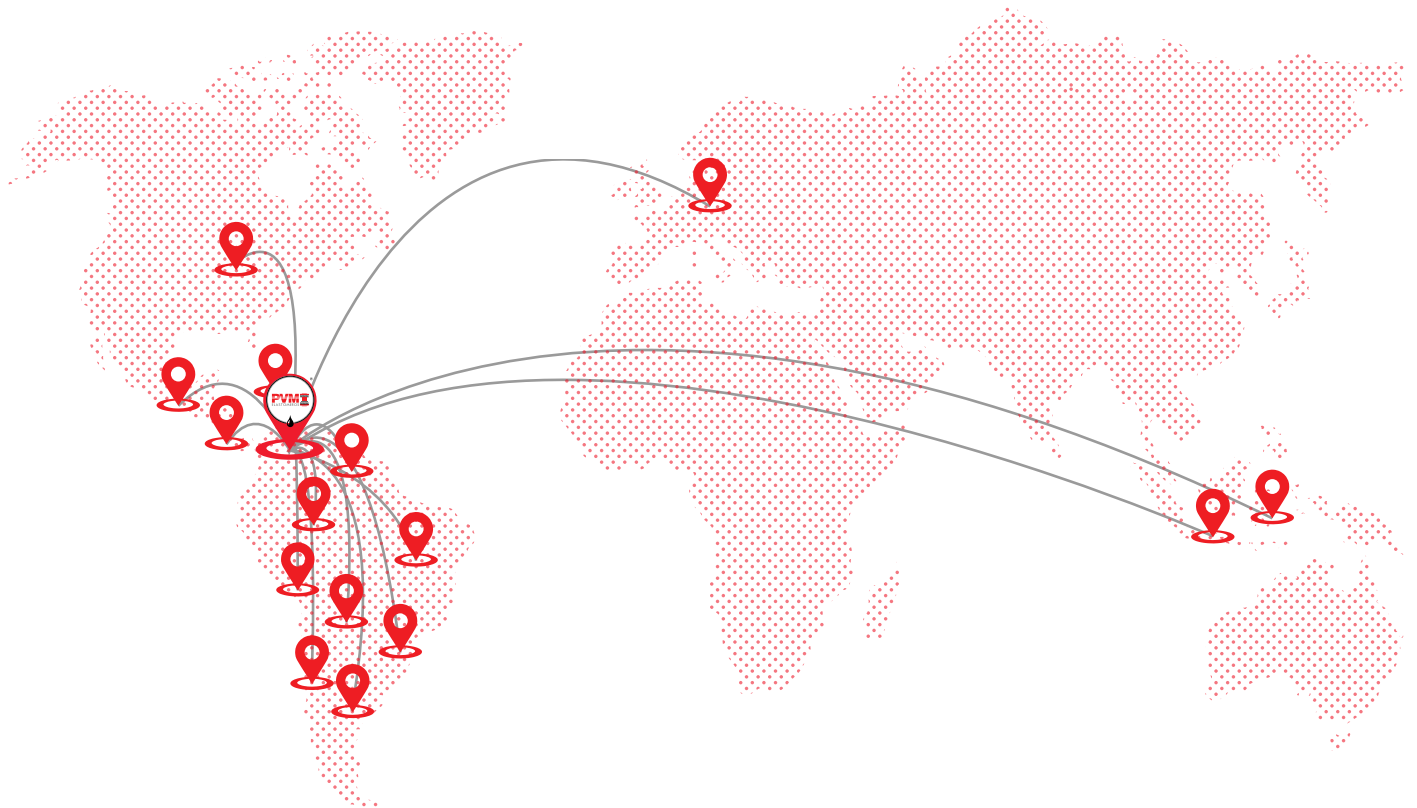




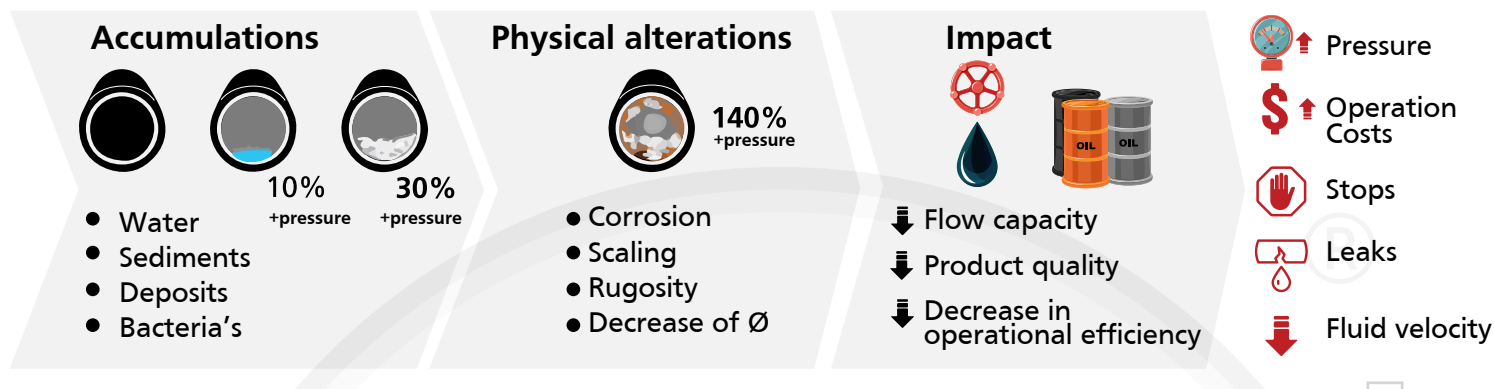
SOLUTIONS CATALOG



Global expansion

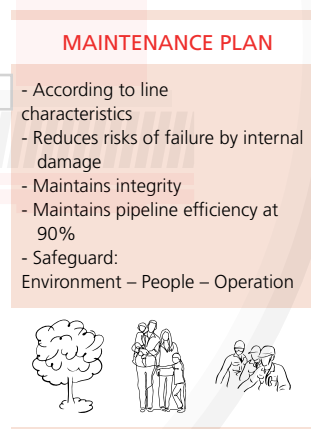
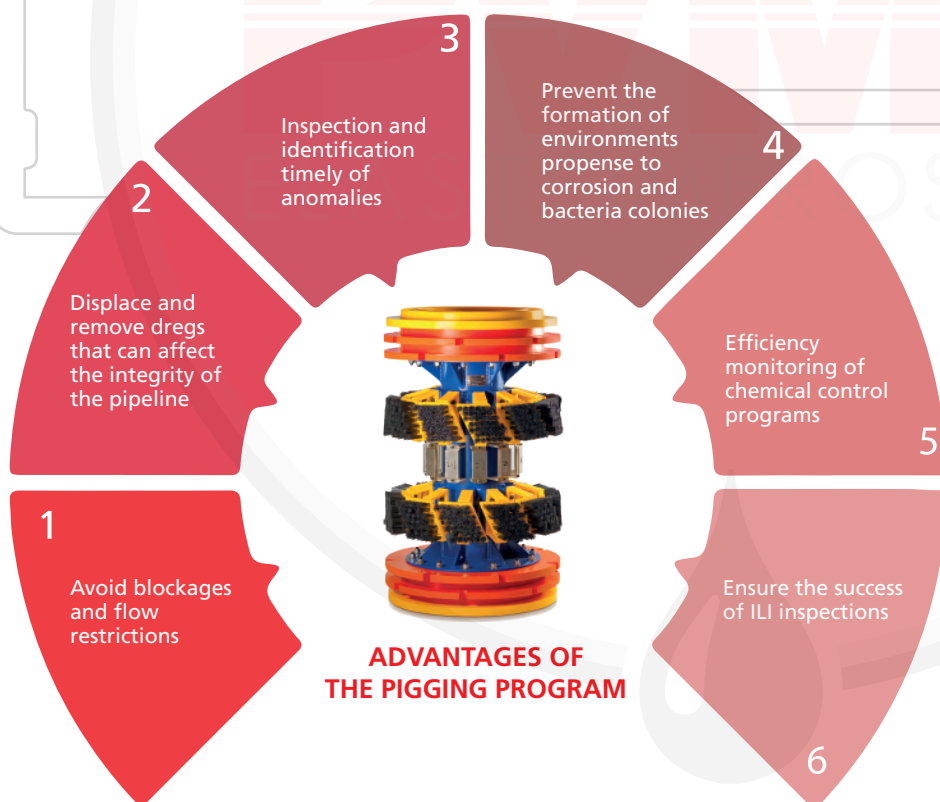


RISKS FOR HYDROCARBON TRANSPORT SYSTEMS



PROGRAM OF MITIGATION AND PIGGING CONTROL

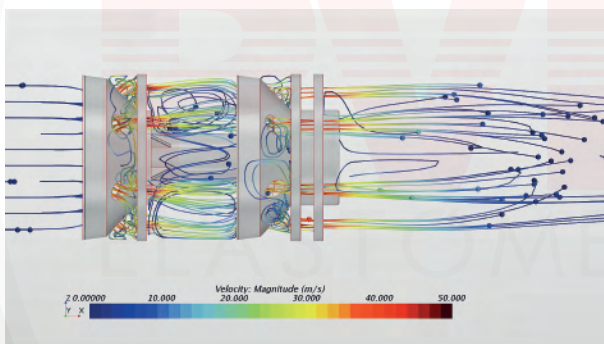
To mitigate and reduce risks of internal failure in the ducts of hydrocarbon transport systems, is necessary to implement chemical and mechanical preventive treatments. The mechanical clean refers to pigging programs, that execute the periodic passage of pigs in the pipelines.



LID SERVICE PIPELINE INTERNAL CLEANING (LID)

Security and warranty.

- Characterization of the line.
- Characterization of residues.
- Planning the suitable maintenance program for your line.
- Execution of the cleaning and maintenance program of the pipelines.



PIGGING CONSULTANCY

Knowledge and experience to advise you on pigging solutions:

- Selection of the best pig.
- Computational simulation of fluid dynamics.
- Design of pigs that adapt to the specific characteristics of your line.
- Technical advice and accompaniment in work field.
- Advice in manipulation and use of pigs.

LOCATION AND TRACKING

To monitor the path of the cleaning scraper and reduce the uncertainty of its loss, we offer the service of locating and tracking pigs.

