



Pipeline Performance™





As the industry's most trusted provider of integrated piping maintenance, modification and repair capabilities, TDW delivers customized pigging products, services and solutions specifically engineered to optimize system performance with a minimum of downtime.

# SmartTrap® Launchers & Receivers



# Pipeline Pigging Solutions

TDW is the pioneer developer and the leading manufacturer of pipeline pigs: cleaning pigs, bidirectional pigs, batching pigs, displacement pigs, foam pigs, spherical pigs, magnet pigs, and drying pigs. Consult the TDW factory for selecting the correct pig for your application.



**1 ) VANTAGE® V Cleaning & Batching Pigs:** Available for 10-inch and larger lines, this pig consists of one basic body and cup or disc design for batching and displacing. Brushes or blades can be added for cleaning. Two, three, or four cup configurations can be added.



**2 ) BiDirectionAll Pig:** These pigs are designed for use in pipeline construction during hydrostatic testing for displacement applications. The pig is bidirectional and designed to allow the user to hydrotest and displace water without having to remove the pig. It can be easily converted to a cleaning pig.



**3 ) X-Pig® Multi-Purpose Utility Tool:** Inexpensive, yet durable, 4- through 12-inch cast FORMULA SI® polyurethane, general purpose, disposable pigs. Uses and attributes include: removing water and liquids from pipelines, product separation, brush wrap option for cleaning, gauging plate option, bypass option and hollow core for transmitters or trip magnets.



## FORMULA SI® URETHANE

TDW pioneered and maintains the worldwide standard for manufactured, field-proven and tested components with a comprehensive selection of pigging products. Ongoing product enhancements include next generation urethane cups and discs used for cleaning, batching and instrument pipeline pigs. Formula SI urethane provides superior physical properties in critical areas such as resistance to abrasion, hydrolysis, resilience and compression set. TDW is your source for smart pigging solutions to integrate with your custom system.

4 ) **PitBoss™ Cleaning Pigs:** Designed to remove deposits from pits to allow corrosion inhibitors and biocides to deter corrosion in the pipeline. PitBoss™ pigs are available in sizes 4-inch and larger and in dual-diameter configurations.

4



5 ) **Inflatable UNISPHERE™ Pigs:** A seamless, liquid-cast, polyurethane sphere used for heavy-duty service in the removal of liquid hydrocarbons and water from pipelines and piping systems. “Spheres” are filled with liquid, usually glycol/water mix or lightweight oil, and are available in sizes 4- through 56-inch.

5



6 ) **Foam Pigs:** REDSKIN™ urethane foam pigs are tough, abrasion-resistant, polyurethane foam. A wire brush model is available with patented variable bypass. Both REDSKIN™ and WHITESKIN™ urethane foam pigs, are designed for air removal prior to hydrostatic testing, dewatering, and drying after hydrostatic testing. Available in sizes 2- through 42-inch.

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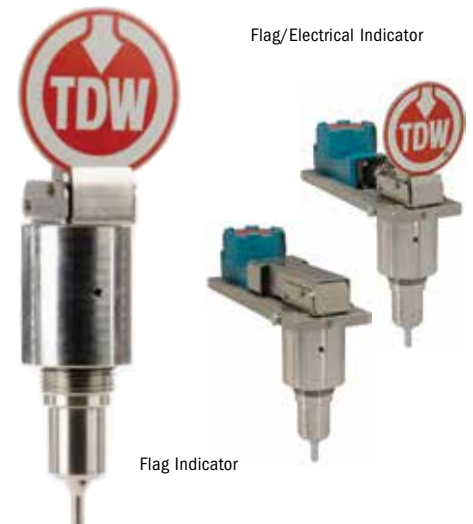
7 ) **OptionAll™ Cleaning & Batching Pigs:** This series of pigging products offers you options. Standard components can be assembled to make a multitude of configurations in sizes 4- through 14-inch.

7



8 ) **PIG-SIG® V:** The TDW PIG-SIG® V Scraper Passage Indicator is a device installed at prescribed intervals on pipelines to detect the passage of a pig or sphere. PIG-SIG® V indicators come with a standard omnidirectional trigger that is easier to install and all but eliminates trigger breakage. Components exposed to pipeline products are completely sealed to prevent leakage and are NACE compatible. Built to withstand the most brutal offshore/onshore environments, components exposed to the atmosphere are 316 stainless steel. Signaling systems for the PIG-SIG® V include a flag indicator, a flag/electrical indicator or an electrical indicator. Because of its omnidirectional trigger, the PIG-SIG® V signal flag can be oriented to face any desired direction.

