



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Oil & Gas Filtration and Separation Solutions

Engineered Systems for Upstream, Midstream & Downstream Applications



ENGINEERING YOUR SUCCESS.

> Oil & Gas Filtration and Separation Solutions

When the energy production environment presents complex challenges, filtration and separation systems from Parker present the solution.

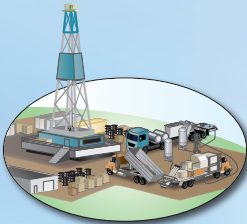
In today's demanding energy market, keeping the pipelines full is not just an objective - it's an absolute necessity. Parker offers innovative and site-specific filtration and separation solutions that help ensure integrity and purity all along the entire production continuum: upstream, midstream and downstream.

Filtration Technologies

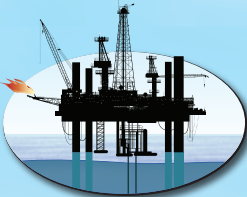
- Hydraulic and Lube Oil Filtration
- Fuel, Oil, Air and CCV Filtration
- Compressed Air and Gas Treatment
- Nitrogen Generation
- Process/Liquid Filtration
- Watermakers

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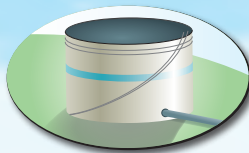
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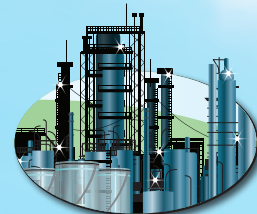


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Partner with Parker Together, We Can Fuel Progress

In the constantly evolving oil and gas industry, you need a partner with acute technical insight, proven experience, a customer-first approach and worldwide accessibility. That's the formula for success – and the portfolio of advantages you receive when you team with Parker.



Collaborative Engineering

Parker engineers work together with your engineers from project inception to project completion. At each step along the way, Parker provides thousands of online product configurators and 3D CAD drawings along with supporting technical expertise. Our deep understanding of your system helps ensure that it will be safer, smarter and more reliable, bolstering productivity – and championing profits.



Global Availability and Support

Parker understands that the systems you create don't always stay local. Work with us and you'll have access to more than 13,000 sales companies and distributors throughout 65-plus countries as well as the ParkerStore™ network of over 17,000 retail outlets. So, whether you need a filter replacement, product service or require one-on-one discussion with a knowledgeable representative, you'll find Parker locally, no matter where you are globally.



Project-Site Service

Not only is Parker ready to respond when and where you need us, but Parker is always prepared to diagnose problems and help resolve your system's technical challenges to keep you at peak production. In addition to critical on-site services, Parker also offers lab services and training at our manufacturing locations worldwide.

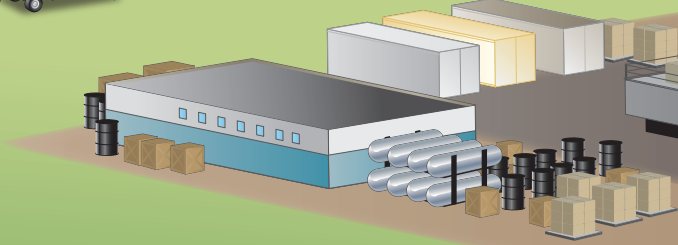
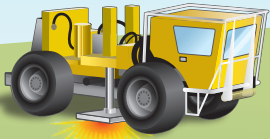
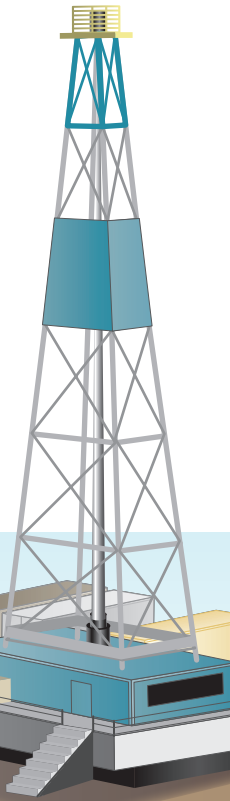


> Land-Based

Filters for the Life of the Field

From exploration, drilling and formation assessments to well construction and completion, Parker filters enhance productivity throughout the life of the field. Parker solutions are engineered to keep your equipment running optimally, safely and in an environmentally considerate manner.

Parker brings filtration innovation to equipment used in planning, drilling, completion, production and abandonment of an oil well.

