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Parker and Twin Filter offer a wide range of filtration products for the oil and gas industry, including filters and filter vessels, component air filters, hydraulic filters, fuel handling products and exhaust gas emissions. In addition to filtration, Parker offers many other products for the oil and gas industry such as automation and noise control.

Parker Hannifin operates globally through a network of over 50 customer service centers and sales offices and has a strong presence in all major oil & gas regions. This allows us to assure immediate service to our customers all over the world.

We assure that all Twin Filter customers will continue receiving the high standards of service and solutions they are used to through their usual Twin Filter contact.

Twin Filter provides filtration solutions and services for:

- Completion / gravel pack fluids
- Produced water treatment
- Workover fluids
- Water injection (water flood operations)
- Diesel/fuel filtration/coalescing
- High pressure applications
- Oily water clean-up
- Waste water treatment
- Chemical injection
- Oily water treatment
- Pipeline flushing
- Powder handling system

Twin Filter provides filtration solutions and services for:

- Amine and glycol treatment
- RO pre-filtration
- Drinking water filtration
- Gas filter
- Water-cooler for cooling or process water
- Brine filtration
- Oily water treatment
- Sludge filtration
- Edible oil filtration
- Resin filtration
- Beverage filtration
- Catalyst recovery
- Activated carbon removal

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PRODUCED WATER / OILY WASTE WATER TREATMENT

As water is present in all hydrocarbon-bearing rock strata, produced water is the largest waste stream associated with oil and gas production. More than in most other industries, oil and gas production is a water-intensive process. Produced water is the water that is produced along with oil and gas from reservoirs. It contains water, oil, and other chemicals. Produced water treatment is a complex process that involves several steps, including primary, secondary, and tertiary treatment.

TWIN FILTER SOLUTIONS

The Dynamic Centrifugal Coalescer (DCC) increases the performance of produced water separation systems.

DCC

- The working principle is a combination of centrifugal force and coalescing effect.
- An instrument consisting of thousands of FFF cartridges (300 psi 1.5 inch) stacked in a unique way. The diameter of the oil-phase coalescer is in the order of 200 mm. Oil droplets as small as 0.1 micron are collected from the produced water. DCC is a very high-efficiency coalescing technology and a proven reliable technology for increasing performance of produced water treatment.

BENEFITS

- High-efficiency technology, based on centrifugal pumps
- No absorbers, chemicals or consumables needed
- Collects droplets down to 0.1 micron
- Requires few moving components in the system
- White operating clearing with respect to scale, sludge, temperature, pressure, and general conditions
- Applicable for all ultrasonic separators
- Simple design
- Single valve covering up to 12,000 bbl/day (1000 bbl/day)
- No internal pipe size or pressure
- Long operating lifetimes and maintenance

COALESCER

Economic solution for oil-water separation

- First stage of pretreatment: DCC 141, fiber scroll with FFF cartridges each 10 inch length. These cartridges remove the oil phases down to 1 micron, each element removes 0.1 lb of oil. After the DCC is equipped with a differential pressure gauge to monitor when the cartridge needs to be changed out at 40 psi.
- Second stage of coalescing: DCC 1216 fiber scroll with 3 coalescer elements of each 40 inch length. These elements remove the last free and emulsified oils to reach the required specifications. Twin Filter developed the Oilblock and the Oilclog cartridges. These elements can be engineered by Twin Filter as well. In this folder, you will find more specific information about our standard TWIN FILTER equipment for more information please don’t hesitate to contact us.

BENEFITS

- Fit into existing cartridge filter units
- Easy handling and operation
- Reliable and simple system, no maintenance
- No additional chemicals required
- No direct contact with saturated media during handling
- High efficiency, no polish treatment required
- High absorption capacity, low waste volume
- Removal of dissolved hydrocarbons

TWINZAPP

Destabilization and separation of oil emulsions and suspended oils without use of chemicals

Chemical emulsions in produced water are causing problems to separate hydrocarbons from waters. Corrosion inhibitors, emulsifiers, and other chemicals are used in oil-water separation technologies.

The TWINZAPP process uses an innovative device to destabilize and separate oil from water. The TWINZAPP process does not require the use of chemicals, making it a more environmentally friendly solution.

BENEFITS

- Very small footprint
- No chemicals needed
- No moving, continuous flow process
- No fiber absorption consumables needed
- No sludge generation - no need for pre-filtration
- Low power consumption
- Explosion proof
- Closed system pressurized housing - no need for separate pumps
- No moving chemicals - very low maintenance required
- No operator required
- Ideal for revisable and before existing separation technologies.
PRODUCED WATER / OILY WASTE WATER TREATMENT

As water-to-oil ratio increases over the life of a conventional oil or gas well, more produced water is generated. Produced water is the largest waste stream associated with oil and gas production. As water is present in all hydrocarbon-bearing rock strata, produced water is by far the most abundant produced fluid. Produced water includes a mixture of hydrocarbons and solids, such as sand or silt but also some organic and inorganic compounds.

The higlighted products below are standard Twin Filter products. All the other equipment can be configured to suit the specific requirements of the discharge limits. In the field, the user will find more specific information about our standard Twin Filter equipment. For more detailed information please don’t hesitate to contact us.

