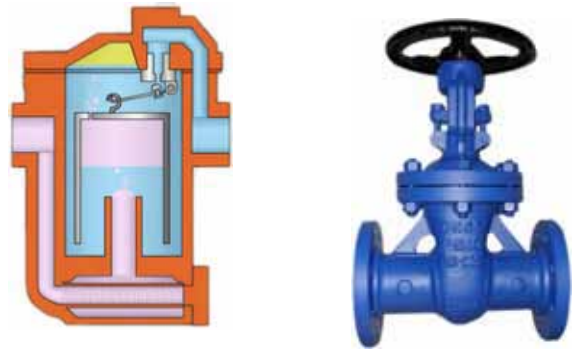


ULTRASONIC INSPECTION STEAM TRAPS, VALVES & FITTINGS

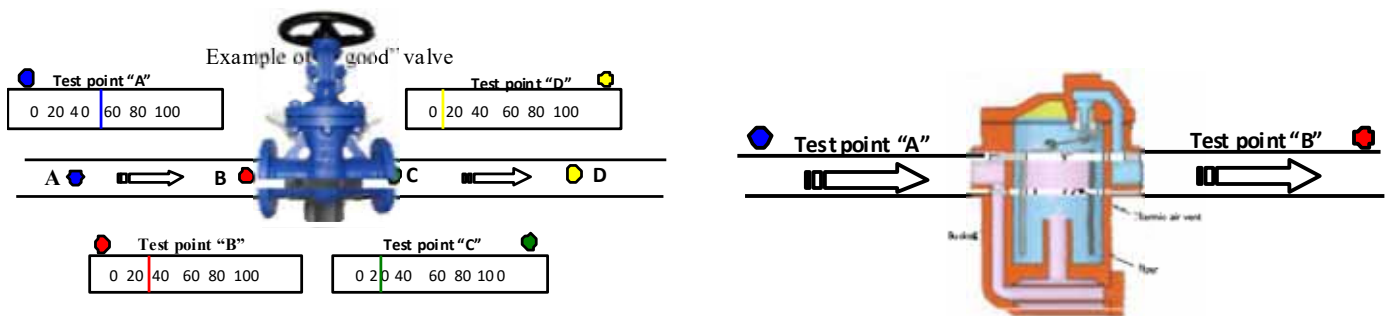


DESCRIPTION

When valves or steam traps leak or fail, it can be extremely costly in terms of product quality, safety and energy loss. Valve operation affects the way fluids will flow through a system. There are great differences in the way particular valves and steam traps work. Ultrasonic testing makes it easy to adjust for these differences and readily determine operating conditions while valves and traps are on-line.

How Ultrasonic Leak Detection works?

As fluid moves from the high-pressure side of a valve through the seat to the low-pressure side, it produces turbulence. This turbulence generates ultrasound, which is detected by the ultrasonic probe, and translated, via heterodyning, down into the audible range. The translated ultrasounds are heard through headphones and seen as intensity increments on a meter. High frequency tuning allows users to adjust for differences in fluid viscosity (i.e. water vs. steam) and reduce any interference from stray pipe noises.



Leak Detection Method

Inspection methods vary depending on the type of valve or steam trap. Therefore the primary rule is to know the details of your system, for example the way a specific valve may work under specific conditions. In order to determine leakage or blockage: touch upstream of the valve and reduce the sensitivity of the instrument until the meter reads about 50. If it is desirable to hear the specific sound quality of the fluid, simply reduce the sensitivity until the sound you would expect to hear becomes clear. It's that simple.

Next, touch downstream of the valve trap and compare intensity levels. If the sound is louder downstream, the fluid is passing through. If the sound level is low, the valve or trap is closed. Ultrasonic valve inspection is considered a "positive" test in that an operator can instantly identify sound quality and intensity differentials and thereby determine operating condition accurately.
