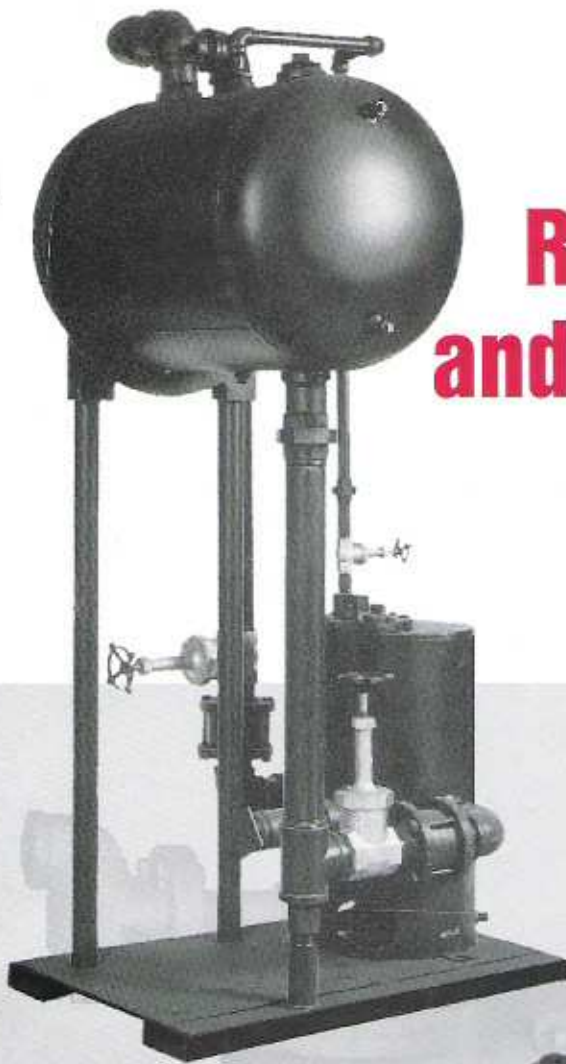


# Fail-Safe Condensate Recovery for Industrial and Institutional Systems

Discover freedom and savings with the Barnes & Jones line of system powered pumps, receivers, valves, and controls.



**F**all-safe condensate return for high efficiency heating systems

**R**etrofit on any system which now uses a mechanical pump.

**E**liminate mid-season burn out and boiler shut down.

**E**conomical allowance of high temperature condensate return.

**D**ecades of continuous service.

**O**nly Barnes & Jones has 100 years of experience

**M**aintenance-free 3-way valve system allows system pressure to provide lift and pumping action.

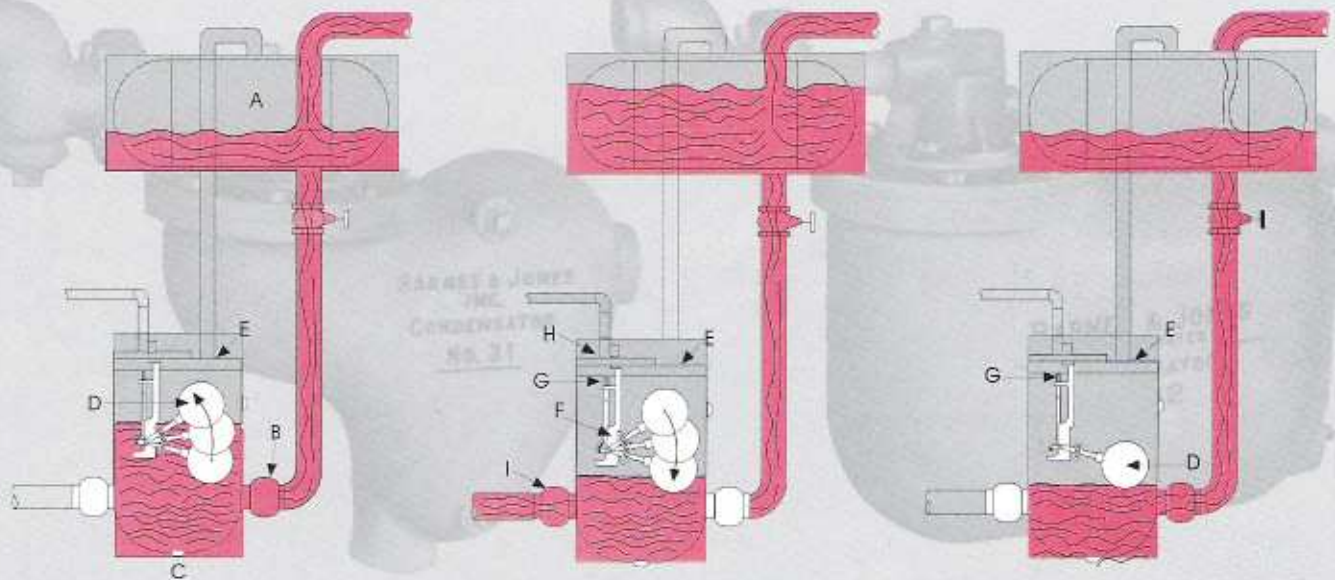
**CONDENSATOR 2.0**  
Barnes & Jones

# The Barnes & Jones Condensator 2.0

The Condensator 2.0 is a significant advancement over the original Condensator invented by Barnes & Jones nearly a century ago. The Condensator 2.0 features a three way valve system to allow system pressure to provide lift or pumping action. This eliminates the need for mechanical, electrical pumps and allows for positive flow, a more compact design and the freedom of far more versatility in installation.

