APT Series Automatic Trap Pump

APT Automatic Trap Pump-Built on a float-type trap foundation, it also functions as an automatic pump (condensate recovery pump), enabling seamless switching between drainage and pumping modes based on equipment operating conditions.
Steam-driven, it discharges condensate under various conditions, including vacuum.

Drain Mode: When upstream system pressure is sufficient to overcome backpressure, APT operates in drain mode (based on float-type operation).
Pump Mode: When upstream system pressure falls below backpressure, APT quickly activates the switching linkage to enter pump mode, using driving steam to pump condensate to the recovery system.

Easy replacement and maintenance

All internal components are mounted on the valve cover, so no need to disassemble pipeline connections for replacement or maintenance.

High Strength and Fatigue Resistance

APT uses nickel-alloy compression springs, ensuring long-lasting durability under high temperatures.

Two-Stage Drainage Mechanism

The float controls a two-stage drainage system with a high discharge rate.

Drain/Pump Mode Switching

The device automatically switches between drain and pump modes based on equipment conditions, ensuring smooth condensate discharge in all scenarios.

Corrosion Resistance

The float, made of corrosion-resistant stainless steel, ensures durability and reliable operation.

To prevent condensate retention in equipment such as heat exchangers

- Prevents corrosion
- Prevents water hammer
- Prevents uneven heating

Increases the efficiency of steam-using equipment

Prevents water hammer in the condensate recovery pipeline.

Used in explosion-proof area

Because it uses driving fluid pressure to discharge condensate without electricity, APT is suitable for use in explosion-proof areas.

Condensate Recovery

It is possible to recover the condensate from low-pressure steam lines, which is typically challenging.

Condensate discharge and recovery

Condensate Discharge and Recovery

For most steam-using equipment, condensate must be immediately discharged upon formation to avoid affecting heat transfer efficiency and increasing the risk of water hammer. Accumulated water during shutdowns can also lead to corrosion.

Therefore, effective condensate discharge is therefore essential for improving steam system performance and prolonging equipment life.

Generally, the steam pressure in a heat exchanger is sufficient to discharge condensate.

However, condensate cannot be effectively discharged in these cases:

- High condensate backpressure
- Low pressure in the heat exchanger

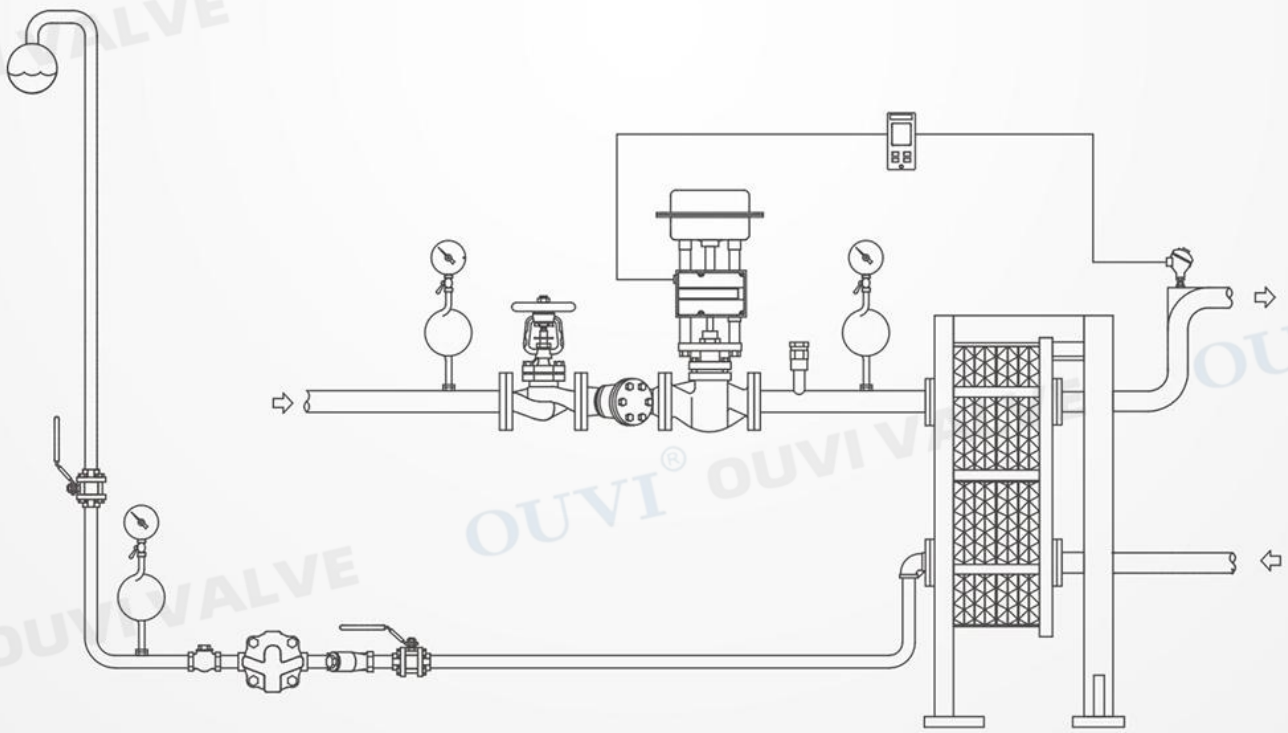
When either of these situations occurs, there isn't enough pressure difference to move condensate from the heat exchanger to the recovery pipe through a trap, resulting in condensate accumulation.

