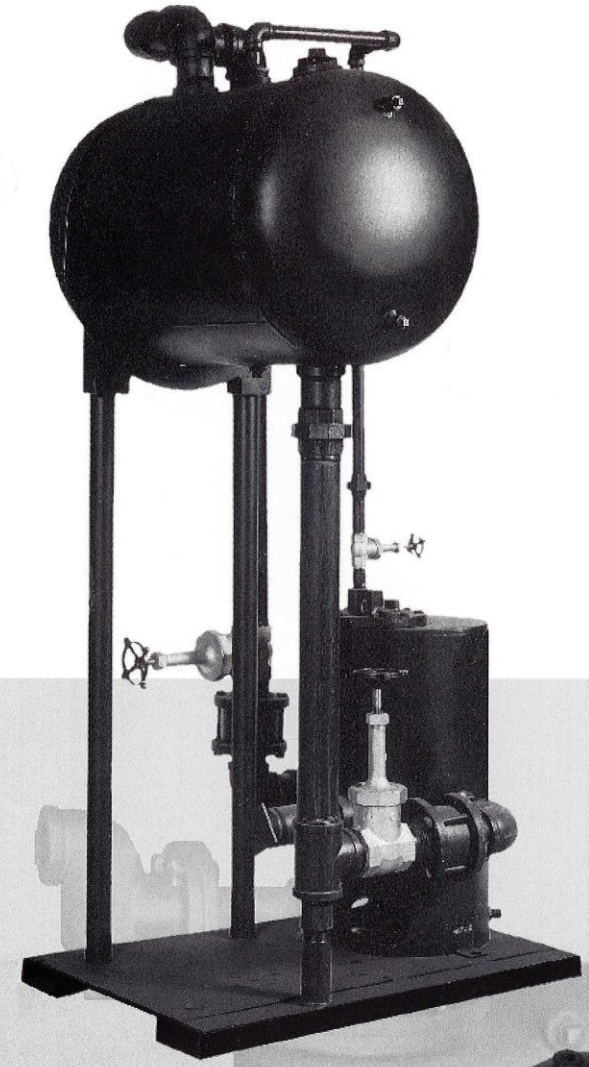
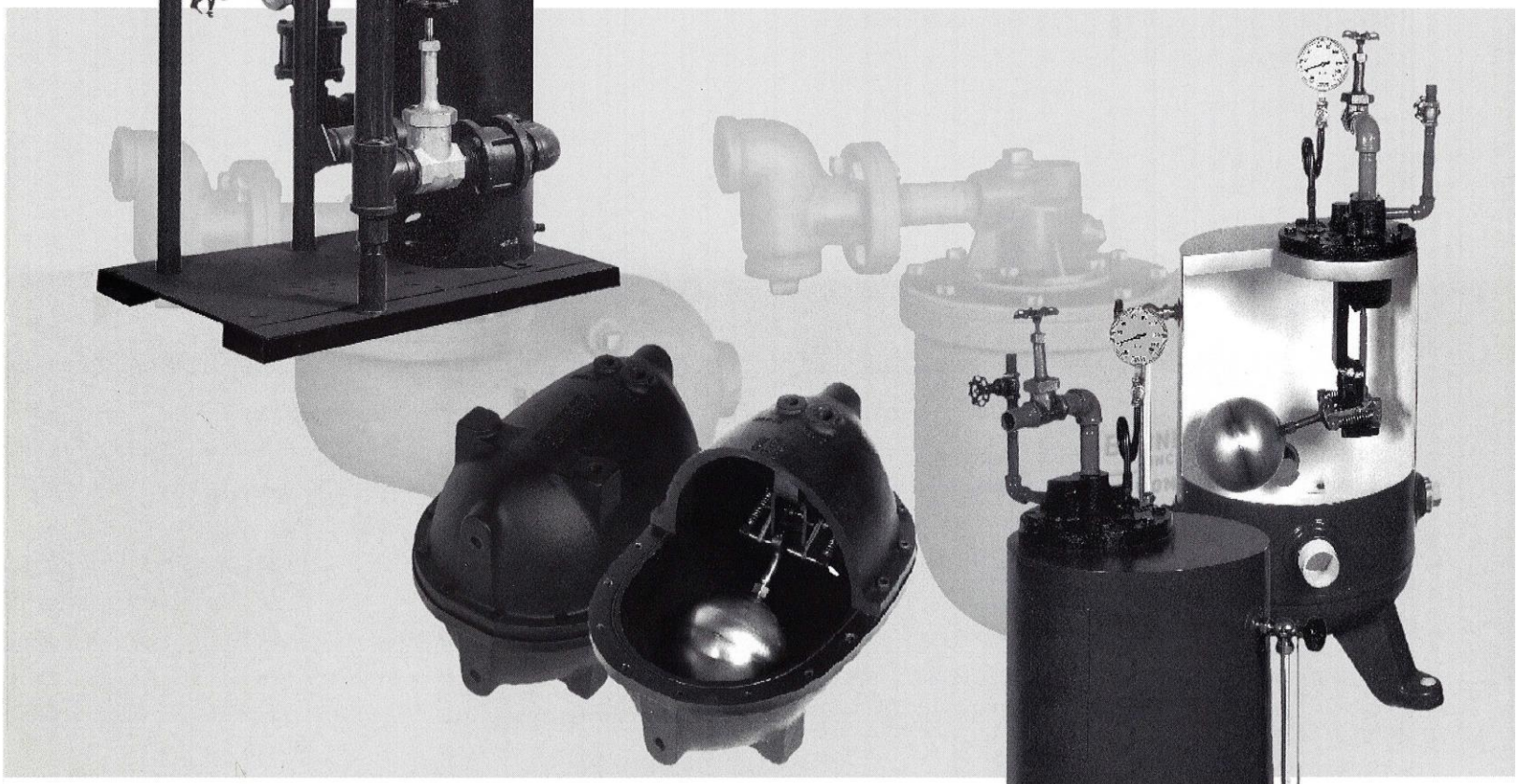


