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Distributor

We provide overall Newton system and solution services from on-site investigation, project diagnosis, solution design, intelligent manufacturing of whole system products, implementation, and operation monitoring.

Secure System Generates
Smart Energy Conservation >

VMV Newton Systems®

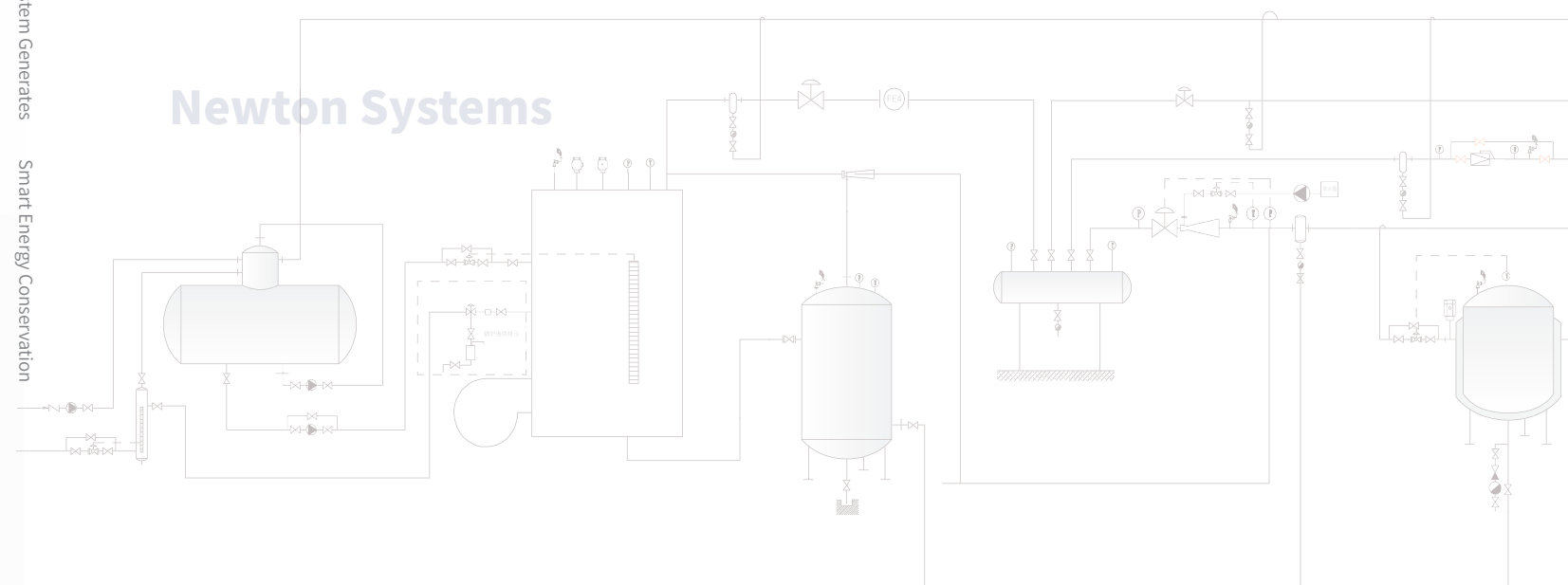


Secure System Generates

Smart Energy Conservation



Newton Systems



STEAM AND HEAT SMART ENERGY SAVING SYSTEM

Steam System Solutions

Steam Trap | Pump Trap Recovery System

Heat Tracing Manifolds / Bellows Globe Valve

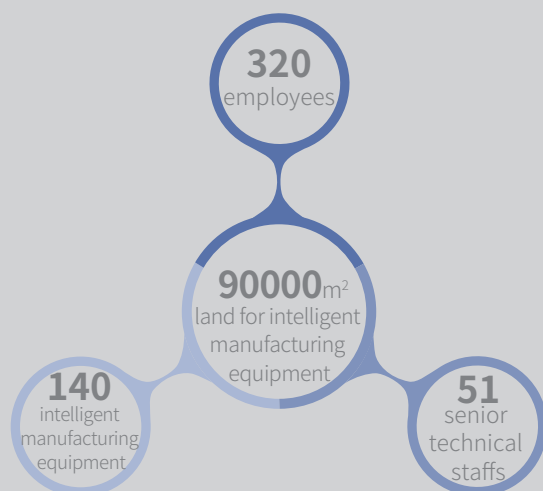
Steam Pipe Accessories

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NEWTON STEAM AND HEAT SMART ENERGY SAVING SYSTEM

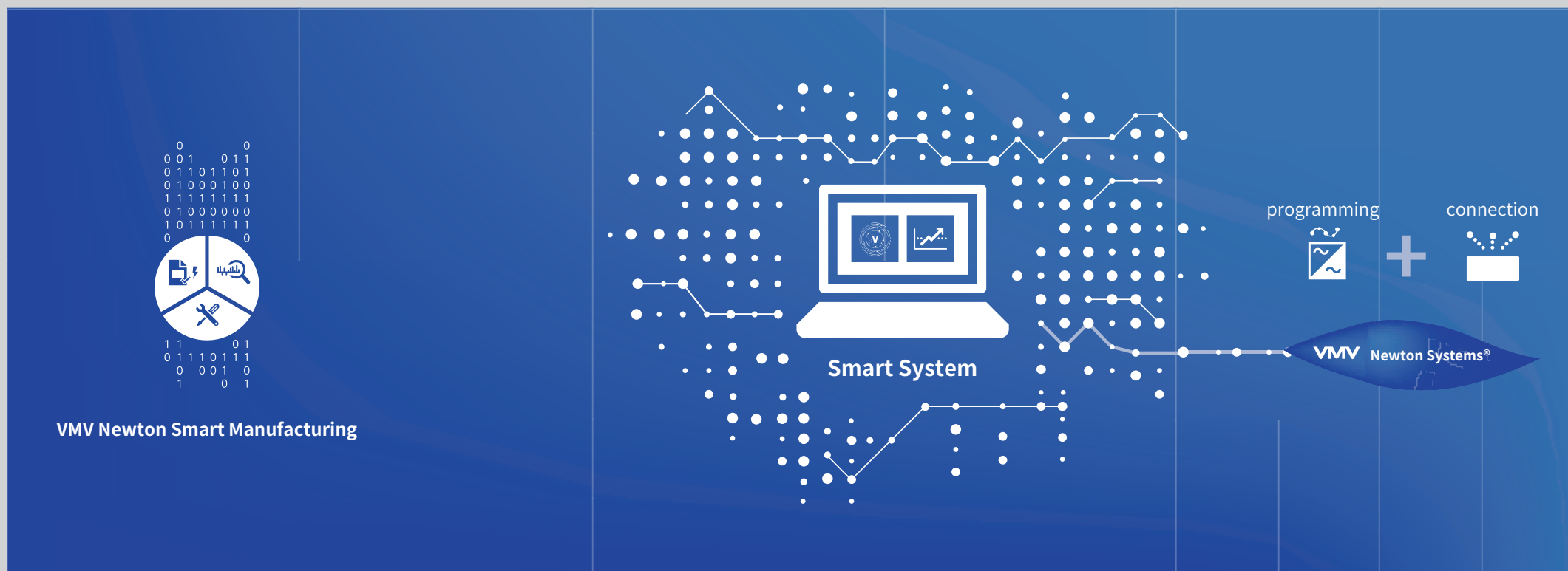
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All-round and efficient automation



VMV Newton has advanced truss type 24 hour unmanned flexible manipulator machining center unit

- Department: Smart Manufacturing Product Workshop
- Highlights: Quality management construction, including intelligent cloud platform
- In the past few years, great progress has been made in terms of quality and efficiency. High precision and high requirements are always the first priority.
- The machine hand produces a product every two minutes, each accessory every minute.



Precision smart manufacturing process



3D modeling design

Solidworks 3D modeling based on fluid mechanics, thermodynamics, and mechanical principles Pipe Flow Expert software fluid design check CAXA software technology and CNC programming perfect combination.

Manufacturing of key precision internals

High-precision internal parts use micro-enlargement projection to monitor the whole process of manufacturing and inspection, high-precision laser welding machine, to ensure seamless welding of internal parts of different materials Imported machine tools produce precision parts and ensure product performance.



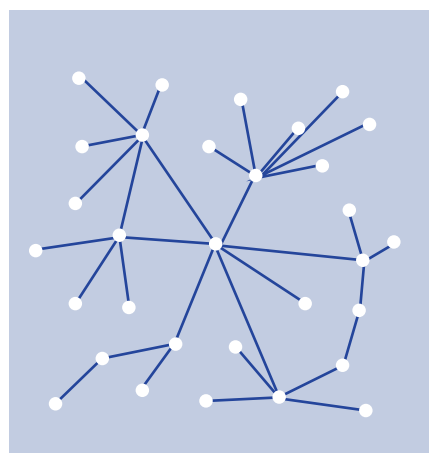
Precision CNC Intelligent Manufacturing

5-axis CNC machining center
Multi-station machining of CNC lathes using rotary hydraulic chucks, oneperson multi-machine operation, efficient manufacturing

CNC intelligent control cloud platform

Intelligent manufacturing cloud platform and ERP system height Realizing offline production and cloud management, including technical management, production management, quality management, financial management, performance management and other functional closed-loop intelligent manufacturing, the online work of all employees, and the digitalization of enterprise management.

Fully automatic 5-axis machining center, NB-IOT intelligent manufacturing cloud platform, and self-supplied supply chain system are all ensuring the energy saving effect and safe application of Newton's products



Newton's steam laboratory uses different pressures of steam to do type tests on each new product, Verify the pressure reduction ratio, closing performance and KV value of the pressure reducing valve; Verify the displacement curve, back pressure rate, and air leakage rate of steam traps, air traps, and pneumatic traps; Verify the displacement curve and fatigue times of pump traps; Verify the efficiency of jet pumps. We must check each steam product to leave the factory after passing the simulated action test.

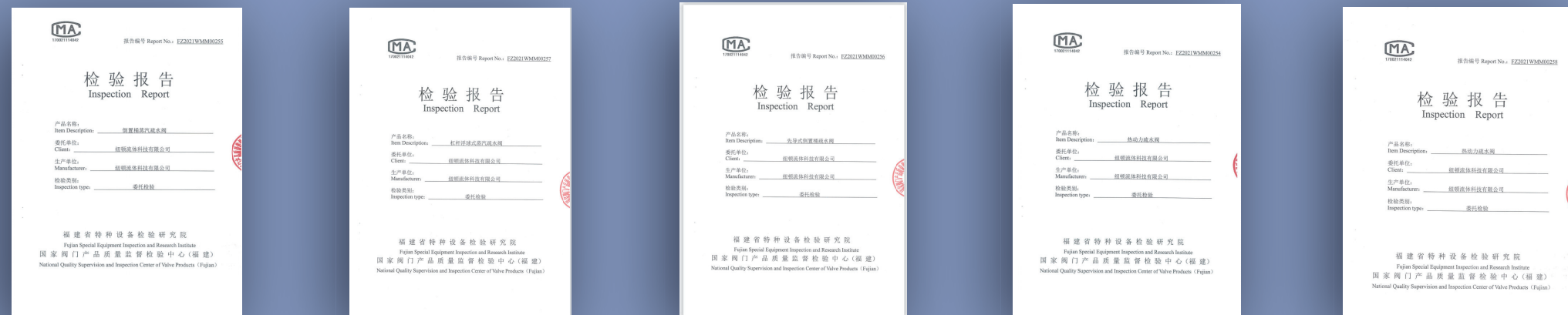
Certificates



Patents



Test reports



Steam System Products



Thermostatic (Bimetallic)
Steam Trap
SHT16/32

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | |
|-------------|----------|------------------|------|-----------------|------------------|----|----|
| | | | | | 15 | 20 | 25 |
| SHT16T/W-16 | A105/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● |
| SHT16F-16 | A105/SS | 1.6 | PN25 | Flange | ● | ● | ● |
| SHT32T/W-32 | A105/SS | 3.2 | PN40 | Threaded/Welded | ● | ● | ● |
| SHT32F-32 | A105/SS | 3.2 | PN40 | Flange | ● | ● | ● |

P23



Thermostatic (film box) Steam Trap
SKT16

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | |
|-----------|----------|------------------|------|------------|------------------|----|----|
| | | | | | 15 | 20 | 25 |
| SKT16T-16 | 304 | 1.6 | PN25 | Threaded | ● | ● | ● |
| SKT16F-16 | 304 | 1.6 | PN25 | Flange | ● | ● | ● |

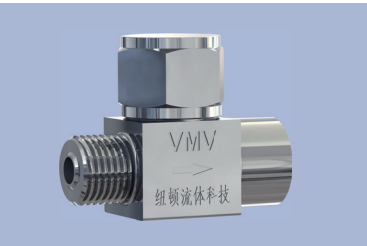
P27



Thermostatic (Bimetallic) Trap Station
SHT32TVS

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | |
|----------|----------|------------------|------|------------|------------------|----|----|
| | | | | | 15 | 20 | 25 |
| SHT32TVS | 304 | 3.2 | PN40 | Threaded | ● | ● | ● |
| SHT32TVS | 304 | 3.2 | PN40 | Flange | ● | ● | ● |

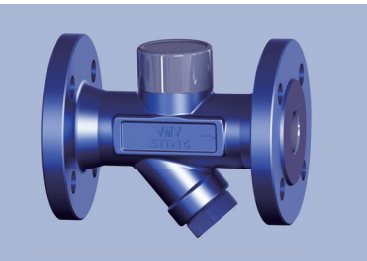
P30



Thermodynamic Steam Trap
STD01T

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | |
|-----------|----------|------------------|------|------------|------------------|----|
| | | | | | 15 | 20 |
| STD01T-10 | 304 | 1.0 | PN16 | Threaded | 1/4" | |

P33



Thermodynamic Steam Trap
STD16

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | |
|----------|----------|------------------|------|-----------------|------------------|----|----|
| | | | | | 15 | 20 | 25 |
| STD16T/W | A105/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● |
| STD16F | A105/SS | 1.6 | PN25 | Flange | ● | ● | ● |

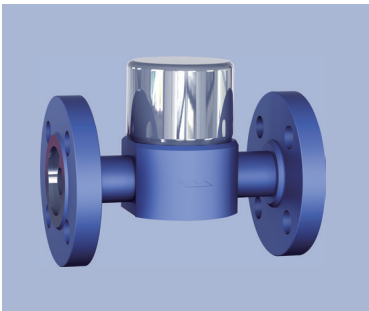
P34



Thermodynamic (Disc) Steam Trap
STD42

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | |
|-------------|-------------|------------------|------|-----------------|------------------|----|----|
| | | | | | 15 | 20 | 25 |
| STD42T/W-25 | A105/SS | 2.5 | PN40 | Threaded/Welded | ● | ● | ● |
| STD42F-25 | A105/SS | 2.5 | PN40 | Flange | ● | ● | ● |
| STD42T/W-42 | A105/15CrMo | 4.2 | PN63 | Threaded/Welded | ● | ● | ● |
| STD42F-42 | A105/15CrMo | 4.2 | PN63 | Flange | ● | ● | ● |

P35



Thermodynamic (Disc) Steam Trap
STD80

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | |
|--------|----------|------------------|-------|------------|------------------|----|----|
| | | | | | 15 | 20 | 25 |
| STD80W | 15CrMo | 8.0 | PN100 | Welded | ● | ● | ● |
| STD80F | 15CrMo | 8.0 | PN100 | Flange | ● | ● | ● |

P36



Inverted Bucket Steam Trap
SBT10 / SBT20
SBT24 / SBT30

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | | |
|-------------|----------|------------------|------|-----------------|------------------|----|----|----|----|----|
| | | | | | 15 | 20 | 25 | 32 | 40 | 50 |
| SBT10T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● | | | |
| SBT10F-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | ● | | |
| SBT20T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● | ● | | |
| SBT20F-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | ● | ● | |
| SBT24T/W-32 | WCB/SS | 3.2 | PN40 | Threaded/Welded | ● | ● | ● | ● | | |
| SBT24F-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | ● | ● | |
| SBT30T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | | ● | ● | ● | | |
| SBT30F-16 | WCB/SS | 1.6 | PN25 | Flange | | ● | ● | ● | ● | |

P37

Steam System Products



Inverted Bucket Steam Trap
SBT11A



Inverted Bucket Steam Trap
SBT11TVS



Pilot Inverted Bucket Steam Trap
SBT40 / SBT50
SBT53 / SBT60
SBT63



Lever Ball Float Steam Trap
SFT10

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | P43 |
|--------------|----------|------------------|------|-----------------|------------------|----|----|-----|
| | | | | | 15 | 20 | 25 | |
| SBT11AT/W-17 | CF8/SS | 1.7 | PN25 | Threaded/Welded | ● | ● | ● | |
| SBT11AF-17 | CF8/SS | 1.7 | PN25 | Flange | ● | ● | ● | |

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | P43 |
|----------|----------|------------------|------|-----------------|------------------|----|----|-----|
| | | | | | 15 | 20 | 25 | |
| SBT11TVS | CF8/SS | 1.7 | PN25 | Threaded/Welded | ● | ● | ● | |
| SBT11TVS | CF8/SS | 1.7 | PN25 | Flange | ● | ● | ● | |

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | | | |
|-------------|----------|------------------|------|-----------------|------------------|----|----|----|----|----|--|
| | | | | | 25 | 32 | 40 | 50 | 65 | 80 | |
| SBT40T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | | | | | |
| SBT40F-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | ● | | | |
| SBT50F-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | ● | ● | ● | |
| SBT53F-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | ● | ● | ● | |
| SBT60F-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | ● | ● | ● | |
| SBT63F-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | ● | ● | ● | |

P45

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | P55 |
|-------------|----------|------------------|------|-----------------|------------------|----|----|-----|
| | | | | | 15 | 20 | 25 | |
| SFT10T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● | |
| SFT10F-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | |

Steam System Products



Lever Ball Float Steam Trap
SFT10A / SFT13A



Lever Ball Float Steam Trap
SFT20 / SFT23
SFT30 / SFT40



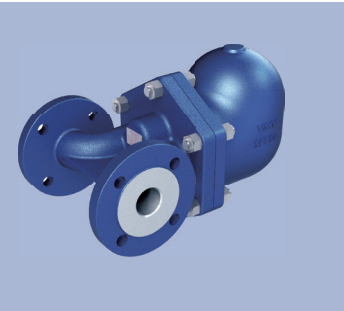
Lever Ball Float Proportional Regulating
Steam Trap
SFT30A

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | P56 |
|--------------|----------|------------------|------|-----------------|------------------|----|----|-----|
| | | | | | 15 | 20 | 25 | |
| SFT10AT/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● | |
| SFT10AF-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | |
| SFT13AF-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | |

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | | | P57 |
|-------------|----------|------------------|------|-----------------|------------------|----|----|----|----|----|-----|
| | | | | | 15 | 20 | 25 | 32 | 40 | 50 | |
| SFT20T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● | | | | |
| SFT20F-16 | WCB/SS | 1.6 | PN25 | Flange | ● | ● | ● | ● | ● | ● | |
| SFT23T/W-32 | WCB/SS | 3.2 | PN40 | Threaded/Welded | ● | ● | ● | | | | |
| SFT23F-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | ● | ● | ● | |
| SFT30T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | | ● | ● | ● | | | |
| SFT30F-16 | WCB/SS | 1.6 | PN25 | Flange | | ● | ● | ● | ● | ● | |
| SFT40F-16 | WCB/SS | 1.6 | PN25 | Flange | | ● | ● | ● | ● | ● | |

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | P64 |
|--------------|----------|------------------|------|-----------------|------------------|----|----|----|-----|
| | | | | | 25 | 32 | 40 | 50 | |
| SFT30AT/W-32 | WCB/SS | 3.2 | PN40 | Threaded/Welded | ● | ● | | | |
| SFT30AF-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | ● | |

Steam System Products



Lever Ball Float Steam Trap
SFT50 / SFT53

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | P60 |
|-----------|----------|------------------|------|------------|------------------|----|----|----|-----|
| | | | | | 32 | 40 | 50 | 65 | |
| SFT50F-16 | WCB/SS | 1.6 | PN40 | Flange | ● | ● | ● | ● | |
| SFT50F-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | ● | |



Lever Ball Float Steam Trap
SFT60

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | P61 |
|-----------|----------|------------------|-------|------------|------------------|----|----|----|-----|
| | | | | | 40 | 50 | 60 | 80 | |
| SFT60F-20 | WCB/SS | 2.0 | PN40 | Flange | ● | ● | ● | ● | |
| SFT60F-32 | WCB/SS | 3.2 | P N40 | Flange | ● | ● | ● | ● | |



Lever Ball Float Steam Trap
SFT66

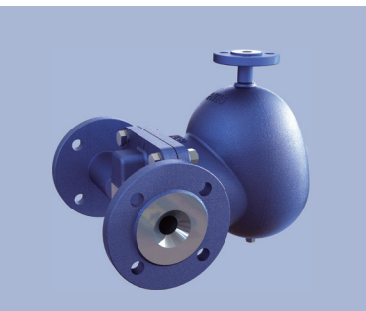
| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | P62 |
|-----------|----------|------------------|-------|------------|------------------|----|----|----|-----|
| | | | | | 40 | 50 | 60 | 80 | |
| SFT66F-45 | WCB/SS | 45 | PN100 | Flange | ● | ● | ● | ● | |
| SFT66F-65 | WC6/SS | 65 | PN100 | Flange | ● | ● | ● | ● | |



Lever Ball Float Steam Trap
SFT70

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | P63 |
|-----------|----------|------------------|------|------------|------------------|----|-----|-----|
| | | | | | 65 | 80 | 100 | |
| SFT70F-20 | WCB/SS | 2.0 | PN40 | Flange | ● | ● | ● | |
| SFT70F-32 | WCB/SS | 3.2 | PN40 | Flange | ● | ● | ● | |

Steam System Products



Lever Ball Float Air Trap
AFT20 / AFT30
AFT40

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | | P65 |
|-------------|----------|------------------|------|-----------------|------------------|----|----|----|----|-----|
| | | | | | 15 | 20 | 25 | 32 | 40 | |
| AFT20T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | ● | ● | ● | | | |
| AFT20F-16 | WCB/SS | 1.6 | PN25 | Flange | | ● | ● | ● | ● | |
| AFT30T/W-16 | WCB/SS | 1.6 | PN25 | Threaded/Welded | | | ● | ● | | |
| AFT30F-16 | WCB/SS | 1.6 | PN25 | Flange | | | ● | ● | ● | |
| AFT40F-16 | WCB/SS | 1.6 | PN25 | Flange | | | ● | ● | ● | |



Pump Trap
PT20

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | P74 |
|-------|----------|------------------|------|------------|------------------|----|-----|
| | | | | | 50 | 80 | |
| PT20 | WCB/SS | 1.37 | PN16 | Flange | ● | ● | |

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | P76 |
|--------|----------|------------------|------|------------|------------------|----|-----|-----|
| | | | | | 50 | 80 | 100 | |
| SPT20S | CS/SS | 1.37 | PN16 | Flange | ● | ● | | |
| SPT20D | CS/SS | 1.37 | PN16 | Flange | | ● | | |
| SPT20T | CS/SS | 1.37 | PN16 | Flange | | | ● | |
| | | | | | | | | |



System Device of Single Pump Trap
SPT20S

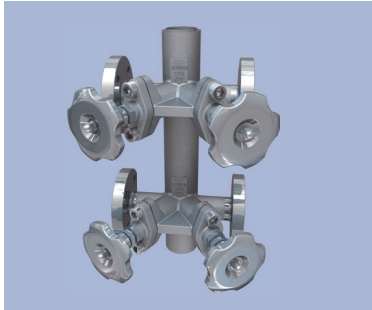


System Device of Double Pump Trap
SPT20D



System Device of Three pump Trap
SPT20T

Steam System Products



Bellows Stainless Steel Steam
Distribution Manifolds
BSPM03 / BCRM03

| Name | Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | |
|---|--------|----------|------------------|------------|-------------|------------------|----|
| | | | | | | 25 | 40 |
| Bellows Stainless Steel Steam Distribution Tube Manifolds | BSPM03 | CF8/SS | 5 | PN40 CL300 | RF/RC / LOC | ● | ● |
| Bellows Stainless Steel Condensate Collection Manifolds | BCPM03 | CF8/SS | 5 | PN40 CL300 | RF/RC/ LOC | ● | ● |

P83



Bellows Forged Steel Steam
Distribution Manifolds
BSPM02 / BCRM02

| Name | Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | |
|--|--------|----------|------------------|------------|-------------|------------------|----|
| | | | | | | 25 | 40 |
| Bellows Forged Steel Steam Distribution Manifolds | BSPM02 | A105/SS | 5 | PN40 CL300 | RF/RC / LOC | ● | ● |
| Bellows Forged Steel Condensate Collection Manifolds | BCPM02 | A105/SS | 5 | PN40 CL300 | RF/RC/ LOC | ● | ● |

P88



Bellows Seal Globe Valve

| Name | Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter 15 20 ... 400 | | |
|-----------------------------|-----------|----------|------------------|---------------|------------|-----------------------------------|---|---|
| Bellows Seal Globe Valve | WJ41H-16C | WCB/304 | 1.6 | PN16 CL150 | RF | ● | ● | ● |
| Bellows Seal Globe Valve | WJ41H-25C | WCB/304 | 2.5 | PN25 CL150 | RF | ● | ● | ● |
| Bellows Seal Globe Valve | WJ41H-40C | WCB/304 | 4.0 | PN40 CL300 | RF | ● | ● | ● |

P95



Bellows Seal Gate Valve

| Name | Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter 15 20 ... 400 | | |
|----------------------------|-----------|----------|------------------|---------------|------------|-----------------------------------|---|---|
| Bellows Seal Gate Valve | WZ41H-16C | WCB/SS | 1.6 | PN16 CL150 | RF | ● | ● | ● |
| Bellows Seal Gate Valve | WZ41H-25C | WCB/SS | 2.5 | PN25 CL150 | RF | ● | ● | ● |
| Bellows Seal Gate Valve | WZ41H-40C | WCB/SS | 4.0 | PN40 CL300 | RF | ● | ● | ● |

P97

Steam System Products



Vacuum Breaker
VB21



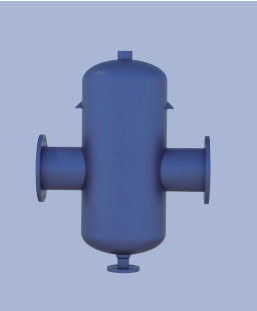
Silencer
DF3

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | |
|-------|----------|------------------|------|------------|------------------|----|----|
| | | | | | 15 | 20 | 25 |
| VB21 | 304 | 2.1 | PN25 | RC | ● | ● | ● |
| DF3 | 304 | 4 | PN40 | RC | ● | ● | ● |

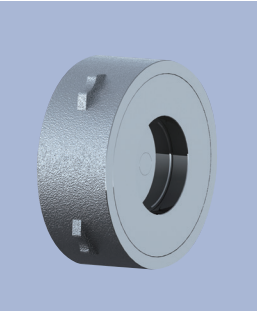
P99
P101



Mixer
IM40M



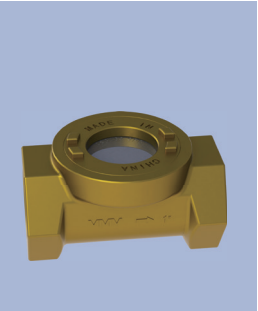
Water Separator
AS7



Wafer Check Valve
Z71H-25P



Y strainer



Sight Glass

| Model | Material | Max W. P. MPa | PN | Connection | Nominal Diameter | | | | | | | | | | | |
|-------------|----------|------------------|------|------------|------------------|----|----|----|----|----|----|----|-----|-----|-----|-----|
| | | | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
| IM40M | 304 | 4 | PN40 | RC | | | | | ● | | | | | | | |
| AS7 | 20# | 1.6 | PN16 | RC | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Z71H-25P | CF8 | 1.6 | PN16 | RC | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| Y-STAINER | WCB | 4 | PN40 | RC | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Sight Glass | Brass | 0.5 | PN5 | RC | ● | ● | ● | | | | | | | | | |

P102

P103

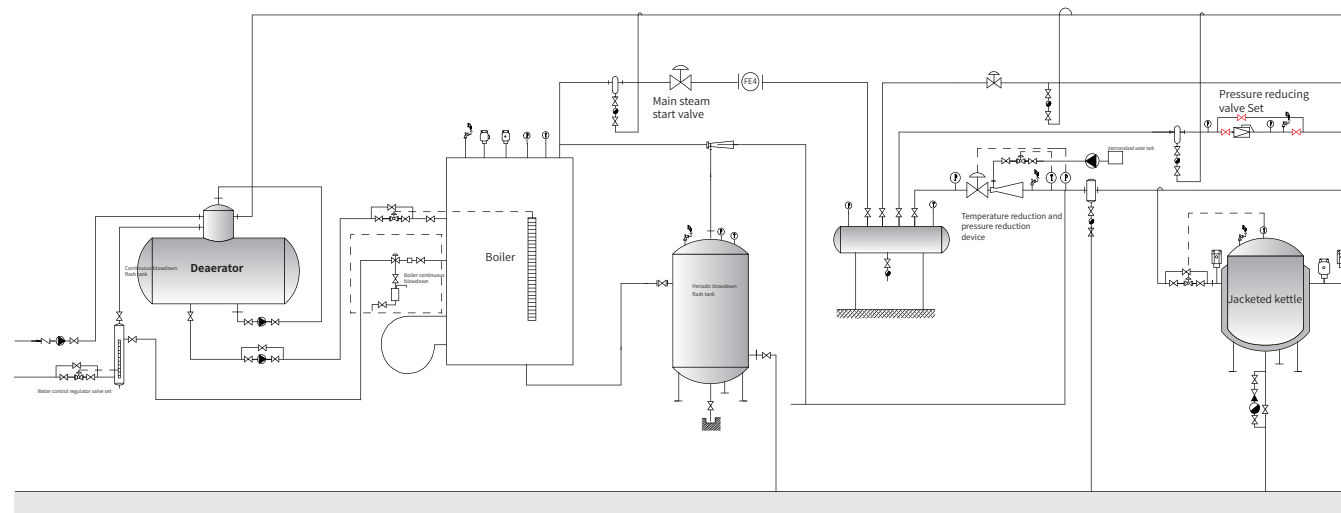
P104

P105

P106

Knowledge Consulting Product Service

Steam Expertise



K—Knowledge Provide professional knowledge of steam, including steam properties, selection of pressure reducing valve, solutions of temperature reduction and pressure reduction device, control system of pressure flow, process piping of steam pipeline, selection of trap, recovery of condensate, solutions of steam recovery, etc.

C—Consulting System consultation diagnosis and design process plan. With the assistance of the user, have a detailed understanding of the production equipment, through on-site photography, recording detailed data, searching for process flow charts, and in-depth understanding of the current status of steam system piping, steam and condensate use, and finding out the existing problems of the system, according to The industrial energy-saving standard workbook compiled by VMV proposes optimization plans and formulates process plans.

P—Product Provide quality and reliable products.

Safe, reliable and switch flexible bellows globe valve;

High-efficiency, energy-saving, long-life steam traps, pump traps for heat recovery, and condensate recovery devices;

Safe and reliable pressure reducing valve group and temperature reducing and pressure reducing device;

Space and cost saving, easy to maintain steam distribution bundles and condensate manifold bundles;

Suitable for high-performance exhaust valves, air traps, drain valves, vacuum breakers, check valves, filters, silencer, mixers and other piping accessories under various working conditions.

S—Service Provide timely pre-sale and after-sale service. Establish a complete online and offline communication mechanism, so that every user can enjoy the technical services and technical support provided by VMV, and realize the concept of serving users.

Professional Terms

Saturated steam: refers to pure steam corresponding to the boiling point temperature of water under a certain pressure.

Superheated Steam: Steam with a temperature higher than saturated steam.

Absolute pressure and gauge pressure: Absolute pressure refers to the pressure in MPa relative to ideal vacuum; gauge pressure refers to the pressure in MPa relative to atmospheric pressure.

Example: 1 atmosphere equals 0.1013MPa absolute pressure. Gauge pressure plus 0.1013MPa equals absolute pressure.

Steam pressure/temperature: The saturation temperature corresponding to any pressure of saturated steam.

Example: The saturation temperature corresponding to the gauge pressure of saturated steam of 2 bar is 133.56°C.

Sensible heat of saturated water: The heat required to heat 1kg of water from 0°C to the boiling point under a certain pressure, and the unit of heat is kJ.

Latent heat or heat of evaporation: Under a certain pressure, the heat required to heat 1 kg of water into steam of the same pressure is called the heat of evaporation. On the contrary, the heat released by cooling 1 kg of steam of a certain pressure into condensed water of the same pressure is called latent heat. The unit of heat is kJ.

Total heat of steam: latent heat of steam + sensible heat of condensed water is the total heat of steam, that is, all heat above zero under a certain pressure.

1KG steam (6bar)
temperature 164°C
enthalpy value 659kcal

=

work release heat
494Kcal
accounts for 75%
of total calories

+

Condensate heat 165Kcal
temperature 164°C
accounts for 25%
of total heat

Measures for Efficient Utilization of Steam Thermal Energy

- Use superheated steam for steam delivery as much as possible.
- Reduce steam pressure and increase steam latent heat through pressure reducing valve Set or desuperheating and pressure reducing device.
- Improve the steam utilization rate, do a good job of heat preservation, reasonably select different types and different displacement traps, and use high-quality steam traps to prevent leakage.
- Recover the heat of the condensed water and make full use of the sensible heat of the condensed water. Use flash tank to extract low-pressure steam, back pressure to recover condensate, pump trap to recover condensate, electric pump to recover condensate, flash steam, heat exchanger to extract heat energy, etc.
- Recovery of spent steam through direct and indirect heat exchangers and heat pump suction.
- Use multi-stage heating to improve equipment steam utilization, such as double-effect, multi-effect concentration; multi-stage air preheating heating coil.
- Attach great importance to the removal of non-condensable gases from pipes and equipment.
- Reasonable piping to prevent steam lock.

