

# INSTALLATION GUIDELINES

## 01

The inlet 50 NB (2") flange of SOPT - LHX be connected to outlet of the equipment being drained.

It is important to use Forbes Marshall 0.8 mm perforation (20 mesh) strainer at the inlet of SOPT - LHX (refer Figure 1).

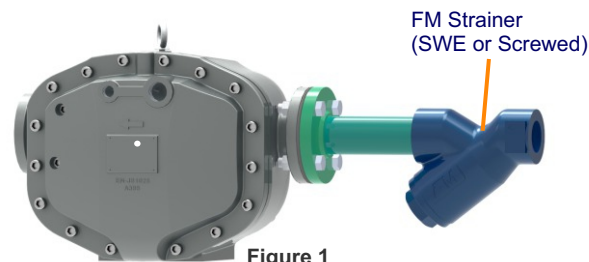


Figure 1

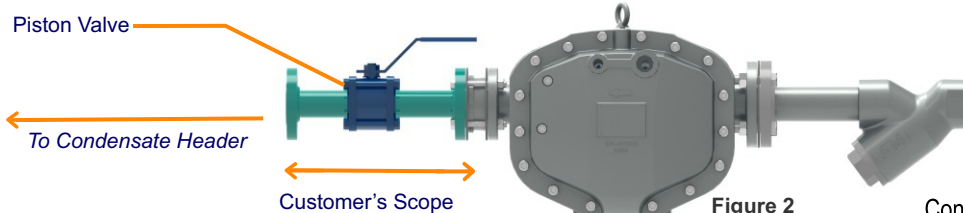


Figure 2

## 02

Connect outlet 40NB (1-1/2") flange of SOPT - LHX to condensate return header with piston valve as shown (refer Figure 2).

## 03

Connect motive steam to port marked "MOTIVE" of SOPT - LHX, use FM 100 Mesh Strainer. Ensure that this line is drained off the condensate at all times using Forbes Marshall Thermodynamic Steam Trap (refer Figure 3).

The motive line be taken from the upstream of process control valve and not the downstream.

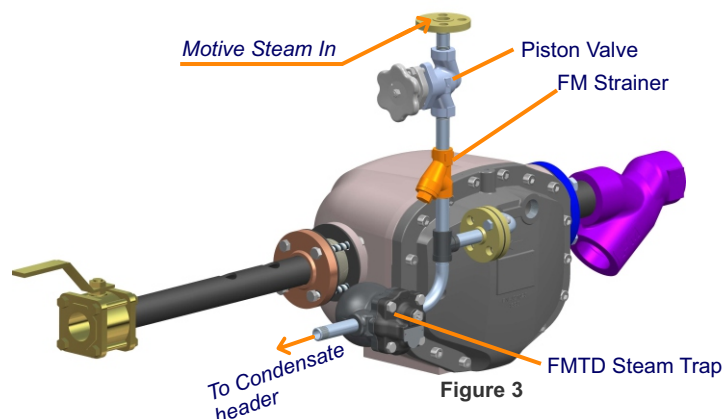


Figure 3

## 04

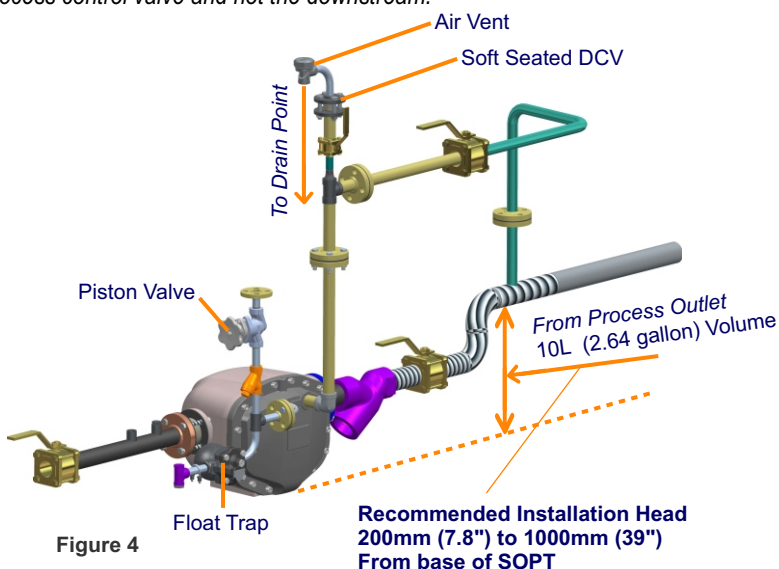


Figure 4

The screwed 25NB (1") port marked "EXHAUST" of SOPT- LHX should be connected back as close as possible to the condensate outlet of the equipment. This balancing line must always be full bore and always connected to the top of the condensate pipe. **If supplied**, 15NB (1/2") Air vent with Air vent piston valve and soft seated 15NB (1/2") FMDCV must be fitted on the balancing line at elevation higher than Steam inlet as shown in installation diagram

