



## Downhole Inflation Pump Assembly

### Description

The Downhole Inflation Pump Assembly is a subsurface pump which supplies pressurized wellbore fluid to the inflatable packer elements.

This fluid expands the packers to isolate a zone of interest for a drillstem test.

### Specifications

The Downhole Inflation Pump is activated by rotation of the workstring.

When rotating annular fluid is drawn through the Screen assembly into the pump and pressurized fluid is discharged via the inflate passage to the inflatable elements carried on the packer chasis.

Normal rotation is at 30 rpm for 10 minutes.

Discharge pressure is set by an external Pressure Control valve located on the assembly.

Standard operating pressure is 10 to 12 Mpa (1500-1800psi)

Once the packers have been set a secondary Master Check Valve in the pump locks the high pressure fluid in the packers for the duration of the test.

At the conclusion of the test, pressure in the test interval must be equalised with the hydrostatic pressure before packers are unset or released.

Manipulation of the workstring repositions the sleeve in the pump to allow annular fluid to enter the test interval. Equalisation has been achieved.

After equalisation, further manipulation of the workstring shifts the inner mandrel in the pump allowing communication between the inflate and bypass passages allowing the packers to deflate and unseat.

The packers may then be re-positioned for further testing or retrieved from the well.

### Downhole Pump Features

- 1) All pump check valves are easily serviced from side ports on the pump.  
Check valve cartridges may be replaced quickly.
- 2) The pressure control valve may also be accessed from a side port on the pump.  
This valve controls inflate pressure in the packers. Rapid adjustment of the inflate pressure can be achieved without removing the valve or breaking down the pump.  
The pressure control valve also allows the pump to unload at the preset inflate pressure.  
This feature minimises unnecessary wear to the working parts of the pump.
- 3) A secondary Master Check valve holds pressurised inflation fluid in the inflation passage.  
A side port in the pump housing allows easy access to this valve.

Assembly # : 05 - 701- 54200

Tool OD : 5 inches

Thread Connection : 3.5" API IF

