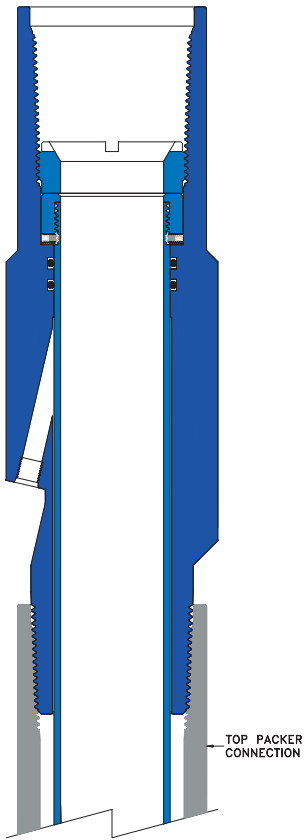


ANNULAR-PRESSURE PACKER BY-PASS ASSEMBLY

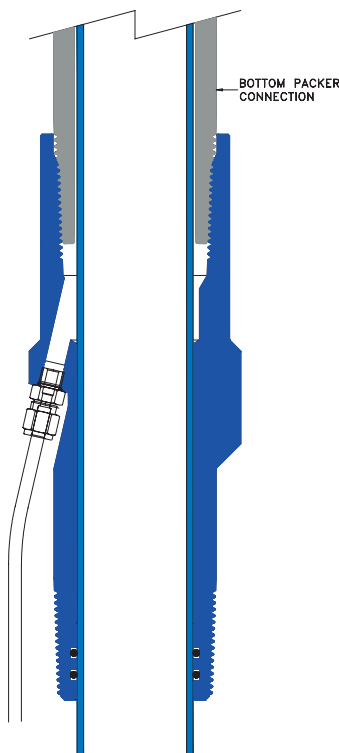
The Titan Annular-Pressure By-Pass Assembly is used to transmit annular pressure to below a retrievable packer to operate differential or direct pressure firing heads and the annular-pressure operated production vent.

Features/Benefits

- Is compatible with most retrievable packers
- Has full-open ID to allow for a Drop Bar FH
- Is designed to prevent 'dirty' fluid entering the system
- Can be run in conjunction with DST Tools
- Is ideal for highly deviated wells



RETRIEVABLE
PACKER



Specifications

Thread	2 3/8" EU 8rd	2 7/8" EU 8rd
Outside Diameter (OD)	3.69 in (93.7 mm)	4.10 in (104.14 mm)
Inside Diameter (ID)	1.60 in (40.6 mm)	2.00 in (50.80 mm)
Length above Packer	10.10 in (0.26 m)	.90 ft (0.27 m)
Length below Packer	8.10 in (0.21 m)	0.73 ft (0.22 m)
Mandrel Length	8.83 ft (2.69 m)	10.67 ft (3.25 m)
Min. Packer ID Req'd	1.88 in (47.8 mm)	2.30 in (58.4 mm)
Max. Packer Length	7.50 ft (2.29 m)	9.33 ft (2.84 m)
Max. Operating Press.	20,000 PSI (1,380 bar)	20,000 PSI (1,380 bar)
Max. Differential Press.	10,000 PSI (689.5 bar)	8,500 PSI (586 bar)
Calculated Tensile	150,000 lbs (68 t)	280,000 lbs (127 t)