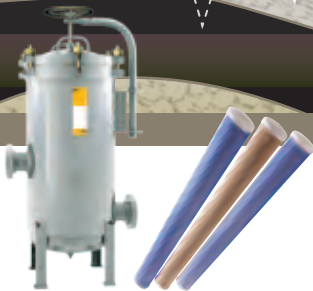


Exploration

- Sample/Analyzer Equipment
- Seismic Exploration Vehicles

Drilling Services

- Blenders
- Chemical Vans
- Flair Off Trucks
- Frac Pumps
- Picker Cranes
- Pumper Trucks
- Sand Kings
- Service Rigs
- Shakers
- Top Drive Systems
- Vacuum Trucks
- Water Haulers
- Wireline Trucks
- Workover Rigs



Process Filters & Filter Vessels

Process filters are used in completion fluid and produced water. The single most important aspect of completion fluid maintenance is filtration.



Cross Flow Hydraulic Reservoir System

The Cross Flow is an all-aluminum, reservoir system that provides a high exchange rate with reduced fluid volume. It features an electric or hydraulic motor with temperature control and an integrated bar plate cooler.



Racor Filtration Systems

Keep your service vehicles running with Racor's fuel, oil, air, and CCV filtration products.



Fuel Filter/Water Separators

Fuel Filter/Water Separators provide clean dry fuel to gen-sets and mobile power generators, increasing up-time to all areas of production.

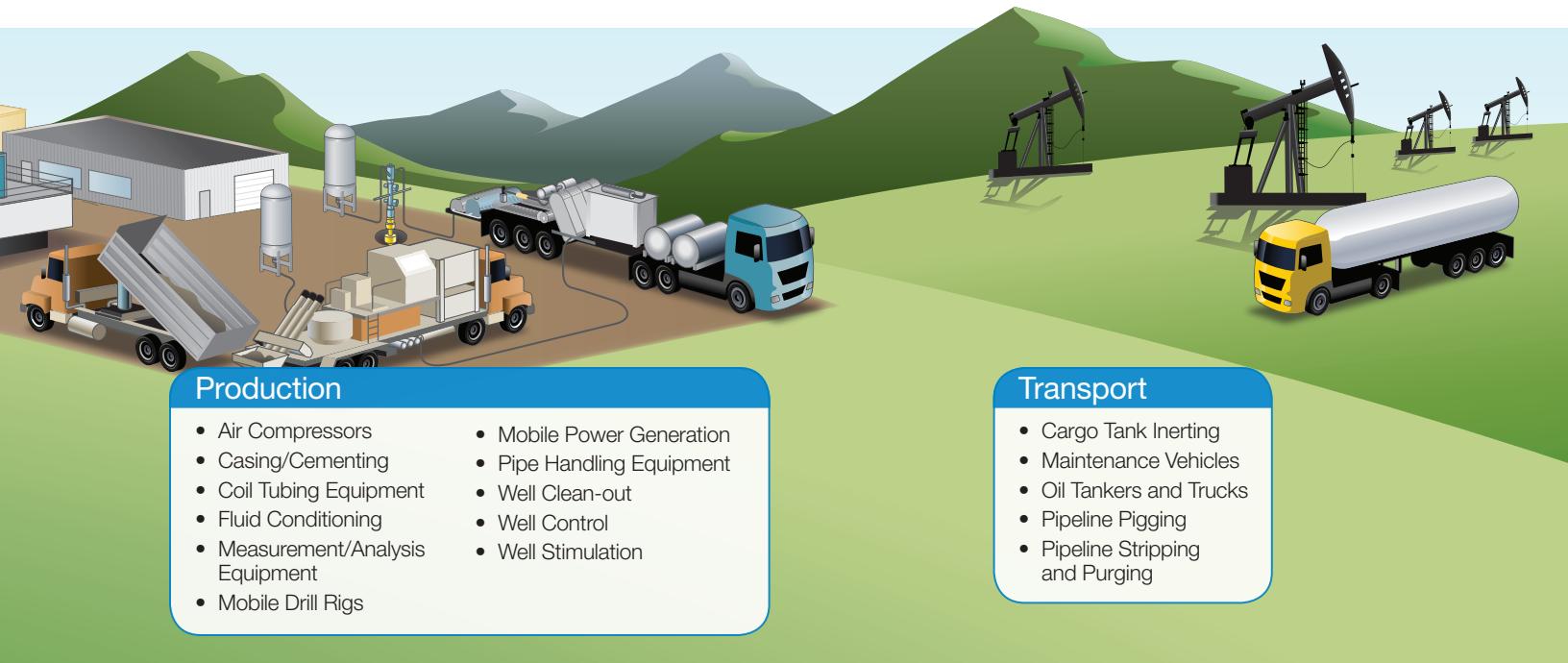
Feature Applications

Hydraulic Fracturing

Effective hydraulic fracturing relies on a combination of frac trucks, pumper trucks and water haulers. Before recovered water can be used or returned to the ground, it must be treated. Parker water filters and water purification equipment assist in that treatment, while hydraulic and fuel filters play a key role in the performance of the trucks, themselves.

