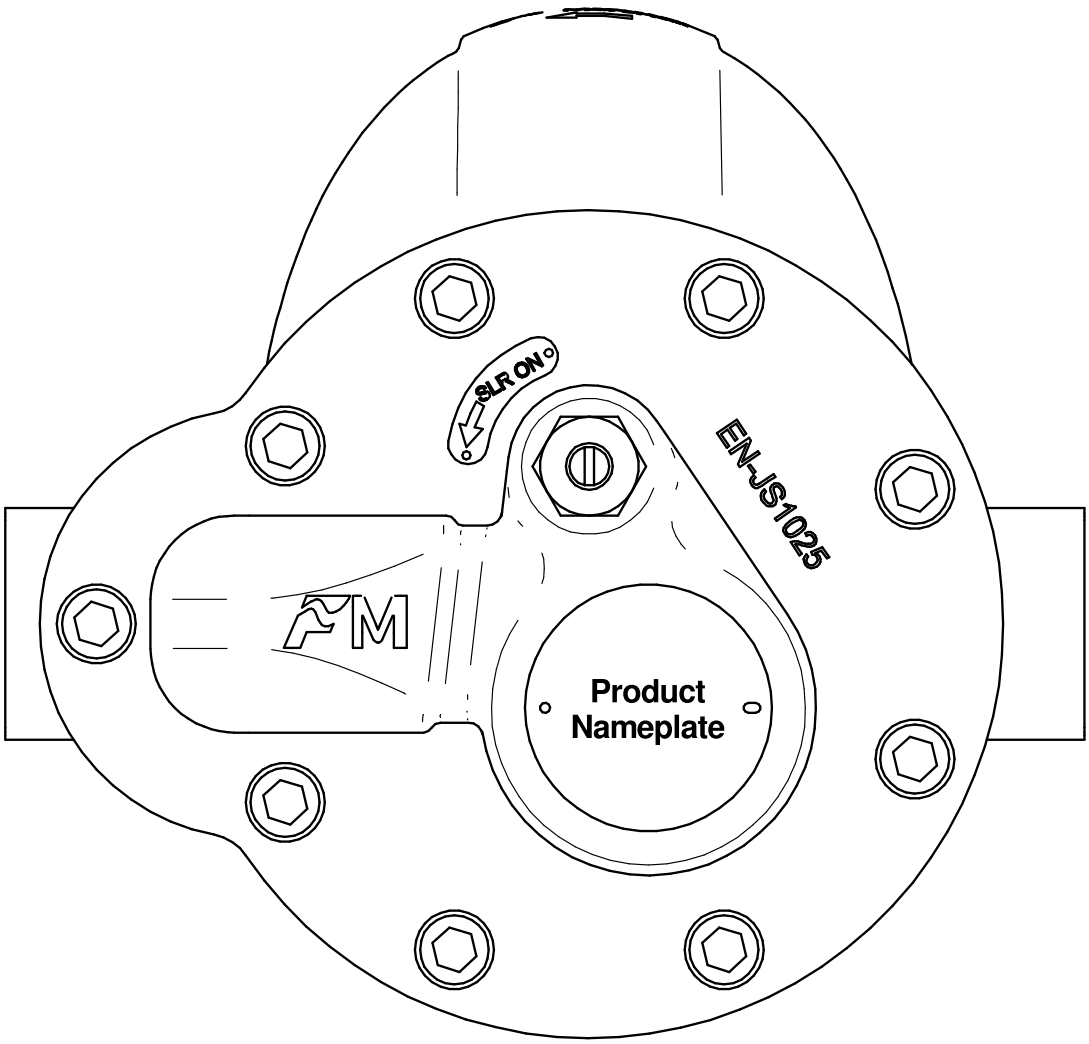
Installation and Maintenance Manual

Two Orifice Float Trap

TOFT



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PLEASE NOTE - Throughout this manual this cautionary symbol is used to describe a potential damage or injury that might occur if the safety considerations are overlooked. This symbol denotes CAUTION, WARNING or DANGER.

1. Preface:

This manual is intended for anyone using, commissioning, servicing, or disposing the below mentioned products safely and efficiently.

Two Orifice Float Trap [TOFT] Size: DN 15 (½") to DN 50 (2").

PLEASE NOTE:

Throughout this manual the following cautionary symbol is used to describe a potential damage or injury that might occur if the safety considerations are overlooked.

2. Important Safety Notes:

Read this section carefully before installing/operating/maintaining the product. The precautions listed in this manual are provided for personnel and equipment safety. Furthermore, Forbes Marshall accepts no responsibility for accidents or damage occurring as a result of failure to observe these precautions. Note that the product is designed to perform for non-contaminated fluids only. A contamination in the form of chemical, foreign particle etc. can lead to problem with product performance and life of the product.

If these products in compliance with the operating instructions are, properly installed, commissioned, maintained and installed by qualified personnel (refer Section 2.7) the safety operations of these products can be guaranteed. General instructions for proper use of tools and safety of equipment's, pipeline and plant construction must also be complied with.