8





9 ) **PIG-SIG<sup>®</sup> NIXT:** The TDW PIG-SIG<sup>®</sup> NIXT Pig Passage Indicator is an easily portable, non-intrusive, computerized electronic device providing bidirectional detection of pipeline pigs featuring carbon steel brushes or carrying a trip magnet. No tapping or welding is required, and standard units include flashing lights for long-distance viewing and a graphic display screen for reviewing up to 99 pig passages. The unit can be wired for communication with a control room or data acquisition system.



**D-500 and D-2000 Quick Opening Closures:**

TDW offers outstanding design features for quick opening closures utilized in several applications. A large cross-section O-ring located on the periphery of the closure hub provides positive sealing while protected from damage by tools, pigs, or debris. Every TDW closure is equipped with a pressure-warning lock to indicate internal pressure before the door is opened. Closures can be designed to meet pressure piping code (B31.3/B31.4/B31.8), or pressure vessel code (ASME Sec. VIII-1).

10 ) The D-500 threaded closure door threads onto a hub that is welded to the end of the trap. Its robust handles make closure turning easy. Sizes are 4- through 14-inch. A hinge arm, connecting the door with the hub, is standard on 10- through 14-inch vessels.

10



11 ) TDW D-2000 clamp-ring closures offer a practical way of opening and closing large-diameter closures. Add our innovative O-ring seal design, and you have a closure door that one person can quickly and easily operate.

11



**12 ) TDW Front-Load Pig Washer:** A laundromat for your pigs. Insert your pig packed with paraffin, crude or other pipeline debris into this front-loading cleaner; set the timer up to 60 minutes, turn it on and let the washer do the rest. Pressure nozzles provide 360-degree coverage in temperatures up to 180°F, and the pig is ready for the next run. Easy to clean with its sloped floor and debris screen, and easy to maintain with seal-less pump and stainless steel nozzles.



**13 ) TDW Tracking System:** Designed exclusively for the pigging industry, the TDW TracMaster™ Pig Tracker uses microprocessor technology to provide both a visual and audible signal of stopped or moving pipeline pigs. A simple, graphic menu system and display shows the distinctive pulsing pattern of a passing pig and precise location of stationary pigs. Information is transferable to desktop PCs.



**14 ) TDW Magnetic Cleaning Assemblies:** Are available in two configurations. On 6- to 14-inch pigs, a full magnetic disc is used. An array of magnetic segments is used on 16-inch and larger pigs, as shown for the 24-inch pig, in order to provide functionality with minimum cost.



**15 ) Custom Engineered Pigging Solutions:** TDW offers on-site collaboration and program development: custom pigging solutions designed, built and delivered when needed; large and dual diameter, magnetic cleaning pigs; inhibitor application pigs (V-Jet® Corrosion Inhibitor Pig); tough cleaning applications pigs.

Custom Engineered Pig



15

Optional Magnet Cleaning

V-Jet® Corrosion Inhibitor Pig



# Standard Launching & Receiving Components

All the components you need to launch and receive pigs or spheres.

- Launcher
- Receiver
- Closure (threaded 4- through 14-inch or clamp ring 4-inch and larger)
- PIG-SIG<sup>®</sup> Pig Passage Indicator
- Pig handling tray
- Jib crane and hoist
- Lifting tongs for spheres
- Manual or automated launch pins for sphere launchers only
- Bypass piping
- Valves (mainline trap valve, mainline bypass valve, trap kicker valve on launchers, trap bypass valve on receivers, valve with pressure gauge, vent valve, drain valve for liquid service, pressure equalization valves for sphere launchers and receivers)
- Skid assembly with drip pan

All components are assembled, tested and mounted on skid units. Options available are included in the following descriptions.

**LR 1 ) SmartTrap<sup>®</sup> Launchers & Receivers:** TDW SmartTrap<sup>®</sup> launchers and receivers are designed to meet all your pigging needs: inline inspection, cleaning, batching and displacement. With extra emphasis on safety, our easy-opening D-2000 Clamp Ring Closures and PIG-SIG<sup>®</sup> V Passage Indicators are included on all units.



LR 1



**LR 2 ) Sphere and Pig Launchers & Receivers:** TDW standard sphere traps for gas service are designed to handle several spheres and/or pigs. The design utilizes an oversize launching and receiving mainline trap valve that is equivalent to the barrel size. The design eliminates the requirement for the mainline bypass valve and piping. Spheres are easily launched simply by raising and lowering launch pins, without the need to open and close mainline valves. OPTION: Automated sphere launch pins are also available.