Question

If a simple trap is used, the heat exchanger may have the following problems:

- Poor heat exchange efficiency
- Unstable temperature control
- Corrosion
- Noise and rust
- Coil rupture
- High maintenance costs

Because simple systems cannot offer a compact and reliable solution, these issues are common.



APT-A Comprehensive Solution with a Single Product

Discharge of condensate

When a trap cannot function effectively, an additional power source is required to discharge condensate from the process equipment. Efficient condensate discharge ensures stable working conditions, improves equipment efficiency, and extends equipment life.

With a simple, compact system, APT solves all condensate discharge issues.

APT provides a dual function of improving efficiency and extending equipment life while ensuring reliable control of steam equipment.

APT is a complete solution for condensate discharge in process and heat exchange equipment, featuring simple selection and easy installation. This compact, fully automatic trap pump ensures effective condensate discharge from process equipment under all conditions, including vacuum, maximizing the heat efficiency of heat exchangers. As APT is designed as a closed system, it features zero steam leakage and no energy loss from flash steam, even returning exhaust steam from the driving steam to the steam-using system.

Solution

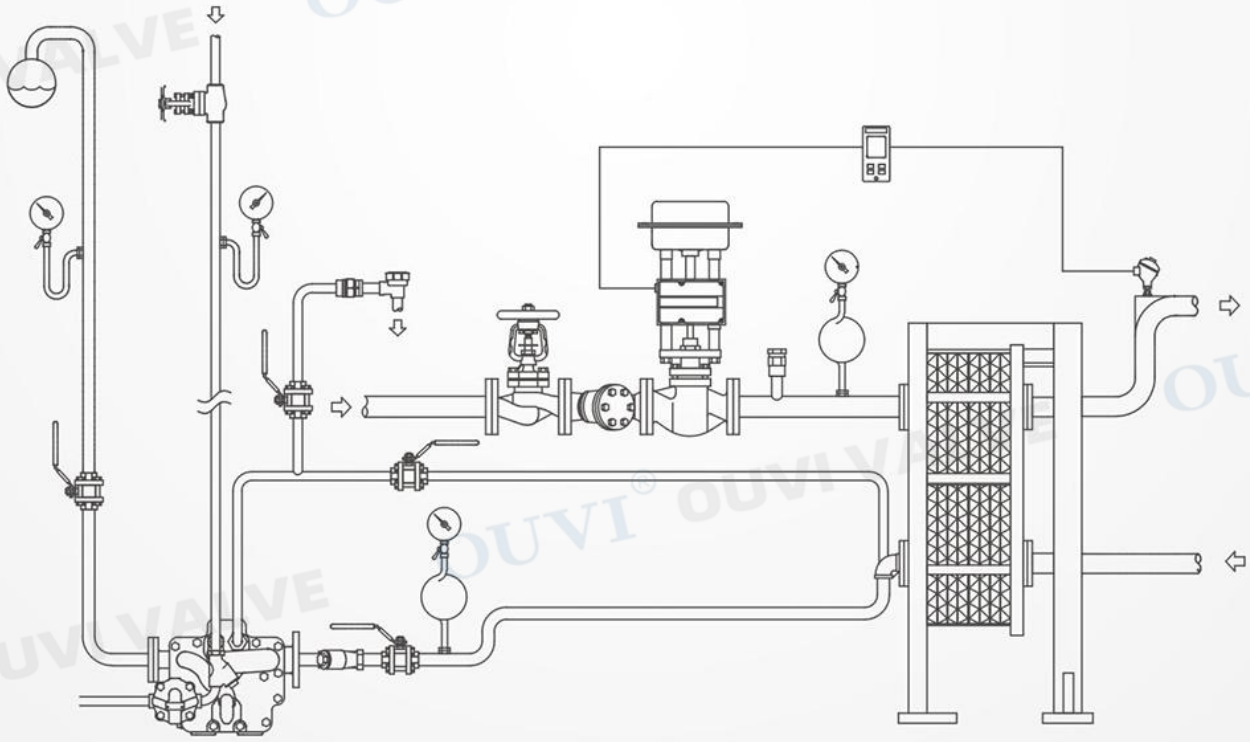
The special design of the APT allows condensate to be discharged immediately whenever it forms within the heat exchange equipment.

