



**DIAMOND
PETRO**

constructor and supplier
of oil and gas pipelines

Diamond Petro Equipment

Hydraulic. Penumatic. Industrial



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. Introduction

. General View

Since its inception over 15 years ago, our company has grown to be one of the major source and the most trusted supplier of pipeline pigging products in Iran and the Middle East.



Proud to be a leader in manufacturing full range of pipeline cleaning products and services in the Oil, Gas and other process industries, we offer skilful and innovative designs to meet the specific requirements of pipelines in different sizes from 4" to 56" and our products contribute to optimized consumption and long lasting operation of the pipelines.

As a well-known supplier of pipeline cleaning products and services, we have merited with the reputation of having extensive experiences in innovative unique designs, compelling specification, careful quality control, reliable services, competitive and reasonable prices and the quickest delivery in the world.

Being the only reliable manufacturer of pipeline pigging products in Iran and Middle East, we work directly with our foreign customers like MSK and their follower companies

. Pipeline Cleaning Products

Cleaning Pigs



Cleaning pigs are manufactured to remove dust and debris in the pipeline. The standard pig is designed to traverse 1.5 D radius bends to 3D according to the length of the pig. They have a central body equipped with wire brushes to scrap internal part of the pipes. Pigs with 14" or smaller diameter with centre-rod type body normally use

circular wheel brushes; larger pigs with bolting pattern plates on pipe body have leaf spring mounted brushes. The number and arrangement of brushes are determined by the diameter of the pig body and are replaceable modular design. The standard brushes are made of stainless steel or carbon steel wires. When wax or paraffin is concerned, the urethane scraping blades are the best choice. Bypass ports and plugs are installed in the front or on the body of the pig to regulate the fluid bypass, increase cleaning effectiveness and to wash the brushes. Cups and discs are made by polyurethane elastomer with excellent physical and mechanical characteristics and good solvent swell and hydrocarbon resistance. Pigs are available from 2" to 56".

Batching Pigs:

Batching pigs are manufactured to separate dissimilar materials in multipurpose pipelines, to displace one fluid with another, filling and de-watering operations in hydrostatic test, ejection of remained liquids and light cleaning. The standard pig is designed to traverse 1.5D radius bends to 3D according to the length of the pig. Pigs with 14" and smaller diameters are centre-rod type body. Cups and discs are made by polyurethane elastomer with excellent physical and mechanical characteristics and good solvent swell and hydrocarbons resistance. Pigs are available from 2" to 56".



.Bi -Directional Pigs:



Bi-Directional pigs are manufactured for bi-directional running. They are used for cost effective hydrostatic testing in filling and dewatering operations without removing the pig displacing and batching, line evacuation of air or liquids de-waxing and pre-inspection cleaning. The standard pig is designed to traverse 1.5D radius bends to 3D, according to the length of the pig. Pigs

with 14" diameter or smaller are centre-rod type body, larger pigs are with bolting pattern plates on pipe type body. Guide and seal discs are made by polyurethane elastomer with excellent physical and mechanical characteristics and good solvent swell and hydrocarbons resistance.

The guide disc centralizes the pig body while high flexibility of seal discs is ensuring superior sealing. Inter space rings are fitted between the guiders and sealers to ensure high flexibility of the complete discs package. Guide discs are machined to be an exact fit in the minimum bore of the pipeline. Advantages of Bi-Directional pigs such as positive nature of discs sealing economical spare parts, ability to return back the pig in case of trouble and etc... have well introduced them to the pipeline industries. Pigs are available from 2" to 56".

. Sphere Pigs:

Inflatable sphere are manufactured of various elastomers (Polyurethane, Neoprene, Nitrile, Viton) depending on their applications. They have a filling valve to inflate the sphere with water or water and glycol in order to adjusting the diameter (1% to 2% over the pipe ID). Spheres will pass through pipe of varying wall thickness; short radius bends, out of round pipe, properly designed tees and full opening conduit type valves. They have optimum resiliency, wear resistance and freedom from deterioration available in sizes 4 inch up to 56 inch. Solid spheres are available in sizes 1.5 inch to 4 inch. Our spheres can be utilized by foam core, magnet or even scraper brushing bands.



