INSTALLATION GUIDELINES

01

The inlet 40 NB (1-1/2") flange of SOPT-LH be connected to outlet of the equipment being drained.

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

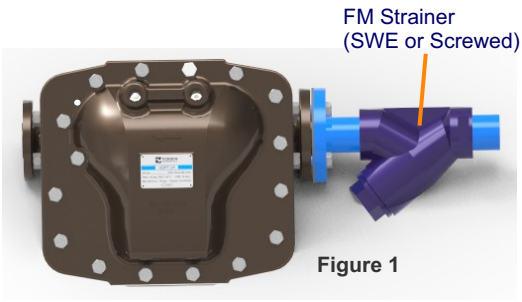


Figure 1

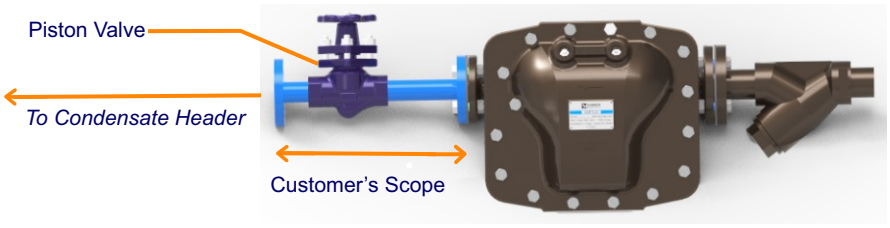


Figure 2

02

Connect outlet 25NB (1") flange of SOPT-LH to condensate return header with piston valve as shown (refer Figure 2).

03

Connect motive steam to port marked "IN" of SOPT-LH, 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.