Properties of Steam

Properties of Steam

| Gauge bar | Saturation Temperature °C | Sensible heat of water (specific enthalpy) kcal/kg | Latent heat of evaporation (specific enthalpy) kcal/kg | Total heat of steam (specific enthalpy) kcal/kg | Steam density kg/m3 | Density of water kg/m³ |
|-----------|---------------------------|--|--|---|---------------------|------------------------|
| 0 | 99.63 | 99.73 | 539.23 | 638.96 | 0.590 | 958.59 |
| 0.5 | 111.38 | 111.59 | 531.72 | 643.31 | 0.862 | 949.94 |
| 1 | 120.24 | 120.58 | 525.88 | 646.46 | 1.129 | 942.95 |
| 1.5 | 127.44 | 127.91 | 521.01 | 648.92 | 1.391 | 937.03 |
| 2 | 133.56 | 134.15 | 516.78 | 650.93 | 1.651 | 931.79 |
| 2.5 | 138.89 | 139.61 | 513.02 | 652.63 | 1.907 | 927.13 |
| 3 | 143.64 | 144.49 | 509.6 | 654.09 | 2.162 | 922.93 |
| 3.5 | 147.94 | 148.91 | 506.46 | 655.37 | 2.416 | 918.95 |
| 4 | 151.87 | 152.96 | 503.54 | 656.5 | 2.668 | 915.33 |
| 4.5 | 155.49 | 156.71 | 500.81 | 657.52 | 2.918 | 911.16 |
| 5 | 158.86 | 160.2 | 498.23 | 658.43 | 3.168 | 908.6 |
| 5.5 | 162.02 | 163.48 | 495.78 | 659.26 | 3.417 | 904.9 |
| 6 | 164.98 | 166.57 | 493.45 | 660.02 | 3.666 | 902.61 |
| 6.5 | 167.79 | 169.49 | 491.22 | 660.71 | 3.913 | 899.2 |
| 7 | 170.44 | 172.27 | 489.08 | 661.35 | 4.160 | 897.02 |
| 7.5 | 172.97 | 174.92 | 487.01 | 661.94 | 4.407 | 893.97 |
| 8 | 175.39 | 177.45 | 485.02 | 662.48 | 4.653 | 891.9 |
| 8.5 | 177.70 | 179.88 | 483.1 | 662.98 | 4.899 | 889.05 |
| 9 | 179.92 | 182.22 | 481.23 | 663.45 | 5.144 | 887.15 |
| 9.5 | 182.05 | 184.47 | 479.42 | 663.89 | 5.390 | 884.88 |
| 10 | 184.10 | 186.64 | 477.66 | 664.3 | 5.635 | 882.61 |
| 10.5 | 186.08 | 188.74 | 475.94 | 664.68 | 5.880 | 880.51 |
| 11 | 188.00 | 190.77 | 474.27 | 665.04 | 6.125 | 878.35 |
| 11.5 | 189.85 | 192.74 | 472.63 | 665.37 | 6.369 | 876.35 |
| 12 | 191.64 | 194.65 | 471.03 | 665.68 | 6.614 | 874.28 |
| 12.5 | 193.39 | 196.51 | 469.47 | 665.97 | 6.858 | 872.37 |
| 13 | 195.08 | 198.32 | 467.93 | 666.25 | 7.103 | 870.4 |
| 13.5 | 196.72 | 200.08 | 466.43 | 666.51 | 7.347 | 868.51 |
| 14 | 198.33 | 201.8 | 464.95 | 666.75 | 7.592 | 866.7 |
| 14.5 | 199.89 | 203.48 | 463.5 | 666.97 | 7.836 | 864.9 |
| 15 | 201.41 | 205.11 | 462.07 | 667.19 | 8.081 | 863.11 |
| 15.5 | 202.90 | 206.71 | 460.67 | 667.39 | 8.326 | 861.33 |
| 16 | 204.35 | 208.28 | 459.29 | 667.57 | 8.570 | 859.62 |
| 16.5 | 205.76 | 209.81 | 457.93 | 667.75 | 8.815 | 857.93 |
| 17 | 207.15 | 211.32 | 456.6 | 667.91 | 9.060 | 856.24 |

| Gauge bar | Saturation Temperature °C | Sensible heat of water (specific enthalpy) kcal/kg | Latent heat of evaporation (specific enthalpy) kcal/kg | Total heat of steam (specific enthalpy) kcal/kg | Steam density kg/m3 | Density of water kg/m³ |
|-----------|---------------------------|--|--|---|---------------------|------------------------|
| 17.5 | 208.51 | 212.79 | 455.28 | 668.07 | 9.305 | 854.63 |
| 18 | 209.84 | 214.23 | 453.98 | 668.21 | 9.550 | 853.02 |
| 18.5 | 211.14 | 215.65 | 452.69 | 668.35 | 9.796 | 851.43 |
| 19 | 212.42 | 217.04 | 451.43 | 668.47 | 10.041 | 849.83 |
| 19.5 | 213.67 | 218.41 | 450.18 | 668.59 | 10.287 | 850.48 |
| 20 | 214.90 | 219.76 | 448.94 | 668.69 | 10.533 | 846.81 |
| 20.5 | 216.10 | 221.08 | 447.72 | 668.79 | 10.779 | 845.24 |
| 21 | 217.29 | 222.38 | 446.51 | 668.89 | 11.025 | 843.81 |
| 21.5 | 218.45 | 223.66 | 445.32 | 668.97 | 11.272 | 842.32 |
| 22 | 219.60 | 224.92 | 444.14 | 669.05 | 11.519 | 840.83 |
| 22.5 | 220.72 | 226.16 | 442.97 | 669.12 | 11.766 | 839.42 |
| 23 | 221.83 | 227.38 | 441.81 | 669.19 | 12.013 | 838.01 |
| 23.5 | 222.92 | 228.58 | 440.67 | 669.25 | 12.260 | 836.61 |
| 24 | 223.99 | 229.77 | 439.53 | 669.3 | 12.508 | 835.21 |
| 24.5 | 225.05 | 230.94 | 438.41 | 669.35 | 12.756 | 833.82 |
| 25 | 226.09 | 232.1 | 437.3 | 669.39 | 13.004 | 832.43 |
| 25.5 | 227.11 | 233.24 | 436.19 | 669.43 | 13.253 | 831.12 |
| 26 | 228.12 | 234.36 | 435.1 | 669.46 | 13.502 | 829.74 |
| 26.5 | 229.11 | 235.48 | 434.01 | 669.49 | 13.751 | 828.43 |
| 27 | 230.10 | 236.57 | 432.94 | 669.51 | 14.000 | 827.13 |
| 27.5 | 231.06 | 237.66 | 431.87 | 669.53 | 14.250 | 825.83 |
| 28 | 232.02 | 238.73 | 430.81 | 669.54 | 14.500 | 824.54 |
| 28.5 | 232.96 | 239.79 | 429.76 | 669.55 | 14.750 | 823.25 |
| 29 | 233.89 | 240.83 | 428.72 | 669.56 | 15.001 | 821.96 |
| 29.5 | 234.81 | 241.87 | 427.69 | 669.56 | 15.252 | 820.75 |
| 30 | 235.72 | 242.89 | 426.66 | 669.55 | 15.504 | 819.47 |
| 30.5 | 236.61 | 243.9 | 425.64 | 669.54 | 15.755 | 816.99 |
| 31 | 237.50 | 244.91 | 424.63 | 669.54 | 16.007 | 814.6 |
| 31.5 | 238.37 | 245.9 | 423.62 | 669.52 | 16.260 | 812.22 |
| 32 | 239.24 | 246.88 | 422.62 | 669.5 | 16.513 | 809.85 |
| 32.5 | 240.09 | 247.85 | 421.63 | 669.48 | 16.766 | 807.49 |
| 33 | 240.94 | 248.81 | 420.64 | 669.46 | 17.019 | 805.22 |
| 33.5 | 241.77 | 249.76 | 419.66 | 669.43 | 17.273 | 802.95 |
| 34 | 242.60 | 250.71 | 418.69 | 669.4 | 17.527 | 800.7 |
| 34.5 | 243.41 | 251.64 | 417.72 | 669.36 | 17.782 | 798.47 |

Condensate Pipe Diameter/Velocity/Flow table

Professional Terms

| DN | Flow m³/h | | | | | | | | | | | | | |
|-----|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 0.4m/s | 0.6m/s | 0.8m/s | 1.0m/s | 1.2m/s | 1.4m/s | 1.6m/s | 1.8m/s | 2.0m/s | 2.2m/s | 2.4m/s | 2.6m/s | 2.8m/s | 3.0m/s |
| 20 | 0.5 | 0.7 | 0.9 | 1.1 | 1.4 | 1.6 | 1.8 | 2 | 2.3 | 2.5 | 2.7 | 2.9 | 3.2 | 3.4 |
| 25 | 0.7 | 1.1 | 1.4 | 1.8 | 2.1 | 2.5 | 2.8 | 3.2 | 3.5 | 3.9 | 4.2 | 4.6 | 4.9 | 5.3 |
| 32 | 1.2 | 1.7 | 2.3 | 2.9 | 3.5 | 4.1 | 4.6 | 5.2 | 5.8 | 6.4 | 6.9 | 7.5 | 8.1 | 8.7 |
| 40 | 1.8 | 2.7 | 3.6 | 4.5 | 5.4 | 6.3 | 7.2 | 8.1 | 9 | 10 | 10.9 | 11.8 | 12.7 | 13.6 |
| 50 | 2.8 | 4.2 | 5.7 | 7.1 | 8.5 | 9.9 | 11.3 | 12.7 | 14.1 | 15.6 | 17 | 18.4 | 19.8 | 21.2 |
| 65 | 4.8 | 7.2 | 9.6 | 11.9 | 14.3 | 16.7 | 19.1 | 21.5 | 23.9 | 26.3 | 28.7 | 31.1 | 33.4 | 35.8 |
| 80 | 7.2 | 10.9 | 14.5 | 18.1 | 21.7 | 25.3 | 29 | 32.6 | 36.2 | 39.8 | 43.4 | 47 | 50.7 | 54.3 |
| 100 | 11.3 | 17 | 22.6 | 28.3 | 33.9 | 39.6 | 45.2 | 50.9 | 56.5 | 62.2 | 67.9 | 73.5 | 79.2 | 84.8 |
| 125 | 17.7 | 26.5 | 35.3 | 44.2 | 53 | 61.9 | 70.7 | 79.5 | 88.4 | 97.2 | 106 | 114.9 | 123.7 | 132.5 |
| 150 | 25.4 | 38.2 | 50.9 | 63.6 | 76.3 | 89.1 | 101.8 | 114.5 | 127.2 | 140 | 152.7 | 165.4 | 178.1 | 190.9 |
| 200 | 45.2 | 67.9 | 90.5 | 113.1 | 135.7 | 158.3 | 181 | 203.6 | 226.2 | 248.8 | 271.4 | 294.1 | 316.7 | 339.3 |
| 250 | 70.7 | 106 | 141.4 | 176.7 | 212.1 | 247.4 | 282.7 | 318.1 | 353.4 | 388.8 | 424.1 | 459.5 | 494.8 | 530.1 |
| 300 | 101.8 | 152.7 | 203.6 | 254.5 | 305.4 | 356.3 | 407.1 | 458 | 508.9 | 559.8 | 610.7 | 661.6 | 712.5 | 763.4 |
| 350 | 138.5 | 207.8 | 277.1 | 346.4 | 415.6 | 484.9 | 554.2 | 623.4 | 692.7 | 762 | 831.3 | 900.5 | 969.8 | 1039.1 |
| 400 | 181 | 271.4 | 361.9 | 452.4 | 542.9 | 633.3 | 723.8 | 814.3 | 904.8 | 995.3 | 1085.7 | 1176.2 | 1266.7 | 1357.2 |
| 450 | 229 | 343.5 | 458 | 572.6 | 687.1 | 801.6 | 916.1 | 1030.6 | 1145.1 | 1259.6 | 1374.1 | 1488.6 | 1603.2 | 1717.7 |
| 500 | 282.7 | 424.1 | 565.5 | 706.9 | 848.2 | 989.6 | 1131 | 1272.3 | 1413.7 | 1555.1 | 1696.5 | 1837.8 | 1979.2 | 2120.6 |
| 600 | 407.1 | 610.7 | 814.3 | 1017.9 | 1221.4 | 1425 | 1628.6 | 1832.2 | 2035.7 | 2239.3 | 2442.9 | 2646.5 | 2850 | 3053.6 |

Technical Standard

| | |
|--|--|
| GB/T12250-2005 "Steam Trap Terminology Marking Structure Length" | JB/T53169-1994 "Quality Classification of Steam Traps" |
| GB/T22654-2008 "Technical Conditions for Steam Traps" | JB/T 7928 "General Valve Supply Requirements" |
| GB/T12251-2005 "Test methods for steam traps" | JB/T 308 "valve model compilation method" |

Professional Terms

Nominal diameter DN: It is the size expressed by a number that is common to all accessories in the piping system. The parts identified by thread or outer diameter have been distinguished. The nominal diameter is a convenient original integer for reference.

Nominal pressure PN: It is a pressure-related identification code expressed in numbers, and is a convenient original integer for reference.

Working pressure PO: Valve pressure at the applicable medium temperature.

Maximum operating pressure PMO: Under correct operating conditions, the maximum pressure at the inlet end of the trap.

Maximum allowable pressure PMA: At a given temperature, the maximum pressure that the trap casing can withstand permanently.

Minimum operating pressure POM: Min. operating pressure Under correct operating conditions, the minimum pressure at the inlet end of the trap.

Working back pressure: It is the pressure at the outlet end of the steam trap under working conditions.

Maximum working back pressure: It is the maximum pressure at the outlet end of the steam trap when it can operate correctly under the maximum working pressure.

Back pressure rate: The percentage of working back pressure and working pressure.

Working pressure difference: The difference between the working pressure and the working back pressure .

Maximum working pressure difference: between the maximum working pressure and the maximum working back pressure of Max operating different pressure.

Operating temperature TO: valve temperature in the applicable medium.

Maximum operating temperature TMO: The maximum temperature that the medium is allowed to use under the specified pressure.

Maximum allowable temperature TMA: The maximum temperature that the trap casing can withstand permanently under a given pressure.

Sub cooled temperature: The absolute value of the difference between the condensate temperature and the saturation temperature at the corresponding pressure.

Cold condensate capacity quantity QC: The steam trap can drain maximum weight of condensate within one hour at a given differential pressure and 20°C .

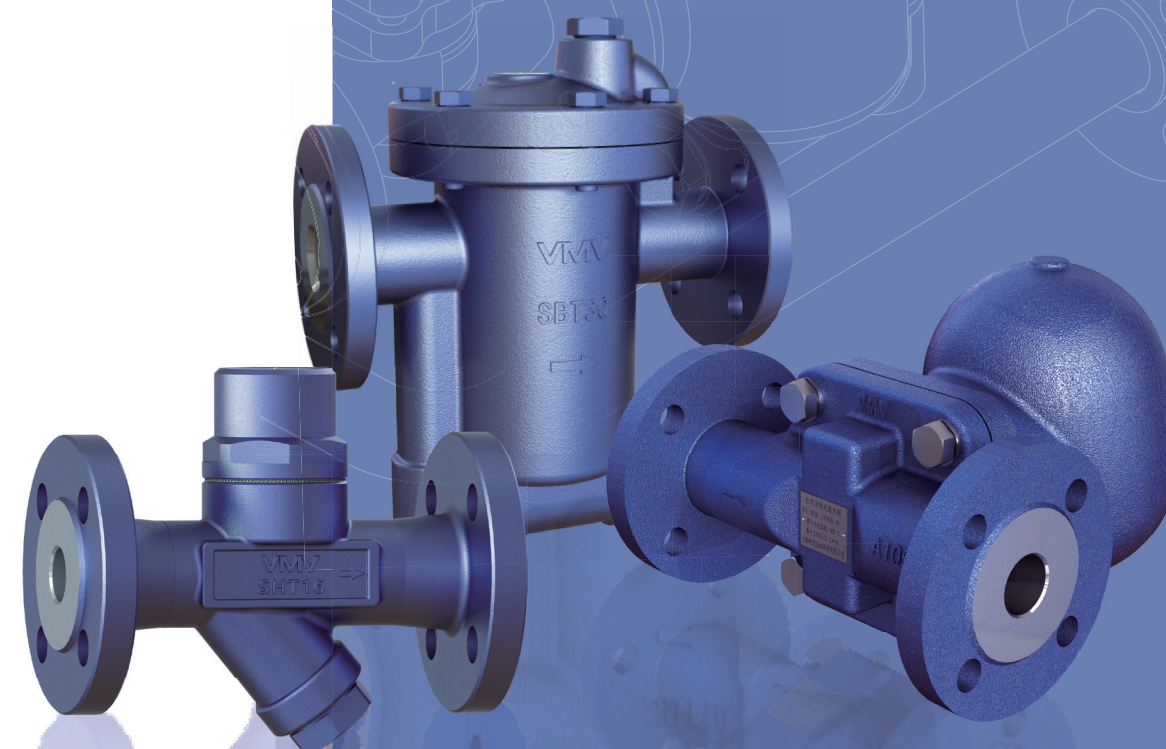
Hot condensate capacity QH: The maximum weight of condensate that the steam trap can discharge within one hour at a given pressure difference and temperature.

Steam loss quantity QL: The amount of fresh steam leaking from the steam trap per unit time.

No load steam loss quantity QNL: The quantity of leaked steam under the condition of fully saturated steam before the steam trap.

Loads steam loss quantity QLL: The steam leakage quantity of the steam trap under a given load rate.

Steam Trap



Thermostatic(Bimetallic)Steam Trap

Thermostatic(Bimetallic)Steam Trap

Bimetallic trap is characterized by large undercooling, long life, good energy saving effect, water hammer resistance, beautiful appearance and so on. It is widely used in heat tracing and steam pipelines.

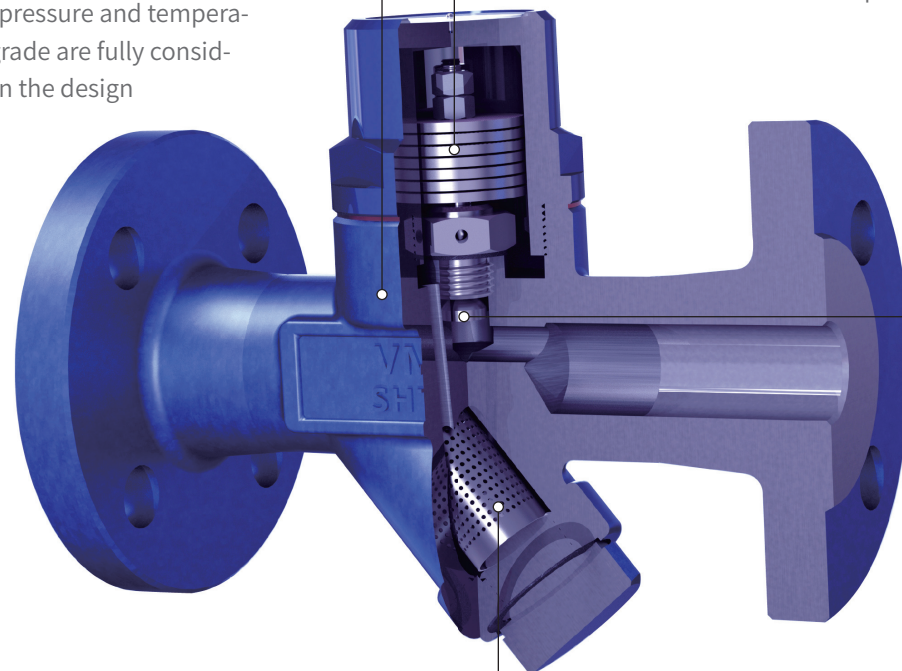
The technical advantages of VMV traps are unique and resonable structure and high precision internal parts

High Corrosion Resistance

A105 material is adopted, and the corrosion allowance, minimum shell wall thickness, pressure and temperature grade are fully considered in the design

Imported Bimetallic Sheet

The imported bimetal sheet guarantees the specific bending value
Temperature structure can be adjustable
Precise temperature control



Built-in Filter

Effectively prevent pipeline impurities into the valve, ensure the normal work of the trap, and prevent water hammer damage to internal components.

Linear Seal Closing System

Unique linear sealing closing system and micron class high precision seat and spool ensure reliable closing without steam leakage

Structural characteristics

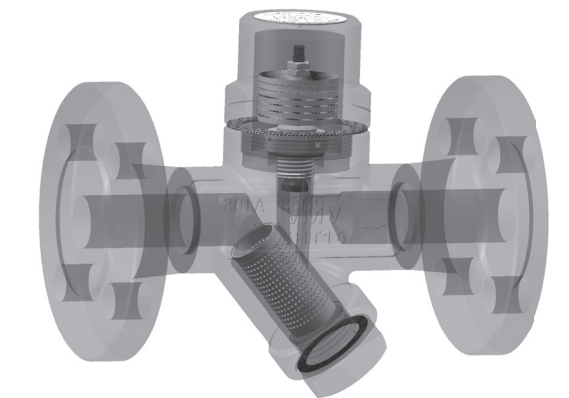
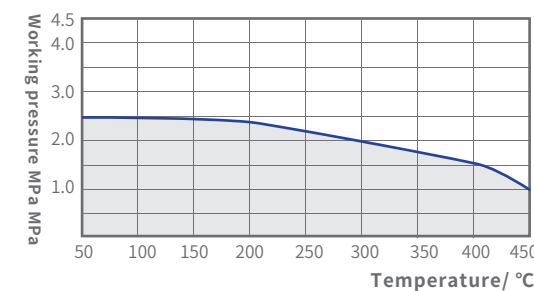
A105 is used for VMV bimetallic trap body and bonnet, and the condensate discharge temperature can be adjusted as required.

The bimetallic steam trap adopts a line sealing closing system, which has no original steam leakage, no noise, good air exhausting capacity, and makes full use of the sensible heat of condensed water, resulting in good energy saving effect.

Bimetallic traps work on the difference in temperature between steam and condensate. When the condensed water stays in the pipeline due to the high temperature, the bimetal deforms when the temperature of the energy to be released decreases, and the valve seat opens to discharge the condensed water. The user can adjust the discharge temperature of the trap at any time according to the season.

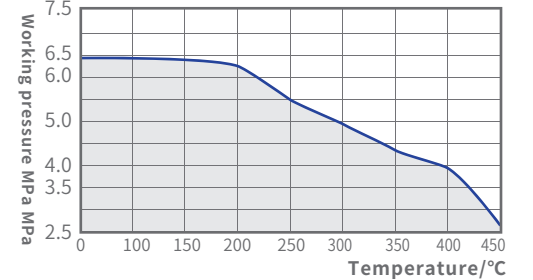
WCB/A105 Material PN25

Valve Body Pressure-Temperature Ratings



WCB/A105 Material PN63

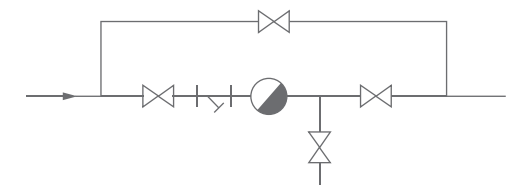
Valve Body Pressure-Temperature Ratings



Selection and Installation of Bimetallic Steam Traps

The bimetallic trap drains continuously. The normal discharge temperature of SHT16 is 120-130°C, and the discharge temperature of SHT32 is 140-150°C (users can adjust it by themselves). If there is a requirement for degree of undercooling, please indicate it when ordering. The back pressure rate of bimetallic steam traps can reach 50% (back-end pipeline pressure/steam pressure), which is not suitable for closed recovery system, but suitable for pipeline and heat tracing system to remove condensate. In general, the safety factor is 2-3 times.

Notice: The amount of condensed water and differential pressure of steam-using equipment are important indicators for selection. The same type of trap will increase its displacement with the increase of differential pressure. Check the displacement curve in detail. Please do not mistake it for a trap with larger diameter has larger displacement



The bimetallic trap can be installed at any position on the pipeline or equipment. The basic configuration of the trap is shown in the figure above.

Thermostatic(Bimetallic)Steam Trap

Thermostatic(Bimetallic)Steam Trap

SHT16 Thermostatic(Bimetallic)Steam Trap



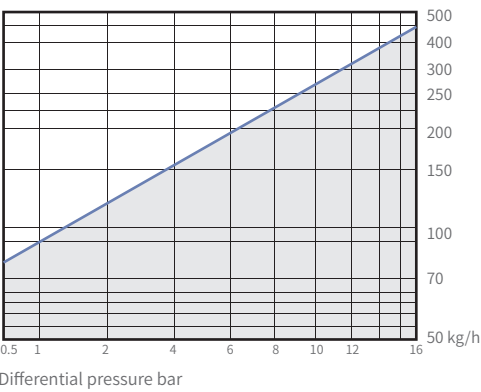
Technical Parameters

| | |
|-----------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure(Shell) | 2.45MPa/200°C |
| Max. allowable temperature(Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material

Bonnet: A105/F304/F316 **Disc:** Martensitic stainless steel
Body: A105/F304/F316 **Other internal parts:** Stainless steel
Seat: Martensitic stainless steel

SHT16 Displacement Curve



Working Principle

- The working principle of the bimetallic trap is to rely on the different temperature between saturated steam and condensed water.
- When the set temperature is reached, the condensed water is continuously removed.

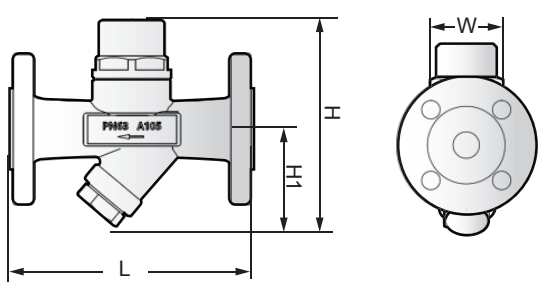
Features

- The valve body and valve bonnet are all made of forged steel A105.
- The valve disc and valve seat are made of special stainless steel with heat treatment.The disc hardness is as high as HRC55, which improves the service life of the trap.
- Imported bimetallic ensure precise temperature control.
- The closing system adopts high-precision wire sealing structure.
- Built-in filter makes the trap work in a clean environment.
- The back pressure rate is as high as 50% or more.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| unit (mm) | | | | | | |
|-----------|--------------|-----|-----|----|----|--------|
| Model | Nominal size | L | H | H1 | W | Weight |
| SHT16T | DN15-25 | 90 | 145 | 68 | 55 | 1.8 Kg |
| SHT16W | DN15-25 | 90 | 145 | 68 | 55 | 1.8 Kg |
| SHT16F | DN15-25 | 150 | 145 | 68 | 55 | 4 Kg |



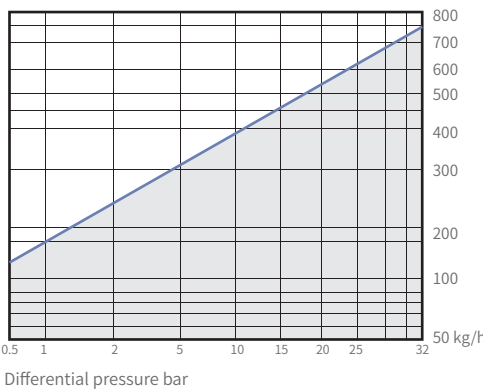
Technical Parameters

| | |
|-----------------------------------|-----------------|
| Nominal pressure | PN63 |
| Max. allowable pressure(Shell) | 6.27MPa/200°C |
| Max. allowable temperature(Shell) | 450°C/2.6MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 3.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 9.5MPa |
| Air test | 2.0MPa |

Material

Bonnet: A105/F304/F316 **Disc:** Martensitic stainless steel
Body: A105/F304/F316 **Other internal parts:** Stainless steel
Seat: Martensitic stainless steel

SHT32 Displacement Curve



Thermostatic(Bimetallic)Steam Trap SHT32

Working Principle

- The working principle of the bimetallic trap is to rely on the different temperature between saturated steam and condense water..
- When the set temperature is reached, the condensed water is continuously removed.

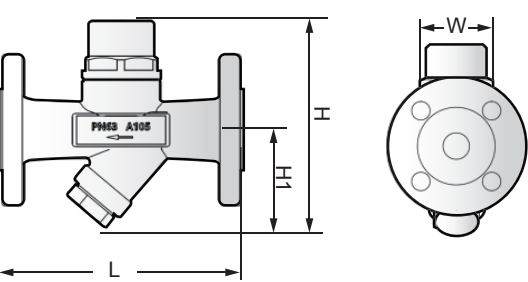
Features

- The valve body and valve bonnet are all made of forged steel A105.
- The valve disc and valve seat are made of special stainless steel with heat treatment .The disc hardness is as high as HRC55, which improves the service life of the trap.
- Imported bimetals ensure precise temperature control.
- The closing system adopts high-precision wire sealing structure.
- Built-in filter makes the trap work in a clean environment.
- The back pressure rate is as high as 50% or more.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| unit (mm) | | | | | | |
|-----------|--------------|-----|-----|----|----|--------|
| Model | Nominal size | L | H | H1 | W | Weight |
| SHT32T | DN15-25 | 90 | 145 | 68 | 55 | 1.8 Kg |
| SHT32W | DN15-25 | 90 | 145 | 68 | 55 | 1.8 Kg |
| SHT32F | DN15-25 | 150 | 145 | 68 | 55 | 4 Kg |

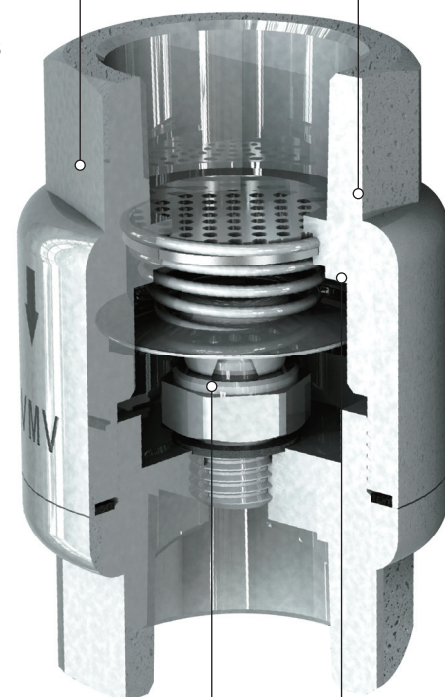
Thermostatic (film box) steam trap

Thermostatic (film box) steam trap

Film box traps are widely used in heat tracing pipelines and equipment with small displacement and low temperature requirements due to their small size, large subcooling degree, good energy saving effect and low temperature resistance.

High Corrosion Resistance

Stainless steel SS304 has beautiful appearance and good performance.



Integrated Filtration Design

Effectively prevent pipeline impurities from entering the valve to ensure the proper operation of the trap.

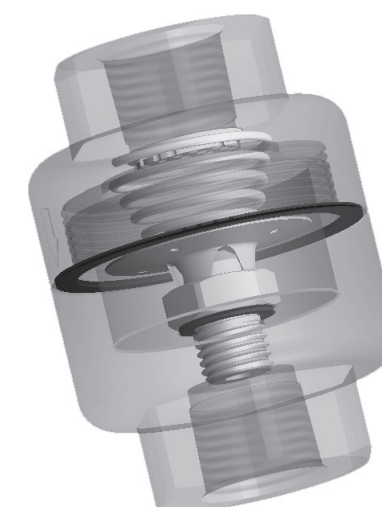
Large Subcooling Film Box Module

The subcooling degree of the Thermostatic (film box) trap is 15°C to remove the condensed water below the saturation temperature, and the energy saving is effective.

Suitable For Clean Pipes

All internal parts are made of stainless steel SS304, suitable for food, medicine and other industries.

The technical advantages of VMV traps are unique and reasonable structure and high-precision internal parts.

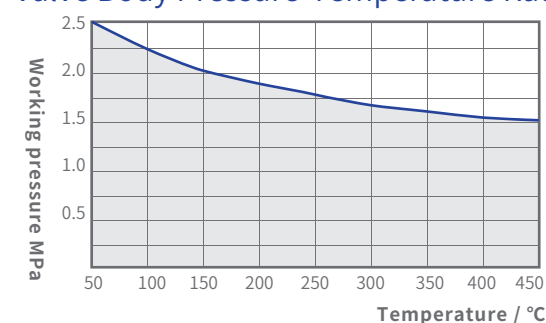


Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps Production and performance characteristic tests

304 Material PN16

Valve Body Pressure-Temperature Ratings



Structural Features

VMV Film box trap body and bonnet are made of 304, which can be used in the clean environment, such as medical, health, food and other industries. The Film box is made of stainless steel, and the condensate discharge temperature is subcooled at 15- 20°C.

The Film box trap adopts linear sealing closing system, which has no noise, good air exhausting capacity, fully utilizes the sensible heat of condensed water, and has good energy saving effect.

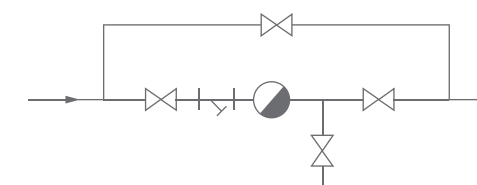
Film box traps work on the difference in temperature between steam and condensate. When the steam in the pipe releases heat and the temperature decreases to produce condensate, the diaphragm in the diaphragm box shrinks and moves to open the valve seat to discharge condensate. The Film box trap can be used as a vent valve.

Steam Trap Election and Installation

Film box trap drains intermittently. The normal product SKT16 discharges subcooling at 15-20°C. If there is a subcooling requirement, please specify it when ordering. The back pressure rate of the Film box trap can reach 50% (rear end pipe pressure/steam pressure), which is not suitable for closed recovery system, but suitable for pipeline and heat tracing system to remove condensate. In general, the safety factor is 2-3 times.

Special reminder: The amount of condensed water and the differential pressure of the steam-using equipment are important indicators for the selection. The same type of steam trap will increase the displacement with the increase of the differential pressure. See the details on displacement curve. Please do not mistakenly think that the large diameter of the trap with large displacement.

Structure Diagram



VMV Film box traps can be installed at any position on pipelines or equipment. The basic configuration of the traps is shown in the figure above.

Thermostatic (film box) steam trap

Bimetallic steam trap station

SKT16 Thermostatic (film box) steam trap

Bimetallic steam trap station SHT32TVS

Working Principle

- The working principle of the film box trap depends on the temperature difference between the vapor and the liquid.

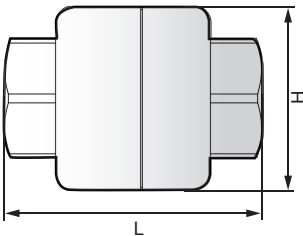
Features

- The valve body and valve cover are made of 304 material.
- The valve disc and valve seat are made of special stainless steel with heat treatment. The disc hardness is as high as HRC55, which improves the service life of the trap.
- Imported film box ensures precise temperature control.
- The closing system adopts high-precision spherical linear sealing structure.
- Built-in filter makes the trap work in a clean environment.
- The back pressure rate is as high as 50% or more.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| unit (mm) | | | | |
|-----------|--------------|-----|-----|--------|
| Model | Nominal size | L | H | Weight |
| SKT16T | DN15-20 | 75 | 55 | 1Kg |
| SKT16T | DN25 | 80 | 55 | 1.2Kg |
| SKT16F | DN15-25 | 120 | 125 | 3.8 Kg |

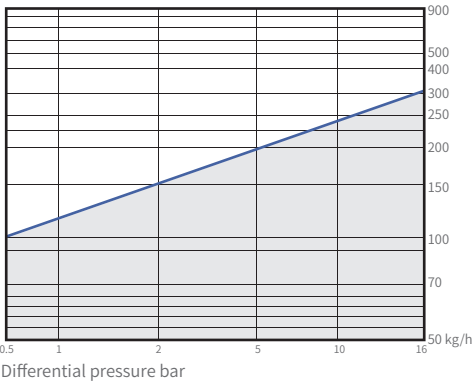
Technical Parameter

| | |
|-----------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure(Shell) | 1.89MPa/200°C |
| Max. allowable temperature(Shell) | 350°C/1.62MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 204°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 0.6MPa |

Material

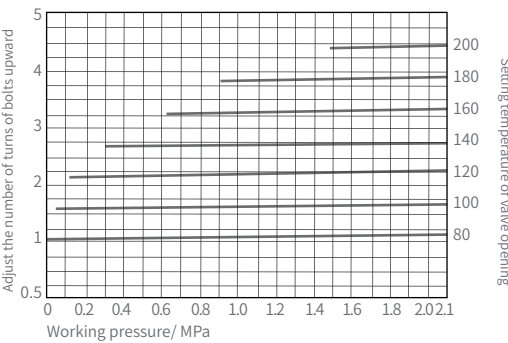
Bonnet: SS304/SS316 Valve core: Martensitic stainless steel
Body: SS304/SS316 Other internal parts:
Seat: Martensitic stainless steel Austenitic Stainless Steel

SKT16 Displacement Curve

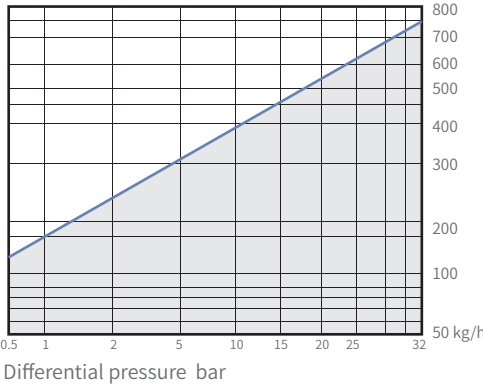


Technical Parameter

| | |
|----------------------------------|---------------|
| Nominal pressure | PN40/Class300 |
| Max allowable pressure(Shell) | 4.13MPa/200°C |
| Max allowable temperature(Shell) | 450°C/3.05MPa |
| Max working pressure | 3.2MPa |
| Max operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air test | 2.0MPa |



SHT32TVS Displacement Curve



Working Principle

- The working principle of the bimetallic trap is to rely on the Different temperature between saturated steam and condensed water
- When the set temperature is reached, the condensate is continuously drained Features

Features

The thermostatic (bimetallic) steam trap station is a TVS station composed of stainless steel bimetallic steam traps and front and rear stainless steel valves, filters and inspection valves; the steam traps and TVS stations are made of stainless steel; Adjustable temperature bimetallic sheet makes full use of the sensible heat of high temperature condensate; It is easy to replace, and there is no need to install stop valves, filters and inspection valves at the front and rear ends of the trap; the back pressure rate is as high as 50%.

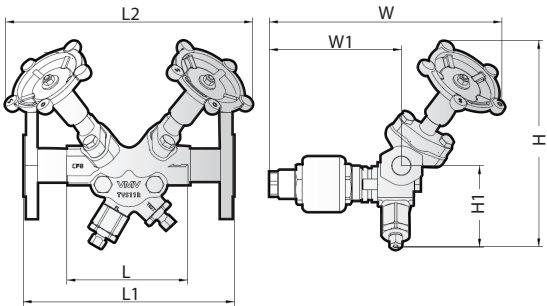
Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Material

Trap: F304 Trim: 304/420
TVS station: CF8

Structure Diagram



Structural Dimension Table

| unit (mm) | | | | | | | | |
|-----------|--------------|----|-----|-----|-----|-----|-----|-----|
| Model | Nominal size | L | L1 | L2 | W | W1 | H | H1 |
| SHT32TVS | DN15-25 | 90 | 200 | 220 | 225 | 128 | 266 | 120 |

Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap

Thermodynamic steam traps are widely used in low, medium and high pressure steam pipelines, process heat tracing, and small displacement equipment due to their small size, large displacement, energy saving, long life, and low temperature resistance.

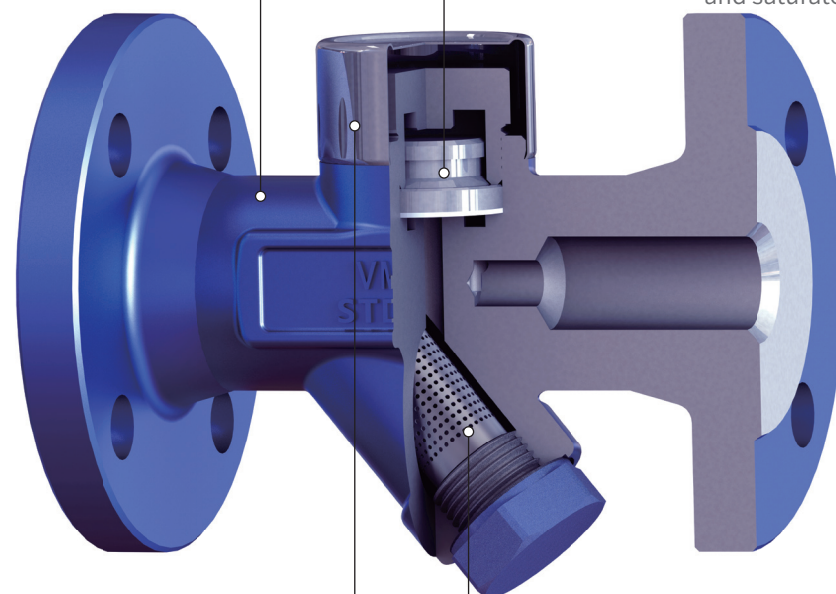
The technical advantages of VMV steam traps are unique and reasonable structure, high-precision internal parts, changeable valve seat.

High Corrosion Resistance

A105 (15CrMo) material is used, and corrosion allowance, minimum shell wall thickness, pressure and temperature grade are fully considered in the design.

Unique Seat and Disc

The valve seat and valve plate are made of martensitic stainless steel with unique heat treatment. According to different working conditions, two kinds of condensate removal solutions of low temperature (less flash steam) and saturated water can be provided



Stainless Steel Insulation Cover

Stainless steel thermal insulation cover ensures that the transformer room is not affected by the outdoor environment and prevents invalid actions.