LR 2



**LR 3 ) Modular Skid-Mounted Units / Jib Crane and Hoist:** TDW launching and receiving units are skid-mounted to facilitate easy handling and installation. A concrete foundation is all that is necessary to set the units in place.

LR 3



The skid assembly is fabricated from structural steel featuring lifting lugs at the corners for handling and a drip pan beneath the closure door to catch liquid and pipeline debris. OPTION: Skid may be omitted. Units can be designed and built to install bypass piping below ground or on above ground piers.

Units may be equipped with a jib crane and manual hoist assembly. This assembly is positioned on the unit to easily handle pigs or spheres for loading or unloading operations. The hoist assembly for spheres is equipped with tongs to make it easy to handle spheres without risking damage or dropping. The jib cranes and hoist are offered in 1- to 2-ton capacities, depending on size. OPTIONS: The jib crane and hoist are recommended on sizes 20-inch and larger.

LR 4



**LR 4 ) External Pig Trays:** All TDW pigging systems are designed so that one person can load and unload pipeline pigs. To help accomplish this process, TDW utilizes an external pig tray. These trays are equipped with a push-pull mechanism to pull the pig from the receiver barrel or to push the pig into the launcher barrel. In-line launchers and receivers require only one external tray since the tray can roll on the track between the launcher and the receiver. OPTION: Internal trays are available at the customer's request.

**LR 5 ) Closures:** TDW closures give you simplicity and reliability in two basic designs: D-500 threaded closure, sizes 4- through 14-inch, and D-2000 clamp-ring, sizes 4-inch and larger.

We use a large cross-sectional diameter O-ring, which means the seal is not likely to be affected by warpage due to welding or by sand or dirt particles. The O-ring is installed in a protected area in the closure hub. All TDW closures are equipped with a pressure warning lock which alerts the operator to the existence of internal pressure before opening the door.

TDW clamp-ring closures offer a practical way of opening and closing large-diameter closures. Add our innovative O-ring seal design, and you have a closure door that one person can quickly and easily operate.



LR 5

LR 6



**LR 6 ) Valves:** The mainline trap valve attached directly to the launcher or receiver is a full opening/full bore piggable valve. The mainline bypass valve is nominal line size. Valves 8-inch and larger are equipped with gear operators. Unless otherwise specified by the customer, TDW will select the valve manufacturer. The valves are flanged and pressure-tested with the system prior to the shipment. OPTION: TDW can incorporate customer supplied valves. Valve actuators and controls are also optional features.