Oil Well Completion

Fluids used in oil-well completion, typically heavy bromides and chlorides, contain dirt particles that can affect the permeability of the reservoir and decrease productivity. Parker's range of absolute-rated, pleated-filter cartridges provides the protection needed to ensure that all down-well fluids are free of particulate, ultimately protecting the well permeability and maintaining the continuous flow of oil.



Production

- Air Compressors
- Casing/Cementing
- Coil Tubing Equipment
- Fluid Conditioning
- Measurement/Analysis Equipment
- Mobile Drill Rigs
- Mobile Power Generation
- Pipe Handling Equipment
- Well Clean-out
- Well Control
- Well Stimulation

Transport

- Cargo Tank Inerting
- Maintenance Vehicles
- Oil Tankers and Trucks
- Pipeline Pigging
- Pipeline Stripping and Purging



Nitrogen Generators

Nitrogen Generators produce dry, inert nitrogen from standard compressed air which is a safer alternative to natural gas used for pressurizing mechanical gas seals.



Analytical Gas Generators

Analytical gas generators such as hydrogen and zero air support analytical instruments used to measure quantitative and qualitative properties during oil and gas exploration, production and refining.



Compressed Air Filters

Compressed air filters provide clean air, which ensures trouble-free operation of your equipment. Also available in carbon steel housings, ASME VIII, Div. 1 design.



Parker VMT Brackish Watermakers

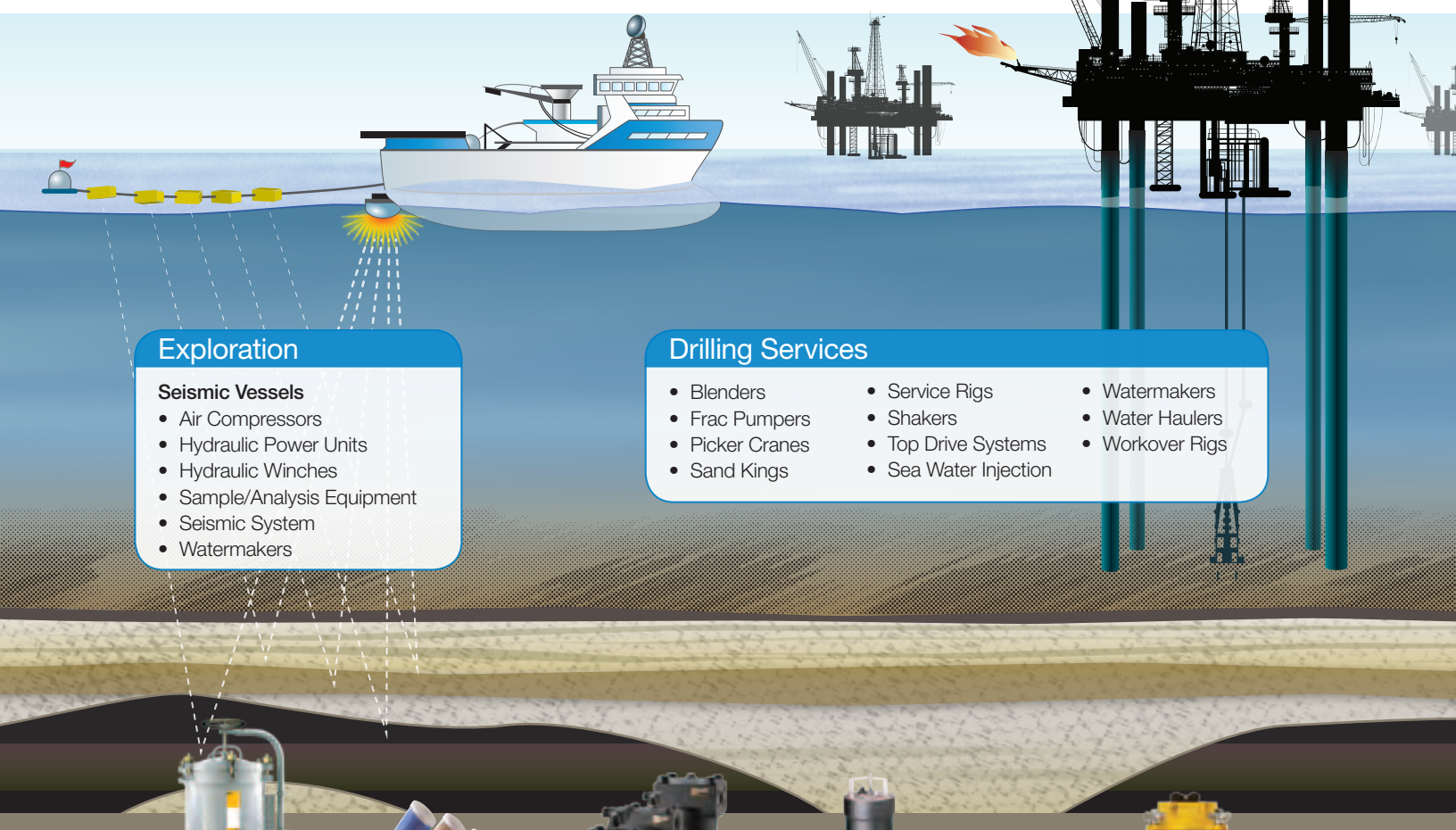
Brackish watermakers produce potable fresh water from well-water sources. Fresh water is needed for drilling and fracturing in land-based oil and gas exploration.

