

The DTS Waste Processing System (WPS™) is the most effective system for filtration and ion exchange of liquid streams. Use it for:

- Liquid Radwaste Processing
- Reactor Water Cleanup
- Fuel Pool Cleanup
- Cleanup of Chromated Systems
- Groundwater Cleanup

This system maximizes throughput, decontamination factors (DFs) and volume reduction (VR) using carbon, organic, inorganic, and selective process media. Its normal processing rate is 50 to 100 gpm: DTS has designed units to process from 5 to 100 gpm.

WPS™ Advantages

Flexible

- Variable process logic
- Modular components can be added or removed to fit space and function

Efficient

- Quick reaction to changing water chemistry and process conditions
- Can bring vessel on-line or bypass it in 30 seconds, change logic in 3 minutes

User-Friendly

- Strategically placed instrumentation
- Multiple interface/connection points
- Two-way auto shutoff quick connects
- Cam-lok connections

Superior Design

- Corrosion-resistant sluiceable pressure vessels in 15, 30, and 50 cubic foot sizes

ALARA

- Stainless steel clad lead panel shields
- Low-profile vessels reduce over-shield shine
- Few moving parts means reliability and low maintenance



WPS™ with Overhead Canopy Shielding

Compliance

The WPS™ is designed, procured, and built to meet the requirements of:

- Nuclear Regulatory Guide 1.143
- NRC ETSB Branch Tech. Position 11-3
- ASME Boiler and PV Code, Section VIII
- 10 CFR 50.59, 10 CFR 61, 10 CFR 71
- ASME/ANSI NQA-1
- NIST Traceable Calibration

AVOID Costly Vessel Failures

Many plants have experienced processing delays when ordinary system vessels failed. DTS meets this challenge with:

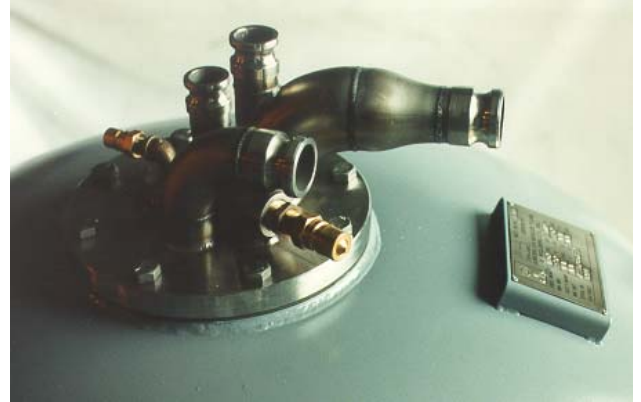
Corrosion Resistance: By integrating vessel design and material, we have eliminated Microbiologically Induced Corrosion (MIC) that causes retention element failure, and the reducing atmosphere that causes stainless steel vessel failures.

Removable Cores: Each vessel's core can be taken out for inspection or repair without moving the vessel (see photo on reverse).



50 cf PreConditioning Filter with core removed
(core includes retention elements, sluice line, sluice jets, effluent piping)

Removeable Core with top fittings
positioned in 50 cf vessel



WPS™ Operation

Liquid flows from plant tanks to the WPS™ via a **Booster Pump**, to ensure optimum pressure and flow rate for processing. It enters the system through an **Influent Manifold**, which monitors flow rate, pressure, conductivity, and temperature.

Control Manifolds regulate influent and effluent from each vessel. They let the WPS™ operator change the waste's path from vessel to vessel, depending upon chemistry.

PreConditioning Filter removes solids, detergents, solvents, and oils that could foul downstream beds. Later vessels are loaded with carbon, organic, inorganic, and/or selective ion-exchange media.

Decontaminated water leaves the WPS™ through the **Effluent Manifold**, which records waste volume and monitors effluent parameters. This Manifold has a resin strainer, sight glass, and sample point.

Sample Sink lets the operator draw samples from all critical processing points, including the influent and effluent of each vessel. Integrated pressure gauges show pressure drops across each process bed.

Utility Manifold provides service air and water for several uses at once, including sluicing, and flushing and blowing down lines. Pressure gauges and isolation valves provide control over each line. Multiple manual and automatic check valves prevent backflow into plant systems.

The **Sluice Manifold** permits the operator to sluice depleted media from the process vessels. Sluice jets in each vessel assure complete media removal. A sample port in the Manifold allows representative Part 61 samples to be taken during sluicing.

Moveable **Shield Panels** surround WPS™ vessels in any arrangement. Panels provide attachment points for instrumentation, manifolds, and the Sample Sink.

These WPS™ Options enhance system efficiency safety, and usefulness:

Polisher Vessels apply small quantities of selective media to remove specific isotopes, improve effluent quality, and reduce media consumption.

Overhead Canopy Shielding provides a personnel access barrier (see photo on reverse).

Chemical Injection/mixing System allows chemical adjustment, precipitation, flocculation, coagulation.

Dike Containment protects against sluicing spills.

Mechanical Filter removes gross suspended solids before ion exchange occurs.

DTS offers many other options to meet your plant's needs. We specialize in finding sensible, innovative solutions to processing problems.