Advances in modern heating systems create problems for traditional electric condensate pumps and returns due to higher temperatures and flash. The Condensator 2.0 eliminates these problems as well as eliminating the constant need to replace pumps due to mid cold season burn out.

A Barnes & Jones Condensator 2.0 provides freedom from worry about the system failing. With the current high efficiency systems coupled with higher fuel bills, ensuring a fail-safe system is of primary importance. Virtually any system which now uses a mechanical pump may be retrofitted with a Condensator 2.0. The Condensator 2.0 has no seals to wear out, no external power requirement and takes only a few hours to install.



### Stage One:

In 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) is open to equalize pressure between the receiving chamber and pumping chamber.

### Stage Two:

When the float reaches its highest level, a spring assembly (F) activates 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 two chambers can equalize in pressure to start the cycle again.



## Greater Reliability

A Condensator performs the same liquid transport functions as vane or centrifugal pumps. But the Condensator 2.0 is based on an entirely different, and more reliable operating concept, with fewer moving parts than conventional pumps.

The Condensator 2.0 has no rotors, starters, shafts, rotating mechanical seals or impellers. Instead the Condensator 2.0 uses steam (or any compatible inert gas) under pressure as the motive force to pump liquids. The Condensator 2.0 will work longer, with less maintenance and far less downtime.

## Fewer Operational Restrictions

Conventional pumps have difficulty handling liquids with temperatures above 185 degrees F (85 degrees C), so coolers or flash tanks must be added to the system. Valuable steam is lost during the flashing process, the extra cooling equipment increases both installation and operating costs, and further reduces system reliability.

Condensator 2.0 systems have few temperature restrictions. For most applications, no additional coolers or flash tanks are needed. Cooling losses from flashing condensate are minimized. The result is savings over other pump systems - in reduced capital and operating costs, in greater energy conservation, and in lower maintenance.

## Other Advantages

Due to their simple design and compact dimensions, Condensator 2.0 systems are easy to integrate into system designs - and they're equally easy to install. In fact, many models arrive fully framed, piped and wired (if necessary), and require only a final hook-up to plant piping and wiring.

Another advantage is liquid metering. Each Condensator 2.0 discharges a fixed volume per cycle. So by counting the number of complete cycles, you can determine liquid volume pumped by the unit.

On Series H models, the 3-way valve that controls the operating cycle can be mounted remotely from the Condensator 2.0 unit to facilitate convenient control and observation.

To prevent corrosion, all Condensator 2.0 receiver tanks are equipped with magnesium anodes.

## Three Models for Different Applications

There are three Condensator 2.0 series, each designed for optimum performance through a range of conditions.



The simple compact Series PH is externally powered, and has single tank capacities up to 4.94 GPM or 2,470 lbs./hr. The cast iron body and small footprint make the Series PH ideal for limited space applications.

The Series H is externally powered, with or without electricity, and has single tank capacities ranging up to 186 GPM or 89,000 lbs./hr. Series H Condensator 2.0's are used with coils, heaters, hospital equipment, coolers and evaporators, to name a few applications.

The Condensator 2.0 Series V is self-actuating - it requires no electricity to operate. This makes it well suited to remote locations where it is impractical to supply electricity. Series V Condensator 2.0's are also ideal where using electricity can be hazardous. This includes wet environments like sumps/pits, bottle washers, and laundry equipment, and explosive environments such as refineries, chemical plants or distillation towers. The Series V's single tank capacities range up to 30 GPM or 14,370 lbs./hr.



In addition, each Series is available in three different configurations: 1) Without receiver; 2) With receiver; And 3) As a turnkey, skid mounted package. Special models are also available for unique requirements, as well as Duplex units for even greater capacities.

## Condensator 2.0

Replace your burned out obsolete boiler pump with a 100% burn out proof Condensator 2.0 and NEVER REPLACE THE PUMP AGAIN! Call your Barnes & Jones authorized distributor, today.

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# There is a Barnes & Jones Condensator 2.0 for every industrial and institutional steam system

Features	Series PH	Series H	Series V
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
<b>Applications</b>			
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	✓	✓	✓

- All Condensator 2.0 models are available in a pump only (no receiver) configuration, with receiver, skid mounted (with pump, receiver, factory piping and controls), and in simplex, duplex, triplex or quad to meet your exact specifications.
- Repair or upgrade any pressure pump with a B&J Condensator 2.0 Drop in Replacement Mechanism.

**CONDENSATOR 2.0**

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