LR 7

Flag Indicator

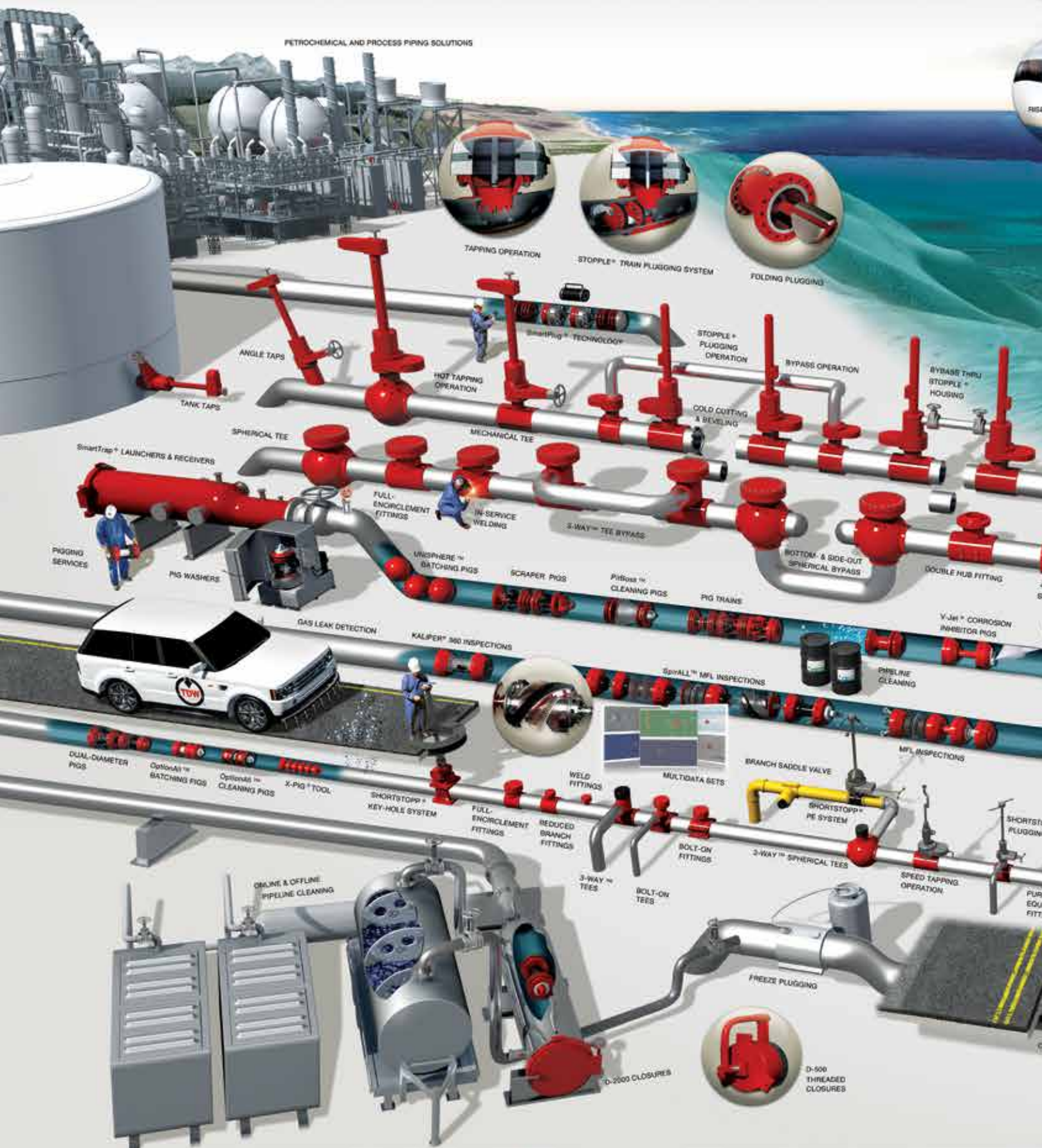


**LR 7 ) PIG-SIG<sup>®</sup> Indicators:** All TDW launching and receiving systems include the TDW manual/visual PIG-SIG<sup>®</sup> V Scraper Passage Indicator. The indicator is properly located to signal a pig's position. TDW PIG-SIG<sup>®</sup> Indicators are easily installed, removed or replaced without pipeline shutdown. OPTION: Electrical, manual/ electrical, extended, special material or any combination of these is available.

**LR 8 ) Automated Control Packages:** TDW can provide a complete line of automated packages to simplify the launching and receiving operation. Automated valve operators, electrical pig indicators, sphere launch pins, programmable, automated control panels, pressure and temperature sensors, and pressure-relief systems are just some of the components offered. Control packages are available by using pneumatic, electrical, hydraulic or combinations as power sources.

