Patriot Recovery System Utilizing Automatic Solids Ejection

The Patriot Coolant Recovery System is designed for unattended operation in the recovery of either soluble, synthetic, or semi-synthetic coolants. This single pass system is pre-piped and pre-wired. The system components are tank mounted for temporary fluid storage. Approximate system dimensions are 8.5' x 4.5' for the 250/250 system and'8.5' x 7.0' 500/500 system. Pertinent features are:

- The system will remove fine solids with a specific gravity greater than the coolant down to 1 micron. Solids are automatically ejected during system operation to eliminate shut-down for solids removal.

- Tramp oil will be removed including the free-floating, mechanically mixed and the loosely emulsified.

- The system includes Pasteurization as a safe, economical, non-chemical method of controlling bacteria, mold, yeast and fungi - including Spore forms that cause coolant rancidity.

- The nominal capacity of the system is 2 U.S. gallons per minute on water based fluids. The actual process rate may be more or less, depending on the actual condition of the fluid processed.

- The controls utilize a microprocessor-based programmable logic controller mounted in a single enclosure with starters, fuses, relays, timers, control transformer, and pushbuttons. The circuitry is designed for unattended system operation and includes audible and visual alarms.

There are several unique features of a Integrated Recovery System that are not available with competitive equipment which are particularly valuable:

Pasteurization/Heat:

- Reduces coolant waste in the tramp oil.
- Reduces or eliminates use of expensive biocides or excess quantities of make-up.
- Lowers fluid viscosity and improves centrifuge's separation efficiency.
- Helps to maintain internal cleanliness of the disc stack, reducing system downtime.
- Removes dissolved gasses like H_2S which are responsible for foul coolant odor.

23 Walpole Park South, Walpole, Massachusetts 02081-2558 • Phone: 1-508-660-9150
www.sanborntechnologies.com • E-mail: info@sanborntechnologies.com

The Patriot I System includes the following:

ITEM	QTY.	DESCRIPTION
1.	1 ea.	Centrifuge - Mitsubishi high-speed, disc-type centrifuge, with separation forces at 9000 x gravity and 2 GPM capacity, designed, for coolant service, and automatic solids ejection, TEFC motor and starter.
2.	1 ea.	Strainer - basket type, for ease of cleaning, to remove coarse solids.
3.	1 ea.	Feed Pump - positive displacement, chosen for its wear characteristics with dirty coolants.
4.	1 ea.	Swarf Tank - two compartment steel tanks for collection of hydrocyclone and bowl discharge swarf. Equipped with dump valve for discharge to a suitable container.
5.	1 ea.	No-Flow Switch - for feed pump protection. Protects feed pump from running dry. Automatic shut down of system when dirty tank empties.
6.	1 ea.	Thermal Bio-Control (heater) - Low watt density heater in steel welded housing with drain.
7.	1 ea.	Economizer (heat exchanger) Preheats dirty coolant and after-cools clean coolant, reducing energy consumption.
8.	1 ea.	Automatic Feed Valve - electrically controlled, pneumatically actuated, fitted with Teflon seats to stop feed to the system.
9.	1 ea.	No Flow Switch - for pasteurizer protection.

10.	2 ea.	Tanks (dirty/clean) -500 gallon total capacity for the 250/250 system or 1000 gallon capacity for the 500/500 system, fully enclosed welded steel construction with hinged lid, sloped bottom, and integral drain. Hydraulic agitation supplied in both reservoirs.
11.	1 ea.	Centrifuge Bowl Flush System - for automatic solids discharge during operation, includes plumbing, solenoids, water filter and regulators.
12.	1 ea.	Programmable Controller and Indicating Panel - NEMA 12 enclosure designed for 460 VAC, 3 pH, 60 Hz. The control circuit is 115 VAC and is designed for unattended operation.
13.	1 ea.	Set of special tools.
14.	1 ea.	Instruction Manuals.