

ISO 15848 Fugitive Emissions Trunnion Ball Valve



Case studies

EGC Seal Design

S19314: Stem Seals, installed on 60mm stem



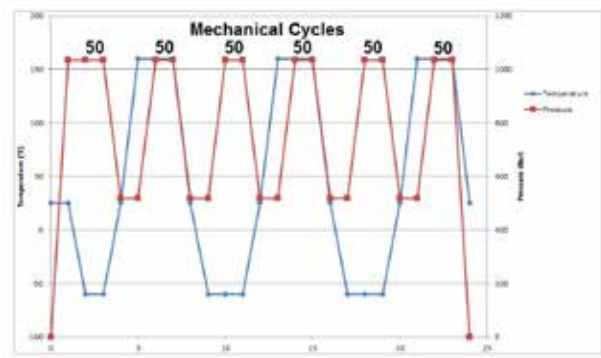
Valve Overview

Valve Type	Quarter Turn Trunnion Ball Valve
Stem diameter	60 mm (2.362 in)
Housing Diameter	72 mm (2.835 in)
Design Pressure	1034 bar (15000 psi)
Test Pressure	1034 bar (15000 psi)
Max. Test Temperature	-60°C (-76°F)
Min. Test Temperature	160°C (320°F)

Testing Details

- Custom Test measured to ISO 15848-1:2015 tightness
- Endurance class: Custom C01 (300 mechanical cycles, 6 thermal cycles)
- Tightness: AH for 60mm Stem (1.6E-6 Atm*cc/s)
- Test Media: Helium, 97% purity
- Sampling Method: Vacuum
- Temperature: -60°C to 160°C

Testing Profile



Test Results: PASSED

All 300 mechanical cycles and 6 thermocycles were performed as planned.

The seal design passed testing by maintaining well below the acceptable leakage rate of 1.6E-6 Atm*cc/s as defined by ISO 15848 AH tightness for a 60mm stem.

The maximum measured leak rate during the test was 6.5E-8 Atm*cc/s.

Since 97% helium was used in the test, the leakage scaled to account for impurities was calculated to be 6.5E-7 Atm*cc/s which is 2 ½ times tighter sealing than was required by the specification.



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