The APT automatic trap pump offers a perfect solution to problems caused by condensate accumulation.

Performance

The APT automatic trap pump ensures maximum operating efficiency for your equipment

- Reduce energy consumption, optimizing process conditions, and achieving:
- Cost savings
- Increased productivity
- Reduced downtime for maintenance
- Quieter equipment operation

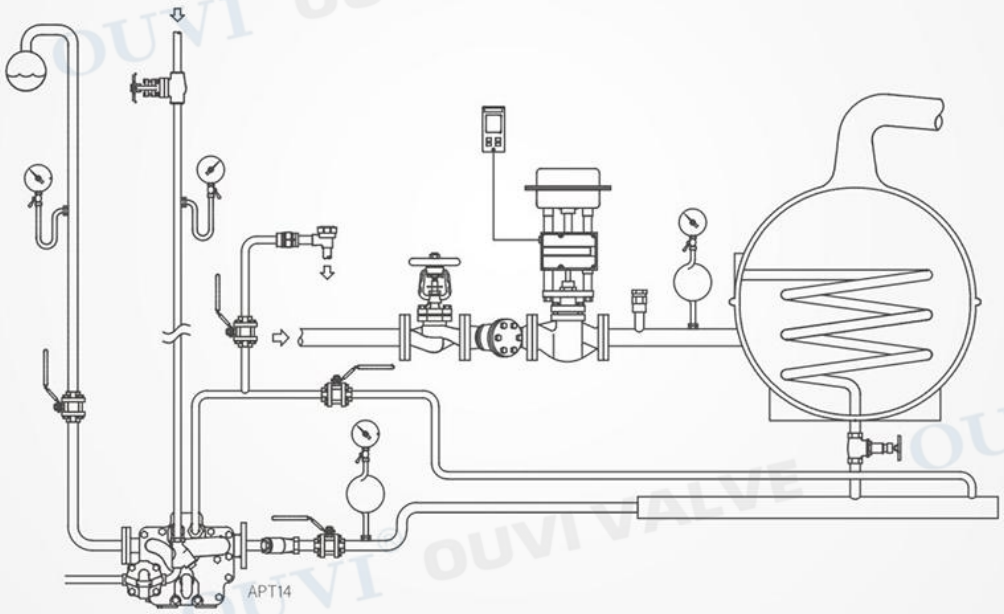


Optimizing equipment efficiency and lowering operational costs
Effective condensate discharge is key to maintaining peak equipment performance.

APT Series Automatic Steam Trap Pump Typical Applications

Condensate Discharge from Process Vessels and Heat Exchangers:

