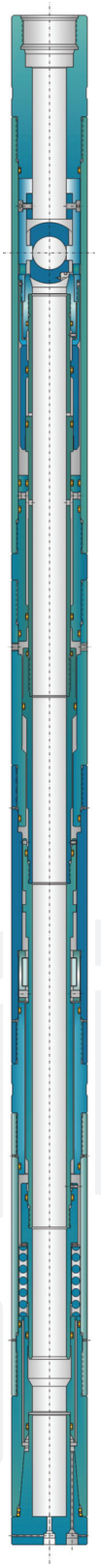
Pressure Operated Tester Valve (POTV)

The POTV is an annulus pressure-operated downhole ball valve. It is run with a nitrogen section which compensates for changes in annulus hydrostatic pressures. The POTV is designed to work in conjunction with either retrievable or permanent packers as no set-down weight is required when operating. An optional index lock-open system allows the ball to be retained open every second cycle. This lock open feature allows the POTV to act as a fluid by-pass when placing seals in a packer bore and aids in wireline and well kill procedures.



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	350,000lbf/155,600daN
Tensile strength at max working pressure	30,000lbf/13,345daN
Tool length (in/mm)	153in/3886mm
Tool weight (lbs/kg)	640 lbs/ 290 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 POTV is run above the packer and recorder carriers in a cased hole test string. Thereafter it provides for downhole shut-in and flowing test procedures by selectively closing and opening the test string to flow. When the test assembly is run to depth and the packer set, applied annulus pressure causes the ball valve to rotate to the open position, allowing full bore passage through the tool. It remains open until the pressure is bled off, or when running the lock open feature, and closes when the tool is cycled again.

The POTV will normally be run in the lock open position, testing the string against the Self Fill Tubing Tester Valve (SFTTV). If run in the closed position it may be tested against as many times as desired. (If used in conjunction with Expro's circulating valves it provides an effective system for running TCP guns in a well and establishing an underbalance by running a portion of the tubing string dry).