



TYPE E MAIN VALVE

Mec-Tric Technical Publication 072313

**Subject: Noise level /decibel (dBA) reduction
with Spence Regulator Valves.**

Noise Solutions



Noise Increase from Steam Pressure reduction

As steam at a high pressure travels from the upstream side of an E Main and through the nozzle of the E Main, the pressure of the steam decreases and the velocity of the steam increases. This increased velocity of steam contributes to increased noise resonating from the E Main. Usually there is a larger diameter pipe on the downstream side of the E Main to aid in decreasing the velocity of the steam. This does not help with the increased noise from the pressure reduction. OSHA mandates that ear protection must be worn in areas where noise exceeds 90 dBA.

Solutions for the reduction of noise are typically:

1. Muffler Orifice Plates (MOP's)
2. Noise Suppressors (flanged pipe spools)
3. Acoustic E-Main Jackets

1. Muffler Orifice Plates (MOP's) Average attenuation of MOP's range from 6-10 dBA and are designed to fit between ANSI flanges downline from the E Main.

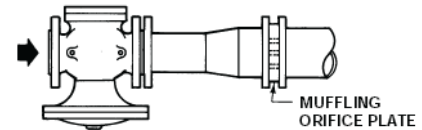
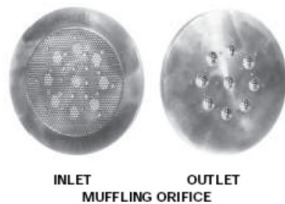


FIGURE 5A: SINGLE STAGE INSTALLATION WITH MUFFLING ORIFICE

2. Noise Suppressors are Flanged Pipe spools with specific internal design used to reduce noise. Average attenuation is of noise suppressors range from 10-20 dBA depending on configuration.

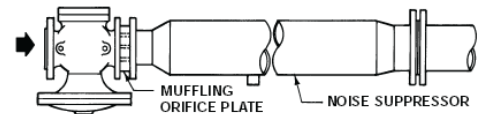
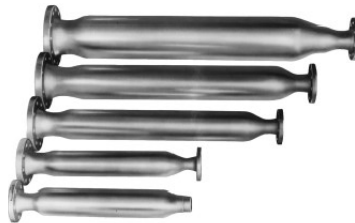


FIGURE 5C: SINGLE STAGE INSTALLATION WITH MUFFLING ORIFICE AND NOISE SUPPRESSOR

3. Acoustic E-Main Jackets decrease noise by covering the E Main and acting as sound insulation. Attenuation is not as great as above solutions but does provide some noise reduction. Specifications available upon request.



Above diagrams taken from Spence publications for training purposes.