2.1. Intended use

Check if the product is suitable for intended use/ application by referring to the installation and maintenance instructions, name plates and technical information sheets.

i) The product is suitable for use as defined in the technical information sheet. In case the need arises to use the product on any other fluid please contact Forbes Marshall for assistance.

ii) Check for the suitability in conformance to the limiting conditions specified in technical information sheet of the product.

iii) The correct installation and direction of fluid flow has to be determined.

iv) Forbes Marshall products are not intended to resist external stresses, hence necessary precautions to be taken to minimize the same.

2.2. Accessibility and Lighting

Safe accessibility and working conditions are to be ensured prior to working on the product

2.3. Hazardous environment and media:

The product has to be protected from hazardous environment and check to ensure that no hazardous liquids or gases pass through the product.

2.4. Depressurizing of systems and normalizing of temperature

Ensure isolation and safe venting of any pressure to the atmospheric pressure. Even if the pressure gauge indicates zero, do not make an assumption that the system has been depressurized. To avoid danger of burns allow temperature to normalize after isolation.

2.5. Tools and consumables:

Ensure you have appropriate tools and / or consumables available before starting the work. Use of original Forbes Marshall replacement parts is recommended.

2.6. Protective clothing:

Consider for the requirement of any protective clothing for you/ or others in the vicinity for protection against hazards of temperature (high or low), chemicals, radiation, dangers to eyes and face, noise and falling objects.

2.7. Permits to work:

All work to be carried out under supervision of a competent person. Training should be imparted to operating personnel on correct usage of product as per Installation and Maintenance instruction. "Permit to work" to be complied with (wherever applicable), in case of absence of this system a responsible person should have complete information and knowledge on what work is going on and where required, arrange to have an assistant with his primary goal and responsibility being safety. "Warning Notices" should be posted wherever necessary.

2.8. Handling:

There is a risk of injury if heavy products are handled manually. Analyze the risk and use appropriate handling method by taking into consideration the task, individual, the working environment and the load.

2.9. Freezing:

Provision should be made to protect systems which are not self-draining, against frost damage (in environment where they may be exposed to temperatures below freezing point) to be made.

2.10. Product Disposal

It is necessary to dispose this product only in accordance with local regulations at the authorized, qualified collecting point specified for equipment's and its parts—Please refer the part details mentioned in the material table of this manual. Please follow all waste disposal guidelines (Management & Handling) as published by local governing authorities in India & abroad

2.11. Returning products

Customers and Stockiest are reminded that, when returning products to Forbes Marshall they must provide information on any hazards and the precautions to be taken due to contamination residues or mechanical damage which may present a health, safety or environmental risk. This information must be provided in writing including Health and Safety data sheets relating to any substances identified as hazardous or potentially hazardous.

3. Product Information:

3.1. Description:

The Forbes Marshall Two Orifice Float Trap, TOFT, has SG iron cover and base with stainless steel internals, optional steam lock release (SLR) and automatic air venting facility. The TOFT comes with two orifices operated by single float. For normal running condensate load single orifice opens and with increase in condensate load opens the second orifice. This modulating mechanism makes the trap to efficiently cope with the condensate load at startup, normal running and peak load conditions. TOFT is provided with automatic air venting, steam lock release and strainer. TOFT comes with horizontal screwed connections and can be maintained without disturbing the pipework.

3.2. Sizes and Pipe Connections:

DN 15 to DN 50 screwed BSPT/BSP/NPT ends.

3.3. Certification:

This product is available with manufacturers typical test report.
Note: All certification / inspection requirements must be stated at the time of order placement.

3.4. Available Options:

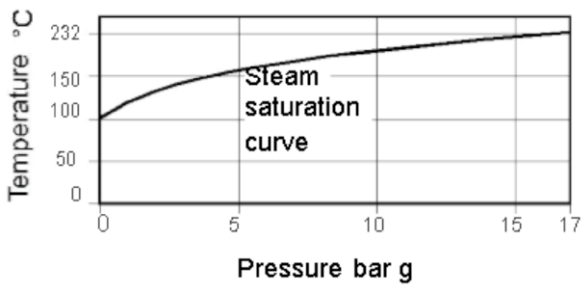
TOFT with Thermostatic air vent (TV)
TOFT with Steam Lock Release (SLR)
TOFT with TV and SLR combined

3.5. Limiting Conditions:

PMA - Maximum allowable pressure			17 bar g @ 232°C
TMA - Maximum allowable temperature			232°C
Minimum allowable temperature			-20°C
PMO - Maximum operating pressure			17 bar g
TMO - Maximum operating temperature			232°C
Minimum operating temperature			0°C
Δ PMX	Maximum differential Pressure	TOFT-4.5	4.5 bar g
		TOFT-10	10 bar g
		TOFT-17	17 bar g
Maximum cold hydraulic test pressure 26 bar g			

