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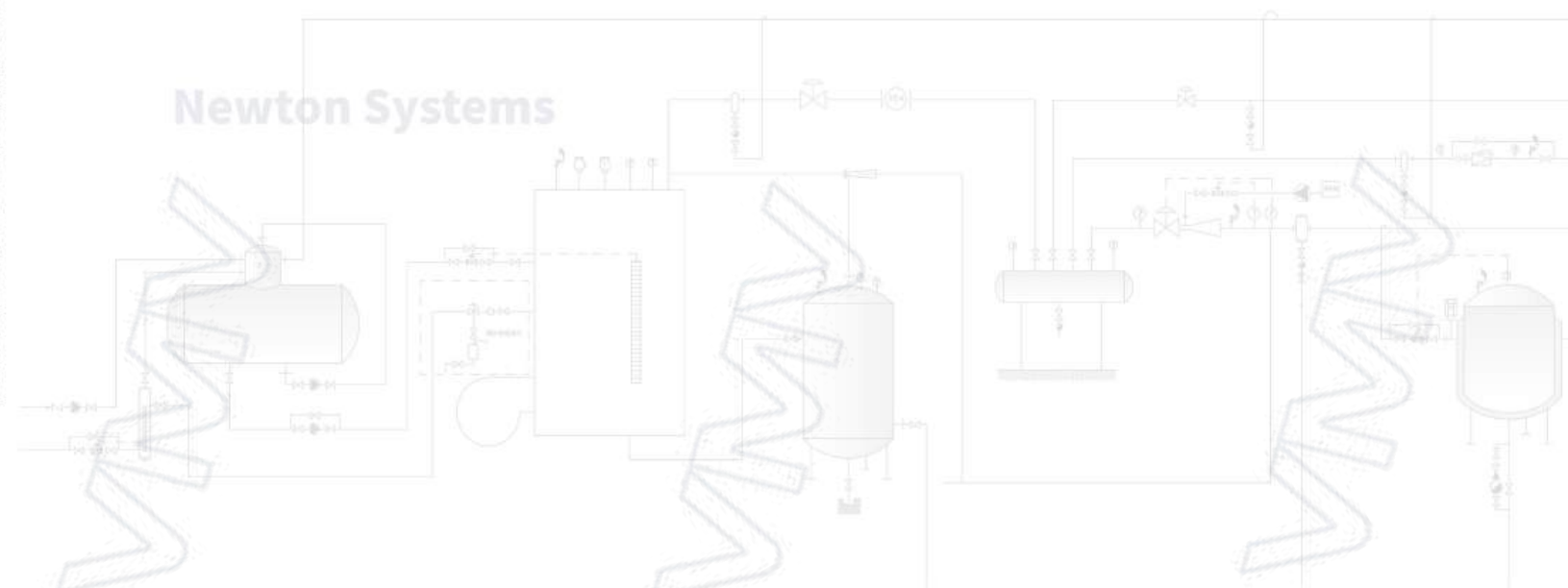
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www.vmvvalve.com

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VMV®

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STEAM AND THERMAL ENERGY

SMART ENERGY SAVING SYSTEM

Steam System Solutions
Steam Trap | Pumping System
Heat Tracing Manifolds |
Steam Pipe Accessories

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VMV Newton — We Understand Steam & Thermal Energy Better

Take responsibility
Exert all one's energies
Contribute to clients
Walk the walk

VMV Newton provides overall system solutions of steam and thermal energy.

We are committed to responding to global energy conservation and emission reduction to achieve safety, environmental and sustainable development.

With VMV Newton's energy efficient systems, which can reduce white pollution, we aim for zero carbon emissions to ensure the sustainability of our entire production. We respect human rights, create a clean and safe working environment for more humane production, and win the trust of customers and society.





VMV MISSION

- Committed to global energy saving and security
- Strive for the sustainable development of mankind



VMV VISION

- To become an internationally leading brand in the field of steam and thermal energy system solutions by 2035, contributing to the achievement of global carbon neutrality goals.



VMV VALUES

- Take responsibility
- Exert all one's energies
- Contribute to clients
- Walk the walk



VMV SPIRIT

- Integrity
- Altruism
- Innovation
- Efficiency



Since 1998

WWW.VMVVALVE.COM

350

Employees

75000m²

Factory Area

37

Engineers

2000m²

Laboratory Area

Committed To Global Energy Saving And Security
Strive For The Sustainable Development Of Mankind

致力于全球能源节约与安全
为人类可持续发展努力奋斗



About VMV steam system

VMV Newton is committed to providing comprehensive steam and thermal energy system solutions.

VMV has more than 30 professional engineers, specialized in steam systems, offering one-stop service like products, training and system solutions through technical communication, product selection, etc.

VMV's steam laboratory adopts different steam pressures to do type tests on each new product.

- Verify the pressure reduction ratio, closing performance and Cv value of the pressure reducing valve.
- Verify the capacity curve, back pressure rate, and steam leakage rate of steam trap.
- Verify the capacity curve and fatigue times of pump.

Each steam product undergoes necessary action testing by workshop's real boiler equipment, ensuring steam trap's precision and actual action flexibility.



Workshop1
Bellows Sealed Valve Series



Workshop2
Steam Trap Series



Workshop3
General Valve &
Customized Valve Series



Workshop4
Control Valve Series

VMV®



TRUE EFFICIENCY
USE VMV

HONORARY
CERTIFICATE

PROFESSIONAL MANUFACTURER OF VALVES



INTELLIGENT THREE-DIMENSIONAL WAREHOUSE

Total 3000 storage spaces, with a height of 24 meters. It can accommodate 3,600 tons of materials, improving the utilization rate of the entire space and working efficiency.

VMV 纽顿®

库区名称: 纽顿立库
设备编号: 1040, 1030
巷道总货位数: 760
巷道可用货位: 776

VMV 纽顿®

库区名称: 纽顿立库
设备编号: 1040, 1030
巷道总货位数: 760
巷道可用货位: 706



VMV PRODUCTION MANAGEMENT

- Standardized production process
- High precision machining capability
- Accurate inventory data
- Strict quality control
- Protection of workers' health
- Environment and sustainable development



FORGED STEEL AUTOMATIC PRODUCTION LINE

This production line is operated by robots to turn, mill, drill, tap, and complete the whole processing at one time.



INTELLIGENT CNC MACHINE

It can process large size valve up to 40", the processing accuracy up to UM level, to ensure that each valve has high precision, to ensure zero leakage.



HIGH QUALITY CONTROL OF VMV



HIGH PRECISION GRINDING MACHINE

The grinding accuracy of the internal parts can be controlled within 3UM, and has excellent sealing performance.



FULL PROCESS INSPECTION

Complete process inspection from incoming inspection, process inspection and finished product inspection.



DUST-FREE WORKSHOP

Control dust, particles, bacteria and other pollutants in the production environment to ensure high-precision processing technology and high-clean product.



VMV TESTING LABORATORY

Equipped with spectrometer, Rockwell hardness tester, tensile testing machine, impact testing machine, metallographic testing machine, helium mass spectrometry microleak detector, etc.



HIGH PRECISION CONTROL OF VMV

Steam System Products



Thermostatic(Bimetallic) Steam Trap
SHT21/SHT32

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P11
SHT21T/W	A105/SS	2.1	PN25/150LB	Thread/Weld	15-50	
SHT21F	A105/SS	2.1	PN25/150LB	Flange	15-50	P12
SHT32T/W	A105/SS	3.2	PN40/300LB	Thread/Weld	15-50	
SHT32F	A105/SA	3.2	PN40/300LB	Flange	15-50	



Thermostatic(Capsule) Steam Trap
SKT16

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P14
SKT16T	304	1.6	PN25/150LB	Thread	8-25	
SKT16F	304	1.6	PN25/150LB	Flange	15-25	P15



Thermostatic(Bimetallic) Trap Station
SHT21TVS

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P15
SHT21TVST/W	A105/SS	2.1	PN40/300LB	Thread/Weld	15-25	
SHT21TVSF	A105/SS	2.1	PN40/300LB	Flange	15-50	P16



Thermostatic(Bimetallic) Steam Trap
SHT1

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P16
SHT1T	420	2.1	PN25/150LB	Thread	15-25	



Thermodynamic Steam Trap
STD01T

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P19
STD01T-10	304	1.0	PN25/150LB	Thread	DN8/1/4"	



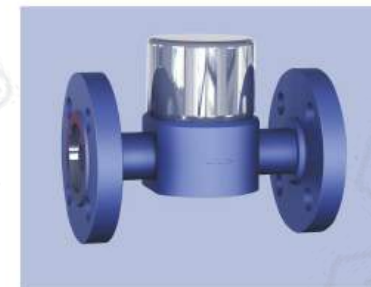
Thermodynamic (Disc) Steam Trap
STD16

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P20
STD16T/W	A105/SS	1.6	PN25/150LB	Thread/Weld	15-50	
STD16F	A105/SS	1.6	PN25/150LB	Flange	15-50	P21



Thermodynamic (Disc) Steam Trap
STD42

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P21
STD42T/W	A105/SS	4.2	PN63/300LB	Thread/Weld	15-50	
STD42F	A105/SS	4.2	PN63/300LB	Flange	15-50	P22



Thermodynamic (Disc) Steam Trap
STD80

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P22
STD80T/W	F11	8.0	PN100/600LB	Thread/Weld	15-50	
STD80F	F11	8.0	PN100/600LB	Flange	15-50	P23



Thermodynamic (Disc) Steam Trap
STD80

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P23
STD150W	F11	15.0	PN420/2500LB	Weld	15-50	
STD150F	F11	15.0	PN420/2500LB	Flange	15-50	P23

Steam System Products



Inverted Bucket Steam Trap
SBT10A/SBT20
SBT24/SBT30

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
SBT10AT/W	WCB/SS	1.6	PN25/150LB	Thread/Weld	15-50	P26
SBT10AF	WCB/SS	1.6	PN25/150LB	Flange	15-50	
SBT20T/W	WCB/SS	1.6	PN63/300LB	Thread/Weld	15-50	P27
SBT24T/W	WCB/SS	1.6	PN63/300LB	Flange	15-50	P28
SBT30T/W	WCB/SS	1.6	PN25/150LB	Thread/Weld	15-50	P29
SBT30F	WCB/SS	1.6	PN25/150LB	Flange	15-100	



Inverted Bucket Steam Trap
SBT11A

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
SBT11AT/W	CF8/SS	1.6	PN25/150LB	Thread/Weld	15-25	P30
SBT11AF	CF8/SS	1.6	PN25/150LB	Flange	15-25	



Inverted Bucket Steam Trap
SBT11TVS

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
SBT11TVST/W	F304	1.6	PN25/150LB	Thread/Weld	15-25	P31
FSBT11TVS	F304	1.6	PN25/150LB	Flange	15-50	



Pilot Inverted Bucket Steam Trap
SBT40/SBT50
SBT60/SBT66



Pilot Inverted Bucket Steam Trap
SBT66



Pilot Inverted Bucket Steam Trap
SBT612

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
SBT40T/W	WCB/SS	1.6	PN25/150LB	Thread/Weld	15-50	P34
SBT40F	WCB/SS	1.6	PN25/150LB	Flange	15-100	
SBT50T/W	WCB/SS	3.2	PN25/150LB	Thread/Weld	15-50	P35
SBT50F	WCB/SS	3.2	PN25/150LB	Flange	15-100	
SBT60T/W	WCB/SS	3.2	PN25/150LB	Thread/Weld	15-50	P36
SBT60F	WCB/SS	3.2	PN25/150LB	Flange	15-100	
SBT66W	A105/F11	6.9	PN100/600LB	Thread	25-100	P37
SBT66F	A105/F11	6.9	PN100/600LB	Weld	25-100	
SBT612W	A105/F11	12.0	PN100/600LB	Weld	25-100	P38
SBT612F	A105/F11	12.0	PN100/600LB	Flange	25-100	



Lever Ball Float Steam Trap
SFT10A

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
SBT10AT/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	P41
SBT10AF	WCB/SS	3.2	PN40/300LB	Flange	15-50	

Steam System Products



Lever Ball Float Steam Trap
SFT20A/SFT30A/SFT40A

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P42
SBT20AT/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	
SBT20AF	WCB/SS	3.2	PN40/300LB	Flange	15-100	
SBT30AT/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	P43
SBT30AF	WCB/SS	3.2	PN40/300LB	Flange	15-100	
SBT40AT/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	P44
SBT40AF	WCB/SS	3.2	PN40/300LB	Flange	15-100	



Lever Ball Float Steam Trap
SFT50

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P45
SBT50T/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	
SBT50F	WCB/SS	3.2	PN40/300LB	Flange	15-100	



Lever Ball Float Steam Trap
SFT60

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P46
SBT60T/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	
SBT60F	WCB/SS	3.2	PN40/300LB	Flange	15-100	



Lever Ball Float Steam Trap
SFT66

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P47
SBT66T/W	WCB/SS	6.5	PN100/600LB	Thread/Weld	15-50	
SBT66F	WCB/SS	6.5	PN100/600LB	Flange	15-100	



Lever Ball Float Steam Trap
SFT70

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P48
SBT70T/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	
SBT70F	WCB/SS	3.2	PN40/300LB	Flange	15-100	



Lever Float Type Steam Trap
SFT80/80A/80B

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P49
SFT80	WCB/SS	3.2	PN40/300LB	Flange	50-150	
SFT80A	WCB/SS	3.2	PN40/300LB	Flange	50-150	
SFT80B	WCB/SS	3.2	PN40/300LB	Flange	50-150	



Lever Ball Float Air Trap
AFT10A/AFT20A/AFT30A

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P53
AFT10AT/W	WCB/SS	3.2	PN40/300LB	Thread/Weld	15-50	
AFT10AF	WCB/SS	3.2	PN40/300LB	Flange	15-50	P54
AFT20AT/W	WCB/SS	1.6	PN25/150LB	Thread/Weld	15-50	
AFT20AF	WCB/SS	1.6	PN25/150LB	Flange	15-100	P55
AFT30AT/W	WCB/SS	1.6	PN25/150LB	Thread/Weld	15-50	
AFT30AF	WCB/SS	1.6	PN25/150LB	Flange	15-100	



Steam Liquid Two Phase Flow Trap
QYL

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	P56
QYL	A105/SS	3.2	PN63/300LB	Flange	65-200	

Steam System Products



Pump
PT20

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
					Inlet	Outlet
PT20	WCB/SS	1.05	PN16/150LB	Flange	80	50

P62



Pump System
PT10

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
					Inlet	Outlet
PT10	WCB/SS	1.05	PN16/150LB	Thread/Flange	40/25	25

P64



System Device of Single Pump Trap
SPT20S SPT20D SPT20T

Model	Material	PMO Mpa	Max.PN	Connection	Nominal Diameter	
					Inlet	Outlet
SPT20S	CS/SS	1.05	PN16/150LB	Flange	80	50
SPT20D	CS/SS	1.05	PN16/150LB	Flange	80	50
SPT20T	CS/SS	1.05	PN16/150LB	Flange	80	50

P66

P68



Bellows Stainless Steel Steam
Distribution Manifolds
BSPM03 / BCPM03

Model	Model	Material	PMO Mpa	PN	Connection	Nominal Diameter	Diameter Manifold
Bellows Stainless Steel Steam Distribution Tube Manifolds	BSPM03	CF8/SS	2.56	PN40 CL300	RF/RC/LOC	40/50	15/20
Bellows Stainless Steel Distribution Collection Manifolds	BCPM03	CF8/SS	2.56	PN40 CL300	RF/RC/LOC	40/50	15/20

P73

P74



Bellows Forged Steel Steam
Distribution Manifolds
BSPM02/ BCPM02



Control Valve
V8000



Bellows Control Valve
V9000



Three Way Control Valve
V6000

Model	Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
Bellows Forged Steel Steam Distribution Manifolds	BSPM03	A105/SS	4	PN40 CL300	RF/RC/LOC	25/40
Bellows Forged Steel Condensate Collection Manifolds	BCPM03	A105/SS	4	PN40 CL300	RF/RC/LOC	25/40

P77

P79

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
V8000	WCB/SS	1.6	PN16	Flange	25-300
V8000	WCB/SS	2.5	PN25	Flange	25-300
V8000	WCB/SS	4	PN40	Flange	25-300

P85

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
V9000	WCB/SS	1.6	PN16	Flange	25-300
V9000	WCB/SS	2.5	PN25	Flange	25-300
V9000	WCB/SS	4	PN40	Flange	25-300

P86

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
V6000	WCB/SS	1.6	PN16	Flange	25-300
V6000	WCB/SS	2.5	PN25	Flange	25-300
V6000	WCB/SS	4	PN40	Flange	25-300

P87

Steam System Products



Safety Valve
VA808

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
VA808	WCB/SS	1.6	PN16	Flange	20-250
VA808	WCB/SS	2.5	PN25	Flange	20-250
VA808	WCB/SS	4.0	PN40	Flange	20-250

P89



Pressure Reducing Valve
V5001

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
V5001	WCB/SS	1.6	PN16	Flange	15-100
V5001	WCB/SS	2.5	PN25	Flange	15-100
V5001	WCB/SS	3.0	PN40	Flange	15-100

P91



Bellows Seal Globe Valve
WJ41H-16C

Name	Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
Bellows Seal Globe Valve	WJ41H-16C	WCB/SS	1.6	PN16 CL150	Flange	15-400
Bellows Seal Globe Valve	WJ41H-25C	WCB/SS	2.5	PN25 CL150	Flange	15-400
Bellows Seal Globe Valve	WJ41H-40C	WCB/SS	4.0	PN40 CL300	Flange	15-400

P95



Vacuum Breaker
VB21

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
VB21	304	2.1	PN25	Thread	15-25

P97



Silencer
DF1/DF2/DF3

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
DF1	304	2.5	PN25	Thread	15
DF1	304	2.5	PN25	Thread	20
DF1	304	2.5	PN25	Thread	25

P99



Mixer
IN40M



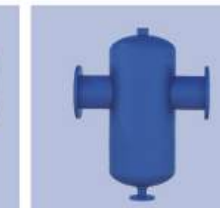
Silencer
IN



Wafer Check Valve
MH71H-25P



Y Strainer
YG45H



Water Separator
AS7



Sight Glass
S1

Model	Material	PMO Mpa	PN	Connection	Nominal Diameter
IN40M	304	1.7	PN25	Thread	40
IN	304	1.7	PN25	Thread	15-50
MH71H-25P	CF8	2.5	PN25	Wafer	15-80
YG45H	WCB	1.6	PN16	Flange	15-200
AS7	20#	1.6	PN16	Flange	15-150
S1	A105	0.36	PN5	Thread	10-25

