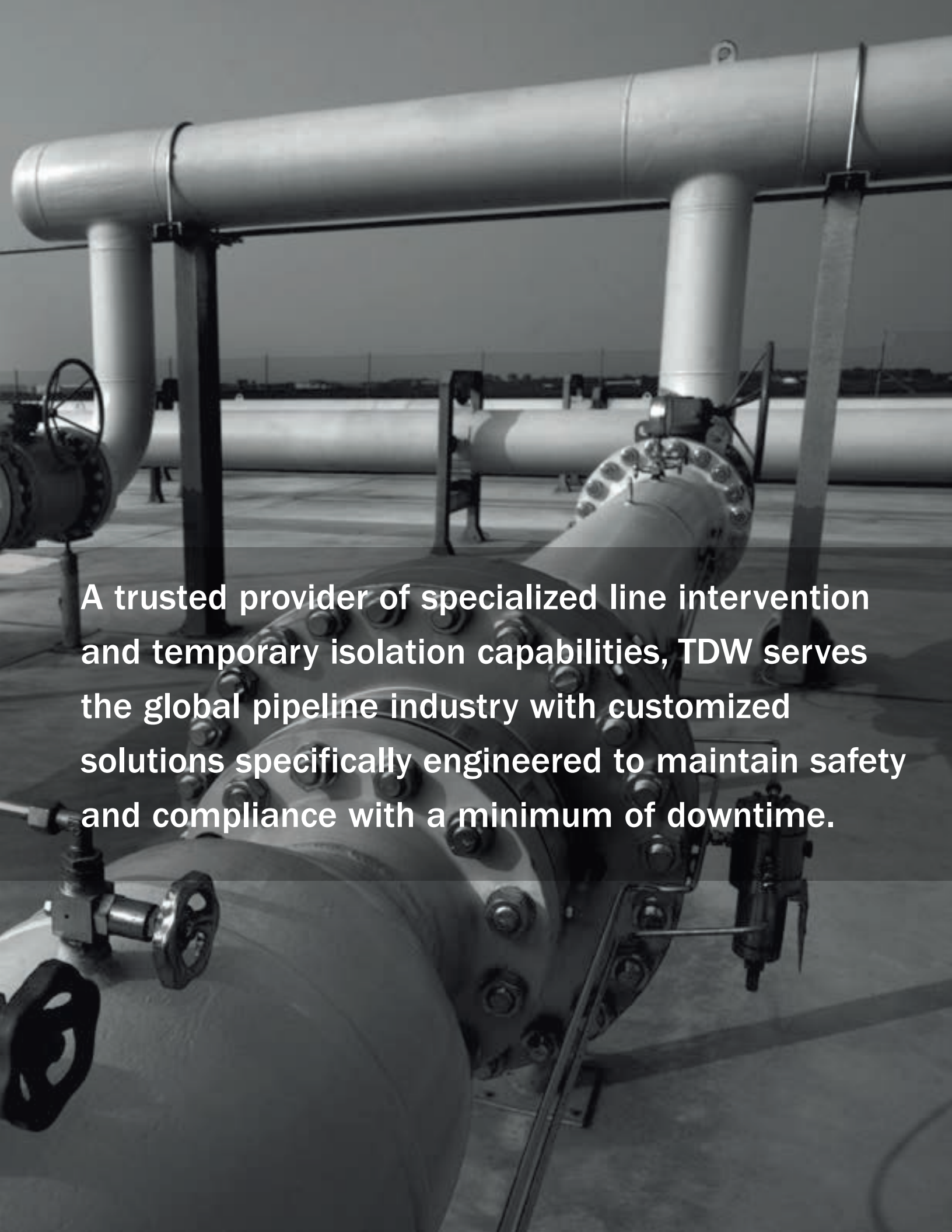




Pipeline Performance™

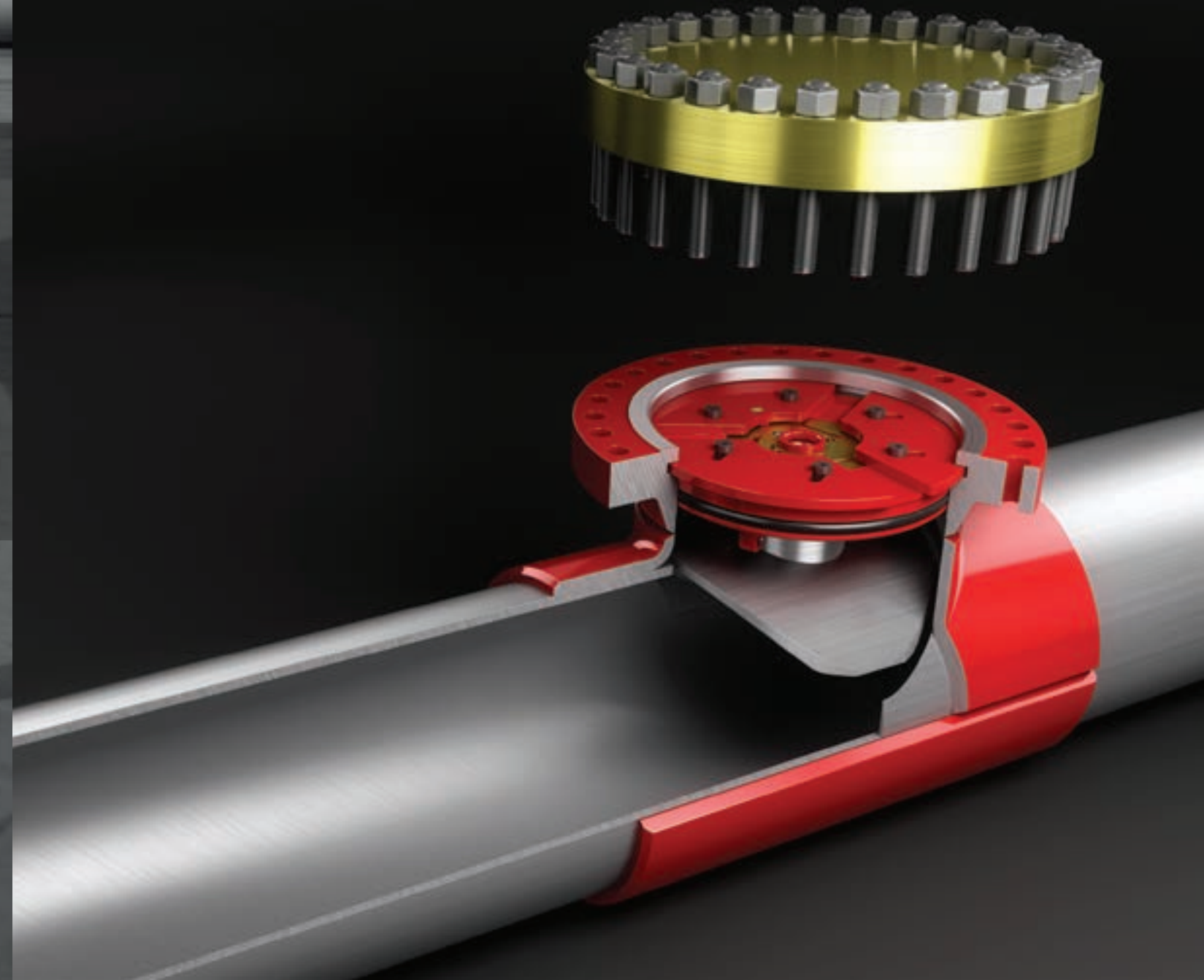




A trusted provider of specialized line intervention and temporary isolation capabilities, TDW serves the global pipeline industry with customized solutions specifically engineered to maintain safety and compliance with a minimum of downtime.

