

## Steam Consulting Support

- Solutions for energy saving of steam system and CO<sub>2</sub> emission reduction -

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## Company Profile



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## Product Lineups

### Pressure reducing valve



**Y's Jacket**  
(Insulation jacket)



### Steam trap



### Other products

- Safety valve
- Solenoid valve
- Strainer
- Expansion joint
- Hot water supply system
- Temperature regulator etc.

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## Steam Consulting

### Steam Consulting Support

#### 1. Hearing

- Check of current energy usage etc.
- Trial factory survey



#### 2. Factory survey

- Detailed survey to set goal
- 1. Boiler and related equipment
- 2. Steam supply line
- 3. Steam-using equipment
- 4. Recovery of waste heat and water



#### 3. Proposal for improvement

- Optimal proposal for customer's need
- Estimate of improvement effect



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## Energy saving by preventing steam leakage

**Steam Leakage**



Energy loss, redundant CO<sub>2</sub> emission

Early detection and countermeasure

- Leakage from fitting and valve: Easy to detect visually
- Leakage from trap: **Difficult to detect early and often left unsolved**



- Regular trap check
- Replacement (into suitable type)

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## Advantages of trap check

### Energy saving

Reduction of energy loss caused by steam leakage



### Safety & longer lifespan

Prevention of problems caused by condensate

### Higher productivity

Stabilization of quality and less frequent system shutdown thanks to better steam quality

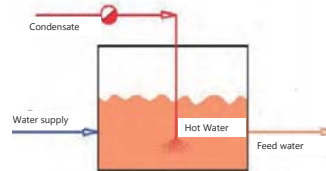
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## Improving Steam Quality and Energy Efficiency

### Recovering condensate

Hot water (condensate) still has thermal energy.



In general, the temperature in the De-aerators increases every 6 °C.

Save cost equal to 1% of the fuel consumption of the boiler.

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## The benefits of returned Condensate Water

- Save feed water in boilers
- Prevent boiler blow down
- Energy saving due to increase of feed water temperature.



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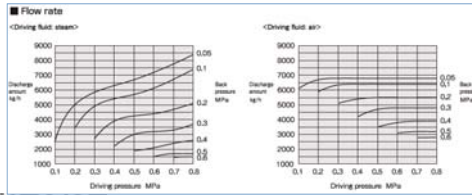
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## Character Pumping Trap ( PF-7000 )



Specification	
Model	PF-7000
Nominal size	25A (Condensate inlet: 25A / Condensate outlet: 25A) 40A (Condensate inlet: 40A / Condensate outlet: 40A) 50A (Condensate inlet: 50A / Condensate outlet: 50A) 80A (Condensate inlet: 80A / Condensate outlet: 80A)
Application	Steam condensate / Non-hazardous fluid
Driving fluid	Steam / Air
Max. driving pressure	0.5 MPa *1
Max. working temperature	180°C
Body	Ductile cast iron (FCD450)
Trim parts	Stainless steel
Material	Stainless steel
Connection	JIS Flc screwed
Check valve at inlet and outlet side	Externally attached *2

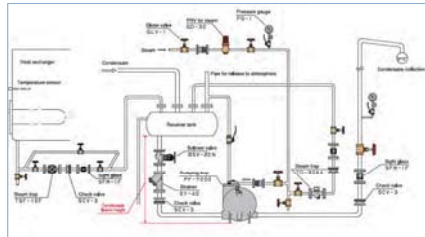
\*1 The most representative value of driving pressure is back pressure or outlet side. \* 0.1 to 0.2 MPa.  
\*2 Attach an optional check valve (SCV-2 or SCV-3) on inlet and outlet side of the product.



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## Condensate Return System



Reusable condensate heat recovery operations can reduce production costs. Considered the most cost-effective heat energy.

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## Pressure reduction effect

**Steam** → When pressure is reduced, temperature, volume, **latent heat** and sensible heat changes



All types of valves have heat radiation. This will contribute to heat loss. Insulation will be able to solve the problem as well.

※Factory operation 300days, 16batches/day, steam price USD33/t, boiler fuel oil A

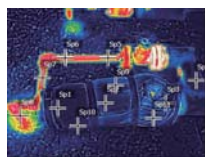
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## Insulation effect



**Y's Jacket**  
(Insulation jacket)



Example of insulation around steam trap



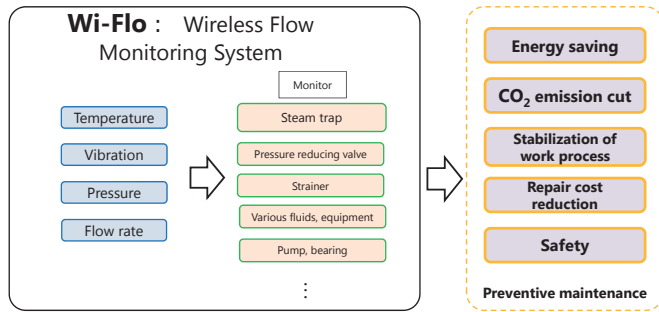
Any shape can be produced



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## Wireless Flow Monitoring system Wi-Flo

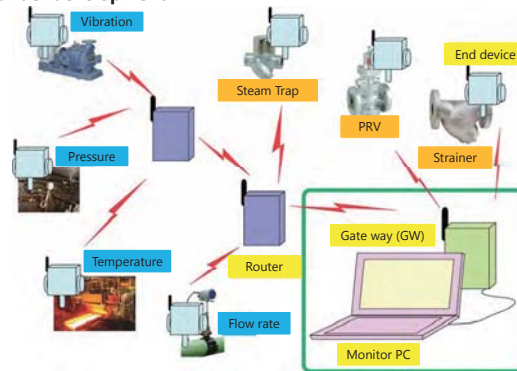


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## Wireless Flow Monitoring system Wi-Flo

\*under development



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