A Guaranteed Condensate Recovery System for Institutional and Industrial Applications

Enjoy the freedom and savings with Sentinel Pressure Powered Pumps, receivers, valves and controls.



- A fail-safe condensate return for high efficiency heating.
- Can retrofit any current system with a mechanical pump.
- End mid-season burn out and boiler shut down.
- Years of continuous use.
- Allows high temperature condensate return saving money.
- The maintenance free three way valve system allows system pressure to provide lift and pumping action.
- MEPCO has over 110 years of experience.

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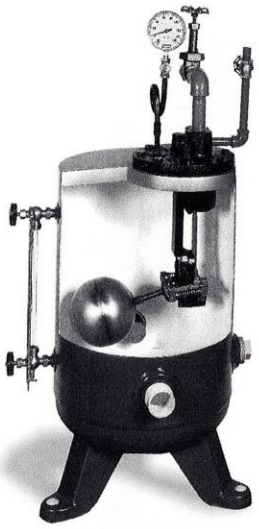
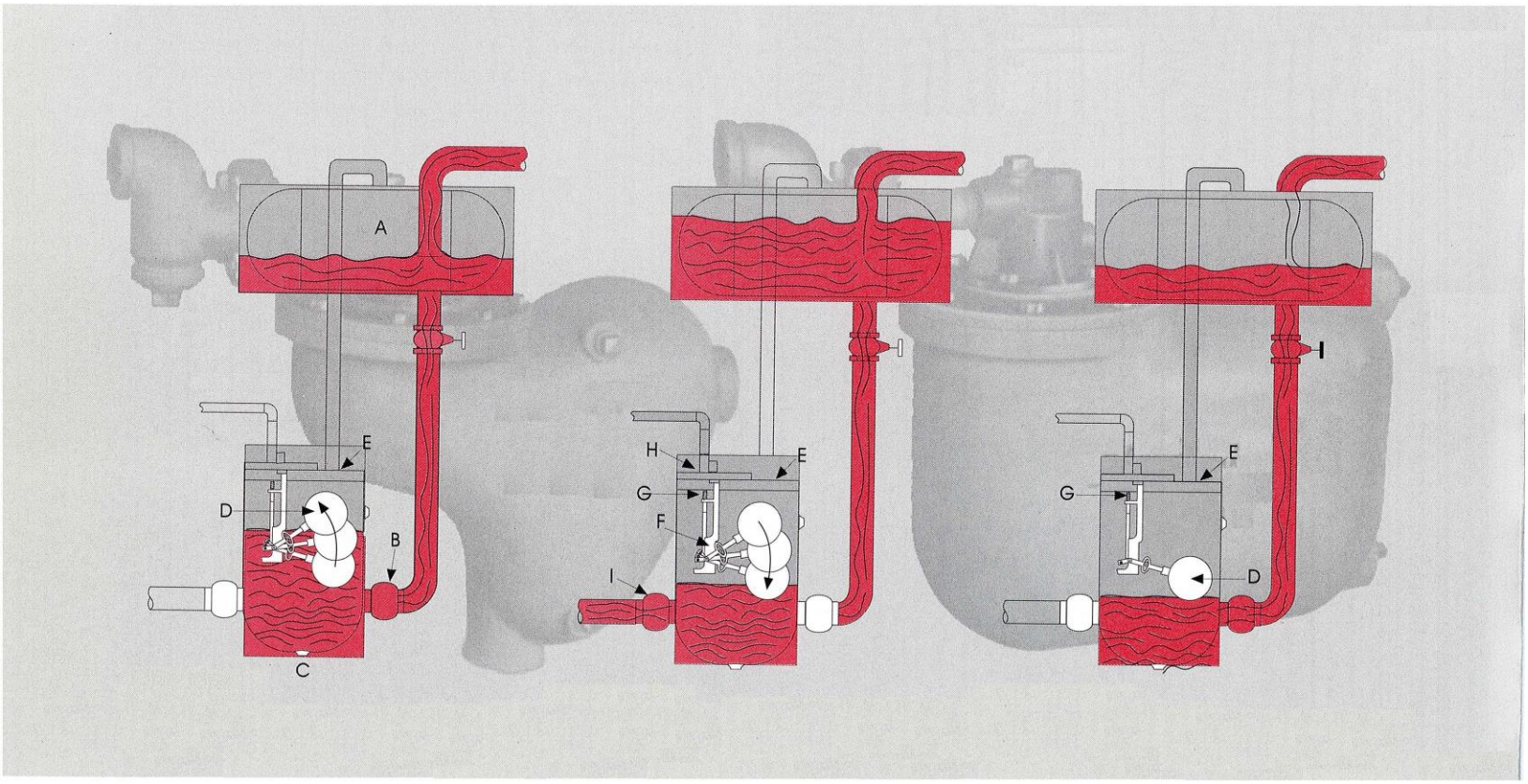
The Sentinel Pressure Powered Condensate Pumps feature a three way valve system to allow system pressure to provide lift or pumping action. This eliminates the need for electrical pumps and allows for positive flow, a more compact design and the freedom of more versatility in installation.
Today's advances in heating systems create problems for traditional electric condensate pumps and returns due to higher temperatures and flash. The Sentinel Pressure Power Pump eliminates these problems as well as the constant need to replace pumps dues to mid cold season burn out.

You will not to worry about our system failing. With the current high efficiency systems and higher fuel bills, guaranteeing a fail-safe system is key. Any system currently using a mechanical pump can be retrofitted with the Sentinel Pressure Powered Pump. Our pressure powered pumps have no seals to wear out, need no external power and take only a few hours to install.





Stage One
During the fill cycle fluid flows from the receiving chamber (A) through the inlet check valve (B) into the pumping chamber (C) and raises the float (D). The vent port (E) opens to equalize pressure between the receiving chamber and the pumping chamber.

Stage Two
When the float reaches its highest level spring assembly (F) actives the linkage (G) which closes the vent port (E) and opens the motive pressure port (H). When the pressure in the pumping chamber exceeds discharge line pressure the discharge check valve (I) opens and the discharge cycle begins. As the fluid level goes down so does the float. During this cycle incoming fluid is stored in the receiving chamber.

Stage Three
Once the float (D) reaches its lowest position the linkage (G) closes the motive pressure port and opens the vent port (E) so the chamber can equalize in the pressure to start the cycle again.

Reliability

A Sentinel Pressure Powered Pump performs the same liquid transport functions as a vane or centrifugal pump but is based on and entirely different and more reliable operating design with fewer moving parts.