### Note

It's recommended that the inlet & exhaust lines be prepared separately and assembled on SOPT ensuring that no dirt, weld spatter goes inside the ports during commissioning. Install the SOPT - LHX with **minimum installation head of 200 mm (7.8") and recommended maximum installation head of 1000mm (39")**, from the base of SOPT - LHX (refer installation diagram). When using steam, the inlet piping should be atleast 20NB (3/4") from the steam header towards the SOPT LHX only when the steam (motive) inlet pipework length is close to 600mm (23.6"), the motive inlet piping can be reduced and fed into SOPT - LHX motive inlet.

## 01

Remove the strainer cap and screen from steam and condensate inlet strainers.

## 02

Flush steam/condensate through the strainer until clear steam and condensate is visible.

## 03

Close steam and condensate valves and reassemble the strainer cap and screen of both the strainers. Check the total back pressure and ensure that it does not exceed 5 bar g. (72.5 psig)

## 04

Open motive steam piston valve and see that steam inlet pressure does not exceed 14 bar g (203 psig) in the pressure gauge. It is recommended that Motive pressure be more than total back pressure by atleast 1.5 bar g (21.8 psig).

## 05

Slowly open the motive steam inlet line to supply pressure to the SOPT - LHX, open the vent piston valve.

## 06

Ensure that the balancing line piston valve is open

## 07

Slowly open the piston valves in the condensate inlet an

d discharge lines, allowing condensate to fill the body of SOPT - LHX After approx 2-3 min. close the vent piston valve. (If SOPT-LHX is supplied without Airvent and DCV)

**If air vent and DCV are supplied no need to close the vent piston valve**

## PRECAUTIONS

Do not allow the motive steam pressure to fluctuate.

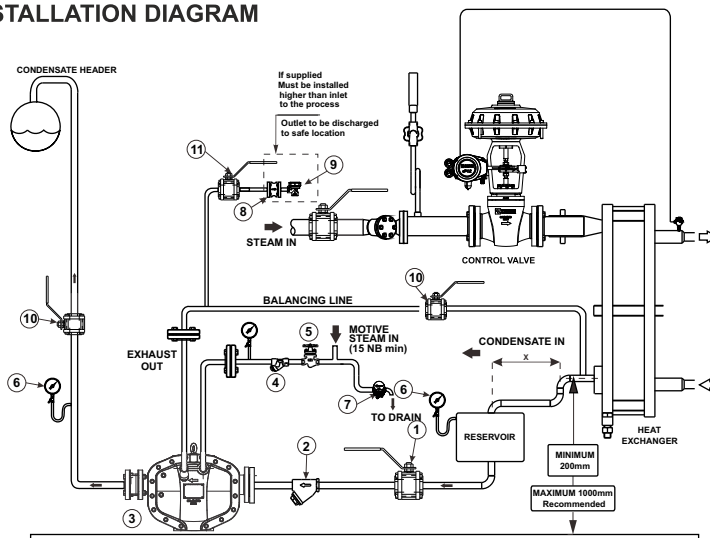
Do not install crooked discharge line.

The discharge line should never be smaller than bore of the outlet check valve.

If the discharge line is more than 100 mtrs (3280 ft) long then it should be properly sized to handle the quantity of condensate & flash steam.

Ensure there is no additional pressurised lines connected to discharge line which could cause increase in back pressure. *For more details, please contact Forbes Marshall.*

### INSTALLATION DIAGRAM



It's recommended that the reservoir be installed atleast 1 pipe diameter below the process outlet, but as high as possible above the SOPT. Length of pipe 'x' will act as a reservoir, if not sufficient as per the reservoir sizing chart, add additional reservoir.

### KEY

- 01 50NB (2") Forbes Marshall Piston Valve
- 02 50NB (2") Forbes Marshall FMSTR31 Strainer 0.8 perforation (20 Mesh)
- 03 40NB (1-1/2") Forbes Marshall Disk Check valve ( FMDCV ) (Provided with SOPT - LHX)
- 04 15NB (1/2") Forbes Marshall SCR D Strainer Dutch Weave type (Provided with SOPT - LHX)
- 05 15NB (1/2") Forbes Marshall Piston valve
- 06 Pressure Gauge with Syphon
- 07 15NB (1/2") Float Trap
- 08 15NB (1/2") Forbes Marshall Soft seated Disk check valve
- 09 15NB (1/2") Forbes Marshall Air vent
- 10 40NB (1-1/2") Forbes Marshall Piston Valve
- 11 15NB (1/2") Forbes Marshall Piston Valve