> Offshore

Offshore Drilling

With offshore drilling, key functions include drilling, preparing water or gas for injection into the reservoir, processing the oil and gas before sending it ashore and cleaning the produced water for disposal at sea. Parker filtration products ensure that these important functions are ongoing, even under harsh conditions. Parker also protects the most important asset – your crew members – by providing a constant supply of clean drinking water when they are working on offshore platforms for weeks at a time.

From jack-up barges to deepwater mobile offshore drilling units – semi-submersibles and drillships – Parker filters protect your equipment, your processes, and your crew.



Exploration

Seismic Vessels

- Air Compressors
- Hydraulic Power Units
- Hydraulic Winches
- Sample/Analysis Equipment
- Seismic System
- Watermakers

Drilling Services

- Blenders
- Frac Pumps
- Picker Cranes
- Sand Kings
- Service Rigs
- Shakers
- Top Drive Systems
- Sea Water Injection
- Watermakers
- Water Haulers
- Workover Rigs

Process Filters & Filter Vessels

Filtration products are used in completion fluids to prevent premature blockage of the formation, in water injection for removal of damaging particulate contaminants, in produced water to promote environmentally safe removal of trace oil prior to disposal, and in the removal of particulate from glycols used for dehydration of natural gas.

High-Pressure Hydraulic Filters

High-pressure hydraulic filters block pump-generated debris before it can jam a valve or score a cylinder.

Hydraulic Filters

These hydraulic filters can be configured for in-line or manifold filtration. The element has an increased dirt-holding capacity, reducing the need between service intervals.

Fuel Handling Products

Designed to meet the toughest refueling conditions the FBO unit filters fuel upstream, protecting engines and components downstream from damaging contaminants.