Note: For Lower operating temperature consult Forbes Marshall

3.6. Operating Range



Overall Dimensions:

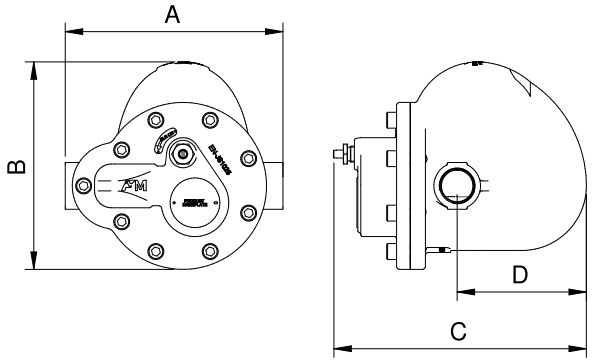


Fig 1 Overall Dimensions TOFT

SIZE	DIMENSIONS(mm)					WEIGHT (kg)
DN	A	B	C	D	Withdrawal Distance	
15/20	158.5	148	186	87.5	180	6
25	219	209	255	130	250	12
40/50	270	278	327	164	320	20

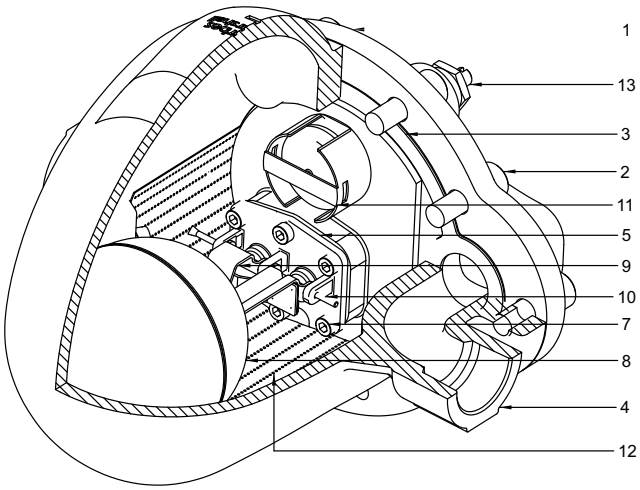
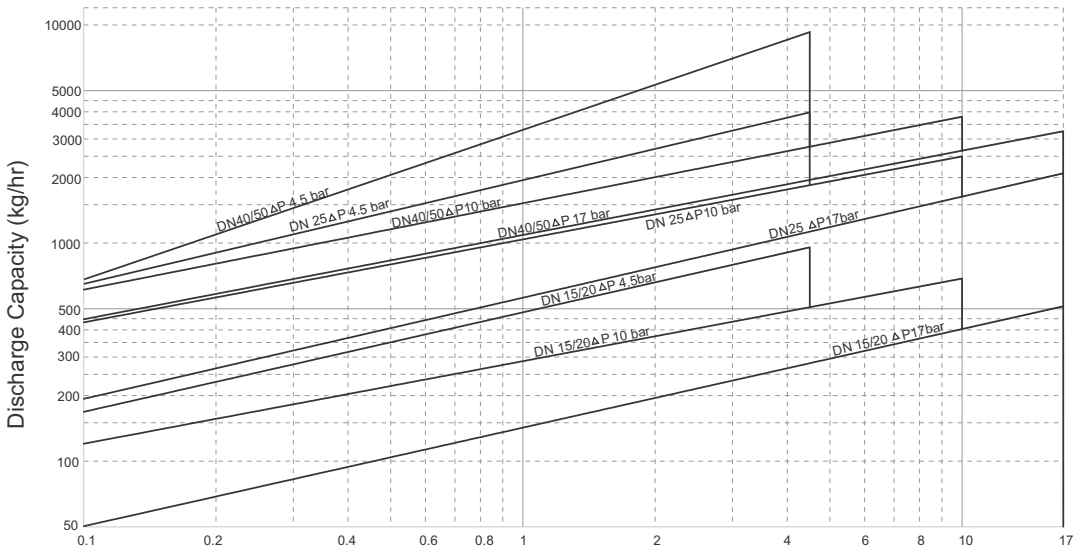


Fig 2 Partial Cut Section View of TOFT

No.	Part	Material	Standard
1	Base	SG iron	EN-JS 1025
2	Cover bolts	Stainless steel	A 193 B 8
3	Cover gasket	Reinforced exfoliated graphite	-
4	Cover	SG iron	EN-JS 1025
5	Seat	Stainless steel CA 40	ASTM A 743
6	Seat gasket	Reinforced exfoliated graphite	-
7	Seat screws	Stainless steel	
8	Float and lever assembly	Stainless steel	ASTM A 240
9	Secondary lever assembly	Stainless steel	ASTM A 240
10	Pivot pin	Stainless steel SS304	ASTM A 276
11	Air vent assembly (optional)	Stainless steel	-
12	Strainer Screen	Stainless steel SS304	ASTM A 240
13	SLR assembly (optional)	Stainless steel	ASTM A 276

