

Product Guideline

Hydraulic System Cleaning Options - Fyrquel® Fluid Systems

*A hydraulic system should be cleaned if operated with degraded or badly contaminated fluid.
Rinsing new equipment with an intermediate fluid reduces risks of fluid contamination.
Older systems not recently cleaned should be scheduled for periodic cleaning.*

Used Operating Equipment: Whenever used Fyrquel® fluid reaches degraded -- greater than 0.20 TAN fluid acidity -- or if ever getting severely liquid or solid contaminated, the fluid should be properly drained and before refilling with new fluid, the reservoir should be inspected and the system rinsed or cleaned as needed.

New Hydraulic Equipment: When commissioning new equipment especially steam turbines, steps should be taken to protect the hydraulic system cleanliness from the risk that the flow path interiors of pumps, piping, heat exchangers and other may contain residual process oils, rust preventative fluids and other soluble or suspended contaminants that will not be removed by particle filters. The below Option 2 procedure is highly recommended, including using flushing valves or blocks. If this is not done, the reservoir should at least be visually inspected confirming clean condition roughly 24 -72 hours after the initially circulating the original fill fluid. A standard fluid sample and analysis may not detect this type foreign or soluble contamination.

Older Operating Hydraulic Fluid: In spite of safeguards and good maintenance practices, solid contaminants will tend to gradually accumulate in the low flow areas of the system, especially the reservoir. Agitation of this layer can result in rapid pump discharge or other filter blockages. Soluble contaminants can also accumulate undetected by routine fluid analysis in the circulating fluid. Operating fluids should be periodically replaced. Systems need to be periodically cleaned.

There are four general ways to clean a hydraulic system. Contact your Fyrquel® Representative for an individual recommendation. Drums containing used fluids should always be properly marked. Most used Fyrquel® will qualify for Fyr-back® program return, avoiding disposal costs and your Fyrquel® Representative can assist. Within 1-5 days after installing new fluid, a Fyr-check® sample should be taken for baseline fluid quality purpose, also to confirm results of cleaning since the objective is to add new clean fluid to a clean hydraulic system. Use lint free rags for wiping surfaces.

1. Do a Simple Fluid Replacement and Manual Cleaning

Drain used fluids as hot and quick as possible to limit excess residual fluid in piping. Inspect the reservoir, suction strainer and other accessible parts. Replace filters.

2. Use an Intermediate Fluid to Rinse the Flow Path

Drain used fluid as hot and as quick as possible to limit holdup. Manually clean the reservoir and filter housings using lint free rags as needed. Replace filters. Install enough Fyrquel® 220 so the pumps can circulate the fluid. Typically this is about 75 % of the total rated system capacity. Flush or rinse for roughly 24 hours. The valves should be stroked approximately six times per hour and the coolers should be swapped approximately every 30 minutes. The accumulator should also be rinsed. Finish by draining the intermediate flush or rinse fluid as hot and quickly as possible. Replace filters, re-inspect and clean reservoir as needed.

3. Do a Standard OEM Recommended Turbulent Flush Using 3rd Party Contractors

Be sure to drain the flushing fluid and re-start operations with new fluid.

4. Clean the Flow Path Using a Special Detergent Product, Fyrquel® Cleaning Fluid

This is designed to solve severe problems. Contact your Fyrquel® Representative before using choosing this procedure and using this special problem solving product. A special step-by-step Fyrquel® Cleaning Fluid Guideline procedure bulletin is available on request and must be followed.