P100

P101

P102

P103

P104

P105

If need customized, please provide parameters



Steam Ejector



Condensate Flash Recovery System

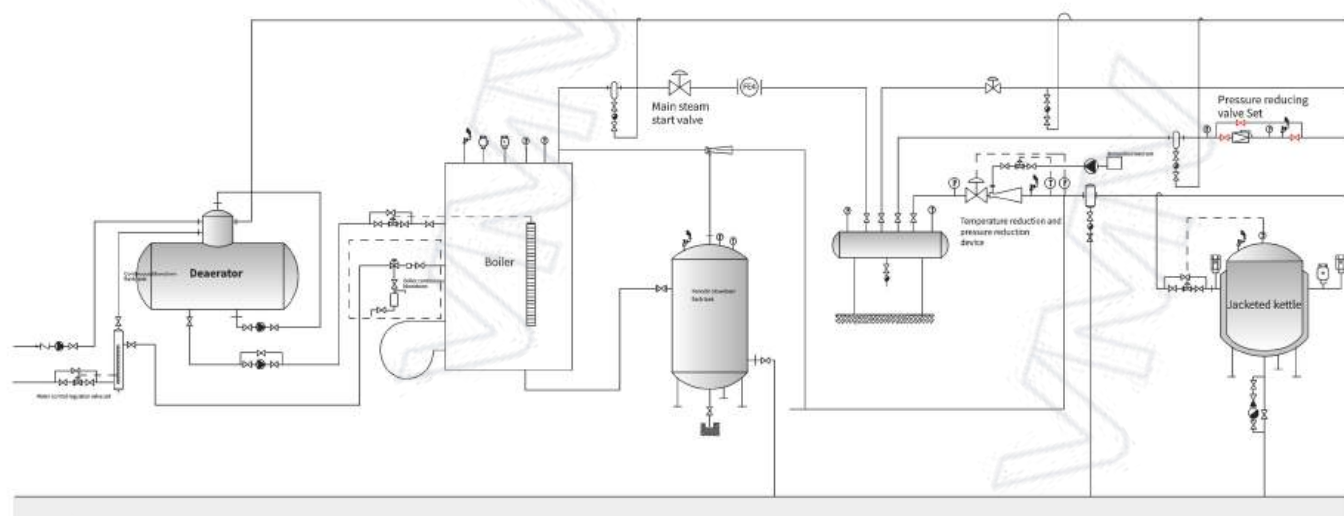


Condensate flash system

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
2068.27KJ
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, 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 pressure bar	Saturation temperature °C	Sensible heat of water (specific enthalpy) kJ/kg	Latent heat of evaporation (specific enthalpy) kJ/kg	Total heat of steam (specific enthalpy) kJ/kg	Steam density kg/m³	Density of water kg/m³
0	99.63	417.55	2257.65	2675.20	0.590	958.59
0.5	111.38	467.21	2226.21	2693.41	0.862	949.94
1	120.24	504.84	2201.75	2706.60	1.129	942.95
1.5	127.44	535.53	2181.36	2716.90	1.391	937.03
2	133.56	561.66	2163.65	2725.31	1.651	931.79
2.5	138.89	584.52	2147.91	2732.43	1.907	927.13
3	143.64	604.95	2133.59	2738.54	2.162	922.93
3.5	147.94	623.46	2120.45	2743.90	2.416	918.95
4	151.87	640.41	2108.22	2748.63	2.668	915.33
4.5	155.49	656.11	2096.79	2752.90	2.918	911.16
5	158.86	670.73	2085.99	2756.71	3.168	908.6
5.5	162.02	684.46	2075.73	2760.19	3.417	904.9
6	164.98	697.40	2065.98	2763.37	3.666	902.61
6.5	167.79	709.62	2056.64	2766.26	3.913	899.2
7	170.44	721.26	2047.68	2768.94	4.160	897.02
7.5	172.97	732.36	2039.01	2771.41	4.407	893.97
8	175.39	742.95	2030.68	2773.67	4.653	891.9
8.5	177.70	753.12	2022.64	2775.76	4.899	889.05
9	179.92	762.92	2014.81	2777.73	5.144	887.15
9.5	182.05	772.34	2007.24	2779.57	5.390	884.88
10	184.10	781.42	1999.87	2781.29	5.635	882.61
10.5	186.08	790.22	1992.67	2782.88	5.880	880.51
11	188.00	798.72	1985.67	2784.39	6.125	878.35
11.5	189.85	806.96	1978.81	2785.77	6.369	876.35
12	191.64	814.96	1972.11	2787.07	6.614	874.28
12.5	193.39	822.75	1965.58	2788.28	6.858	872.37
13	195.08	830.33	1959.13	2789.46	7.103	870.4
13.5	196.72	837.69	1952.85	2790.54	7.347	868.51
14	198.33	844.90	1946.65	2791.55	7.592	866.7
14.5	199.89	851.93	1940.58	2792.47	7.836	864.9
15	201.41	858.75	1934.59	2793.39	8.081	863.11
15.5	202.90	865.45	1928.73	2494.23	8.326	861.33
16	204.35	872.03	1922.96	2794.98	8.570	859.62
16.5	205.76	878.43	1917.26	2795.74	8.815	857.93
17	207.15	884.75	1911.69	2796.41	9.060	856.24

Gauge pressure bar	Saturation temperature °C	Sensible heat of water (specific enthalpy) kJ/kg	Latent heat of evaporation (specific enthalpy) kJ/kg	Total heat of steam (specific enthalpy) kJ/kg	Steam density kg/m³	Density of water kg/m³
17.5	208.51	890.91	1906.17	2797.08	9.305	854.63
18	209.84	896.94	1900.72	2797.66	9.550	853.02
18.5	211.14	902.88	1895.32	2798.25	9.796	851.43
19	212.42	908.70	1890.05	2798.75	10.041	849.83
19.5	213.67	914.44	1884.81	2799.25	10.287	850.48
20	214.90	920.09	1879.62	2799.67	10.533	846.81
20.5	216.10	925.62	1874.51	2800.09	10.779	845.24
21	217.10	931.06	1869.45	2800.51	11.025	843.81
21.5	218.45	936.42	1864.47	2800.84	11.272	842.32
22	219.60	941.70	1859.53	2801.18	11.519	840.83
22.5	220.72	946.89	1854.63	2801.47	11.766	839.42
23	221.83	951.99	1849.77	2801.76	12.013	838.01
23.5	222.92	957.02	1845.00	2802.02	12.260	836.61
24	223.99	962.00	1840.22	2802.23	12.508	835.21
24.5	225.05	966.90	1835.53	2802.43	12.756	833.82
25	226.09	971.76	1830.89	2802.60	13.004	832.43
25.5	227.11	976.53	1826.24	2802.77	13.253	831.12
26	228.12	981.22	1821.68	2802.90	13.502	829.74
26.5	229.11	985.91	1817.11	2803.02	13.751	828.43
27	230.10	990.47	1812.63	2803.10	14.000	827.13
27.5	231.06	995.03	1808.15	2803.19	14.250	825.83
28	232.02	999.51	1803.72	2803.23	14.500	824.54
28.5	232.96	1003.95	1799.32	2803.27	14.750	823.25
29	233.89	1008.31	1794.96	2803.31	15.001	821.96
29.5	234.81	1012.66	1790.65	2803.31	15.252	820.75
30	235.72	1016.93	1786.34	2803.27	15.504	819.47
30.5	236.61	1021.16	1782.07	2803.23	15.755	816.99
31	237.50	1025.39	1777.84	2803.23	16.007	814.60
31.5	238.37	1029.53	1773.61	2803.15	16.260	812.22
32	239.24	1033.64	1769.43	2803.06	16.513	809.85
32.5	240.09	1037.70	1765.28	2802.98	16.766	807.49
33	240.94	1041.72	1761.14	2802.90	17.019	805.22
33.5	241.77	1045.70	1757.03	2802.77	17.273	802.95
34	242.60	1049.67	1752.97	2802.64	17.527	800.70
34.5	243.41	1053.57	1748.91	2802.48	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	297.8	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
60	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

ISO 6552: Automatic steam traps	Definition of technical terms
ISO 6553: Automatic steam traps	Marking
ISO 6554: Automatic steam traps	Face-to-face dimensions
ISO 6704: Automatic steam traps	Classification
ISO 6948: Automatic steam traps	Production and performance characteristic tests
ASME B16.34: Valves	Flanged, Threaded, and Welding End

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.

Operating pressure PO: Operating inlet pressure of steam trap.

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

Maximum working pressure difference ΔPMX: : Maximum difference between operating pressure and operating back pressure.

Operating temperature TO: Operating inlet temperature of steam trap.

Maximum operating temperature TMO: Saturation temperature corresponding to maximum operating pressure.

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

Subcooling ΔT: 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 rate RSN: Percentage of no-load steam leakage against the maximum hot condensate discharge capacity at corresponding pressure.

Loaded steam loss rate Qms: 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.

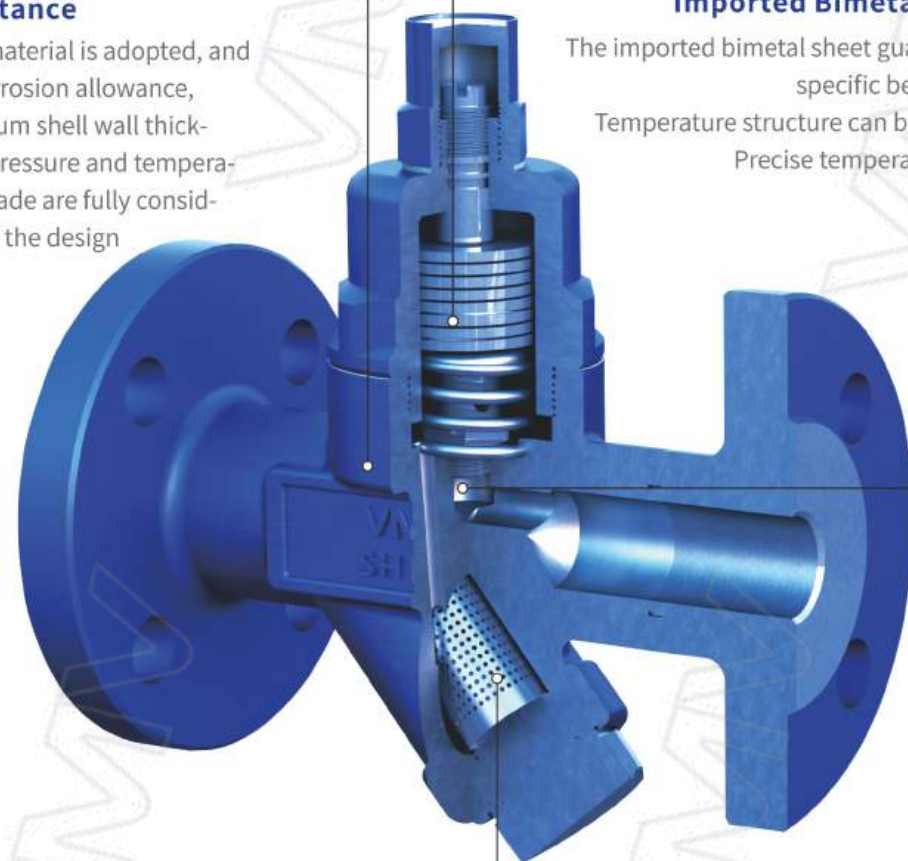
The technical advantages of VMV traps are unique and reasonable structure and high precision internal parts

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

Features

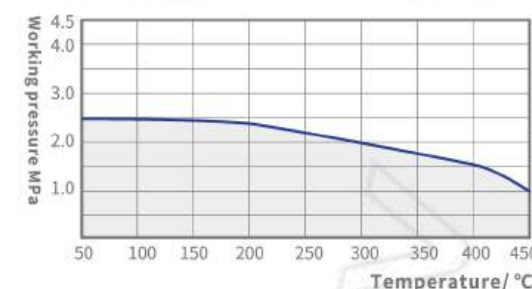
A105 is used for VMV bimetallic trap body and bonnet. The condensate discharge temperature has been set to 120-130°C before delivery. And it can be adjusted as required.

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 trap works 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.

A105 Material PN25

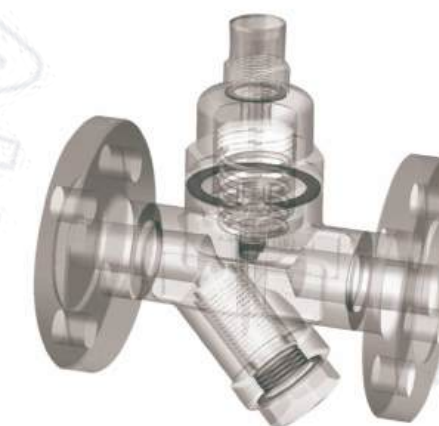
Valve Body Pressure-Temperature Ratings



Selection and Installation

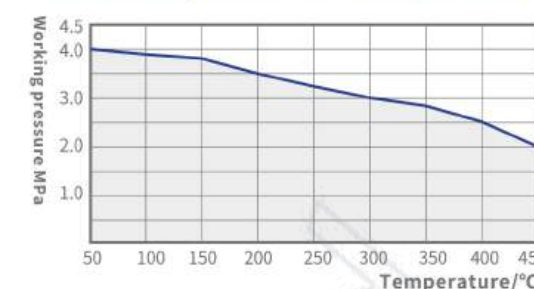
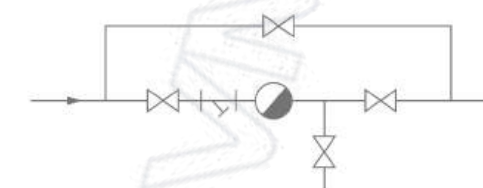
The bimetallic trap drains continuously. The normal discharge temperature of SHT21 is 120-130°C, and the discharge temperature of SHT32 is 140-150°C (users can adjust it by themselves). If there is a requirement for degree of undercooling, please indicate it when ordering. The back pressure rate of bimetallic steam trap 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 discharge curve in detail. Please do not mistakenly think it for a trap with larger diameter has larger



A105 Material PN40

Valve Body Pressure-Temperature Ratings



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

SHT21 Thermostatic(Bimetallic)Steam Trap



Technical Parameter

Nominal pressure	PN25
Max. allowable pressure(Shell)	2.16MPa/200°C
Max. allowable temperature(Shell)	350°C/1.82MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	2.1MPa
Max. operating temperature	200°C/300°C
Factory cold test pressure	3.8MPa
Air test	2.0MPa

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 of the inlet pressure

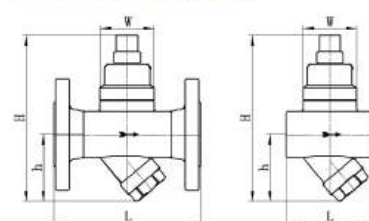
Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Material List

Bonnet: A105/F304/F316
Body: A105/F304/F316
Seat: 420
Disc: 440C+304
Other trims: 304

Structure Diagram

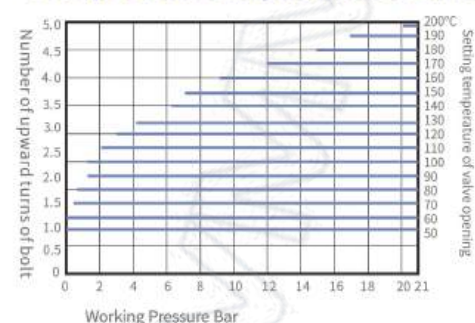
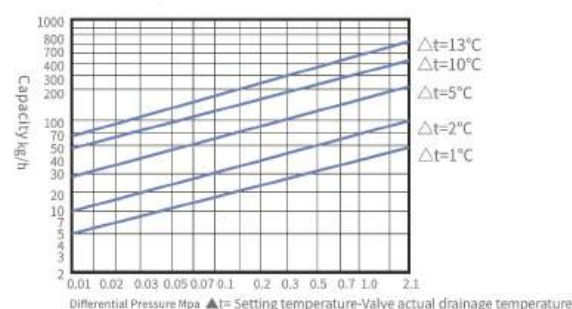


Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	90	175	70	55	1.7
		20(3/4")	90	175	70	55	1.8
		25(1")	90	175	70	55	1.9
		32(1 1/4")	150	175	70	55	3.2
		40(1 1/2")	150	175	70	55	3.3
		50(2")	150	175	70	55	3.4
F	PN16/25/40 CL150/300	15(1/2")	150	175	70	55	4.6
		20(3/4")	150	175	70	55	4.8
		25(1")	150	175	70	55	5.1
		32(1 1/4")	150	175	70	55	5.3
		40(1 1/2")	150(300LB:L=170)	175	70	55	5.6
		50(2")	150(300LB:L=170)	175	70	55	7.1

•T: Thread; W: Weld; F: Flange.

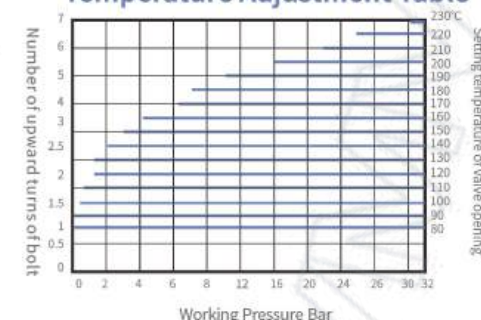
Temperature Adjustment Table



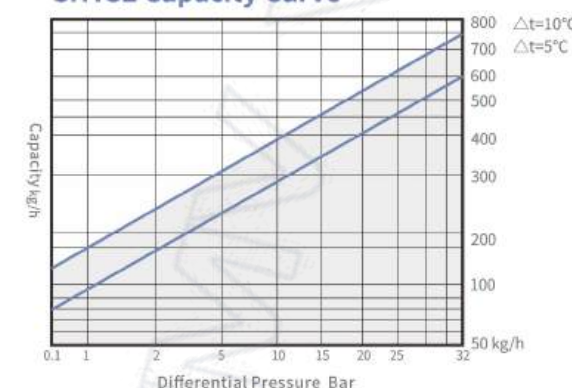
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure(Shell)	3.46MPa/300°C
Max. allowable temperature(Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	200°C/300°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

Temperature Adjustment Table



SHT32 Capacity Curve



Thermostatic(Bimetallic)Steam Trap

Thermostatic(Bimetallic)Steam Trap SHT32/SHTZ32

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.
- 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 of the inlet pressure

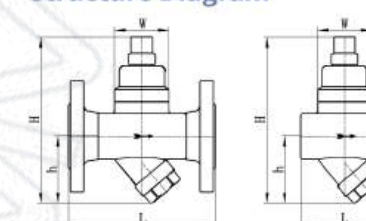
Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Material List

Bonnet: A105/F304/F316
Body: A105/F304/F316
Seat: 420
Disc: 440C+304
Other trims: 304

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	90	175	70	55	1.7
		20(3/4")	90	175	70	55	1.8
		25(1")	90	175	70	55	1.9
		32(1 1/4")	150	175	70	55	3.2
		40(1 1/2")	150	175	70	55	3.3
		50(2")	150	175	70	55	3.4
F	PN16/25/40 CL150/300	15(1/2")	150	175	70	55	4.6
		20(3/4")	150	175	70	55	4.8
		25(1")	150	175	70	55	5.1
		32(1 1/4")	150	175	70	55	5.3
		40(1 1/2")	150(300LB:L=170)	175	70	55	5.6
		50(2")	150(300LB:L=170)	175	70	55	7.1

•T: Thread; W: Weld; F: Flange.

Thermostatic(Capsule)Steam Trap

Thermostatic(Capsule)Steam Trap

Thermostatic(Capsule)Steam Trap SKT16

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

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

High Corrosion Resistance

Stainless steel SS304 has beautiful appearance and good performance.

Large Subcooling Capsule Module

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



Integrated Filtration Design

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

Suitable For Clean Pipes

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

Features

VMV Capsule steam 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 Capsule is made of stainless steel, and the condensate discharge temperature is subcooled at 15- 20°C.

The Capsule steam 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.

Capsule Steam 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 Capsule Steam trap can be used as a vent valve.