Capacity Chart



DN 15 to 50TOFT

Capacities shown are based on condensate at saturation temperature. When discharging sub-cooled condensate the air vent provides extra capacities. Under start-up conditions when the condensate is cold the internal thermostatic air vent will be open and provides additional capacity to the main valve. On 4.5 bar g units this will provide a minimum of 25% increased capacity above the hot condensate figures shown. On 10 and 17 bar g units this will be minimum increase of 40% on the published capacity

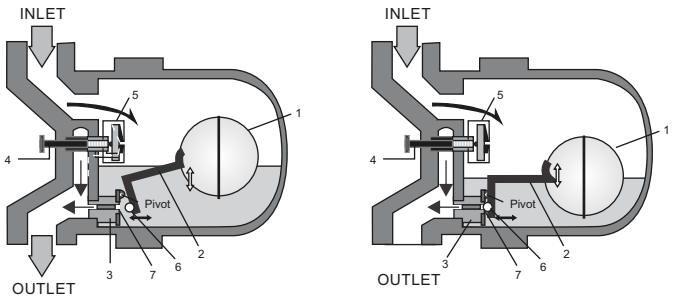
Discharge capacities as measured as per : ISO 7842

4. Product Working Principle:

Figure 3 shows a simple float trap operational representation. A float trap works on the Buoyancy Principle. Condensate enters the trap body and raises the float (1). This further opens the orifice, which is at the other end of float lever. The position of the float (1) depends upon the level/load of condensate (flowrate). The float trap continues to discharge condensate continuously. At higher flow rate conditions (like start up) the float rises further to open second orifice in case of TOFT and doesn't allow back up of condensate as long as the load is within the discharge capacity. When the condensate load drops, the float (1) lowers in position and closes the outlet valve (3) with the ball (6) resting on the orifice (7).

SLR (4) is a needle valve which releases steam that can steam lock the trap during start-up or in operation if the steam reaches the trap before the condensate.

On the start up the air present in the pipeline/process equipment is released through the thermostatic vent (5).



3(a) Trap Discharge Open

3(b) Trap Discharge Closed

Figure 3: Single Orifice Float trap working

* This schematic shows only one orifice. The 2nd orifice is behind the 1st one, which is not visible in this view.
The trap in the figure 3 shows a TV+SLR assembly. TOFT also comes with only TV or SLR assembly.

5. Installation Guidelines

Note: 1) Before implementing any installations observe the 'Important Safety notes" in section 2. Referring to the Installation and Maintenance Instructions, name-plate and Technical Information Sheet, check that the product is suitable for the intended installation.
2) The product is coated with high temperature resistant paint. Take adequate precaution while installation or handling such that the paint coat does not get damaged.

1. Determine the correct installation location/position and the direction of fluid flow
2. Remove protective covers from all connections where appropriate, before installation.
3. If the trap is to discharge to atmosphere ensure it is to a safe place, the discharging fluid may be at a temperature of 100 °C (212°F).
4. The trap must be fitted with the arrow on the name-plate pointing downwards as shown in figure 5 (c).
5. The arrow on the casting should be in the direction of the flow figure 5 (b).

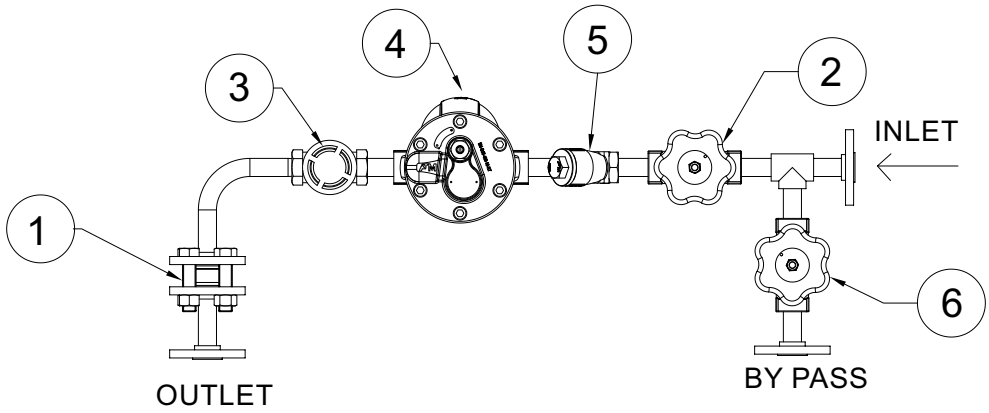
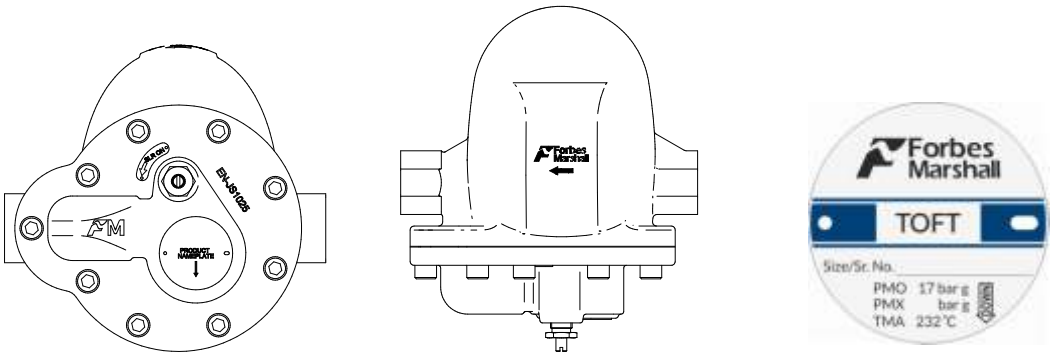


