



Quality Petroleum Equipment Solutions for Over 20 Years

Date: October 30, 2007

Subject: Ball Valve Downstream of Mechanical Line Leak Detector

All new and retrofit installations of mechanical line leak detectors should include a ball valve within 18" downstream of the MLLD. The downstream ball valve facilitates:

ARM-4073

AST-4010

AST-4012

ISM-4080

ISM-4081

LD-2000

LD-2000E

LD-2200

LD-2200I75

LD-3000

LD-3000E

LD-3000FL

LDT-890

LDT-890AF

OFF-2I1

OFF-2I2

OFF-3I1

OFF-3I2

PLC-5000

SUMP-300

STM-4201

1. Start-up
 - The (closed) ball valve limits the empty line area allowing MLLD's to step through to full-flow mode at start-up.
 - The ball valve is cracked open to pressurize the (empty) line system without resetting the leak detector.
 - The ball valve remains partially closed to keep (fluid) pressure on the discharge end of the leak detector while line vapor is vented.
2. MLLD Replacement
 - Diminished chance for the line to "burp" fuel back through line upon MLLD removal.
3. Line Pressure During Fueling Operation
 - It is possible to have site specific conditions where demand exceeds functional out-put (the pressure needed to keep the leak detector open during fueling operations). Where pump discharge pressure falls below the minimum pressure needed to keep the leak detector open, the ball valve may be partially closed. Pressure between the discharge of the leak detector and the valve is raised, creating enough line pressure to keep the MLLD in the full-flow position. This is an efficient, inexpensive means of balancing maximum flow and equipment utilization. Leak detection is not compromised.
4. Diagnostics
 - Isolates pump from the line, enabling technicians to confirm check valve and packer o-ring problems.
5. Annual Test Requirements
 - Isolates the pump from the line for annual line tightness testing.

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