Recommended in lines rehabilitation, in lines cleaned with pigs for first time and in cleanings with possibility of clogging.





TRAINING

The most important thing for an excellent operational performance is the training of human resource. For that we offer trainings in:

- Pigs and pigging solutions.
- Maintenance and storage of pigs.
- Use of the Bidi Lid equipment.

MAINTENANCE

The preventive maintenance of the tools guarantees a correct performance and working. **PVM** receive their worn pigs and transform it in functional tools. Also, we give a correct final disposition to the polyurethane components that have completed their useful life.



COLLECTION AND ANALYSIS OF WASTES

PVM offers the analysis of wastes to verify, confirm and supply valuable information, that helps you to take decisions about your cleaning and integrity plan.

In addition, we supply the adequate and precise tools, according to the characteristics of your wastes.



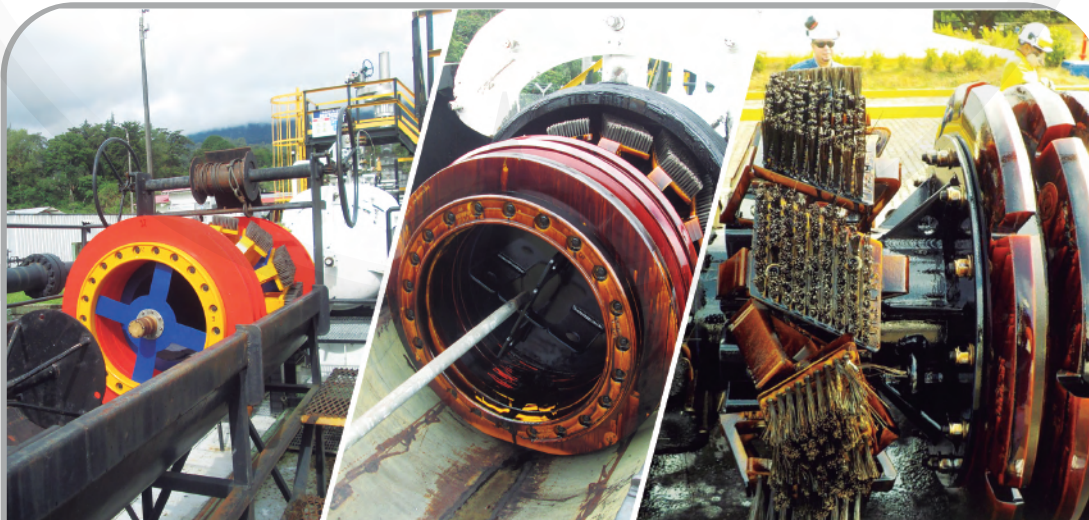
LID[®]

LIMPIEZA INTERNA DE DUCTOS

One of the most critical problems in pipelines maintenance, is the damage control by corrosion, **PVM**'s portfolio includes the lid (pipeline internal cleaning), which seeks to mitigate corrosive environments and preserve the useful life of your systems.



Cleaning with high levels of sand



Cleaning with high levels of pitting

PVM Experiences



®

Cleaning with high levels of kerosene waxes



Separation of batches – Potholes



Waste collection and analysis

SOLUTIONS FOR INTERNAL PIPELINE MAINTENANCE



The PIGS are mechanical tools for pipeline internal cleaning, used in integrity maintenance plans to reduce the probability of failure, maintain the efficiency and extend the service life of the pipelines.

The PIGS are equipped with polyurethane sealing components that allow them to displace deposits and accumulations inside the duct, metallic or polyurethane body and accessories for a more complete, aggressive and/or deep cleaning.

The configuration and components of a pig respond to the cleaning objective and the specific characteristics of the duct.

***Special fabrication in configuration and color, subject to customer requirements and availability in diameters.**

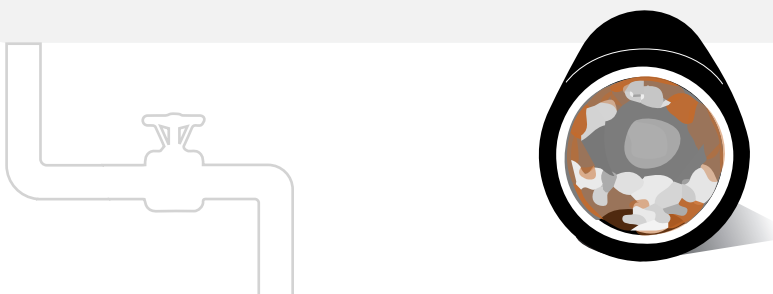


PIG WITH METAL INLAYS

PIG for collection and deep cleaning, it has metal inlays for solids removal. Doesn't scratch or abrade the inside of the pipe.

Avoids premature wear on the cups especially in ducts with particulate debris such as sand.

With bypass at the front of the scraper to reduce the speed of displacement for optimal cleaning.





SOLUTIONS FOR INTERNAL PIPELINE MAINTENANCE (PIGS)

CLEANING PIGS

Its objective is to remove and displace the accumulated residues inside the pipeline, to optimize its operation, maintain optimal conditions of integrity and quality of the transported product. The cleaning Pigs are configured with multiple components according to the characteristics of the duct and the cleaning objective.