Built-in Filter

Effectively prevent pipeline impurities from entering the valve, make sure the trap valve is working properly.

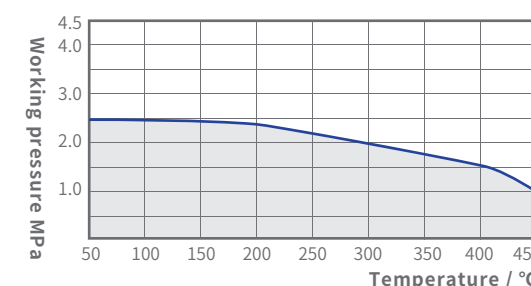
Structural Features

VMV thermodynamic steam trap uses A105 for the low pressure trap body and 15CrMo for the medium pressure trap body.

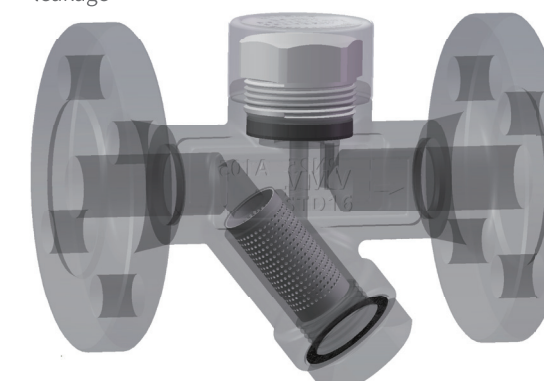
According to the Bernoulli equation, it has been repeatedly calculated and finally finalized through a large number of experiments. The product is available in low temperature and saturated versions. The low-temperature type discharges the condensate at a lower temperature (higher degree of subcooling) and has less noise, but the air discharge capacity is poor; the saturated type discharges the condensed water close to the saturation temperature (low degree of subcooling), with high noise and good air discharge capacity. Thermodynamic steam traps operate on the difference in flow rates between steam and condensate. When the condensate passes through the valve seat, the flow rate is small, and the valve plate is opened to discharge the condensate water; when the steam enters the valve seat, the valve seat is closed due to the large flow rate.

A105 Material PN25

Valve Body Pressure-Temperature Ratings

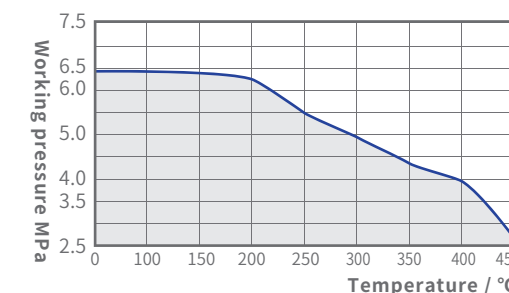


VMV Newton has broken through the problems that thermodynamic steam traps are not energy-saving, noisy, and discharges raw steam, and has become the best steam pipe guide steam trap. Its advantages are small size, long life, reliable action, convenient maintenance, and low noise (Low temperature type) no original steam leakage



A105 Material PN63

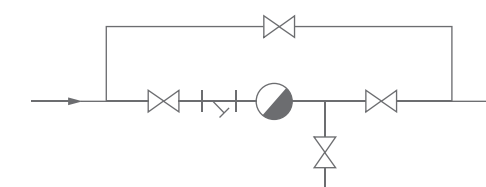
Valve Body Pressure-Temperature Ratings



Thermodynamic Trap Selection and Installation

The thermodynamic steam trap is intermittently drained, and the normal product STD16/STD42 steam trap has a subcooling degree of 5-10°C. The back pressure rate of the thermodynamic steam trap can reach 80% (rear pipe pressure/steam pressure), and it is suitable for pipes and small equipment to remove condensate. In general, the safety factor is 2-3 times.

Special reminder: The amount of condensate and the differential pressure of the steam-using equipment are important indicators for selection. The same type of trap will increase the displacement with the increase of the differential pressure. See the details on displacement curve. Please do not mistakenly think that the large diameter of the trap with large displacement.

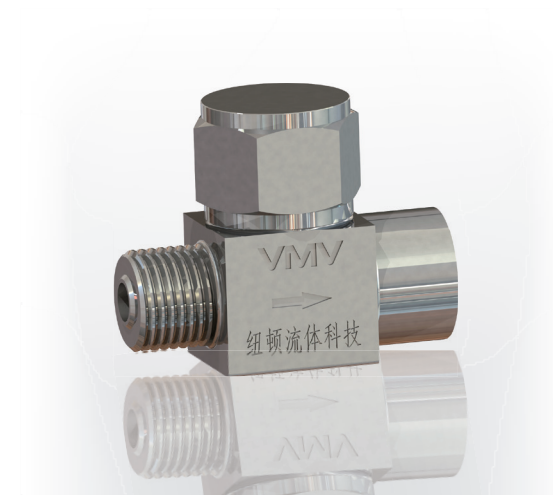


Thermodynamic steam traps can be installed arbitrarily at the bottom of the pipeline or equipment. The basic configuration of the steam traps is shown in the figure above.

Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap

STD01 Thermodynamic (Disc) Steam Trap



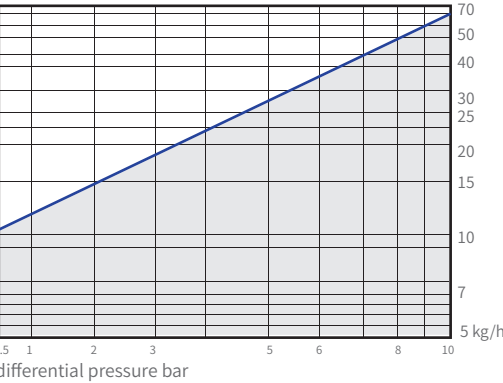
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN16 |
| Max. allowable pressure (Shell) | 1.51MPa/50°C |
| Max. allowable temperature (Shell) | 200°C/1.09MPa |
| Factory steam action test | >3 times/1.0MPa |
| Max. working pressure | 1.0MPa |
| Max. operating temperature | 200°C |
| Factory cold test pressure | 2.4MPa |
| Air test | 0.6MPa |

Material List

- Bonnet: 304
Body: Martensitic Stainless Steel
Disc: Martensitic Stainless Steel

STD01 Displacement Curve



Working Principle

- Depends on the difference of steam and liquid flow rate
- Exclude saturated condensate

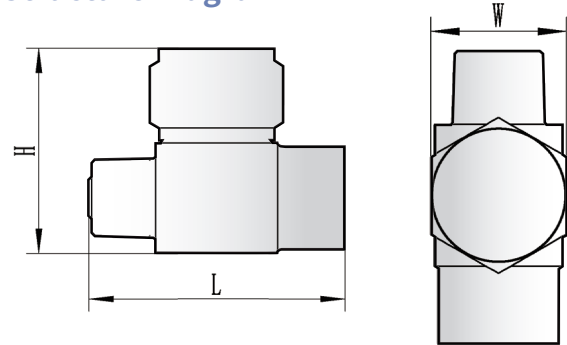
Features

- The valve body and bonnet are all made of stainless steel. Through heat treatment and aging treatment, they are not denatured and wear-resistant under high temperature and high pressure, which improves the service life of the trap.
- The fluid channel of the internal structure is designed strictly according to Bernoulli's equation, and the structure is reasonable.
- The back pressure rate is as high as 80% or more.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| unit (mm) | | | | | |
|-----------|------|----|----|----|---------|
| Model | Size | L | H | W | Weight |
| STD01 | 1/4" | 42 | 34 | 18 | 0.115Kg |

- Suitable for steam irons and instrument pads in the garment



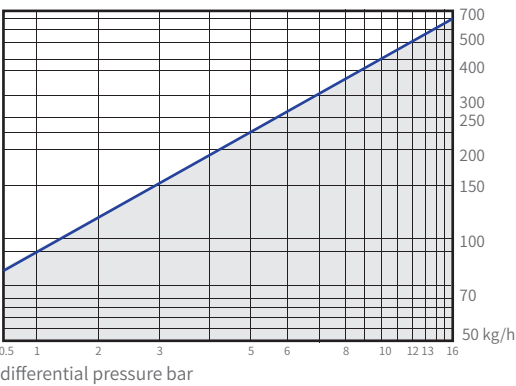
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

- Bonnet: A105/F304/F316 Disc: Martensitic stainless steel
Body: A105/F304/F316 Other internal parts:
Seat: Martensitic stainless steel Martensitic stainless steel

STD16 Displacement curve



Thermodynamic (Disc) Steam Trap STD16

Working Principle

- Depends on the difference of steam and liquid flow rate
- Exclude saturated condensate

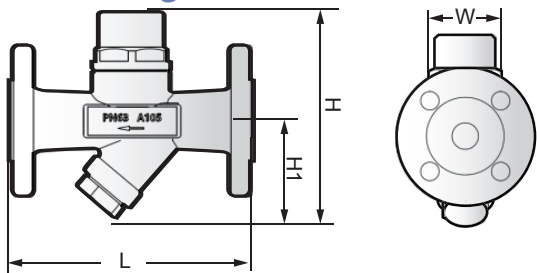
Features

- The valve body and valve cover are all made of forged steel.
- The valve disc and valve seat are made of martensitic stainless steel. After heat treatment and aging treatment, they are not denatured and wear-resistant under high temperature and high pressure, which improves the service life of the trap.
- Stainless steel insulation cover to isolate and slow down heat loss and eliminate invalid actions.
- The fluid channel of the internal structure is designed strictly according to Bernoulli's equation, and the structure is reasonable.
- Built-in filter makes the trap work in a clean environment.
- The back pressure rate is as high as 80% or more.
- To exclude low temperature traps with large subcooling degree, it needs to be customized.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| unit (mm) | | | | | | |
|-----------|---------|-----|-----|----|----|---------|
| Model | Size | L | H | H1 | W | Weight |
| STD16T | DN15-25 | 90 | 120 | 68 | 48 | 1/1.5Kg |
| STD16W | DN15-25 | 90 | 120 | 68 | 48 | 1/1.5Kg |
| STD16F | DN15-25 | 150 | 120 | 68 | 48 | 2.5-3Kg |

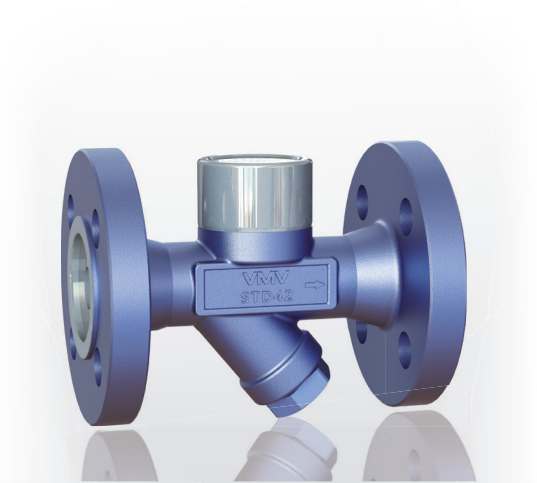
- Suitable for drainage of saturated or superheated steam pipelines.

Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap

STD42 Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap STD80



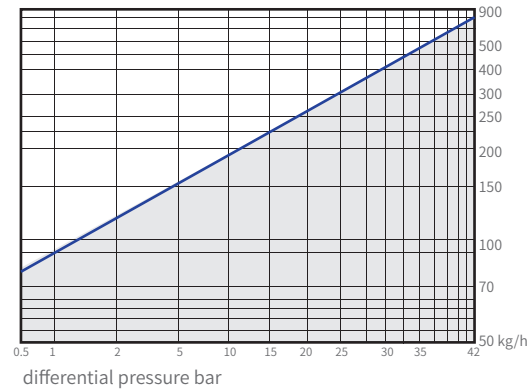
Technical Parameter

| | |
|------------------------------------|---------------|
| Nominal pressure | PN63 |
| Max. allowable pressure (Shell) | 6.27MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/2.6MPa |
| Factory steam action test | >3次/1.6MPa |
| Max. operating pressure | 4.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 9.5MPa |
| Air test | 2.0MPa |

Material List

| | |
|-----------------------------------|-----------------------------------|
| Bonnet: A105/F304/F316 | Disc: Martensitic stainless steel |
| Body: A105/F304/F316 | Other internal parts: |
| Seat: Martensitic stainless steel | Martensitic stainless steel |

STD42 Displacement Curve



working Principle

- Depends on the difference of steam and liquid flow rate
- Exclude saturated condensate

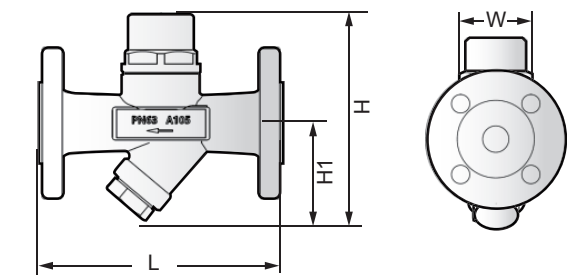
Features

- The valve body and valve cover are all made of forged steel.
- The valve disc and valve seat are made of special stainless steel, which is heat treated And aging treatment, no deformation and wear resistance under high temperature and high pressure, improve the service life of the trap.
- Stainless steel insulation cover to isolate and slow down heat loss and prevent the trap from emptying up phenomenon.
- The fluid channel of the internal structure is designed strictly according to Bernoulli's equation, and the structure is reasonable.
- Built-in filter makes the trap work in a clean environment.
- The back pressure rate is as high as 80% or more.
- To exclude low temperature traps with large subcooling degree, it needs to be customized.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

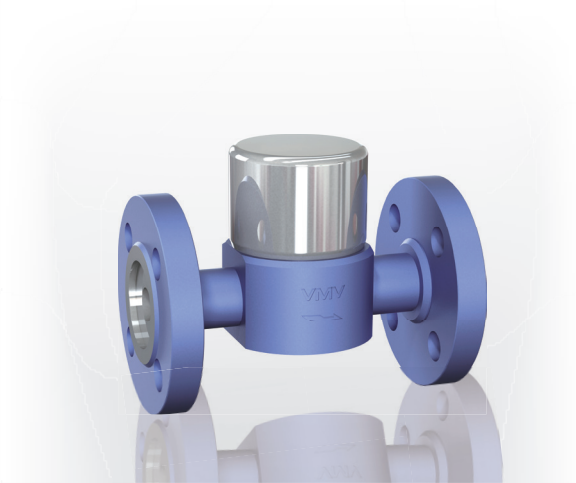
Structure Diagram



Structural Dimension Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|----|----|--------|
| STD42T | DN15-25 | 90 | 126 | 68 | 55 | 1.8 Kg |
| STD42W | DN15-25 | 90 | 126 | 68 | 55 | 1.8 Kg |
| STD42F | DN15-25 | 150 | 126 | 68 | 55 | 5.5Kg |

- Suitable for saturated or superheated steam pipeline drainage



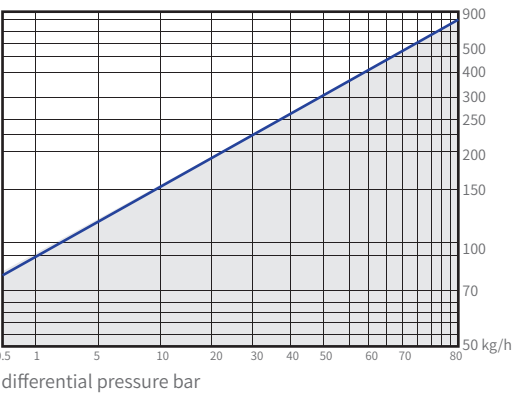
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN100 |
| Max. allowable pressure (Shell) | 9.8MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/7.29MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. operating pressure | 8.0MPa |
| Max. operating temperature | 420°C |
| Factory cold test pressure | 15.0MPa |
| Air test | 2.0MPa |

Material List

| | |
|-----------------------------------|--|
| Bonnet: 15CrMo | Disc: Martensitic stainless steel |
| Body: 15CrMo | Other trims: Martensitic stainless steel |
| Seat: Martensitic stainless steel | |

STD80 Displacement Curve



working Principle

Depends on the difference of steam and liquid flow rate.

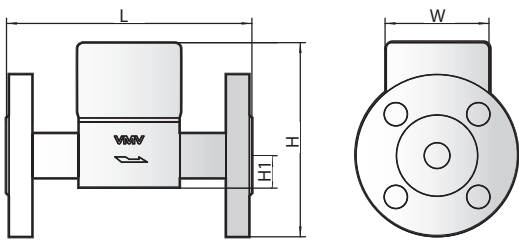
Features

- The valve disc and valve seat are made of special stainless steel, which is heat treated and aging treatment, no deformation and wear resistance under high temperature and high pressure, improve the service life of the trap.
- Stainless steel insulation cover to isolate and slow down heat loss and prevent the trap from emptying up phenomenon.
- The fluid channel of the internal structure is designed strictly according to Bernoulli's equation, and the structure is reasonable.
- Built-in filter makes the trap work in a clean environment.
- The back pressure rate is as high as 80% or more.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|----|----|--------|
| STD80W | DN15-25 | 85 | 112 | 25 | 90 | 4.0Kg |
| STD80F | DN15-25 | 190 | 112 | 25 | 90 | 7.5Kg |

- Suitable for saturated or superheated steam pipeline drainage.

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap

Inverted bucket Steam traps are widely used in steam transmission pipelines, process heat tracing, jacketed heating kettles tank, reboilers and other equipment due to their safety, reliability, energy saving, long life, low temperature resistance and other characteristics.

The technical advantages of VMV traps:
Unique and reasonable structure, high-precision internal parts

High Corrosion Resistance

Using WCB material
Design with full consideration of corrosion allowance, Minimum shell wall thickness, pressure and temperature class

Leak-free Structure Design

The U-shaped flow channel design ensures that the inside of the valve body is in a water-sealed state
No original steam leakage

Built-in Filter

Effectively prevent pipeline impurities from entering the valve Make sure the trap valve is working properly

Flexible Closing System

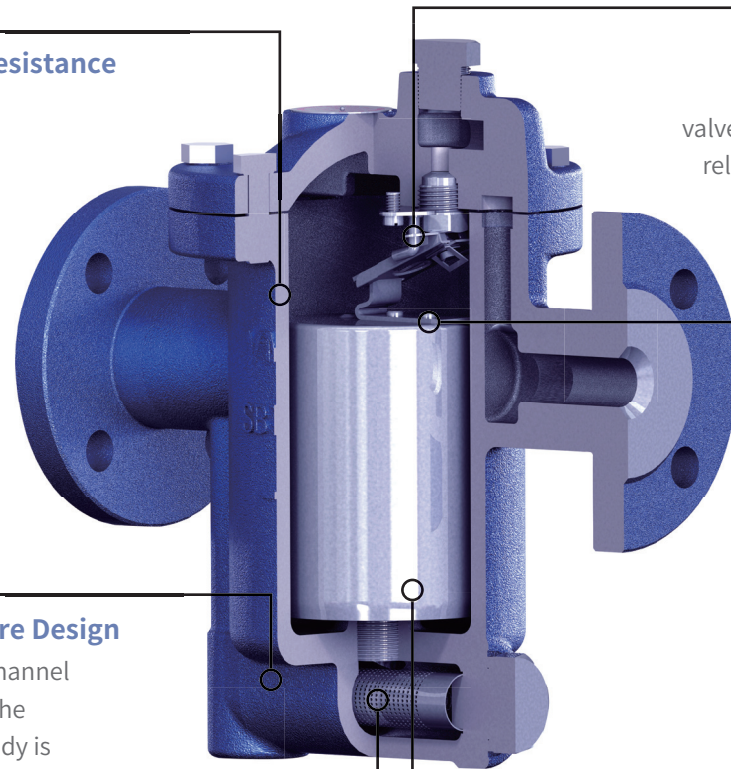
Micron-level high-precision valve seat and valve core ensure reliable closing system and no steam leakage

Stainless Steel Bucket Exhaust Structure

Small holes are left on the upper part of the bucket to remove air and other non-condensable gases to prevent the occurrence of steam lock the valve

Built-in Check Valve

Prevents water hammer from damaging internals. Also suitable for superheated steam environments



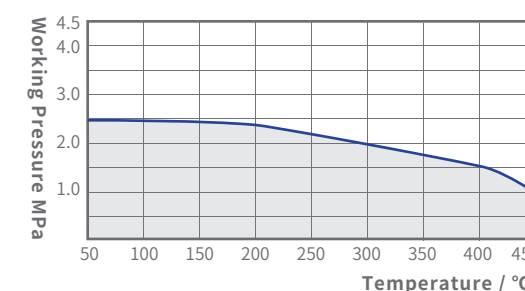
Structural Features

VMV steam trap design has fully considered factors such as shell strength, pressure and temperature grade, casting manufacturability, tightness of valve plug and seat closure, impact caused by water and vapor mixing, and the strength of valve cover gasket is affected by low temperature environment and other factors .

Inverted bucket steam traps work on the difference in density between steam and condensate. When the bucket is full of condensed water and non-condensable gas, the exhaust hole on the upper part of the bucket removes the non-condensable gas, the bucket loses buoyancy and drives the valve core to move down, the trap opens to drain, and when steam enters the bucket after draining, the bucket floats to drive the valve The core closes the trap.

The great advantages of the inverted bucket trap are high back pressure rate, long life, reliable action, convenient maintenance and no original steam leakage.

WCB/A105 Material PN25 Valve Body Pressure-Temperature Ratings

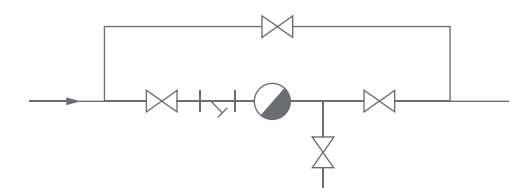
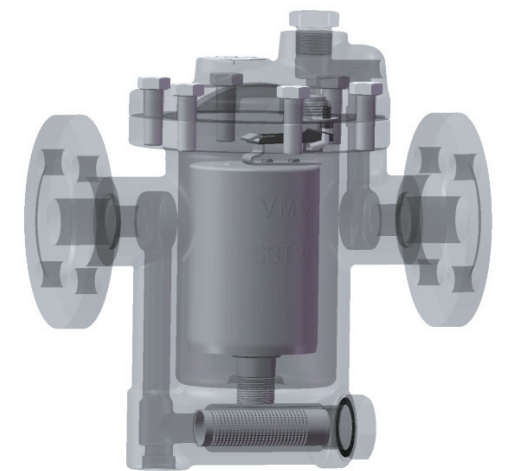
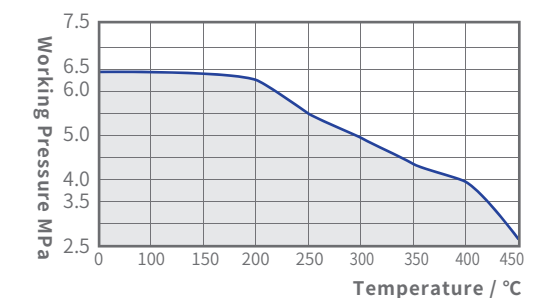


Selection and Installation of Inverted Bucket Steam Traps

The inverted bucket steam trap is intermittently drained, the subcooling degree is 5-10°C, and the back pressure rate is over 85% (back-end pipeline pressure/steam pressure). In general, the safety factor is 2-3 times when selecting, and 5-8 times for air separation units and drying cylinders. The amount of condensed water and the differential pressure of the steam-using equipment are important indicators for model selection. For the same type of steam trap, the displacement increases with the increase of the differential pressure. See the details on displacement curve.

Special reminder: Please do not mistakenly think that a trap with a large diameter has a large displacement.

WCB/A105 Material PN63 Valve Body Pressure-Temperature Ratings



The inverted bucket trap is installed horizontally at the bottom of the pipeline or equipment. The basic configuration of the trap is shown in the figure above.

When the pipeline is superheated steam, a check valve must be installed to prevent the failure of the trap due to the superheated steam drying out the water seal in the trap.

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap

SBT10 Inverted Bucket Steam Trap

Inverted Bucket Steam Trap SBT20



Working Principle

- Relying on the difference in vapor and liquid density.

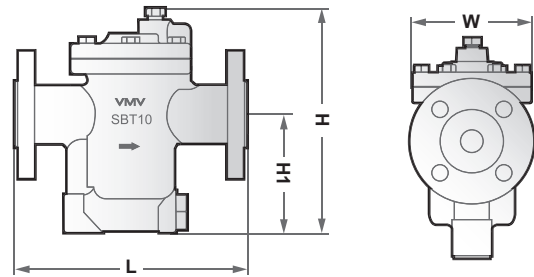
Features

- The valve body and valve cover are all made of forged steel/cast steel.
- Internal parts are all made of stainless steel and added with anti-wear allowance, extend trap life.
- U-shaped flow channel design, to achieve water sealing effect, no leakage of steam.
- Reliable flexible closure system with patented technology, no steam leakage.
- Install anti-water hammer device.
- Built-in check valve, suitable for superheated steam environment.
- Built-in filter allows the trap to work in a clean environment.
- Select different displacement curves according to the pressure difference to increase the displacement.
- The back pressure rate is as high as 90% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| Unit(mm) | | | | | | |
|----------|---------|-----|-----|----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SBT10T | DN15-25 | 130 | 185 | 38 | 100 | 4Kg |
| SBT10W | DN15-25 | 130 | 185 | 38 | 100 | 4Kg |
| SBT10F | DN15-25 | 190 | 185 | 38 | 100 | 6.5Kg |

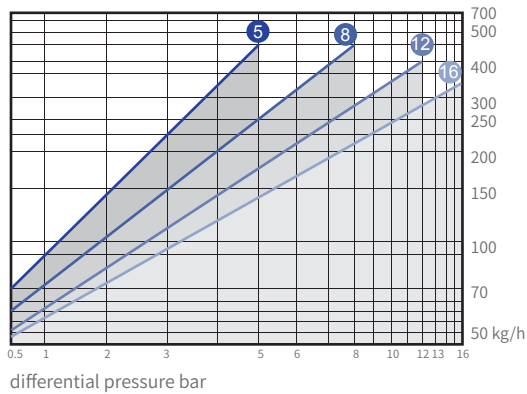
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. operating pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material list

- Bonnet: A105/F304/F316
- Disc: Martensitic stainless steel
- Body: WCB/CF8/CF8M
- Other internal parts:
- Seat: Martensitic
- Austenitic stainless steel
- stainless steel

SBT10 Displacement Curve



working Principle

- Relying on the difference in vapor and liquid density.

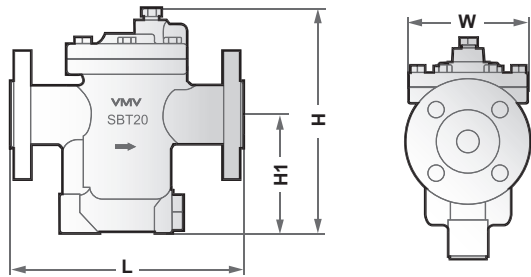
Features

- The valve body and valve cover are all made of forged steel/cast steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap
- U-shaped flow channel design, to achieve water sealing effect, no leakage of steam.
- Flexible closing system with patented technology, no steam leakage.
- Install anti-water hammer device.
- Built-in check valve, suitable for superheated steam environment.
- Built-in filter allows the trap to work in a clean environment.
- Select different displacement curves according to the pressure.
- The back pressure rate is as high as 90% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| Unit(mm) | | | | | | |
|----------|---------|-----|-----|-----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SBT20T | DN15-25 | 170 | 245 | 133 | 140 | 8Kg |
| SBT20W | DN15-25 | 170 | 245 | 133 | 140 | 8Kg |
| SBT20F | DN15-40 | 230 | 245 | 133 | 140 | 10.5Kg |

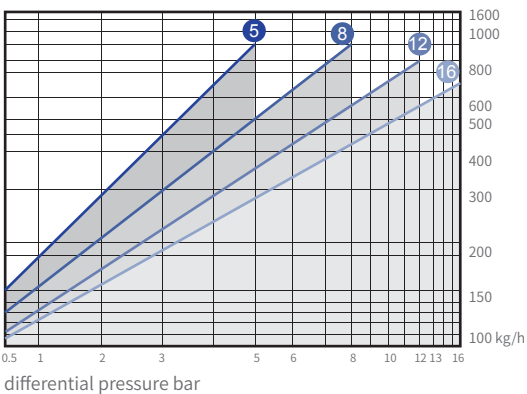
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. operating pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

- Bonnet: A105/F304/F316
- Disc: Martensitic stainless steel
- Body: WCB/CF8/CF8M
- Other internal parts:
- Seat: Martensitic
- Austenitic stainless steel
- stainless steel

SBT20 Displacement Curve



Inverted Bucket Steam Trap

Inverted Bucket Steam Trap

SBT24 Inverted Bucket Steam Trap

Inverted Bucket Steam Trap SBT30



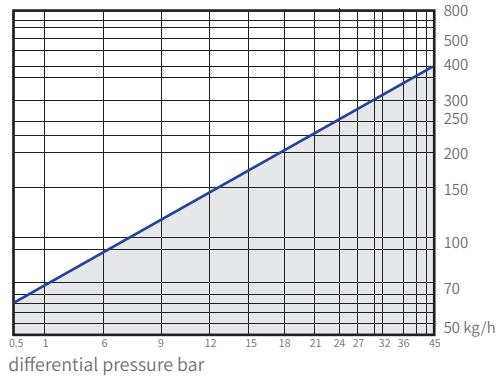
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN63 |
| Max. allowable pressure (Shell) | 6.27MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/2.6MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 4.5MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 9.5MPa |
| Air test | 2.0MPa |

Material List

| | |
|------------------------------------|-----------------------------------|
| Bonnet : A105/F304/F316 | Disc: Martensitic stainless steel |
| Body : WCB/CF8/CF8M | Other internal parts: |
| Seat : Martensitic stainless steel | Austenitic stainless steel |

SBT24 Displacement Curve



Working Principle

- Relying on the difference in vapor and liquid density.

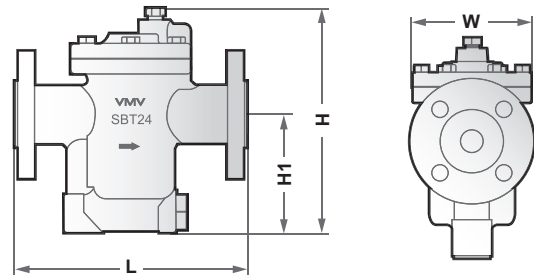
Features

- The valve body and valve cover are all made of forged steel/cast steel.
- Internal parts are all made of stainless steel and added with anti-wear allowance, extend trap life.
- U-shaped flow channel design, to achieve water sealing effect, no leakage of steam.
- Reliable flexible closure system with patented technology, no steam leakage.
- Install anti-water hammer device.
- Built-in check valve, suitable for superheated steam environment.
- Built-in filter allows the trap to work in a clean environment.
- Select different displacement curves according to the pressure difference to increase the displacement.
- The back pressure rate is as high as 90% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|-----|-----|--------|
| SBT24T | DN15-40 | 170 | 250 | 133 | 140 | 9Kg |
| SBT24W | DN15-40 | 170 | 250 | 133 | 140 | 9Kg |
| SBT24F | DN15-40 | 230 | 250 | 133 | 140 | 12Kg |



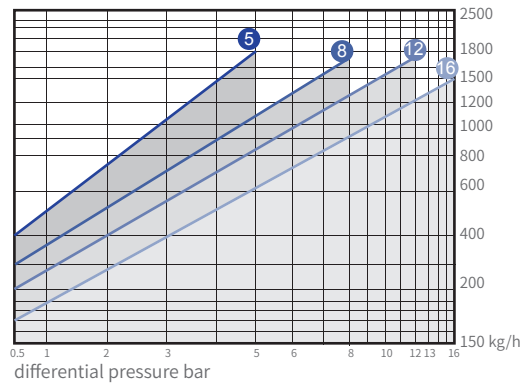
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. operating pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

| | |
|------------------------------------|-----------------------------------|
| Bonnet : WCB/F304/F316 | Disc: Martensitic stainless steel |
| Body : WCB/CF8/CF8M | Other internal parts: |
| Seat : Martensitic stainless steel | Austenitic stainless steel |

SBT30 Displacement Curve



working Principle

- Relying on the difference in vapor and liquid density.

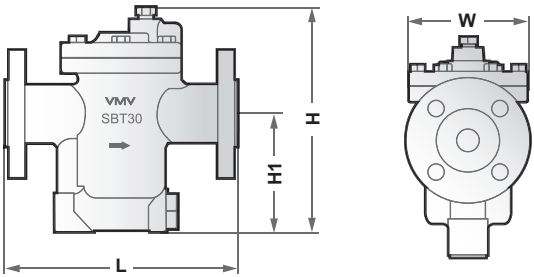
Features

- The valve body and valve cover are all made of cast steel.
- All internal parts are made of stainless steel, and the movable parts are fully designed Considering the wear allowance, the service life of the trap is improved.
- U-shaped flow channel design, to achieve water sealing effect, no leakage of steam.
- Reliable flexible closure system with patented technology, no steam leakage.
- Install anti-water hammer device.
- Built-in check valve, suitable for superheated steam environment.
- Built-in filter allows the trap to work in a clean environment.
- Select different displacement curves according to the pressure.
- The back pressure rate is as high as 90% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|-----|-----|--------|
| SBT30T | DN25-32 | 210 | 320 | 187 | 174 | 15Kg |
| SBT30W | DN25-32 | 210 | 320 | 187 | 174 | 15Kg |
| SBT30F | DN25-50 | 270 | 320 | 187 | 174 | 19.5Kg |

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap

SBT11A Inverted Bucket Steam Trap



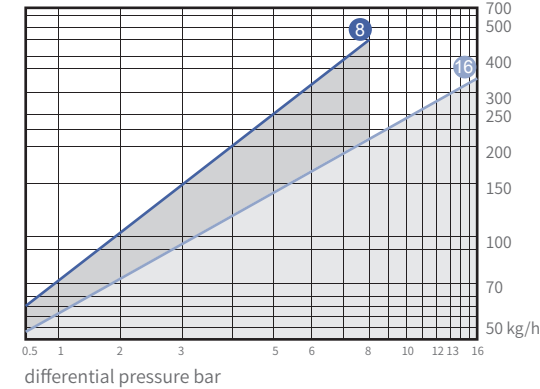
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 1.89Mpa/50°C |
| Max. allowable temperature (Shell) | 350°C/1.62MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 0.6MPa |

Material List

| | |
|--------------------|-----------------------------------|
| Bonnet : F304/F316 | Disc: Martensitic stainless steel |
| Body : F304/F316 | Other internal parts: |
| Seat : Martensitic | Austenitic stainless steel |
| | stainless steel |

SBT11A Displacement Curve



Working Principle

- Relying on the difference in vapor and liquid density.

Features

- The valve body and valve cover are all made of stainless steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of moving parts, which improves the service life of the trap
- Internally installed U-shaped stainless steel pipe flow channel design to achieve water sealing effect.
- Reliable flexible closure system with patented technology, no steam leakage.
- External filter connector, so that the trap works in a clean environment.
- The back pressure rate is as high as 90% or more.

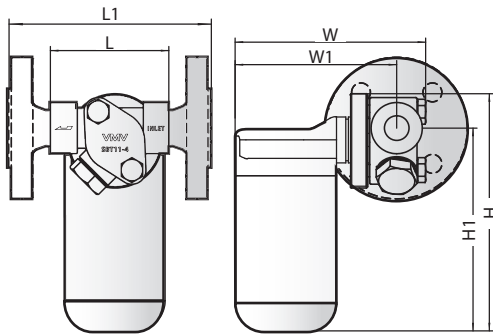
Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Flow Chart



Structure Diagram



Structural Dimension Table

| Model | Size | L | L1 | W | W1 | H | H1 |
|--------|---------|----|-----|-----|-----|-----|-----|
| SBT11A | DN15-25 | 88 | 210 | 152 | 130 | 176 | 150 |

Weight

SBT11A:4.2Kg
SBT11AF:6.1Kg



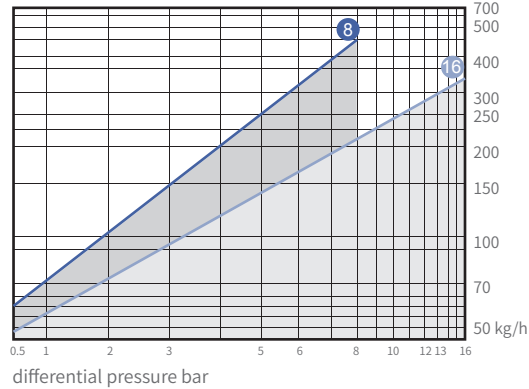
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 1.89Mpa/50°C |
| Max. allowable temperature (Shell) | 350°C/1.62MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 0.6MPa |

Material List

| | |
|--------------------|-----------------------------------|
| Bonnet : F304/F316 | Disc: Martensitic stainless steel |
| Body : F304/F316 | Other internal parts: |
| Seat : Martensitic | Austenitic stainless steel |
| | stainless steel |

SBT11TVS Displacement Curve



Inverted Bucket Steam Trap Station SBT11TVS

Working Principle

- Relying on the difference in vapor and liquid density.

Features

- The valve body and valve cover are all made of stainless steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of moveable parts, which improves the service life of the trap
- Internally installed U-shaped stainless steel pipe flow channel design to achieve water sealing effect.
- External filter connector, so that the trap works in a clean environment..
- The back pressure rate is as high as 90% or more.

