Closed Loop Filtration System

The **Closed Loop Filtration & Recycling System** is designed to filter, treat and recycle the waterjet consumed water for re-use. This system can service single or multiple heads on any waterjet table.

By using the **Closed Loop System (CLS)** eliminates the need for waste water to go "to drain" by recycling and re-using the water. This reduces water consumption, reduces investment for water treatment systems such as reverse osmosis (RO) units or water softeners, reduces maintenance, and maximizes your waterjet system performance. Most importantly, the CLS protects your high pressure pump by always supplying high quality water which meets or exceeds the manufacturer's specified recommended water quality level.

How it Works:

- The waterjet table overflows into a setting weir where abrasive sludge is settled out before the water enters the filtration system.
- Water enters the "dirty side" of the stainless steel reservoir, where a filter pump sends the water through a stainless steel bag vessel containing a 1 micron filter bag then through a stainless steel hurricane filter vessel containing a 0.35 micron filter cartridge.
- The clean water is then sent through a chiller or heat exchanger, to remove the heat from the cutting process.
- The clean and cool water then enters the stainless steel de-ionizer (DI) resin vessel containing a special blend of resin specifically designed for waterjet applications, where dissolved solids are removed, maintaining the manufacturers pump specified water quality level.
- The water then enters the "clean side" of the systems reservoir. An ozone generator is installed inside the clean tank for bacteria control.
- Finally, clean, cool, treated water is sent by a delivery pump through a 0.35 micron final filter to the high pressure pump.

Benefits from the Closed Loop Filtration System

- **Eliminate the Drain Completely** — by recycling all the water (cooling & cutting) no water is sent down the drain.
- **Reduce Water Consumption up to 90% of Normal Usage** — by re-using your overflow water, you reduce your water and sewer bills drastically.
- **Reduce the Requirement for Make up Water Treatments** — The Closed Loop System needs make-up water only for evaporation and spillage which it treats before the high-pressure pump.
- **Maximize Orifice Life** — by providing ultra-clean water to the high pressure pump and system, orifices last longer.
- **Protect your High-Pressure Pump** — ALWAYS supplies the manufacturer's specified water quality level to the high pressure pump which produces optimum pump operation.

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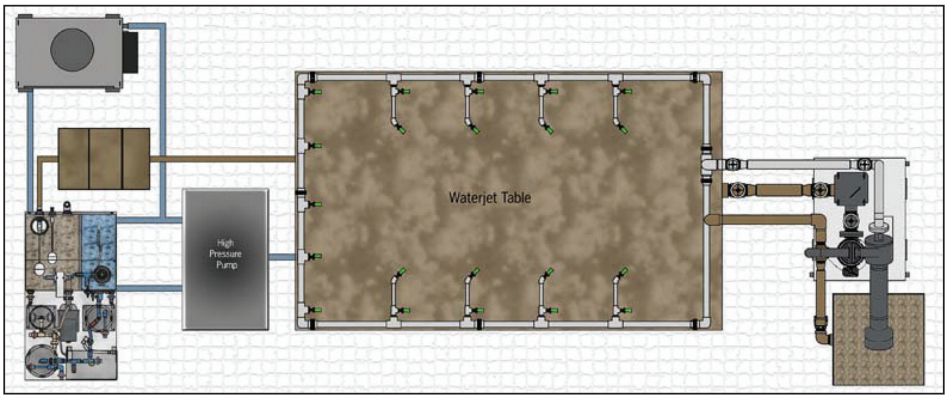
System Options:

Closed Loop for Multiple Heads — The Closed Loop System (CLS) for multiple cutting heads is designed to filter up to 4 gpm, and incorporates Dual Bag Vessel, Dual Hurricane Fitler Vessels and Dual DI resin Vessels with a 200 gallon reservoir for larger holding capacity.

Chillers — Chillers are included to cool the high pressure pump together with the Closed Loop System (CLS). The Chiller provides cooled DI treated water for cutting supply water to maximize high pressure pump seal and orifice life. Various models such as Closed Loop Chillers, In-Line Chillers and Flow-Thru Chillers are available.

Settling Weir — The over-under waterfall Settling Weir system provides maximum settling time for removal of suspended solids. The Settling Weir tank is fitted with a disposable liner for easy change out. The liner is capable of holding up to 9 cu.ft. of abrasive. The Settling Weir has a compact foot print of 2' x 3' made from 10 gauge steel with an rust inhibiting epoxy finish. The Settling Weir has proven to lengthen filter life.

Reverse Osmosis — The Reverse Osmosis system is used to lower the operating costs of the Closed Loop System (CLS) in applications where make-up water quality is poor. Reverse Osmosis Systems are typically recommended when make up water is greater than 250 ppm total dissolved solids.



Closed Loop with Settling Weir & Chiller Typical Layout. Abrasive Removal also shown.

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