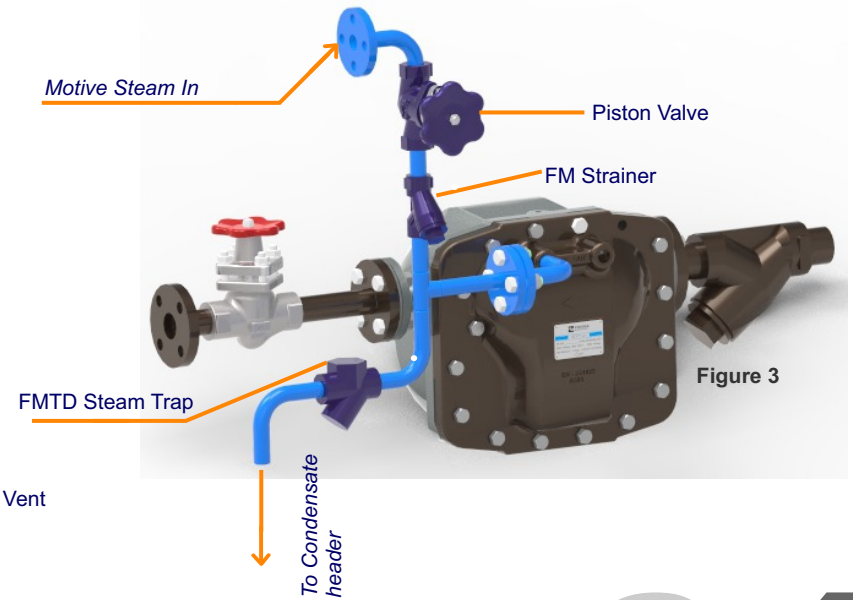


Figure 3

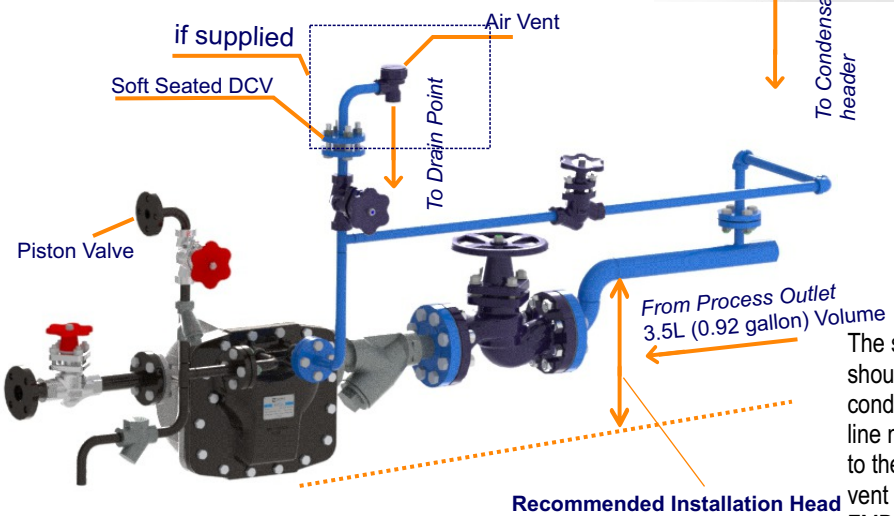


Figure 4

04

The screwed 15NB (1/2") port marked "OUT" of SOPT-LH 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 inlet to the process as shown in installation diagram (refer Figure 4).

Note

It's recommended that the inlet & exhaust lines be prepared separately and assembled on SOPT-LH ensuring that no dirt, weld spatter goes inside the ports during commissioning. Install the SOPT-LH with **minimum installation head of 200mm (7.9") and recommended maximum installation head of 1000mm (39")**, from the base of SOPT-LH (refer installation diagram). When using steam, the inlet piping should be atleast 20NB (3/4") from the steam header towards the SOPT-LH 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-LH motive inlet.

COMMISSIONING GUIDELINES

01
Remove the strainer cap and screen from steam and condensate inlet strainers.

02
Flush steam/condensate though 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-LH, 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 and discharge lines, allowing condensate to fill the body of SOPT-LH
After approx 2-3 min. close the vent piston valve. **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.

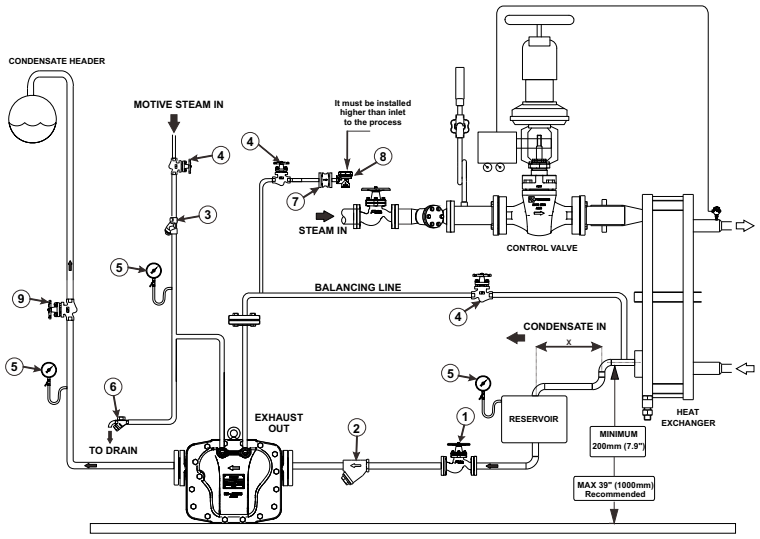
If the discharge line is more than 100 mtrs (3280 ft) long then it should be properly sized to handle the quantity of condensate & flash steam.

Do not close the exhaust line & air vent under any circumstances.

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 - LH
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 40NB (1 1/2") Forbes Marshall FMSTR31 Strainer 0.8 perforation (20 mesh)

03 15NB (1/2") Forbes Marshall SCRD Strainer Dutch Weave type (Provided with SOPT)

04 15NB (1/2") Forbes Marshall Piston valve

05 Pressure Gauge with Syphon

06 15NB (1/2") Forbes Marshall Thermodynamic trap

07 15NB (1/2") Forbes Marshall Soft seated Disk check valve

08 15NB (1/2") Forbes Marshall Air vent

09 25NB (1")Forbes Marshall Piston Valve