

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" / 127mm
ID (in/mm)	2.25"/57.2mm
Upper thread connection	3 ¾" Stub Acme, 6 TPI
Lower thread connection	3 ¾" Stub Acme, 6 TPI
Tensile strength	350,000lb/155,600daN
Tensile strength at max working pressure	30,000lb/13,345daN
Tool length (in/mm)	55.4in/1mm
Tool weight (lbs/kg)	250 lbs/ 133 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.

