Annulus Reference Trap System (ARTS)

The ARTS is used to trap a pressure in the reference section of the Pressure Operated Tester Valve (POTV). Once this reference pressure has been trapped, the POTV can then be operated through the application and removal of applied annulus pressure.

Specifications:

- Working pressure: 15,000 psi/103.42 MPa
- Working temperature (See note 1): 350°F/175°C
- OD (in/mm): 5"/127 mm
- ID (in/mm): 2.25"/57.2 mm
- Upper thread connection: 3 ¾" Stub Acme, 6 TPI
- Lower thread connection: 3 ¾" Stub Acme, 6 TPI
- Tensile strength: 350,000 lbf/155,600 daN
- Tensile strength at max working pressure: 30,000 lbf/13,345 daN
- Tool length (in/mm): 55.4 in/141 mm
- Tool weight (lbs/kg): 250 lbs/113 kg
- Service condition: H2S per NACE MR-01-75

Note 1: Working temperature can be increased by changing sealing configuration as follows:
- Up to 400°F/204°C – Standard elastomers and premium back-up rings.

Operation:

The ARTS is run as part of the POTV/reference section. By isolating the I.D. from the O.D. (i.e. setting a packer or placing seals into a sea bore) and applying an annulus pressure, a reference is trapped in the POTV.

The POTV can now be operated by annulus pressure. The ARTS also contains a check valve system which regulates the operating pressure. The check valve also relieves the trapped reference pressure at the end of the test as the tool is pulled to surface. This ensures that bottom hole pressure is not brought to surface in the tool.