Inter-Expansion (IX) Sealing Solutions

- IN-FLOW, THRU-TUBING DEPLOYMENT
- 7,500 PSI, V3 RATED BARRIER
- SHORTEST BRIDGE PLUG IN THE INDUSTRY
- LARGE THROUGH BORE
- RETRIEVABLE AND PERMANENT SOLUTION AS A PLUG, PACKER, PACKOFF, HANGER, ANCHOR, STRADDLE
- ZONAL ISOLATION, WORKOVER, EOR, ABANDONMENT

Expandable downhole sealing solutions offer operators a fast and cost-effective method of isolating unproductive well zones, re-instating integrity, enabling enhanced oil recovery and supporting P&A operations.

DTI's reliable Inter-Expansion technology offers in-flow, thru-tubing deployment capability in working pressures up to 7,500psi, providing an API-11D V3 rated barrier.

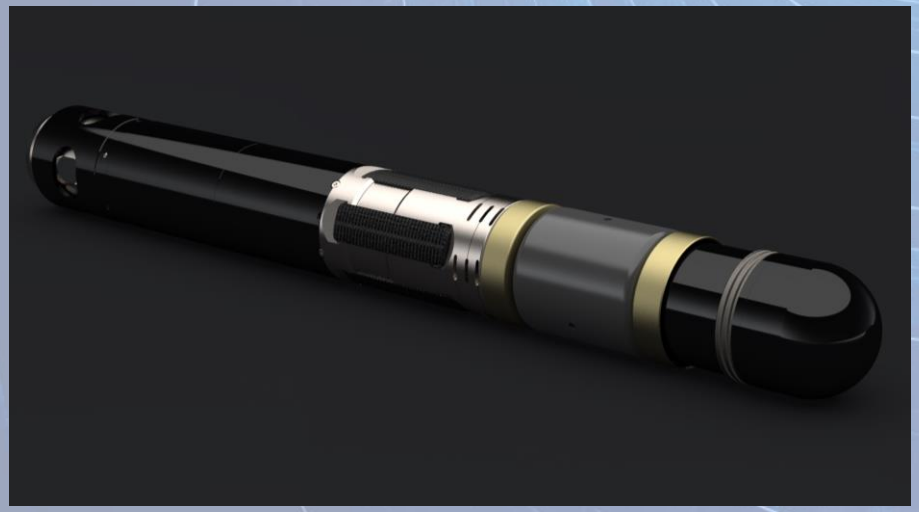
With a flexible design, these retrievable or permanent sealing solutions can be tailored to your well and individual project to solve a variety of complex challenges.

Applications

IX technology provides a fast, cost-effective and reliable sealing solution for a range of applications.

Flexibility in the design of the plugs, packers and packoffs makes the range suitable for a variety of well configurations and tubing/casing/liner sizes. They are ideal for setting within the tubing or liner where there is no suitable nipple lock or seal bore profile. Modifications can include slightly higher expansion than the standard specification if required.

They are easy to deploy on slickline or electric line with powered setting tools, or on coiled tubing or snubbing units with either flow activated running tools or hydraulic setting tools.



Well Testing

- The retrievable IX Plug provides a reliable, pressure-tight barrier so that zones can be isolated and well integrity can be tested.

Zonal Isolation

- The IX Packers can be used as straddle sleeves for isolating hydraulic fractured or perforated zones that are un-productive. The length of isolated well sections can vary by stinging multiple sections of tubing into the packer or by using longer sections of coiled tubing between two packoffs.
- The IX Packer can provide a means of installing isolation tubing or sand screens below the existing tail pipe.

Permanent Hanger

- The IX Packoff can create a permanent nipple profile or tag point below the upper completion for deployment of conventional plugs, injection valves or chokes.
- The IX Packoff can be used as a hanger for the deployment of jointed tubing or coiled tubing inside and below the existing production string, enabling you to extend the life of your well with the installation of velocity strings or injections strings.

Anchor

- A Polished Bore Receptable and a Latch can provide an anchor point for the installation of an upper completion, such as a Cable Deployed ESP string with a pressure-controlled safety valve (also available from DTI), to enable isolation above and below the packer.