. Foam Pigs:



Foam pigs are manufactured from open cell polyurethane foam in various densities ranging normally from 2 LBS/FT3 to 8 LBS/FT3 (35Kg/m3-115Kg/m3) available in different configurations and sizes from 2 inch to 56 inch. They may include brushes, carbide abrasives, discs and also cavity for housing

locating or magnetic devices and can be bare foam or coating and spiral scraping bands.

They are normally in bullet shape but can have flat end or double nose shapes.

Foam pigs are suitable for multiple diameter pipelines short radius bends, off shore pipelines, water and waste water pipelines, petrochemical and processing industries for increases pipeline volume capacity, improves product quality and confirm flow integrity. They are economical, compressible, expandable, light weight tough, durable and flexible with abrasion resistant.



Typical applications:

- Drying
- Hydro testing
- Cleaning

. Special Pigs

Upon the customer request or special operation condition when the usage of the ordinary pigs is not possible, special pigs are accordingly designed and manufactured.

The most important pigs in this category include:

- Descaling Pin Type: Used to scrape the hard and crystallized debris and sediments.
- Carbon Cleaning Pigs: Used to scrape the carbon soot inside the pipe
- Pig Train: Used for multipurpose pig running.
- Universal Joint Pigs
- Dual and Multi Size Pigs
- Combination Pigs
- PU Pigs

. Featured Pipeline Products

Pig Signallers

Pig Signallers are fitted to pig trap stations as well as any other location of the pipeline to confirm the launch/receive or indicate the passage of the pig. The range of our Intrusive Pig Signallers can be fitted to all sizes from 6" to 56" and can be used to detect all type of pigs, from Mandrel to Foam, Sphere and Intelligent Inspection tools.



Preferably Stainless Steel construction, reliable function, modula configuration, pressure classification and width size compatibility, easy maintenance and full variation are the unique combination of advantages to step forward from all other exciting technologies in the market.

Features:

- Can be fitted to all sizes from 6" to 56" pipeline.
- BI-Directional trigger mechanism.
- Mechanical, visual, electrical indicators. • Under pressure removal (on V series)
- Single action reset.
- Extensive Hydrostatic testing prior to shipment.
- Adjustable trigger extension to suit varying wall thicknesses of the pipeline.
- NACE MR-01-75 compliance.
- Welded base and flange mounted assembly base on ASTMA350LF or ASTM A105.
- Bracket opening tool to under pressure removal.
- Explosion proof electrical proximity switch and junction box by option.
- Extended length for buried pipelines.
- Double valve by option.
- Stainless steel trim body under (BS EN 10088-1)

Model Option Codes:

I: Intrusive

M: Mechanical

V: Valve

F: Flange

E: Electrical

W: Welded

. Pig Locators

Our newly designed pig signallers are designed to work via transmitting and receiving the electromagnetic waves. The devices are composed of a set of receivers and transmitters. Our full range of locator packages, with long life-time with alkaline as well as rechargeable batteries has exceptional features:

- Large Size Recognition
- Frequent Passage Memory
- Pipeline Data Input
- Operation Time Schedule
- Noise Free Filtering
- USB connection
- High Pressure and Sour Service
- Printable Reporting
- Full Size Range
- Data Saving
- Self Run and Adopting Models
- Digital Screen



. Roller Cradles



Roller cradles are designed to provide the supports in operation of pipeline lifting machineries. Each of them can carry different sizes of pipes. Various cradle assemblies for pipe sizes 6" through 56" are available with associated replacement rollers. The cradle design provides quick disassembly for transit and storage. Different polyurethane rollers are configured to support the pipe evenly and to prevent any damages on coating.

. Offshore Products

Polyurethane based devices are now the best to replace the wooden or ordinary plastic materials. Based on this privilege of polyurethane material we manufacture a full range of offshore products which the main items in this range include:

- Bend restrictors
- Bend Stiffeners
- VIV Strakes
- Piggy Back Clamps
- Saddles, Centralisers and Spacers
- Field Joint Shells
- Flange Protection
- Hammer Cushions
- Anode Tapers
- Buoyancy Tanks
- Pipe Lay Rollers and Wheels
- Floating fenders
- Wear Pads

Split Sleeve



To prevent costly and hazardous pipeline shutdown, the solution is to apply special tools which can be used to repair the damaged pipes and keep the maintenance of the pipeline.

Our's repair clamps have been designed for pressures up to 10,000 psi and temperatures from 250° F to 1100° F. These repair clamps have been manufactured according to API pipe standard, 1-1/2" through 56" and pressures up to 2000psi.

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