The Dynamic Centrifugal Coalescer (DCC) increases the performance of produced water separation systems. It separates the free oil from produced water. DCC coalesce on the walls of the tubes. Oil droplets as small as 1 micron are collected. The working principle is a combination of centrifugal forces and coalescing effects. The centrifugal forces rotate the oil droplets. Once the droplets are small enough, they coalesce on the walls of the tubes. The DCC cartridge consists of thousands of PTFE tubes (pore size 1.5 mm) rotating in a pump. Because of the centrifugal forces, the droplets of the oil phase are thrown towards the wall. Small oil droplets are collected, until they are large enough to be removed from the water. The coalesced oil is collected in the outlet. The DCC is a very flexible coalescing technology and a proven solution technology for improving performance of produced water treatment.

The last step in the cleaning process is polishing with Twin Filter oil absorption elements. Twin Filter developed the Oilblock and the Oilclog cartridges. These elements remove the free oil by absorption. These two types of cartridges are specifically designed and manufactured for oil/water separators. They obtain a high efficiency removal of free and dissolved hydrocarbons (TPH) and emulsified oil produced water treatment at oil & gas production facilities. They obtain a high efficiency removal of free and dissolved hydrocarbons (TPH) and emulsified oil.

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Chemical emulsions in produced water cause problems to separate hydrocarbons from water. Conventional methods are applying all water back into the reservoir. Sometimes the chemicals are over-dosed and do create even more problems. New developments of produced water treatment are available without the use of chemicals. These new technologies are based on the use of natural media to break these emulsions. The coated media, when the treatment system includes a Coalescer and, contains nearly less than 5 ppm of oil.
PRODUCED WATER / OILY WASTE WATER TREATMENT

As water is present in all hydrocarbon-bearing rock strata, produced water is by far the largest waste stream associated with oil and gas production. It can also contain small amounts of oil. The costs of handling, testing, and disposing of produced water are an environmental and economic responsibility that must be addressed.

COALESCER

Economic solution for oil-water separation

The working principle is a combination of centrifugal forces and coalescing effect. An element consisting of thousands of PTFE tubes (pore size 1.5 mm) rotates inside a pump between the oil phase and water phase. These tubes remove up to 100 micron oil droplets. The DCC is a very baggage coalescing technology and a proven reliable technology for increasing performance of produced water treatment.

ABSORPTION

The last step in the cleaning process is polishing with Twin Filter oil absorption elements.

Well head separator

Primary treatment

Secondary treatment

Tertiary treatment

TWIN FILTER SOLUTIONS

DCC

The Dynamic Centrifugal Coalescer (DCC) increases the performance of produced water separation systems.

TWIN FILTER SOLUTIONS

COALESCER

Economic solution for oil-water separation

First stage of pre-Filteration: DCC14. The vessel with 50 filter cartridges each 40 inch long. These cartridges remove solid particles down to 2 micron, each element removes 1.5 lbs of dirt. The filter vessel is equipped with a differential pressure gauge to indicate when the cartridge needs to be changed out at 40 psi.

Second stage of coalescing: DCC5. The vessel with 3 coalescer elements of each 30 inch length. These elements remove the free oil by coalescing effect. An element consisting of thousands of PTFE tubes (pore size 1.5 mm) rotates inside a pump between the oil phase and water phase. These tubes remove up to 100 micron oil droplets. The vessel is equipped with a level switch which controls a 1/2 inch drain valve for automatically removing the oil. A coalescer element can not guarantee any effluent because the influent of this system is fluctuating. Therefore we would strongly recommend to use Oilblock and COALESCER as a third stage to be sure the effluent is < 10 mg/ltr.

Third stage absorption: DCC2. The vessel with 5 absorption cartridges of each 40 inch length. These elements remove < 2 ppm of oil. The vessel is fluctuating. Therefore we would strongly recommend to use Oilblock and COALESCER as a third stage to be sure the effluent is < 10 mg/ltr.

TWINZAPP

Desaturation and separation of oil emulsions and suspended oils without use of chemicals

Chemical emulsions in produced water are causing problems to separate hydrocarbons from water. Corrosion inhibitors are added in high concentration to break emulsions in produced water. These chemicals are very hazardous and cause severe problems. Twin Filter developed a system without the use of chemicals to break these emulsions. The overhead water, when the treatment system includes a coalescing effect, is injected in high concentration to break emulsions in produced water. In this way, the chemical emulsions are separated from the water and returned to the production system. The last step in the cleaning process is polishing with Twin Filter oil absorption elements.
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Parker and Twin Filter offers a wide range of filtration products for the oil and gas industry, including filters and filter vessels, compressed air systems, hydraulic filters, fuel handling products and sulfur removal systems. In addition to filtration, Parker offers many other products for the oil and gas industry such as lubrication systems, valves and transmitters.

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- Produced water treatment
- In-line water treatment
- Movers fluids
- Water injection (water flood operations)
- Diesel/fuel filtration/coalescing
- High pressure applications
- Oily water clean-up
- Waste water treatment
- Chemical injection
- Pipeline flushing
- Powder handling system
- Amine and glycol treatment
- RO pre-filtration
- Drinking water filtration
- Gas filter
- Water intake for cooling- or process water
- Nozzle protection
- Brine filtration
- Liquid sulphur filtration
- Resin filtration
- Edible oil filtration
- Catalyst recovery
- Activated carbon removal
- Assembled carbon removal

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Passion for Filtration

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