IX Bridge Plug Assembly

The unique IXP is an extremely compact general utility sealing solution that facilitates reliable sealing and retrieval. The plug is set using an easy to make-up setting tool adaptor and has the shortest overall length in the industry. This means the toolstring is easier to handle and a shorter riser can be used to provide more flexibility on the type of topside intervention equipment.

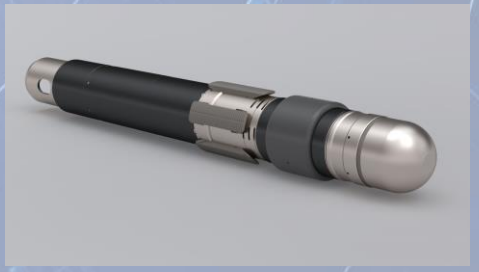
The slip assembly prevents debris ingress during deployment, then once at depth, the plug slips are set and the sealing element is energised. Once set, the element is further boosted by well pressure and an integral beam spring ensures compensated packer load between the element and the slip system during pressure and temperature reversals.

The IXP can be pulled using a common pulling tool and once located within the fish neck profile, jarring up disengages the setting mechanism. As the sealing element relaxes, our unique design enables active retraction of the slips and the element gauge rings for ease of retrieval.

Features and Benefits

- Shortest length in the industry.
- Large thru-bore (packer) variants are available.
- Simple deployment and retrieval.
- Positive retraction of slips and seal assembly for retrieval.
- Large extrusion gap expansion range possible.
- Components rotationally locked for ease of milling.
- API 11D V3 rated.
- 7500 psi working pressure.

Tubing Size	2 3/8"	2 7/8"	3 1/2"	4 1/2"	4 1/2"	5 1/2"	5 1/2"	7"	7"
Tubing Weight	4.6 lb/ft	6.4	9.2-10.2	11.6-12.6	13.5-15.1	15.1-20.0	23.0-32.0	23.0-26.0	29.0-38.0
Part Number	IXP-PLG238A C2346H	IXP-PLG288A C2864H	IXP-PLG350A C3592H	IXP-PLG450A C4511H	IXP-PLG450A C4515H	IXP-PLG550A C5515H	IXP-PLG550A C5523H	IXP-PLG700A C7023H	IXP-PLG700A C7029H
Running OD	1.85"	2.20"	2.70"	3.60"	3.50"	4.55"	4.28"	5.92"	5.72"
ID	TBC	TBC	1.75"	2.20"		2.90"		TBC	
Length*	27.00"			29.80"				40.00"	
Deployable Length with Electric Setting Tool	75.00"							TBC	
Working Pressure	Up to 7,500 psi**								
Working Temperature	0 - 275°F***								
Equalization Type	Prong Type Plug, Melon Type Plug, Pump Out Plug, Check Valve, Standing Valve								
Body Material	AISI 4140 80KSI								
Seal Material	Element - HNBR, O-Rings - Viton								
Service	H_2S								
API 11D Validation Grade	V3								
API 11D Design Control Grade	Q3 standard, Q2/ Q1								



* Plug length depends on optional components such as equalisation type and additional equipment. ** Higher Pressure ratings possible dependant on application. *** Up to 302 F in progress.
DTI offer alternative sizes, materials and thread connections. Please contact us for more information.

DTI is a specialist in innovative downhole technology for the global energy industry. We design and manufacture tools to solve current and emerging challenges for the oil and gas and energy transition sectors, including gas storage, CCUS, H2 storage and geothermal production.

For the oil and gas sector, DTI's technology solutions span the complete lifecycle of the well, from completion and intervention to production optimisation and P&A. With a field-proven track record, and expertise in the latest manufacturing materials and techniques, we are transferring our technology and knowledge to solve cross-sector challenges. These include extreme temperature or highly corrosive environments, high-expansion sealing, zonal isolation and flow control. We are committed to leveraging advantage for our customers through new technology solutions which are highly differentiated, low risk and significantly enhance the performance of wells.

With headquarters in the UK, and representation around the world, the company has a global operational footprint.

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