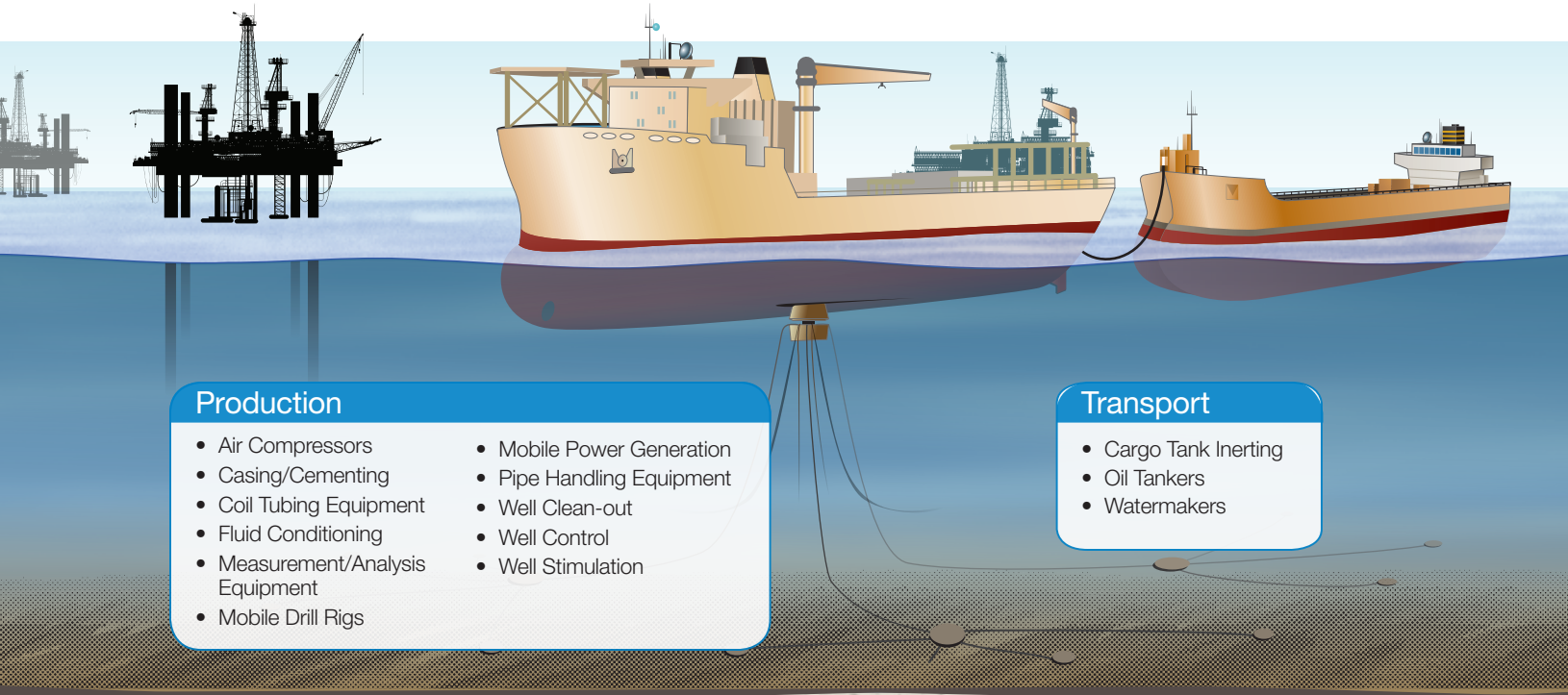
Feature Applications

Fresh Water – in Challenging Environments

From offshore MODU, FSO, FPSO and drillships to offshore drilling rigs, reverse-osmosis watermakers from Parker are always ready to produce fresh water, even when they're situated in the middle of the ocean, hundreds of feet away from shore, on an offshore rig. Parker's PW series watermakers are engineered for 24/7, continuous-duty use and function via remote control.

Nitrogen Generation

Nitrogen is used on offshore platforms, FPSOs and FLNGs for purging, blanketing, flaring and drilling. Introducing nitrogen into these processes reduces the maximum oxygen content, reducing the risk that hydrocarbon vapors will ignite, burn or explode. Parker has the right technologies to serve your needs: nitrogen generators based on PSA and membrane technology, membrane modules, compressed air filters and compressed air dryers that are suited specifically for integration into your system.



Production

- Air Compressors
- Casing/Cementing
- Coil Tubing Equipment
- Fluid Conditioning
- Measurement/Analysis Equipment
- Mobile Drill Rigs
- Mobile Power Generation
- Pipe Handling Equipment
- Well Clean-out
- Well Control
- Well Stimulation

Transport

- Cargo Tank Inerting
- Oil Tankers
- Watermakers



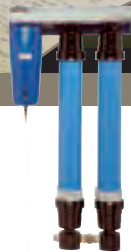
Nitrogen Generators

Nitrogen generators produce dry, inert nitrogen from standard compressed air, which is a safer alternative to natural gas used for pressurizing mechanical gas seals.



Nitrogen Membrane Modules

Nitrogen membrane modules produce dry nitrogen with a purity of 95 – 99.5 percent. Available in 316L stainless steel and aluminum housings.



Compressed Air Dryers

Compressed air dryers produce clean, dry air and require no electricity, making them ideal for use in all Class 1, Div. 2 installations.



Watermakers

Watermakers are used to produce fresh water from seawater for offshore applications. Fresh water is required for crew use, drilling muds, fracturing water and turbine washing.

> Downstream

Downstream Processing

After upstream drilling and transport, crude oil must be processed for use in an oil or petroleum refinery. Efficient processing of several hundred thousand barrels of crude oil a day – essentially a non-stop operation – demands filtration solutions that perform reliably, even under extreme conditions. Parker meets the need with filtering systems that get the job done, and get finished product to customers on time.

Whether crude oil is being prepared for gasoline and diesel fuel or for olefins and aromatics, Parker filters are engineered to control, improve and stabilize your processes.

Oil Refinery

Distillation

- Cooling Water/Treatment
- Cracking Unit
- Gasoline Blending
- Process Controls
- Sour Water Stripper
- Sulfur Recovery

Process Analysis

- Analytical Systems
- Sample Conditioning

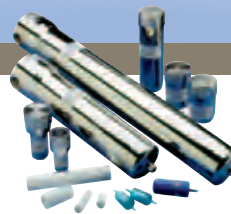
Oil Refineries Storage

- Bulk Tanks
- Fluid Analysis
- Pipeline Pigging
- Pipeline Stripping and Purging
- Tank/Reservoir Inertization
- Terminal



Process Filters & Filter Vessels

Filtration products play a vital role in critical downstream applications ranging from refining, gas processing and utilities, with total filtration solutions designed to protect processing equipment, maximize production efficiency and reduce maintenance costs.



Analyzer Filters

Analyzer Filters protect sensitive process analyzers from sample impurities by removing solids and liquids from gases with 99.999% efficiency at 0.01 micron.