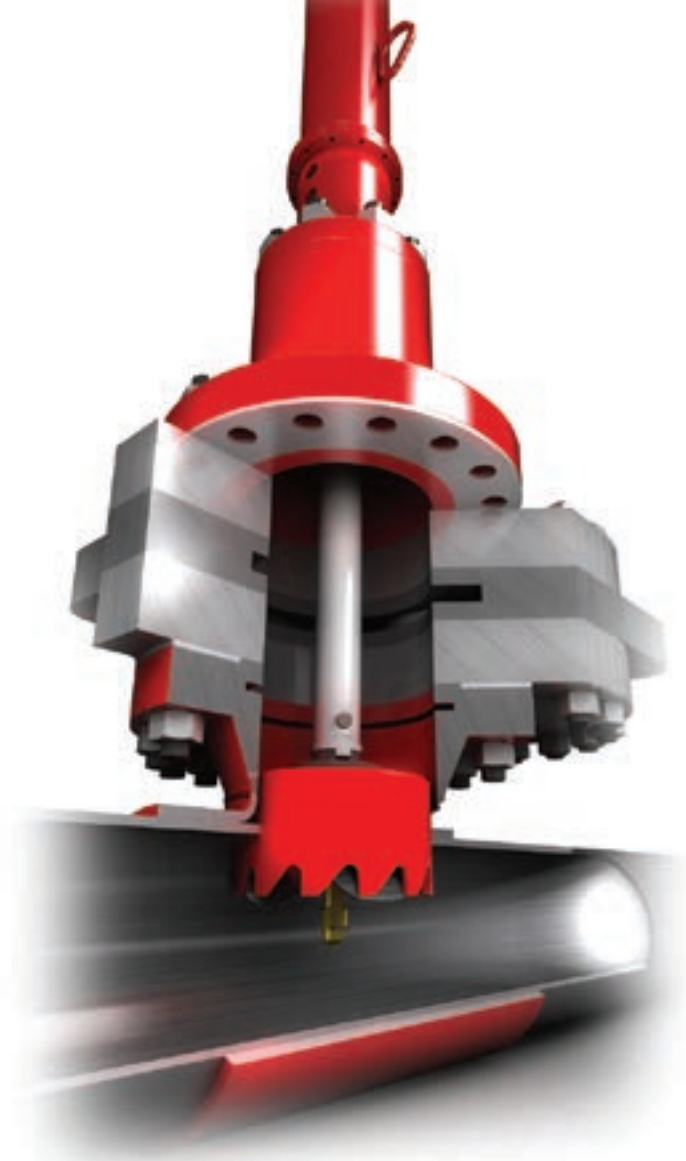
STOPPLE® Plus System

Combined with a LOCK-O-RING® Plus completion plug, the STOPPLE® Plus fitting reduces installation time, simplifies the setting process, and eliminates segment screw leak paths.



Product & Service Solutions

Since pioneering the first high pressure tapping machine in 1950, TDW has been at the forefront of intervention and isolation solutions developed to serve the unique specifications of our customers. Today, TDW sets a new industry standard for hot tapping and plugging solutions that safely and reliably improve pipeline performance and extend asset life. Globally positioned with a comprehensive fleet of tools, fittings and accessories, TDW is fully equipped to perform alterations or repairs on any live system, anywhere in the world.

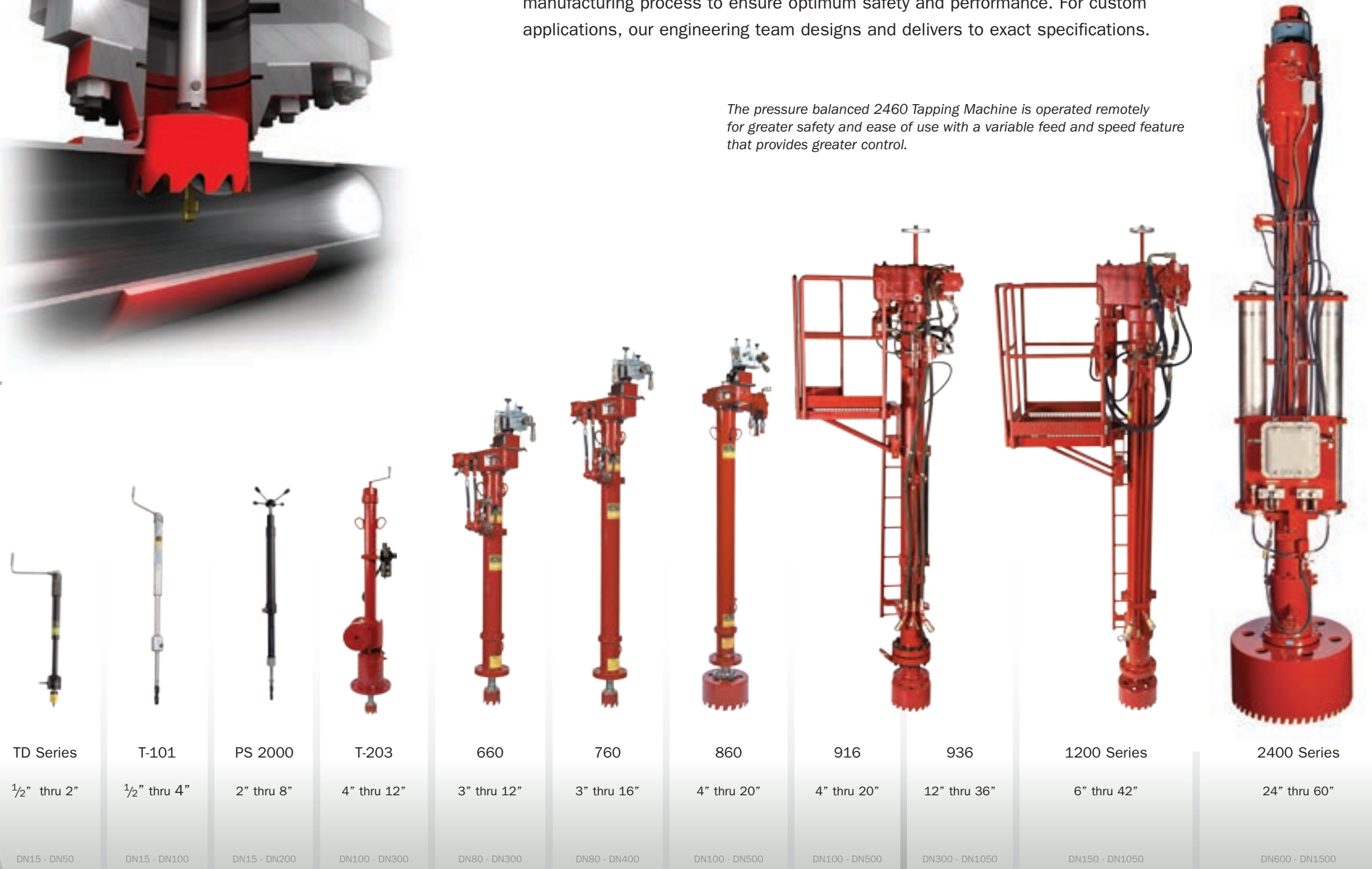


TDW Hot Tapping Systems

Backed by decades of technical expertise and first-hand field experience, the next generation of TDW tapping machines is engineered to meet the most exacting industry standards. The latest generation of TDW tapping machines are pressure balanced and hydraulically operated to provide greater safety and ease of use, with a variable feed and speed feature for greater control. In addition, our ongoing commitment to operator safety is demonstrated by the recent development of remote controlled tapping operations designed specifically for extreme environments. All TDW equipment is continually tested and refined throughout the development and manufacturing process to ensure optimum safety and performance. For custom applications, our engineering team designs and delivers to exact specifications.