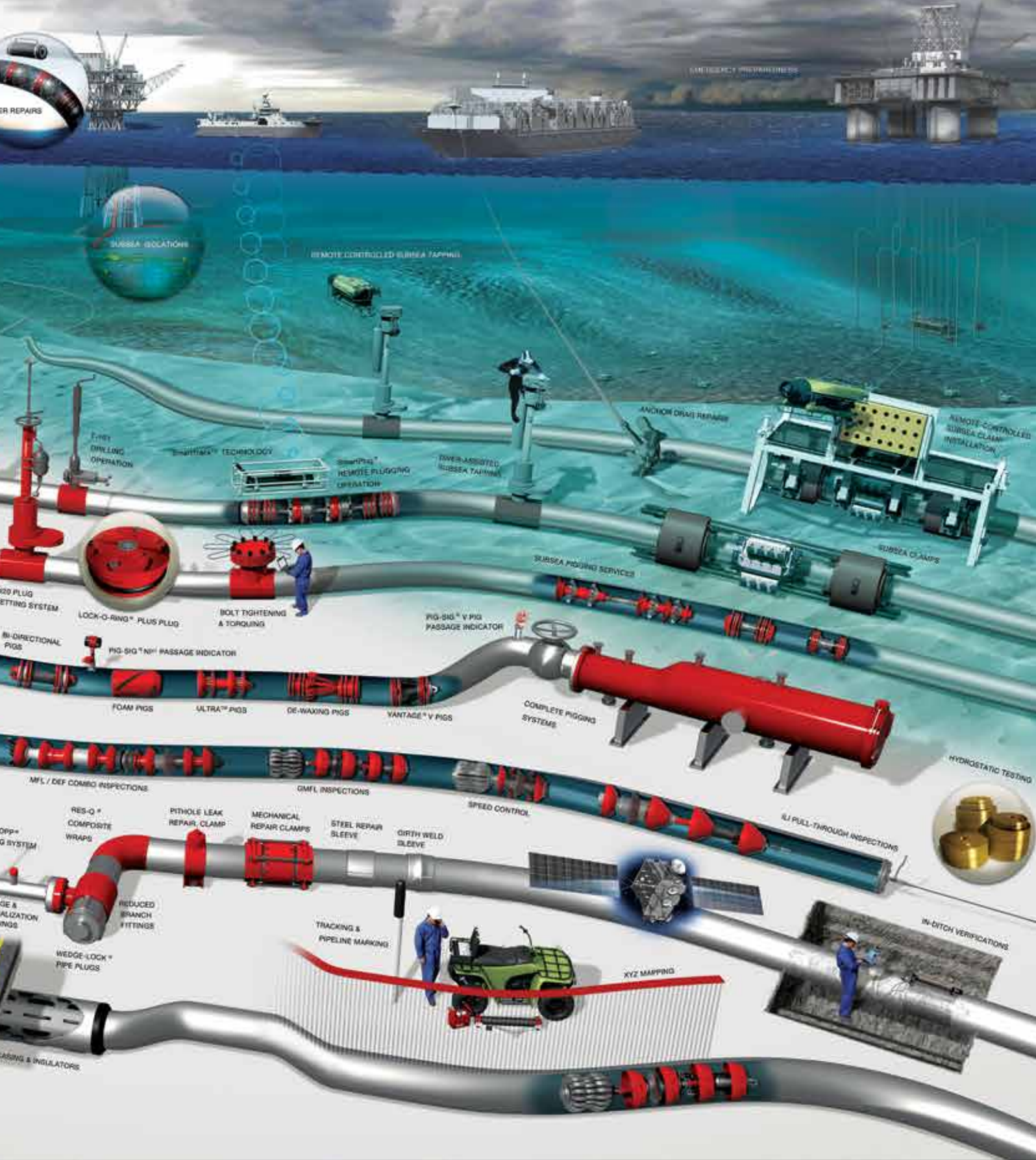
LR 8





[www.tdwilliamson.com](http://www.tdwilliamson.com)

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## Services Solutions

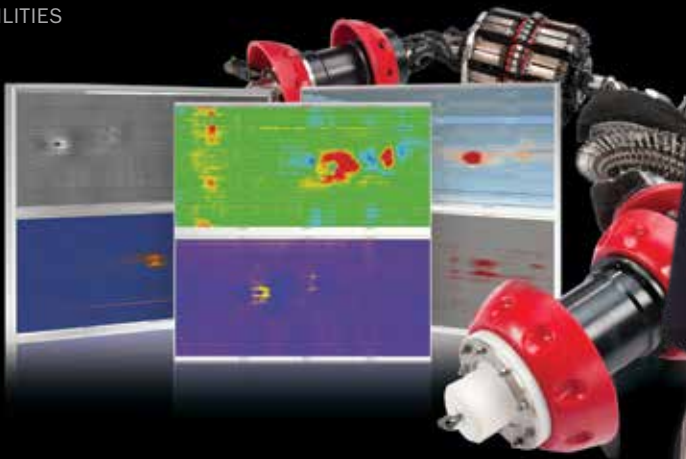
Our services are backed by nearly a century of experience and the largest fleet of customized equipment, fittings and accessories in the world. Our focus is and always has been the customers with whom we partner every day to deliver safe, reliable solutions. From routine maintenance to emergency repair, our team of highly skilled, fully certified technicians is ready to respond 24/7 with the highest quality, most cost-effective piping systems solutions available.

Our complete portfolio of innovative, high quality products and services deliver everything you need to troubleshoot potential problems and maximize piping system efficiency:

- Distribution Integrity Management
- Custom Engineered Pigging Systems
- Dedicated Engineering Support
- MFL Corrosion Inspection Services
- Deformation Inspection Services
- Inline Inspection Services
- Geometry Inspection Services
- Hydrostatic Testing
- Launcher & Receiver Components
- Marker Placement Services
- Pig Tracking & Locating
- Pig Signaling Devices
- Pig Washers & Cleaning Assemblies
- Maintenance & Repair Services
- Complete In-Service Welding Capabilities
- Rehabilitation Products & Services
- Turnkey Project Management Services
- Hot Tapping & Plugging Services
- Plugging Isolation Services
- Consulting Services
- Product Training

Matt Logan, Senior Engineer  
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TO SEE OUR COMPLETE  
RANGE OF CAPABILITIES





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