Figure 4: Two Orifice Float trap module
*Typical/ Representative Installation and may vary based on application and site

Item No.	Description
1	Disk Check Valve
2,6	Stop Valve
3	View Glass
4	Two Orifice Float Trap
5	Strainer



(a) (b) (c)

Fig 5 View of TOFT

6. Startup and Commissioning

6.1 Flushing of Lines (Refer to Figure 4)

As part of pre-installation all fluid handling equipment particularly piping should be thoroughly cleaned of scale and the internal debris which accumulates during construction. This is accomplished by blowing or flushing with air, steam, water and other suitable medium.

Follow these steps to carry out the flushing.

1. Close the stop valve **(2)** and open the bypass stop valve **(6)**.
2. Let the condensate drain for at least 10-15 minutes or until clear condensate starts coming out, whichever is earlier.
3. Now slowly close the bypass stop valve **(6)** and open the stop valve **(2).**

6.2 Commissioning :(Refer to Figure 4)

After installation or maintenance ensure that the system is fully functioning by confirming condensate is passing through it.

i) After flushing of lines is complete, ensure stop by-pass valve **(6)** closed and stop valve **(2)** opened.

ii) Check for leaks and attend if any.

6.3 Setting of steam lock release (SLR) : (Refer to Figure 7)

Only SLR Assembly:

1. Loosen the gland nut **(1)** by one thread
2. Rotate the stem **(2)** in clockwise direction. This moves the stem **(2)** towards SLR seat.
3. Once the stem touches the SLR seat, rotate the stem **(2)** in anti-clockwise direction by 1/4th of a turn.

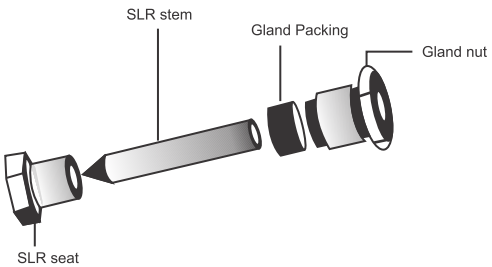


Figure 6 : SLR assembly

Figure 7: SLR setting for only SLR and SLR+TV configuration

SLR+TV Assembly:

Loosen the gland nut by one thread. Rotate the stem in anti-clockwise direction. This moves the stem towards thermopod. Once the stem touches the thermopod ball, rotate it further by 1/4th of a turn.

4. Check for normal discharge pattern and leaks if any.

Note: The SLR unit should only be used to prevent 'steam locking' and therefore is designed to pass a small amount of steam, it is not recommended that the SLR be left in the fully open condition as this may lead to premature trap failure and more frequent maintenance schedules.

7. Maintenance Guidelines

Note: Before undertaking any maintenance of the product it must be isolated from both supply line and return line and ensure pressure is normalized to atmosphere. The product should then be allowed to cool. When re-assembling ensure that all joint faces are clean. Once completed open the upstream isolation valve slowly and check for leaks. Replace the gasket every time the product is reassembled after opening for maintenance.

7.1. Routine and Preventive Maintenance:

Please refer to the maintenance schedule mentioned in the table below to undertake routine maintenance of the trap.

Sr. No.	PARAMETERS TO BE CHECKED	FREQUENCY FOR CHECKING VARIOUS PARAMETERS						
	Steam traps	Immediately	Daily	Weekly	Monthly	Quarterly	Half yearly	Annually
1	Check TOFT			Y				
2	Repair / Replace steam traps - when testing shows leaks	Y						
3	Clean strainers of TOFT				Y			
4	Clean internals of TOFT					Y		
5	Visual inspection for leakages		Y					
6	Arresting any other leaks	Y						

7.2. Tool Kit:

To carry out maintenance of the Compact module two orifice float trap refer the tools mentioned in the table below.