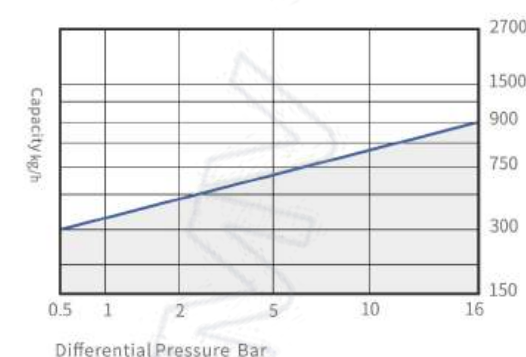
Technical Parameter

Nominal pressure	PN25
Max. allowable pressure(Shell)	1.6MPa/250°C
Max. allowable temperature(Shell)	350°C/1.46MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	1.6MPa
Max. operating temperature	200°C
Factory cold test pressure	3.8MPa
Air test	0.6MPa

Material List

Bonnet: SS304/SS316	Valve core: 304
Body: SS304/SS316	Other trims: 304
Seat: 420	

SKT16 Capacity Curve



Working Principle

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

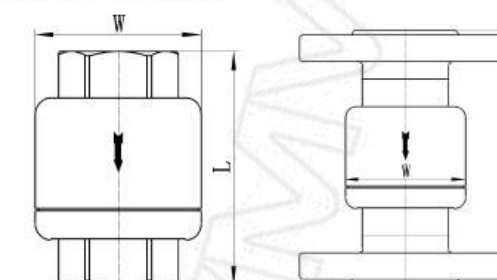
Features

- The valve body and valve bonnet 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 30% or more.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



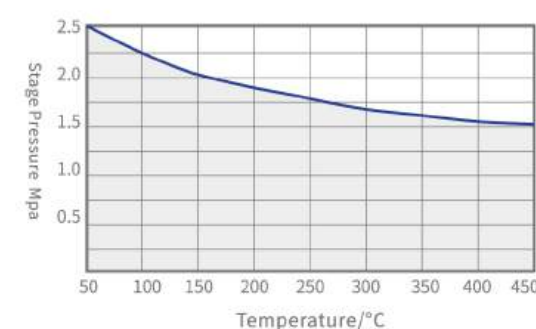
Structural Dimension Table

Connection	Pressure	DN(IN)	L	W	KG
T	PN16/25 CL150	8(1/4")	75	55	1.05
		10(0.375")	75	55	1.11
		15(1/2")	75	55	1.15
		20(3/4")	80	55	1.2
		25(1")	80	55	1.3
F	PN16/25 CL15	15(1/2")	135	55	1.5
		20(3/4")	140	55	1.7
		25(1")	140	55	2.1

*T: Thread; W: Weld; F: Flange.

304 Material PN25

Valve Body Pressure-Temperature Ratings



Thermostatic (Bimetallic) steam trap

SHT21TVS Bimetallic steam trap station

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

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

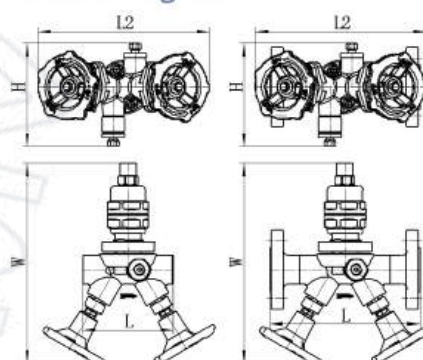
Material

Trap: F304

TVS station: CF8

Trim: 304/420

Structure Diagram



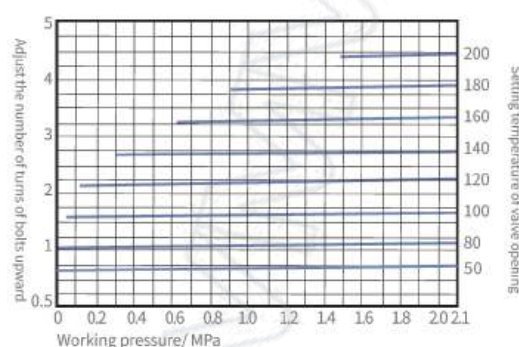
Structural Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	120	230	140	265	4.1
		20(3/4")	120	230	140	265	4.2
		25(1")	120	230	140	265	4.3
F	PN16/25/40 CL150/300	15(1/2")	180	230	140	265	4.8
		20(3/4")	180	230	140	265	5.1
		25(1")	180(300LB:210)	230	140	265	5.3
		32(1 1/4")	320	230	140	265	5.7
		40(1 1/2")	320	230	140	265	6.1
		50(2")	320	230	140	265	7.1

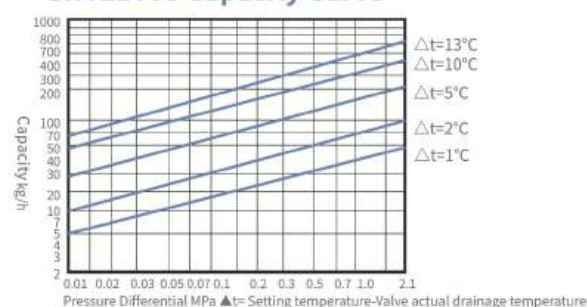
•T: Thread; W: Weld; F: Flange.

Technical Parameter

Nominal pressure	PN40
Max allowable pressure(Shell)	2.72MPa/200°C
Max allowable temperature(Shell)	350°C/2.33MPa
Max. operating pressure	2.1MPa
Max operating temperature	200°C/300°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa



SHT21TVS Capacity Curve



Thermostatic(Bimetallic)Steam Trap

Thermostatic(Bimetallic)Steam Trap SHT1

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.

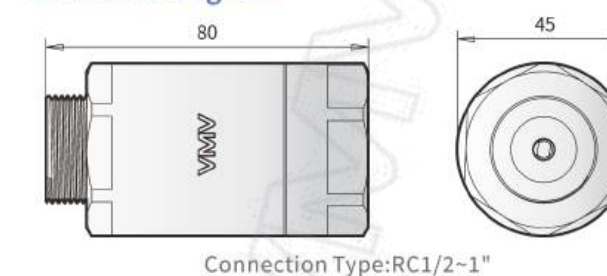
Features

- The valve body and valve bonnet are all made of forged steel.
- 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

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Connection Type:RC1/2~1"

Technical Parameter

Nominal pressure	PN25
Max. allowable pressure(Shell)	1.6MPa /250°C
Max. allowable temperature(Shell)	350°C/1.46MPa
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: 304

Body: 304

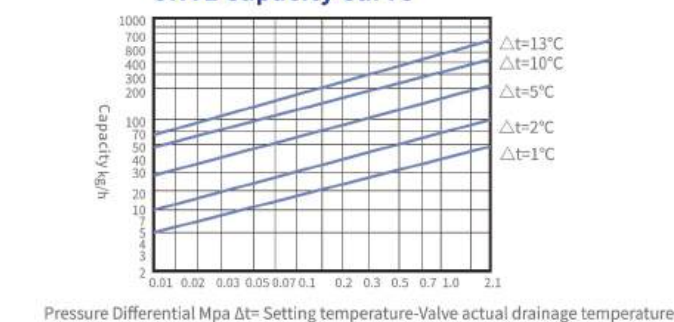
Seat: 420

Disc: 440C+304

Other trims: 304



SHT1 Capacity Curve



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.

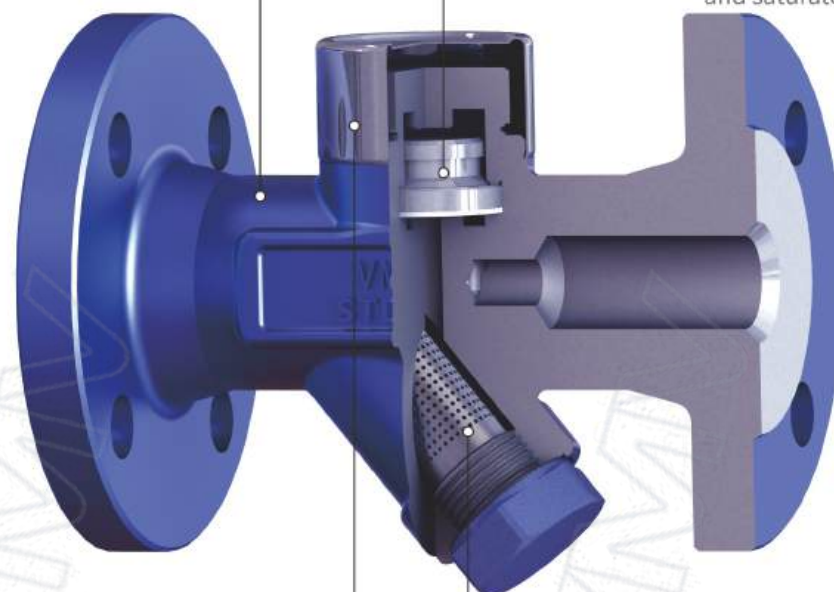
The technical advantages of VMV steam traps are unique and reasonable structure, high-precision internal parts, changeable valve seat.

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.

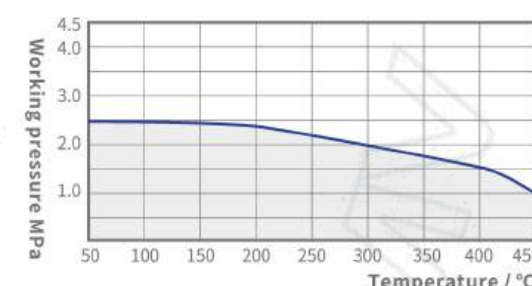
Structural Features

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



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 50% (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.

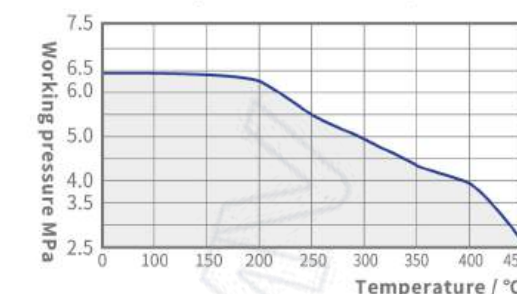
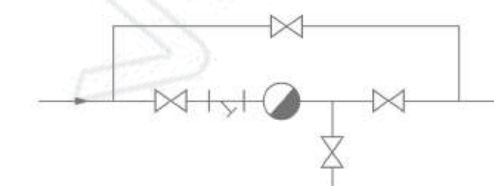
Notice: The amount of condensate and the differential pressure of the steam-using equipment are important indicators for selection. The same type of trap will increase the displacement with the increase of the differential pressure. See the details on displacement curve. Please do not mistakenly think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

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 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



Working Principle

- Relying on the velocity difference between steam and liquid.
- Exclude saturated condensate

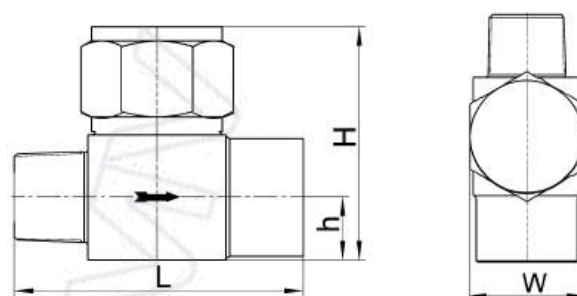
Features

- 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 50% or more.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

unit (mm)							
Connection	Pressure	DN(IN)	L	H	h	W	KG
T	PN16/25 150LB	8(1/4")	42	34	9	19	0.12

- T: Thread; W: Weld; F: Flange.
- Suitable for steam irons in the garment industry and instrument heat tracing.

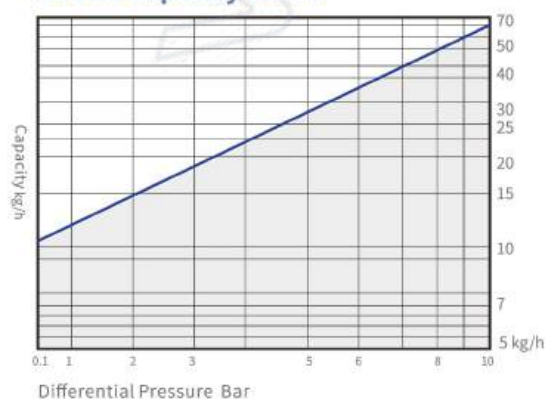
Technical Parameter

Nominal pressure	PN16
Max. allowable pressure (Shell)	1.09MPa/200°C
Max. allowable temperature (Shell)	350°C/0.93MPa
Factory steam action test	>3 times/1.0MPa
Max. operating pressure	1.0MPa
Max. operating temperature	200°C/300°C
Factory cold test pressure	2.4MPa
Air test	0.6MPa

Material List

Bonnet: 304
Body: 420
Seat: 420

STD01 Capacity Curve



Working Principle

- Relying on the velocity difference between steam and liquid.
- Exclude saturated condensate

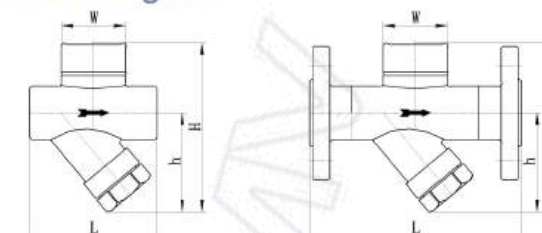
Features

- The valve body and valve bonnet 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 50% or more.
- To exclude low temperature traps with large subcooling degree, it needs to be customized.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

unit (mm)							
Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25 Cl150	15(1/2")	90	120	70	46	1.4
		20(3/4")	90	120	70	46	1.5
		25(1")	90	120	70	46	1.6
		32(1 1/4")	150	120	70	46	2.9
		40(1 1/2")	150	120	70	46	3.1
		50(2")	150	120	70	46	3.2
F	PN16/25 Cl150	15(1/2")	150	120	70	46	4.3
		20(3/4")	150	120	70	46	4.5
		25(1")	150	120	70	46	4.7
		32(1 1/4")	150	120	70	46	5.1
		40(1 1/2")	150	120	70	46	5.5
		50(2")	150	120	70	46	6.6

- T: Thread; W: Weld; F: Flange.
- Suitable for drainage of saturated or superheated steam pipelines.

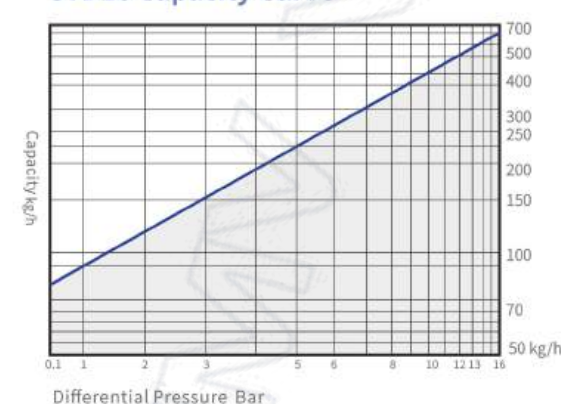
Technical Parameter

Nominal pressure	PN25
Max. allowable pressure (Shell)	2.16MPa/200°C
Max. allowable temperature (Shell)	350°C/1.82MPa
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: 440C
Body: A105/F304/F316 Screen: 304
Seat: 440C

STD16 Capacity Curve



Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap

STD42 Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap STD80

Working Principle

- Relying on the velocity difference between steam and liquid.
- Exclude saturated condensate

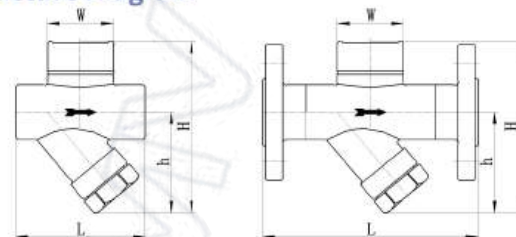
Features

- The valve body and valve bonnet 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 50% or more.
- To exclude low temperature traps with large subcooling degree, it needs to be customized.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40/63 CL150/300	15(1/2")	90	127	70	55	1.7
		20(3/4")	90	127	70	55	1.8
		25(1")	90	127	70	55	1.9
		32(1 1/4")	150	127	70	55	3.2
		40(1 1/2")	150	127	70	55	3.3
		50(2")	150	127	70	55	3.4
F	PN16/25/40/63 CL150/300	15(1/2")	150	127	70	55	5.3
		20(3/4")	150	127	70	55	5.5
		25(1")	150	127	70	55	5.7
		32(1 1/4")	150(PN63/300LB:170)	127	70	55	6.1
		40(1 1/2")	150(PN63/300LB:170)	127	70	55	6.5
		50(2")	150(PN63/300LB:170)	127	70	55	7.1

• T: Thread; W: Weld; F: Flange.
Suitable for saturated or superheated steam pipeline drainage



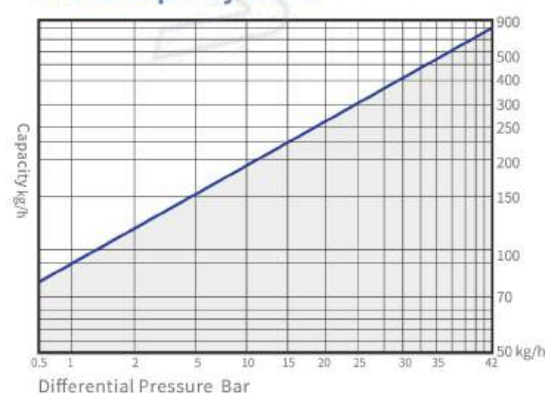
Technical Parameter

Nominal pressure	PN63
Max. allowable pressure (Shell)	5.45MPa/200°C
Max. allowable temperature (Shell)	350°C/4.59MPa
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/F11 Disc: 440C
Body: A105/F304/F316/F11 Screen: 304
Seat: 440C

STD42 Capacity Curve



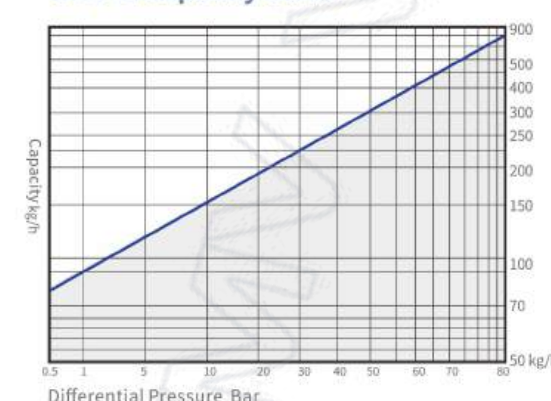
Technical Parameter

Nominal pressure	PN100
Max. allowable pressure (Shell)	9.47MPa/200°C
Max. allowable temperature (Shell)	450°C/6.67MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	8.0MPa
Max. operating temperature	450°C
Factory cold test pressure	15.0MPa
Air test	2.0MPa

Material List

Bonnet: F11/15CrMo Disc: 440C
Body: F11/15CrMo Screen: 304
Seat: 440C

STD42 Capacity Curve



Working Principle

Relying on the velocity difference between steam and liquid.

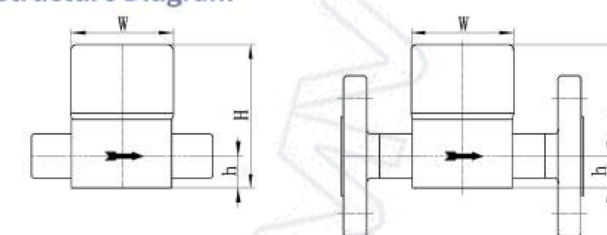
Features

- The valve body and valve bonnet 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 50% or more.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN100 CL600	15(1/2")	90	112	25	80	3.9
		20(3/4")	90	112	25	80	4.1
		25(1")	90	112	25	80	4.2
F	PN100 CL600	15(1/2")	190	112	25	80	7.3
		20(3/4")	190	112	25	80	7.5
		25(1")	190	112	25	80	7.7

• T: Thread; W: Weld; F: Flange.
Suitable for saturated or superheated steam pipeline drainage

Thermodynamic (Disc) Steam Trap

Inverted Bucket Steam Trap

STD150 Thermodynamic (Disc) Steam Trap



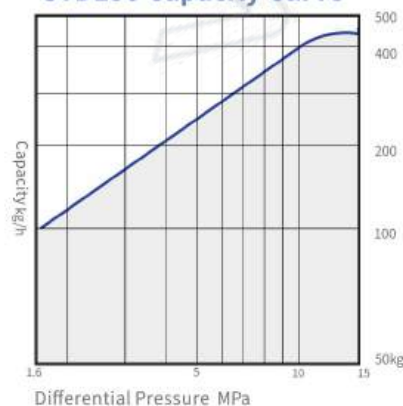
Technical Parameter

Nominal pressure	PN420
Max. allowable pressure (Shell)	39.96MPa/200°C
Max. allowable temperature (Shell)	450°C/28.18MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	15.0MPa
Max. operating temperature	450°C
Factory cold test pressure	63.0MPa
Air test	2.0MPa

Material List

Bonnet: F11/15CrMo	Disc: 440C
Body: F11/15CrMo	Screen: 304
Seat: 440C	

STD150 Capacity Curve



Working Principle

Relying on the velocity difference between steam and liquid.