Compressed Air Desiccant Dryers

Parker dryers provide dry air with dew points of -40° to -70° C to your process, instruments and equipment. They can be supplied with fully pneumatic controls in compliant with directive 94/9/EC Group II, Category 2GD, T6

Feature Applications

Filtration in the Hydrotreating Process

Downstream of the refinery distillation process, gas/oil and hydrogen are combined and fed to the fixed bed catalyst hydrotreater at high temperatures and pressures. Hydrogen sulfide contaminants are generated in the process. The gas/oil stream entering the hydrotreater contains high contaminant levels which, if allowed to enter the hydrotreater, would significantly reduce production and operation efficiency. Filter cartridges at the gas/oil stream, ahead of the hydrogen feed, protect the hydrotreater while increasing productivity, and reducing downtime. Filters also need to be applied in the recirculated hydrogen stream and the cycle oil stream for protection.

Hydrocarbon Storage

After processing and refining, fuels and fluids are transferred through pipelines and storage systems for delivery to application. Through this network of fluid storage and transfer, water, dirt and other forms of contamination get into the system and need to be removed. High quality microfiltration and filter water separators systems help ensure fluids are clean, dry and ready for application. Whether fuels are destined for aviation, industrial or other applications, these filtration solutions will help keep fluids in specification.

Chemical & Petrochemical Plants

Processing

- Cooling Water/Treatment
- Reactors
- Scrubbers
- Solvent Recovery

Process Analysis

- Analytical Systems
- Sample Conditioning

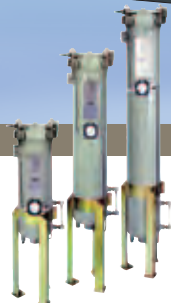
Chem/Petro Chem Storage

- Bulk Tanks
- Fluid Analysis
- Pipeline Pigging
- Pipeline Stripping and Purging
- Tank/Reservoir Inertization
- Terminal



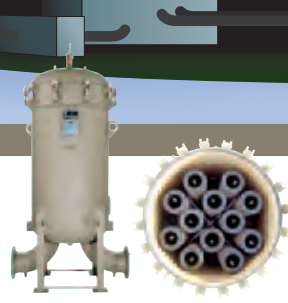
Portable Purification System (PVS)

PVS can remove 100% of free water, air and gases, and 90% of dissolved water, air and gases from contaminated hydraulic fluid.



Fuel Handling

Fuel Handling Filtration Vessels remove water, dirt and other forms of contamination that get introduced during fluid storage and transfer. They are a low maintenance solution to fuel delivery and filtration applications.



High-flow Filtration

These highly efficient filtration systems remove dirt, contaminants, and water to provide clean dry fuel. These filter housings are built to the latest standards, are suited for industrial fluids.



High Quality Filter Elements

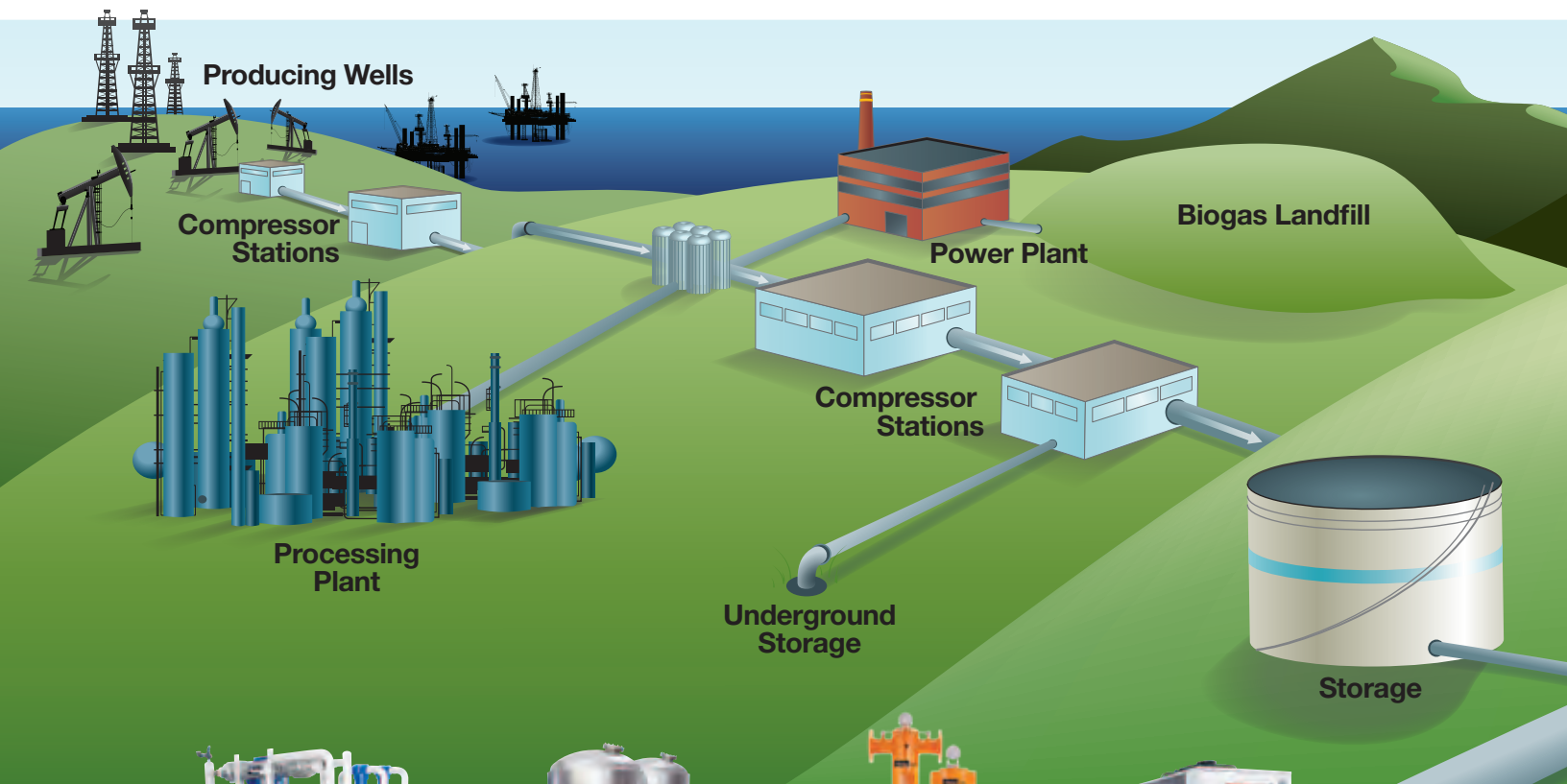
High quality filtration elements prevent contamination from getting downstream and fouling up equipment. Racor microfilters, coalescers, separators and water-absorbing elements are made with the latest technology to meet your needs.