Component	Tool used & Size
Gland nut	Open spanner 21 mm (A/F)
Air Vent Assembly	Open spanner 17 mm (A/F)
Main valve seat	12 inch Screw driver
M4 / M5 /M6 Allen bolt for float seat	3 / 4 / 5 mm Allen key
Body and cover assembly (M10 bolt)	8 mm in key

7.3. Recommended tightening torque:

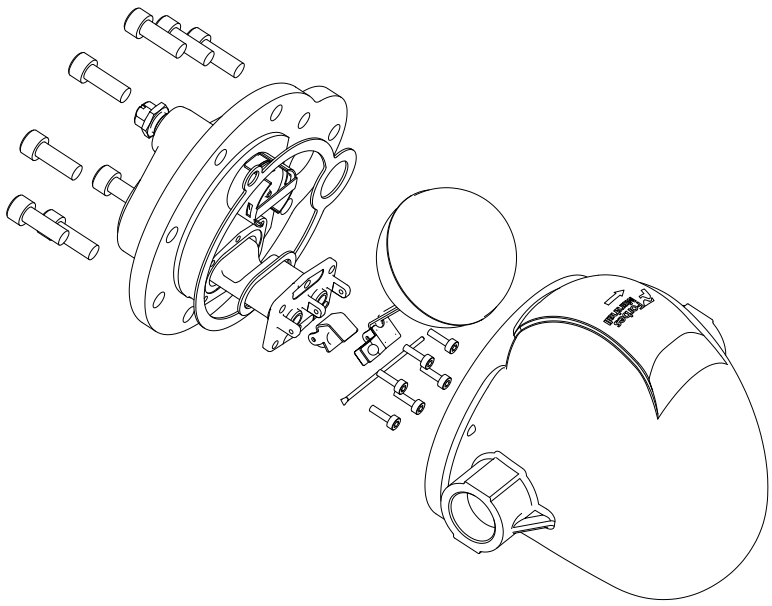
Table 2 Recommended Tightening Torques

Item No.	Part	Bolt	Torque Range
2	Cover Bolt	M10	47-50 Nm
7	Seat Screws	M4 / M5 / M6	6-7 Nm
11	Air Vent Assembly	M12	50 - 55 Nm

7.4. Maintaining main valve assembly: [Refer Figure 4]

Note: The cover gasket contains a thin stainless steel sheet which may cause physical injury if not handled and disposed of carefully.

1. Undo the cover bolts and lift off the base.
2. Remove the complete float assembly by undoing the seat screws.
3. Remove the main valve seat and replace with a new one supplied with new seat gasket.
4. Fit a complete new float assembly by tig htening the assembly set screws . Apply Anti-seize compound on screw during assembly.
5. Refit the base using a new cover gasket
6. Apply Anti -seize compound on cover bolts



Refer Figure 8

7.5. Maintaining air vent assembly:

1. Remove the locking clip, element and spacer plate. Unscrew the seat.
2. Fit a new seat and frame. Apply high temperature sealant on seat thread during assembly.
3. Assemble the spacer plate fit element and clips.
4. Align the complete air vent horizontally so that the frame clears the cover.
5. Refit the base using a new gasket
6. Apply Anti-seize compound on cover bolts

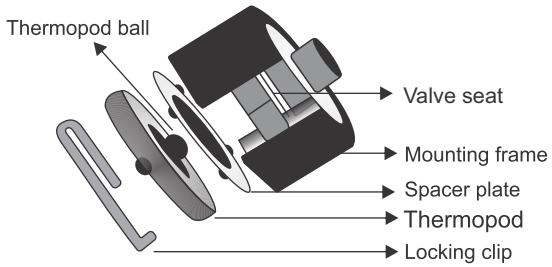


Figure 9: Maintaining the air vent assembly

7.6. Procedure to fit the steam lock release (SLR) assembly:(Refer to Figure 10)

1. Unscrew the complete SLR assembly.
2. Remove the SLR gasket (not shown in the figure 10).
3. Replace the SLR assembly and gasket with new ones.
4. Reset the SLR.

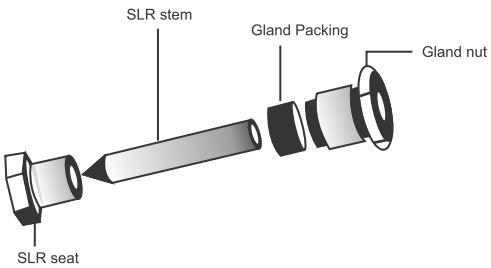


Figure 10: Maintaining the SLR assembly

7.7. Procedure to fit the steam lock release (SLR) and Air Vent (TV) assembly: (Refer to Figure 11)

1. Unscrew the complete SLR assembly.
2. Remove the SLR gasket (not shown in the figure 11).
3. Replace the SLR assembly and gasket with new ones.
4. Maintain TV assembly as per the section 7.5.
5. Reset the SLR.