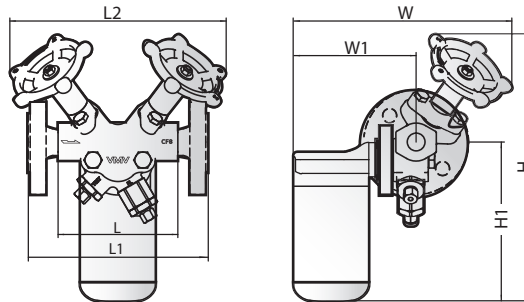
Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Flow Chart



Structure Diagram



Structural Dimension Table

| Model | Size | L | L1 | L2 | W | W1 | H | H1 |
|----------|---------|----|-----|-----|-----|-----|-----|-----|
| SBT11TVS | DN15-25 | 90 | 200 | 220 | 230 | 132 | 266 | 160 |

Weight

SBT11TVS:5.4Kg
SBT11TVSF:7.6Kg

Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap

The pilot inverted bucket steam trap has the characteristics of large displacement, long life, good energy saving effect, water hammer resistance, and beautiful appearance. It is widely used in process heat tracing, jacketed heating kettles tank, reboilers and other equipment.

The technical advantages of VMV traps are: unique and reasonable structure, high-precision internal parts.

High Corrosion Resistance

Using WCB material
Fully consider corrosion allowance, minimum shell wall thickness, pressure and temperature grade when designing

Flexible Pilot Closure System

High-precision flexible pilot closing system Pilot valve guides the main valve to open and close

Stainless Steel Bucket Exhaust Structure

Small holes are left on the upper part of the bucket to remove air and other non-condensable gases to prevent the occurrence of steam lock the valve

Built-in Check Valve

Prevents water hammer from damaging internals
Also suitable for superheated steam environment

Leak-free Structure Design

The U-shaped flow channel design ensures that the inside of the valve body is in a water-sealed state
No raw steam leakage

Built-in Filter

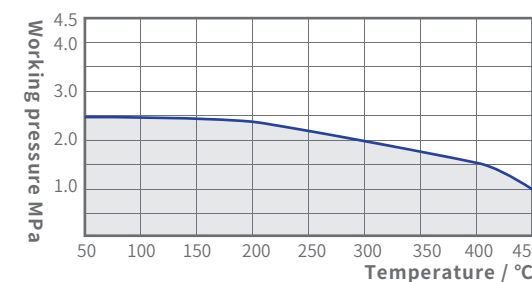
Effectively prevent pipeline impurities from entering the valve
Make sure the trap valve is working properly

Structural features

In the design of VMV trap, take full account of the strength of the shell, the pressure and temperature grade, the manufacturability of casting, the tightness of the valve core and seat closure, the impact caused by the mixing of water and steam, and the strength of the valve cover gasket are affected by the low temperature environment, etc.
Pilot inverted bucket steam traps work on the difference in density between steam and condensate. When the bucket is full of condensed water and non-condensable gas, the exhaust hole on the upper part of the bucket removes the non-condensable gas, the bucket loses buoyancy and drives the pilot valve core to move down to the bottom dead position, guiding the main valve to open, and steam enters the bucket after the trap is drained, the bucket floats to drive the pilot valve and the main valve to move up to close the trap.
The biggest advantages of pilot inverted bucket traps are small size, large displacement, high back pressure rate, long life, reliable action, convenient maintenance, and no original steam leakage.

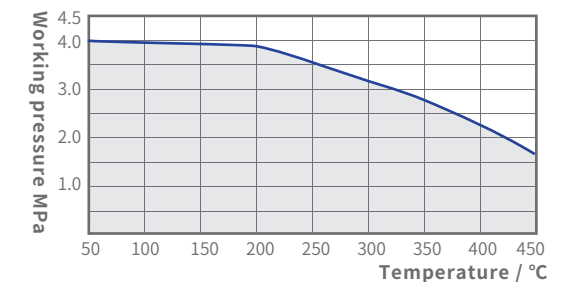
WCB/A105 Material PN25

Valve Body Pressure-Temperature Ratings



WCB/A105 Material PN40

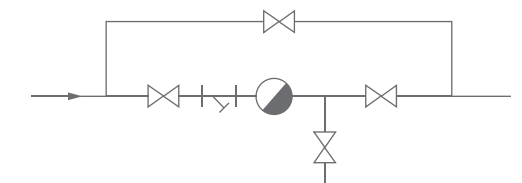
Valve Body Pressure-Temperature Ratings



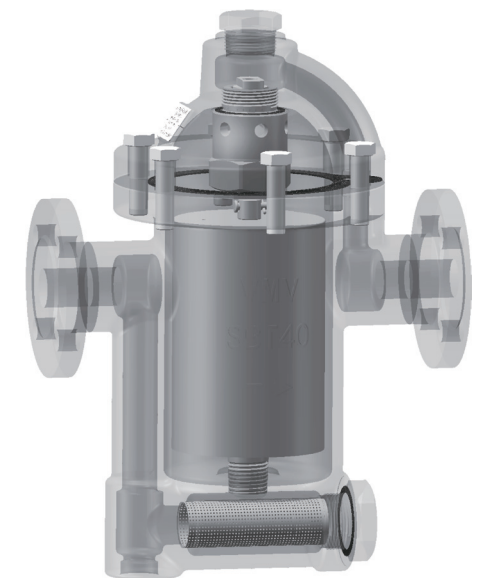
Selection and Installation of Pilot Inverted Bucket Steam Traps

The pilot inverted bucket steam trap is intermittently drained, with a subcooling degree of 5-10°C and a back pressure rate of more than 85% (back-end pipeline pressure/steam pressure). In general, the safety factor is 2-3 times when selecting, and 5-8 times for air separation units and drying cylinders.

The amount of condensed water and the differential pressure of the steam-using equipment are important indicators for model selection. For the same type of steam trap, the displacement increases with the increase of the differential pressure. See the details on displacement curve.
Special reminder: Please do not mistakenly think that a trap with a large diameter has a large displacement.
The pilot inverted bucket trap is installed horizontally at the bottom of the pipeline or equipment. The basic configuration of the trap is shown in the figure on the right.



In order to prevent the water hammer phenomenon after the water vapor in the pipeline is mixed, a check valve must be built in.



Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap

SBT40 Pilot Inverted Bucket Steam Trap



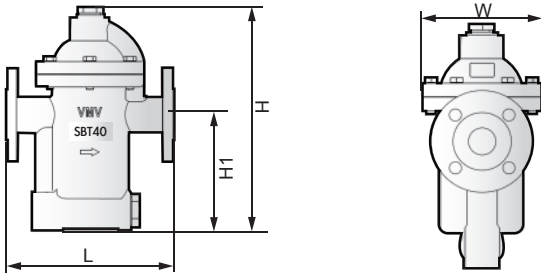
Working Principle

- Relying on the difference of vapor and liquid density, the main valve is guided to open through the pilot valve, and the displacement is large.
- Features**
 - The valve body and valve cover are made of cast steel.
 - The internal parts are all made of stainless steel, and the wear allowance has been fully considered in the design of the movable parts, which improves the service life of the trap.
 - U-shaped runner design achieves water sealing effect without leakage of steam.
 - Flexible closing system with patented technology, no steam leakage.
 - Install anti-water shock device, so that the fluid entering the valve body does not produce water hammer phenomenon.
 - Built-in check valve, suitable for superheated steam environment.
 - Built-in filter allows the trap to work in a clean environment.
 - Select different displacement curves according to the pressure.
 - The back pressure rate is as high as 90% or more.
 - After stopping, the screw plug can be opened to drain the condensed water to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

| Model | Size | Unit(mm) | | | | | Weight |
|--------|---------|----------|-----|-----|-----|--|--------|
| | | L | H | H1 | W | | |
| SBT40T | DN25-32 | 210 | 360 | 187 | 174 | | 16.5Kg |
| SBT40W | DN25-32 | 210 | 360 | 187 | 174 | | 16.5Kg |
| SBT40F | DN25-50 | 270 | 360 | 187 | 174 | | 21Kg |

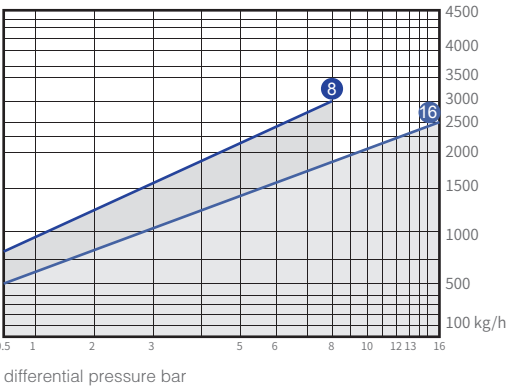
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

- Bonnet: WCB/CF8/CF8M
- Disc: Martensitic Stainless Steel
- Body: WCB/CF8/CF8M
- Other internal parts:
- Seat: Martensitic
- Austenitic Stainless Steel
- Stainless Steel

SBT40 Displacement Curve



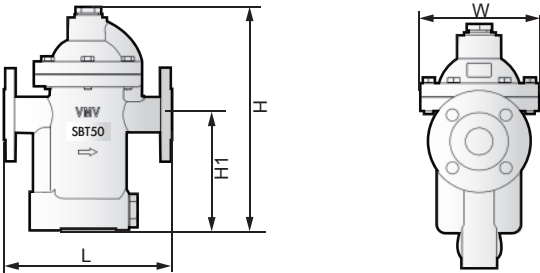
Working Principle

- Relying on the difference of vapor and liquid density, the main valve is guided to open through the pilot valve, and the displacement is large.
- Features**
 - The valve body and valve cover are made of cast steel.
 - The internal parts are all made of stainless steel, and the wear allowance has been fully considered in the design of the movable parts, which improves the service life of the trap.
 - U-shaped runner design achieves water sealing effect without leakage of steam.
 - Flexible closing system with patented technology, no steam leakage.
 - Install anti-water shock device, so that the fluid entering the valve body does not produce water hammer phenomenon.
 - Built-in check valve, suitable for superheated steam environment.
 - Built-in filter allows the trap to work in a clean environment.
 - Select different displacement curves according to the pressure.
 - The back pressure rate is as high as 90% or more.
 - After stopping, the screw plug can be opened to drain the condensed water to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

| Model | Size | Unit(mm) | | | | | Weight |
|--------|---------|----------|-----|-----|-----|--|--------|
| | | L | H | H1 | W | | |
| SBT50W | DN25-32 | 260 | 410 | 210 | 220 | | 27.5Kg |
| SBT50F | DN25-50 | 320 | 410 | 210 | 220 | | 33Kg |

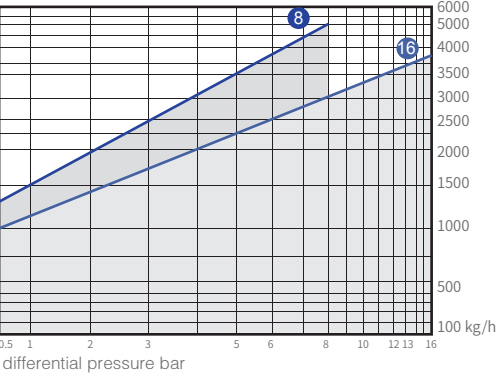
Technical parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

- Bonnet: WCB/CF8/CF8M
- Disc: Martensitic Stainless Steel
- Body: WCB/CF8/CF8M
- Other internal parts:
- Seat: Martensitic
- Austenitic Stainless Steel
- Stainless Steel

SBT50 Displacement Curve



Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap

SBT60 Pilot Inverted Bucket Steam Trap



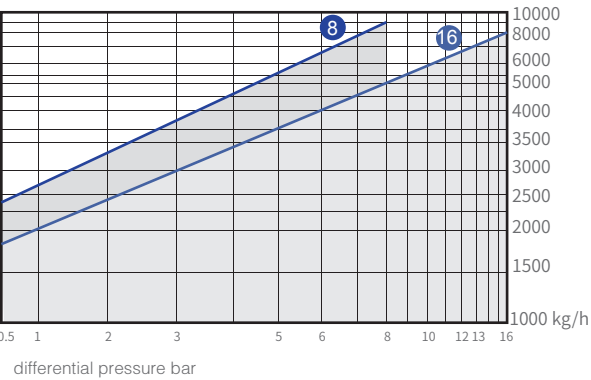
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

| | |
|----------------------|-----------------------------------|
| Bonnet: WCB/CF8/CF8M | Disc: Martensitic Stainless Steel |
| Body: WCB/CF8/CF8M | Other internal parts: |
| Seat: Martensitic | Austenitic Stainless Steel |
| Stainless Steel | |

SBT60 Displacement Curve



Working Principle

•Relying on the difference of vapor and liquid density, the main valve is guided to open through the pilot valve, and the displacement is large.

Features

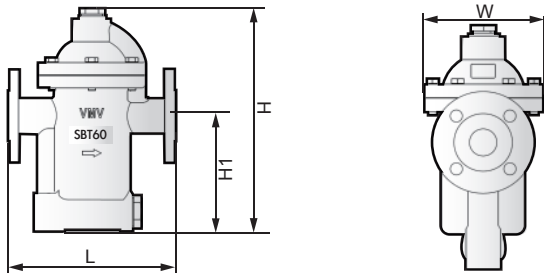
- The valve body and valve cover are made of cast steel.
- The internal parts are all made of stainless steel, and the wear allowance has been fully considered in the design of the movable parts, which improves the service life of the trap.
- U-shaped runner design achieves water sealing effect without leakage of steam.
- Flexible closing system with patented technology, no steam leakage.
- Install anti-water shock device, so that the fluid entering the valve body does not produce water hammer phenomenon.
- Built-in check valve, suitable for superheated steam environment.
- Built-in filter allows the trap to work in a clean environment.
- Select different displacement curves according to the pressure.
- The back pressure rate is as high as 90% or more.
- After stopping, the screw plug can be opened to drain the condensed water to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|-----|-----|--------|
| SBT60W | DN25-32 | 260 | 460 | 260 | 220 | 27.5Kg |
| SBT60F | DN25-50 | 320 | 460 | 260 | 220 | 36Kg |



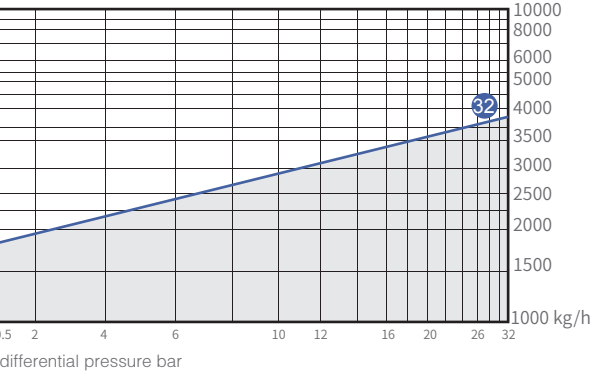
Technical Parameter

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN40 |
| Max. allowable pressure (Shell) | 3.92MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.66MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 3.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air test | 2.0MPa |

Material List

| | |
|----------------------|-----------------------------------|
| Bonnet: WCB/CF8/CF8M | Disc: Martensitic Stainless Steel |
| Body: WCB/CF8/CF8M | Other internal parts: |
| Seat: Martensitic | Austenitic Stainless Steel |
| Stainless Steel | |

SBT63 Displacement Curve



Working Principle

•Relying on the difference of vapor and liquid density, the main valve is guided to open through the pilot valve, and the displacement is large.

Features

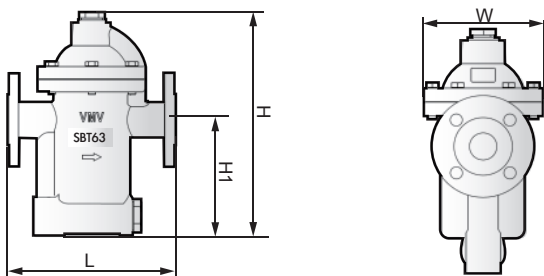
- The valve body and valve cover are made of cast steel.
- The internal parts are all made of stainless steel, and the wear allowance has been fully considered in the design of the movable parts, which improves the service life of the trap.
- U-shaped flow channel design achieves water sealing effect without leakage of steam.
- Flexible closing system with patented technology, no steam leakage.
- Install anti-water shock device, so that the fluid entering the valve body does not produce water hammer phenomenon.
- Built-in check valve, suitable for superheated steam environment.
- Built-in filter allows the trap to work in a clean environment.
- Select different displacement curves according to the pressure.
- The back pressure rate is as high as 90% or more.
- After stopping, the screw plug can be opened to drain the condensed water to prevent damage to the trap due to low temperature freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|-----|-----|--------|
| SBT63W | DN25-32 | 260 | 460 | 260 | 220 | 27.5Kg |
| SBT63F | DN25-50 | 320 | 460 | 260 | 220 | 36Kg |

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap

The lever ball float trap has the characteristics of large displacement, long life, good energy saving effect, water hammer resistance, beautiful appearance, etc. It is widely used in process heat tracing, jacketed heating kettles tank, reboilers and other equipment.

The technical advantages of VMV traps are: unique and reasonable structure , high-precision internal parts.

High Corrosion Resistance

Using WCB material
Fully consider corrosion allowance, minimum shell wall thickness, pressure and temperature grade when designing

Unique Exhaust Air Valve

The unique air exhaust valve makes the trap no air blocking phenomenon caused by air and other non-condensable gases during initial or normal operation.

Built-in Filter

Effectively prevent pipeline impurities from entering the valve
Keeps traps working properly while preventing water hammer from damaging internal components

Stainless Steel Float

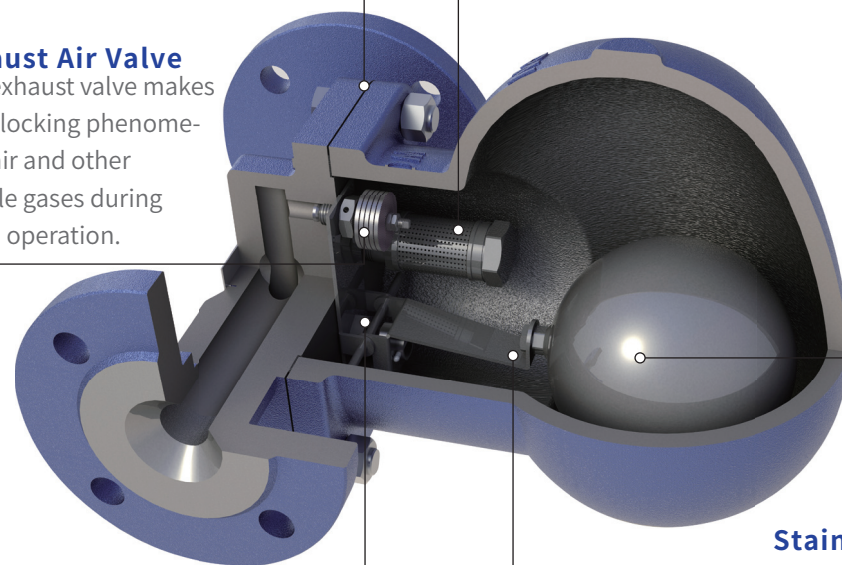
Defect-free laser-welded float ensures long service life of the trap

Unique Float Assembly

Precisely calculated structure of the floating ball assembly enables the closing system to work in a water-sealed state without steam leakage

Flexible Closing System

Unique flexible closing mechanism
No rigid impact to ensure long life
Micron-level high-precision valve seat. The valve core ensures reliable and tight closing



Structural Features

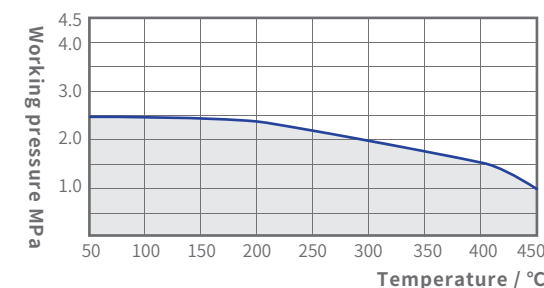
The flexible closing system is applied to the lever ball float trap, which solves the problems of short life and lax closing. In the design, the strength of the shell, the pressure and temperature grade, the manufacturability of casting, the impact caused by the fluid flow channel and the water-vapor mixing are considered, and the closed system works in a water-sealed state.

Lever ball float steam trap works on the difference in density between steam and condensate. When the valve body is filled with condensed water and non-condensable gas, the air exhaust valve is opened to remove the non-condensable gas, the floating ball moves up to drive the valve core to open, and after the condensate is drained, the floating ball drives the valve core to move down and closes the trap.

The biggest advantage of lever ball float trap is high back pressure rate (differential pressure 0.01bar can work), long life, reliable action, easy maintenance and no original steam

WCB/A105 Material PN25

Valve Body Pressure-Temperature Ratings

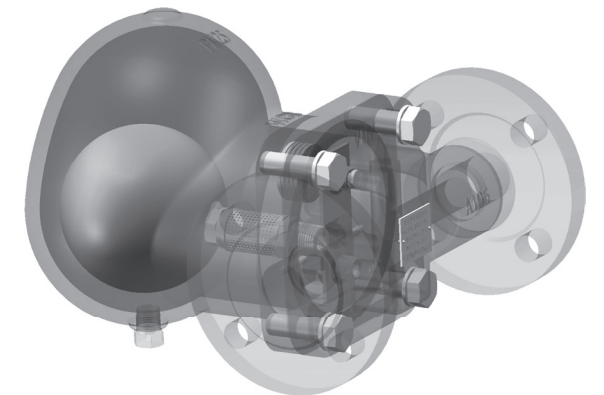


Lever Ball Float Trap

The lever ball float type steam trap is for continuous drainage, the subcooling degree is about 5°C, and the back pressure rate is over 95% (back-end pipeline pressure/steam pressure). In general, the safety factor is 2-3 times when selecting, and 5-8 times for air separation units and drying cylinders. Condensate volume and differential pressure of steam-using equipment are important indicators for model selection. The same type of trap increases with the increase of pressure difference and displacement. See the details on displacement curve.

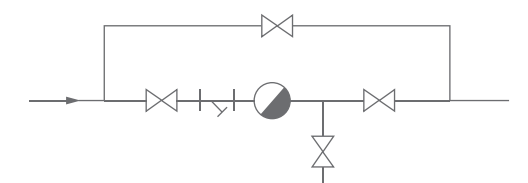
Special reminder: Please do not mistakenly think that a trap with a large diameter has a large displacement.

The lever ball float trap is installed horizontally at the bottom of the pipeline or equipment, and the SFT10 trap can be installed horizontally or vertically. The basic configuration is shown in the figure on the right.



The lever ball float type steam trap is made of ASTM216 WCB/WC6 /CF8/ CF8M stainless steel, some bonnets are made of ASTM A105/F304/F316, the inner parts are made of stainless steel, and there is a built-in filter device.

- Nominal pressure: PN25;
- Max allowable temperature: 425°C;
- Max working pressure: 1.6MPa /2.0MPa /3.2MPa /4.5MPa/6.5MPa;
- Max operating temperature: 400°C;
- Connection type: threaded RC or flange (GB/T9124.1-2019; HG/T20615-2009; HG/T20592-2009, etc.)



Lever ball float traps are best suited for back pressure recovery of condensate.

Lever Ball Float Proportional Regulating Steam Trap

Lever ball float proportional regulating steam trap is characterized by change according to condensate discharge rate large proportional displacement, long life, good energy-saving effects, water hammer resistance, and beautiful appearance. It is widely used in process heat tracing, jacket heating kettles, reboilers and other equipment.

The technical advantages of VMV traps are: unique and reasonable structure and high-precision internals!

Unique Float Assembly

Precisely calculated floating ball component structure makes the closing system work under water seal without steam leakage. Laser welded float ensures long life of steam trap.

High Corrosion Resistance

Using WCB material, full consideration of corrosion allowance, minimum shell wall thickness, pressure and temperature rating.

Unique Exhaust Valve

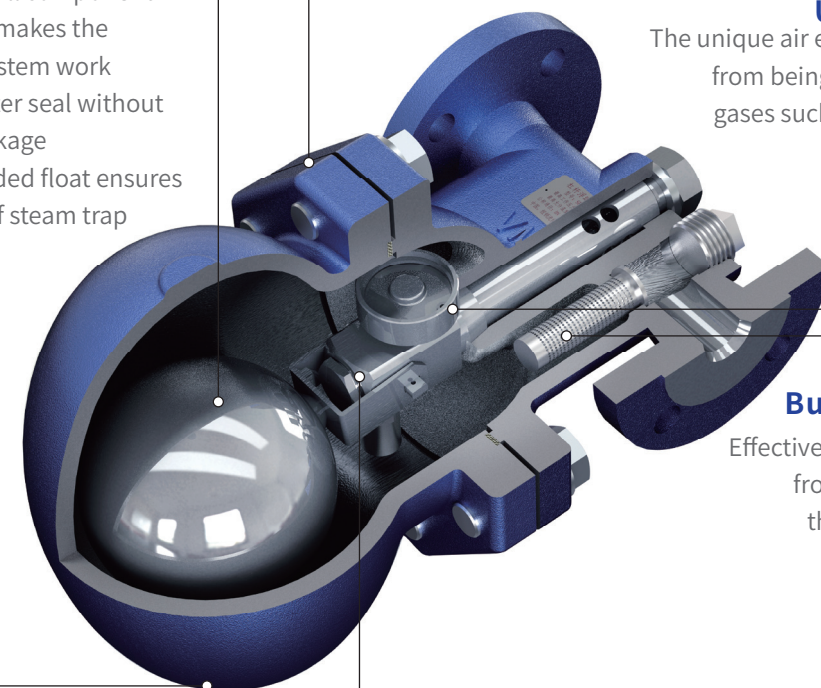
The unique air exhaust valve prevents the trap from being blocked by non-condensable gases such as air during initial or normal operation.

Built-in Filtering Device

Effectively prevents pipeline impurities from entering the valve to ensure the proper operation of the trap.

Precise and Reliable Controller

The controller adopts a rotating shaft structure, long life without rigid impact. Valve core ensures the reliability of the closing system and no steam leakage.



Reserved the sewage outlet to regularly discharge the dirt

Lever Ball Float Proportional Regulating Steam Trap

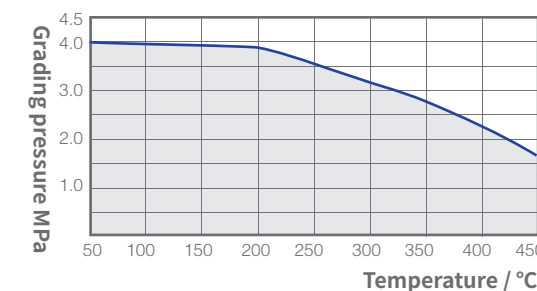
Structural Features

VMV applied the rotary shaft controller to lever ball float proportional regulating steam trap, which solved the problems of short life and lax closing. In the design, factors such as shell strength, pressure and temperature grade, casting process-ability, fluid flow path, impact caused by water and vapor mixing, losing the secondary water seal valve, the strength of the cover pad affected by low temperature environment and other factors are fully considered.

Lever ball float proportional regulating steam trap relies on the density difference between steam and condensate to work. When the valve body is full of condensed water and non-condensable gas, the air exhaust valve is opened to remove the non-condensable gas, proportional enlarged valve seat hole until it is fully opened, and the floating ball moves up to drive the controller spool rotation. After draining the condensed water, the floating ball drives the controller spool to rotate and adjust the size of the valve seat hole until closing.

WCB/A105 Material PN40

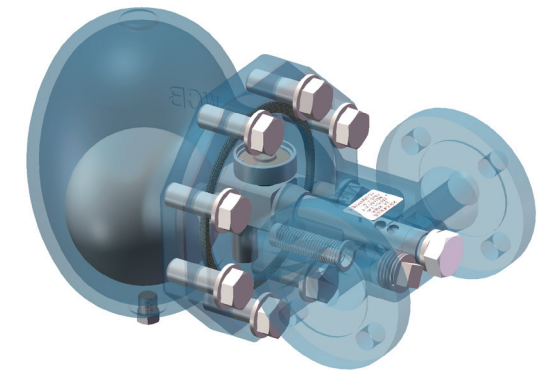
Valve Body Pressure - Rating Temperature



Lever Ball Float Proportional Regulating Steam Trap Selection and Installation

The lever ball float steam trap can drain water continuously. The subcooling degree is about 5°C, and the back pressure rate is above 95% (back-end pipeline pressure/steam pressure). It is suitable for pipelines and small equipment to remove condensate and back pressure to recover condensate. Generally, the safety factor is 2-3 times when selecting models, and 5-8 times for air separation units and drying cylinders. The condensed water volume and pressure difference of steam equipment are important indicators for type selection. The displacement of the same type of trap increases with the increase of pressure difference. Check the displacement curve in detail.

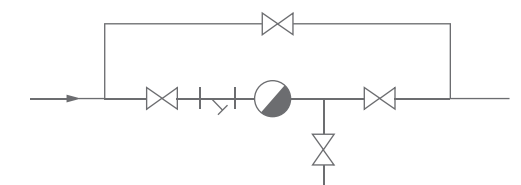
Notice: Please don't mistake it for a large-diameter trap with a large displacement.



The biggest advantage of lever ball float proportional regulating steam trap is suitable for a variety of displacement variables from small to large working environment, in addition to high back pressure rate (it can work under the pressure difference of 0.01bar), long life, reliable operation, convenient maintenance, with no original steam leakage.

The lever ball float proportional regulating steam trap is made of ASTM216 WCB cast steel, part of the valve cover is made of ASTM A105, the internals are made of stainless steel, with built-in filter.

- Nominal pressure: PN40;
- Max allowable temperature: 425°C;
- Max working pressure: 3.2MPa;
- Max working temperature: 350°C;
- Connection method: threaded RC or flange (GB/T9115.1-2000; HG/T20615-2009; HG/T20592-2009, etc.)



The lever ball float proportional regulating steam trap is installed horizontally at the bottom of the pipeline or equipment. The basic configuration is shown on the graph.

The lever ball float proportional regulating steam trap is most suitable for back pressure recovery of condensate.

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap

SFT10 Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT10A



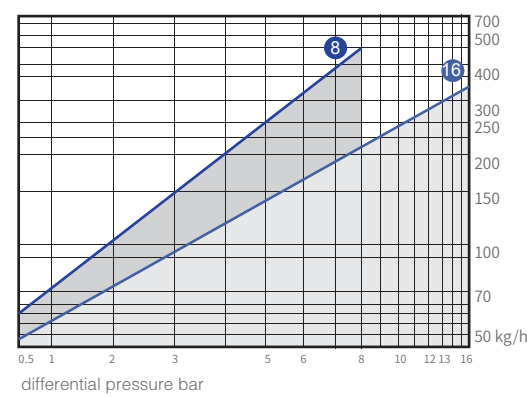
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

| | |
|------------------------|-----------------------------------|
| Bonnet: A105/F304/F316 | Disc: Martensitic Stainless Steel |
| Body: WCB/CF8/CF8M | Other internal parts: |
| Seat: Martensitic | Austenitic Stainless Steel |
| Stainless Steel | |

SFT10 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

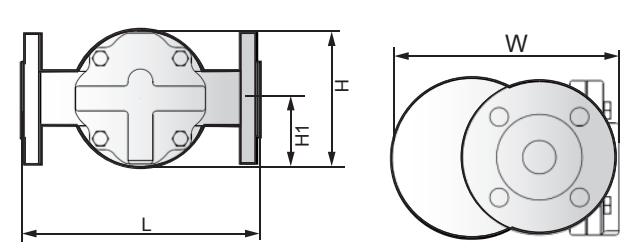
Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent air lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

| Unit(mm) | | | | | | |
|----------|---------|-----|-----|----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SFT10T | DN15-25 | 150 | 120 | 60 | 170 | 5.5 Kg |
| SFT10W | DN15-25 | 150 | 120 | 60 | 170 | 5.5 Kg |
| SFT10F | DN15-25 | 210 | 120 | 60 | 170 | 8 Kg |



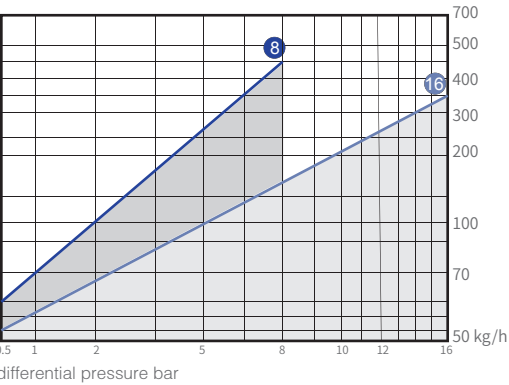
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN40 |
| Max. allowable pressure (Shell) | 3.92MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.66MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 3.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air test | 2.0MPa |

Material List

| | |
|------------------------|----------------------------------|
| Bonnet: A105/F304/F316 | Disc: Austenitic Stainless Steel |
| Body: WCB/CF8/CF8M | Other internal parts: |
| Seat: Martensitic | Austenitic Stainless Steel |
| Stainless Steel | |

SFT10A Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

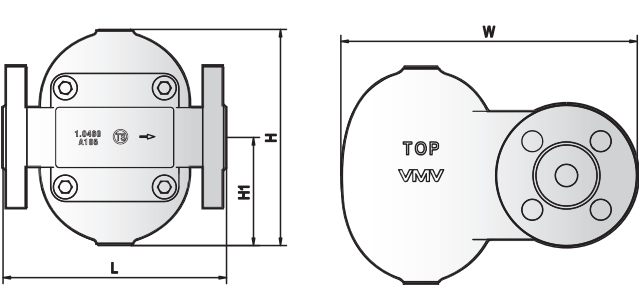
Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water is removed after stopping, to prevented floating ball from freezing in cold weather.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

| Unit(mm) | | | | | | |
|----------|---------|-----|-----|----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SFT10AT | DN15-20 | 120 | 145 | 73 | 172 | 5.0 kg |
| | DN25 | 145 | 145 | 73 | 180 | 5.7 kg |
| SFT10AW | DN15-20 | 120 | 145 | 73 | 172 | 5.0 kg |
| | DN25 | 145 | 145 | 73 | 180 | 5.7 kg |
| SFT10AF | DN15-20 | 150 | 145 | 73 | 205 | 7.0 kg |
| | DN25 | 160 | 145 | 73 | 213 | 8.1 kg |

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap

SFT20 Lever Ball Float Steam Trap



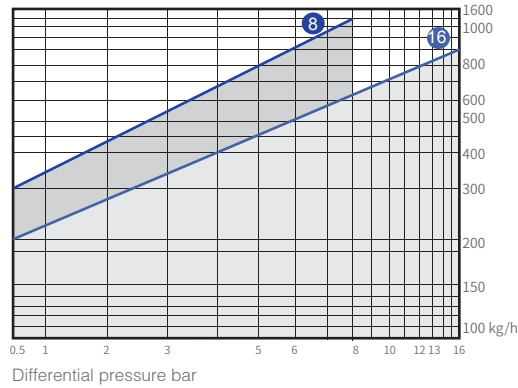
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

| | |
|-----------------------------------|-----------------------------------|
| Bonnet: A105/F304/F316 | Disc: Martensitic Stainless Steel |
| Body: WCB/CF8/CF8M | Other internal parts: |
| Seat: Martensitic Stainless Steel | Austenitic Stainless Steel |

SFT20 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent air lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

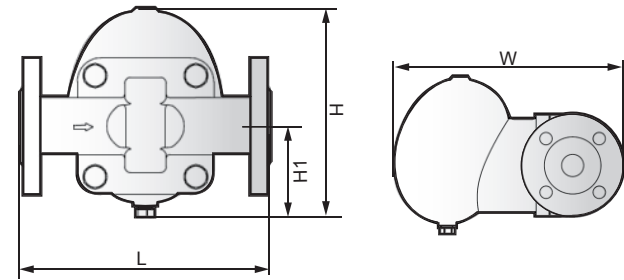
- GB/T22654-2008 Technical Conditions for Steam Traps

- GB/T12251-2005 Test Method for Steam Traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

| Model | Size | Unit(mm) | | | | | Weight |
|--------|---------|----------|-----|----|-----|--|--------|
| | | L | H | H1 | W | | |
| SFT20T | DN15-25 | 150 | 175 | 75 | 227 | | 8.5 kg |
| SFT20W | DN15-25 | 150 | 175 | 75 | 227 | | 8.5 kg |
| SFT20F | DN15-25 | 210 | 175 | 75 | 260 | | 11 kg |



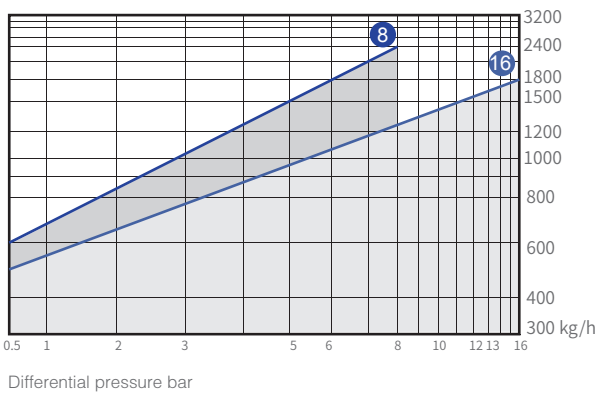
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

| | |
|-----------------------------------|-----------------------------------|
| Bonnet: A105/F304/F316 | Disc: Martensitic Stainless Steel |
| Body: WCB/CF8/CF8M | Other internal parts: |
| Seat: Martensitic Stainless Steel | Austenitic Stainless Steel |

SFT30 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

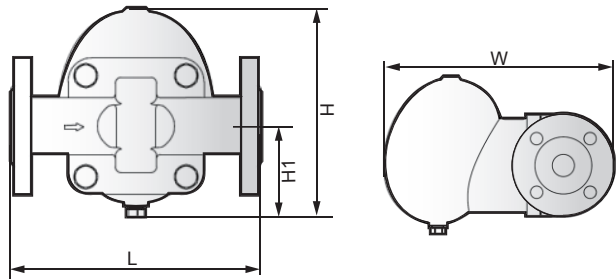
- GB/T22654-2008 Technical Conditions for Steam Traps

- GB/T12251-2005 Test Method for Steam Traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