The pressure balanced 2460 Tapping Machine is operated remotely for greater safety and ease of use with a variable feed and speed feature that provides greater control.

TDW has performed more than 400,000 line interventions to date.



TD Series	T-101	PS 2000	T-203	660	760	860	916	936	1200 Series	2400 Series
1/2" thru 2"	1/2" thru 4"	2" thru 8"	4" thru 12"	3" thru 12"	3" thru 16"	4" thru 20"	4" thru 20"	12" thru 36"	6" thru 42"	24" thru 60"
DN15 - DN50	DN15 - DN100	DN15 - DN200	DN100 - DN300	DN80 - DN300	DN80 - DN400	DN100 - DN500	DN100 - DN500	DN300 - DN1050	DN150 - DN1050	DN600 - DN1500

TDW Plugging Systems

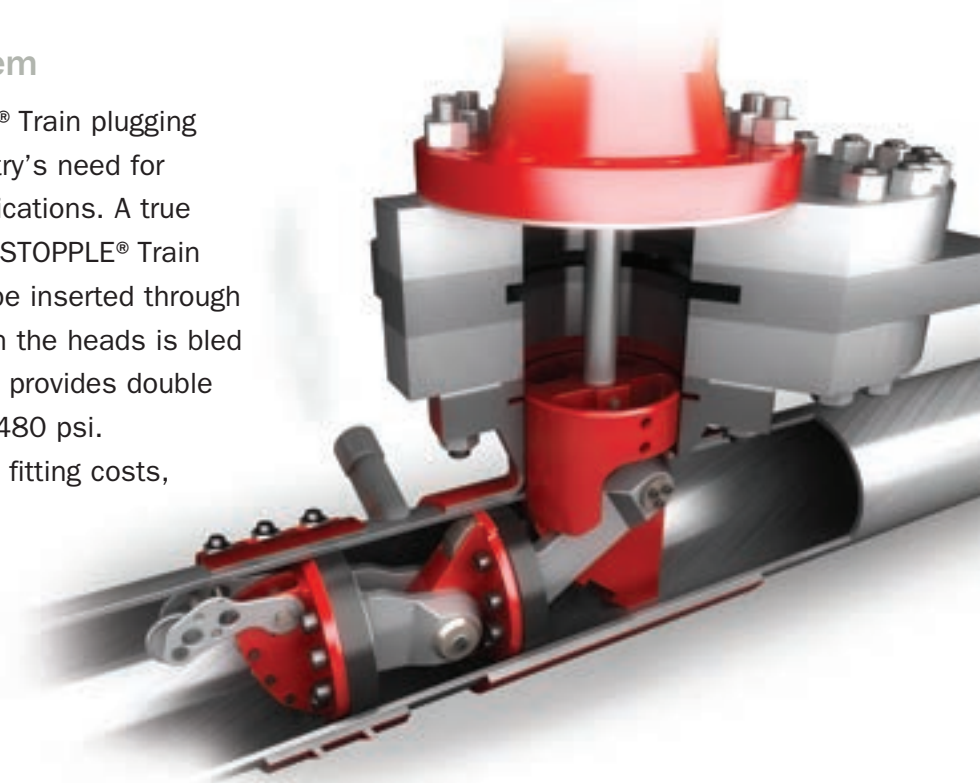
STOPPLE® Plugging Technology

TDW STOPPLE® plugging machines serve as a temporary block valve to isolate a section of line during scheduled maintenance, retro-fitting, new construction, alterations and unplanned emergencies without interrupting service. Introduced in the early 1950s, STOPPLE® plugging technology remains the most reliable and widely used method of isolating a section of pipeline.

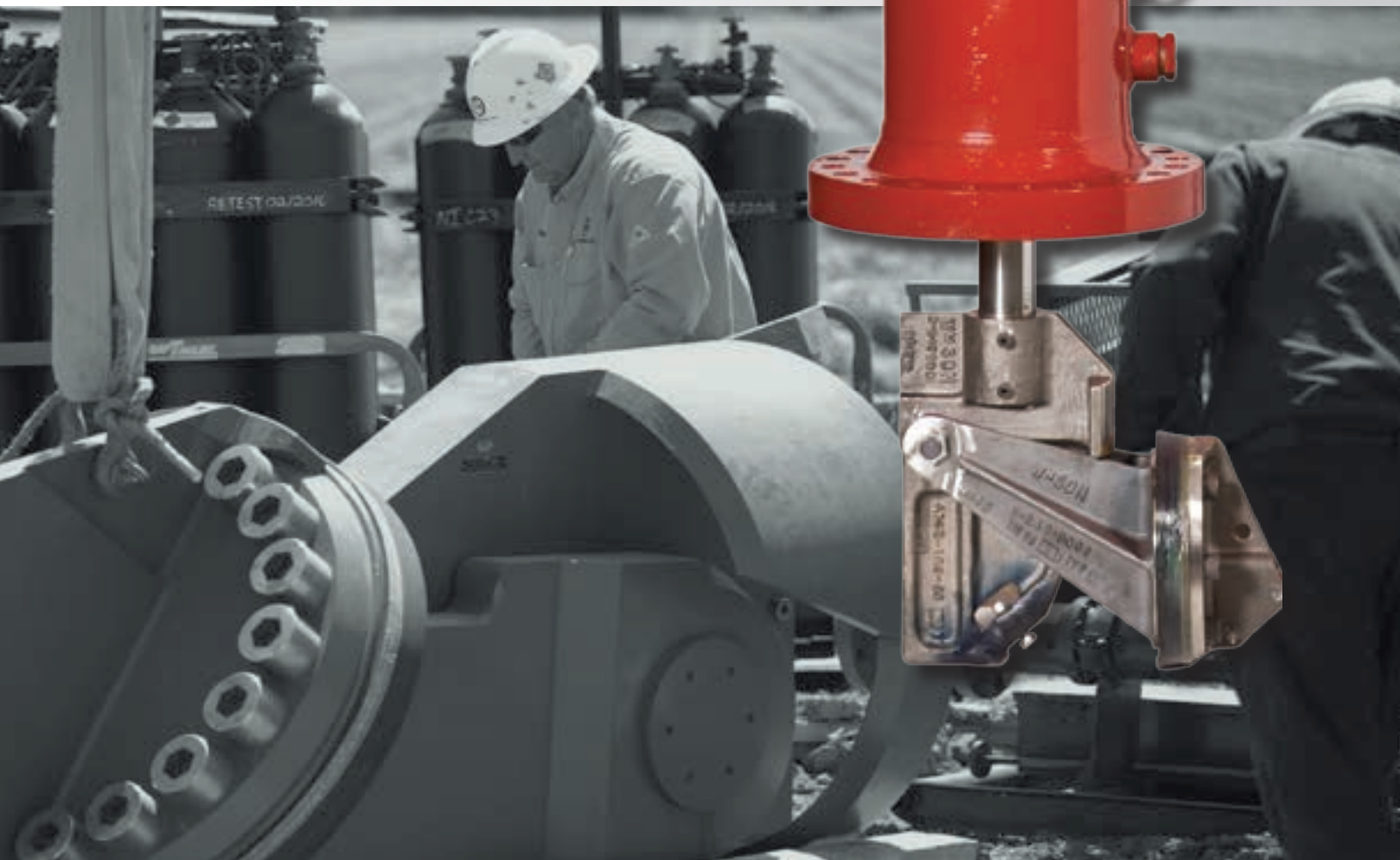


STOPPLE® Train Plugging System

With the development of the STOPPLE® Train plugging system, TDW has answered the industry's need for advanced safety in high pressure applications. A true innovation in plugging technology, the STOPPLE® Train system allows two plugging heads to be inserted through a single fitting. When the void between the heads is bled down, the seal on the secondary head provides double block and bleed at pressures up to 1,480 psi. This revolutionary design helps reduce fitting costs, welding time, potential leak paths and the safety concerns associated with pressurized piping systems.