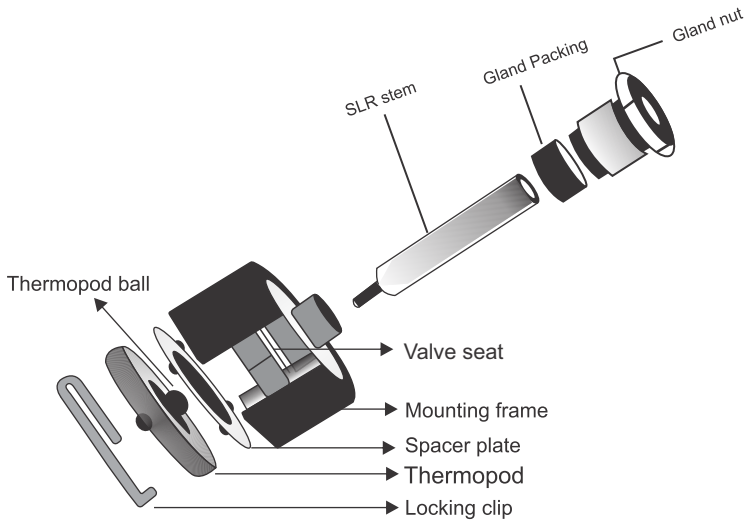


Figure 11: Maintaining the air vent and SLR assembly

8. Troubleshooting:

If the expected performance is unachievable after the installation of the single orifice float trap, check the following points for appropriate corrective measures.

Failure Mode		Remedy
Not discharging at all.	(a) No condensate is discharged, and the surface temperature of the trap is low.	Check the installation. Check for the flow direction arrow on the cover casting and the name plate arrow on the base casting.
		Check for blockage in the strainer.
		If the actual differential pressure is higher than the design P, the steam trap would have failed in closed position as the float buoyancy will not be adequate to open the main valve assembly.
		Check for blockage in main valve assembly and clean it.
		Check if the ball float is punctured, if so replace it. Post replacement, check for water hammering in process to avoid reoccurrence.
	(b) No condensate is discharged, and the surface temperature of the trap is high.	The trap is getting steam locked. Adjust the steam lock release setting by first closing it fully and then opening it by 1/4th turn.
Leaking steam.	(a) Live steam continuously leaking through the outlet.	Check the installation. The arrow on the name plate should point downwards
		Check main valve assembly for any deposition and clean it.
		i) Clean and lap the seating area of main valve assembly. ii) Lightly stamp an SS ball on the seating area of main valve assembly.
		Check for SLR leakage/setting check for air vent leakage.
	(b) Steam leaking from the trap body.	Tighten the cover nuts and bolts to the recommended torque.
		Check the gasket for any possible damage and replace it if required.

Failure Mode		Remedy
Not discharging enough condensate.	(a) Reduced condensate carrying capacity of the trap.	Check parameters and trap sizing. The trap will not discharge enough condensate if the actual size is below the recommended size based on the condensate load.
		Check for back pressure and corresponding discharge capacities as per the capacity charts. i) Replace/repair the leaking and non-working traps with working traps, the leak traps may create/increase the back pressure on the other working traps connected to the same return line or, ii) if there are more than one trap discharging in a single condensate return line, then ensure all the traps have an NRV installed on the outlet of each trap or, iii) ensure all the by-pass valve are closed, if by-pass valve is leaking or if it is kept open in closed loop condition which creates/increases back pressure on the other working traps, connected to the same return line.
	(b) Flooding of condensate.	Check whether the inlet strainer is partially blocked.
		Check thermostatic valve seat orifice for blockage. If blocked, clean and lap.
		Check main valve assembly for blockage. If blocked, clean and lap.

