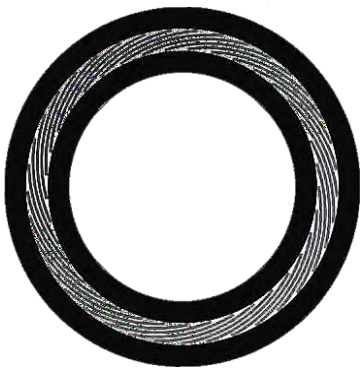


Slat Type Inflatable Elements



A slat-type inflatable element includes a plurality of longitudinal metal ribs on the exterior thereof which are partially overlapping to allow expansion of the packer element while providing a barrier against extrusion. The slat type construction is recommended for single set operations where the tool is released from the running string and must be capable of staying in position without sliding. Our retrievable packers incorporate an inflatable packing element that is sized to pass through the production tubing, pack off the casing below, and then return back to its original size when deflated. Thru-tubing retrievable packers let you reliably conduct your intervention operations, all while leaving the completion in the wellbore.

Applications

- Acidizing
- Fracturing
- Cementing
- Testing applications
- Chemical stimulation, inhibition, and water shutoff treatments
- Pressure testing operations
- Temporary and permanent zonal abandonments

Features, Advantages and Benefits

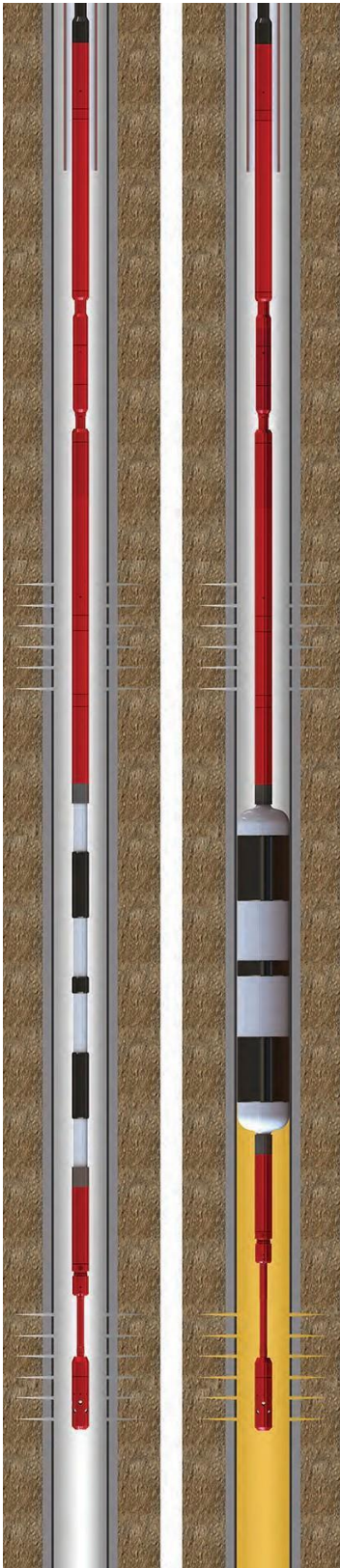
- High-expansion ratio up to 3:1
- Increasing production rate up to 5:1
- Saving rig time up to 1:5
- Saving money up to 1:10
- Provides the ability to perform jobs without pulling the production tubing and killing the well
- Element can be custom manufactured according to casing size, temperature, corrosion and other well conditions with slat-type reinforcements with fully covered or partially exposed
- High differential pressure capabilities in high temperatures
- Can be used in vertical, deviated, and horizontal applications
- Provides excellent open-hole or cased-hole zonal isolation