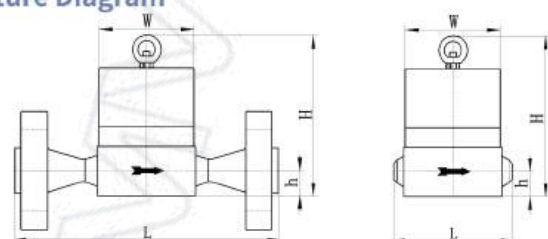
Features

- The valve body and valve bonnet 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 50% or more.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
W	PN150-420 CL900-2500	15(1/2")	140	190	30	113	12.5
		20(3/4")	140	190	30	113	12.6
		25(1")	140	190	30	113	12.7
F	PN150-420 CL900-2500	15(1/2")	270	190	30	113	19.7
		20(3/4")	270	190	30	113	21.3
		25(1")	270	190	30	113	22.8

• T: Thread; W: Weld; F: Flange.
Suitable for saturated or superheated steam pipeline drainage

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 steam 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

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

Leak-free Structure Design

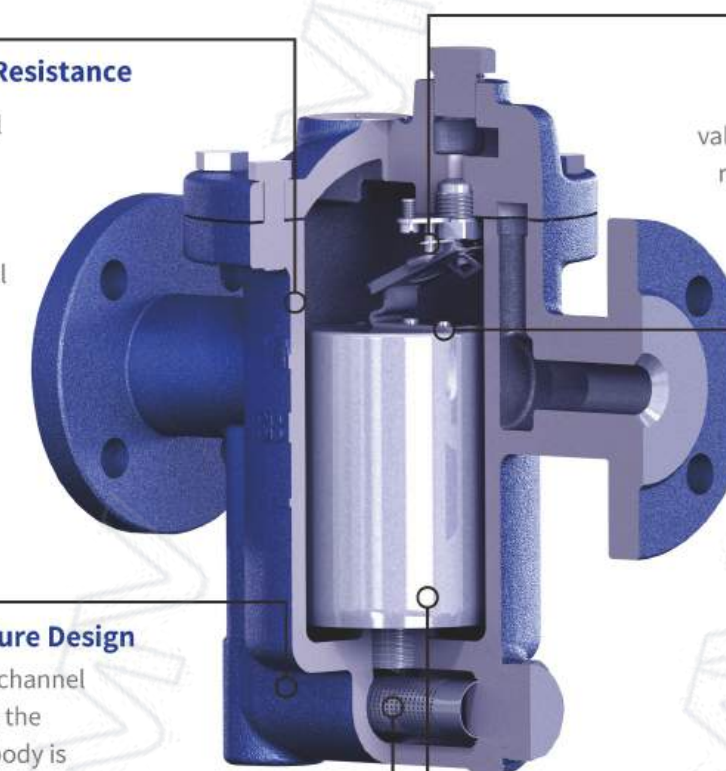
The U-shaped flow channel design ensures that the inside of the valve body is in a water-sealed state
No original steam leakage

Built-in Filter

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

Built-in Check Valve

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



Inverted Bucket Steam Trap

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap **SBT10A**

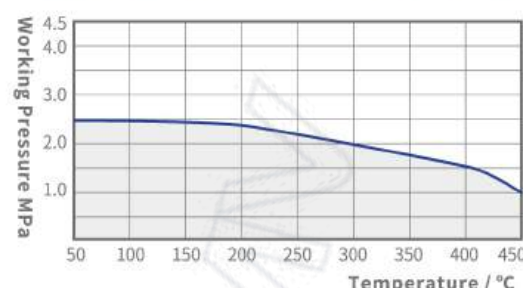
Structural Features

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



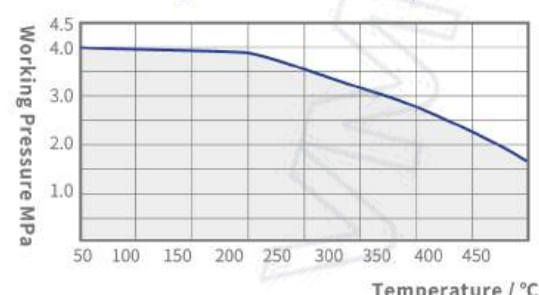
Selection and Installation

The inverted bucket steam trap is intermittently drained, the subcooling degree is 5-10°C, and the back pressure rate is over 80% (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 capacity curve.

Notice: Please do not mistakenly think that a trap with larger diameter has larger capacity.

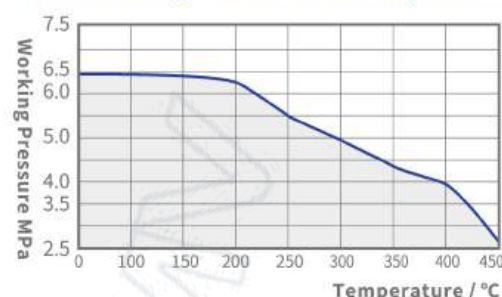
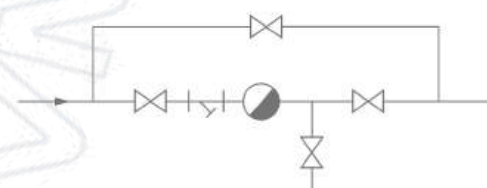
WCB/A105 Material PN40

Valve Body Pressure-Temperature Ratings



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.



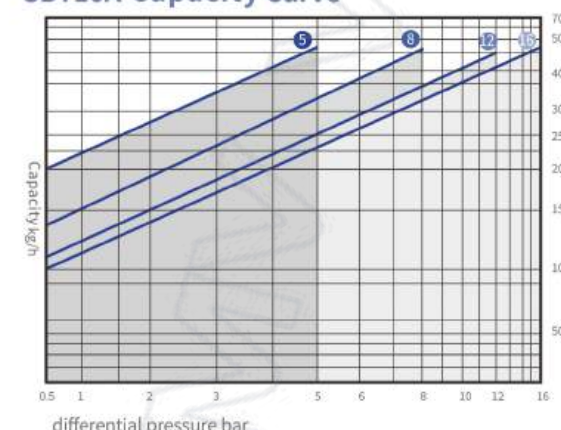
Technical Parameter

Nominal pressure	PN25
Max. allowable pressure (Shell)	2.16MPa/200°C
Max. allowable temperature (Shell)	350°C/1.82MPa
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: 440C+304
Body: WCB/CF8/CF8M	Other trims: 304
Seat: 420	

SBT10A Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

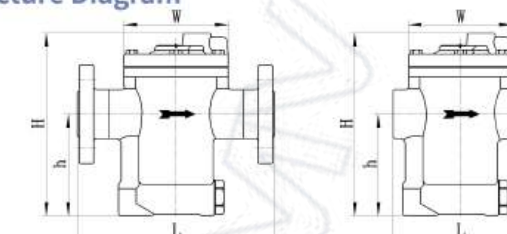
Features

- 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure difference to increase the capacity
- The back pressure rate is as high as 80% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the steam trap due to low temperature freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

		Unit(mm)					
Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25 CL150	15(1/2")	130	190	115	100	4.1
		20(3/4")	130	190	115	100	4.2
		25(1")	130	190	115	100	4.3
		32(1 1/4")	190	190	115	100	5.5
		40(1 1/2")	190	190	115	100	5.6
F	PN16/25 CL150	50(2")	190	190	115	100	5.7
		15(1/2")	190	190	115	100	7.1
		20(3/4")	190	190	115	100	7.3
		25(1")	190	190	115	100	7.5
		32(1 1/4")	190	190	115	100	7.9
		40(1 1/2")	190	190	115	100	8.2
		50(2")	190	190	115	100	8.9

•T: Thread; W: Weld; F: Flange.

Inverted Bucket Steam Trap

SBT20 Inverted Bucket Steam Trap



Working Principle

- Based on the differential density of steam and liquid.

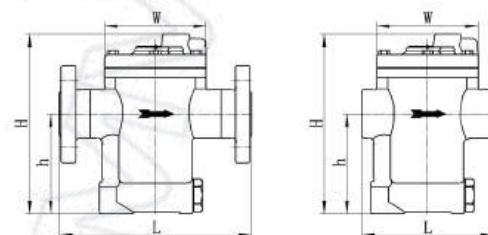
Features

- 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure difference to increase the capacity
- The back pressure rate is as high as 80% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the steam trap due to low temperature freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram

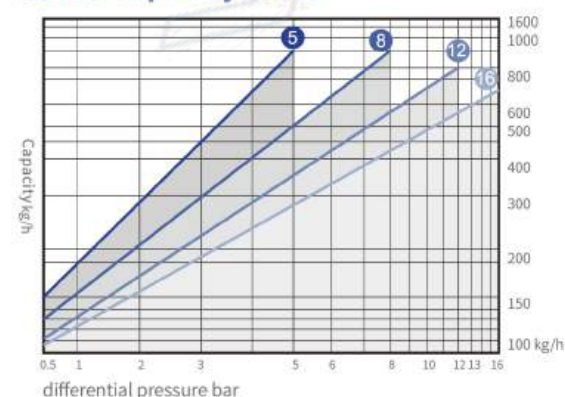


Structural Dimension Table

		Unit(mm)					
Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40/63 CL150/300	15(1/2")	170	243	133	140	8.1
		20(3/4")	170	243	133	140	8.2
		25(1")	170	243	133	140	8.3
		32(1 1/4")	230	243	133	140	9.5
		40(1 1/2")	230	243	133	140	9.6
		50(2")	230	243	133	140	9.7
F	PN16/25/40/63 CL150/300	15(1/2")	230	243	133	140	10.7
		20(3/4")	230	243	133	140	10.9
		25(1")	230	243	133	140	11.1
		32(1 1/4")	230	243	133	140	11.3
		40(1 1/2")	230	243	133	140	11.5
		50(2")	230	243	133	140	11.9

• T: Thread; W: Weld; F: Flange.

SBT20 Capacity Curve



Inverted Bucket Steam Trap

Inverted Bucket Steam Trap SBT24



Working Principle

- Based on the differential density of steam and liquid.

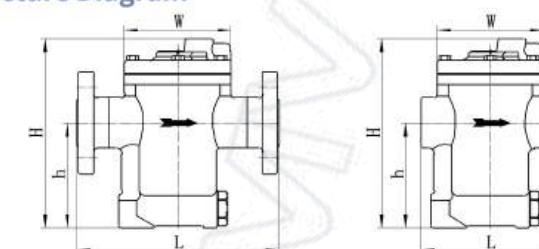
Features

- 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure difference to increase the capacity
- The back pressure rate is as high as 80% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the steam trap due to low temperature freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram

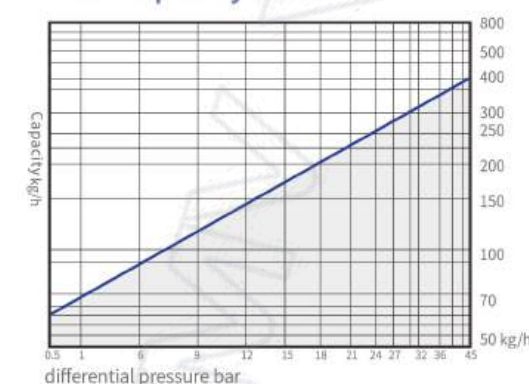


Structural Dimension Table

		Unit(mm)					
Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40/63 CL150/300	15(1/2")	170	243	133	140	8.1
		20(3/4")	170	243	133	140	8.2
		25(1")	170	243	133	140	8.3
		32(1 1/4")	230	243	133	140	9.5
		40(1 1/2")	230	243	133	140	9.6
		50(2")	230	243	133	140	9.7
F	PN16/25/40/63 CL150/300	15(1/2")	230	243	133	140	10.7
		20(3/4")	230	243	133	140	10.9
		25(1")	230	243	133	140	11.1
		32(1 1/4")	230	243	133	140	11.3
		40(1 1/2")	230	243	133	140	11.5
		50(2")	230	243	133	140	11.9

• T: Thread; W: Weld; F: Flange.

SBT24 Capacity Curve



Inverted Bucket Steam Trap

SBT30 Inverted Bucket Steam Trap



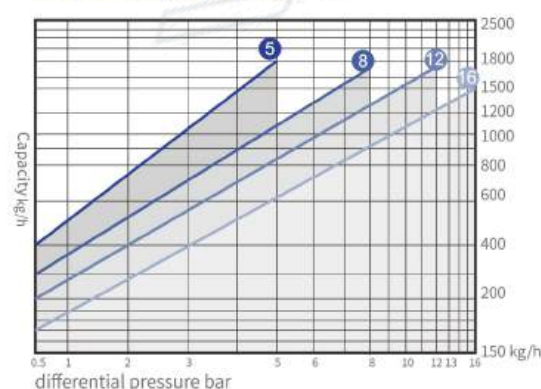
Technical Parameter

Nominal pressure	PN25
Max. allowable pressure (Shell)	2.16MPa/200°C
Max. allowable temperature (Shell)	350°C/1.82MPa
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: 440C+304
Body: WCB/CF8/CF8M	Other trims: 304
Seat: 420	

SBT30 Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

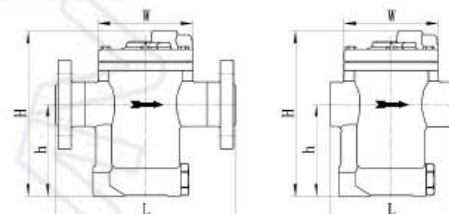
Features

- 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure difference to increase the capacity
- The back pressure rate is as high as 80% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the steam trap due to low temperature freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structural Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25 CL150	15(1/2")	270	323	187	175	15.5
		20(3/4")	270	323	187	175	15.6
		25(1")	210	323	187	175	15.1
		32(1 1/4")	210	323	187	175	15.2
		40(1 1/2")	270	323	187	175	16.5
		50(2")	270	323	187	175	16.6
F	PN16/25 CL150	15(1/2")	270	323	187	175	17.9
		20(3/4")	270	323	187	175	18.1
		25(1")	270	323	187	175	18.3
		32(1 1/4")	270	323	187	175	18.7
		40(1 1/2")	270	323	187	175	19.1
		50(2")	270	323	187	175	19.5
		65(2 1/2")	320	323	187	175	20.1
		80(3")	320	323	187	175	20.6
		100(4")	320	323	187	175	22.2

•T: Thread; W: Weld; F: Flange.

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap SBT11A



Working Principle

- Based on the differential density of steam and liquid.

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 steam 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 steam trap works in a clean environment.
- The back pressure rate is as high as 80% or more.

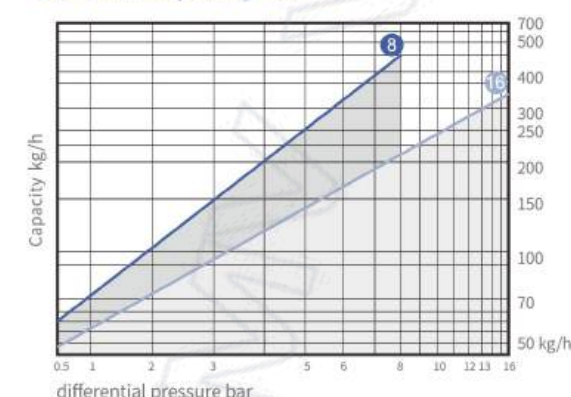
Technical Parameter

Nominal pressure	PN25
Max. allowable pressure (Shell)	1.7MPa/200°C
Max. allowable temperature (Shell)	350°C/1.46MPa
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	0.6MPa

Material List

Bonnet: F304/F316	Disc: 440C+304
Body: F304/F316	Other trims: 304
Seat: 420	

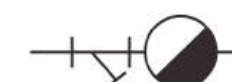
SBT11A Capacity Curve



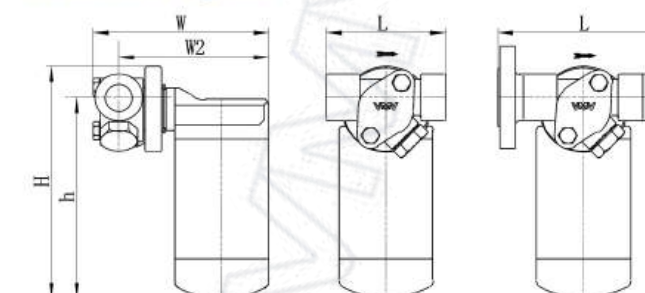
Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Flow Chart



Structure Diagram



Structural Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	W2	KG
W/T	PN16/25 150LB	15(1/2")	88	190	165	145	120	4.1
		20(3/4")	88	190	165	145	120	4.2
		25(1")	88	190	165	145	120	4.3
F	PN16/25 150LB	15(1/2")	150	190	165	145	120	5.2
		20(3/4")	150	190	165	145	120	5.3
		25(1")	160	190	165	145	120	5.5

•T: Thread; W: Weld; F: Flange.

Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap

SBT11TVS Inverted Bucket Steam Trap Station



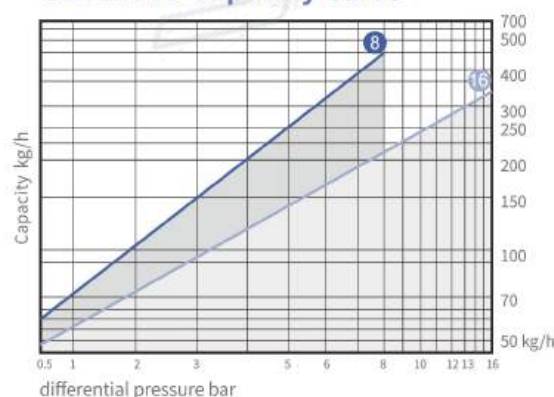
Technical Parameter

Nominal pressure	PN25
Max. allowable pressure (Shell)	1.7MPa/200°C
Max. allowable temperature (Shell)	350°C/1.46MPa
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	0.6MPa

Material List

Bonnet: F304/F316	Disc: 440C+304
Body: F304/F316	Other trims: 304
Seat: 420	

SBT11TVS Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

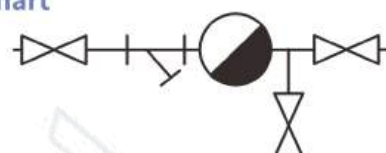
Features

- 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 steam 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 steam trap works in a clean environment.
- The back pressure rate is as high as 80% or more.