Advanced STOPPLE® Train technology provides double block and bleed, creating a Zone of Zero Energy.



SmartPlug® Isolation System



The SmartPlug® isolation system from TDW is designed to isolate a section of pipeline while operating at pressure. The remote-controlled SmartPlug® tool helps reduce operational costs as it increases safety for both onshore and offshore applications.

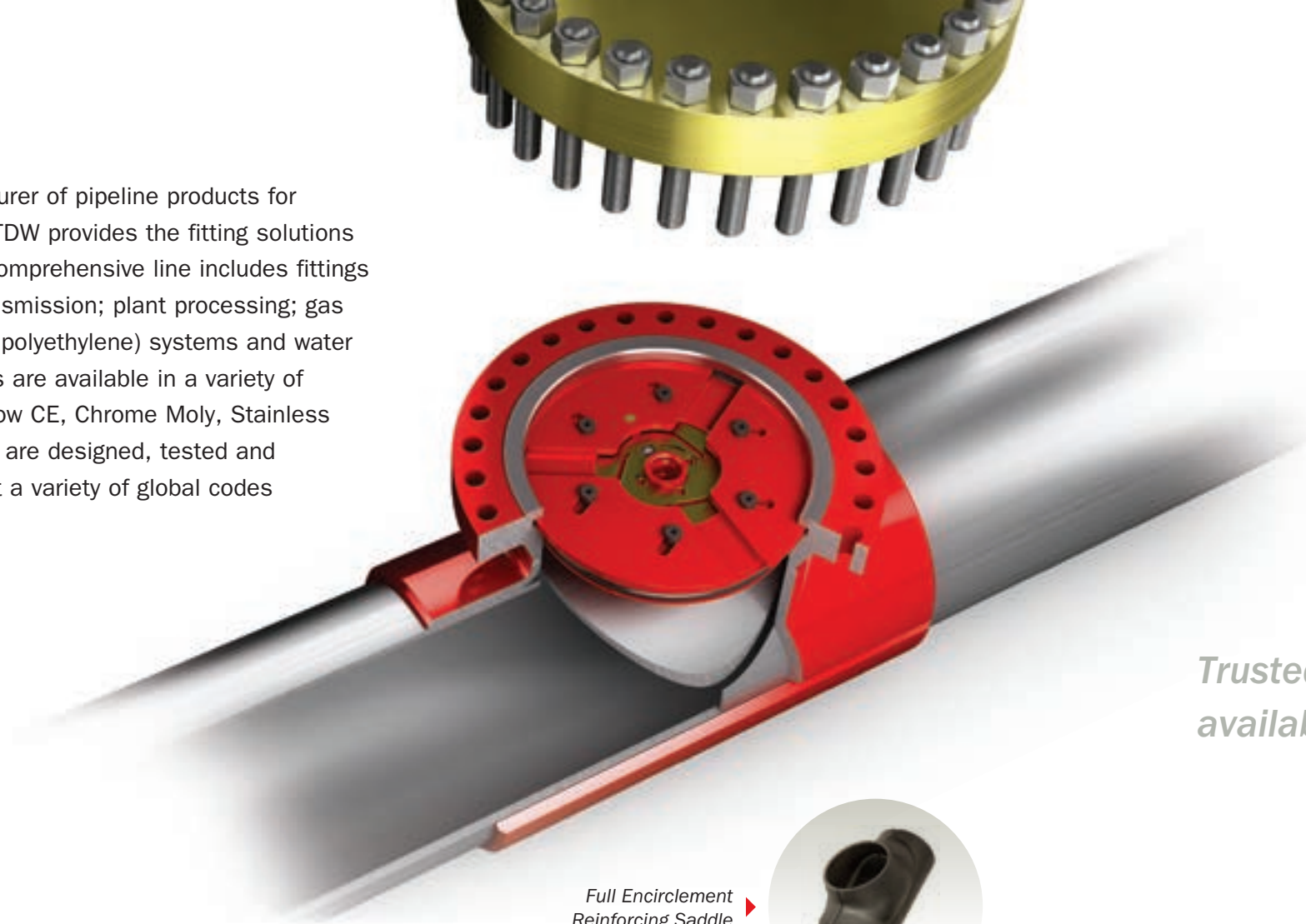
Freeze Plugging



Freeze plugging is an economical temporary plugging technique and requires no drain down or refill – and no loss of expensive process fluids. TDW freeze plugging services offers the perfect solution for 1/2" - 48" piping systems with water lines up to 230° F.

TDW Fittings

As a quality manufacturer of pipeline products for more than 90 years, TDW provides the fitting solutions operators trust. Our comprehensive line includes fittings for high pressure/transmission; plant processing; gas distribution (including polyethylene) systems and water pipelines. TDW fittings are available in a variety of materials, including Low CE, Chrome Moly, Stainless Steel and others, and are designed, tested and manufactured to meet a variety of global codes and guidelines.



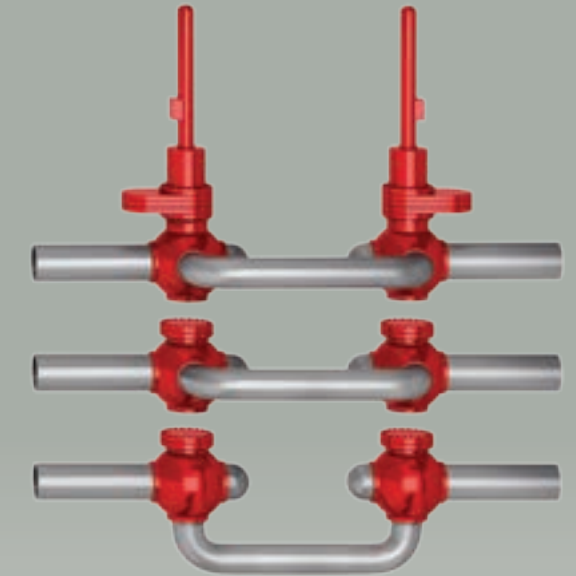
Full Encirclement Reinforcing Saddle



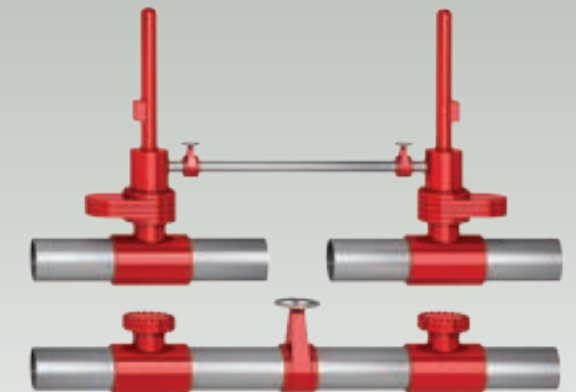
Trusted, quality fittings available for every application.