Slat Type Inflatable Elements

Inflatable Element Pressure Rating

INFLATABLE ELEMENT (SLAT TYPE) RATING PRESSURE														
Standard Services														
Element OD [inch]	ID of Casing [inch]													
	2.44	2.99	3.54	3.95	4.15	4.89	5.92	6.09	6.76	7.51	8.68	9.76	10.77	12.41
	Max Differential Pressure [psi]													
1.690	5000	4200	3000	2300	1800	1500								
2.125	6000	6000	5500	4400	3600	2600	1600	1500						
2.500		6500	6200	6000	5500	4200	2600	2100	1600					
2.750		7000	6800	6400	6000	5500	3700	3100	2300	1600				
3.000			8000	7500	7000	6500	5000	4500	3400	2500	1500			
3.375				8500	8000	7500	6500	6000	4500	3500	2300	1600		
4.250						8500	7500	6500	5500	4500	3000	2100		
5.375							8500	8000	7500	7000	6000	4000	3200	2200
6.500										8000	6500	4500	3700	2700

Thru-Tubing Inflatable Retrievable Packer



The Thru-Tubing Inflatable Retrievable Packer provides a means of performing remedial and stimulation operations without pulling the production tubing. An inflatable packing element on the packer is sized to pass through the production tubing, pack off the casing/liner below and then the equalized and deflated packer can be retrieved through the production tubing. The thru-tubing packer has a large expansion inflatable packing element so that it can run through small diameters, such as production tubing, and set in the casing/liner below the tubing.

Applications

- High-pressure production or testing
- Fracture stimulation jobs with anchored or floating tubing strings
- Lower-zone isolation, using the packer as a bridge plug
- Upper-completion workover without the need to unseat the packer
- Chemical stimulation, inhibition, water shut off treatments
- Selective well monitoring and testing
- Hole hunting / leak testing

Features, Advantages and Benefits

- Well can be reworked without pulling the tubing string or introducing kill fluid.
- Packer can be run on coiled tubing as well as threaded tubing.
- Can be used in vertical, high-angle, and horizontal application.
- Provides excellent open-hole or cased-hole zonal isolation.
- Pressure can be equalized across the packer before it is released.

Note: PETROCO API – 19 OH Full Scale Test Unit is Available for Functionality Tests

Thru-Tubing Inflatable Packer							
Body OD [inch]	Element OD [inch]	Specification					
		Inside Diameter [inch]	Length with Running Tool [inch]	Length without Running Tool [inch]	Fishing Neck Size and Type	Guide Ring OD [inch]	Min. Restriction to Pass Through [inch]
1.690	1.690	0.460	165	140	-	1.753	1.859
2.125	2.125	0.625	165	140	1.37 OD External	2.188	2.338
	2.500					2.563	2.750
	2.750					2.813	3.025
3.000	3.000	0.815	167	142	2.5 OD External	3.063	3.300
	3.375					3.438	3.713

Thru-Tubing Inflatable Retrievable / Permanent Bridge Plug

The Thru-Tubing Bridge Plug (TTBP) provides the ability to temporarily plug the casing below the production tubing. Applications include: temporary shutoff of lower zone, selective acid or chemical treatments, fracturing of upper perforation intervals, isolation of sensitive zones during recompletions, or zonal isolations. The bridge plug can be run on coiled or threaded tubing, or on electric wireline. The plug is equalized, released and retrieved with either tubing, braided wireline, or slick line with a single trip in the hole.

Applications

- High-pressure production or testing
- Fracture stimulation
- Highly deviated wells and doglegs
- Temporary abandonment
- Temporary zonal isolation
- Primary/secondary wellhead barrier

Features, Advantages and Benefits

- Along with the setting cylinder below the element, the one-piece mandrel eliminates the O-ring connection between the top sub and mandrel, minimizing leak paths and providing greater reliability
- The packer can be set in a single trip without rotation or reciprocation of the tubing string, saving valuable rig time

Note: PETROCO API – 11D1 Full Scale Test Unit is Available for Functionality Tests

Thru-Tubing Inflatable Bridge Plug						
Body OD [inch]	Element OD [inch]	specification				
		Length with Running Tool [inch]	Length without Running Tool [inch]	Fishing Neck Size and Type	Guide Ring OD [inch]	Min. Restriction to Pass Through [inch]
1.690	1.690	164	139	-	1.753	1.859
2.125	2.125	164	139	1.37 OD External	2.188	2.338
	2.500				2.563	2.750
	2.750				2.813	3.025
3.000	3.000	166	141	2.5 OD External	3.063	3.300
	3.375				3.438	3.713

