SpenoMatic energy solutions

MECHANICAL CONDENSATE RECOVERY UNITS



Designed and made as per **GERMAN** Standard

spenomaticenergysolutions.com

MECHANICAL CONDENSATE RECOVERY UNITS

The significance of recovering condensate

- Reduce water treatment costs.
- Reduce water usage and costs.
- Reduce boiler blowdown and save fuel.
- Avoid the cost of high temperature discharge of sewage.
- Recovering condensed water means recovering a large amount of heat
- energy, saving energy consumption and reducing usage costs.

Solutions for condensate recovery

- Traditional solution: Combination of water tank and electric pump.
- Mechanical Condensate Recovery Unit.

MECHANICAL CONDENSATE RECOVERY SOLUTION VS TRADITIONAL SOLUTION

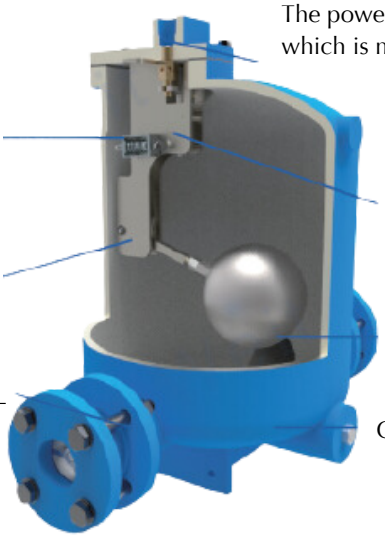
Mechanical Condensate Recovery Units	**Traditional Condensate Recovery Units**
NO external power source such as electricity is needed.	Requires external power – unable to work without it.
On steam or corn essed air as No cavitation problems,	There is cavitation - the higher the temperature of the condensate, the more severe the cavitation.
Small installaton space. no need a separate water collection tank	Large installation space - a separate water collection tank is required.
Low energy consumption.	High energy consumption.
Can be used in hazardous and explosion-proof applications without special explosion protection measures.	Special explosion-proof measures are required to be used in hazardous and explosion-proof conditions.
Easy installation	The installation is complicated

MECHANICAL CONDENSATE RECOVERY UNITS

1. Alloy steel spring, more corroslon-resistant, long life.
2. Compression spring for long and trouble-free life.

Unique connecting rod design, trouble free and durable.

Stainless steel inlet and outlet check valve_



The power source is compressed air or steam, which is more durable.

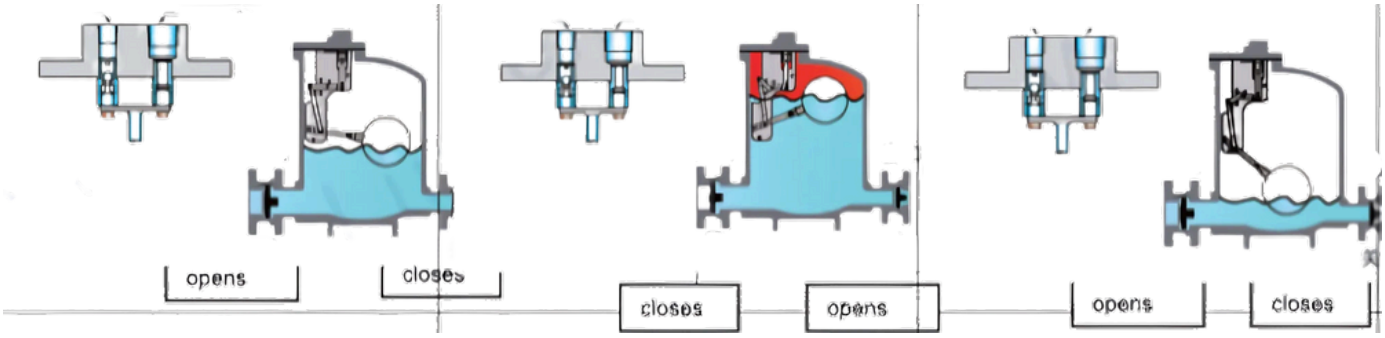
The connecting rod mechanism is located inside the pump body and does not generate static electricity, sparks, etc., can be used in hazardous and explosion-proof conditions.

All internal components are made of stainless steel.

Cast steel body – durable and long-lasting.