								
THREAD-O-RING™ Fitting	THREAD-O-RING™ Flanged Fitting	Tapping Fitting	Reduced Branch STOPPLE® Fitting	Double Hub Fitting	No. 3 Branch Connection Fitting	Spherical 3-WAY™ Tee	STOPPLE® Fitting	STOPPLE® Plus Fitting
2" thru 3"	2"	4" and up	4" and up	24" and up	2" and up	4" thru 24"	4" and up	4" and up
DN50 - DN80	DN50	DN100 and up	DN100 and up	DN600 and up	DN50 and up	DN100 thru DN600	DN100 and up	DN100 and up

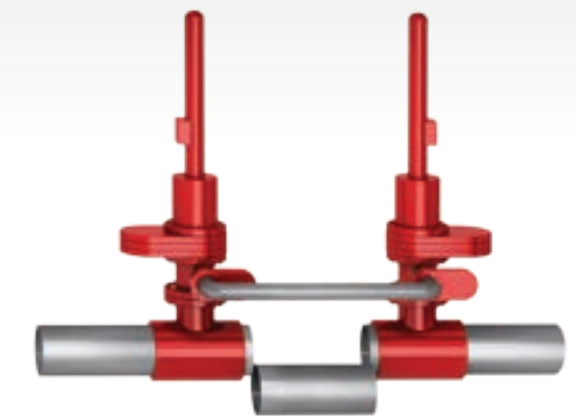
Select TDW fittings are available with pig guide bars and flow-thru plug options. Contact your TDW sales representative for more information.



Double STOPPLE® Plugging using Spherical Tees for permanent by-pass



Double STOPPLE® Plugging using housing-to-housing temporary by-pass



Double STOPPLE® Plugging using spool adapters on 3-WAY™ tees and temporary by-pass

Safety to the Core

The STOPPLE® Plus completion plug system combines a STOPPLE® Plus fitting with a LOCK-O-RING® Plus completion plug for use in high pressure applications. Once all tapping equipment is removed, a blind flange is installed on the fitting, making re-entry into the line at a future date possible by removing the blind flange and completion plug.

Patented LOCK-O-RING® Plus completion plug with 760 Tapping Machine

STOPPLE® Plus technology eliminates 80% of the moving parts – the remaining 20% are part of the removable completion plug and not the fitting.

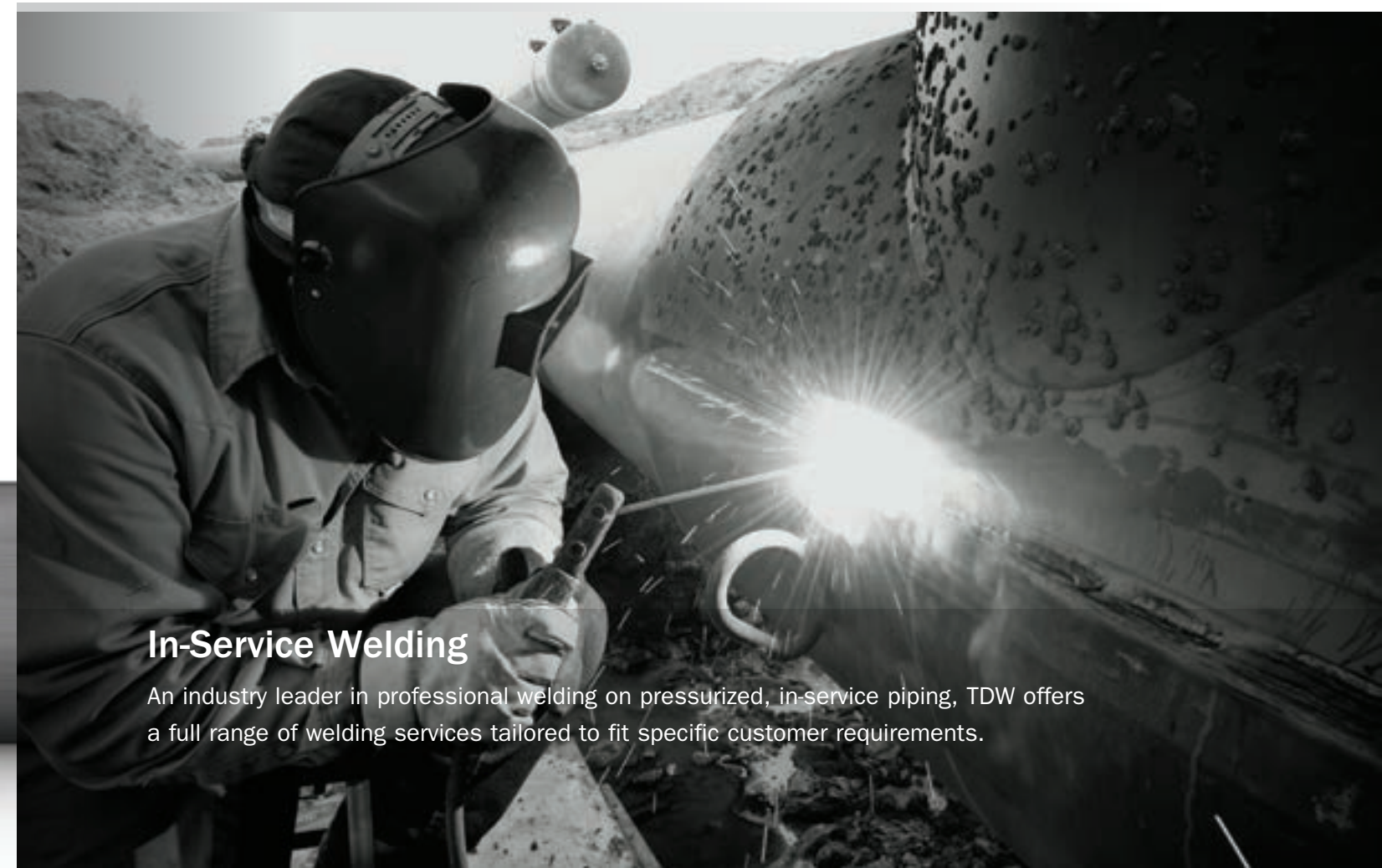
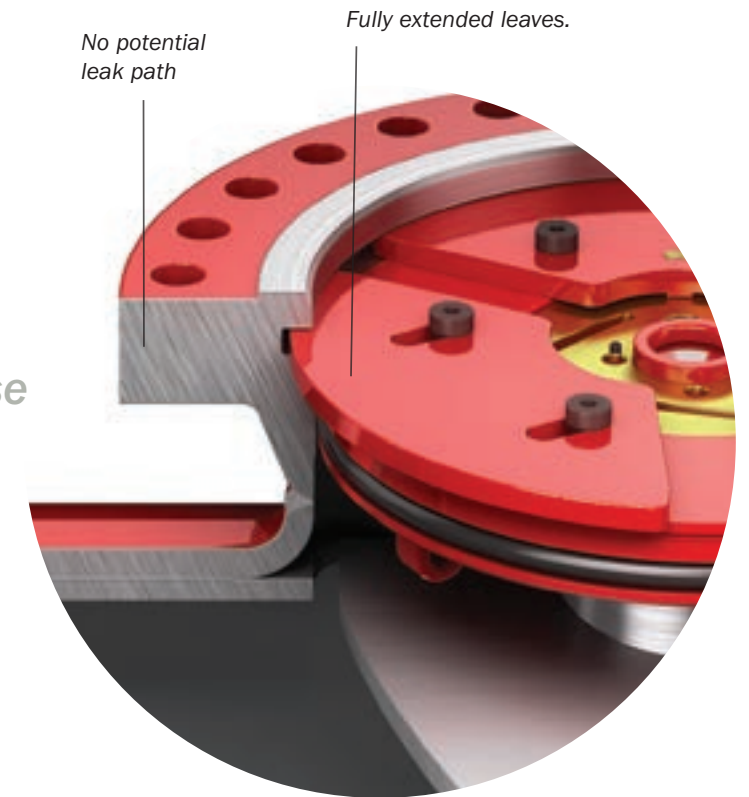


The Differentiator

LOCK-O-RING® Plus completion plugs are designed with an interlock system to help eliminate potential leak paths for increased safety and efficiency. LOCK-O-RING® Plus completion plugs are engineered to ASME B31.4 and B31.8 requirements.

