PIONEER COOLANT/OIL RECOVERY SYSTEM

High Speed Disc Centrifuge System with Pasteurizer and Automatic Solids Discharge for Central Sumps

Removes Tramp Oil and Solids and Provides Biological Control

The Pioneer Recovery System removes tramp oil, fine solids and controls bacteria from machine tool coolants in large sumps or central systems. The system employs the Integrated Fluid Recovery (IFR) approach of high speed liquid/liquid/solid centrifugation working in concert with other components, such as a precise feed pump and a pasteurizer. The IFR system removes solids, tramp fluid, and odors and controls biological activity. The Pioneer provides total fluid recovery with minimal maintenance.

The heart of the Pioneer System is a Mitsubishi self-discharging, high speed disc centrifuge. This centrifuge automatically discharges the entrained solids that have been removed from the fluid. The processing capacity ranges from 120-600 gallons/hour depending upon the size of the centrifuge.

The Pioneer is backed by Sanborn Technologies' Process Guarantee.

PIONEER SYSTEM

FEATURES

Extremely High Quality Purification

- Removes metallic and non-metallic fines down to 1 micron via a self-discharging centrifuge
- Separates tramp oil down to one quarter of one percent (.0025)
- Reduces coolant waste by removing the entrained coolant in the tramp oil and rag layer

Versatile Plantwide Application

- System can serve multiple sumps
- Can process a wide array of coolants and oils

Simple and Efficient Operation

- Efficient, single-pass processing yields completely purified fluid
- Self-discharging centrifuge eliminates laborious manual solids removal from the centrifuge

BENEFITS

Dramatic Direct Cost Savings

- Reduces fluid waste disposal costs up to 99%
- Reduces new fluid purchases
- Reduces use of hazardous chemical biocides

Improved Quality and Productivity

- Cuts machine downtime for sump cleanouts
- Improves tool efficiency and product quality
- Reduces worker dermatitis and exposure to toxic biocides

Important Environmental Benefits

- Reduces liability for manifesting and storing dirty fluid
- Meets tightening discharge standards for oily wastes

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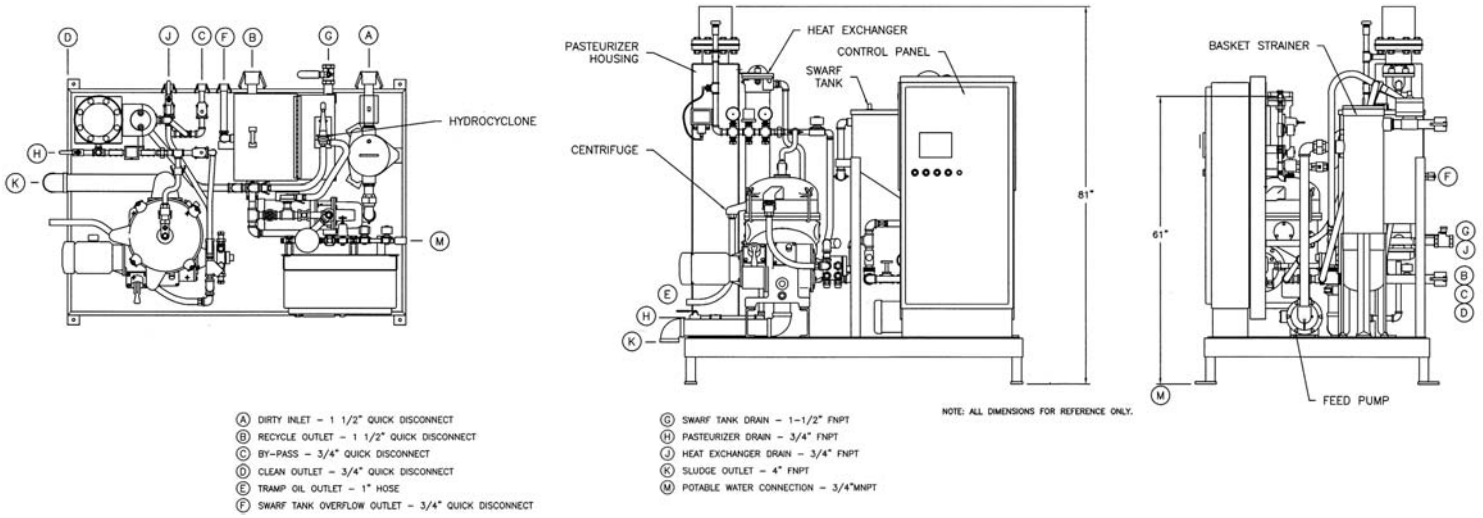
PIONEER SYSTEM



GENERAL SPECIFICATIONS

DIMENSIONS (L x W x H)	7' x 7' x 5'	
MACHINE WEIGHT	2500 lbs. (1134 kg)	
FLUID INPUT:	(SJ700 SERIES)	
	COOLANT	3000 GPD
	OIL	4000 GPD
UTILITY REQUIREMENTS	ELECTRICAL - 460 VAC	
	3 PH, 60 HZ, 30 AMP	
	WATER: CITY WATER FOR	
	PURGING - 1-2 LITERS PER HOUR	
	PURIFIED WATER FOR	
	MAKE-UP, 2-10 GPM,	
	(IF REQUIRED)	
CONTROL AND		
INDICATING PANEL	NEMA 12 ENCLOSURE. SOLID STATE	
	PROGRAMMABLE CONTROL INCLUDING:	
	AUDIBLE/VISIBLE ALARMS,	
	AUTOMATIC/MANUAL MODE SELECTOR	

THE PIONEER'S IFR PROCESS

1. A continuous central sump bypass loop provides inflow to the IFR system.
2. The first stage of separation is a stainless steel basket strainer that provides pre-separation of coarse solids.
3. A progressive cavity pump provides homogeneous and constant feed to the system to achieve maximum centrifuge efficiency.
4. The next stage of separation is a hydrocyclone that provides intermediate solids removal down to 30 micron.
5. The fluid then makes its first pass through a heat exchanger to preheat the fluid for the pasteurization process.
6. The pasteurization process begins with the fluid passing into a chamber containing a low-watt density heater. Flash pasteurization of coolant is a safe, economical, non-chemical method of controlling bacteria, mold, yeast and fungi that cause coolant rancidity. The heater also provides:
   - Improved separation of solids and tramp oil
   - Improved cleanliness inside the centrifuge for reduced maintenance
   - Removal of dissolved gases such as H_2S
   - Reduced disposal of recoverable coolant entrained in the rag layer (coolant/tramp oils interface)
7. The fluid then enters the centrifuge where a highly efficient liquid/liquid/solid separation takes place. Tramp oil is separated from the coolant without degrading the coolant emulsion, and solids are removed and automatically ejected. The cleaned coolant then flows from the centrifuge to the next stage.
8. The fluid reenters the heat exchanger where its temperature is lowered to reduce biological regrowth and maintain sump temperature.
9. The recovered fluid is then returned to the sump for reuse.

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