



P-Klone™ Hydrocyclone

Primary Produced Water Deoiling

Key Benefits

Cost Saving

- Cost-effective, efficient way to reduce oil concentration prior to secondary deoiling.
- Eliminates the cost of a feed pump by using existing process pressure.
- Easy to ship, install and start up, making it ideal for temporary as well as long-term projects.

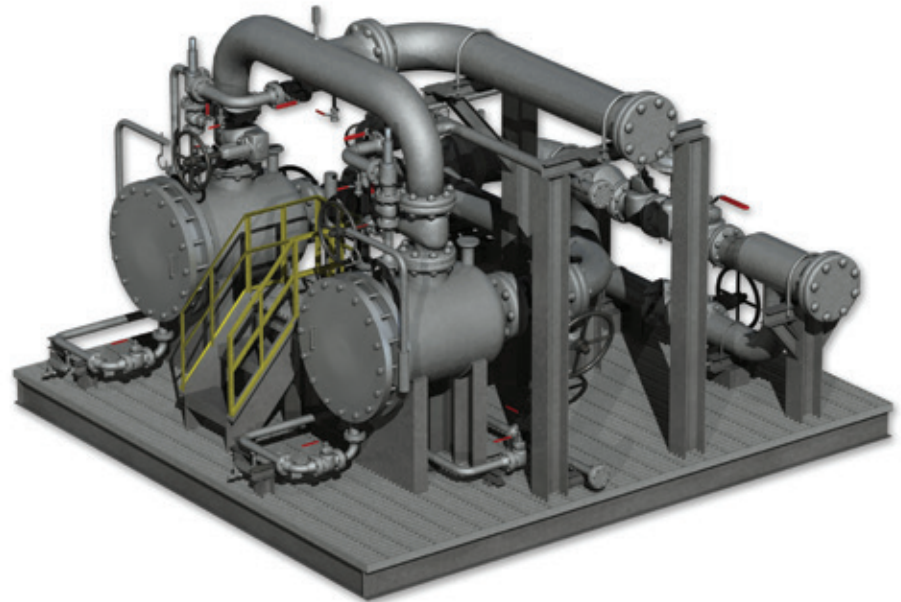
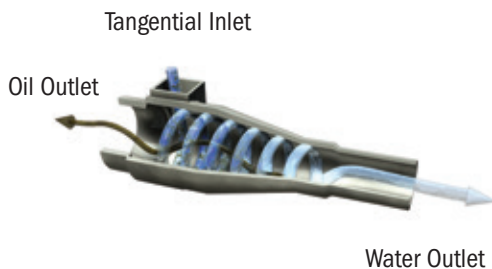
Better Performance

- Low risk technology, with nearly 30 years of proven performance and thousands of units in service.
- Easy to maintain with no moving parts, no failure-prone mechanisms, and no fugitive emissions.

High Flexibility

- Works flawlessly regardless of orientation or pitch and roll motions encountered offshore.
- Wide turndown range allows you to run flow rates ideal to your operation.

Hydrocyclone



OVERVIEW

P-klone hydrocyclone is a highly efficient and economic approach to processing oil-laden water. It is a well-proven method for taking water from the production separator with oil concentrations up to 5% and readying it for secondary treatments such as induced gas flotation or filtration. The hydrocyclone can be designed to handle any flow volumes and output pressures you require.

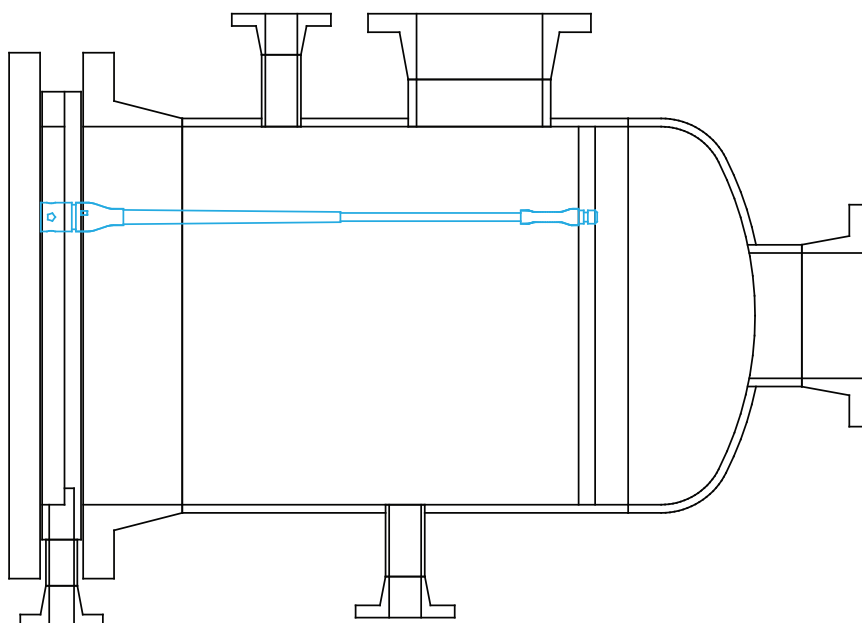
P-klone is small, lightweight and insensitive to orientation or motion, making it an ideal solution for offshore and space-constrained onshore applications.

HOW IT WORKS

P-klone converts the velocity of water flowing from the production separator into centrifugal force. The shape of the unit causes the water to form a vortex, much like a whirlpool. The water moves faster as the sides taper in, causing a reverse-flowing low pressure area in the center. The heavier water moves to the outside wall of the unit, while the lighter oil concentrates in the center. Water exits at the clean-water outlet and oil exits at the opposite end. This entire separation process happens in less than two seconds.

P-Klone™ Hydrocyclone

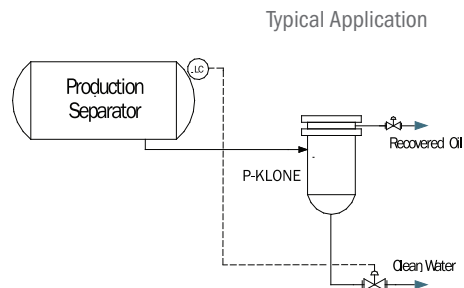
Primary Produced Water Deoiling



Typical P-klone Capacities and Dimensions			
Capacity (BWPD)	Turndown (BWPD)	Diameter (inches)	Length (inches)
5,600	1,250	12	48
13,000	2,850	18	50
25,300	5,500	24	50
59,300	12,900	36	53
109,600	23,900	48	55

Nominal capacity at 100 psi differential, water inlet to oil outlet.
Contact Exterran for other flow capacities and to confirm sizing.

Notes



Standard Features

- ASME code pressure vessel, vertical or horizontal orientation
- Flanged liner access
- Complete process review
- Materials of construction:
 - Pressure vessel: internally coated carbon steel
 - Support plates: coated carbon steel
 - Internals: 2205 Duplex SS

Options

- Blanking liners to adapt for low-flow conditions
- Pump-driven system
- Skid, piping, instrumentation and controls
- Water characterization services
- Treatment chemical selection services
- Upgraded materials for vessels, internals, valves, instruments, piping
- Ancillary equipment such as transfer pumps and chemical injection
- Cold-weather protection such as skid enclosure and insulation
- Other options as required to meet your specifications