Working Principle

- Close the motive gas inlet
- Open the exhaust outlet



When the equipment starts, the exhaust port is opened, the motive gas inlet is closed, the condensed water enters the pump body through the check valve, and the floating ball rises.

- Open the motive gas inlet
- Close the exhaust outlet

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- Close the motive gas inlet
- Open the exhaust outlet

The air in the pump body is discharged from the exhaust port. When the pump body is full of condensed water, the linkage device of the pump opens the power air inlet and closes the exhaust port at the same time. The pump works from the water injection cycle to the drainage cycle, and the condensed water is discharged into the recovery system.

Typical Applications

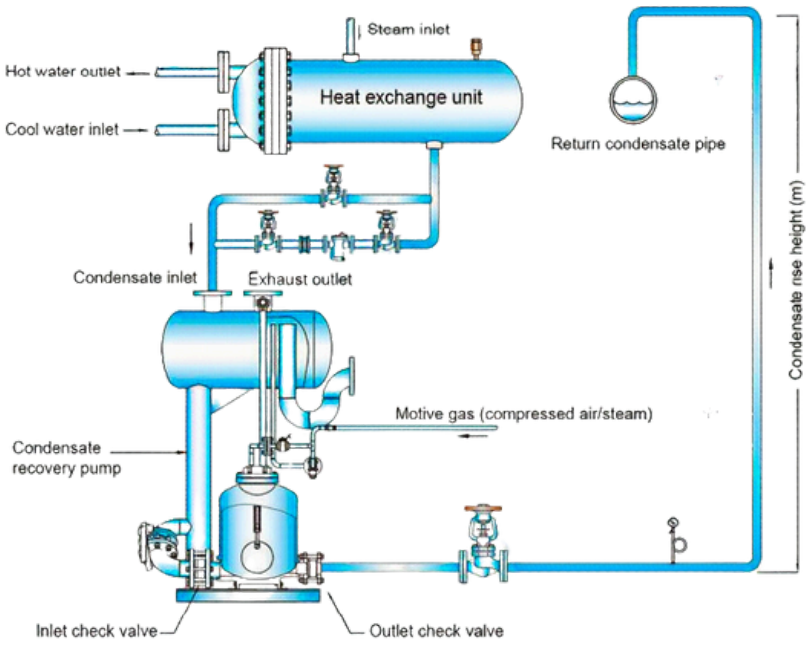
1. Opened condensate recovery system

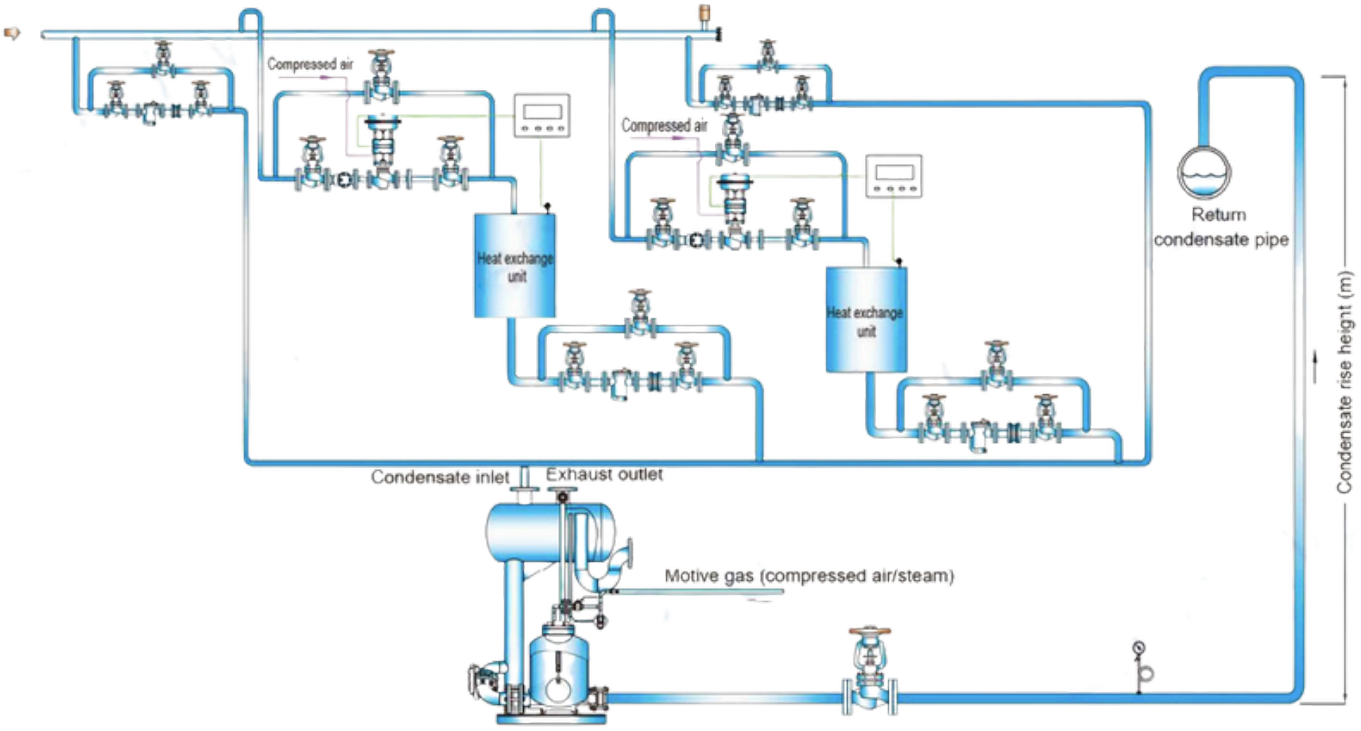
Advantages

- Condensate recovery for multiple devices.
- Can be driven by air or steam.
- The system is relatively simple.

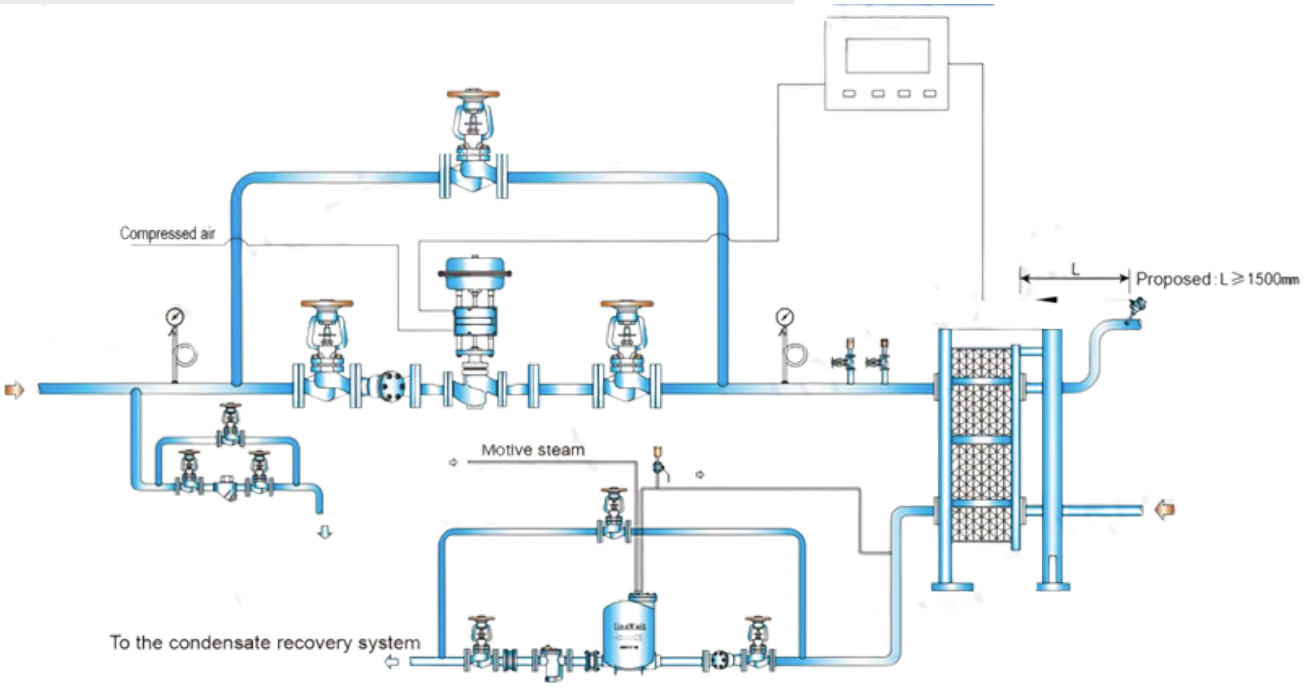
Disadvantages

- Inability to recovery valuable flash steam.
- There must be set a pipeline connected to the atmosphere.