Design / Engineering / Expertise

Exclusive interlock system provides positive indication LOCK-O-RING® Plus plug leaves are fully extended.



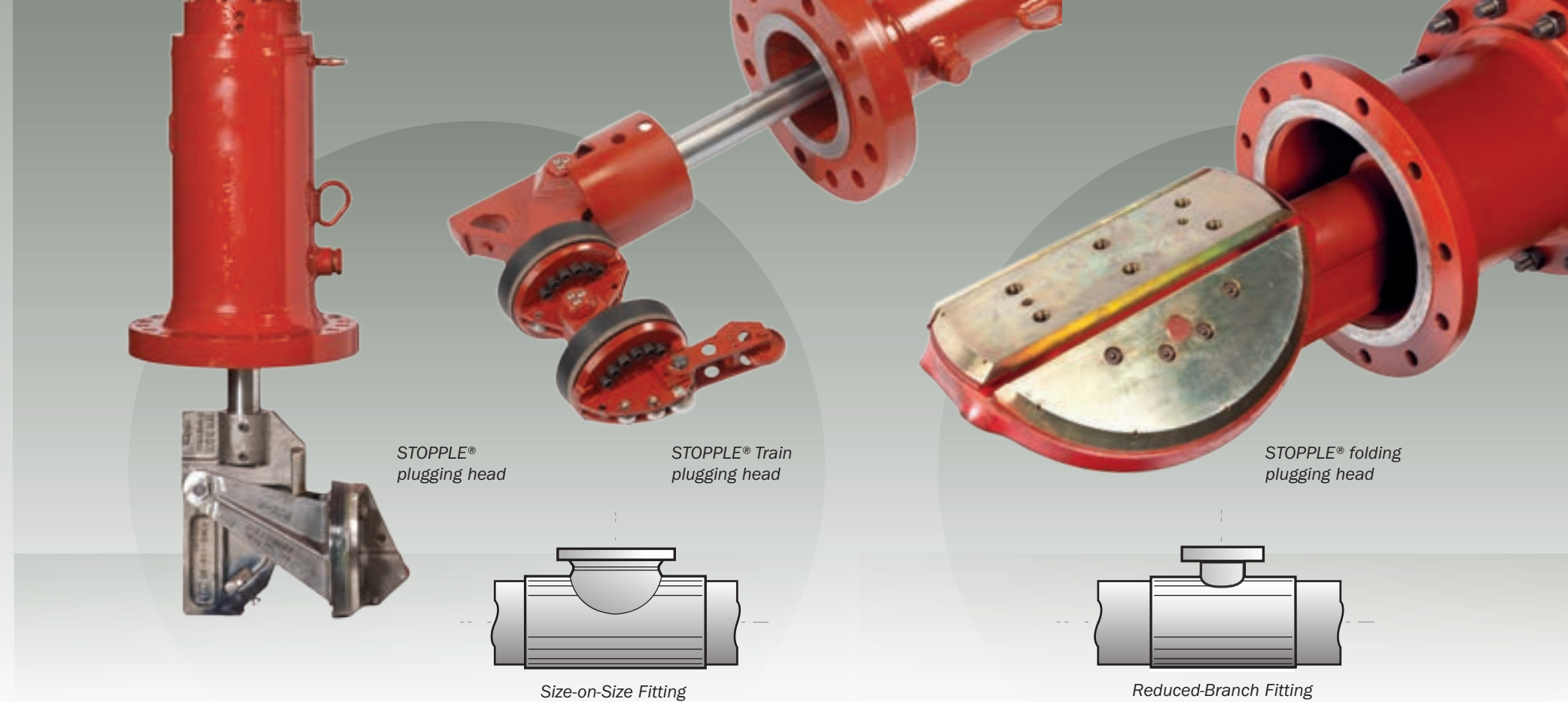
In-Service Welding

An industry leader in professional welding on pressurized, in-service piping, TDW offers a full range of welding services tailored to fit specific customer requirements.

The Benefits of Bypass

A TDW plugging machine can temporarily stop the product in an operating pipeline by acting as a block valve. When used in conjunction with a bypass line and another plugging machine, product is re-routed around the isolated section of pipeline, while repairs, alterations, relocations and instrument installations are made to the piping system.

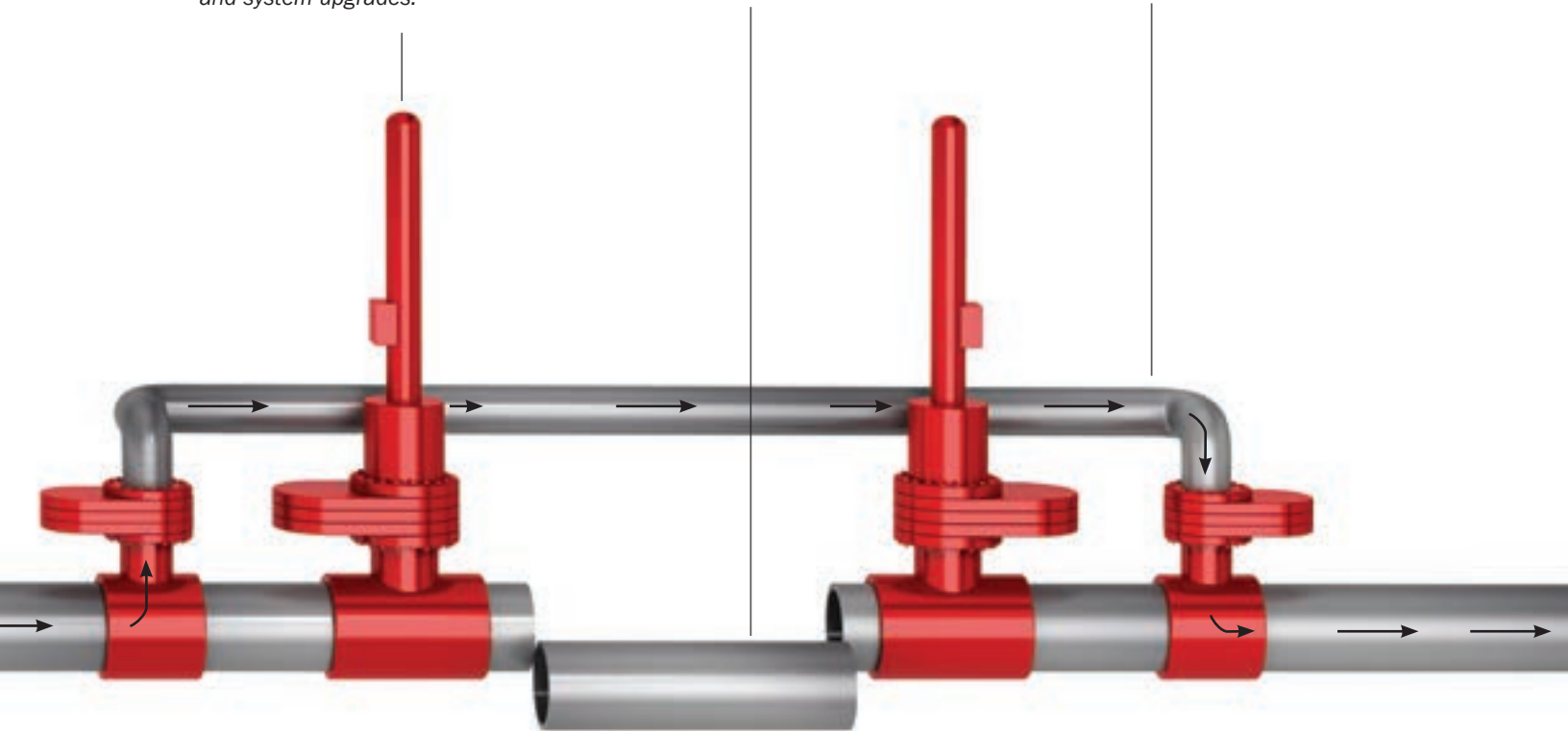
Double STOPPLE® Line Procedure



STOPPLE® plugging technology enables a multitude of configurations to ensure safe, reliable pipeline repairs and system upgrades.