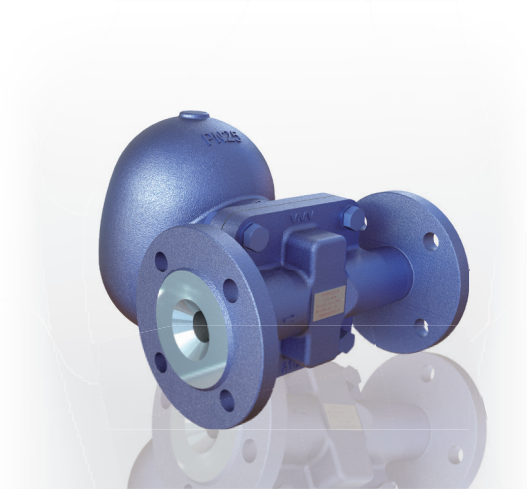
Dimension Table

| Model | Size | Unit(mm) | | | | | Weight |
|--------|---------|----------|-----|----|-----|--|---------|
| | | L | H | H1 | W | | |
| SFT30T | DN25-32 | 170 | 208 | 87 | 258 | | 12 kg |
| SFT30W | DN25-32 | 170 | 208 | 87 | 258 | | 12 kg |
| SFT30F | DN25-50 | 230 | 208 | 87 | 300 | | 16.5 kg |

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap

SFT40 Lever Ball Float Steam Trap



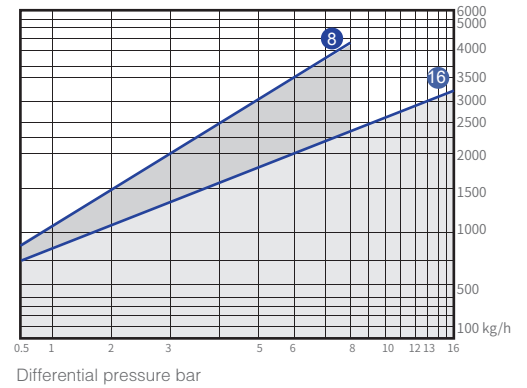
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

Bonnet: A105/F304/F316 Disc: Martensitic Stainless Steel
Body: WCB/CF8/CF8M Other internal parts:
Seat: Martensitic Stainless Steel Austenitic Stainless Steel

SFT40 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

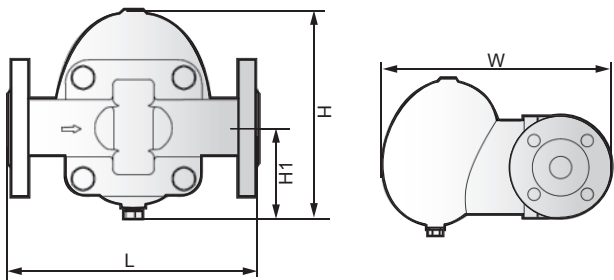
Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent air lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

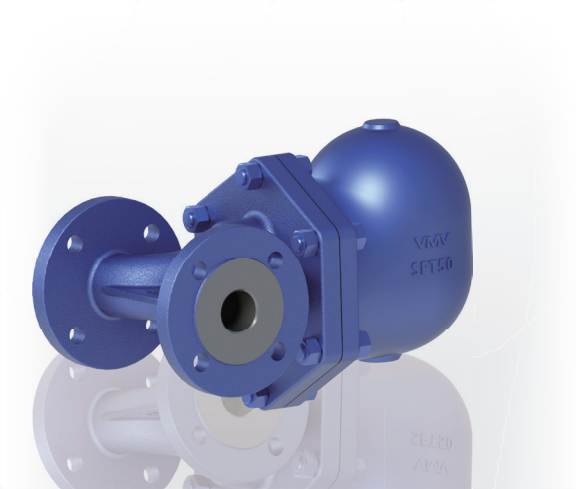
- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

| Unit(mm) | | | | | | |
|----------|---------|-----|-----|-----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SFT40T | DN25-32 | 210 | 254 | 107 | 315 | 20 kg |
| SFT40W | DN25-32 | 210 | 254 | 107 | 315 | 20 kg |
| SFT40F | DN25-50 | 270 | 254 | 107 | 315 | 26 kg |



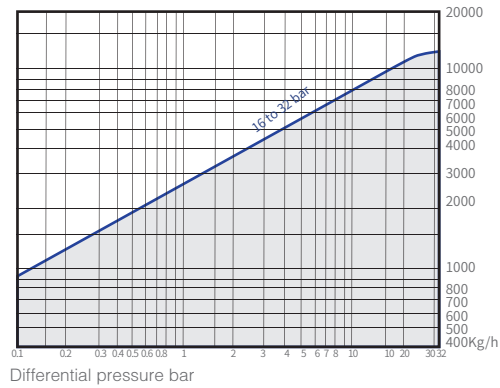
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN40 |
| Max. allowable pressure (Shell) | 3.92MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.66MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 3.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air test | 2.0MPa |

Material List

Bonnet: WCB Disc: Martensitic Stainless Steel
Body: WCB Other internal parts:
Seat: Martensitic Austenitic Stainless Steel
Stainless Steel

SFT50 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

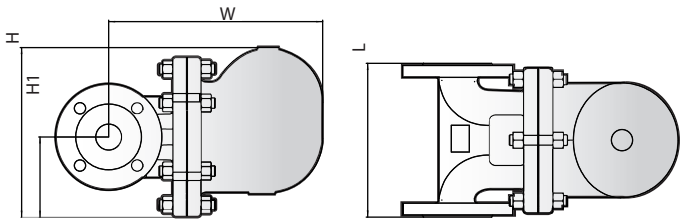
Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

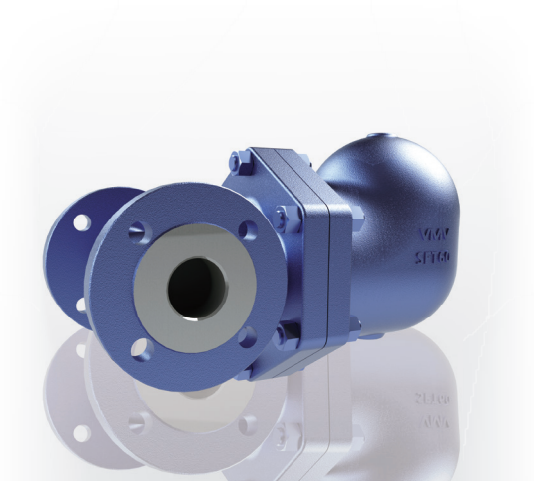
| Unit(mm) | | | | | | |
|----------|------|-----|-----|-----|-----|---------|
| Model | Size | L | H | H1 | W | Weight |
| SFT50 | DN32 | 230 | 260 | 120 | 331 | 27.5 kg |
| | DN40 | 230 | 260 | 120 | 331 | 27 kg |

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap

SFT60 Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT66



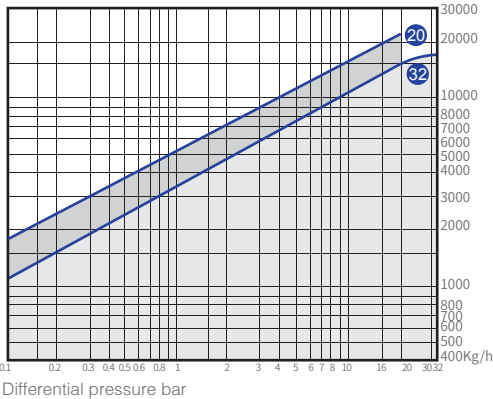
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN40 |
| Max. allowable pressure (Shell) | 3.92MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.66MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 3.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air test | 2.0MPa |

Material List

| | |
|-------------------|-----------------------------------|
| Bonnet: WCB | Disc: Martensitic Stainless Steel |
| Body: WCB | Other internal parts: |
| Seat: Martensitic | Martensitic Stainless Steel |
| Stainless Steel | |

SFT60 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

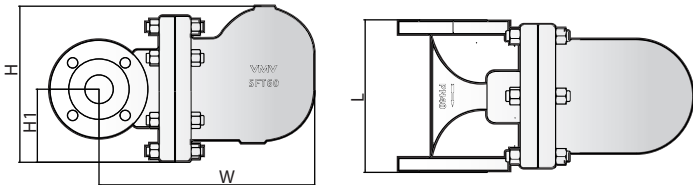
Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

| Unit(mm) | | | | | | |
|----------|------|-----|-----|-----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SFT60 | DN32 | 230 | 262 | 125 | 363 | 31 kg |
| | DN40 | 230 | 262 | 125 | 363 | 32kg |
| | DN50 | 230 | 262 | 125 | 363 | 33 kg |



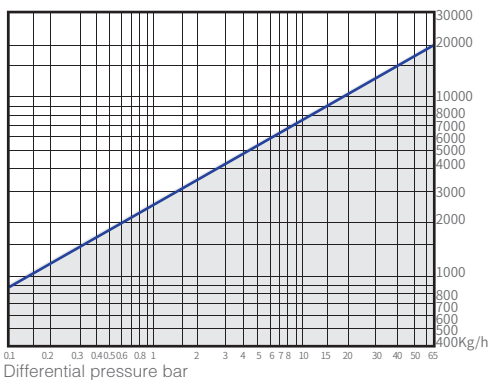
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN100 |
| Max. allowable pressure (Shell) | 9.8Mpa/200°C |
| Max. allowable temperature (Shell) | 450°C/7.29MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 8.0MPa |
| Max. operating temperature | 425°C |
| Factory cold test pressure | 15.0MPa |
| Air test | 2.0MPa |

Material List

| | |
|-------------------|-----------------------------------|
| Bonnet: WC6 | Disc: Martensitic Stainless Steel |
| Body: WC6 | Other internal parts: |
| Seat: Martensitic | Martensitic Stainless Steel |
| Stainless Steel | |

SFT66 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

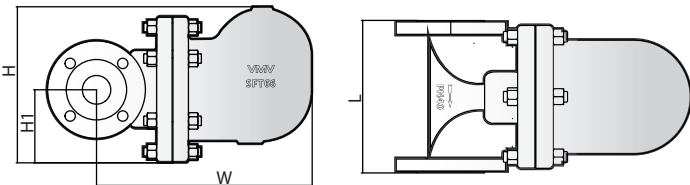
Features

- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95% .

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

| Unit(mm) | | | | | | |
|----------|------|-----|-----|-----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SFT66 | DN50 | 230 | 267 | 114 | 378 | 41 kg |
| | DN65 | 230 | 267 | 114 | 378 | 42kg |
| | DN80 | 230 | 267 | 114 | 378 | 44 kg |

Lever Float Steam Trap

Lever Float Steam Trap

SFT70 Lever Float Steam Trap



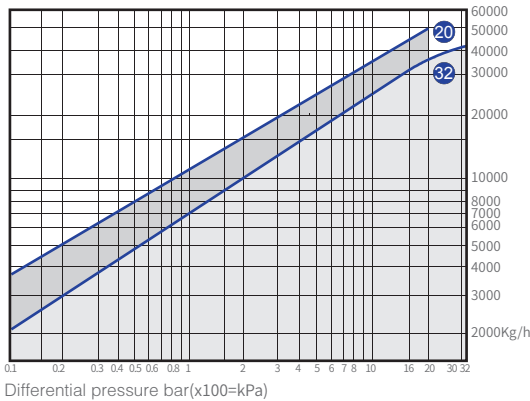
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN40 |
| Max. allowable pressure (Shell) | 3.92MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.66MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 3.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air test | 2.0MPa |

Material List

| | |
|-------------------|-----------------------------------|
| Bonnet: WCB | Disc: Martensitic Stainless Steel |
| Body: WCB | Other internal parts: |
| Seat: Martensitic | Martensitic Stainless Steel |
| | Stainless Steel |

SFT70 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

Features

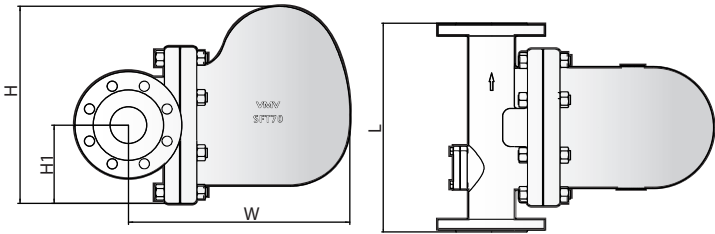
- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

| Unit(mm) | | | | | | |
|----------|------|-----|-----|-----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SFT70 | DN50 | 360 | 343 | 135 | 385 | 53 kg |
| | DN65 | 360 | 343 | 135 | 385 | 54kg |
| | DN80 | 360 | 343 | 135 | 385 | 56 kg |



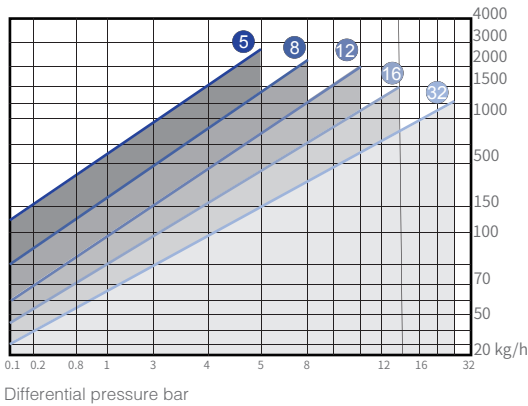
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN63 |
| Max. allowable pressure (Shell) | 6.27Mpa/200°C |
| Max. allowable temperature (Shell) | 450°C/2.6MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 4.2MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 9.5MPa |
| Air test | 0.6MPa |

Material List

| | |
|-------------------|-----------------------------------|
| Bonnet: WCB | Disc: Martensitic Stainless Steel |
| Body: WCB | Other internal parts: |
| Seat: Martensitic | Austenitic Stainless Steel |
| | Stainless Steel |

SFT30A



Working Principle

- Based on the density of vapor and liquid.

Features

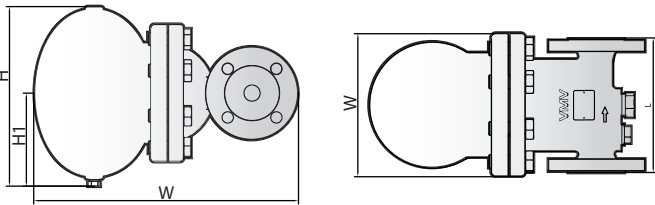
- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- Built-in air exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

| Unit(mm) | | | | | | |
|----------|------|-----|-----|-----|-----|--------|
| Model | Size | L | H | H1 | W | Weight |
| SFT30AF | DN20 | 150 | 222 | 115 | 325 | 5.5 kg |
| | DN25 | 150 | 222 | 115 | 330 | 5.5kg |

Air Trap

Air Trap

The basic concept of air trap is an automatic device that discharges the water (or liquid) in the air storage tank, gas equipment and non condensable gas pipeline through the drain valve without gas leakage. The drainage of air pipeline is called air trap, and using in non condensable gas pipeline is called drain valve. Air traps are characterized by large displacement,

long life, good energy-saving effects, water hammer resistance, and beautiful appearance. They are widely used in compressed air or non condensable gas tanks, pipelines and air separation equipment. The technical advantages of VMV traps are unique and reasonable structure and high-precision internals!

High Strength Corrosion Resistance

Using WCB material, full consideration of corrosion allowance, minimum shell wall thickness, pressure and temperature rating.

Flexible Closing System

Single valve seat and flexible closing system are adopted to ensure super long service life and closing accuracy.

Built-in Filter Device

It can effectively prevent pipeline impurities from entering the valve, ensuring the normal operation of the trap, and prevent water hammer from damaging internal components.

Pressure Equalizing Flange

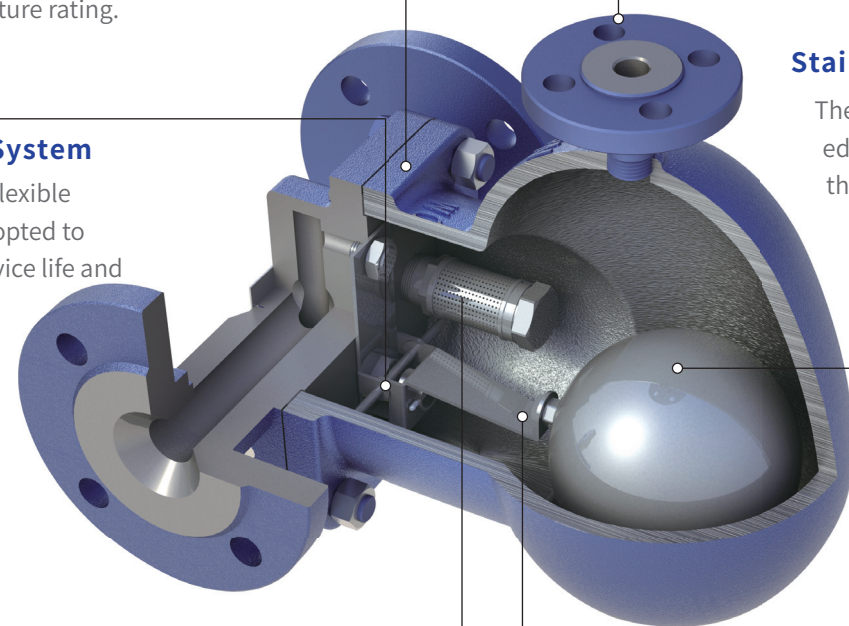
Structure with pressure equalizing balance pipe
Air blockage

Stainless Steel Float

The flawless laser-welded floating ball ensures the long working life of the steam trap

Unique Float Assembly

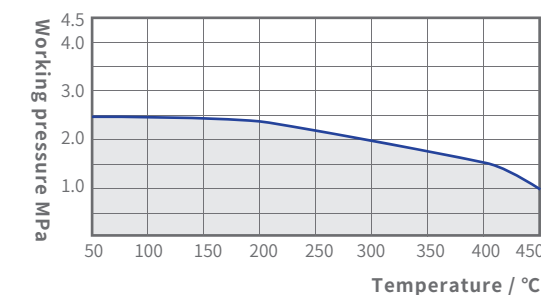
Precisely calculated floating ball component structure makes the closing system work under water seal without steam leakage.



Structural Features

VMV applies the flexible closing system to air trap, which solves the problems of short life-time and bad sealing. In the design, factors such as shell strength, pressure and temperature grade, casting processability, fluid flow path, impact caused by water and vapor mixing, closing of the auxiliary water seal, and the strength of the valve cover gasket affected by the low temperature environment are fully considered. Air trap relies on the density difference between steam and condensate to work. When the valve body is full of non-condensable gas, the gas is discharged through the balance pipe, and the water enters the trap. The floating ball moves up and drives the valve core to open. After discharging the condensed water, the floating ball drives the valve core to move down and closes the drain valve. Air trap has the following advantages, long life, reliable operation, convenient maintenance, no original steam leakage. The greatest advantage of the air trap is can work under pressure as low as 0.1bar.

WCB/A105M aterial PN25 Valve Body Pressure - Rating Temperature



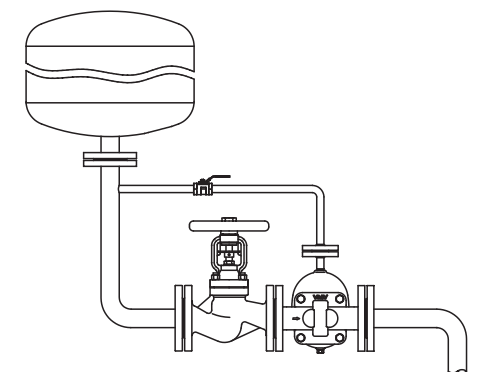
Air Trap Selection and Installation

The air trap can drain water continuously. It is suitable for discharging water or liquid from gas transmission pipeline, gas storage tank and air separation unit. Generally, the safety factor is 2-3 times when selecting models. The displacement of air trap increases with the increase of pressure difference. Check the displacement curve in detail. Special reminder: Please do not mistakenly think that the large diameter trap with large displacement. The air trap is installed horizontally at the bottom of the pipeline or equipment, being equipped with pressure equalizing and balancing pipe and flange as leaving factory-(PN25,DN10 RF). The basic configuration is shown on the graph.



The air trap is made of ASTM216 WCB cast steel, part of the valve cover is made of ASTM A105, the internals are made of stainless steel, with built-in filter.

- Nominal pressure: PN25;
- Maximum allowable temperature: 200°C/2.45MP;
- Maximum working pressure: 2.5MPa;
- Maximum working temperature: 200°C;
- Connection type: thread RC or flange (GB/T 9115.1-2000; HG/T20615-2009; HG/T20592-2009, etc.)



Installation method: remove the upper plug, screw on the balance pipe with flange, and connect the air inlet pipe and balance pipe.

Air Trap

Air Trap

AFT20 Air Trap



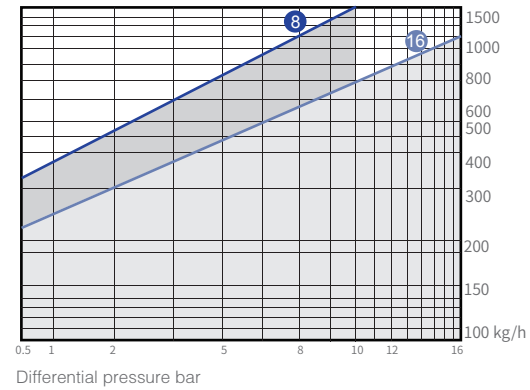
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

| | |
|-----------------------------------|-----------------------------------|
| Bonnet: A105 | Disc: Martensitic Stainless Steel |
| Body: WCB | Other internal parts: |
| Seat: Martensitic Stainless Steel | Austenitic Stainless Steel |

AFT20 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

Features

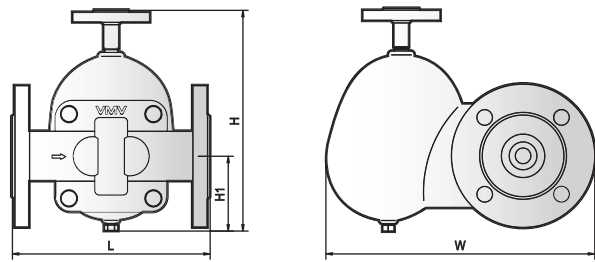
- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- The pressure equalizing and balancing pipe completely solves the gas blockage.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The blowdown plug is designed at the bottom of the air trap to ensure that the internal ponding is removed after shutdown and prevent the floating ball from freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Construction Length
- GB/T22654-2008 Technical conditions of steam traps
- GB/T12251-2005 Test methods for steam traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Chart



Data Size Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|----|-----|--------|
| AFT20T | DN15-25 | 150 | 225 | 75 | 227 | 9 kg |
| AFT20W | DN15-25 | 150 | 225 | 75 | 227 | 9 kg |
| AFT20F | DN15-25 | 210 | 225 | 75 | 260 | 1.5 kg |



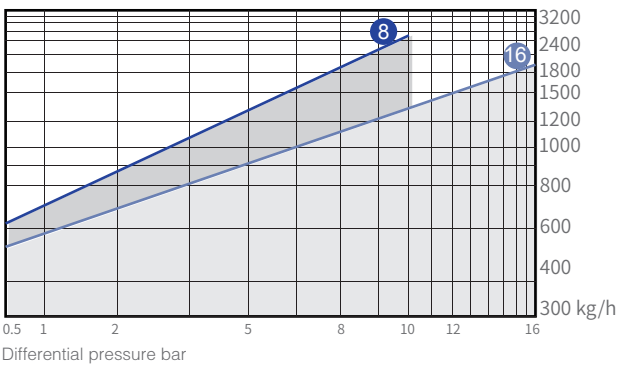
Technical Parameters

| | |
|------------------------------------|-----------------|
| Nominal pressure | PN25 |
| Max. allowable pressure (Shell) | 2.45MPa/200°C |
| Max. allowable temperature (Shell) | 450°C/1.03MPa |
| Factory steam action test | >3 times/1.6MPa |
| Max. working pressure | 1.6MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 3.8MPa |
| Air test | 2.0MPa |

Material List

| | |
|-----------------------------------|-----------------------------------|
| Bonnet: A105 | Disc: Martensitic Stainless Steel |
| Body: WCB | Other internal parts: |
| Seat: Martensitic Stainless Steel | Austenitic Stainless Steel |

AFT30 Displacement Curve



Working Principle

- Based on the density of vapor and liquid.

Features

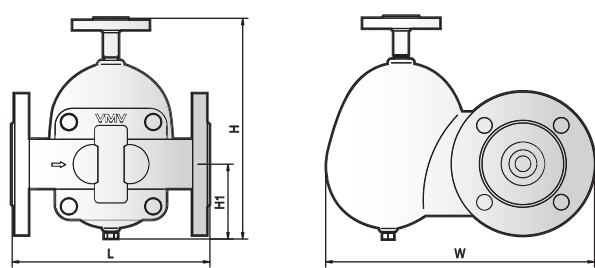
- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.
- Patented flexible closing system and micron-level precision closing system double guarantee no steam leakage and long service life.
- The pressure equalizing and balancing pipe completely solves the gas blockage.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The blowdown plug is designed at the bottom of the air trap to ensure that the internal ponding is removed after shutdown and prevent the floating ball from freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Construction Length
- GB/T22654-2008 Technical conditions of steam traps
- GB/T12251-2005 Test methods for steam traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Chart



Data Size Table

| Model | Size | L | H | H1 | W | Weight |
|--------|---------|-----|-----|----|-----|---------|
| AFT30T | DN25-32 | 170 | 260 | 87 | 258 | 12.5 kg |
| AFT30W | DN25-32 | 170 | 260 | 87 | 258 | 12.5 kg |
| AFT30F | DN25-32 | 230 | 260 | 87 | 300 | 17 kg |

Pump Trap System



Properties of Steam & Condensate Recovery

Pump Trap T20

Why recycle condensate

The steam generates condensate through heat exchange. The condensate is separated and discharged through the steam trap. The condensate contains a lot of heat energy.

1kg steam (6bar)
temperature 164°C
Enthalpy 659kcal

=

Apply work releases heat
494Kcal,accounting for
75% of the total heat.

+

The heat of condensate is
165kcal and the tempera-
ture is 164 °C, accounting
for 25% of the total heat

Condensate heat energy recovery method

Recovery of heat energy by flash tank

2 bar low-pressure steam 0.058 kg is generated, and the temperature is 133 °C, accounting for 19% of the total heat of condensate

1kgCondensate (6bar)
Temperature 164°C,
enthalpy 165kcal



heat of flash evaporation into 2 bar
condensate 134 kcal, accounting
for 82% of the total heat of
condensate

Steam trap back pressure recovers condensate heat energy

Steam trap back pressure
recovers condensate: 1 kg
condensate of 6 bar, 164 °C,
and 165 kcal enthalpy.



The back pressure rate can reach 80%, all heat can be recovered,
closed recovery, and flash steam will be generated in the
condensate pipeline (which should be considered in the design
of pipeline)

Electric pump recovers condensate heat energy

Electric pump recovers
condensate: 1 kg condensate
of 6 bar, 164 °C, and 165 kcal
enthalpy



Establish flash steam treatment device, water collecting tank, electric
pump and control system. The closed system needs to reduce the
condensate pressure and ensure that the back pressure rate of the steam
trap can reach less than 80%. The flash steam must be treated, and the
condensate is transported through the high-temperature electric pump
Open electric pump recovers condensate at 100 °C, with calorific value of
100kcal and energy loss of 40%

recovers condensate heat energy

Condensate recovery pump
recovers condensate: 1 kg
condensate of 6 bar, 164 °C,
and 165 kcal enthalpy



The condensate is transported automatically without cavitation through
the condensate recovery pump. The closed system needs to reduce the
condensate pressure and ensure the back pressure rate of the steam trap.
It must deal with the occasions where the flash steam or the gravity of a
single heat exchange equipment flows into the water collecting tank;
The closed system recovers all the heat, and the open system recovers
more than 80% of all the heat

VMV condensate recovery pump (pump trap)
first came from foreign technology, originally
meaning "pump trap", also known as mechani-
cal power pump. It uses the principle of steam
trap and relies on steam, air and other gases
as power to transport condensate from
low-pressure area to high-pressure area, or
from negative pressure area (vacuum) to
normal pressure area.

Condensate recovery pump has a series of advantag-
es, such as automatic control, no cavitation, simple
maintenance, No need for electricity, water hammer
resistance, large displacement, explosion-proof, no
noise, and the head of delivery determined by the
pressure of power steam (gas), which is unmatched
by other pumps. It is widely used in the transporta-
tion of condensate in steam system and liquid with
low viscosity and no volatilization.

Convenient Replacement and Maintenance

Open the valve cover at a
glance without removing
the pipe connection

High Corrosion Resistance

High temperature
alloy spring is used for
long-term stable
operation at 540°C

Valve Core and Valve Seat

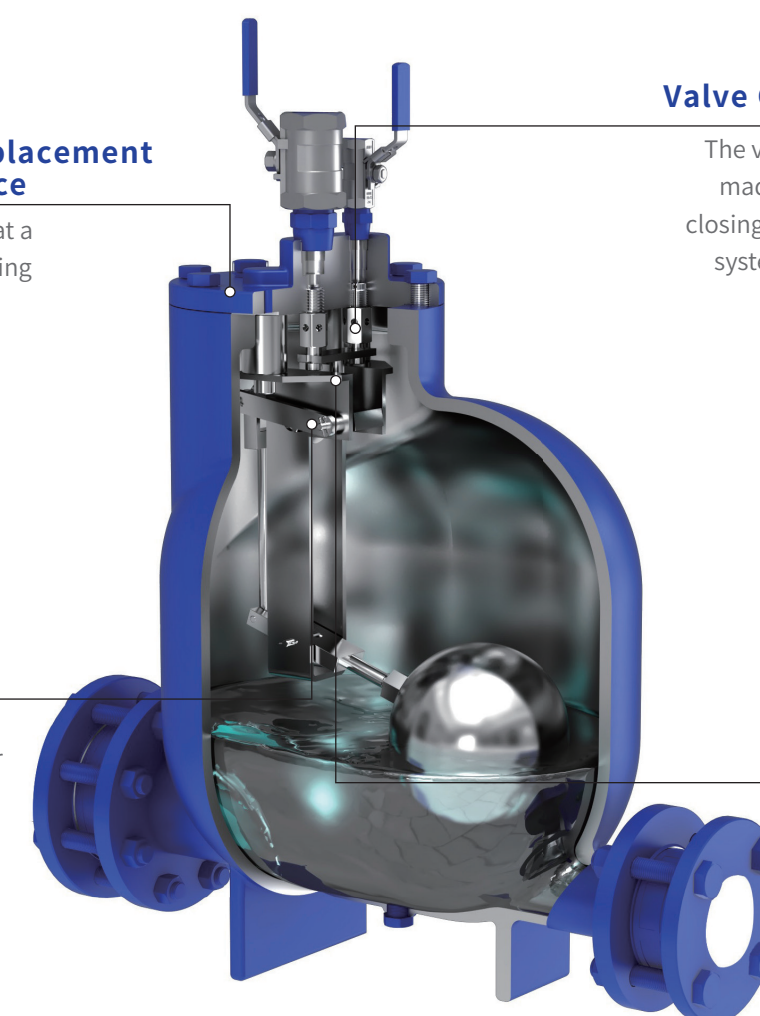
The valve seat and valve core are
made of stainless steel, and the
closing pair adopts flexible closing
system with small wear, reliable
closing and long service life

Long Life and High Precision

Welding of key parts
The accuracy of key
parts of stellite alloy
can reach μm level
The key parts
are welded with
Stelli alloy, and the
precision of key
parts can reach
micron level

Selection conditions of pump trap

1. Condensate delivery capacity kg / h
2. Back pressure (head of delivery) MPa
3. Power steam (air)
4. Power steam (air) pressure MPa
5. Water inlet normal diameter DN
6. Water outlet normal diameter DN



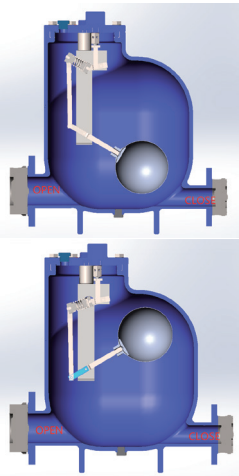
Pump Trap

Pump Trap

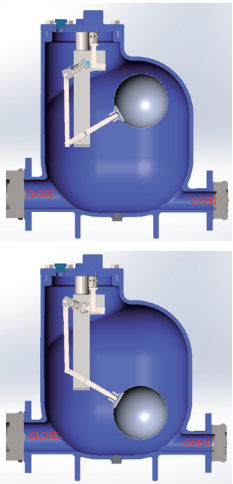
Pump Trap PT20

Working Principle

Enter condensate and exhaust steam(air)
At the beginning, the water inlet check valve is opening, the water outlet check valve is closed due to high back pressure, the water start to enter the pump, and the floating ball is at a low level, with the rise of water level and the opening of exhaust valve, the floating ball reaches the highest controller and is in the switching critical state.



Enter steam(air) and exhaust condensate
The controller starts switching at the high position and closes the exhaust valve: open the power steam (air), inject steam into the valve, and push the condensate in the pump to the high-pressure area under the steam pressure: at this time, the water inlet check valve cannot feed water due to the high pressure in the pump. When the floating ball reaches the low position, the controller switches to close the power steam and opens the exhaust valve to enter the next action cycle.



Technical Parameter

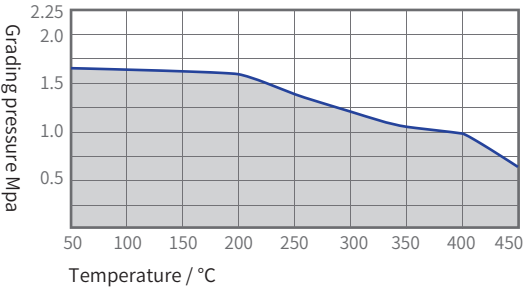
- Design Standards
- GB / T22654-2008 Technical conditions for steam traps
 - GB / T12251-2005 Test methods for steam traps
 - GB / T12224-2005 General requirements for steel valves

| | | | | | |
|------------------------------------|---------------|-------------------------------|--|-----------------------|---------|
| Nominal Pressure | PN16(150LB) | Design pressure of valve body | 2.5MPa | Water inlet diameter | DN80 RF |
| Maximum Allowable Pressure | 1.6MPa/204°C | Maximum Allowable Temperature | 300°C /1.23MPa | Water outlet diameter | DN50 RF |
| Maximum Working Pressure | 1.37MPa/250°C | Maximum Operating Temperature | 250°C /1.37MPa | Steam outlet diameter | 1” RC |
| Maximum Power Steam Inlet Pressure | 1.37MPa | Steam (Air) Consumption | Steam 5kg / T condensate air 7.6m3/T condensate | Steam inlet diameter | 1/2” RC |

Material List of Main Parts

| | | | |
|----------------|--------------------|--------------|-------------------------|
| Valve Body,Cap | WCB | Float | 304 |
| Valve Seat | 420 | Control Rack | 304+Stellite |
| Valve Core | 440C | Fastener | Carbon steel grade 8.8 |
| Spring | Ni Base Superalloy | Gasket | SS304+flexible graphite |

WCB/A105Material PN16 valve shell pressure temperature rating



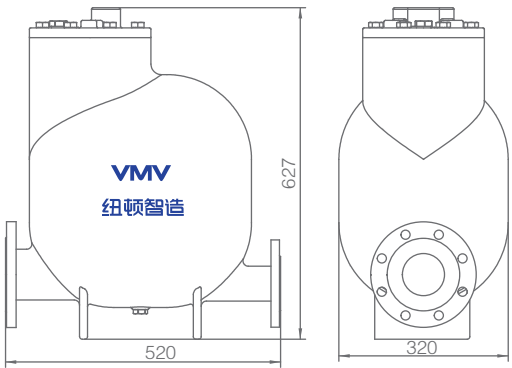
Performance characteristics

- Non electric drive, driven by steam or compressed air, explosion-proof and safe, and can be used in any environment.
- Compact structure, without any requirements for installation, even in the open field, its normal operation will not be affected.
- Automatic control, the amount of the water output is determined by the water inflow. When the amount of condensate increases, the working frequency increases, when it decreases, the working frequency decreases, and the work stops once there's no condensate.
- No cavitation work, which completely overcomes the cavitation defect of electric pump.
- All stainless steel internals and special materials ensure performance and service life.

Remarks

- It is recommended that the head height of fluid entering is more than 0.5m (the pump cover is the benchmark), and the "correction coefficient of inlet height" can be referred to;
- Power steam inlet connection RC1 / 2 ";
- For the normal operation of the pump, the saturated condensate needs flash or condensation treatment, and the closed system must ensure the differential pressure and back pressure rate of the normal operation of the steam trap.
- The standard configuration of condensate inlet and outlet is HG/ T20592-2009 PN16 flange connection. If ASME16.5、JIS and other standards is required, please specify.

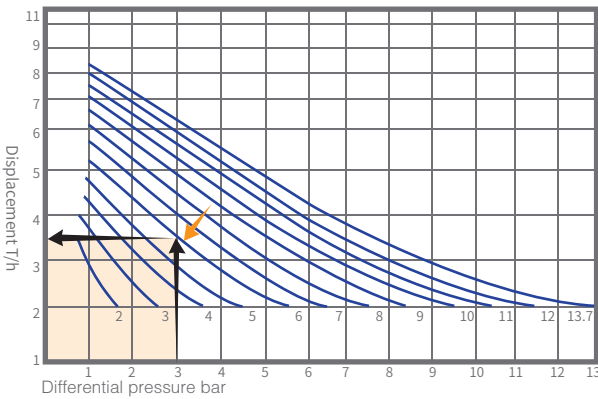
Structure diagram



Maintenance

Attached accessories: one set of valve cap gasket and one set of valve seat gasket. Recommended spare parts list: one valve seat, one valve core and one spring.