DISPLACEMENT AND SEPARATION PIGS

Are used for processes of displacement of water, air and aqueous substances deposited in pipelines. For cases of transport of different hydrocarbons in the same pipeline minimize the contamination interface.

ARTICULATED DUAL CLEANING PIGS

Designed for effective cleaning in double-diameter ducts (telescopic lines). Available for ducts from Ø 4x8 in to Ø 12x14 in. For ducts of greater dimension, Pigs are configured without articulation.

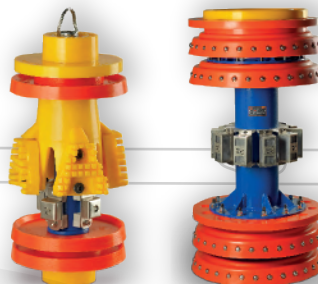
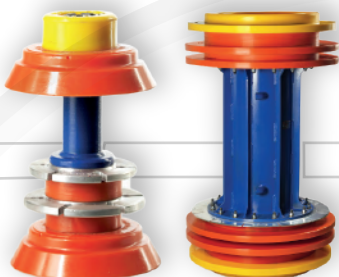


***All the Urelast brand Pigs could be manufactured from Ø 2 in to Ø 48 in, depending on its design and configuration.**

***For more information visit our web page.**

HARVESTING PIGS

Equipped with high power magnets to collect ferrous particles that are in suspension in the inner part of the duct. Available for pigs from Ø3 in.



CALIBRATION PIGS

It is used in construction and maintenance stages, repair and inspection of lines, to determine deformations or irregularities in the pipeline.

FOAM POLLY PIGS

Made of high, medium and low-density foam with polyurethane coating allows for cleaning, drying and inspection procedures.



FLEXIBLE COMPACT PIGS

They provide strength, seal and flexibility for work in ducts with curvatures greater than 45° since they have a polyurethane body. They can be manufactured in one single piece of polyurethane for performance in ducts with 90° bends.

DEVELOPMENT OF SPECIFIC PIGSPIGS

We developed successful solutions for specific conditions of our client, assuming challenges empowered by constant innovation to achieve the objectives and transform them into customer satisfaction.



Pigs with acid resistance

Pigs with metal inlays

High-speed pipeline pigs

*All the Urelast brand Pigs could be manufactured from Ø 2 in to Ø 48 in, depending on its design and configuration.

*For more information visit our web page.

PARTS AND ACCESSORIES

DISCS

Sealing elements for removal and displacement of deposits or accumulations in different stages of pipelines. The design and characteristics of the disc depend on the function to be performed and the operating conditions of the pipeline.

SUPPORT DISC

Has the minimum internal diameter of the pipe, which allows it to balance and provide stability to the pig during cleaning as it travels through the duct.

CLEANING DISC

It is oversized in relation to the internal diameter of the pipeline in order to achieve constant seal removal and displacement of deposits.

BLADE DISC

It has an external inclination and oversizing that increases the seal and contact area to enhance its capacity to remove and displace wastes.

MEMBRANE DISC

Is characterized by its flexibility which makes it ideal for cleaning in ducts with diameter changes, since it adapts easily and avoids clogging.

SPACER DISC

Provides sufficient space between the sealing elements to ensure the displacement of debris.

HELICAL DISC

Detaches solids from the duct walls; the length of inclination of its directional fins has influenced and contributed to the rotation of the tool. Available from Ø4 in.

DUAL SOLID DISC

They are used in double diameter lines and their function is to displace solids from the smaller diameter of the duct.

SLOTTED DISC

It is used in double diameter lines and its function is to displace solids in the larger diameter. They are used in sections of two units.

*All polyurethane components are made from Ø2 in to Ø48 in.

*The different components in polyurethane could be made in different harnesses Shore A.

PARTS AND ACCESSORIES

CUPS

Sealing elements that exert good friction with the duct walls, which facilitates the process of product displacement and separation.



CONICAL CUP

Performs good sealing for product separation and displacement. Not recommended for cleaning since its flexibility allows it to pass over hard deposits without detaching them.



SEMI-CONICAL CUP

Generates a greater seal due to its rigid structure and is used for the detachment and displacement of waste.



FLAT CUP

Provides adequate sealing ability in most cases and good contact area against the pipe wall as well as relative natural stiffness.



RANGE CUP

Due to its configuration and design, it performs an aggressive cleaning, generating greater friction with the grooved surface that allows it to detach residues to displace them later.



SMOOTH CUP

Designed for ducts with large diameter changes, special traps or sleeves. Its structure provides flexibility and good displacement performance.



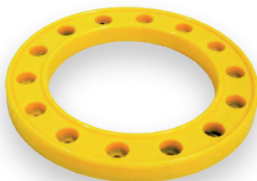
METALLIC INLAYS

Adaptation of metallic incrustations on the edge of contact with the internal wall of the pipe for the detachment of hard deposits. In addition, it prevents premature wear of the polyurethane.



FLAT BUMPER / CLAMP SHAKER

Its main function is to protect the trap covers and to avoid the contact of two metals that can generate sparks. The type of bumper assembled on the pig depends on its size. The Agitator Bumper in steel has nozzles that generate a spray effect by agitating the particles in the front part of the scraper, weakening the material embedded in the pipe.