Section of pipeline is isolated for line repairs, re-routing or tie-ins.

Temporary bypass allows continued product flow with no downtime.



Plugging head is lowered.

Temporary seal is attained.

Completion plug is set.

Valve is recovered, job is complete.



TDW Distribution Fittings

TDW also delivers versatile, fully engineered hot tapping and plugging solutions for the maintenance, modification and repair of gas distribution systems – without interrupting service.

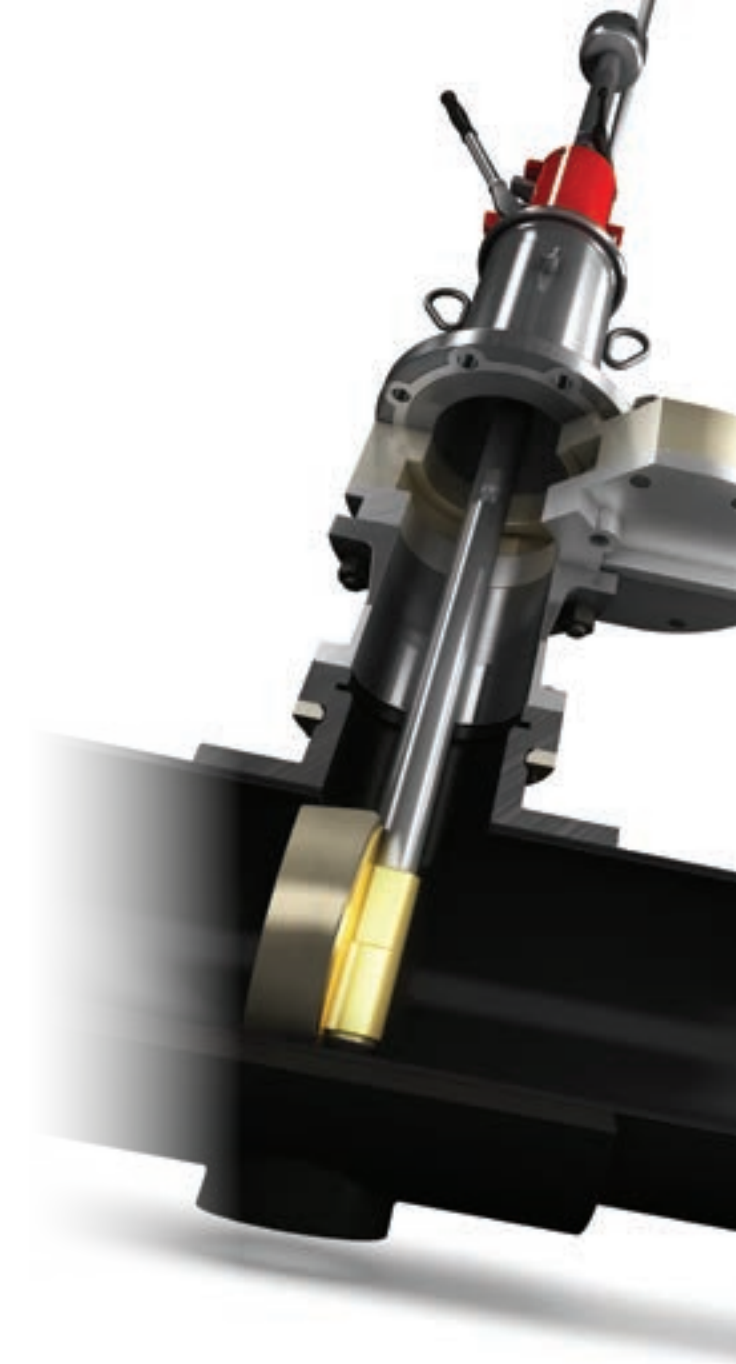
The SHORTSTOPP® PE Plugging System allows work in a smaller excavated area than is required for a typical squeeze set-up.



The POLYSTOPP® Plugging System is used in isolating large-diameter PE pipes.

SHORTSTOPP® PE & POLYSTOPP® Plugging Systems

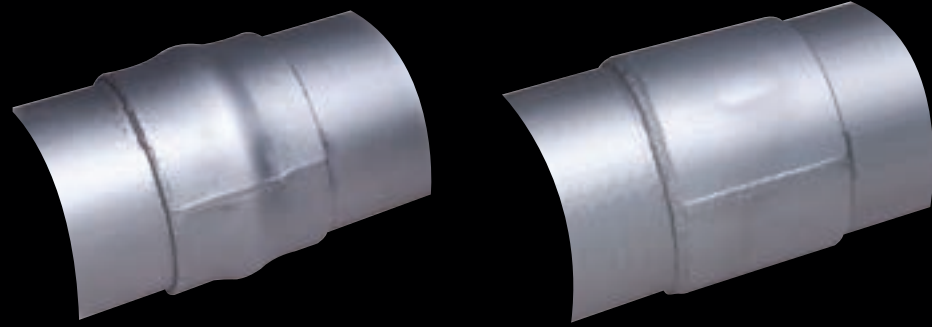
Built on proven pressure control technology, the SHORTSTOPP® PE & POLYSTOPP® Plugging Systems are specifically designed for use on polyethylene gas pipelines. Both systems allow for the isolation of a section of pipe by installing folding plugging heads while maintaining gas supply through a bypass. Because the systems allow work to be conducted in a smaller area than is required for a typical squeeze set-up, less modification is required and pipeline integrity is maintained. The SHORTSTOPP® PE system is available in sizes 4- through 12-inch. The POLYSTOPP® system is available in sizes DN90 – 250 / 315 and 355 and can be used on PE 80 pipes as well as on PE 100 material.



															
SHORTSTOPP® Weld Fitting	SHORTSTOPP® 3-WAY™ Tee	SHORTSTOPP® Flat-Bottom Tee	SHORTSTOPP® 300D Split Tee	SHORTSTOPP® 300D Full Encirclement 3-WAY™ Tee	SHORTSTOPP® Spherical 3-WAY™ Tee	SHORTSTOPP® 300D Spherical 3-WAY™ Tee	SHORTSTOPP® 740 Purge & Equalization Fitting	SHORTSTOPP® Bolt-on Fitting	SHORTSTOPP® Bolt-on 3-WAY™ Tee	Mechanical SHORTSLEEVE™ Fitting	M-STOPP™ Fitting	SHORTSTOPP® PE Plugging Fitting	SHORTSTOPP® PE Bottom Outlet Fitting	POLYSTOPP® Plugging Fitting	SHORTSTOPP® Branch Saddle Valve
1-1/4" thru 12"	1-1/4" thru 12"	1-1/4" thru 12"	2" thru 12"	2" thru 12"	2" thru 12"	2" thru 12"	2" thru 12"	2" thru 12"	2" thru 12"	2" thru 12"	3" thru 12"	4" thru 12"	4" thru 12"	315mm - 355mm	4" thru 12"
DN33 thru DN300	DN33 thru DN300	DN33 thru DN300	DN50 thru DN300	DN50 thru DN300	DN50 thru DN300	DN50 thru DN300	DN50 thru DN300	DN50 thru DN300	DN50 thru DN300	DN50 thru DN300	DN50 thru DN300	DN100 thru DN300	DN100 thru DN300	DN90 thru DN250	DN100 thru DN300

Rehabilitation & Repair

Quick and cost effective, TDW steel repair sleeves and RES-Q® composite wrap are engineered for temporary to permanent repairs on most pipe diameters.