PT20 Displacement Curve



How to check the displacement

For example:
The power steam pressure is 6bar, and the back pressure at the rear end is 3bar (lbar = 10m).
Step 1: Find out the power steam 6bar curve, and see the curve pointed by the yellow arrow;
Step 2: Lift 30m, i.e. back pressure 3bar (1bar=10m),Find the lower horizontal axis 3bar and move it up to 6bar to intersect the curve (see the black arrow);
Step 3: Move the intersection to the left to find out the displacement value and get the displacement of 3.5t/h;
Step 4: 3.5t/h x head height correction coefficient = actual displacement

Head Height Correction Coefficient

| Inlet Height (m) | Displacement Correction Factor | | | |
|------------------|--------------------------------|------|------|-----------|
| | DN25 | DN40 | DN50 | DN50*DN50 |
| 0.15 | 0.90 | 0.75 | 0.75 | 0.80 |
| 0.30 | 1.00 | 1.00 | 1.00 | 1.00 |
| 0.60 | 1.15 | 1.10 | 1.20 | 1.05 |
| 0.90 | 1.35 | 1.25 | 1.30 | 1.15 |

Maintenance cycle:After one year of operation, open the pump cover to check the wear of mechanical parts, and open the sewage outlet for sewage discharge once without removing the connecting pipe.

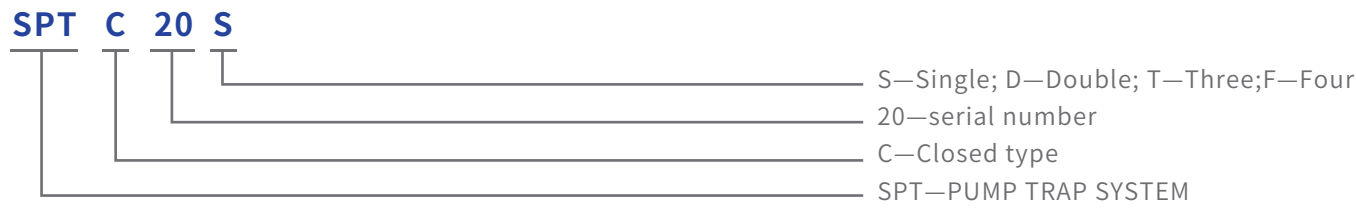
Pump Trap System

Pump Trap System

VMV pump trap system device is a complete recovery system composed of pump steam trap and control valve of water collecting tank. It only needs to be connected with power steam, inlet pipe and return pipe to operate.

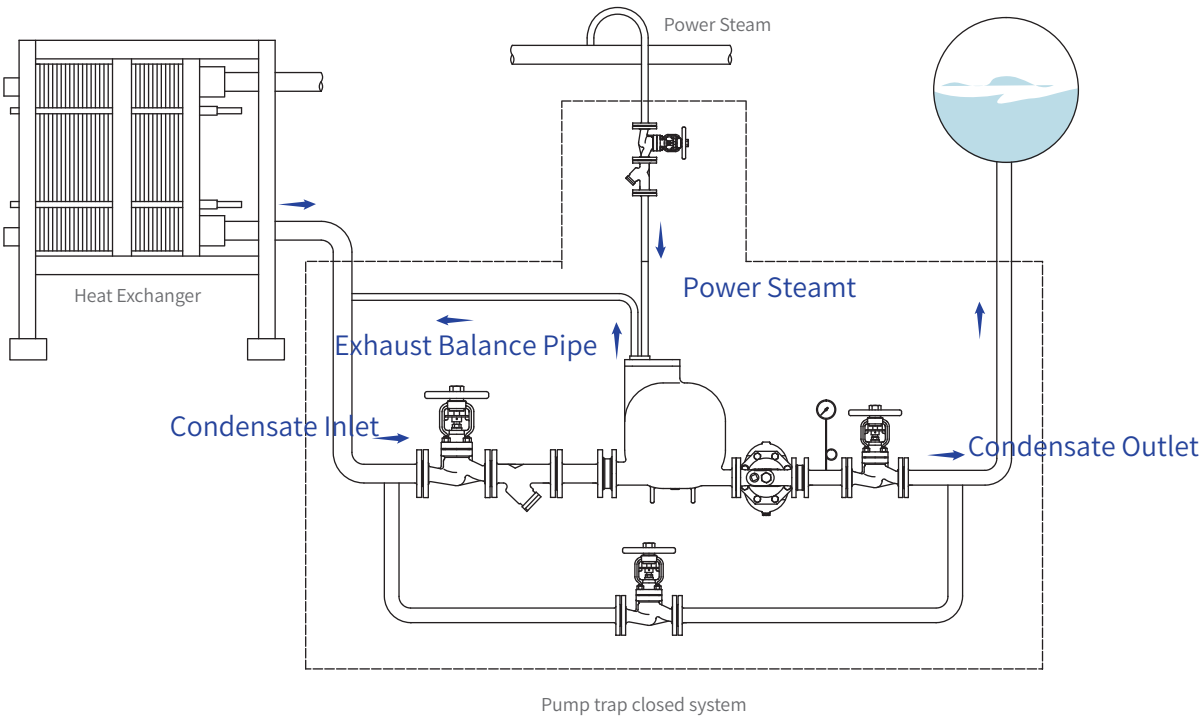
According to the displacement, VMV pump trap system device is divided into single pump trap system device SPT20S, double pump trap system device SPT20D, three pump trap system device SPT20T and four pump trap system device SPT20F. According to the system, it is divided into open system and closed system.

Product Model Compilation:



Model of open system: SPT20S, SPT20D, SPT20T, SPT20F
Model of closed system: SPTC20S, SPTC20D, SPTC20T, SPTC20F

Pump Trap Closed System



Single pump trap system device (open) SPT20S

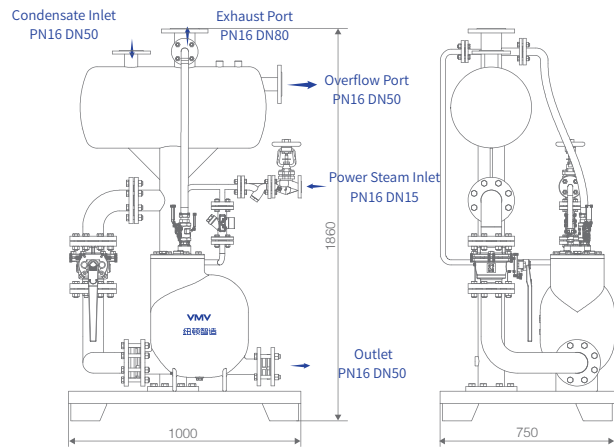
Model: SPT20S (open system)
Name: Single Pump Trap System Device (open)
Weight: 280kg
Volume: 1000x750x1688 (mm)
Nominal pressure: PN16
Maximum Allowable Pressure: 1.6mpa/204 ° C
Maximum Working Pressure: 1.37mpa/250 ° C
Flange Standard: HG/T20592; PN16 RF
Power Steam Consumption: 5kg / T (condensate)
Power Air Consumption: 7.6m3/t (condensate)
Limitation:The water collecting tank (upper water tank) is not under pressure and is only used as open buffer water collection.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- GB/T22654-2008 Technical conditions of steam traps
- GB/T12251-2005 Test methods for steam traps
- ISO 6948 Automatic steam traps

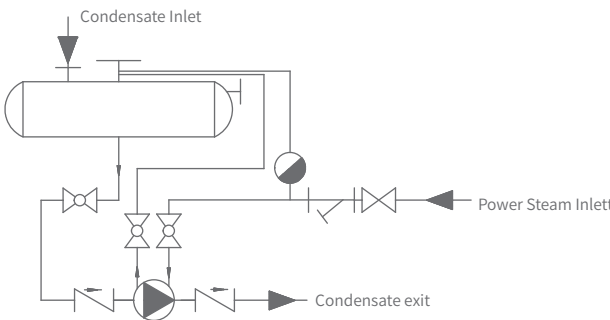
Production and performance characteristic tests

Structure Chart



Device Configuration of Single Pump Trap System

| Part Name | Part Model | Specifications | Material | Quantity |
|----------------------------|------------|----------------|----------|----------|
| Pump Steam Trap | PT20 | DN80/DN50 | WCB | 1 |
| Check Valve | H71H-16P | DN80 PN16 | 304 | 1 |
| Check Valve | H71H-16P | DN50 PN16 | 304 | 1 |
| Open water collecting tank | | | Q345 | 1 |
| Ball Valve | Q11H-16P | DN25 | 304 | 1 |
| Ball Valve | Q11H-16P | DN15 | 304 | 1 |
| Steam Trap | STD16F-16 | DN15 | WCB | 1 |
| Bellow Seal Globe Valve | WJ41H-16C | DN15 PN16 | WCB | 1 |
| Base | | | Q345 | 1 |
| Ball Valve | Q41H-16C | DN80 PN16 | WCB | 1 |
| Filter | YG4SH-16C | DN15 PN16 | WCB | 1 |
| Exhaust hose | | DN25 PN16 | 304 | 1 |



Flow Chart of Single Pump Trap System

Pump Trap System

Pump Trap System

SPT20D SPT20D Double Pump Trap System Device (Open)



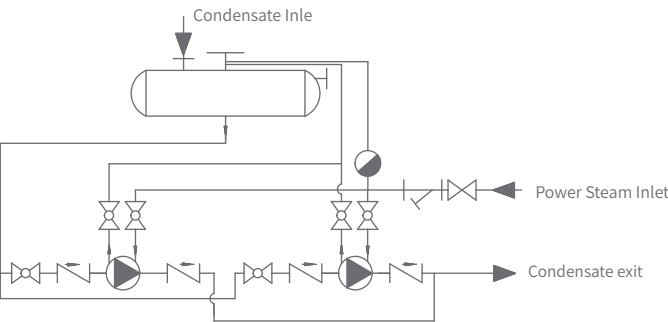
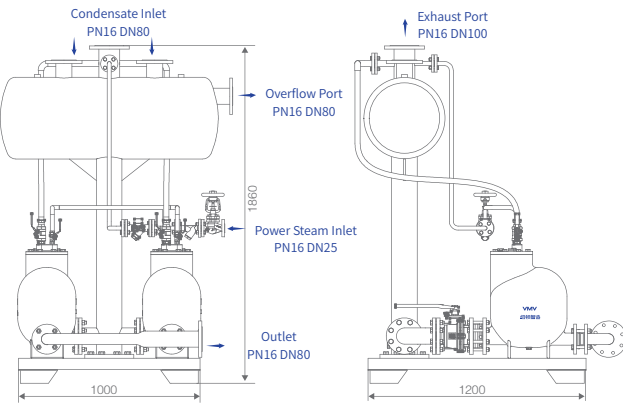
Model: SPT20D (open system)
Name: Double Pump Trap System Device (Open)
Weight: 486kg
Volume:1000x1200x1860 (mm)
Nominal pressure: PN16
Maximum Allowable pressure: 1.6mpa/204 ° C
Maximum Working pressure: 1.37mpa/250 ° C
Flange Standard: HG / T20592; PN16 RF
Power Steam Consumption: 5kg / T (condensate)
Power Air Consumption: 7.6m3/t (condensate)
Limitation:The water collecting tank (upper water tank) is not under pressure and is only used as open buffer water collection.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- GB/T22654-2008 Technical conditions of steam traps
- GB/T12251-2005 Test methods for steam traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Chart



Flow chart of double pump trap system

Device Configuration of Double Pump Trap System

| Part Name | Part Model | Specifications | Material | Quantity |
|----------------------------|------------|----------------|----------|----------|
| Pump Steam Trap | PT20 | DN80/DN50 | WCB | 2 |
| Check Valve | H71H-16P | DN80 PN16 | 304 | 2 |
| Check Valve | H71H-16P | DN50 PN16 | 304 | 2 |
| Open water collecting tank | | | Q345 | 1 |
| Ball Valve | Q11H-16P | DN25 | 304 | 2 |
| Ball Valve | Q11H-16P | DN15 | 304 | 2 |
| Steam Trap | STD16F-16 | DN15 | WCB | 1 |
| Bellow Seal Globe Valve | WJ41H-16C | DN25 PN16 | WCB | 1 |
| Base | | | Q345 | 1 |
| Ball Valve | Q41H-16C | DN80 PN16 | WCB | 2 |
| Filter | YG45H-16C | DN25 PN16 | WCB | 1 |
| Exhaust hose | | DN25 PN16 | 304 | 2 |



Three Pump Trap System Device (Open) SPT20T

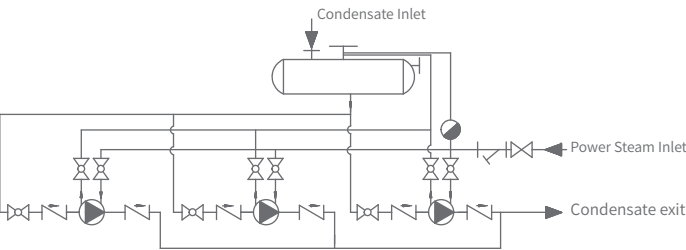
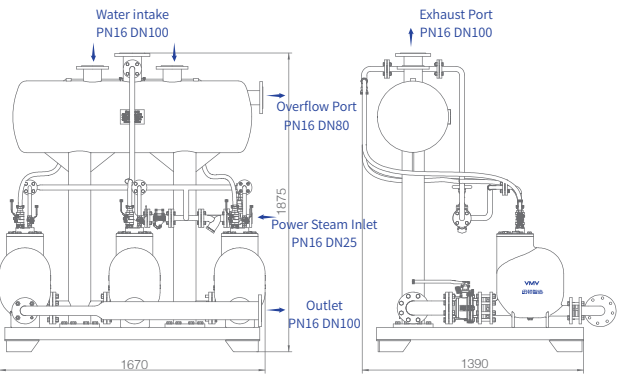
Model: SPT20T (open system)
Name: Three Pump Trap System Device (Open)
Weight: 740kg
Volume:1670x1390x1875 (mm)
Nominal pressure: PN16
Maximum Allowable Pressure: 1.6mpa/204 ° C
Maximum Working Pressure: 1.37mpa/250 ° C
Flange Standard: HG / T20592; PN16 RF
Power Steam Consumption: 5kg / T (condensate)
Power Air Consumption: 7.6m3/t (condensate)
Limitation:The water collecting tank (upper water tank) is not under pressure and is only used as open buffer water collection.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking
- GB/T22654-2008 Technical conditions of steam traps
- GB/T12251-2005 Test methods for steam traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Chart

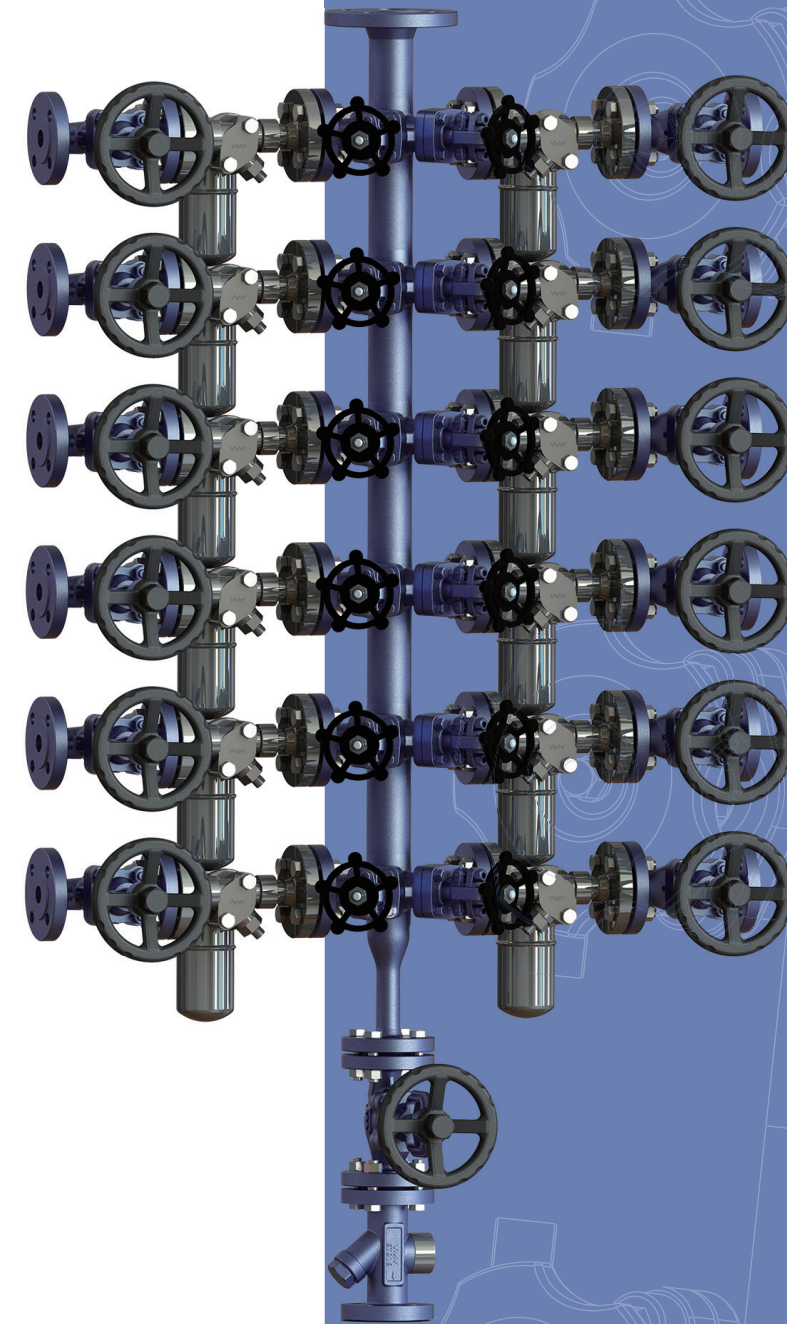


Flow chart of three pump trap system

Device Configuration of Three Pumps Trap System

| Part Name | Part Model | Specifications | Material | Quantity |
|----------------------------|------------|----------------|----------|----------|
| Pump Steam Trap | PT20 | DN80/DN50 | WCB | 3 |
| Check Valve | H71H-16P | DN80 PN16 | 304 | 3 |
| Check Valve | H71H-16P | DN50 PN16 | 304 | 3 |
| Open water collecting tank | | | Q345 | 1 |
| Ball Valve | Q11H-16P | DN25 | 304 | 3 |
| Ball Valve | Q11H-16P | DN15 | 304 | 3 |
| Steam Trap | STD16F-16 | DN15 | WCB | 1 |
| Bellow Seal Globe Valve | WJ41H-16C | DN25 PN16 | WCB | 1 |
| Base | | | Q345 | 1 |
| Ball Valve | Q41H-16C | DN80 PN16 | WCB | 3 |
| Filter | Y type | DN25 PN16 | WCB | 1 |
| Exhaust hose | | DN25 PN16 | 304 | 3 |

Heating System Solution



Typical Heating System

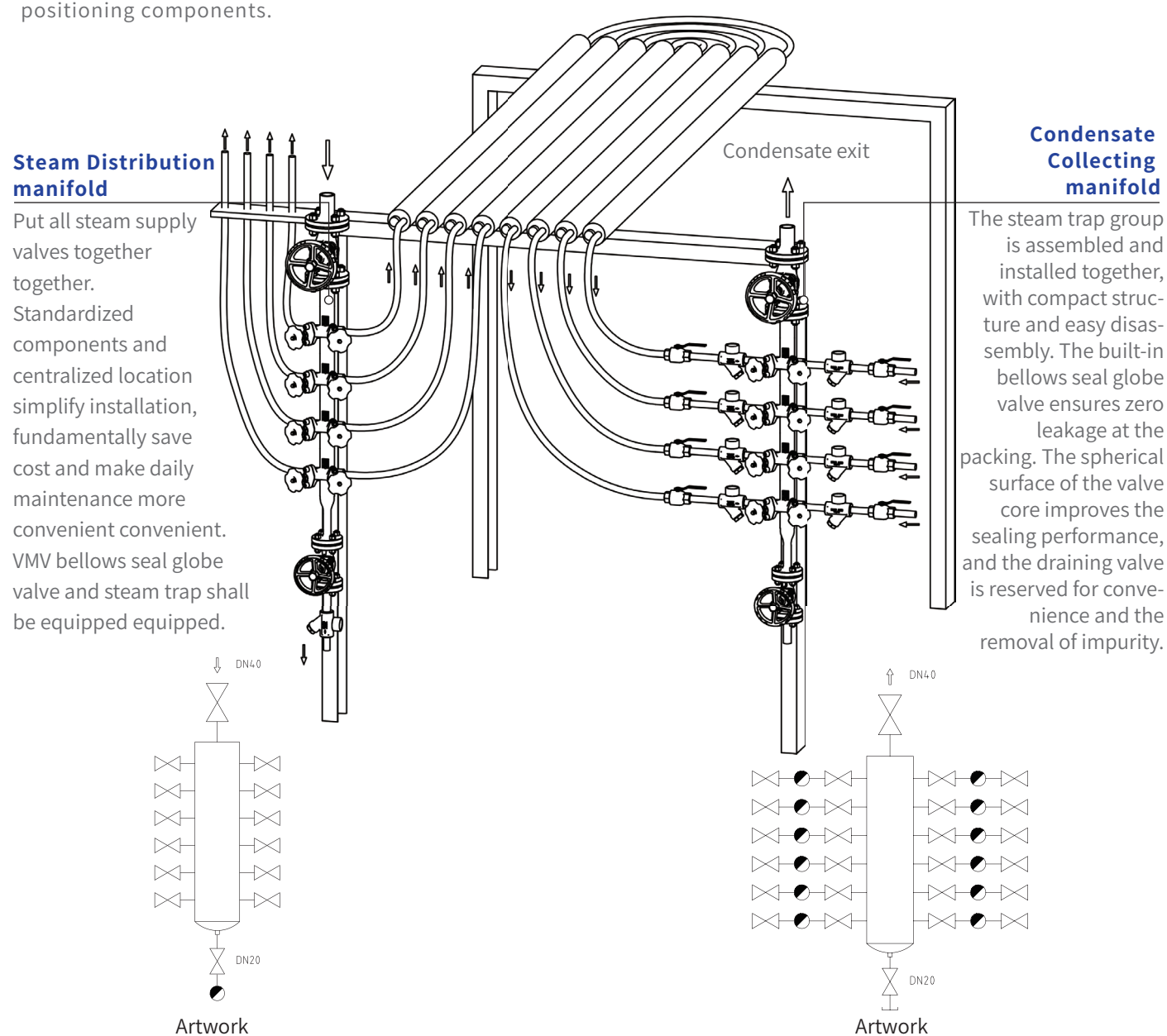
Bellows Stainless Steel Steam Manifolds

Product Description

VMV typical Heat tracing system" integrates all the components required by steam distribution tube bundle and condensate collection tube bundle (steam trap, manifold, valve, etc.), and designs all the components together. The manifold, reduces the device cost and provides compact and easy disassembly centralized positioning components.

Application of manifold

Steam distribution manifold and condensate collection manifold are widely used in petroleum refining, textile raw material chemical industry, coal chemical industry, etc. With the advantages of convenient management and maintenance, high product quality, low construction cost and short construction period.



Product Description

VMV Bellows Stainless Steel Steam Manifolds"incorporate integral bellows globe valves for steam distribution and condensate collection systems. Depending on the installation,BSPM and BCRM can be used for steam distribution or condensate collection.

Manifolds Body

High strength and corrosion resistance
Temperature resistant up to 350°C
Precision casting, exquisite appearance
Integrated, compact structure

Handwheel

Corrosion-resistant material
handwheel
Beautiful
Good grip

Threaded Pressure Sleeve

Packing and thread pressure sleeve
Avoid loosening
Martensitic stainless steel
High hardness and corrosion resistance

The main body adopts the medium temperature wax silica sol precision casting process, and the material CF8 has strong corrosion resistance.

Valve Core, Valve Seat

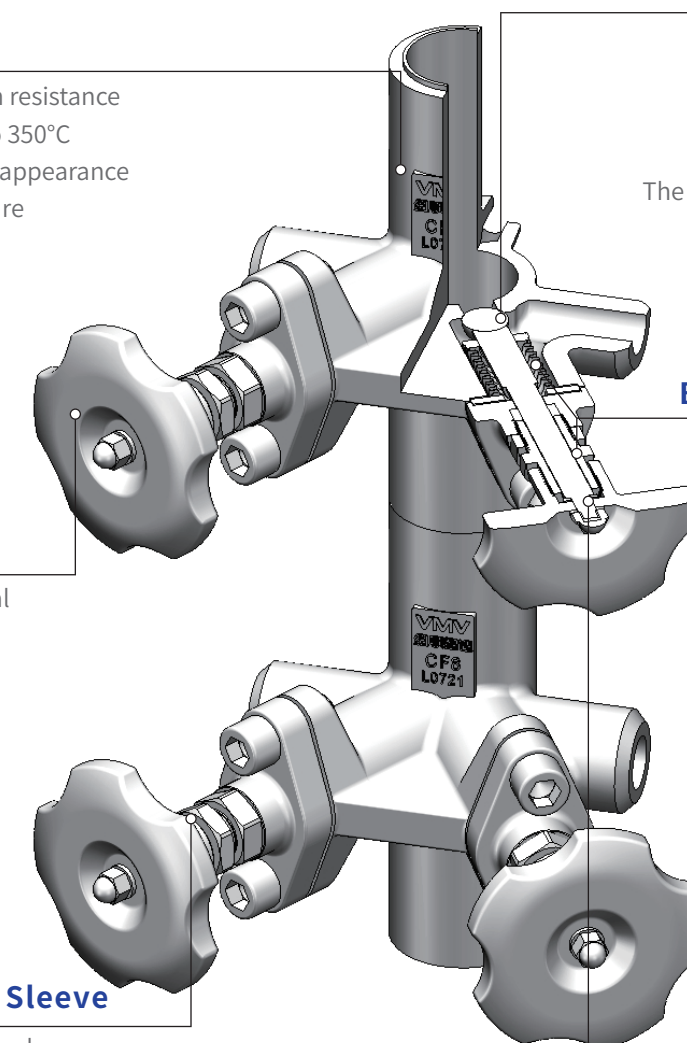
Integral spherical valve core
Matching Conical Seat
Achieve linear sealing
Improve sealing performance
The valve core adopts martensitic hardening treatment
Improve scour resistance

Bellows Components

Built-in stainless steel bellows components and graphite packing realize double sealing guarantee of valve stem

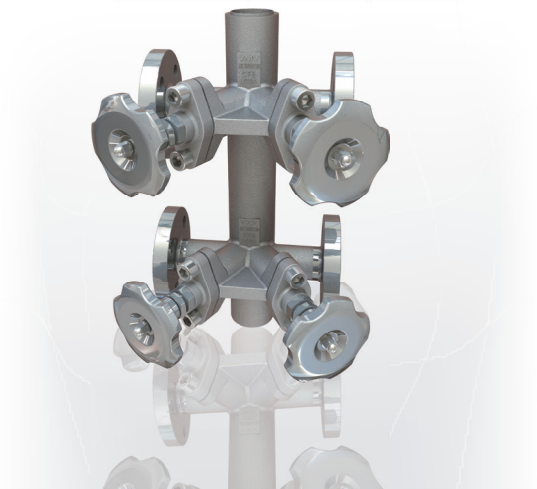
Concealed Drive Thread

The drive thread is placed inside the handwheel
Dustproof and waterproof,
Easy to switch



Bellows Stainless Steel Steam Distribution Manifolds

Bellows Stainless Steel Steam Distribution Manifolds



Technical Parameters

| | |
|------------------------------------|---------------|
| Nominal pressure | PN40/Class300 |
| Max. allowable pressure (shell) | 3.03Mpa/200°C |
| Max. allowable temperature (shell) | 450°C/2.16MPa |
| Max. working pressure | 2.56MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air Seal test | 2.0MPa |

Notice

- During operation, the bellows globe valve should be fully opened or fully closed, and cannot be used for throttling.
- Do not use strong wrench to close the valve, to prevent damage to the bellows caused by excessive torque.

Structural Featurest

- Integrated design, solid structure, shorten on-site construction time
 - Maximize saving installation space and easy maintenance
 - Integral ball seal face and V-line seal seat
- Ensure perfect sealing
- Adopt stainless steel bellows design, easy to open, Durable, eliminates leaks at packing.

Technical Standard

- GB12224-1989 General Requirements For Steel Valves
- GB12228-1989 General Valve Carbon Steel Forgings Technical Conditions
- GB/T 9131-2000 Steel Pipe Flange Pressure-Temperature Class
- GBT13927-2008 Industrial Valve-Pressure Test
- GBT1048-2019 Definit ion and Select ion of Nominal Pressure of Piping Component s

Steam Distribution Manifolds

When installing, it is recommended that the steam inlet be installed at the top, and the steam trap set at the bottom. It is best to recover the condensed water discharged from the trap group. If it is directly discharged into the atmosphere, it is recommended to install a silencer.

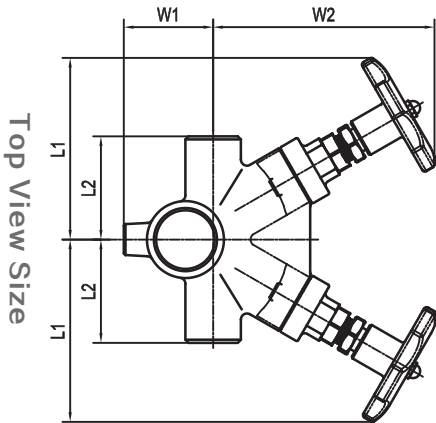
Condensate Manifolds

During installing, it is recommended that the top be the condensate outlet, and the bottom should be installed with a shut-off valve for sewage discharge.

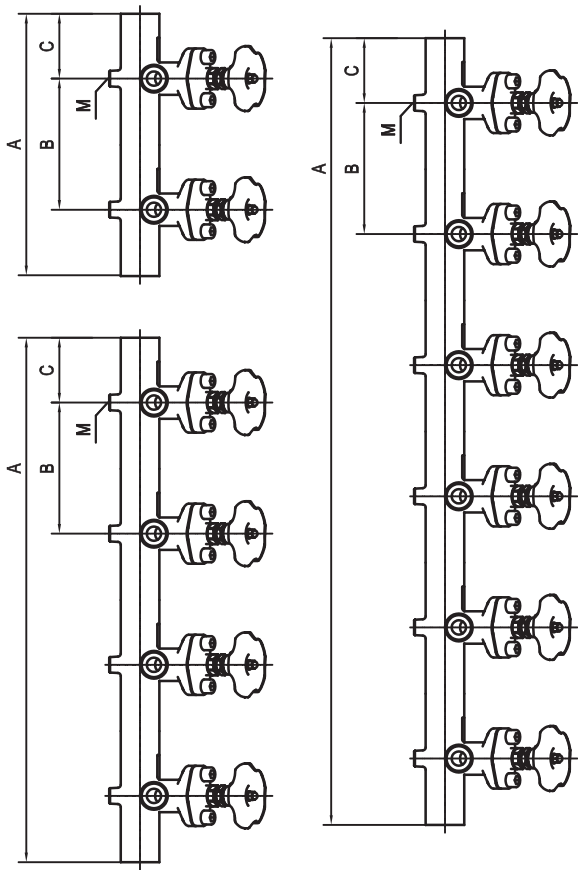
Material Table

| | |
|------------------|-------------------|
| Manifolds | CF8 |
| Bonnet | CF8 |
| Bellows Assembly | SS304 |
| Stem | SS304 |
| Valve core | SS440C |
| Handwheel | SS304 |
| Gasket | Flexible graphite |

Structural Diagram



BSPM03 Size



Structure Size Table

| Product | Interface | Director | Manifold | Shape size | | | | | | | | Weight | |
|-----------|-----------|----------|----------|------------|-----|----|-----|----|-----|----|-----|--------|--|
| | | | | A | B | C | L1 | L2 | W1 | W2 | M | Kg | |
| BSPM03-4 | 4 | 40 | 15/20 | 340 | 170 | 85 | 120 | 67 | 145 | 58 | M12 | 9.2 | |
| BSPM03-6 | 6 | 40 | 15/20 | 510 | 170 | 85 | 120 | 67 | 145 | 58 | M12 | 13.8 | |
| BSPM03-8 | 8 | 40 | 15/20 | 680 | 170 | 85 | 120 | 67 | 145 | 58 | M12 | 18.5 | |
| BSPM03-10 | 10 | 40 | 15/20 | 850 | 170 | 85 | 120 | 67 | 145 | 58 | M12 | 23.1 | |
| BSPM03-12 | 12 | 40 | 15/20 | 1020 | 170 | 85 | 120 | 67 | 145 | 58 | M12 | 27.8 | |

Bellows Stainless Steel Steam Distribution Manifolds

Product Description

VMV's "Steam Distribution Manifolds" integrates all the components required for it (steam traps, manifolds, valves, etc.). All components are installed on the base bracket, and the manifolds are scientifically distributed on both sides to provide a compact, easy-to-disassemble centralized positioning assembly.

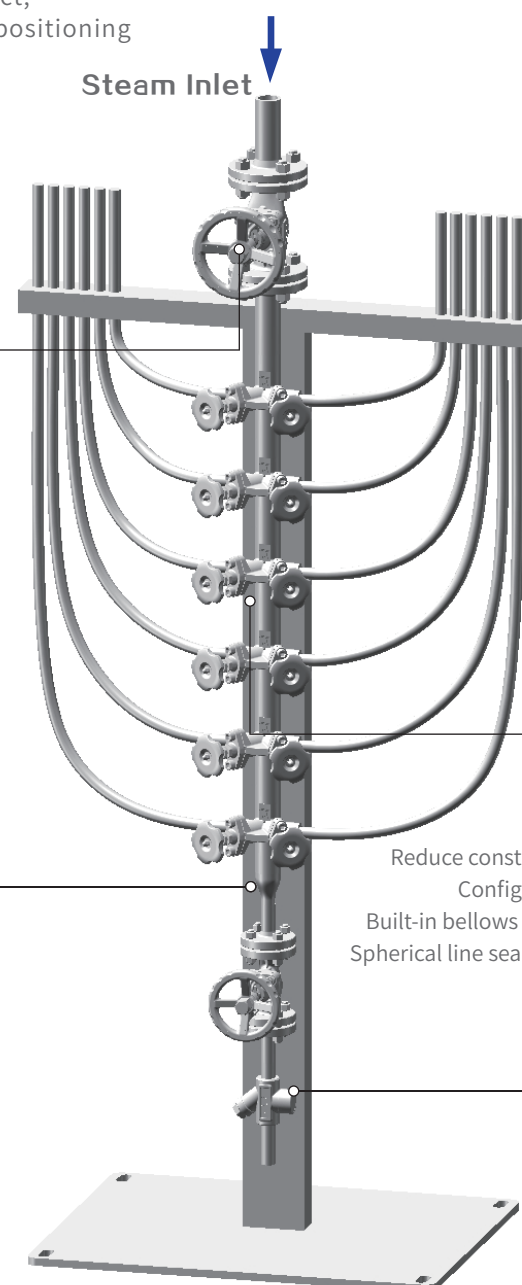
The Body is made of corrosionresistant material CF8, which is suitable for highend manifolds, instruments, chemical corrosionresistant pipes and pipeline heating. The instrument heating distribution pipes can be connected by ferrules.

Bellows Globe Valve

Equipped with bellows globe valve for steam inlet
Ensure zero leakage and maintenance free at the packing
Line Sealed Seat
Improve sealing performance
Precision machined stainless steel handwheel
Ergonomically designed

Manifolds Assembly Base

Optional customized steel base and frame Manifolds on both sides for optimal installation sequencing
Easy on-site installation



Manifolds Stainless Steel Material

Centralize all steam distribution valves
Standardized and integrated skid-mounted combination

Reduce construction time and cost for on-site installation
Configure VMV bellows globe valve and steam trap
Built-in bellows globe valve ensures zero leakage at packing
Spherical line sealing structure of valve core improves sealing performance

Steam Trap

Bottom configuration steam trap
Remove condensed water

Bellows Stainless Steel Condensate Collection Manifolds

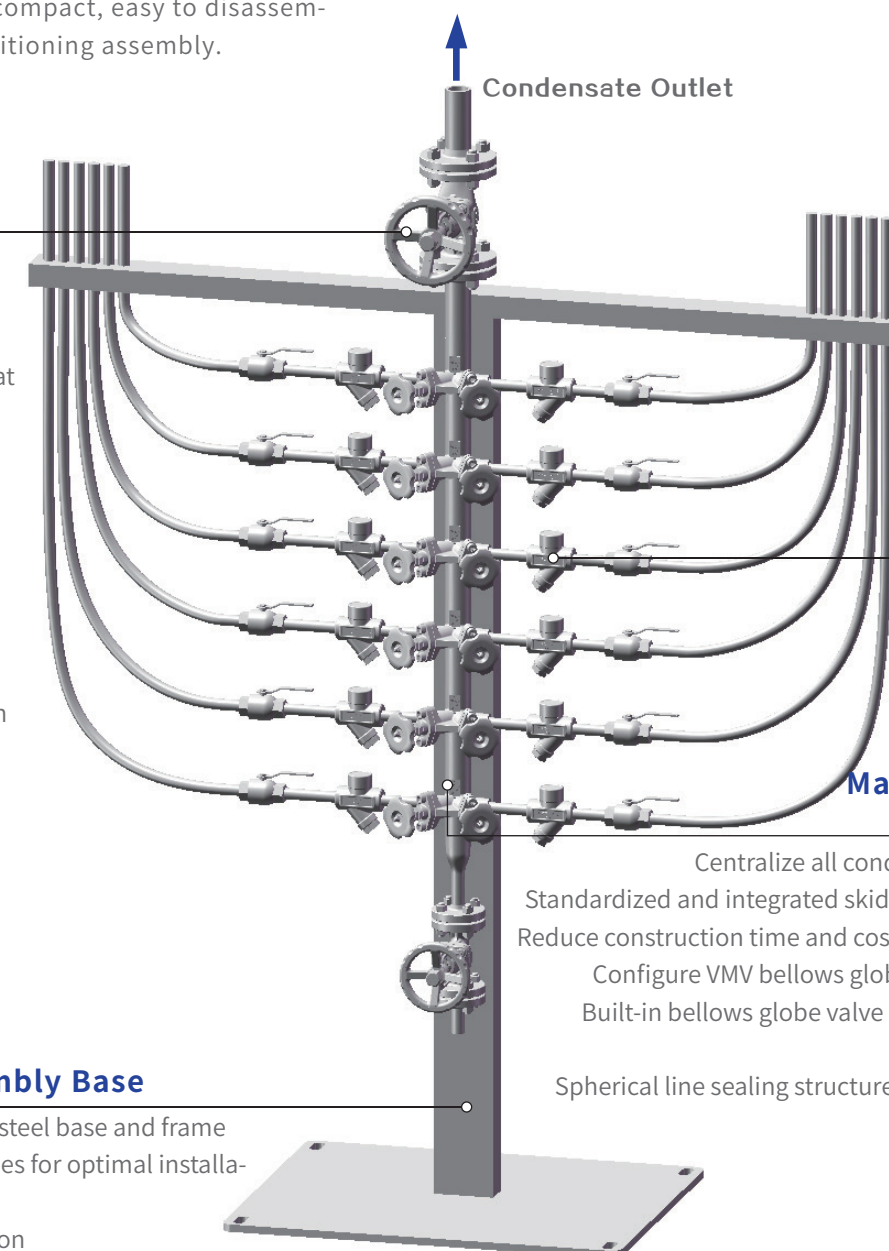
Product Description

VMV's "Condensate Manifold" integrates all components required for it (steam traps, manifolds, valves, etc). All components are installed on the base bracket, and the manifolds are scientifically distributed on both sides to provide a compact, easy to disassemble centralized positioning assembly.