FLAT BUMPER



CLAMP BUMPER



SHAKER BUMPER

*All polyurethane components are made from Ø2 in to Ø48 in.

*The different components in polyurethane could be made in different harnesses Shore A

REMOVAL AND CLEANING ELEMENTS

These are elements equipped with bristles that allow deep cleaning, the characteristics of this bristles could change according to the requirements of the cleaning and/or pipeline features.

Its objective is to drag all the accumulations that are agents of internal corrosion acceleration. They have direct contact with 100% of the internal wall of the pipe. They can be brushes, gratings or blades.

STEEL PENCIL BRUSH

Used as a tool to detach and remove particles. Its fine bristles allow to reach small corrosion points (pitting). Available from Ø6 in to Ø42 in.

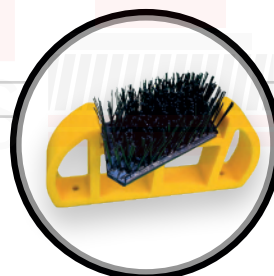


POLYMERIC PENCIL BRUSH

Its polymeric bristles don't generate sparks by metal-metal friction.

RIGID BRUSH

Responsible for loosening hard deposits adhering to the pipe wall. It has thick metallic bristles. Available from Ø10 in to Ø42 in.

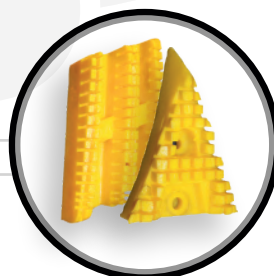


POLYURETHANE SUPPORT

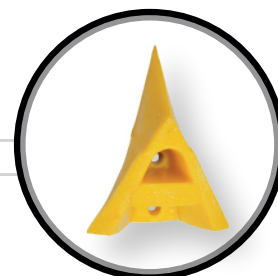
Improves the performance of the brushes and blades by generating constant and uniform pressure from the brushes and blades to the pipe wall. Available from Ø8 in to Ø42 in.

BLADE

Designed to improve performance in the work of removing deposits. They can have internal metallic bristles, their surface can be smooth or grooved. Available from Ø6 in to Ø42 in.



GROOVED BLADE



SMOOTH BLADE

REMOVAL AND CLEANING ELEMENTS

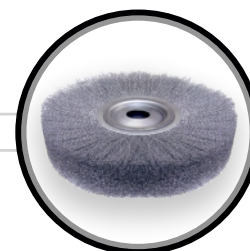
POLYMERIC PENCIL TYPE METAL BRUSH

Designed with polymeric bristles to remove debris without sparking or disturbing the internal walls of the duct.
Available from Ø6 in to Ø16 in.



STEEL PENCIL TYPE METAL BRUSH

Discharges solid waste. Has finer bristles for deep cleaning that reaches small corrosion points (pitting).
Available from Ø6 in to Ø16 in.



FIXED CIRCULAR METAL BRUSH

Designed with fine bristles for aggressive cleaning. Its purpose is to dislodge hard deposits.
Available from Ø2 in to Ø10 in.



CIRCULAR METAL BRUSH

Element designed with coarse bristles for aggressive cleaning. Its purpose is to remove hard deposits.
Available from Ø10 in to Ø42 in.

CALIBRATING PLATE

Manufactured in aluminum for detection of obstructions, dents and inspection of curvatures. They can be manufactured in steel to remove illicit valve stems.



CALIBRATING
PLATE

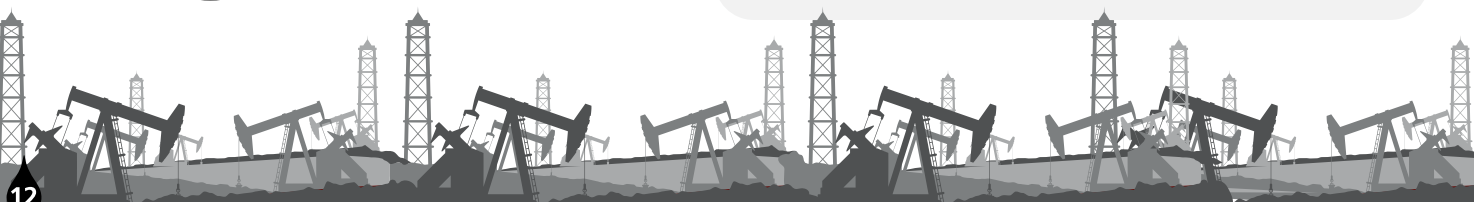


CALIBRATING PLATE
(Coated)



MAGNETS

Neodymium magnets five times more powerful than ceramic magnets, effective in the collection of ferrous debris.
Available for pigs from Ø6 in.



OBTURATION EQUIPMENT - BIDI LID



The Bidi Lid equipment is used in pipeline relocations because of contingency plans for corrosion and landslides where the pipe is involved, attacks to the pipeline, passage of flammable gases or liquids to the welding application area, among others.

*New bidlid II equipment to be launched soon.
Increases the safety of the operation in sealing processes.

BIDI LIDI CUP

The bidi lid cups provide an excellent seal against the pipe wall, preventing the passage of fluid and sediments that are lodged in the pipeline, facilitates the displacement and provides stability to the scraper (Bidi Lid).