2. Closed condensate recovery system

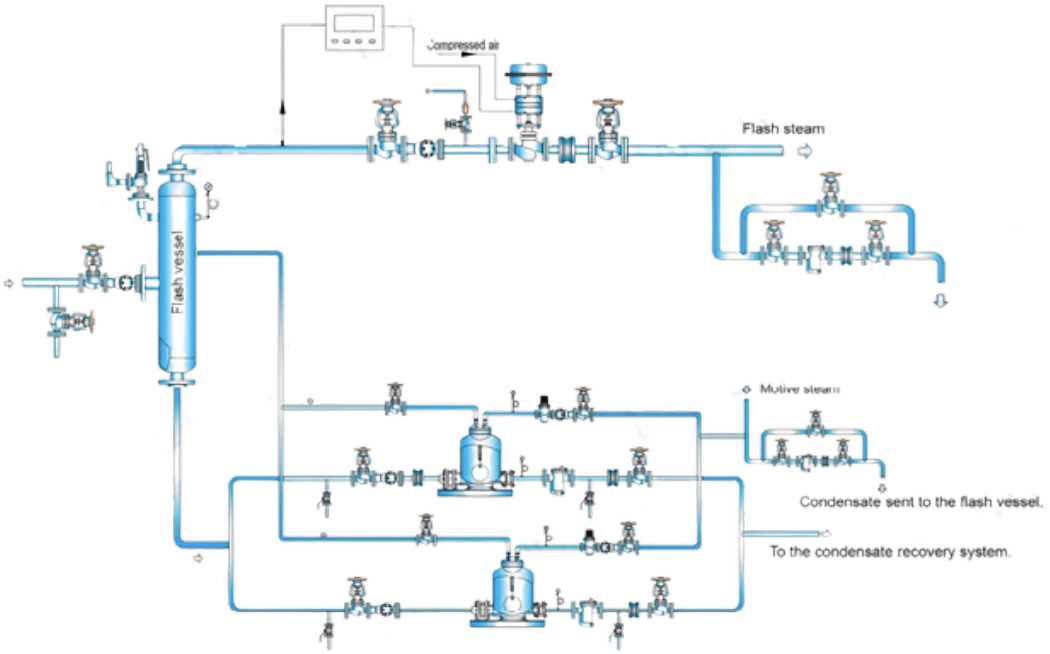


Advantages

- The flash stream and the high temperature condensate (≤198°C) can be recovered by the system.
- No need to install expensive piping to atmosphere.

Disadvantages

- The system is relatively complex.
- Unable to use air for motive..



MECHANICAL CONDENSATE RECOVERY UNITS

Operating Range

Model	SKL-CRS
Max. operating pressure (PMO)	13.8 bar
Max. operating temperature (TMO)	198 °C
Size/flange	DN80, DN50, DN25

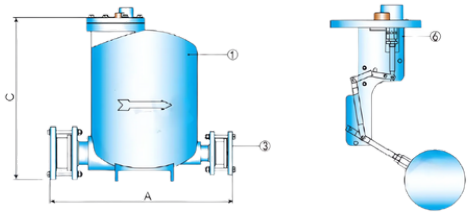
Single Pump Unit



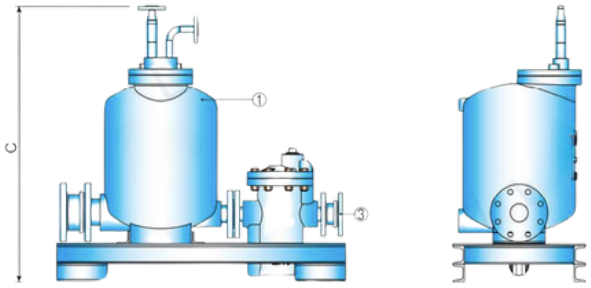
Double Pump Unit



Pump Body



Pump and Steam trap combination



Please provide the following information when ordering:

1. Operating pressure, back pressure
2. Operating temperature
3. Type of connection
4. Flow
5. Size

• Please ask the manufacturer for special sizes and customizations

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