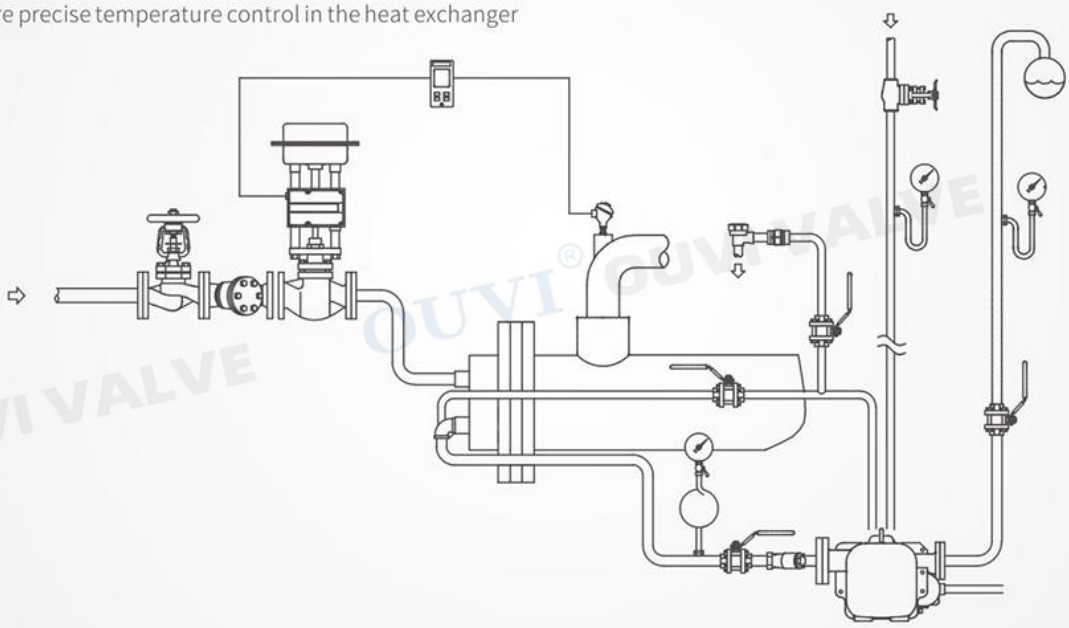
It is designed as a closed-loop or sealed system where space is limited. Effectively removes condensate under all pressure conditions, ensuring proper heat exchanger operation. It prevents issues such as corrosion, noise, and rust in pipes, thereby extending equipment life.



Condensate Discharge from Shell-and-Tube Heat Exchangers (Closed System):

APT can easily connect to the outlet of shell-and-tube heat exchangers. Without requiring a vacuum breaker, it can:

- Effectively discharge condensate under all operating conditions
- Ensure precise temperature control in the heat exchanger



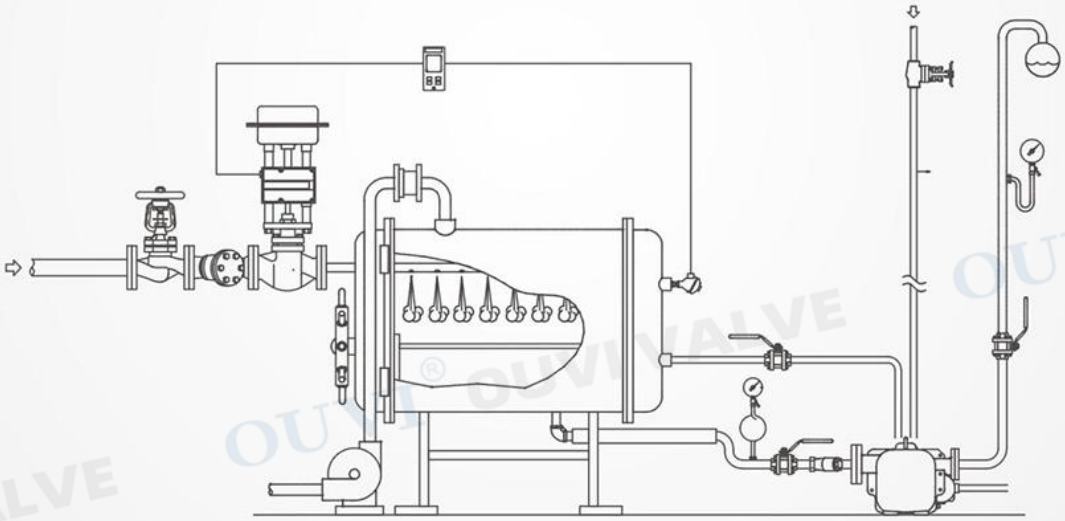
APT Series Automatic Steam Trap Pump Typical Applications

Condensate Discharge from Vacuum Equipment (Closed System):

It provides a simple and effective solution for this challenging task. APT requires only 0.2 meters of installation height from its base to discharge condensate from a vacuum system without a high positive suction head.

Condensate Discharge from Multiple Heat Exchangers (Closed System):

APT can be used for a single heat exchanger or multiple exchangers controlled by one control valve, provided the total load falls within the discharge capacity of APT. Air heating systems are particularly susceptible to corrosion and freezing due to conden sate buildup.
APT offers a complete solution for traditional air heaters.



APT14 Automatic Trap Pump Combination Unit