The Body is made of corrosionresistant material CF8, which is suitable for highend manifolds, instruments, chemical corrosionresistant pipes and pipeline heating. The instrument heating recovery pipes can be connected by ferrules.

Bellows Globe Valve

Condensate outlet configuration
Bellows globe valve
Ensure zero leakage at the packing
Maintenance free
Line Sealed Seat
Improve sealing performance
Precision machined stainless steel hand-wheel
Ergonomically Design



Steam Trap

Configure thermodynamic, thermostatic, bucket inverted and other types of steam traps

Manifold Stainless Steel Material

Centralize all condensate recovery valves
Standardized and integrated skid-mounted combination
Reduce construction time and cost for on-site installation

Configure VMV bellows globe valve and steam trap
Built-in bellows globe valve ensures zero leakage at packing
Spherical line sealing structure of valve core improves sealing performance

Manifold Assembly Base

Optional customized steel base and frame
Manifolds on both sides for optimal installation sequencing
Easy on-site installation

Bellows Forged Steel Manifolds

Bellows Forged Steel Manifolds

Product Description

VMV's "Bellows Forged Steel Manifolds" have built-in bellows globe valves for steam distribution and condensate collection systems. Depending on the installation, BSPM and BCPM can be used for steam distribution or condensate collection.

The main body adopts the overall forging process material A105, which is dense and high in strength. Suitable for heat tracing of chemical pipelines.

Manifold Body

High strength and corrosion resistance
Temperature resistant up to 350°C
Integrated, compact structure

Valve Core, Valve Seat

Integral spherical valve core
Mating Conical Seat
Achieve linear sealing
Improve sealing performance
The valve core adopts martensitic hardening treatment
Improve scour resistance

Handwheel

Integral molding of handwheel
made of die-cast aluminum material
Light weight and high strength
Beautiful and compact, good grip

Bellows Assembly

Built-in stainless steel bellows assembly
It and the graphite packing realize the double sealing guarantee of the valve stem

Gland,Packing Gland

The packing compaction structure is center-adjustable
Split gland,packing gland
Prevent valve stem from sticking

Valve Bonnet

Special custom forged bonnet
High structural strength



Technical Parameter

| | |
|------------------------------------|----------------|
| Nominal pressure | PN40/Class 300 |
| Max. allowable pressure (shell) | 3.92MPa/200°C |
| Max. allowable temperature (shell) | 450°C/1.66MPa |
| Max. working pressure | 4.0MPa |
| Max. operating temperature | 350°C |
| Factory cold test pressure | 6.0MPa |
| Air test | 2.0MPa |

Notice

During operation, the bellows globe valve should be fully opened or fully closed, and cannot be used for throttling.
Refuse to use an afterburner wrench to close the valve to prevent the bellows from being damaged by excessive torque.

Structural Features

- Integrated design, solid structure, shorten on-site construction time
- Maximize installation space saving and easy maintenance
- Integral ball seal face and Stellite alloy hardened seat for perfect sealing
- Adopt stainless steel bellows design, easy to open, durable, eliminate leakage at the packing.

Technical Standard

- GB12224-1989 General Requirements For Steel Valves
- GB12228-1989 General Valve Carbon Steel Forgings Technical Conditions
- GB/T 9131-2000 Steel Pipe Flange Pressure-Temperature Class
- GBT13927-2008 Industrial Valve-Pressure Test
- GBT1048-2019 Definition and Selection of Nominal Pressure of Pipeling Components

Steam Distribution Manifolds

When installing, it is recommended that the steam inlet be installed at the top and the steam trap set the bottom. It is best to recover the condensed water discharged from the trap group. If it is directly discharged into the atmosphere, it is recommended to install a silencer.

Condensate Manifolds

During installation, it is recommended that the top be the condensate outlet, and the bottom should be installed with a shut-off valve for sewage discharge.

Material Table

| | |
|------------------|-------------------|
| Manifolds Body | A105 |
| Bonnet | A105 |
| Bellows Assembly | SS304 |
| Stem | SS304 |
| Valve Core | SS440C |
| Handwheel | SS304 |
| Gasket | Flexible Graphite |

Bellows Forged Steel Steam Distribution Manifolds

Bellows Forged Steel Steam Distribution Manifolds

Product Description

VMV’ s "Steam Distribution Manifolds" integrates all the components required for it (steam traps, manifolds, valves, etc). All components are installed on the base bracket, and the manifolds are scientifically distributed on both sides to provide a compact, easy-to-disassemble centralized positioning assembly.

The Body is made of forged carbon steel material A105, the main body is dense, and it is suitable for highpressure chemical pipelines and pipeline heating.

Bellows Globe Valve

The steam inlet is equipped with a bellows globe valve
Ensure zero leakage and maintenance free at the packing
Line Sealed Seat
Improve sealing performance

Manifolds Body Forged Carbon Steel

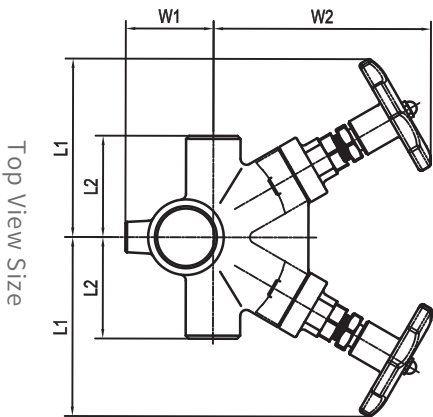
- Centralize all steam distribution valves
- Standardized and integrated skid-mounted combination
- Reduce construction time and cost for on-site installation
- Configure VMV bellows globe valve and steam trap
- Built-in bellows globe valve ensures zero leakage at packing
- Spherical line sealing structure of valve core improves sealing performance

Steam Traps

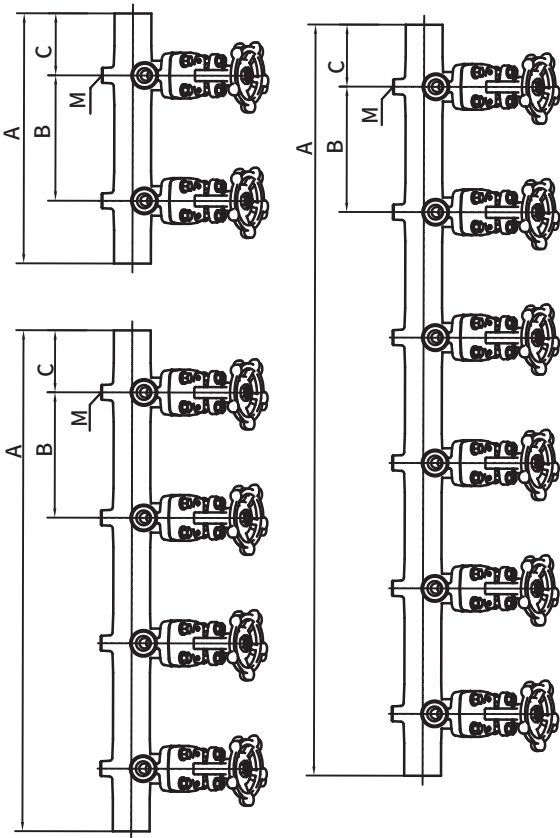
Bottom configuration steam trap
Remove condensed water

Manifolds Assembly Base

Optional customized steel base and frame
Manifolds on both sides for optimal installation sequencing
Easy on site installation



BSPM02 Size

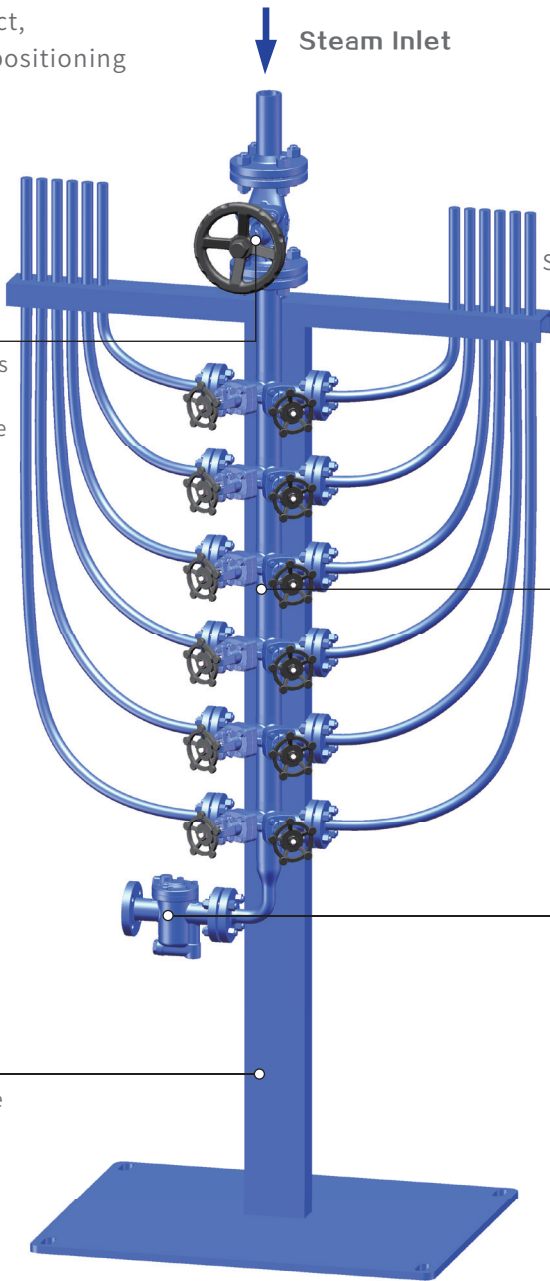


Structure Size Table

| Unit(mm) | | | | | | | | | | | | |
|-----------|-----------|----------|----------|------------|-----|----|-----|----|-----|----|-----|--------|
| Product | Interface | Director | Manifold | Shape Size | | | | | | | | Weight |
| Model | QTY | Size | Size | A | B | C | L1 | L2 | W1 | W2 | M | Kg |
| BSPM02-4 | 4 | 40 | 15/20 | 340 | 170 | 85 | 135 | 75 | 168 | 58 | M12 | 10.5 |
| BSPM02-6 | 6 | 40 | 15/20 | 510 | 170 | 85 | 135 | 75 | 168 | 58 | M12 | 15.8 |
| BSPM02-8 | 8 | 40 | 15/20 | 680 | 170 | 85 | 135 | 75 | 168 | 58 | M12 | 21.2 |
| BSPM02-10 | 10 | 40 | 15/20 | 850 | 170 | 85 | 135 | 75 | 168 | 58 | M12 | 26.5 |
| BSPM02-12 | 12 | 40 | 15/20 | 1020 | 170 | 85 | 135 | 75 | 168 | 58 | M12 | 31.8 |



BSPM03-12



Bellows Forged Steel Condensate Collection Manifolds

Bellows Forged Steel Condensate Collection Manifolds

Product Description

VMV's "Condensate Manifold" integrates all components required for it (steam traps, manifolds, valves, etc.). All components are installed on the base bracket, and the manifolds are scientifically distributed on both sides to provide a compact, easy to disassemble centralized positioning assembly.

The Body is made of forged carbon steel material A105, the main body is dense, and it is suitable for high-pressure chemical pipelines and pipeline heating.

Bellows Globe Valve

- Condensate outlet configuration
- Bellows globe valve
- Ensure zero leakage at the packing
- Maintenance free
- Line Sealed Seat
- Improve sealing performance
- Precision machined stainless steel handwheel
- Ergonomically Design

Manifolds Body Forged Carbon Steel

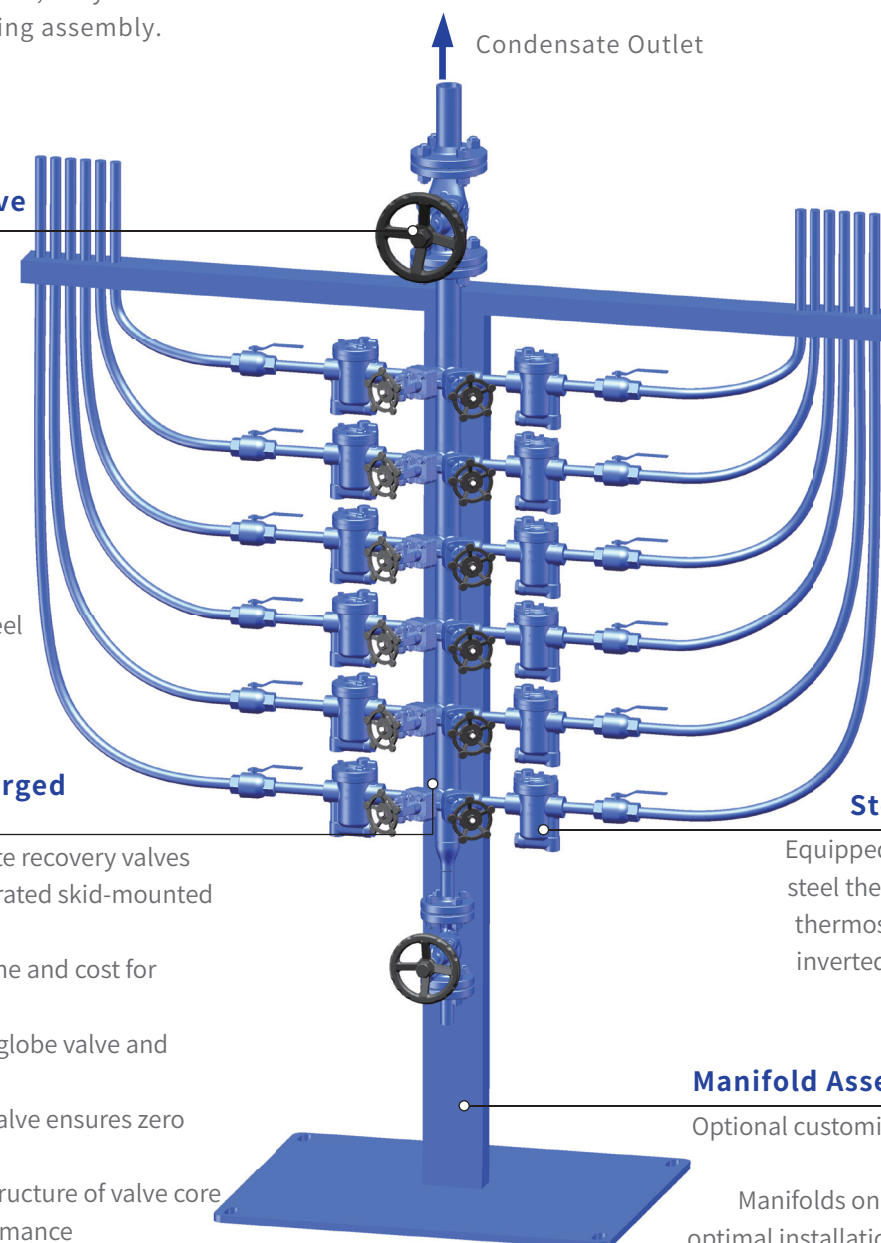
- Centralize all condensate recovery valves
- Standardized and integrated skid-mounted combination
- Reduce construction time and cost for on-site installation
- Configure VMV bellows globe valve and steam trap
- Built-in bellows globe valve ensures zero leakage at packing
- Spherical line sealing structure of valve core improves sealing performance

Steam Traps

Equipped with carbon steel thermodynamic, thermostatic, bucket inverted steam traps.

Manifold Assembly Base

Optional customized steel base and frame
Manifolds on both sides for optimal installation sequencing
Easy on-site installation



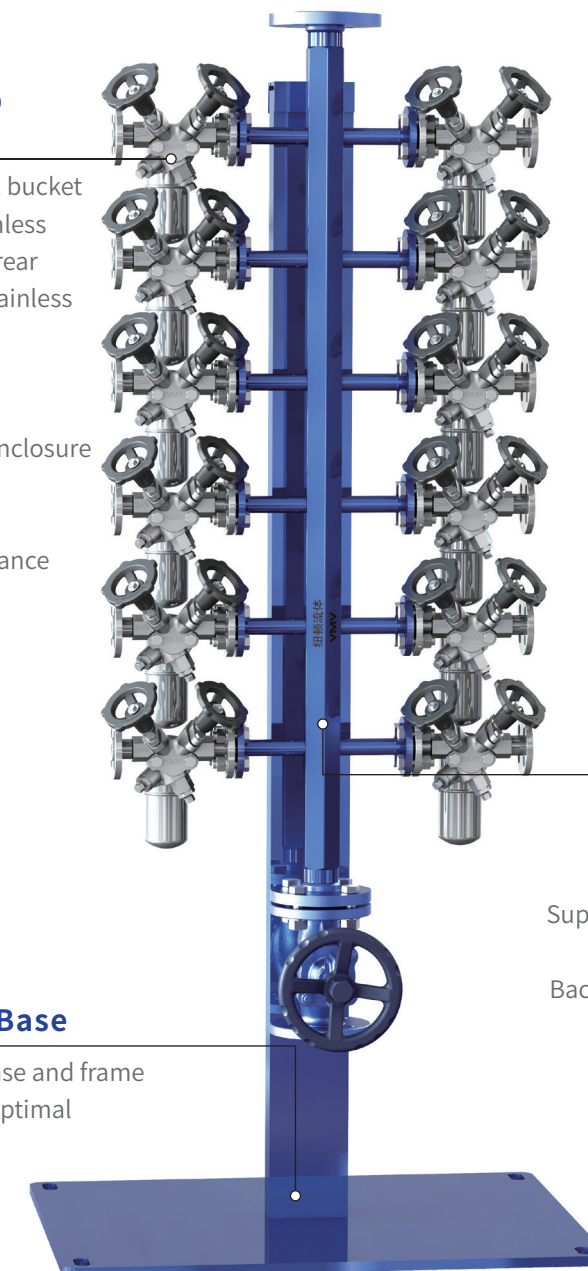
Stainless Steel Trap Combination

Equipped with stainless steel bucket inverted steam trap and stainless steel trap station, (Front and rear stainless steel globe valve, stainless steel filter, check valve)

Fully enclosed, shockproof enclosure
Small, Lightweight Traps
Freezer resistant, no damage
Super anticorrosion performance

Manifold Assembly Base

Optional customized steel base and frame
Manifolds on both sides for optimal installation sequencing
Easy on-site installation



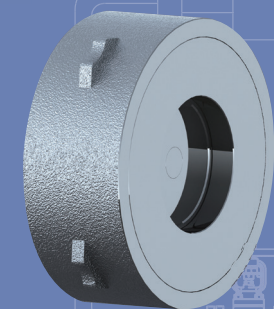
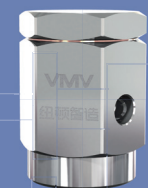
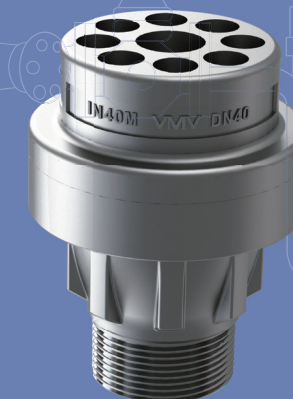
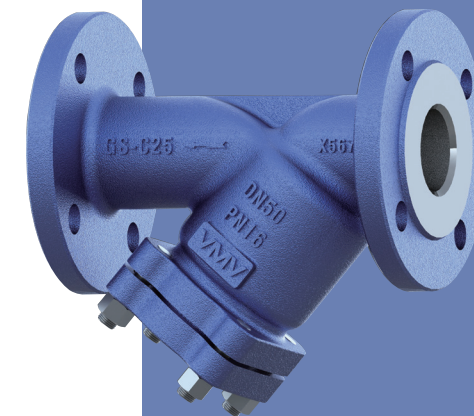
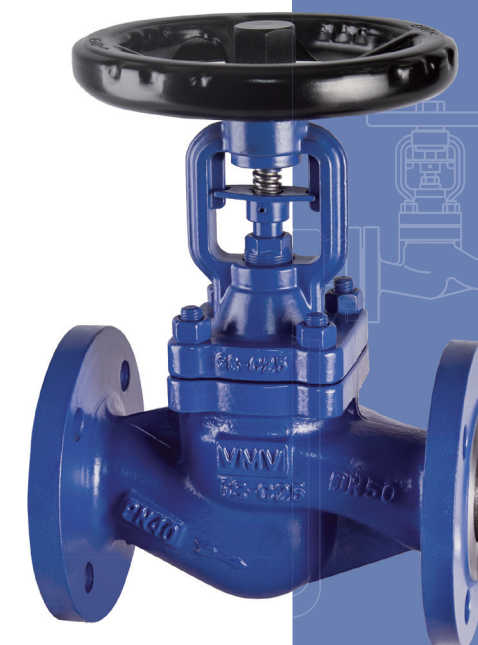
Manifolds Body Forged Steel Material

A105 forged steel material
Hexagonal steel pipe design
Fully consider corrosion allowance
Super strong siphons inside the manifolds form a water seal
Back pressure recovers condensate at low points in the pipeline

BCPM03-12

Steam Piping Accessories

The piping system must be equipped with bellows globe valves, filters, check valves, mixers, vacuum breakers, steam water separators, sight glasses.



Control Valve

Controller

Sensor

Vacuum Breaker

Trap Combination

Bellows Seal Globe Valve

Bellows Seal Globe Valve



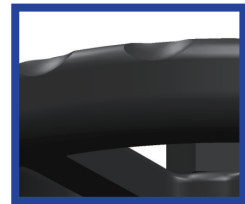
Conical sealing: No impurities remain on the sealing surface. When it tends to close, the sealing surface has a selfcleaning effect to achieve linear sealing.



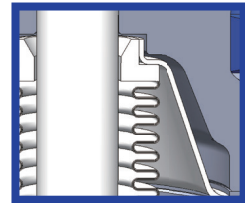
Balanced disc seal: After the small disc relieves the pressure, it drives the large disc to open easily.



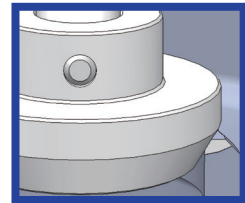
Flat soft seal: The soft seal surface can prevent sparks when opening and closing, and is suitable for gaseous media or working conditions with corrosion resistance requirements.



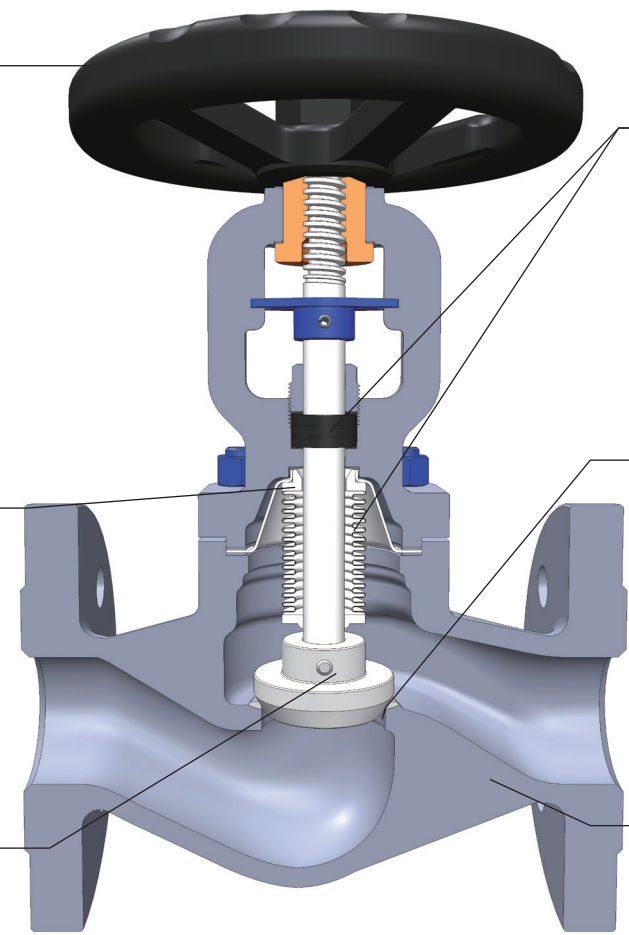
Ergonomic handwheel design
Patent number: ZL201330636507.2
Intelligent drive such as impact handwheel, bevel gear, electric or pneumatic can be customized.



Bellows transition piece
Improve the welding quality of core components

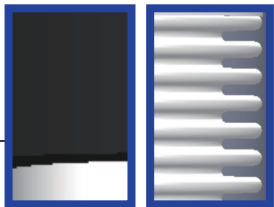


Conical disc
Customized sealing surface material and sealing way

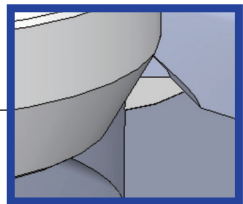


Large size valves are equipped with special devices, which can effectively reduce the vibration of the valve during operation. The noise is reduced to below 60 decibels, and the service life is increased by more than 150%

Patent number: ZL201220695667.4



Double sealing of packing and bellows
Prevent leaks
Three seals can be achieved under special conditions



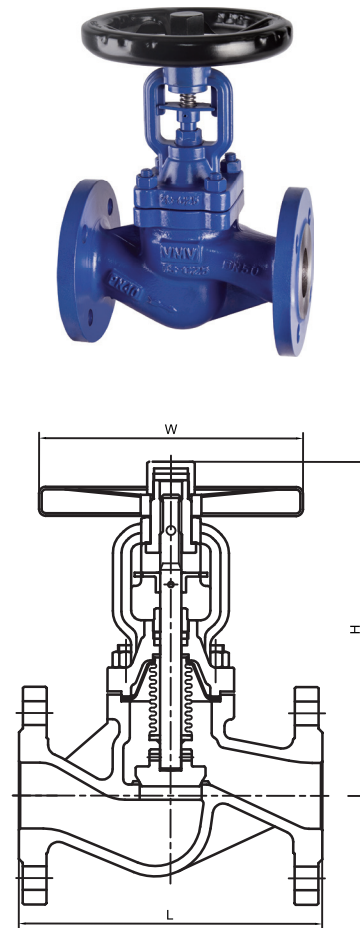
Alloy layer for surfacing on sealing surface
Magnify 10000 times after surface grinding
Roughness less than 0.5um



Castings adopt coated sand casting technology
Surface finish can reach 12.5~25 microns

Structural Features

- The casting adopts coated sand casting technology, the surface finish reach 12.5~25 microns. At the same time, the mechanical properties of the castings are good, more than 98% are free of defects such as pores, blisters and cracks, and the effective wall thickness reaches the standard.
- The valve is sealed with a conical surface, and no impurities remain on the sealing surface. When it tends to close, the sealing surface has a selfcleaning effect. The conical sealing surface can amplify the axial force of the valve stem into the sealing force, and the sealing performance is better.



- Double sealing design of bellows and packing, with double guarantee, making the sealing at the valve stem safer and more reliable, and in line with international sealing standards.
- Bellows are 100% tested for fugitiveness according to ISO15848 Class A standard; all bellows components and valves are 100% tested to Standard Class A to ensure zero leakage.
- Various disc designs can be provided according to working conditions, such as throttling disc, regulating disc, flat soft sealing disc, globe check valve disc, etc.

Technical Specifications

Design standard: EN12516,
GB/T12224, GB/T12235
F to F Dim: EN558, GB/T12221
Flange ends: EN1092-I, GB/T9113
Test inspection: EN12266, GB/T26480

Applicable Media

Steam, hot and cold water, oil, biphenyl, fatty acid, liquid ammonia, ammonia gas, natural gas, etc.

Data Size Table

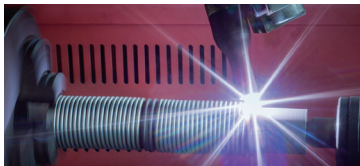
| Size DN | PN16 | | | PN25 | | | PN40 | | |
|------------|-------------|--------------------|---------------------|-------------|--------------------|---------------------|-------------|--------------------|---------------------|
| | Length L | Hand wheel W | Center high H | Length L | Hand wheel W | Center High H | Length L | Hand wheel W | Center High H |
| 15 | 130 | φ140 | 192 | 130 | φ140 | 192 | 130 | φ140 | 192 |
| 20 | 150 | φ140 | 192 | 150 | φ140 | 192 | 150 | φ140 | 192 |
| 25 | 160 | φ160 | 207 | 160 | φ160 | 207 | 160 | φ160 | 207 |
| 32 | 180 | φ160 | 207 | 180 | φ160 | 207 | 180 | φ160 | 207 |
| 40 | 200 | φ180 | 245 | 200 | φ180 | 245 | 200 | φ180 | 245 |
| 50 | 230 | φ200 | 253 | 230 | φ200 | 253 | 230 | φ200 | 253 |
| 65 | 290 | φ220 | 295 | 290 | φ220 | 295 | 290 | φ220 | 295 |
| 80 | 310 | φ250 | 328 | 310 | φ250 | 328 | 310 | φ250 | 328 |
| 100 | 350 | φ300 | 385 | 350 | φ300 | 385 | 350 | φ300 | 385 |
| 125 | 400 | φ350 | 427 | 400 | φ350 | 427 | 400 | φ350 | 427 |
| 150 | 480 | φ400 | 480 | 480 | φ400 | 480 | 480 | φ400 | 480 |
| 200 | 600 | φ450 | 672 | 600 | φ450 | 672 | 600 | φ450 | 672 |
| 250 | 730 | φ550 | 775 | 730 | φ550 | 775 | 730 | φ550 | 775 |
| 300 | 850 | φ600 | 852 | 850 | φ600 | 852 | 850 | φ600 | 852 |
| 350 | 980 | φ700 | 1005 | 980 | φ700 | 1005 | 980 | φ700 | 1005 |
| 400 | 1100 | φ700 | 1140 | 1100 | φ700 | 1140 | 1100 | φ700 | 1140 |

Bellows Seal Gate Valve

Bellows Seal Gate Valve

For bellows sealed gate valve, its key component metal bellows, the lower end is welded with the valve stem, and the upper end is welded with the connecting plate, forming a metal barrier between the medium and the atmosphere, ensuring zero leakage of the valve stem.

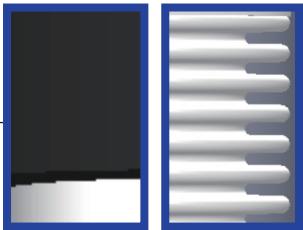
All bellows are 100% tested for fugitiveness according to ISO15848 Class A standard; all bellows components and valves are 100% tested to standard Class A to ensure zero leakage.



Welding of bellows components: Microcomputer controls the welding speed to ensure the quality of core components



Impact handwheel and bevel gear can be customized Intelligent drive such as electric or pneumatic



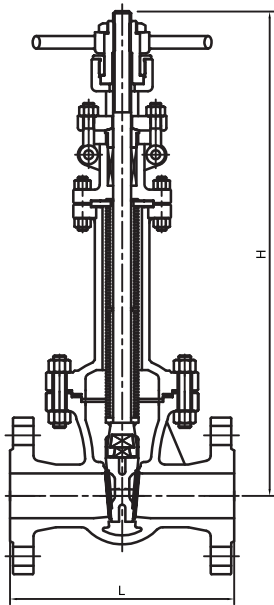
Double sealing design of bellows and packing, with double guarantee, making the sealing at the valve stem safer and more reliable, and in line with international sealing standards.



Large size valves adopts elastic gate
Microelastic deformation gate makes sealing more secure

Structural Features

- Bellows sealed gate valve, its key component metal bellows, the lower end and the valve stem assembly are automatically seamed and welded, and the upper end and the connecting plate are automatically seamed and welded, forming a metal barrier between the fluid medium and the atmosphere to ensure zero leakage of the valve stem .
- Double sealing design of bellows and packing, with double insurance, making the sealing at the valve stem safer and more reliable, and in line with international sealing standards.



- All bellows are 100% tested for fugitiveness according to ISO15848 Class . A standard; all bellows components and valves are 100% tested to Standard Class A to ensure zero leakage.
- The valve cover has its own grease fitting, which can directly lubricate the valve stem, nut and bushing, unlike the traditional lubricating oil only on the thread.
 - Ergonomic handwheel design. Intelligent drive such as impact handwheel, bevel gear, electric or pneumatic can be customized.

Technical Specifications

Design standard: EN12516, GB/T12224, GB/T12234
F to F Dim: EN558, GB/T12221
Flange ends: EN1092-I, GB/T9113
Test inspection: EN12266, GB/T26480

Applicable Media

Steam, hot and cold water, oil, biphenyl, fatty acid, liquid ammonia, ammonia gas, natural gas, etc.

