



Pioneer Recovery System Utilizing Automatic Solids Ejection

Sanborn Pioneer Coolant Recovery System is designed for unattended operation in the recovery of either soluble, synthetic, or semi-synthetic coolants from a central coolant sump. This system is pre-piped and pre-wired and operates in a side-stream or dialysis mode. All components are mounted on a single skid (see last page for dimensions). Features include:

- The system will remove 99% by volume of the solids with a specific gravity greater than the coolant down to 1 micron size as measured by the Millipore filtration method. 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, to less than 0.25% (2500 ppm) by volume.
- 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 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 Sanborn 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 H₂S which are responsible for foul coolant odor.



Process Guarantee:

Sanborn systems are backed by our unmatched process guarantee, ensuring the removal of all types of fluid contaminants as follows:

Solids	- 99% by volume >1 micron removed.
Tramp Fluids	- to .0025 by volume (1/4 of 1%).
Biological Activity	- to level of freshly mixed coolant

The Pioneer System includes the following:

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1.	1 ea.	Centrifuge - Mitsubishi high-speed, disc-type centrifuge, <u>designed, for coolant service, and automatic solids ejection.</u> TEFC motor and starter - see last page for flow rate.
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.	Hydrocyclone - pre-separator decreases the frequency of automatic solids discharge of the centrifuge. All wear parts constructed of alumina ceramic for long life.
5.	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.
6.	1 ea.	No-Flow Switch - for feed pump protection. Protects feed pump from running dry. Automatic shut down of system when dirty tank empties.
7.	1 ea.	Sanborn Thermal Bio-Control (heater) - Low watt density heater in steel welded housing with drain.



- 8. 1 ea. Sanborn Economizer (heat exchanger)
Preheats dirty coolant and after-cools clean coolant, reducing energy consumption.
- 9. 1 ea. Automatic Feed Valve - electrically controlled, pneumatically actuated, fitted with Teflon seats to stop feed to the system.
- 10. 1 ea. No Flow Switch - for pasteurizer protection.
- 11. 1 ea. Accumix Mark III System mixes and emulsifies coolant with water at $\pm 2.0\%$ accuracy and maintains mixture ratio setting with $- 2.0\%$ repeatability. Single lever selection provides mixture ratios between 2-25% (50:1 to 4:1).
- 12. 1 ea. Centrifuge Bowl Flush System - for automatic solids discharge during operation, includes plumbing, solenoids, water filter and regulators.
- 13. 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.
- 14. 1 ea. Set of special tools.
- 15. 2 ea. Instruction Manuals.

SELF-EJECTING NOMINAL FLOW RATES

<u>Machine</u>	<u>Capacity Coolant</u>	<u>Skid Dimensions (approx.)</u>
SJ-700	2.0 GPM	4' x 6'
SJ-10T	6.0 GPM	4' x 6'
SJ-15T	10.0 GPM	
SJ-20T	13.7 GPM	
SJ-25T	16.7 GPM (Est.)	
SJ-30T	22.7 GPM (Est.)	
SJ-40T	29.2 GPM (Est.)	
SJ-60T	42.1 GPM (Est.)	