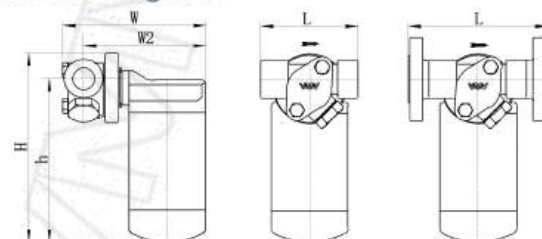
Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Flow Chart



Structure Diagram



Structural Dimension Table

Connection	Pressure	DN(IN)	L	L2	H	h	W	W2	KG
T/W	PN16/25 150LB	15(1/2")	120	230	225	165	248	122	5.2
		20(3/4")	120	230	225	165	248	122	5.3
		25(1")	120	230	225	165	248	122	5.5
		15(12")	180	230	225	165	248	122	5.9
F	PN16/25 150LB	20(3/4")	180	230	225	165	248	122	6.1
		25(1")	180(300LB:210)	230	225	165	248	122	6.3
		32(1 1/4")	320	230	225	165	248	122	6.6
		40(1 1/2")	320	230	225	165	248	122	6.9
		50(2")	320	230	225	165	248	122	7.5

•T: Thread; W: Weld; F: Flange.

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.

High Corrosion Resistance

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

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

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

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 Filter

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



Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap **SBT40**

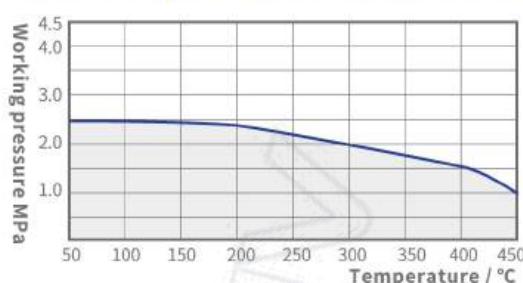
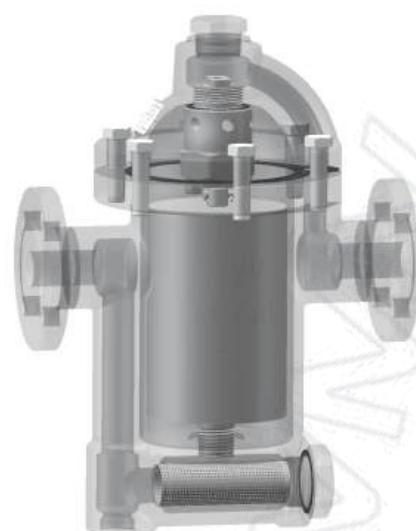
Structural features

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.

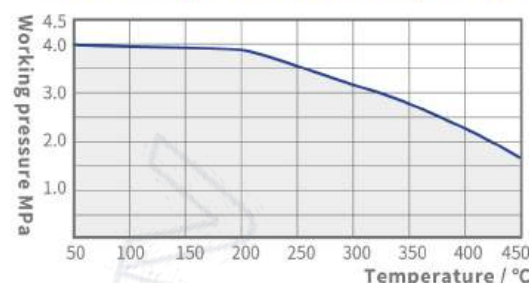
Pilot inverted bucket steam traps work on the difference in density between steam and condensate. When the bucket is full of condensed water and non-condensable gas, the exhaust hole on the upper part of the bucket removes the non-condensable gas, the bucket loses buoyancy and drives the pilot valve 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 M aterial PN25 Valve Body Pressure-Temperature Ratings



WCB/A105 Material PN40 Valve Body Pressure-Temperature Ratings

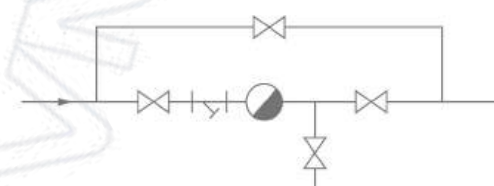


Selection and Installation of Pilot Inverted Bucket Steam Traps

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 80% (back-end pipeline pressure/steam pressure). In general, the safety factor is 2-3times 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.



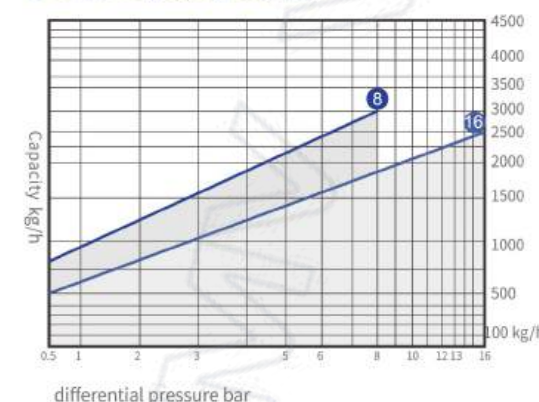
Technical Parameter

Nominal pressure	PN25
Max. allowable pressure (Shell)	2.16MPa/200°C
Max. allowable temperature (Shell)	350°C/1.82MPa
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/CF8/CF8M Disc: 440C+304
Body: WCB/CF8/CF8M Other trims: 304
Seat: 420

SBT40 Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.
- The main valve is guided to open through the pilot valve, and the capacity is large.

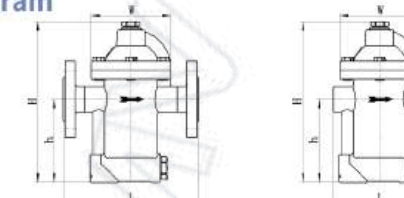
Features

- The valve body and valve cover are all made of 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure difference to increase the capacity
- The back pressure rate is as high as 80% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the steam trap due to low temperature freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25 CL150	15(1/2")	270	362	187	180	16.8
		20(3/4")	270	362	187	180	16.9
		25(1")	210	362	187	180	16.5
		32(1 1/4")	210	362	187	180	16.7
		40(1 1/2")	270	362	187	180	17.8
		50(2")	270	362	187	180	17.9
F	PN16/25 CL150	15(1/2")	270	362	187	180	19.5
		20(3/4")	270	362	187	180	19.8
		25(1")	270	362	187	180	21.1
		32(1 1/4")	270	362	187	180	20.3
		40(1 1/2")	270	362	187	180	20.7
		50(2")	270	362	187	180	21.1
		65(2 1/2")	320	362	187	180	21.6
		80(3")	320	362	187	180	22.6
		100(4")	320	362	187	180	24.1

•T: Thread; W: Weld; F: Flange.

Pilot Inverted Bucket Steam Trap

SBT50 Pilot Inverted Bucket Steam Trap



Working Principle

- Based on the differential density of steam and liquid.
- The main valve is guided to open through the pilot valve, and the capacity is large.

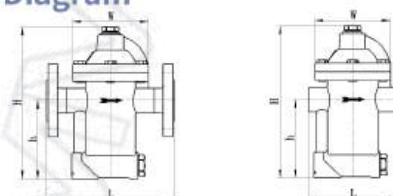
Features

- The valve body and valve cover are all made of 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure difference to increase the capacity
- The back pressure rate is as high as 80% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the steam trap due to low temperature freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25 CL150	15(1/2")	320	410	207	220	27.7
		20(3/4")	320	410	207	220	27.8
		25(1")	260	410	207	220	27.3
		32(1 1/4")	260	410	207	220	27.5
		40(1 1/2")	320	410	207	220	28.7
		50(2")	320	410	207	220	28.8
		15(1/2")	320	410	207	220	29.5
		20(3/4")	320	410	207	220	29.8
		25(1")	320	410	207	220	32.1
		32(1 1/4")	320	410	207	220	32.4
F	PN16/25 CL150	40(1 1/2")	320	410	207	220	32.7
		50(2")	320	410	207	220	33.1
		65(2 1/2")	360	410	207	220	33.7
		80(3")	360	410	207	220	34.8
		100(4")	360	410	207	220	36.5

• T: Thread; W: Weld; F: Flange.

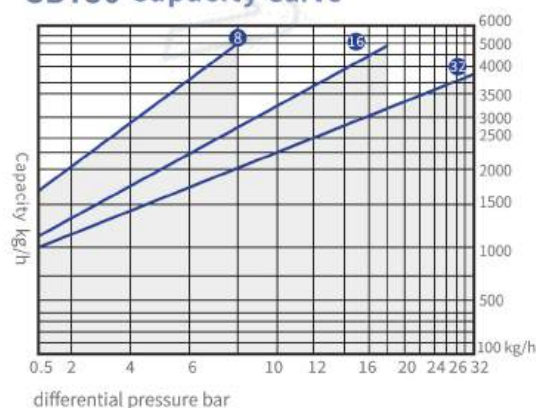
Technical parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.45MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating 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: 440C+304
 Body: WCB/CF8/CF8M Other trims: 304
 Seat: 420

SBT50 Capacity Curve



Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap SBT60



Working Principle

- Based on the differential density of steam and liquid.
- The main valve is guided to open through the pilot valve, and the capacity is large.

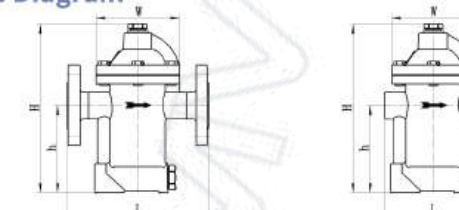
Features

- The valve body and valve cover are all made of 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure difference to increase the capacity
- The back pressure rate is as high as 80% or more.
- After the steam is stopped, the condensed water can be removed by opening the screw plug to prevent damage to the steam trap due to low temperature freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram

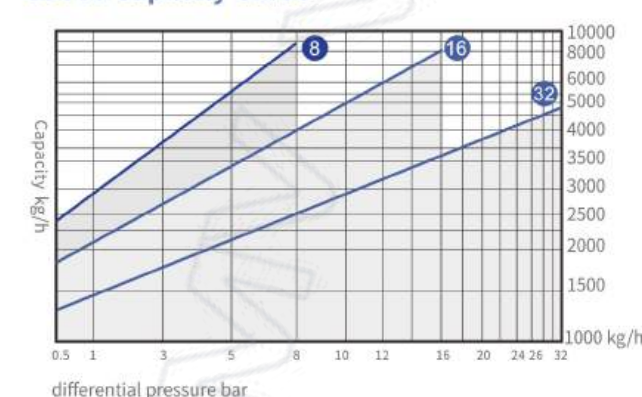


Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25 CL150	15(1/2")	320	460	257	220	28.7
		20(3/4")	320	460	257	220	28.8
		25(1")	260	460	257	220	28.3
		32(1 1/4")	260	460	257	220	28.5
		40(1 1/2")	320	460	257	220	29.8
		50(2")	320	460	257	220	29.9
		15(1/2")	320	460	257	220	34.5
		20(3/4")	320	460	257	220	34.8
		25(1")	320	460	257	220	35.1
		32(1 1/4")	320	460	257	220	35.4
F	PN16/25 CL150	40(1 1/2")	320	460	257	220	35.7
		50(2")	320	460	257	220	36.1
		65(2 1/2")	360	460	257	220	37.1
		80(3")	360	460	257	220	38.5
		100(4")	360	460	257	220	40.2

• T: Thread; W: Weld; F: Flange.

SBT60 Capacity Curve



Pilot Inverted Bucket Steam Trap

SBT66 Pilot Inverted Bucket Steam Trap



Working Principle

- Based on the differential density of steam and liquid.
- The main valve is guided to open through the pilot valve, and the capacity is large.

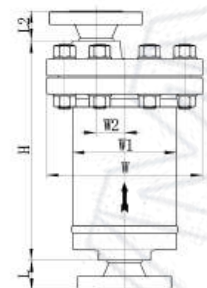
Features

- 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 steam trap.
- 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure.
- Back pressure rating $\geq 80\%$

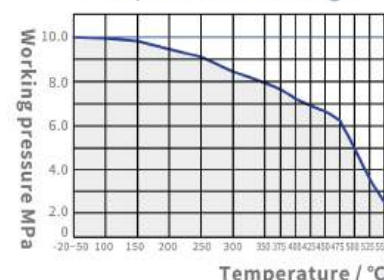
Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



F11 PN100
Valve Body Pressure-Temperature Ratings

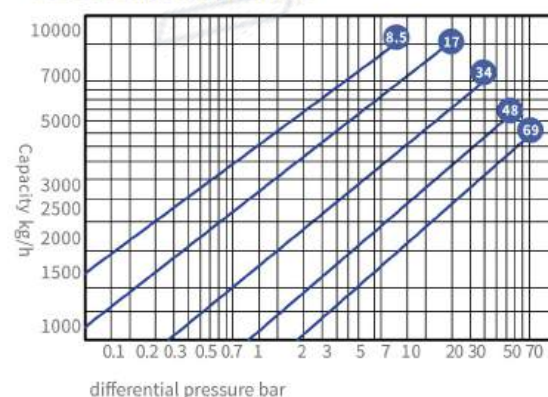


Structure Dimension Table

Connection	Pressure	DN(IN)	L	L2	H	W	W1	W2	KG
F	PN63/100 CL300/600	25(1")	60	60	422	300	200	55	70.7
		32(1 1/4")	60	60	422	300	200	55	72.1
		40(1 1/2")	60	60	422	300	200	55	73.5
		50(2")	60	60	422	300	200	55	78.2
		65(2 1/2")	80	80	422	300	200	55	81.1
		80(3")	80	80	422	300	200	55	85.5
		100(4")	80	80	422	300	200	55	92.2

•T: Thread; W: Weld; F: Flange.

SBT66 Capacity Curve



Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap SBT612



Working Principle

- Based on the differential density of steam and liquid.
- The main valve is guided to open through the pilot valve, and the capacity 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 steam trap.
- 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 steam trap to work in a clean environment.
- Select different capacity curves according to the pressure.
- Back pressure rating $\geq 80\%$

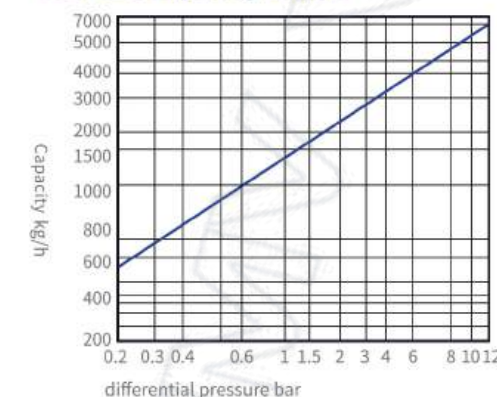
Technical Parameter

Nominal pressure	PN160
Max. allowable pressure (Shell)	14.39MPa/200°C
Max. allowable temperature (Shell)	450°C/10.14MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	6.9MPa
Max. operating temperature	450°C
Factory cold test pressure	24MPa
Air test	2.0MPa

Material List

Bonnet: F11	Disc: 440C+304
Body: F11	Other trims: 304
Seat: 420	

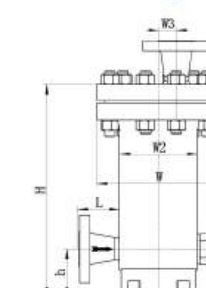
SBT612 Capacity Curve



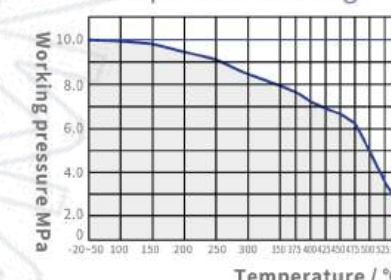
Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



F11 PN100
Valve Body Pressure-Temperature Ratings



Structure Dimension Table

Connection	Pressure	DN(IN)	L	L2	H	h	W	W1	W2	KG
F	PN100/160 CL600/900	25(1")	120	120	615	142	355	225	55	174.6
		32(1 1/4")	120	120	615	142	355	225	55	175.1
		40(1 1/2")	120	120	615	142	355	225	55	176.1
		50(2")	120	120	615	142	355	225	55	177.8
		65(2 1/2")	135	135	615	142	355	225	55	180.5
		80(3")	135	135	615	142	355	225	55	183.2
		100(4")	135	135	615	142	355	225	55	190.3

•T: Thread; W: Weld; F: Flange.

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.

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.

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

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

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

Structural Features

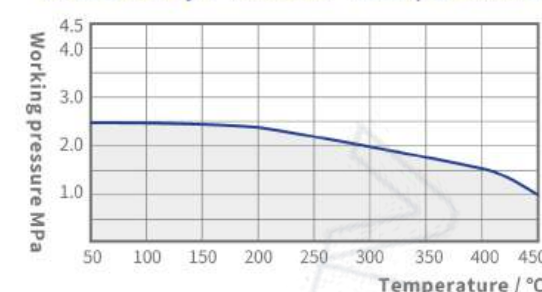
The flexible closing system is applied to the lever ball float trap, which solves the problems of short life and lax closing. In the design, the strength of the shell, the pressure and temperature grade, the manufacturability of casting, the impact caused by the fluid flow channel and the water-vapormixing 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 vent valve is opened to remove the non-condensable gas, the float moves up to drive the valve core to open, and after the condensate is discharged, the float drives the valve core to move down and closes the trap.

The biggest advantage of lever ball float trap is high back pressure rate (Operable at $\Delta P 0.01$ bar), long life, reliable action, easy maintenance and no steam leak.

WCB/A105 Material PN25

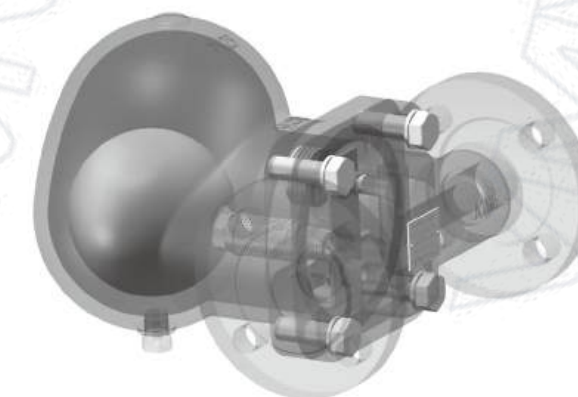
Valve Body Pressure-Temperature Ratings



Selection and Installation

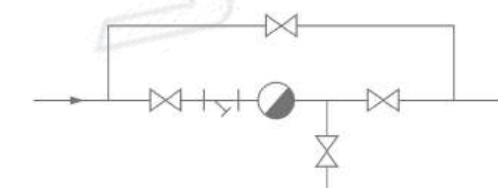
The lever ball float type steam trap is for continuous discharge condensate, the subcooling degree is about 5°C, and the back pressure rate is over 95% (back-end pipeline pressure/steampressure). In general, the safety factor is 2-3 times when selecting, and 5-8 times for air separation units and drying 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 capacity. 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: RC thread (ISO 7-1); flanged (optional: ASME B16.5 Class / EN 1092 PN) Note: ASME B16.5 Class and EN 1092 PN flanges are non-interchangeable. Please state NPS+Class or DN+PN upon order.



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

Lever Ball Float Steam Trap

SFT10A Lever Ball Float Steam Trap



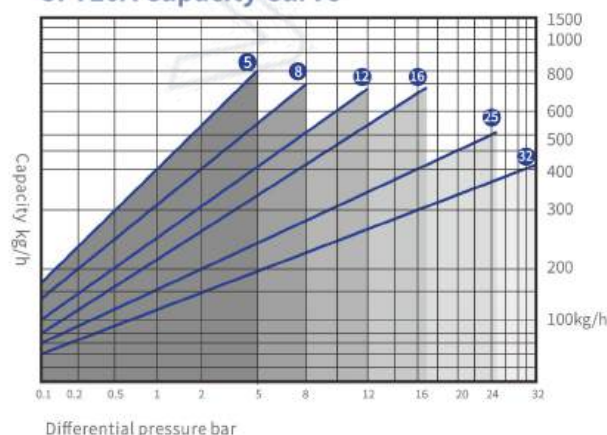
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3times/1.6MPa
Max. operating 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: 440C
Body: WCB/CF8/CF8M	Other trims: 304
Seat: 420	

SFT10A Capacity Curve



Working Principle

- Based on the density of vapor and liquid.