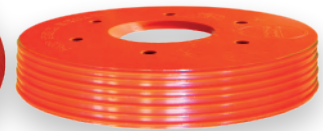


SEAL LID DISC

It guarantees the seal thanks to the over-dimension and increased thickness, which in turn provide resistance to the working pressure. The seal disc is available in two versions, one for high sealing and the other for medium sealing.



Seal Lid I.



Seal Lid II

Quick coupling for venting system.



Available from Ø4 in to Ø42 in.

COMPLEMENTARY EQUIPMENT



PVM is an authorized distributor of Sarco Stopper, a company dedicated to the manufacture of sealing tools and bypass solutions, known as Stopper Bag.



STOPPER BAG

Sealing bags, made of materials resistant to sparks and welding spatter. They can be supplied with aluminized fabric ends for cases of proximity in the welding application.

CDI

PVM is an authorized national distributor of CDI, manufacturer of a wide range of equipment for locating, tracking and tracing pigs, such as:
- Intrusive and non-intrusive indicators, Geophone - GeoEAR, Transmitters, Pig Locator via Satellite, Pigs Locator via GPS.

NON-INTRUSIVE WALK-THROUGH INDICATOR

Non-intrusive indicator of scrapers that has an electronic and computerized equipment, this has been equipped with a magnet or magnetic transmitter, this allows to inform the date, time and speed in which the scraper passes in the tube.

TRACKING AND LOCATING EQUIPMENT

The tracking and tracing system for pigs is equipped with magnetic transmitters that allow digital signal recognition (DPS) of the position, passage detection, verification and continuous tracking of a scraper with a GPS log transmitter.

INTRUSIVE WALK-THROUGH INDICATOR

This indicator allows to register the passage of the scraper by actuating the plunger, which will activate a flag at its passage. It is installed on O-Let's 2in threadolet type fittings for connections from 2 in to 42 in Ø.



COMPLEMENTARY EQUIPMENT

ILI INSPECTION SERVICES (GEO-MFL-XYZ-UT-UTDC)

ILI service provider for intelligent pipeline inspection and integrity, offering inspection tools, accurate and versatile software with high standards. Its portfolio includes: Pipeline integrity evaluation and corrosion and geometry inspection.



ANTI-SPARK HOOK KIT

Tool that facilitates the process of introducing and extracting pigs in launching and receiving traps in confined areas. It is made of non-sparking materials. Its design allows adjusting to the nominal diameter of the pipes, for this purpose it is manufactured in two versions which are for ducts from 4 in to 24 in Ø and from 24 to 42 in Ø.

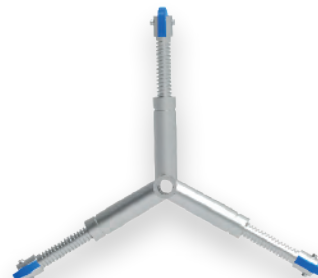
ANTI-SPARK HOOK KIT



CLOSED TRIPOD SUPPORT



OPEN TRIPOD SUPPORT



CLEANING SWEEPER

Its design and simplicity facilitate the displacement of solid waste from the trap barrel, as well as the removal of the tools in the barrel. Its material is resistant to the chemical agents to which it is exposed. It is adaptable to the anti-spark hook kit.



LAUNCHER AND SCRAPER COLLECTING TRAY

Equipment for handling pigs in shipping and receiving traps, manufactured to the exact height of the trap and its installation is fixed, it is not portable, recommended for ducts larger than 10 inches since it can support and move up to 7 tons. Available for pigs from 10 in to 42 in Ø.



PIG HANDLING EQUIPMENT

This equipment facilitates the introduction, extraction and transfer of pigs. It has a hydraulic system for the ascent and descent of the platform that allows it to be leveled with the trap and a winch system that minimizes the operator's effort in this process. Available for pigs from 2 in to 42 in Ø.



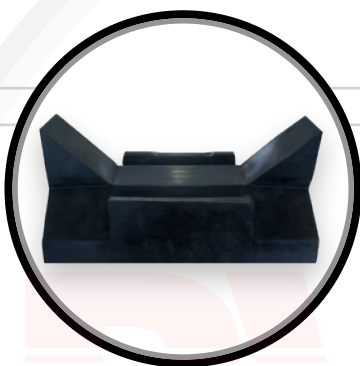
PIG WASHING EQUIPMENT

Equipment for cleaning pigs with oil residues, kerosene, sludge, sand, etc. High efficiency in the removal of kerosene, since it works mainly with steam and an additional source of temperature. Automated parameters (temperature and time) to avoid alterations to the pig raw material.

Available for pigs from 2 in to 42 in Ø.

BOLT – U

Manufactured as a key piece to hold the pipe, prevent corrosion and metal-to-metal contact with the available from 2 to 20 in.



H – FRAME SUPPORTS

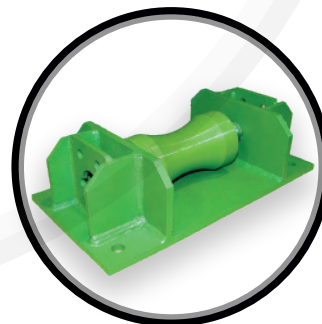
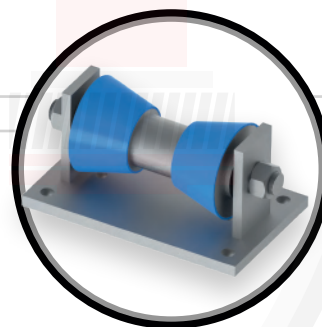
They are used as a support between the pipe and the H-frame to prevent displacement and corrosion. Their dimensions depend on mechanical requirements.

