Pigs Unlimited, Inc.

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Foam Pigs

Pigs Unlimited, Inc. manufactures foam pigs in many styles and sizes ranging from 2″ to 48″ nominal pipe diameters for wiping, drying, batching, separating, scraping, and cleaning of pipelines.

Standard densities include two pound, five pound, and eight pound per cubic foot as well as special densities for unique applications. The following illustrate the most common styles available, however any conceivable configuration can be manufactured.

Swabs & Bare Pigs

These pigs are constructed of light, medium, and heavy density foam. They are used for drying and sweeping loose debris and gauging internal pipe conditions before extensive pigging.

Criss-cross

This design is typically bullet shaped and constructed of medium or high density foam with a polyurethane elastomer coating applied in a single-spiral or criss-cross pattern.

Silicon Carbide

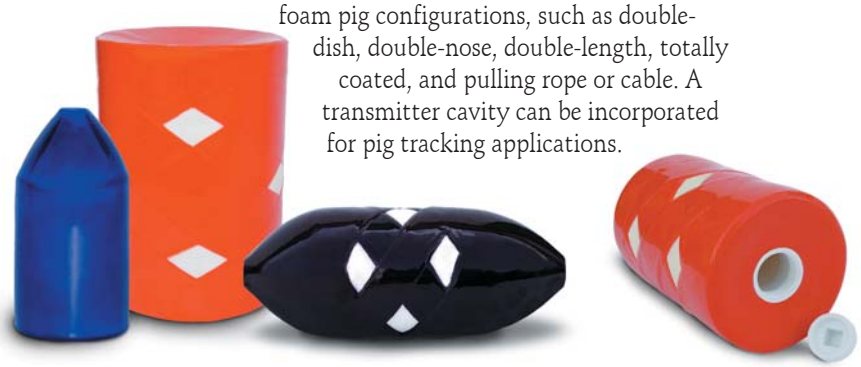
By adding silicon carbide, in loose grit or strap, moderate scraping action can be achieved.

Wire Brush or Plastic Bristle

Equipping the pig with wire brushes or plastic bristles provides maximum scraping and cleaning of pipelines in a variety of applications. Standard configurations include barber pole or total coverage.

Configuration Options

Pigs Unlimited, Inc. manufactures many optional foam pig configurations, such as double-dish, double-nose, double-length, totally coated, and pulling rope or cable. A transmitter cavity can be incorporated for pig tracking applications.



Steel Pigs

Pigs Unlimited, Inc. also manufactures steel-mandrel pigs in sizes ranging from 2″ to 48″ nominal pipe diameter with configurations including standard cup, disc, conical, multi-disc, and articulated pigs. All of which can be fitted with wire brushes or paraffin-removal blades.

Cup and Disc Pigs

Equipped with cups and/or discs, these pigs are primarily used for evacuating air and liquid during hydrostatic testing, routine batching, displacement, and product removal. Gauging plates can also be added to prove pipe roundness and minimum bend radius.

Cleaning Pigs

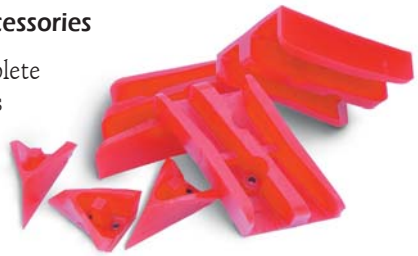
These rugged pigs are equipped with circular brushes or block-type brushes or blades mounted on wear-compensating springs. They are used for cleaning rust, millscale, sand, wax, organic growth, mud, oxides, and other foreign debris.

Conical Cup Pigs

Suitable for the entire range of pigging applications, this versatile design allows for the same pig body to be equipped with 2, 3 or 4 cups or discs, and with or without spring-loaded brushes or blades for cleaning operations.

Spares and Accessories

In addition to complete pigs, spare components including cups, discs, blades, springs, and other accessories can be manufactured to fit all styles and makes of pigs.



Solid Cast Pigs

Solid-cast pigs, which have the flexibility and easy handling of foam pigs, coupled with the ruggedness and excellent sealing capabilities of steel pigs, prove very efficient as general purpose pigs for batching, displacement and routine pigging applications. With the addition of brushes, they can also be used for cleaning operations. Various configurations are available, including spherical, cup-type, and disc-type.

Pigging Related Products

Also available are pigging related products including:

Launchers and Receivers

Launchers and receivers are used to properly launch and receive pigs in the pipeline. The basic design consists of an oversized barrel, a reducer to mate to existing pipe, and a closure door for access, as well as other connections for components. Units are available for purchase or rental.

Closures

Closures allow access to a launcher, receiver or main pipeline. They are used in lieu of a flange to blind-flange arrangement. The two basic types are threaded and quick-opening and are available in a wide range of sizes and pressure ratings.

Pig Detectors

Pig Detectors are used to detect the passage of a pig. The two basic categories are intrusive and non-intrusive. An intrusive detector is permanently attached to the pipe and is equipped with a probe that intrudes into the pipeline. The non-intrusive type does not intrude into the pipeline and is either magnetic, transmitter/receiver, or ultrasonic. Detectors can be equipped with electric signals to control the functioning of valves, pumps, and compressors.