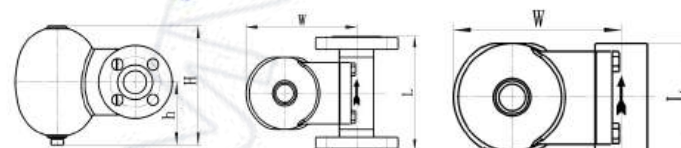
Features

- 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 vent valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- Back pressure rating ≥95%
- A drain plug is designed at the bottom of the steam trap to drain internal accumulated water after shutdown, preventing the float from being damaged by freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	120	155	80	150	5.1
		20(3/4")	120	155	80	150	5.2
		25(1")	145	155	80	150	5.7
		32(1 1/4")	160	155	80	150	6.1
		40(1 1/2")	160	155	80	150	6.2
		50(2")	160	155	80	150	6.3
F	PN16/25/40 CL150/300	15(1/2")	150(300LB:L=160)	155	80	150	7.2
		20(3/4")	150(300LB:L=160)	155	80	150	7.6
		25(1")	160	155	80	150	8.1
		32(1 1/4")	210	155	80	150	8.5
		40(1 1/2")	210	155	80	150	8.9
		50(2")	210	155	80	150	9.7

*T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT20A



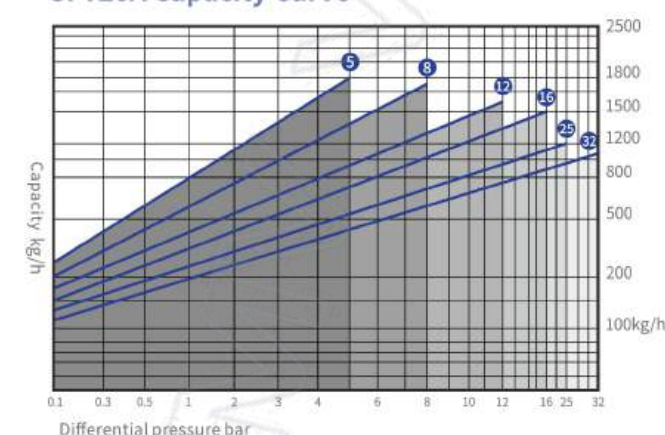
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3times/1.6MPa
Max. operating 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: 440C
Body: WCB/CF8/CF8M	Other trims: 304
Seat: 420	

SFT20A Capacity Curve



Working Principle

- Based on the density of vapor and liquid.

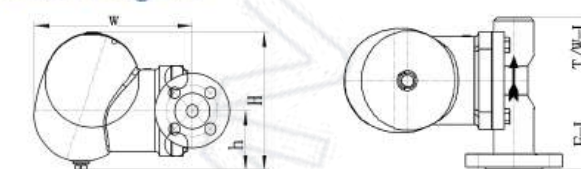
Features

- 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 vent valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- Back pressure rating ≥95%
- A drain plug is designed at the bottom of the steam trap to drain internal accumulated water after shutdown, preventing the float from being damaged by freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



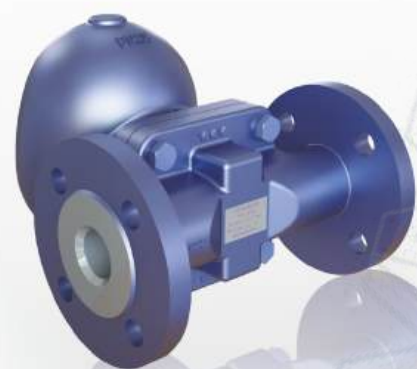
Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	150	175	75	200	8.2
		20(3/4")	150	175	75	200	8.3
		25(1")	150	175	75	200	8.5
		32(1 1/4")	210	175	75	200	10.1
		40(1 1/2")	210	175	75	200	10.2
		50(2")	210	175	75	200	10.3
F	PN16/25/40 CL150/300	15(1/2")	210	175	75	200	10.8
		20(3/4")	210	175	75	200	11.1
		25(1")	210	175	75	200	11.5
		32(1 1/4")	210	175	75	200	12.5
		40(1 1/2")	210	175	75	200	12.9
		50(2")	210	175	75	200	13.7
		65(2 1/2")	230(Vertical Installation:320)	175	75	200	14.3
		80(3")	230(Vertical Installation:320)	175	75	200	15.9
		100(4")	230(Vertical Installation:320)	175	75	200	17.9

*T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

SFT30A Lever Ball Float Steam Trap



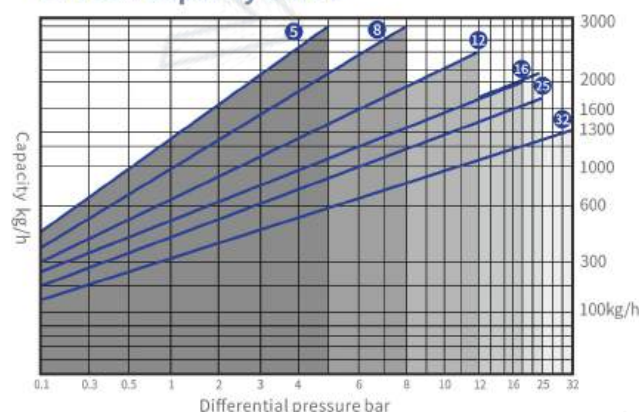
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating 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: 440C
Body: WCB/CF8/CF8M	Other trims: 304
Seat: 420	

SFT30A Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

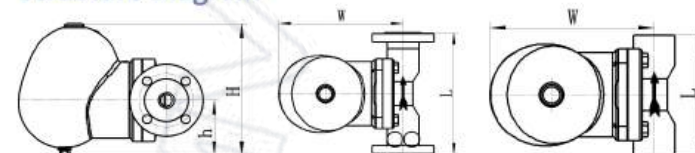
Features

- 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 vent valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- Back pressure rating ≥95%
- A drain plug is designed at the bottom of the steam trap to drain internal accumulated water after shutdown, preventing the float from being damaged by freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	170	210	87	230	12.1
		20(3/4")	170	210	87	230	12.2
		25(1")	170	210	87	230	12.3
		32(1 1/4")	170	210	87	230	12.4
		40(1 1/2")	230	210	87	230	13.7
		50(2")	230	210	87	230	13.8
		15(1/2")	230	210	87	230	14.8
		20(3/4")	230	210	87	230	15.1
		25(1")	230	210	87	230	15.5
		32(1 1/4")	230	210	87	230	15.9
F	PN16/25/40 CL150/300	40(1 1/2")	230	210	87	230	16.3
		50(2")	230	210	87	230	16.7
		65(2 1/2")	230(Vertical Installation:360)	210	87	230	17.3
		80(3")	230(Vertical Installation:360)	210	87	230	17.9
		100(4")	230(Vertical Installation:360) (300LB:270)	210	87	230	19.5

• T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT40A



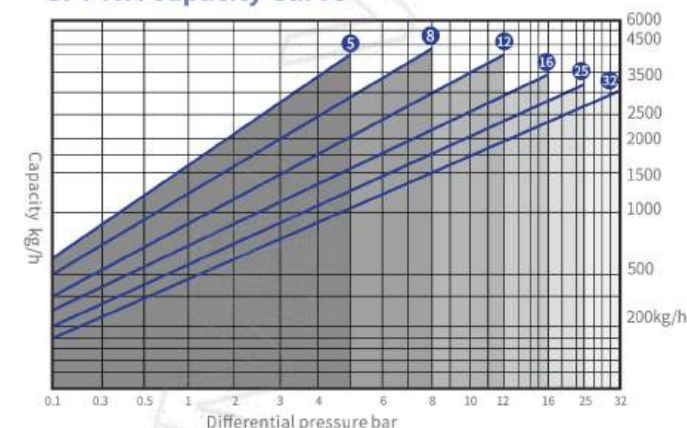
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating 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: 440C
Body: WCB/CF8/CF8M	Other trims: 304
Seat: 420	

SFT40A Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

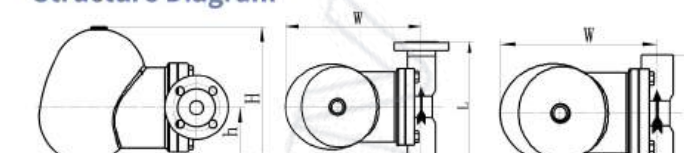
Features

- 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 vent valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- Back pressure rating ≥95% or more
- A drain plug is designed at the bottom of the steam trap to drain internal accumulated water after shutdown, preventing the float from being damaged by freezing.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	210	258	113	285	20.1
		20(3/4")	210	258	113	285	20.2
		25(1")	210	258	113	285	20.3
		32(1 1/4")	210	258	113	285	20.5
		40(1 1/2")	270	258	113	285	21.8
		50(2")	270	258	113	285	21.9
		15(1/2")	270	258	113	285	25.3
		20(3/4")	270	258	113	285	25.7
		25(1")	270	258	113	285	26.1
		32(1 1/4")	270	258	113	285	26.5
F	PN16/25/40 CL150/300	40(1 1/2")	270	258	113	285	26.9
		50(2")	270	258	113	285	27.5
		65(2 1/2")	270	258	113	285	28.5
		80(3")	270	258	113	285	34.5
		100(4")	270(Vertical Installation:360)	258	113	285	36.7

• T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

SFT50 Lever Ball Float Steam Trap



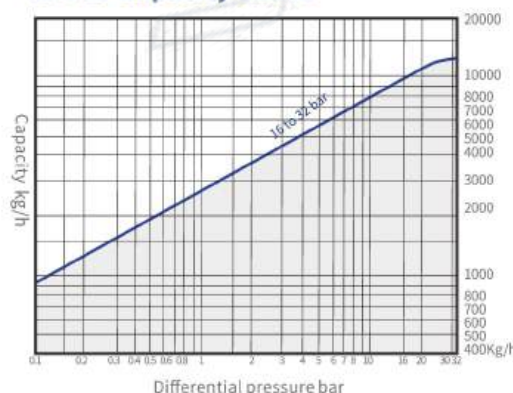
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

Material List

Bonnet: WCB	Disc: 420
Body: WCB	Other trims: 304
Seat: 420	

SFT50 Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

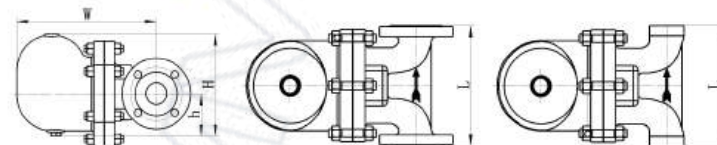
Features

- The valve body and bonnet are made of cast steel.
- All internal parts are stainless steel to ensure a long service life of the steam trap.
- Double balanced seat design ensures an extra-long service life.
- Built-in air vent eliminates air locking.
- Water seal design prevents live steam leakage.
- Different capacity curves are selected according to pressure differential.
- Back pressure rate is as high as over 95%.
- A drain plug is provided at the bottom of the steam trap to discharge internal accumulated water after shutdown, preventing the float from freezing damage.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	15(1/2")	320	260	122	335	27.1
		20(3/4")	320	260	122	335	27.2
		25(1")	320	260	122	335	27.3
		32(1 1/4")	320	260	122	335	27.5
		40(1 1/2")	320	260	122	335	27.7
		50(2")	320	260	122	335	27.9
		15(1/2")	320	260	122	335	29.3
		20(3/4")	320	260	122	335	29.7
		25(1")	320	260	122	335	30.1
		32(1 1/4")	230(300LB:320)	260	122	335	30.5
F	PN16/25/40 CL150/300	40(1 1/2")	230	260	122	335	31.1
		50(2")	230(300LB:320)	260	122	335	31.9
		65(2 1/2")	320	260	122	335	33.2
		80(3")	320	260	122	335	34.8
		100(4")	360	260	122	335	36.7

*T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT60



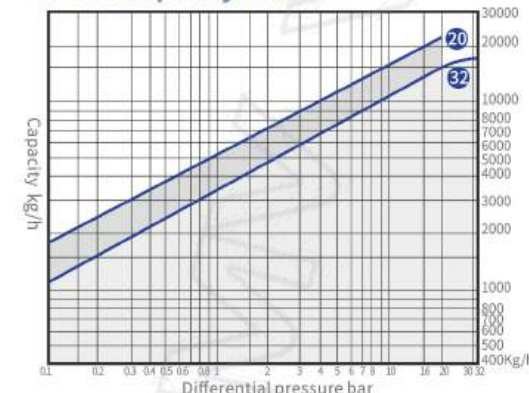
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

Material List

Bonnet: WCB	Disc: 420
Body: WCB	Other trims: 304
Seat: 420	

SFT60 Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

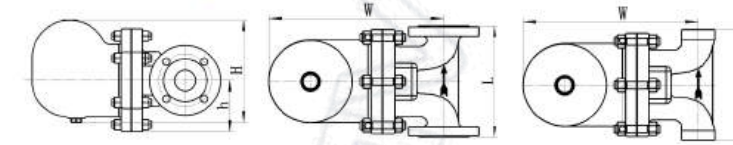
Features

- The valve body and bonnet are made of cast steel.
- All internal parts are stainless steel to ensure a long service life of the steam trap.
- Double balanced seat design ensures an extra-long service life.
- Built-in air vent eliminates air locking.
- Water seal design prevents live steam leakage.
- Different capacity curves are selected according to pressure differential.
- Back pressure rate is as high as over 95%.
- A drain plug is provided at the bottom of the steam trap to discharge internal accumulated water after shutdown, preventing the float from freezing damage.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	20(3/4")	320	267	122	360	31.2
		25(1")	320	267	122	360	31.3
		32(1 1/4")	320	267	122	360	31.5
		40(1 1/2")	320	267	122	360	31.7
		50(2")	320	267	122	360	31.9
		20(3/4")	320	267	122	360	33.7
		25(1")	320	267	122	360	34.1
		32(1 1/4")	230(300LB:320)	267	122	360	34.5
		40(1 1/2")	230	267	122	360	35.1
		50(2")	230(300LB:320)	267	122	360	35.9
F	PN16/25/40 CL150/300	65(2 1/2")	320	267	122	360	37.2
		80(3")	320	267	122	360	38.8
		100(4")	360	267	122	360	39.7

*T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

SFT66 Lever Ball Float Steam Trap



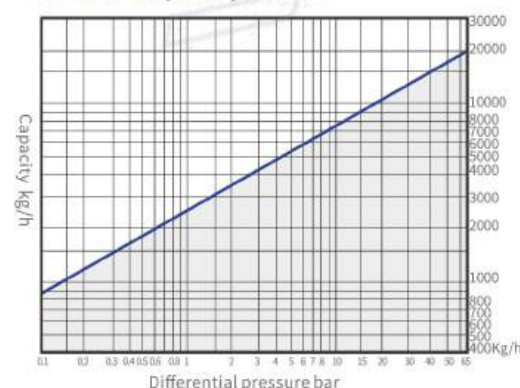
Technical Parameter

Nominal pressure	PN100
Max. allowable pressure (Shell)	9.47MPa/200°C
Max. allowable temperature (Shell)	450°C/6.67MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	6.5MPa
Max. operating temperature	450°C
Factory cold test pressure	15.0MPa
Air test	2.0MPa

Material List

Bonnet: WC6	Disc: 420
Body: WC6	Other trims: 304
Seat: 420	

SFT66 Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

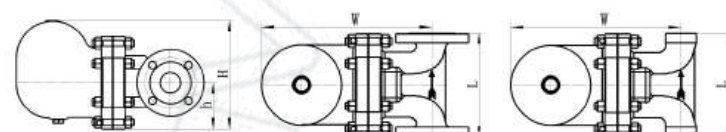
Features

- The valve body and bonnet are cast from heat-resistant steel.
- All internal parts are made of stainless steel to ensure the service life of the steam trap.
- Special flow passage design eliminates water hammer.
- Double balanced seat design ensures extra-long service life.
- Built-in air vent prevents air locking.
- Water seal design ensures no live steam leakage.
- Different capacity curves are selected according to pressure differential.
- Back pressure rating ≥95% or more

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN63 CL300	20(3/4")	320	267	115	378	41.3
		25(1")	320	267	115	378	41.6
		32(1 1/4")	320	267	115	378	41.9
		40(1 1/2")	320	267	115	378	42.3
		50(2")	320	267	115	378	42.7
		20(3/4")	320	267	115	378	44.9
F	PN63 CL300	25(1")	320	260	115	378	46.2
		32(1 1/4")	320	267	115	378	47.5
		40(1 1/2")	230(PN100/CL600:320)	267	115	378	48.9
		50(2")	230(PN100/CL600:320)	267	115	378	51.2
		65(2 1/2")	320(PN100/CL600:320)	267	115	378	53.5
		80(3")	360	267	115	378	56.1
		100(4")	360(PN100/CL600:320)	267	115	378	63.5

• T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT70



Working Principle

- Based on the differential density of steam and liquid.

Features

- The valve body and bonnet are made of cast steel.
- All internal parts are stainless steel to ensure a long service life of the steam trap.
- Special flow passage design eliminates water hammer.
- Double balanced seat design ensures an extra-long service life.
- Built-in air vent prevents air locking.
- Independent filter allows the steam trap to operate in a clean environment.
- Back pressure rating ≥95%
- A drain plug is designed at the bottom of the steam trap to discharge internal accumulated water and prevent the float from freezing damage.

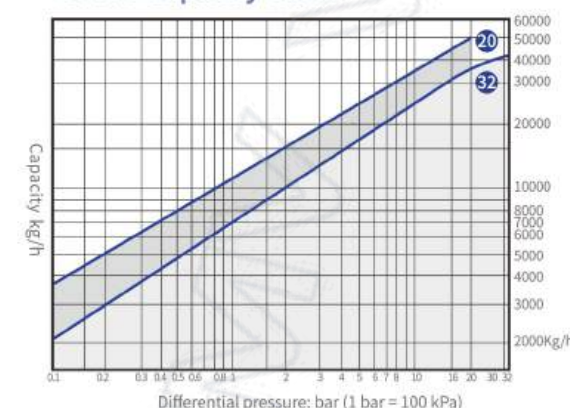
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

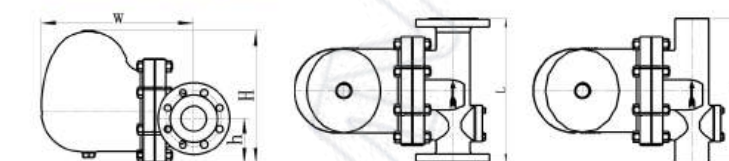
Material List

Bonnet: WCB	Disc: 420
Body: WCB	Other trims: 304
Seat: 420	

SFT70 Capacity Curve



Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	KG
T/W	PN16/25/40 CL150/300	40(1 1/2")	360	345	135	385	53.6
		50(2")	360	345	135	385	53.9
F	PN16/25/40 CL150/300	40(1 1/2")	360	345	135	385	56.5
		50(2")	360	345	135	385	57.3
		65(2 1/2")	360(300LB:L=400)	345	135	385	58.9
		80(3")	360(300LB:L=400)	345	135	385	61.1
		100(4")	400	345	135	385	66.7

• T: Thread; W: Weld; F: Flange.

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap

SFT80 Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT80 SFT80



Features

- The valve body and bonnet are cast from heat-resistant steel.
- All internal parts are made of stainless steel to ensure a long service life of the steam trap.
- Double balanced seat design ensures an extra-long service life.
- Top-in bottom-out flow passage prevents air locking.
- Water seal design ensures no live steam leakage.
- Back pressure rate is up to over 95%.

Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

Material List

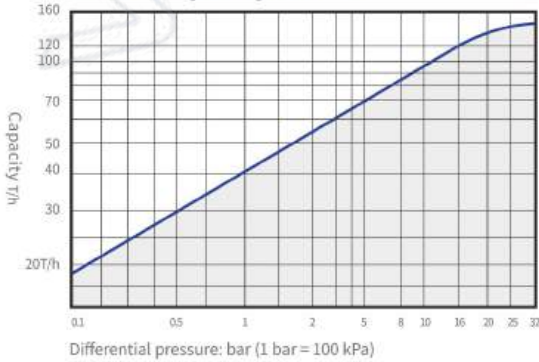
Bonnet: WCB Disc: 420
Body: WCB Other trims: 304
Seat: 420

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests



SFT80 Capacity Curve



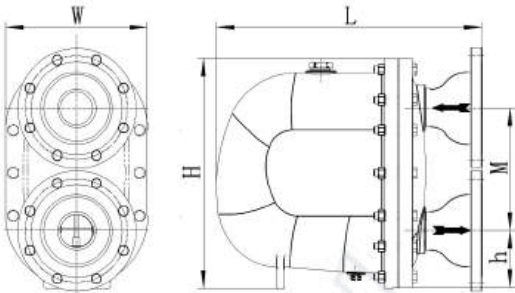
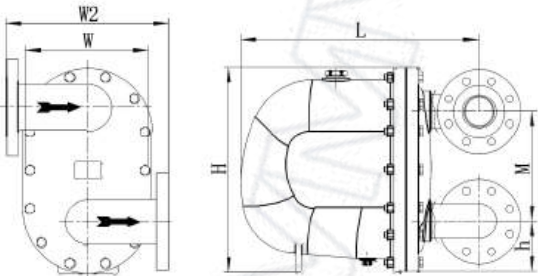
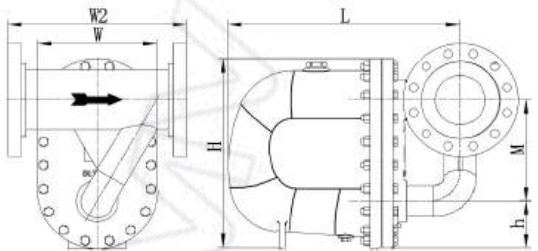
SFT80



SFT80A



SFT80B



SFT80 Dimension Table

Unit(mm)								
Connection	Pressure	DN(IN)	L	H	W	h	W	KG
F	PN16/25/40 CL150/300	65(2 1/2")	570	538	335	135	287	135
		80(3")	570	538	335	135	287	138
		100(4")	590	538	335	135	287	145
		125(5")	630	538	335	135	287	150
		150(6")	630	538	335	135	327(150LB/PN16:287)	158

SFT80A Dimension Table

Unit(mm)									
Connection	Pressure	DN(IN)	L	H	W	W2	h	W	KG
F	PN16/25/40 CL150/300	65(2 1/2")	610	538	335	400	135	287	157
		80(3")	610	538	335	400	135	287	160
		100(4")	645	538	335	400	135	287	185
		125(5")	685	538	335	400	135	287	193
		150(6")	725	538	335	400	135	287	200

SFT80B Dimension Table

Unit(mm)									
Connection	Pressure	DN(IN)	L	H	W	W2	h	W	KG
F	PN16/25/40 CL150/300	65(2 1/2")	650	538	335	500	135	287	162
		80(3")	650	538	335	500	135	287	165
		100(4")	650	538	335	500	135	287	190
		125(5")	650	538	335	500	135	287	198
		150(6")	650	538	335	500	135	287	210

•T: Thread; W: Weld; F: Flange.

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 capacity, 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 steam 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 trap, ensuring the normal operation of the trap, and prevent water hammer from damaging internal components.

Pressure Equalizing Flange

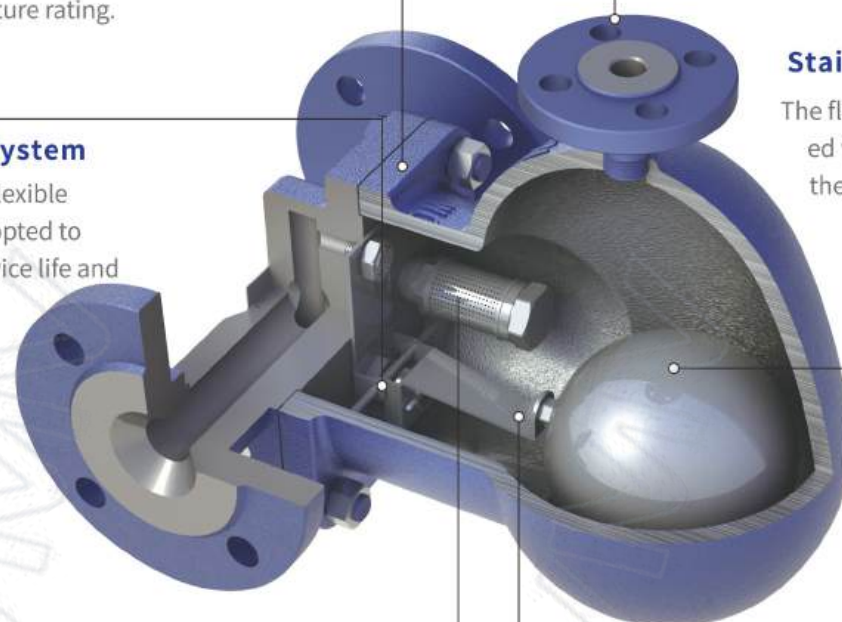
Structure with pressure equalizing balance pipe avoid air blockage

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.

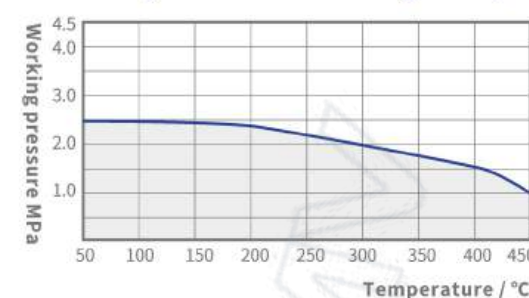


Structural Features

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/A105 Material PN25

Valve Body Pressure - Rating Temperature



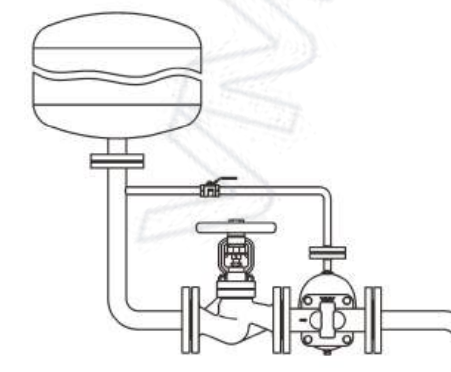
Air Trap Selection and Installation

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,DN15RF). The basic configuration is shown on the graph.



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

- Nominal pressure: PN40;
- Maximum allowable temperature: 350°C/2.92MPa;
- Maximum working pressure: 3.2MPa;
- Maximum working temperature: 350°C;
- Connection type: RC thread (ISO 7-1); flanged (optional: ASME B16.5 Class / EN 1092 PN) Note: ASME B16.5 Class and EN 1092 PN flanges are non-interchangeable. Please state NPS+Class or DN+PN upon order.



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

Air Trap

AFT10A Air Trap



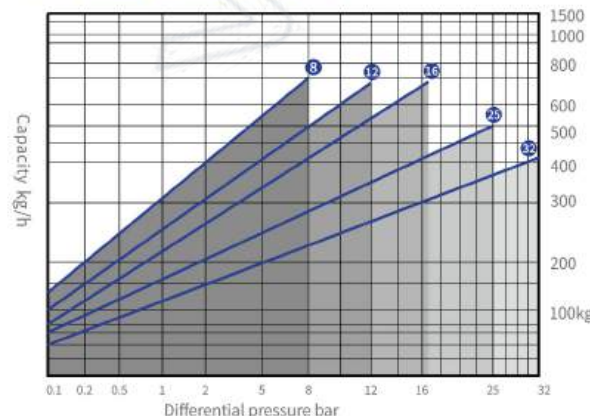
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

Material List

Bonnet: A105	Disc: 440C
Body: WCB	Other trims: 304
Seat: 420	

AFT10A Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

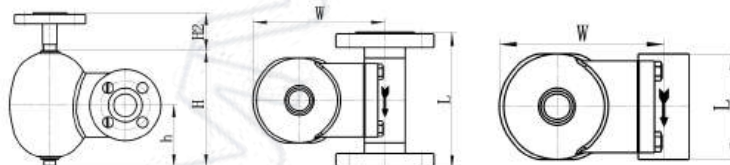
Features

- 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 steam 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.
- Pressure equalization pipe completely solves the air blockage.
- Built-in filter makes the air trap work in a clean environment.
- Choose different capacity curves according to the differential pressure, increase capacity.
- Drain plug is designed at the bottom of the air trap to ensure that the internal water will be drained, to prevent floating ball from freezing damage in cold weather.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Unit(mm)							
Connection	Pressure	DN(IN)	L	H	h	W	H2
T/W	PN16/25/40 CL150/300	15(1/2")	120	155	80	150	50
		20(3/4")	120	155	80	150	50
		25(1")	145	155	80	150	50
		32(1 1/4")	160	155	80	150	50
		40(1 1/2")	160	155	80	150	50
		50(2")	160	155	80	150	50
F	PN16/25/40 CL150/300	15(1/2")	150(300LB:L=160)	155	80	150	50(Vertical Installation:120)
		20(3/4")	150(300LB:L=160)	155	80	150	50(Vertical Installation:120)
		25(1")	160	155	80	150	50(Vertical Installation:120)
		32(1 1/4")	210	155	80	150	50(Vertical Installation:120)
		40(1 1/2")	210	155	80	150	50(Vertical Installation:120)
		50(2")	210	155	80	150	50(Vertical Installation:120)

•T: Thread; W: Weld; F: Flange.

Air Trap

Air Trap AFT20A



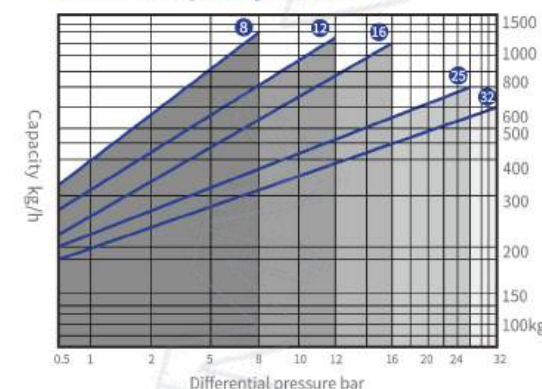
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

Material List

Bonnet: A105	Disc: 440C
Body: WCB	Other trims: 304
Seat: 420	

AFT20A Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

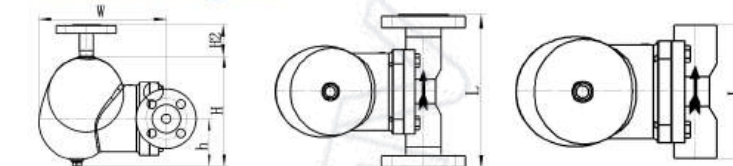
Features

- 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 steam 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.
- Pressure equalization pipe completely solves the air blockage.
- Built-in filter makes the air trap work in a clean environment.
- Choose different capacity curves according to the differential pressure, increase capacity.
- Drain plug is designed at the bottom of the air trap to ensure that the internal water will be drained, to prevent floating ball from freezing damage in cold weather.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Unit(mm)							
Connection	Pressure	DN(IN)	L	H	h	W	H2
T/W	PN16/25/40 CL150/300	15(1/2")	150	175	75	200	50
		20(3/4")	150	175	75	200	50
		25(1")	150	175	75	200	50
		32(1 1/4")	210	175	75	200	50
		40(1 1/2")	210	175	75	200	50
		50(2")	210	175	75	200	50
F	PN16/25/40 CL150/300	15(1/2")	210	175	75	200	50
		20(3/4")	210	175	75	200	50
		25(1")	210	175	75	200	50
		32(1 1/4")	210	175	75	200	50(Vertical Installation:100)
		40(1 1/2")	210	175	75	200	50(Vertical Installation:100)
		50(2")	210	175	75	200	50(Vertical Installation:100)
		65(2 1/2")	230(Vertical Installation:320)	175	75	200	50(Vertical Installation:160)
		80(3")	230(Vertical Installation:320)	175	75	200	50(Vertical Installation:160)
		100(4")	230(Vertical Installation:320)	175	75	200	50(Vertical Installation:160)
							50(Vertical Installation:Has Interference)

•T: Thread; W: Weld; F: Flange.

Air Trap

AFT30A Air Trap



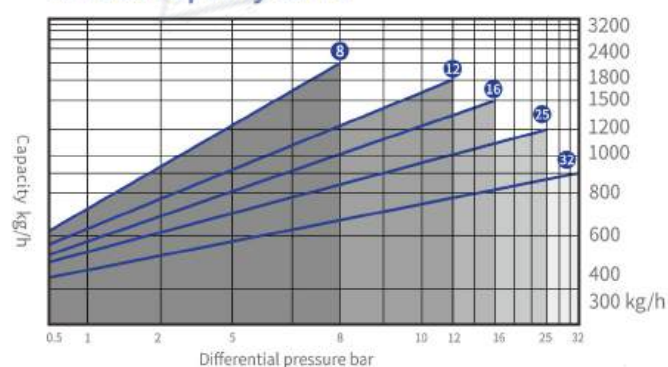
Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Factory steam action test	>3 times/1.6MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	3.8MPa
Air test	2.0MPa

Material List

Bonnet: A105	Disc: 440C
Body: WCB	Other trims: 304
Seat: 420	

AFT30A Capacity Curve



Working Principle

- Based on the differential density of steam and liquid.

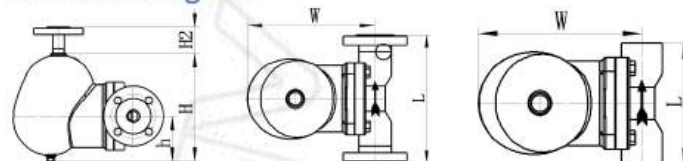
Features

- 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 steam 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.
- Pressure equalization pipe completely solves the air blockage.
- Built-in filter makes the air trap work in a clean environment.
- Choose different capacity curves according to the differential pressure, increase capacity.
- Drain plug is designed at the bottom of the air trap to ensure that the internal water will be drained, to prevent floating ball from freezing damage in cold weather.

Technical Standard

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	H	h	W	H2	KG
T/W	PN16/25/40 CL150/300	15(1/2")	170	210	87	230	50	12.8
		20(3/4")	170	210	87	230	50	12.9
		25(1")	170	210	87	230	50	13.1
		32(1 1/4")	170	210	87	230	50	13.2
		40(1 1/2")	230	210	87	230	50	14.5
		50(2")	230	210	87	230	50	14.6
F	PN16/25/40 CL150/300	15(1/2")	230	210	87	230	50	15.5
		20(3/4")	230	210	87	230	50	15.8
		25(1")	230	210	87	230	50	16.2
		32(1 1/4")	230	210	87	230	50	16.6
		40(1 1/2")	230	210	87	230	50	17.1
		50(2")	230	210	87	230	50	17.3
		65(2 1/2")	230(Vertical Installation:360)	210	87	230	50(Vertical Installation:160)	18.1
		80(3")	230(Vertical Installation:360)	210	87	230	50(Vertical Installation:160)	18.7
		100(4")	230(Vertical Installation:360) (300LB:270)	210	87	230	50(Vertical Installation:160)	20.2

•T: Thread; W: Weld; F: Flange.

Steam Liquid Two Phase Flow Trap

Steam Liquid Two Phase Flow Trap QYL



Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (Shell)	3.46MPa/200°C
Max. allowable temperature (Shell)	350°C/2.92MPa
Max. operating pressure	3.2MPa
Max. operating temperature	350°C
Factory cold test pressure	6.0MPa
Air test	2.0MPa

Material List

Body: A105/SS	Other trims: 304
Seat: 420	

Structure Dimension Table

Connection	Pressure	DN(IN)	L	H
F	PN16/25/40 CL150/300	65-50(2 1/2-2")	230	210
		80-50(3-2")	230	210
		100-50(4-2")	230	210
		125-50(5-2")	260	250
		125-80(5-3")	260	250
		150-80(6-3")	360	300
		200-80(8-3")	360	300

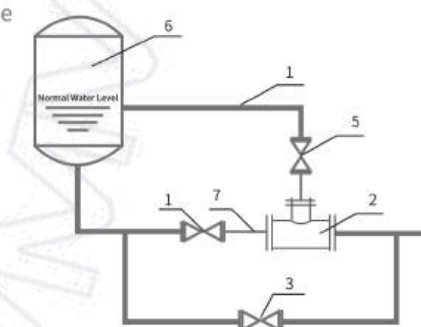
•T: Thread; W: Weld; F: Flange.

Working Principle

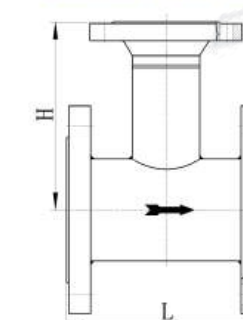
After the drainage flows through the specially designed front-end valve core and is blocked, it enters the valve chamber. The liquid level in the container slowly rises to the interface of the phase change tube, and the phase change tube changes from a vapor phase signal to a liquid phase signal. At this time, the front end drainage and liquid phase pipe drainage mix and flow towards the designated rear end throat. Due to the unchanged throat area setting, the maximum drainage displacement occurs when the liquid level rises to the required normal water level (the rear valve core is the control expansion end); When the liquid level decreases, the steam consumption signal increases and enters the regulator, reducing the effective flow area of the throat drainage and the drainage discharge, thereby achieving the purpose of controlling the water level.

Features

1. Phase change tube (signal tube): To collect steam and liquid phase signals based on the liquid level.
2. Self regulating liquid level controller: The main equipment for controlling the liquid level.
3. Bypass valve: A gate valve that corrects errors caused by inaccurate parameter provision.
4. Inlet valve: A gate valve.
5. Steam valve: A gate valve.
6. Heater
7. Connection short pipe



Structure Diagram



Pumping System



Properties of Steam & Condensate Recovery

Pump T20

Why recycle condensate

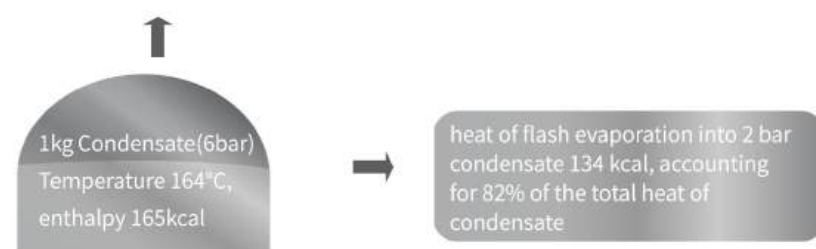
The steam generates condensate through heat exchange. The condensate is separated and discharged through the steam trap. The condensate contains a lot of heat energy.