The TDW Steel Repair Sleeve allows repairs to be made without shut down and is available in sizes 2" - 48."

Safety first ... and last.

As piping systems become more complex, with higher operating pressures and temperatures, larger diameters and more volatile products, the need for uniquely skilled technicians is more than important – it's imperative. TDW provides the most comprehensive hot tapping and plugging instruction available. Our certified operators are required to complete LineMaster™ training that includes classroom time, written exams and rigorous, hands-on performance verifications to exceed the latest regulatory and procedural requirements, and to provide the safest, most reliable service solutions possible.

RES-Q® Composite Wrap

FORMULA

USE

For Pipeline

Flexible in-service alternative to clamps, welded sleeves and pipe replacement for liquid and gas pipelines.

High-strength bi-directional carbon fabric provides superior structural reinforcement in the hoop and axial directions. Meets international composite standards ASME PCC-2 and ISO 24817.

External corrosion, gouges, grooves, arc burns and dents. Restores pipeline to its design pressure without shutting down operation.

For Process Piping

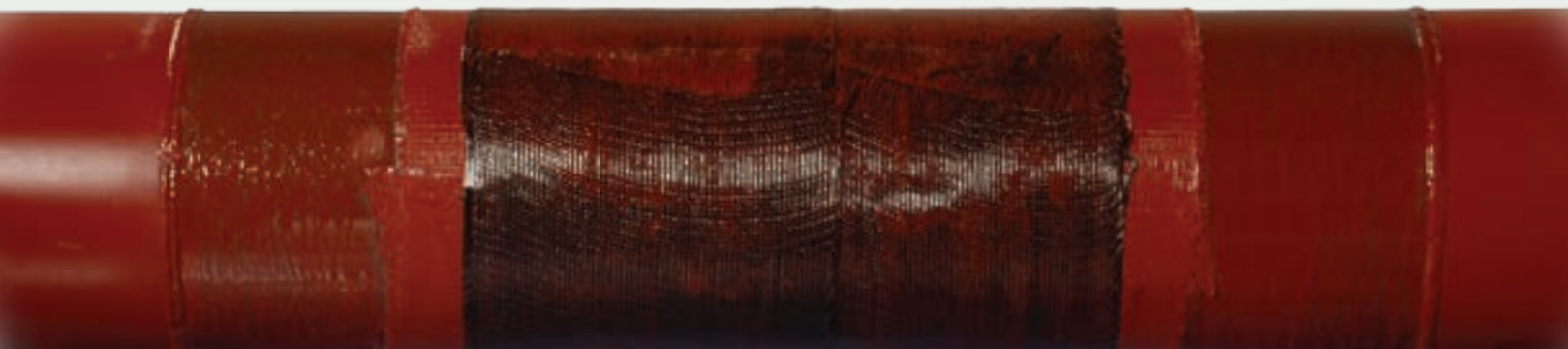
Flexible in-service alternative to repair clamps, welded sleeves and pipe replacement for high temperature process piping systems, refineries, power plants.

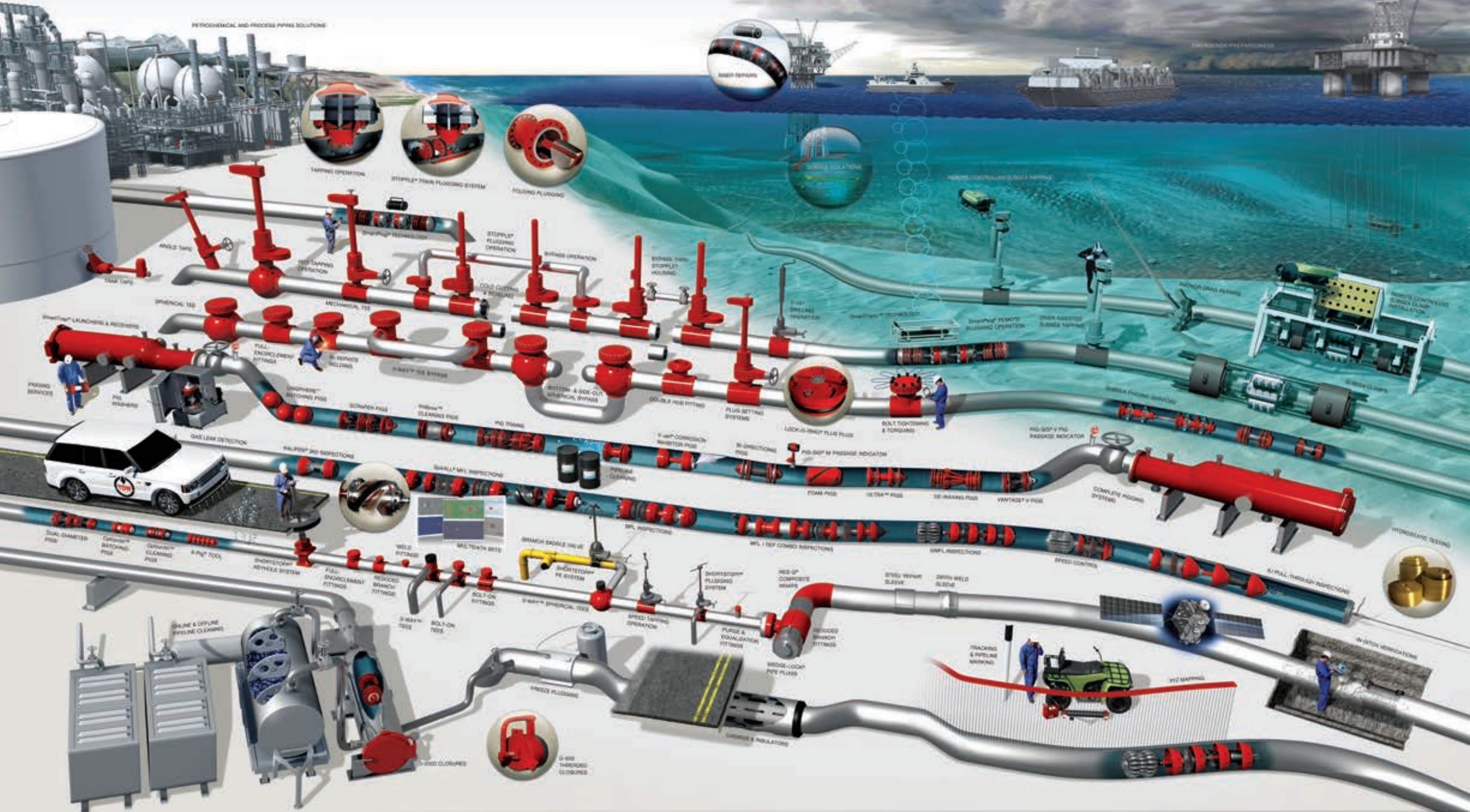
Carbon fabric and two-part epoxy resin create a monolithic composite that is capable of repairing pipes operating up to 271° F (132° C). Meets international composite standards ASME PCC-2 and ISO 24817.

Internal or external corrosion, galvanic corrosion, weld defects and other defects, including thinned wall sections and thru-wall defects.



Fully compliant with ISO 9001 Quality Assurance; ASME B31Q Personnel Qualification; ASME PCC-2 and API Recommended Standards e.g. API 570.







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