> Natural Gas

Natural Gas Processing

Throughout the world, homes and businesses rely on natural gas for heat, power, food preparation and more. Before natural gas can be used for these purposes, however, it must be extracted from underground wells, moved through pipelines, processed and refined. Parker products filter, dry and prepare the gas, removing impurities that could foul equipment used in the production, treatment, transport and distribution of this very clean-burning, efficient fuel. Parker filtration solutions can be found on the labeled applications in the illustration below.

Natural gas now accounts for 23% of the world's energy consumption and its demand is predicted to grow by 44% through 2035.



Nitrogen Generators for Pigging

Custom nitrogen generators are used for inerting compressed natural gas and other oil and gas pipelines. Nitrogen applications also include pipeline purging and gas compressor dry gas sealing.



Siloxane Removal Systems

Siloxane Removal Systems eliminate siloxane contamination from landfill gas and biogas to ensure reliable protection against turbine and reciprocating engine damage and breakdowns.



Purgas Filters and Adsorbers

Parker's line of Purgas filters and dryers are designed to filter and dry compressed natural gas, biogas, and coal bed methane applications.



Bioenergy Chillers

These products provide chilled water for biogas cooling applications. Special protective treatment on condensers and copper piping ensures reliable operation on aggressive ambients.

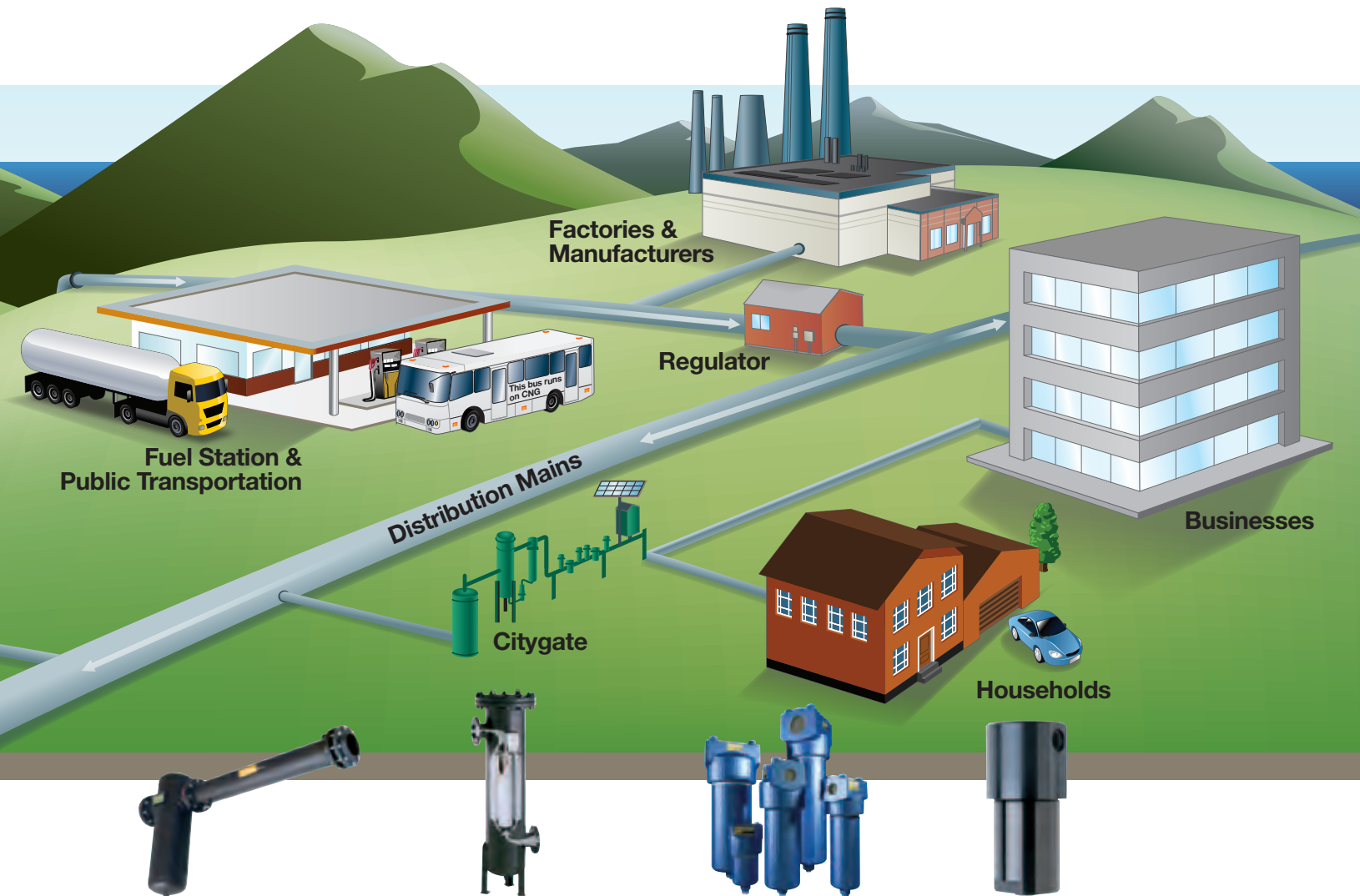
Feature Applications

Efficient Filtering for an Efficient Fuel

Natural gas goes through many stages before it can be used as energy. Typically, the process begins with production – locating and extracting the natural gas from beneath the ground – and then moves to treatment, pipeline transport and distribution. Along the way, Parker filters are used to remove impurities in the gas, protecting the integrity and performance of processing equipment. Specifically, Parker filters are used in processes such as amine sweetening, desiccant dehydration and glycol dehydration.

Biogas

