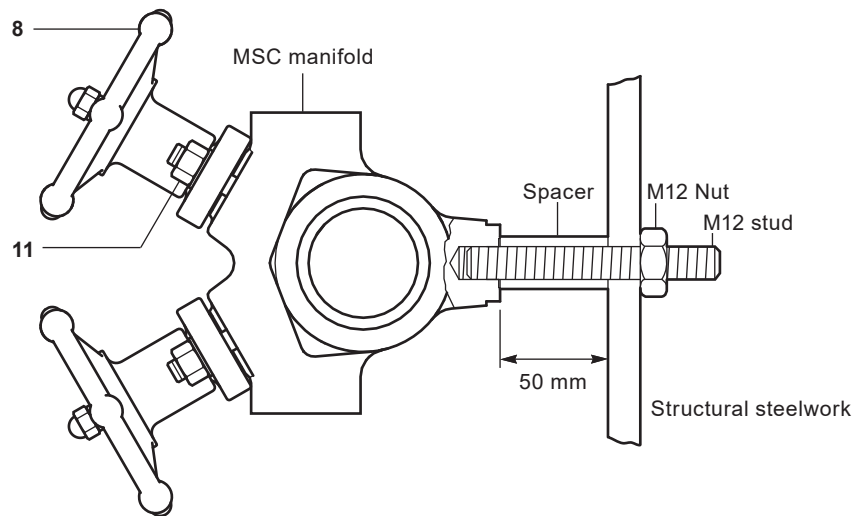


Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P117-03) 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.



Installation view from above

Mounting kits

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

For ease of insulation 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 or MSC08.
- A single set comprising 4 off each stud, nut and spacer suitable for installing one MSC12.
- A multiple set comprising 12 off each stud, nut and spacer suitable for installing 6 x MSC04, 6 x MSC08 or 3 x MSC12.

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.

How to order

Example: 1 off Spirax Sarco MSC08 steam distribution and condensate collection manifold Dual Certified ASTM A105N/A350LF2 forged carbon steel body with integral piston valves having 8 x DN20 socket weld connections to ASME B 16.11 Class 3000. Complete with EN 10204 3.1 certification as standard for the body and bonnet.

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	8 and 9
Piston valve assembly	2, 4, 5, 6, 7, 8, 9, 10, 11 and 12
Piston valve sub-assembly	6, 7, 8 and 9

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 DN15 socket weld.

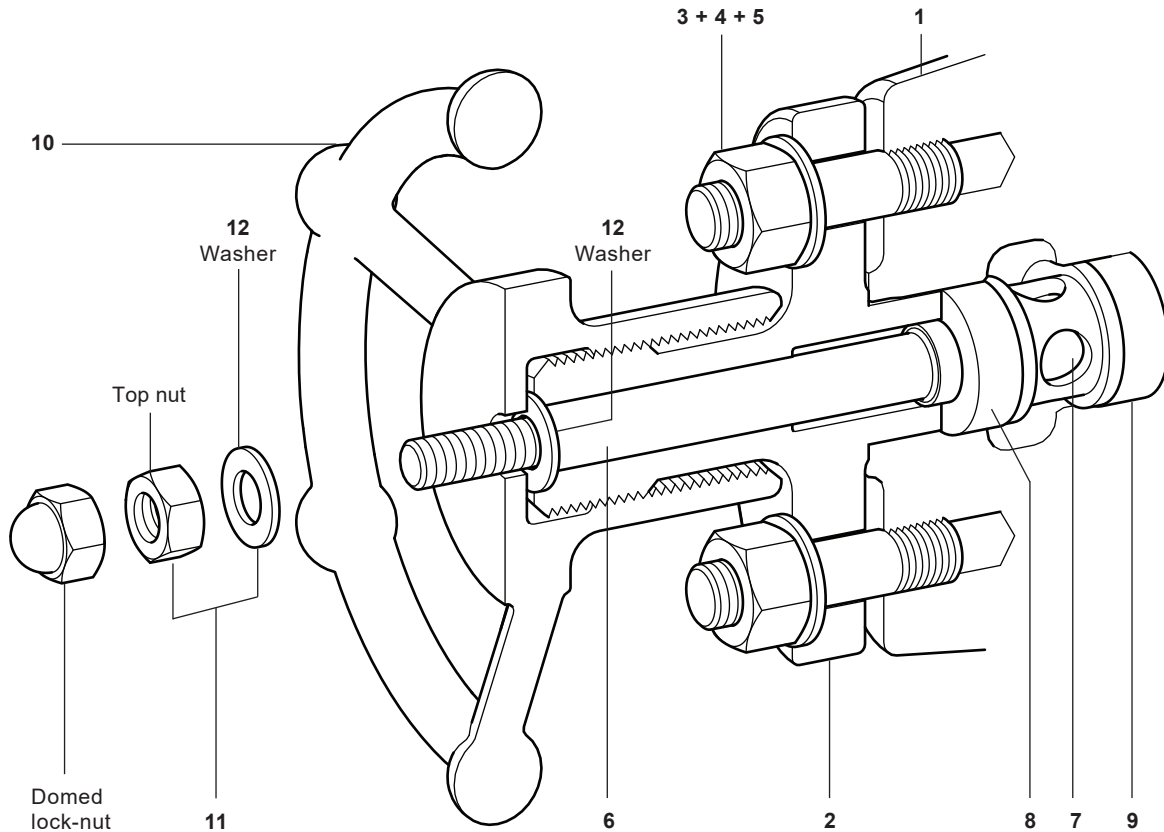




Table 1 Recommended tightening torques

Item		or mm		N m	lbf ft
4	14		5/16" x 18 UNC	12	8.9
11	10		M6	12	8.9