

# Oil and Gas

## Disposal of Produced Water in Oil & Natural Gas Production

Market Application Publication



## Customer Value Proposition

The ability to efficiently and economically dispose of produced water in the production and drilling of oil and gas is critical in protecting the environment and adhering to regulatory standards. Parker's filtration vessels and cartridges help in meeting or exceeding the disposal of this produced water.

Produced water is used to describe water that is generated from oil and gas production. Produced water comes from various sources:

- Natural water layer (formation water) in the oil and gas reservoir
- Water base drilling fluids
- Water/brine injections used for well completion



## Contact Information

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Produced water is initially separated from the main flow of oil or natural gas using separators and coalescers. Once separated, the produced water is filtered to remove suspended solids. The treated water is then pumped back into the production well or disposal well.

Generally, dirt load in produced water is very high (up to 400-500 ppm) and a series filtration process is recommended. The series filtration system incorporates a coarse pre-filtration (deep bed or dual media filters) followed by polishing filters (micron

rating requirements can get down to 0.5 micron absolute). This process ensures that environmental standards are met and that plugging of the disposal well is significantly reduced or eliminated.

## Challenge

- To prevent plugging of disposal wells by solid particles (pipe scale, sand)
- To prevent plugging of lines, valves, and orifices due to deposition of inorganic scales and particulate

ENGINEERING YOUR SUCCESS.

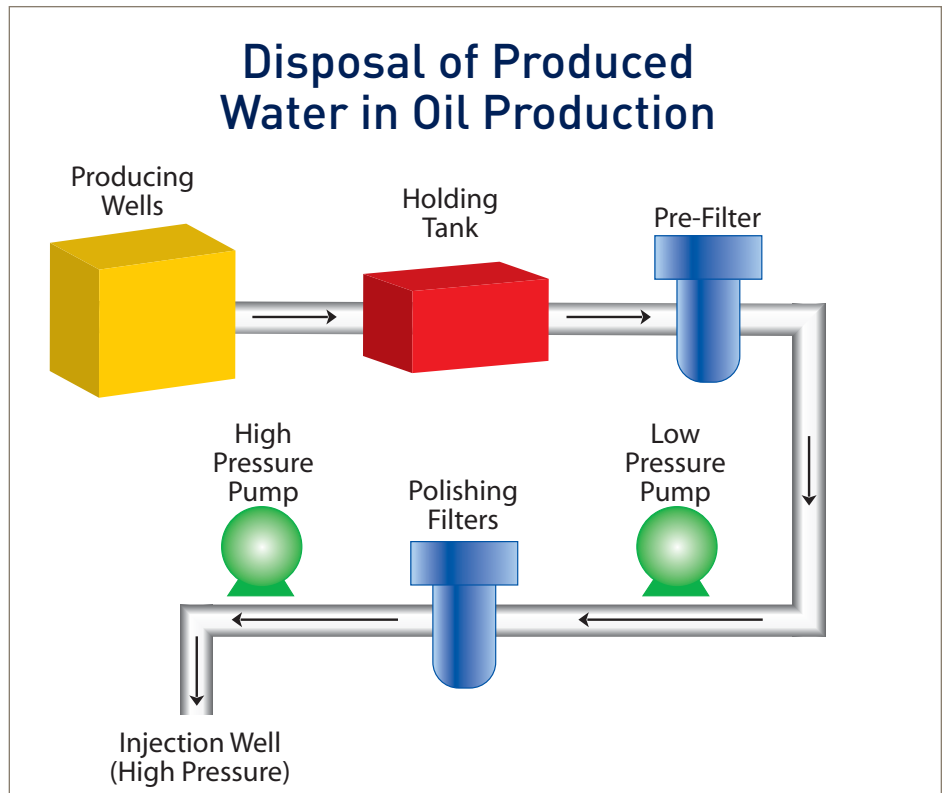
# The Parker Solution

## FILTRATION PRODUCTS

- Multi-Cartridge Filtration Vessels (Full line of standard and custom designed vessels)
- Wound Depth Cartridges (Honeycomb HFT, XTL, SWC)
- Pleated Cellulose Cartridges (PCC, 336 series, 1401 series)
- Pleated Polypropylene Cartridges (PPC, Poly-Mate)
- Pleated Microfiberglass Cartridges (Glass-Mate)
- Large Diameter Pleated Cellulose Cartridges (MaxGuard)
- Large Diameter Pleated Polypropylene Cartridges (MaxGuard, MaxGuard Select, ParMax, ParMax Select)
- Large Diameter Pleated Microfiberglass Cartridges (ParMax, ParMax Select)

With the wide variety of cartridges available ranging from 0.5 micron absolute (Glass-mate) up to 125 micron (Probond & HFT), the cartridge rating can be tailored to the pore structure of the formation. This selection of cartridges provides the desired micron rating, efficiency, and high dirt-holding capacity to minimize the frequency of cartridge change-outs and to protect the pore structure of the formation. As a result, the cartridges protect lines, valves and orifices in the process.

Consult your Parker sales representative or technical services team for the best recommendation on our complete line of filtration vessels and cartridges for your specific application.



## Summary

<b>Challenge</b>	To remove solids from produced water for lower maintenance of disposal well.
<b>Solution</b>	Parker Hannifin's filtration vessels combined with a large variety of depth and pleated filter cartridges can be tailored to the appropriate well formation porosity.
<b>Results</b>	Maintain flow rates and improve life of disposal well.