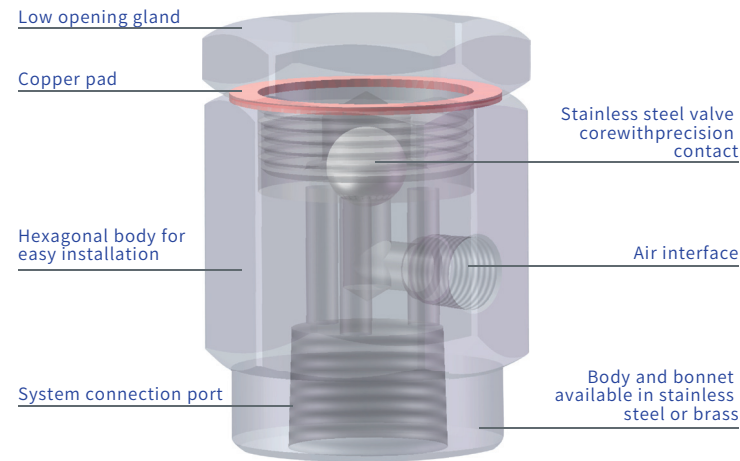
Data Size Table

| Size DN | PN16 | | | PN25 | | | PN40 | | |
|------------|-------------|--------------------|---------------------|-------------|--------------------|---------------------|-------------|--------------------|---------------------|
| | Length L | Hand wheel W | Center High H | Length L | Hand wheel W | Center High H | Length L | Hand wheel W | Center High H |
| 40 | 200 | φ200 | 435 | 200 | φ200 | 435 | 200 | φ200 | 435 |
| 50 | 250 | φ220 | 500 | 250 | φ220 | 500 | 250 | φ220 | 500 |
| 65 | 270 | φ240 | 560 | 270 | φ240 | 560 | 270 | φ240 | 560 |
| 80 | 280 | φ280 | 620 | 280 | φ280 | 620 | 280 | φ280 | 620 |
| 100 | 300 | φ300 | 800 | 300 | φ300 | 800 | 300 | φ300 | 800 |
| 125 | 325 | φ320 | 900 | 325 | φ320 | 900 | 325 | φ320 | 900 |
| 150 | 350 | φ350 | 1105 | 350 | φ350 | 1105 | 350 | φ350 | 1105 |
| 200 | 400 | φ400 | 1385 | 400 | φ400 | 1385 | 400 | φ400 | 1385 |
| 250 | 450 | φ450 | 1600 | 450 | φ450 | 1600 | 450 | φ450 | 1600 |
| 300 | 500 | φ500 | 1950 | 500 | φ500 | 1950 | 500 | φ500 | 1950 |
| 350 | 550 | φ550 | 2250 | 550 | φ550 | 2250 | 550 | φ550 | 2250 |
| 400 | 600 | φ600 | 2550 | 600 | φ600 | 2550 | 600 | φ600 | 2550 |
| 450 | 650 | φ650 | 2760 | 650 | φ650 | 2760 | 650 | φ650 | 2760 |
| 500 | 700 | φ700 | 3150 | 700 | φ700 | 3150 | 700 | φ700 | 3150 |
| 600 | 800 | φ750 | 3900 | 800 | φ750 | 3900 | 800 | φ750 | 3900 |

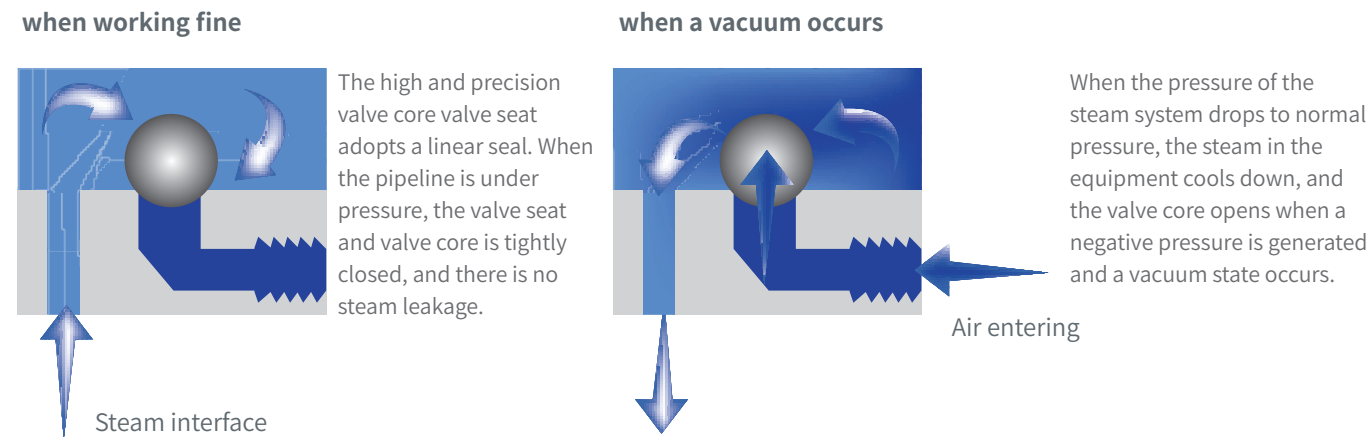
Vacuum Breaker

Vacuum Breaker

VMV vacuum breaker protect your equipment from vacuum damage while helping to efficiently drain condensate from lines and containers.



working principle



※The differential pressure at which the valve opens is 4.6mmHg

Technical Parameter

| | | | |
|----------------------|-----------|----------------------------|----------|
| Working medium | steam、air | Max. allowable temperature | 425℃ |
| Nominal pressure | 2.5MPa | Max. air intake | 9000m3/h |
| Max.working pressure | 2.1MPa | Noload leak rate | 0.1% |
| Max.pressure | 0.01MPa | Connection method | RC |

Application

This product is robust and reliable and can be used in a variety of systems and equipment to prevent vacuum, such as:

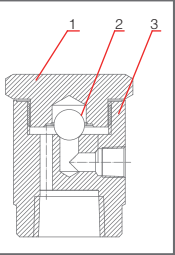
- Heat Exchanger
- Steam Storage Tank
- Boiler
- Jacketed pot
- Sterilization room
- Steam main line

Advantage

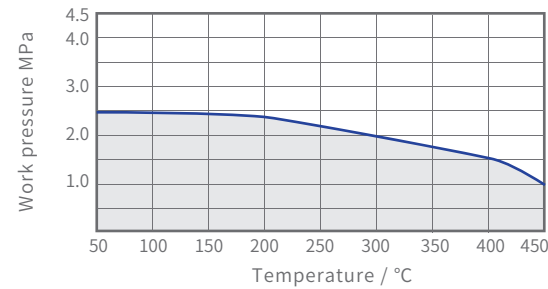
- Protects expensive equipment from vacuum damage
- Small size and sensitive action
- Simple, robust and reliable design
- VMV's domestic expert team technology, knowledge and service guarantee

Material of main parts

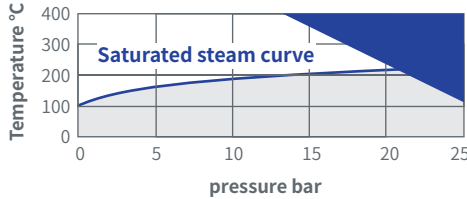
| Number | Name | Material |
|--------|------------|----------|
| 1 | Bonnert | SS304 |
| 2 | Valve core | SS440C |
| 3 | Valve body | SS304 |



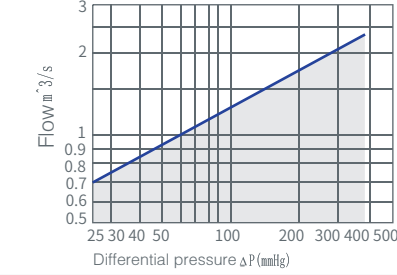
304 material PN25 Body Pressure-Temperature Ratings



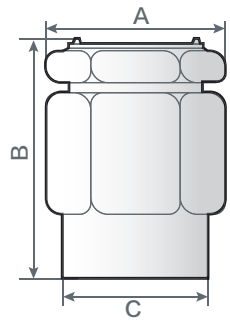
Work scope



Flow chart



Size Parameters



| Model | Connection Method | Nominal Size | Nominal Pressure | External Dimensions mm | | | Weight Kg |
|-------|-------------------|--------------|------------------|------------------------|----|----|-----------|
| | | | | A | B | C | |
| VB21 | thread | 1/2" | PN25 | 40 | 54 | 35 | 0.38 |
| VB21 | thread | 3/4" | PN25 | 52 | 65 | 46 | 0.7 |

Silencer

Mixer

DF3 Silencer

Mixer IM40M



Product Features

The DF3 silencer is compact and is used to discharge to the steam trap outlet of the inlet condensate return line. It reduces the noise and water hammer problems caused by rapid cooling of flash condensate at the trap discharge outlet.

The main body of the silencer is made of SS304, the inner part is stainless steel, and a filter device is installed at the inlet.

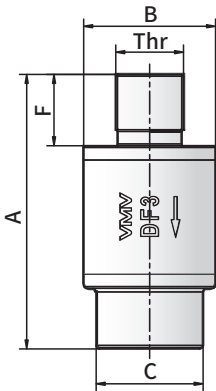
- Nominal pressure PN40;
- The maximum allowable temperature is 400°C;
- Maximum working pressure 3.2MPa;
- Maximum operating temperature 325°C
- The connection method is threaded Rc, BSP, NPT

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



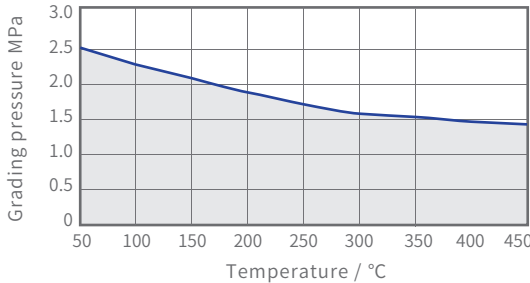
Technical Parameter

| Model | Connection Method | Nominal Pressure PN | Working Pressure Range MPa | Temperature°C/ Pressure MPa |
|-------|-------------------|---------------------|----------------------------|-----------------------------|
| DF1 | Screw thread | 25 | 0.05-2.5 | 325/1.6 |
| DF2 | Screw thread | 25 | 0.05-2.5 | 325/1.6 |
| DF3 | Screw thread | 25 | 0.05-2.5 | 325/1.6 |

Material Table

- Body: Stainless Steel
- Interface: Stainless Steel
- Other Internals: Stainless Steel

304 Material PN25 Valve Body Pressure-Temperature Ratings



Structural Dimension Table

| Product Type | Nominal Size | A | B | C | Thr | f | Weight |
|--------------|--------------|----|----|----|----------|----|--------|
| DF1 | DN15 | 85 | 37 | 30 | BSP 1/2" | 18 | 0.3 kg |
| DF2 | DN20 | 90 | 39 | 35 | BSP 3/4" | 20 | 0.3 kg |
| DF3 | DN25 | 95 | 47 | 44 | BSP 1" | 24 | 0.3 kg |



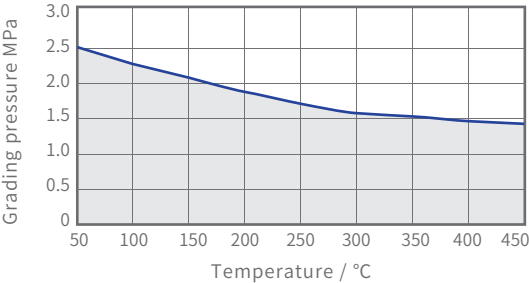
Technical Parameter

| Model | Connection Method | Nominal Pressure PN | Working Pressure RangeMPa |
|--------------------------------------|--------------------------------|---------------------|---------------------------|
| IN40M | Threaded | 25 | 0.5-1.7 |
| | Butt welding | 25 | 0.5-1.7 |
| Condition Temperature°C/ PressureMPa | Maximum Heating Temperature°C/ | | |
| 207/1.7 | 90 | | |
| 207/1.7 | 90 | | |

Inlet pressure versus flow

| System Pressure bar | Flow Kg/h | System Pressure bar | Flow Kg/h |
|---------------------|-----------|---------------------|-----------|
| 0.5 | 222 | 9 | 1820 |
| 1 | 400 | 10 | 1950 |
| 2 | 580 | 11 | 2250 |
| 3 | 805 | 12 | 2370 |
| 4 | 970 | 13 | 2595 |
| 5 | 1125 | 14 | 2710 |
| 6 | 1295 | 15 | 2815 |
| 7 | 1445 | 16 | 2065 |
| 8 | 1620 | 17 | 3200 |

CF8 Material PN25 Valve Body Pressure-Temperature Ratings



Mixers are used where steam is used to heat water or other fluids. When working, the highspeed jet of steam sucks and mixes the liquid from the annular hole, and then sprays the heated medium into the water tank. The steam and the medium are fully mixed to avoid the temperature stratification difference.

IN40M has external thread and butt welding type. When installing with higher flow rate, two or more injectors can be installed in parallel.

Structural Features

- All stainless steel 304 material
- No moving parts, compact design
- Noise and vibration can be minimized

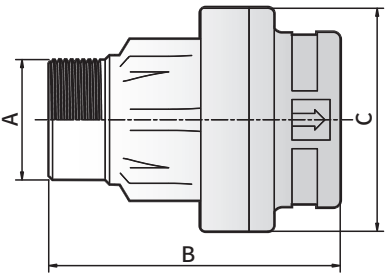
Installation Notes

- The mixer is installed low in the tank, preferably on the centerline, and injects steam horizontally.
- The piping can be inside or outside the tank.
- Steam piping must be well secured to protection against vibration and stress on tank walls.
- It is recommended to use a suitable adhesive on threaded joints.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
 - GB/T22654-2008 Technical Conditions for Steam Traps
 - GB/T12251-2005 Test Method for Steam Traps
 - ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



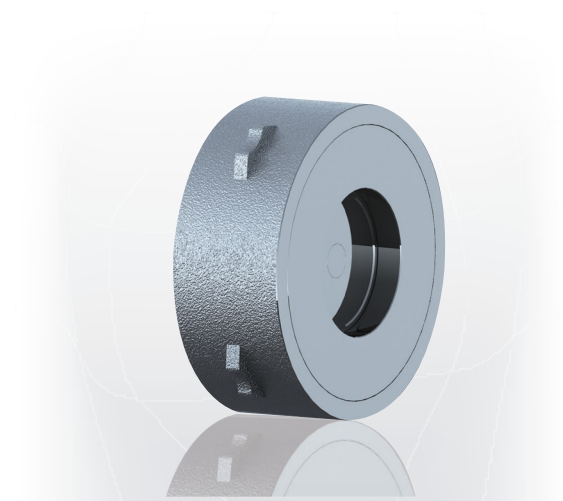
Structural Dimension Table

| Model | Nominal Size | A | B | C | Weight |
|-------|--------------|----|-----|----|--------|
| IN40M | DN40 | 48 | 115 | 88 | 1.6 kg |
| | DN40 | 48 | 115 | 88 | 1.6 kg |

Wafer Check Valve

DIN Strainer

ZM71H-16P Wafer Check Valve



Structural Features

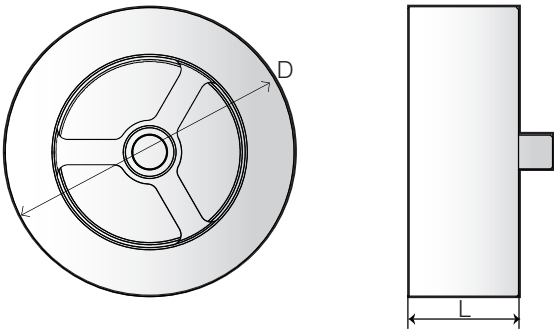
MZ71H-16P is a wafer type check valve. The valve seat and valve disc are processed by heat treatment and aging treatment, and the machining accuracy reaches Micron (μm) level, and zero leakage when closed. Suitable for steam pipelines, noncorrosive gases, liquids and other media

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



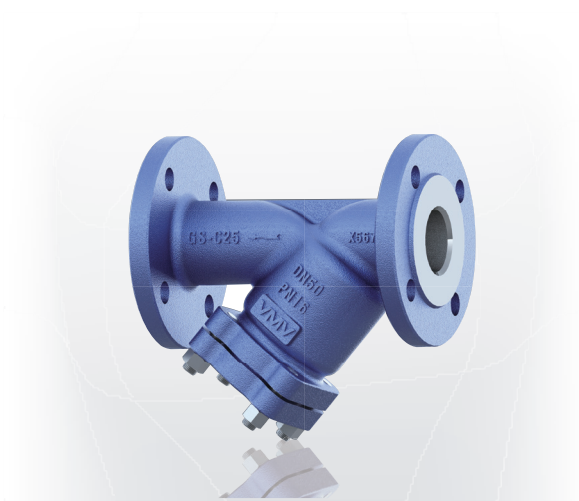
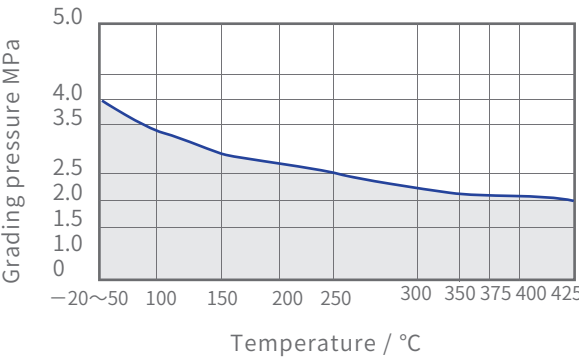
Technical Parameter

| Model | Connection Method | Nominal Pressure PN | Working Pressure Range MPa | Condition Temperature°C/ Pressure MPa |
|-----------|-------------------|---------------------|----------------------------|---------------------------------------|
| MH71H-25P | Wafer | 25 | 0.05-2.5 | 220/2.5 |
| | | 25 | 0.05-2.5 | 220/2.5 |
| | | 25 | 0.05-2.5 | 220/2.5 |
| | | 25 | 0.05-2.5 | 220/2.5 |
| | | 25 | 0.05-2.5 | 220/2.5 |
| | | 25 | 0.05-2.5 | 220/2.5 |
| | | 25 | 0.05-2.5 | 220/2.5 |

Material Table

Valve body:304 Valve disc:420J2
Valve seat:420J2 Spring:304

(PN40; CF8/304 material)
Valve Body Pressure-Temperature Ratings



Structural Features

The DIN standard Ytype strainer is a device used to eliminate particulate impurities in the medium, which can effectively protect the normal operation of valves and equipment on the pipeline.When cleaning is required, just take out the detachable strainer screen and reload it after processing, which is extremely convenient for maintenance.WCB cast steel material, doublelayer stainless steel strainer screen, more thorough filtration of impurities and better corrosion resistance.

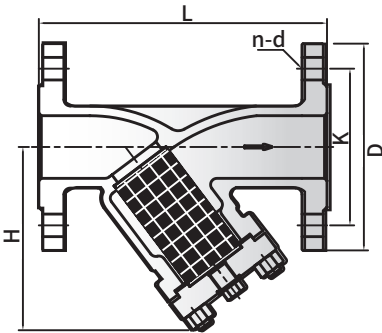
Optional drain plug for quick maintenance.

Technical Standard

- GB/T12250-2005 "Steam Trap Terminology Marking Structure Length"
- GB/T22654-2008 "Technical Conditions for Steam Traps"
- GB/T12251-2005 "Test Method for Steam Traps"
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

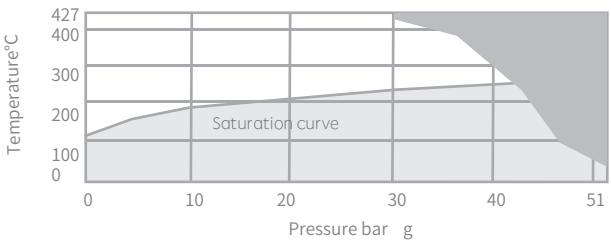
Structure Diagram



Technical Parameter

| Model | Connection Method | Nominal Pressure DN | Working Pressure RangeMPa | Condition Temperature°C/ Pressure MPa |
|-------|-------------------|---------------------|---------------------------|---------------------------------------|
| YG45 | Flange | 15 | 0.05-1.6 | 260/1.0 |
| | | 20 | 0.05-1.6 | 260/1.0 |
| | | 25 | 0.05-1.6 | 260/1.0 |
| | | 32 | 0.05-1.6 | 260/1.0 |
| | | 40 | 0.05-1.6 | 260/1.0 |
| | | 50 | 0.05-1.6 | 260/1.0 |
| | | 65 | 0.05-1.6 | 260/1.0 |
| | | 80 | 0.05-1.6 | 260/1.0 |
| | | 100 | 0.05-1.6 | 260/1.0 |
| | | 125 | 0.05-1.6 | 260/1.0 |
| | | 150 | 0.05-1.6 | 260/1.0 |

Work Scope



Structural Dimension Table

| Model t | Nominal Size | L | H | D | K | n-d | Weight |
|---------|--------------|-----|-----|-----|-----|------|---------|
| YG45 | DN15 | 130 | 85 | 95 | 65 | 4-14 | 2.9 kg |
| | DN20 | 150 | 95 | 105 | 75 | 4-14 | 3.5 kg |
| | DN25 | 160 | 110 | 115 | 85 | 4-14 | 4.8 kg |
| | DN32 | 180 | 125 | 140 | 100 | 4-18 | 6.6 kg |
| | DN40 | 200 | 145 | 150 | 110 | 4-18 | 8.8 kg |
| | DN50 | 230 | 155 | 165 | 125 | 4-18 | 10.6 kg |
| | DN65 | 290 | 175 | 185 | 145 | 4-18 | 17.5 kg |
| | DN80 | 310 | 210 | 200 | 160 | 8-18 | 20.5 kg |
| | DN100 | 350 | 230 | 220 | 190 | 8-18 | 29 kg |
| | DN125 | 400 | 270 | 250 | 220 | 8-18 | 43 kg |
| | DN150 | 480 | 300 | 285 | 250 | 8-22 | 64 kg |

Water Separator

Sight Glass

AS7 Water Separator

Sight Glass S1



Working Principle

The product is a baffle type separator, which is used to separate liquid droplets contained in steam, compressed air and other gas systems. It can improve the working performance of the separator when equipped with a thermal insulation jacket. The steam with a large amount of water enters the steam separator and moves in a centrifugal downward slope in it. The entrained water is separated due to the reduced velocity. The separated liquid flows into the lower part and is discharged from the body through the trap, and the dry and clean steam is discharged from the outlet of the separator.

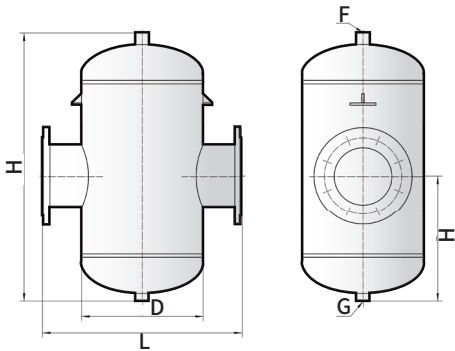
A105 Pipe Material

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



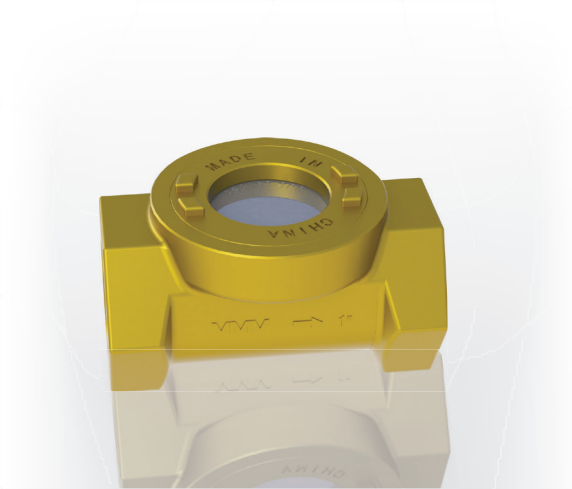
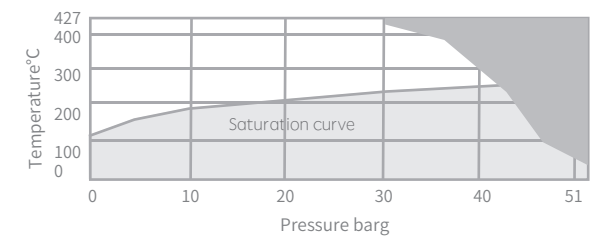
Structural Dimension Table

| unit(mm) | | | | | | | | | |
|----------|--------------|-----|-----|-----|-----|------|------|--------|----------|
| Model | Nominal Size | L | H | D | E | F | G | Weight | Capacity |
| AS7 | DN15 | 230 | 450 | 108 | 200 | 1/2" | 1/2" | 2.9kg | 2.9L |
| | DN20 | 230 | 450 | 108 | 200 | 1/2" | 1/2" | 3.5kg | 3.5L |
| | DN25 | 350 | 500 | 159 | 220 | 1/2" | 1/2" | 4.8kg | 4.8L |
| | DN32 | 350 | 500 | 159 | 220 | 1/2" | 1/2" | 6.6kg | 6.6L |
| | DN40 | 360 | 500 | 159 | 220 | 3/4" | 1/2" | 8.8kg | 8.8L |
| | DN50 | 420 | 638 | 219 | 252 | 1" | 3/4" | 10.6kg | 10.6L |
| | DN65 | 420 | 638 | 219 | 252 | 1" | 3/4" | 17.5kg | 17.5L |
| | DN80 | 523 | 735 | 273 | 332 | 2" | 3/4" | 20.5kg | 20.5L |
| | DN100 | 574 | 795 | 324 | 337 | 2" | 3/4" | 29kg | 29L |
| | DN125 | 656 | 843 | 356 | 310 | 2" | 3/4" | 43kg | 43L |
| DN150 | 706 | 935 | 406 | 347 | 2" | 3/4" | 64kg | 64L | |

Technical Parameter

| Model | Connection Method | Nominal Pressure DN | Working Pressure RangeMPa | Condition Temperature°C/ Pressure MPa |
|-------|-------------------|---------------------|---------------------------|---------------------------------------|
| AS7 | Flange | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |
| | | 16 | 0.05-1.6 | 260/1.0 |

Work Scope

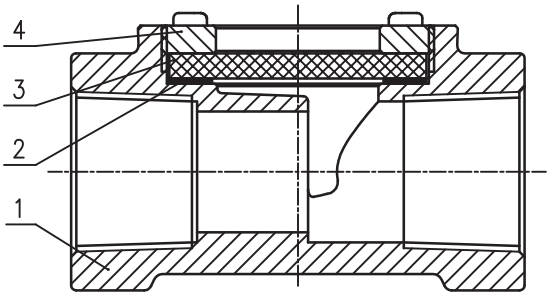


Technical Parameter

| Model | Connection Method | Nominal Pressure DN | Working Pressure RangeMPa | Condition Temperature°C/ Pressure MPa |
|-------|-------------------|---------------------|---------------------------|---------------------------------------|
| S1 | Screw thread | 5 | 0.05-0.35 | 148/0.35 |
| | Screw thread | 5 | 0.05-0.35 | 148/0.35 |
| | Screw thread | 5 | 0.05-0.35 | 148/0.35 |
| | Screw thread | 5 | 0.05-0.35 | 148/0.35 |

Material Table

Body:bronze, brass
Gasket: Flexible Graphite
Window: high temperature quartz glass
Bonnet: Bronze, Brass



Overview

Single window sight glass, threaded connection, available in different sizes in bronze and brass products.

Structural Features

1. The structure is compact, saving installation space to the greatest extent and meeting customer needs.
2. Provide customized threaded connections (BSP or NPT) to meet the individual needs of customers.
3. Temperature resistant calcified glass lens with explosion proof function.
4. Flexible graphite gasket with high sealing and erosion resistance.

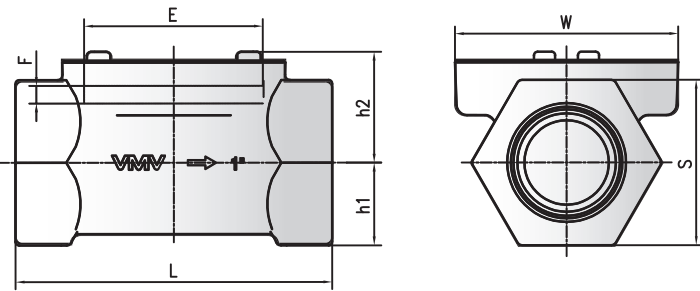
Applicable Scope

It is used for the flow and reaction of liquid, gas, steam and other media in the pipelines of petroleum, chemical, pharmaceutical, food and other industrial production equipment, and plays a role in monitoring production and avoiding accidents in the production process.

Warning

Condensed water in some applications can dissolve the window glass, especially if the water contains corrosive alkaline and acidic substances. Therefore, it is recommended to check the window glass regularly and replace the glass immediately if it becomes thinner. When viewing, wear goggles to protect your eyes.

Data Sheet



Structural Dimension Table

| Model | Nominal Size | L | W | S | h1 | h2 | E | F | Weight |
|-------|--------------|----|----|----|----|----|----|---|--------|
| S1 | DN10 | 89 | 63 | 31 | 16 | 29 | 51 | 5 | 0.55Kg |
| | DN15 | 89 | 63 | 31 | 16 | 29 | 51 | 5 | 0.55Kg |
| | DN20 | 89 | 63 | 37 | 19 | 32 | 51 | 5 | 0.65Kg |
| | DN25 | 90 | 63 | 47 | 24 | 33 | 51 | 5 | 0.8Kg |

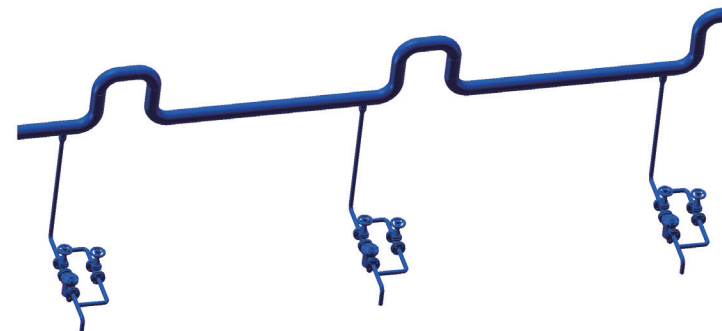
Basic configuration of steam system unit

Sub Cylinder drain system



Picture 001

Steam Pipeline Conveying Pipeline Drainage System



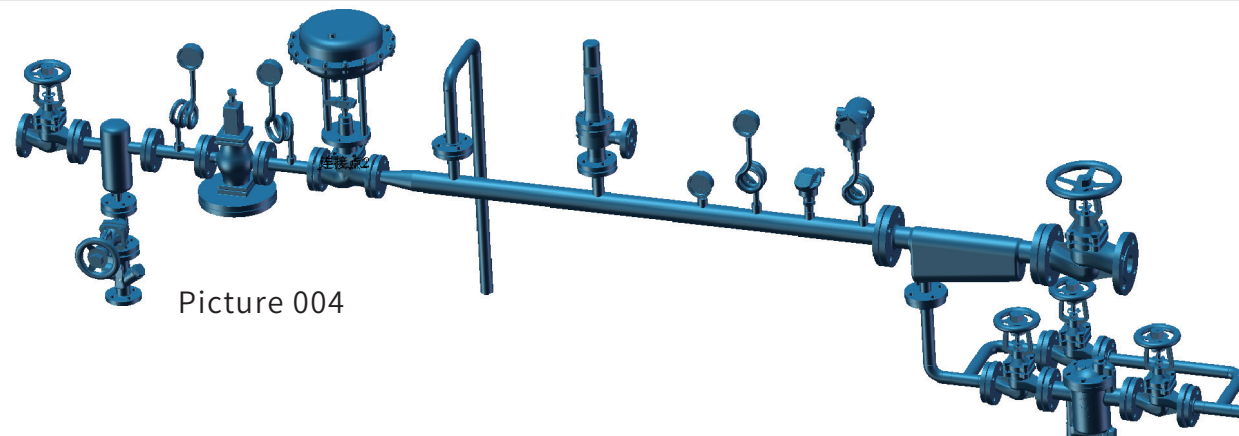
Picture 002

Steam Pressure Reducing System



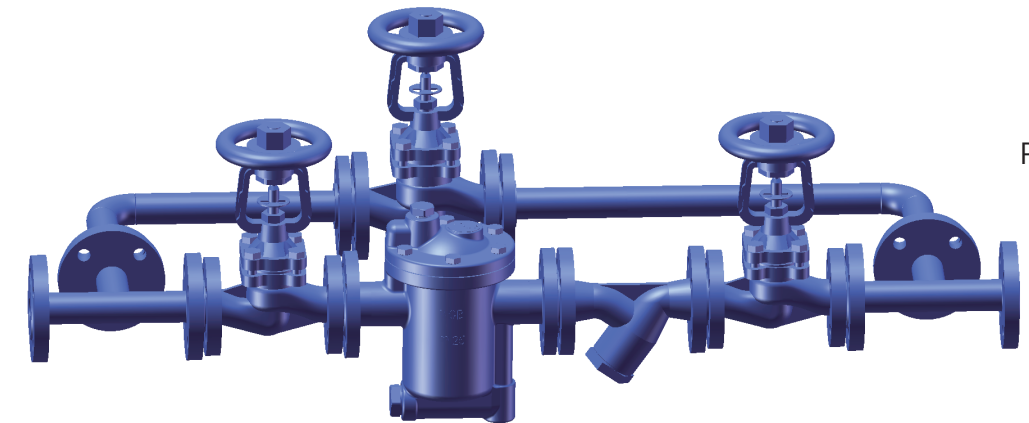
Picture 003

Steam Temperature Reduction and Pressure Reduction Device



Picture 004

Equipment Drainage System Unit Configuration



Picture 005

Steam Water Separation Device



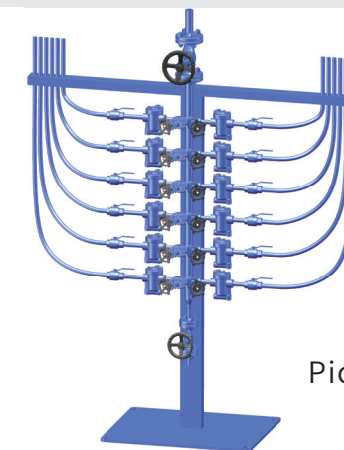
Picture 006

Condensate Recovery Device

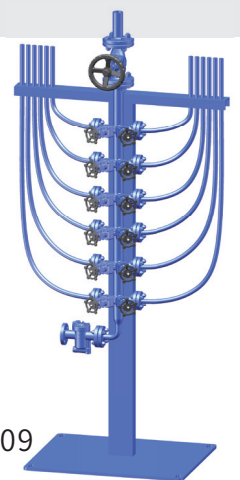


Picture 007

Steam Tracing System

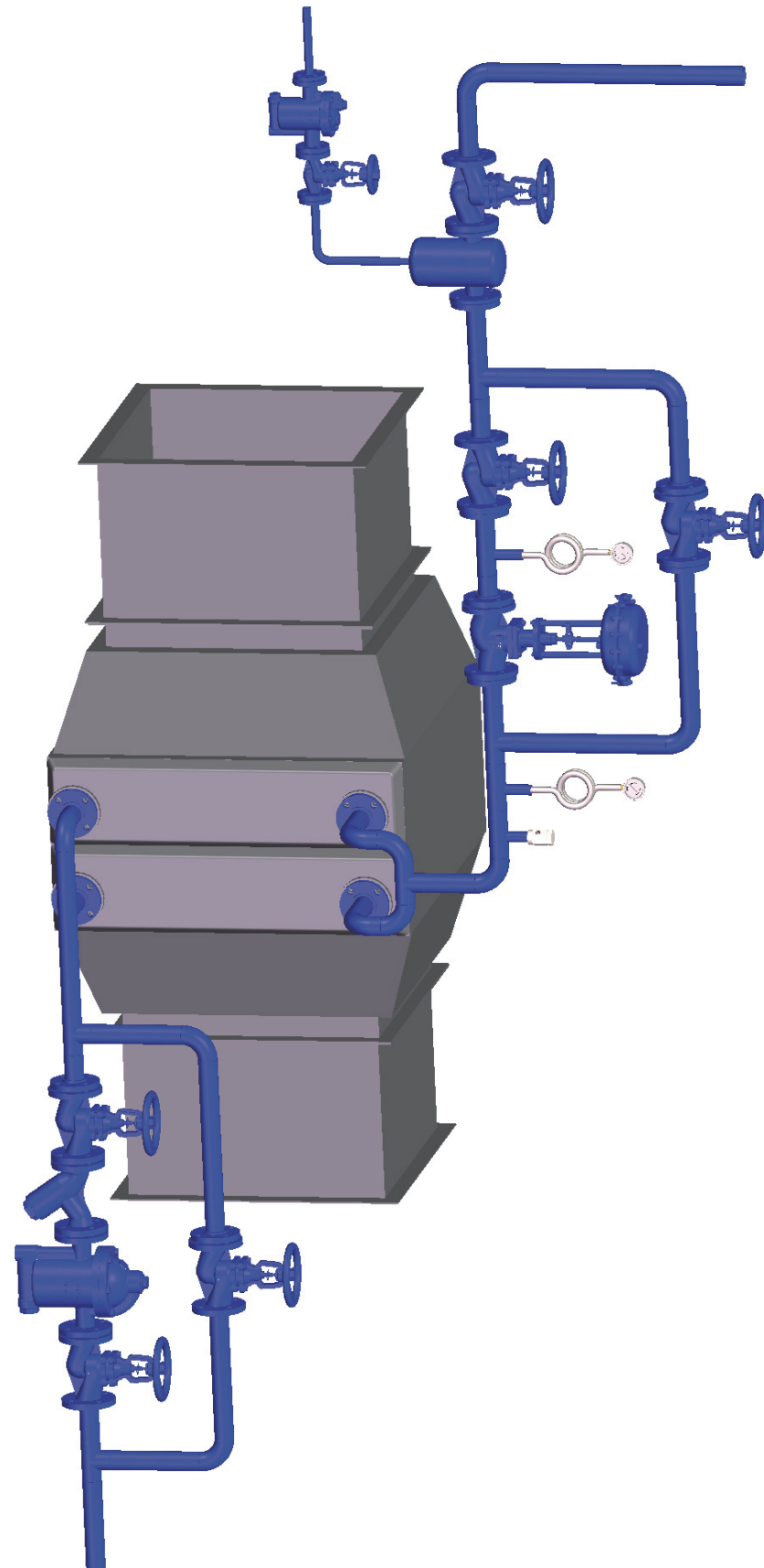


Picture 008



Picture 009

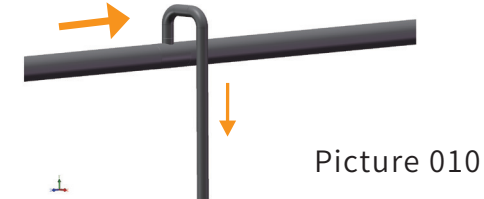
Hot Air Unit Control and Drainage System



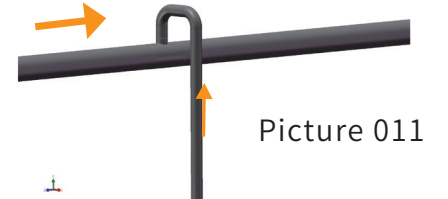
Hot air unit control and drainage system

Steam System Piping and Equipment Process Piping

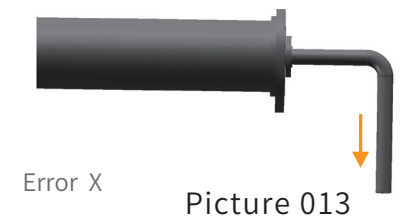
Piping of Steam Delivery Main and Branch Pipes



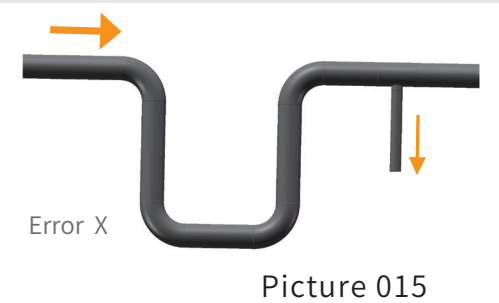
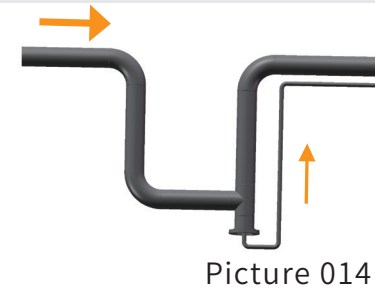
Piping of the Condensate Main and Branch Pipes



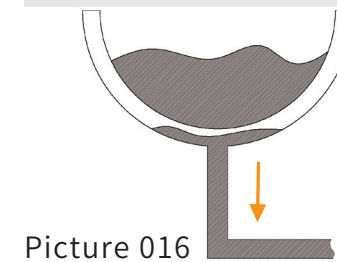
Drainage at the End of the Main Steam Pipeline



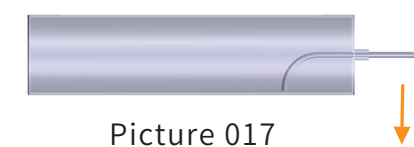
Drainage at the Low Point of the Main Steam Pipeline



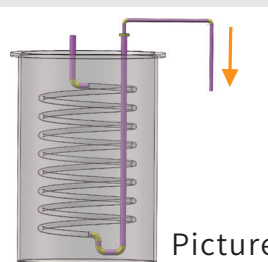
Several Common Equipment Hydrophobic Systems



Common equipment low point hydrophobic
Recommended:
Mechanical Traps



Dryer (Rotary) Siphon Drainage
Preferred:
Lever float proportional regulating steam trap



Melting tank siphon hydrophobic
Preferred:
Lever float proportional regulating steam trap