Biogas, made mostly of methane, is produced when bacteria decomposes biological matter in an anaerobic environment typical of landfills, waste treatment plants and coal mines, among other areas. Treatment filters from Parker are designed to help treat captured biogas so it can be used in the natural gas grid. In addition, Parker biogas treatment filters also protect costly equipment used in downstream applications.



Bioenergy Coolers/Separators

Bioenergy Coolers/Separators remove free water from landfill or digester biogas. These stainless steel products have been optimized for low-pressure operation with minimal pressure losses.

ASME Vessel High Capacity Natural Gas Filters

Parker's ASME high flow filter vessels remove contamination from CNG during the production, treatment, and pipeline delivery stages.

High Pressure CNG Filters

Natural gas compressors require several stages of filtration. Parker offers high, medium and low pressure filtration options.

On-Board CNG Filters

Filtration is the key to guarding against damaging contaminants that could ruin fuel system components. Protect your CNG vehicle's fuel injector and regulator by installing coalescing filters.

Worldwide Filtration Manufacturing Locations

North America

Compressed Air Treatment Filtration & Separation/Balston

Haverhill, MA
978 858 0505
www.parker.com/balston

Finite Airtek Filtration Airtek/domnick hunter/Zander

Lancaster, NY
716 686 6400
www.parker.com/faf

Finite Airtek Filtration/Finite

Oxford, MI
248 628 6400
www.parker.com/finitefilter

Engine Filtration & Water Purification

Racor
Modesto, CA
209 521 7860
www.parker.com/racor

Racor

Holly Springs, MS
662 252 2656
www.parker.com/racor

Racor

Beaufort, SC
843 846 3200
www.parker.com/racor

Racor – Village Marine Tec.

Gardena, CA
310 516 9911
desalination.parker.com

Hydraulic Filtration

Hydraulic Filter
Metamora, OH
419 644 4311
www.parker.com/hydraulicfilter

Laval, QC Canada

450 629 9594
www.parkerfarr.com

Process Filtration

domnick hunter Process Filtration
Oxnard, CA
805 604 3400
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+44 (0) 191 402 9000
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Condition Monitoring Center

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