9. Available Spares:

SCREEN SPARE	
SPARE-1520TOFT-SKIT	SPARE 1520TOFT SPARE TYPE: SCREEN KIT CONSIST OF: STRAINER SCREEN, COVER GASKET, M6 BOLT AND WASHER - 5NO'S EACH
SPARE-25TOFT-SKIT	SPARE 25TOFT SPARE TYPE: SCREEN KIT CONSIST OF: STRAINER SCREEN, COVER GASKET, M6 BOLT AND WASHER – 5 NO'S EACH
SPARE-4050TOFT-SKIT	SPARE 4050TOFT SPARE TYPE: SCREEN KIT CONSIST OF: STRAINER SCREEN, COVER GASKET - 5 NO'S EACH, M6 BOLT AND WASHER QTY 10 NO'S
GASKET KIT	
SPARE-1520TOFT-GKIT	SPARE 1520TOFT SPARE TYPE: GASKET KIT CONSIST OF: COVER GASKET, SEAT GASKET (PACK OF 5 EACH)
SPARE-25TOFT-GKIT	SPARE 25TOFT SPARE TYPE: GASKET KIT CONSIST OF: COVER GASKET, SEAT GASKET (PACK OF 5 EACH)
SPARE-4050TOFT-GKIT	SPARE 4050TOFT SPARE TYPE: GASKET KIT CONSIST OF: COVER GASKET, SEAT GASKET (PACK OF 5 EACH)
FLOAT KIT	
SPARE-1520TOFT-FKIT4.5	SPARE 1520TOFT SPARE TYPE: 4.5 BAR FLOAT ASSEMBLY KIT CONSIST OF: FLOAT AND LEVER ASSEMBLY, COVER GASKET
SPARE-1520TOFT-FKIT10	SPARE 1520TOFT SPARE TYPE: 10 BAR FLOAT ASSEMBLY KIT CONSIST OF: FLOAT AND LEVER ASSEMBLY, COVER GASKET
SPARE-1520TOFT-FKIT17	SPARE 1520TOFT SPARE TYPE: 17 BAR FLOAT ASSEMBLY KIT CONSIST OF: FLOAT AND LEVER ASSEMBLY, COVER GASKET
SPARE-25TOFT-FKIT4.5	SPARE 25TOFT SPARE TYPE: 4.5 BAR FLOAT ASSEMBLY KIT CONSIST OF: FLOAT AND LEVER ASSEMBLY, COVER GASKET
SPARE-25TOFT-FKIT10	SPARE 25TOFT SPARE TYPE: 10 BAR FLOAT ASSEMBLY KIT CONSIST OF: FLOAT AND LEVER ASSEMBLY, COVER GASKET
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SPARE-4050TOFT-FKIT17	SPARE 4050TOFT SPARE TYPE: 17 BAR FLOAT ASSEMBLY KIT CONSIST OF: FLOAT AND LEVER ASSEMBLY, COVER GASKET
ONLY SLR KIT	
SPARE-1520TOFT-SLRKIT	SPARE 1520TOFT SPARE TYPE: ONLY SLR KIT CONSIST OF: GLAND NUT, GLAND PACKING, SLR STEM, SLR SEAT, SLR SEAT GASKET, COVER GASKET
SPARE-25TOFT-SLRKIT	PARE 25TOFT SPARE TYPE: ONLY SLR KIT CONSIST OF: GLAND NUT, GLAND PACKING, SLR STEM, SLR SEAT, SLR SEAT GASKET, COVER GASKET
SPARE-4050TOFT-SLRKIT	SPARE 4050TOFT SPARE TYPE: ONLY SLR KIT CONSIST OF: GLAND NUT, GLAND PACKING, SLR STEM, SLR SEAT, SLR SEAT GASKET, COVER GASKET
TV SLR KIT	
SPARE-1520TOFT-SLRTVKIT	SPARE 1520TOFT SPARE TYPE: SLR+TV COMBINATION KIT CONSIST OF: GLAND NUT, GLAND PACKING, SLRTV STEM
SPARE-25TOFT-SLRTVKIT	SPARE 25TOFT SPARE TYPE: SLR+TV COMBINATION KIT CONSIST OF: GLAND NUT, GLAND PACKING, SLRTV STEM
SPARE-4050TOFT-SLRTVKIT	SPARE 4050TOFT SPARE TYPE: SLR+TV COMBINATION KIT CONSIST OF: GLAND NUT, GLAND PACKING, SLRTV STEM

SEAT AND MECHANISM KIT	
SPARE-1520TOFT-SFKIT4.5	SPARE 1520TOFT SPARE TYPE: 4.5 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M4 BOLT (PACK OF 5)
SPARE-1520TOFT-SFKIT10	SPARE 1520TOFT SPARE TYPE: 10 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M4 BOLT (PACK OF 5)
SPARE-1520TOFT-SFKIT17	SPARE 1520TOFT SPARE TYPE: 17 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M4 BOLT (PACK OF 5)
SPARE-25TOFT-SFKIT4.5	SPARE 25TOFT SPARE TYPE: 4.5 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M5 BOLT (PACK OF 6)
SPARE-25TOFT-SFKIT10	SPARE 25TOFT SPARE TYPE: 10 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M5 BOLT (PACK OF 6)
SPARE-25TOFT-SFKIT17	SPARE 25TOFT SPARE TYPE: 17 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M5 BOLT (PACK OF 6)
SPARE-4050TOFT-SFKIT4.5	SPARE 4050TOFT SPARE TYPE: 4.5 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M6 BOLT (PACK OF 6)
SPARE-4050TOFT-SFKIT10	SPARE 4050TOFT SPARE TYPE: 10 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M6 BOLT (PACK OF 6)
SPARE-4050TOFT-SFKIT17	SPARE 4050TOFT SPARE TYPE: 17 BAR SEAT AND FLOAT ASSEMBLY KIT CONSIST OF: SEAT, FLOAT AND LEVER ASSEMBLY, PIVOT PIN, COVER GASKET, SEAT GASKET, M6 BOLT (PACK OF 6)

9.1 How to Order:

Example: DN 15 Two Orifice Float Trap, Screwed BSPT TOFT-4.5 bar g differential pressure with steam lock release.

9.2 How to Order Spares:

Always order spares by using the description given in the column headed 'Available spares' and state the size, type of trap and pressure range.

Example: 1 No. Main valve assembly for DN 15 Two Orifice Float Trap TOFT-4.5.

10. Warranty Period

As per ordering information and agreements in the contract

FORBES MARSHALL

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