Pig Trackers and Pingers

Pig Trackers and Pingers are used to track pigs during pigging operations. Operators are able to physically walk the line and pickup the signal emitted by the transmitter. The difference between trackers and pingers is that transmitters are equipped with an on/off switch and pingers are activated once they come in contact with a liquid. Units can be purchased or rented.

Pigging Services

Pipeline Cleaning services can be performed in all types of applications, including new construction, online, progressive, and chemical for the oil and gas, municipalities and mining, chemical and petrochemical, food and beverage, cosmetic, and pharmaceutical industries. Cleaning operations are utilized for pipelines with product impurities, excessive buildup, sand and other heavy sediment buildup, and fine debris accumulation.

Pig Tracking can be performed on any pigging application, from 2" to 48" pipelines, with no limit to length or terrain. Detailed reports are supplied after the job, with information such as pig speed and pressure charts that are key in pointing out possible problem areas in the pipeline.

Layout, Design, and Pigging Consultation assistance is offered for plant design, launcher and receiver design, and other applications, as well as ensuring proper pig selection and pigging procedure application. Experience is derived from numerous fields, and expertise is geared toward ensuring that pigging achieves optimum efficiency.

Field Supervision, On-site Inspection, and Trouble-Shooting is offered for those having the equipment and personnel to pig their own pipeline but are unsure of pigging procedures. Inspection services verify that desired pigging results have been achieved. Troubleshooting is provided with all pigs and pigging procedures.

Caliper Pig Services have recently been included due to the passing of new government regulations. Complete caliper services are available for determining bend radius, geometric surveys, and wall-thickness verification, as well as, determining areas with reductions due to dents, buckles, wrinkles, flat spots, and out-of-roundness during pre-inspection and online applications.

Time & Material Quotes and Cost & Savings Analysis can be performed for all services provided, with cost and savings analysis demonstrating savings verses other methods of cleaning and rehabilitation.

Contract Manufacturing and Custom Designs is available for the manufacture of any pigging-related product, including "private labeling." We will also manufacture products not related to pigging but that utilize the same raw materials.

Process Pigging System

The process pigging system utilizes a specially designed process displacement pig, as well as other customized components, to recover normally wasted product thereby reducing processing costs, improving efficiency, and increasing profits.

With a series of strategically placed pigging stations, three-way valves, pigging tees, ells, pressure gauges, and flow regulators, lines are pigged between product changeovers and transfers, virtually eliminating cross-contamination and recovering product that would otherwise be lost. Because the process pig is so effective in removing product residue, dedicated lines for individual products can be eliminated.

Product Displacement Pig

The key to the system is in the design of the process displacement pig, which with its multiple discs, virtually eliminates bypass. The pig is capable of spanning full-branch tees, negotiating full-port valves, and 1.5-diameter bends. The PDP can be manufactured to any diameter, length, and configuration as well as from various compounds to be compatible with different products or applications.

Pigging System Benefits

Numerous companies in a variety of processing industries have utilized the process pigging system and saved millions of dollars. By design, the system eliminates cross-contamination, decreases downtime for product changeovers, recovers normally wasted product, and minimizes the need for dedicated lines. These benefits equate to increased productivity, efficiency, and profits.

The initial cost to implement a process pigging system is minimal compared to the savings gained. Because the entire system can be fully automated and operated by a single person in a control room, utilizing a process pigging system can lower operating costs even further.

Launching and Receiving Pigging Valve

The Pigs Unlimited, Inc. pig valve offers an economical alternative to conventional launchers and receivers. Available in sizes from 2" and above, it is capable of launching and receiving foam, steel, and solid-cast pigs in both cylindrical and spherical shapes. They are designed for use as end-of-line units or within closed-loop systems.

Other features include: shut-off style design with upstream sealing seat or bypass design, automatic body cavity venting downstream, wide range of fluid compatibility, double block-and-bleed, body drain and vent, and lockable stop plate in "open" or "closed" position. The valve is a cost-effective, safe, and easy-to-use launcher and receiver for any pigging operation.

Design Advantages

The valve's simple design offers easy installation and immediate sealing during launching, thereby eliminating "false" launches. Manpower and downtime are saved due to the ease of loading and unloading pigs. With its compact design, which is important in processing plants and offshore platforms, it offers superior accessibility and user-friendliness. A smooth valve bore eliminates trapping of foreign particles and buildup and is also equipped for corrosion inhibitor injections.

Rugged Construction

The design incorporates a one-piece body and flange assembly. This ensures complete integrity throughout the entire valve. The trunnion-mounted ball and stem are constructed of 300 series stainless steel, making them resistant to most corrosive fluids. The catcher plate is secured to the ball via a designed shoulder. And with the valve stem installed through the body, it is blowout proof. Self-lubricating Delrin seats minimize torque and provide for applications in high-pressure services.

Easy to Use

The valve requires no special tools, therefore use and servicing is made easy. Also, all repairs can be made in the field without having to remove them from the line. The units are bidirectional and able to serve as both launcher and receiver, depending on their installation. The bonnet's o-ring design and position eliminates the need for special torque requirements or sequence of tightening studs as with blind-flanges found on conventional launchers and receivers.

Safe Operation

The valve is equipped with two bleed connections for venting pressure before accessing the pig chamber. Over-pressurization of a line is eliminated during pigging operations with the bypass design, thereby making launching and receiving pigs a quick and safe operation.