There are no rotors, starters, shafts, mechanical seals or impellers. Instead it is uses steam or any compatible inert gas under pressure as the motive force to pumps liquids. This setup will worker longer with less maintenance and downtime.

Less Operational Limitations

Conventional pumps have difficulty handing liquids with temperatures above 185 degrees F (85 degrees C) as a result coolers or flash tanks need to be added to the system. Valuable steam is lost during the flash process and the extra cooling equipment increases installation and operating costs and reduces reliability.
Sentinel Pressure Powered Systems have few temperature restrictions. Most applications no coolers or flash tanks will be needed. Cooling losses from flashing condensate are minimized resulting in cost savings through lower capital spending, general operating costs, energy costs and lower maintenance.

Additional Benefits

With a simple and compact design the Sentinel Pressure Powered Pump Systems are easy to integrate into your system design needs. Plus they are easy to install and can be shipped completely framed, piped and wired if necessary requiring only a final connection to plant piping and wiring.

Our liquid metering is an advantage. Each unit discharges a fixed volume per cycle allowing the user to count the number of complete cycles and then calculating volume of liquid pumped per unit.

On the SH models the three way valve that controls the operating cycle can be mounted remotely from the base unit to allow convenient control and observation.

All Sentinel Pressure Powered receiver tanks are equipped with magnesium anodes to prevent corrosion.

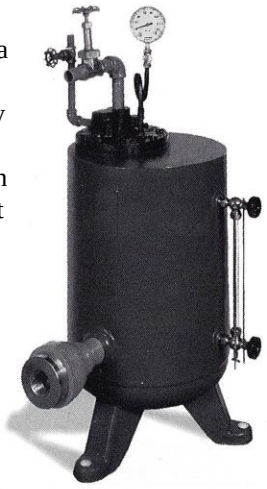
Three Models to Fit Different Applications

There are three Sentinel Pressure Powered Pumps each designed for optimal performance through a range of conditions.

The compact SH-500 series is externally powered and has single tanks capacities up to 4.94 GPM or 2,470 LBS./Hr.
Its cast iron body and small footprint make it perfect for limited space applications.

The SH-1600 series is externally powered with or without electricity and has single tank capacities ranging up to 186 GPM or 89,000 LBS./Hr. The MH series is used with coils, heaters, hospital equipment, coolers and evaporators.

The SV-1600 series is self-actuating and requires no electricity to operate making it a great fit for remote locations where it is impractical to supply electricity. This series is also ideal where using electricity can be dangerous. For example wet environments like sumps/pits, bottle washers and laundry equipment. It is well suited for explosive environments like refineries, chemical plants and distillation towers. The MV's single tank capacities range up to 30GPM or 14,370 LBS./Hr.



Each series is available in three different configurations: 1) Without receiver; 2) With receiver; and as a turnkey skid mounted package. Special models are available as are Duplex units for greater capacities. Contact the factory for price and delivery.

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Features	SH-500	SH-1600 Series	SV-1600 Series
Body	Cast Iron	ASME Certified Steel	ASME Certified Steel
Maximum Operating Temperature	400°F	450°F	450°F
Maximum Operating Pressure (Steam)	200 PSIG	150 PSIG	150 PSIG
Condensate Removal Rate	2.40 to 4.94 GPM	3.90 to 186.90 GPM	5.80 to 29.90 GPM
Applications			
Condensate temps greater than 185°F	✔	✔	✔
Where footprint size is a consideration	✔		
Remote locations with no electricity	✔		✔
Wet/corrosive environments			✔
Hospital equipment such as coils, heaters, steam absorption chillers, and evaporators		✔	
Converting existing condensators or boiler return traps	✔		
Upgrading from vacuum pumps	✔	✔	✔
Draining sump pits			✔
Returning condensate to boilers	✔	✔	✔
Explosive atmospheres	✔		✔
Retrofit for existing receivers	✔	✔	✔
Closed Systems (no atmospheric vent)	✔	✔	✔
When you are constantly repairing burned out centrifugal pumps	✔	✔	✔

Repair or upgrade any pressure pump with Sentinel drop in replacement mechanisms.