POLYURETHANE ROLLERS

The rollers are coated with urethane of high resistance to climatic conditions, in charge of supporting the dragging or displacement of the pipe during construction processes reducing the dragging pressure, avoiding the direct contact with the floor which can generate affectations such as scratches.

Its internal structure can be manufactured in high mechanical resistance steel.

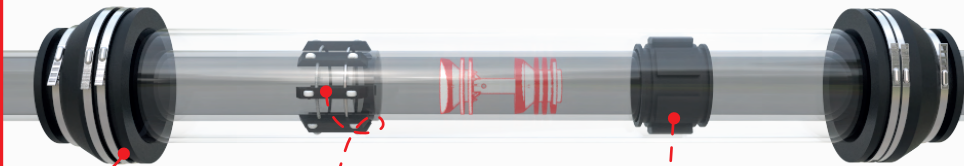
Rollers can be developed according to customer needs considering the specific conditions of the project, and for different industries such as food, mining, maritime and oil and gas.



SEALS AND INSULATORS



Urelast seals and insulators contribute to the preservation of the external integrity of ducts in cases of casing, wall crossings and wall passages in valves.



TYPE R SEAL

Covering piece for jacketed pipe terminals, in order to keep the space dry and free of corrosion.



Allow to maintain the concentricity between the conductor line and the liner. It can be equipped with rollers to facilitate installation in very long casings.



BASIC INSULATOR OR SKID TYPE INSULATOR



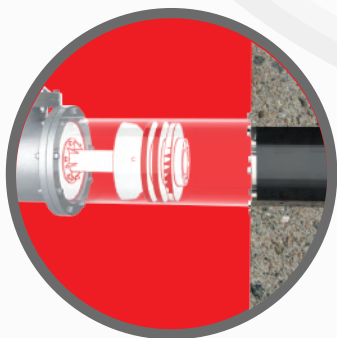
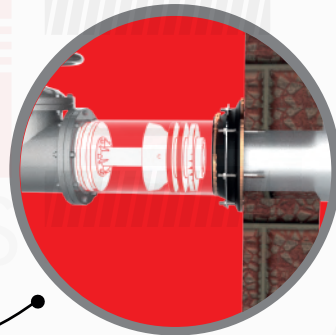
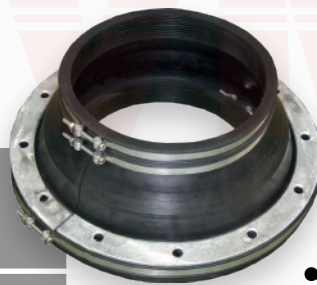
CONCENTRIC STAR TYPE INSULATOR

Piece made of synthetic insulation, designed and manufactured in one piece, for jacketed crossings in which concentricity between the conductor line and the jacket must be guaranteed.

"CONICAL" WALL PASS

Designed to prevent leakage of liquids into valve housings. It can be installed during or after bunker construction.

Available from 2 to 42 in Ø.



"CONICAL" SEAL BLINDSEAL

Is an expandable seal designed to prevent leakage of liquid substances into valve housings. Thanks to its structure, it functions as a seal and insulator.

Available from 2 to 42 in Ø.



EXPERIENCES WITH COMPLEMENTARY PRODUCTS

PIGS WASHING EQUIPMENT



LAUNCHER AND SCRAPER
COLLECTING TRAY



WALL SEALS - CHECK VALVES



POLYURETHANE FENDERS FOR MARINE ENVIRONMENTS

Urelast's protection systems for docks and marine vessels are designed to withstand cyclic mechanical stresses, absorption of kinetic energies and load support, its design allows for easy deformation, avoiding damage to vessels and docks. ®

The material with which the fenders are manufactured is hydrophobic, eliminating water absorption and avoiding direct affectation to the protection systems. Urethane has high resistance to the environment, marine salinity and mechanical stresses.

DD TYPE DEFENSE

Its modern design and improved properties make it have excellent performance in shock and energy absorption, high resistance to friction and tearing, and especially resistant to the environment.

CONICAL DEFENSE

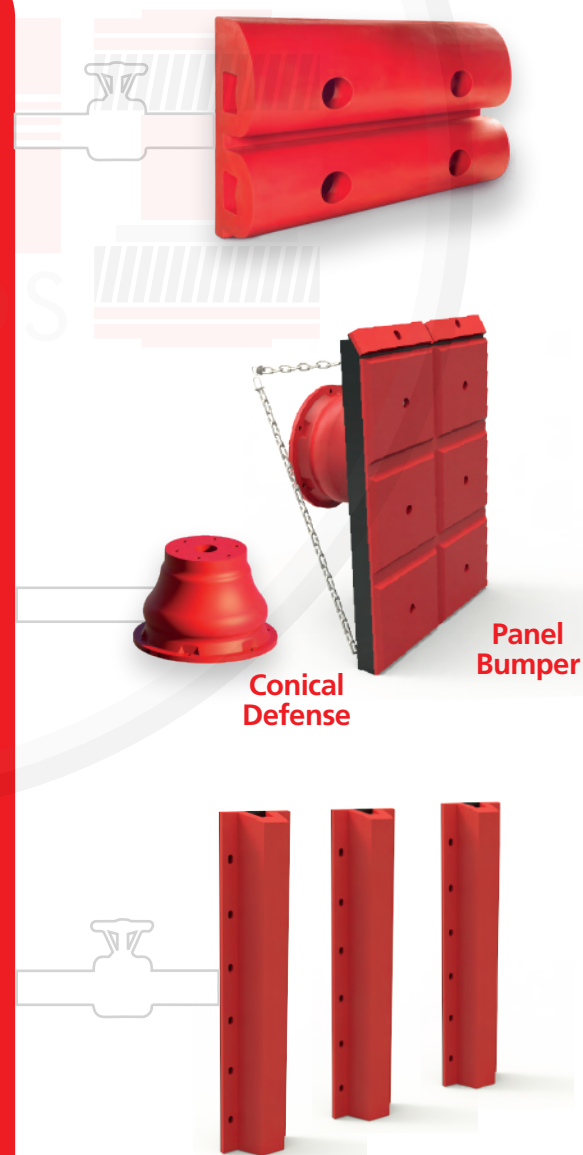
Conical design increases flexibility and deflection capacity by 70% in relation to its height; resistant to solvents and chemical agents. High kinetic energy absorption.

PANEL BUMPER

Becomes the first kinetic energy absorbing agent offering total protection to vessels by eliminating direct contact between the vessel and the metal components; resistant to solvents and chemical agents.

V TYPE DEFENSE

Its design makes its application versatile, requires little maintenance, is very resistant and long lasting. They are the most recommended for multipurpose terminals.



PVM EXPERIENCES

Coveñas



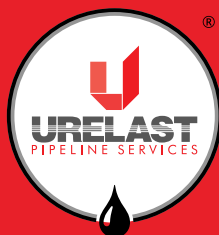
- ◆ Supply of polyurethane fenders for the eastern and western sides of the maritime terminal located in coveñas.
- ◆ DD type defenses and cone-panel type defenses.
- ◆ Support during installation.
- ◆ Project implemented in 2018-2019

BEFORE



AFTER





EXPLORATION AND DRILLING

WORKOVER

EXPLORATION AND DRILLING LINE

STUFFING BOX PACKAGING

Mechanical seals that guarantee the seal in the pressure control equipment during the extraction of crude oil, avoiding spills.



Stuffing box
ratigan packing



Stuffing box ring
packing



Stuffing box cone
packing

DESANDER CONE

Filtration and separation tool for solid particles such as sand in biphasic products.



DISARCILLATOR CONE

Filtration tool for fine solid particles such as slats in biphasic products.



ECONOMIZER

Effective tubing operation tool for slickline or wireline well interventions.



HANDLE PROTECTORS

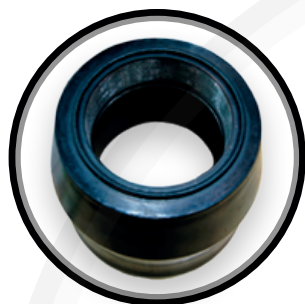
Operational hand protection when handling power wrenches.



PRODUCTION LINE AND WORKOVER

RUBBER

Production tool that prevents fluid and gas leaks.



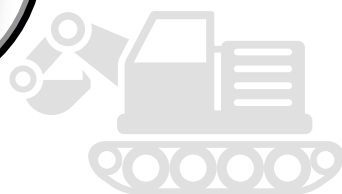
RUBBER PISTONS

Designed for injection pumps operating with water or oil-based slurries.



PISTONING CUPS

Aerodynamic operating tool that maximizes drag on loads and reduces downtime.



WORKOVER PRODUCTION



OUR COMPANY

MISSION

PVM S.A.S. is an engineering company specialized in the application and transformation of elastomeric compounds, engineering plastics and metals; working together with recognized companies in order to offer quality solutions and support to various industries such as oil and gas, mining, food and maritime. Our products and services comply with the international technical standards applicable to each sector, with suitable human talent and appropriate machinery that guarantees competitive costs and delivery times in the global market

VISION

To be a leading engineering company in the international market in the manufacture of products and provision of integral services, through advice, design, production, supply, representation and technical support of products for different industrial sectors, focused on research and continuous technological development.

QUALITY POLICY

PVM SAS is an engineering company that designs and manufactures mechanical tools for the internal cleaning of pipes, committed to deliver an efficient product in its performance, provide timely technical support and meet delivery times, combining innovation, continuous improvement and skilled human talent to transform them into satisfaction of our customers.



URELAST BRAND

Urelast is the polyurethane brand registered by PVM SAS for the manufacture of its elastomer-based products and solutions.

Initially dedicated to provide products and services for pipelines mainly in the oil and gas sector, today Urelast provides polyurethane and rubber solutions for the marine, food and mining industries.








CONÉCTATE CON NOSOTROS

Nuestro cuerpo técnico y comercial está atento para ampliar información de nuestros productos para ofrecerle el mejor servicio.

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