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
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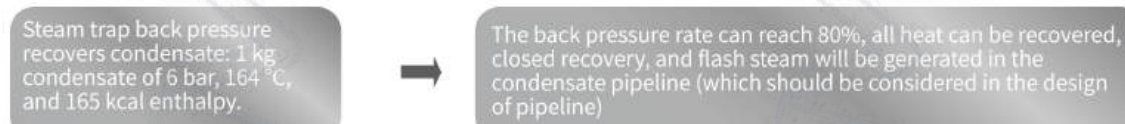
Condensate heat energy recovery method

Recovery of heat energy by flash tank

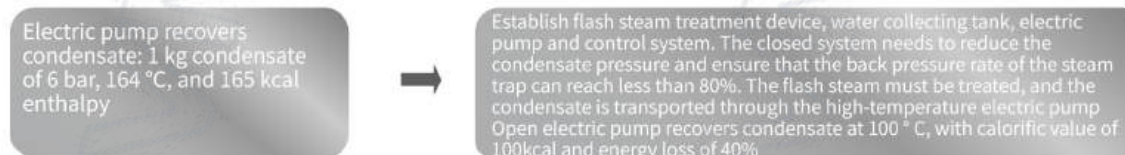
2 bar low-pressure steam 0.058 kg is generated, and the temperature is 133 °C, accounting for 19% of the total heat of condensate



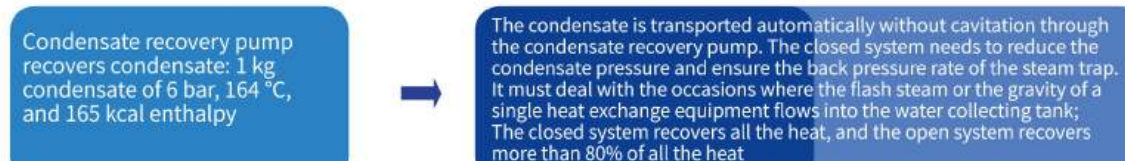
Steam trap back pressure recovers condensate heat energy



Electric pump recovers condensate heat energy



recovers condensate heat energy



Newton developed "pump type steam trap", also known as "mechanical power pump", based on the lever ball float ball steam trap technology. 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 advantages, 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 transportation 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 adopts flexible closing system with small wear, reliable closing and long service life

Long Life and High Precision

Welding of key parts
Stellite alloy
Precision of key
internals reach
μm level

Selection conditions of pump

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



Pump

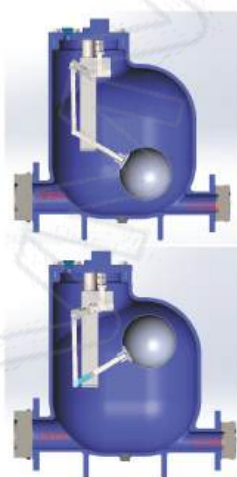
Pump

Pump PT20

Working Principle

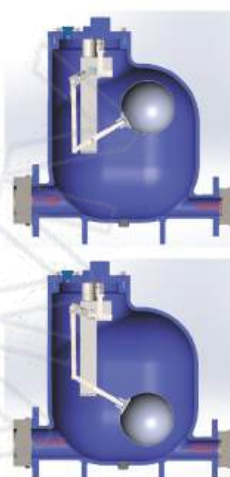
Enter condensate and exhaust steam(air)

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

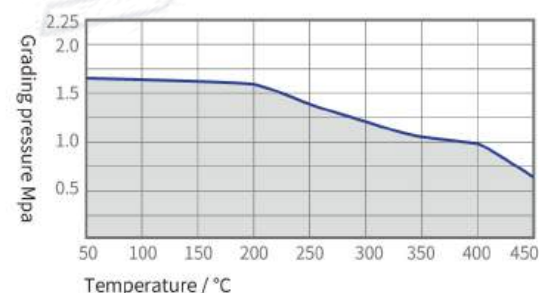
- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Nominal Pressure	PN16(150LB)	Design Pressure Of Valve Body	2.5MPa	Water Inlet Diameter	DN80 RF
Maximum Allowable Pressure	1.38MPa/200°C	Maximum Allowable Temperature	300°C/1.22MPa	Water Outlet Diameter	DN50 RF
Maximum Working Pressure	1.37MPa	Maximum Operating Temperature	250°C	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	Ball	304
Valve Seat	420	Control Rack	304
Valve Core	440C	Fastener	Carbon steel grade 8.8
Spring	Nickel-base superalloy	Gasket	SS304+flexible graphite

WCB/A105Material PN16 valve shell pressure temperature rating



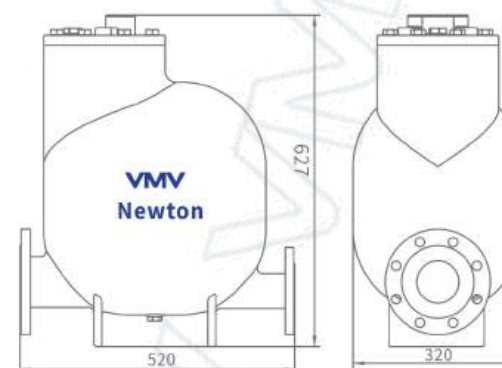
Performance characteristics

- 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.

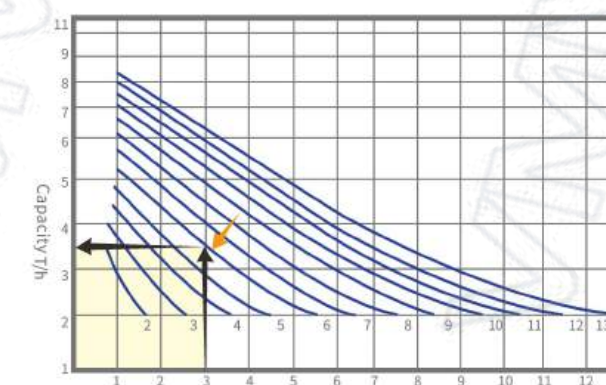
Structure diagram



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 Capacity Curve



Back Pressure bar

How to check the Capacity

For example:
The power steam pressure is 6bar, and the back pressure at the rear end is 3bar (1bar = 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)	Capacity 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.

Pumping System

Pump

Pump PT10

Newton Mechanical Power Pumps assemble the pump and tank control valve to form a complete condensate recovery system, which only needs to be connected to the power steam or air, intake pipe, return pipe to operate

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

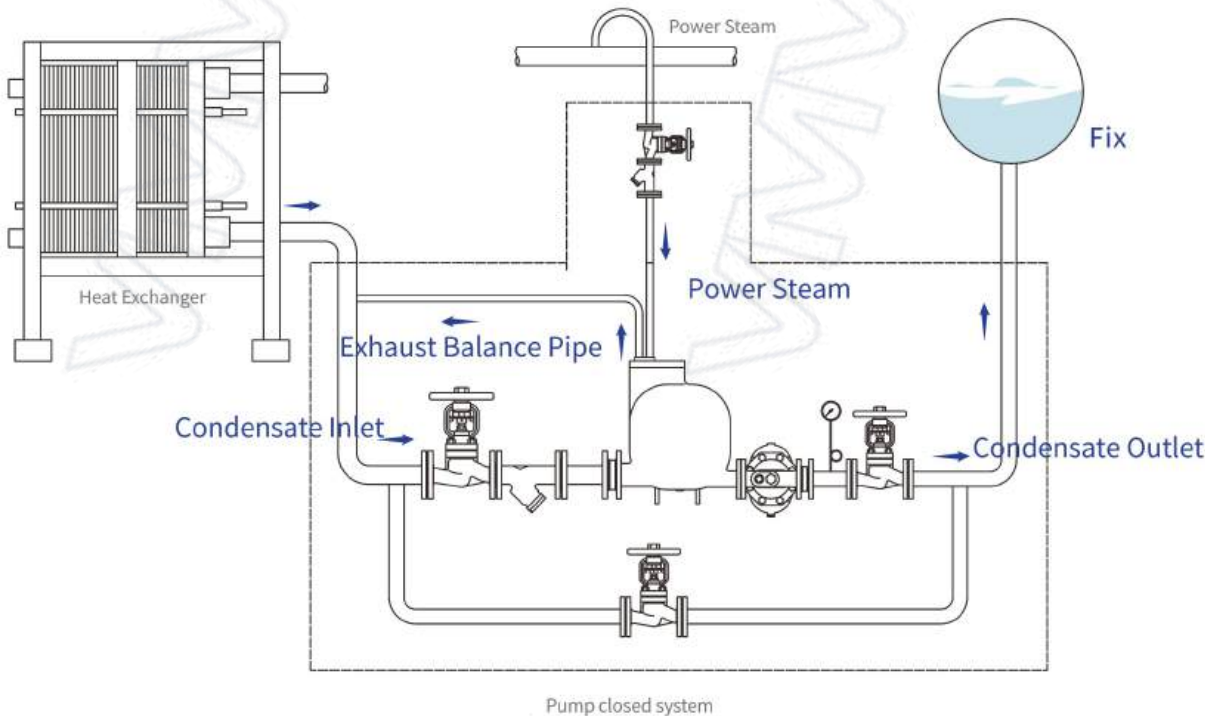
Product Model Compilation:

SPT C 20 S

S—Single; D—Double; T—Three;F—Four
20—serial number
C—Closed type
SPT—PUMP TRAP SYSTEM

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

Pump Closed System



Application.

Compact pump trap, suitable for condensate discharge or recovery, with a wide range of applications. It is used to discharge low flow condensate water in low level storage tanks.

Product Features

- 1. There will be no cavitation when discharging high-temperature condensed water.
- 2. No need for electric drive or installation of liquid level control devices, safer to use.
- 3. Low head operation (minimum 300mm).
- 4. Online replacement of internal components makes cleaning very simple and reduces maintenance costs.
- 5. High quality stainless steel internals and hardened working surfaces ensure the reliable operation of the pump.
- 6. Compact structural design minimizes installation space.

Installation precautions

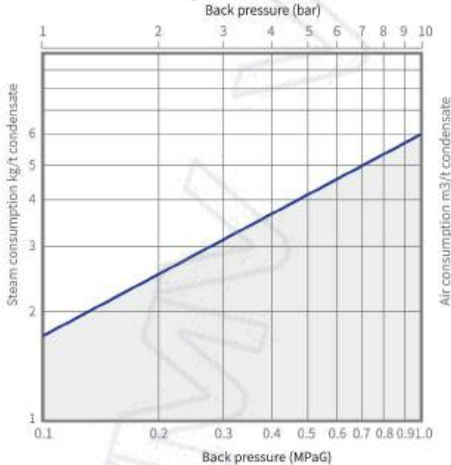
Check valves must be installed at the inlet and outlet of the pump type drain valve. Choose different connection methods based on the interface format. The pressure of the power medium minus the back pressure must be greater than 0.05MPa.

If a closed recovery system is used, the power medium used must be consistent with the fluid being pumped. When using non condensable gases such as air and nitrogen as power media, please communicate and confirm with us.

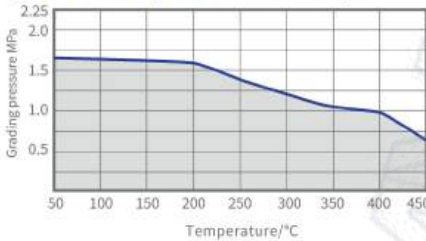
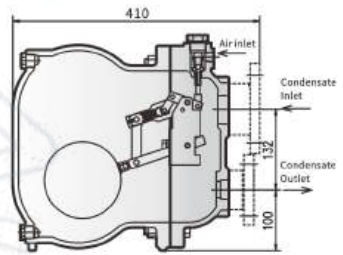
Main Parts Material List

Body/ Bonnet	WCB / QT450	Ball	304
Seat	420	Control frame	304
Disc	440C	Bolt	Carbon steel grade 8.8
Spring	Nickel-base superalloy	Sealing gasket	Flexible graphite

Steam&Air Consumption Curve



Valve shell pressure temperature rating (PN1.6MPa; WCB material)



Technical Parameter

Nominal pressure	PN16(150Lb)
Max. allowable pressure	1.38MPa/200°C
Max. operating pressure	1.05MPa
Max. power steam inlet pressure	1.05MPa
Valve body design pressure	1.6MPa
Max. allowable temperature	300°C/1.22MPa
Max. Working temperature	250°C
Water Inlet diameter	DN40RF DN25RF/RC
Water Outlet diameter	DN25RF/RC
Exhaust port diameter	DN20 RC
Air intake diameter	DN15 RC

Pump

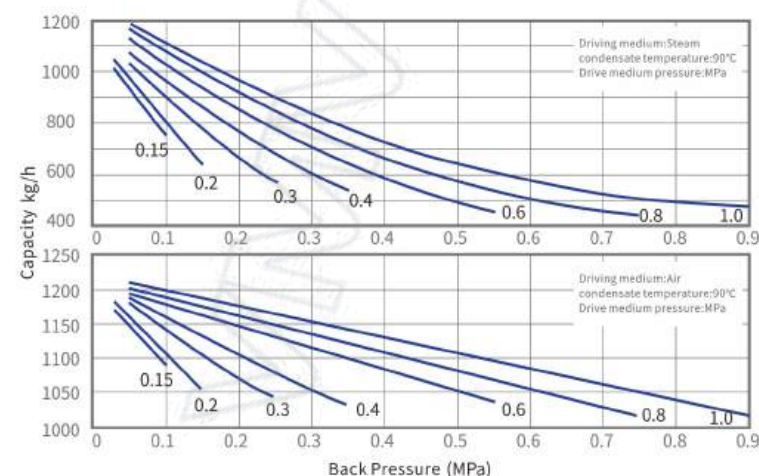
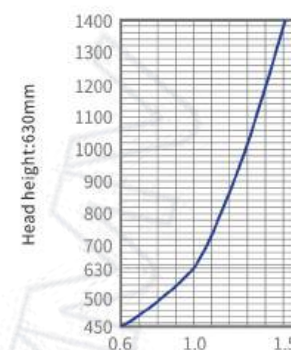
Pumping System

PT10 Pump

PT10
Connection: Thread
Inlet diameter: DN25
Outlet diameter: DN25

Check valve: MH71H-16P
Inlet diameter: DN25
Outlet diameter: DN25

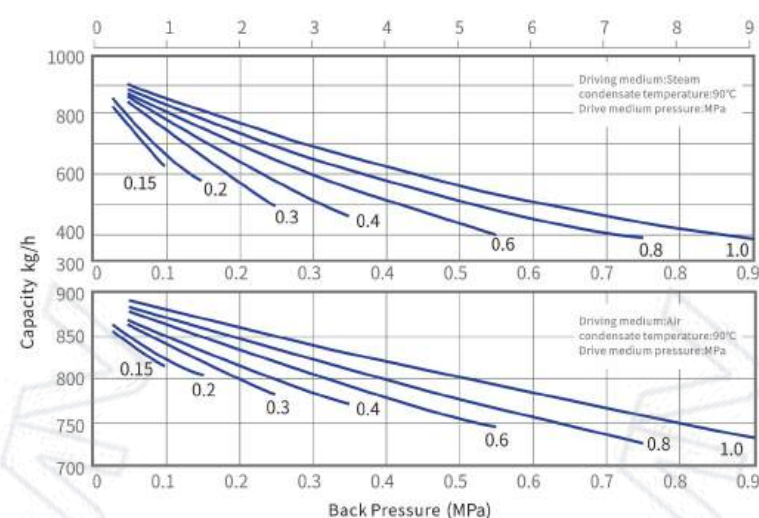
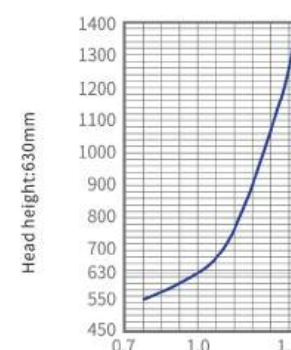
Head height: 630mm



PT10
Connection: Flange
Inlet diameter: DN25
Outlet diameter: DN25

Check valve: MH71H-16P
Inlet diameter: DN25
Outlet diameter: DN25

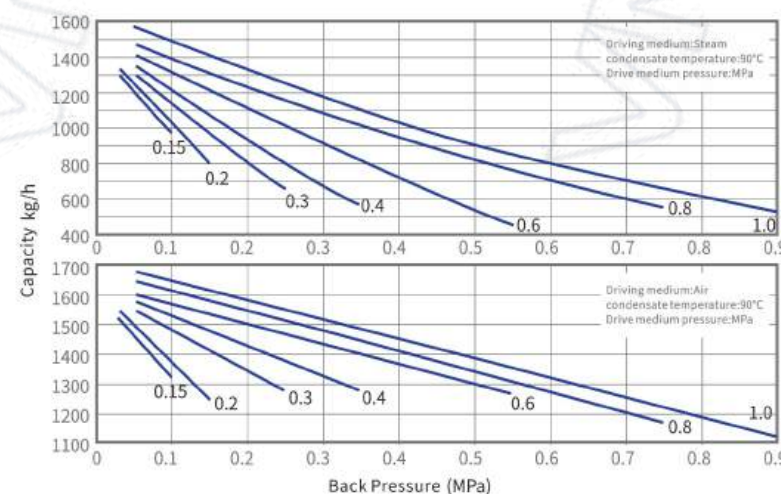
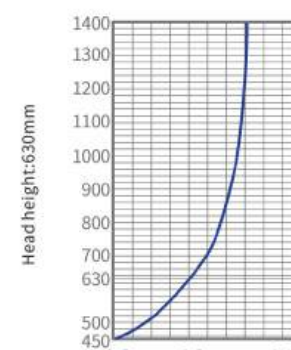
Head height: 630mm



PT10
Connection: Flange
Inlet diameter: DN40
Outlet diameter: DN25

Check valve: MH71H-16P
Inlet diameter: DN40
Outlet diameter: DN25

Head height: 630mm



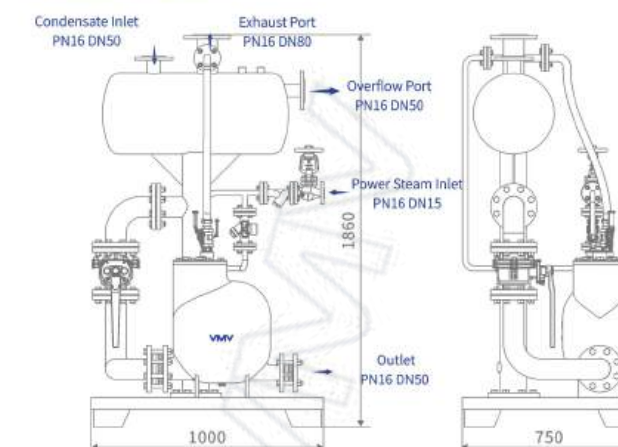
Single Pump Trap System Device (open) SPT20S

Model: SPT20S (open system)
Name: Single Pump Trap System Device (open)
Weight: 280kg
Volume: 1000x750x1860(mm)
Nominal pressure: PN16
Maximum Allowable Pressure: 1.38MPa/200°C
Maximum Working Pressure: 1.05MPa
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

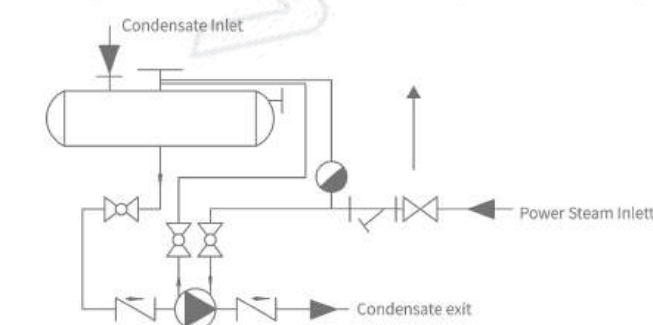
- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Chart



Device Configuration of Single Pumping System

Part Name	Part Model	Specifications	Material	Quantity
Pump	PT20	DN80/DN50	WCB	1
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	SHT21F	DN15	A105	1
Bellow Sealed Globe Valve	WJ41H-16C	DN15 PN16	WCB	1
Base			Q345	1
Ball Valve	Q41H-16C	DN80 PN16	WCB	1
Filter	YG45H-16C	DN15 PN16	WCB	1
Exhaust hose		DN25 PN16	304	1



Flow Chart of Single Pumping System

Pumping System

SPT20D Double Pump Trap System Device (open)

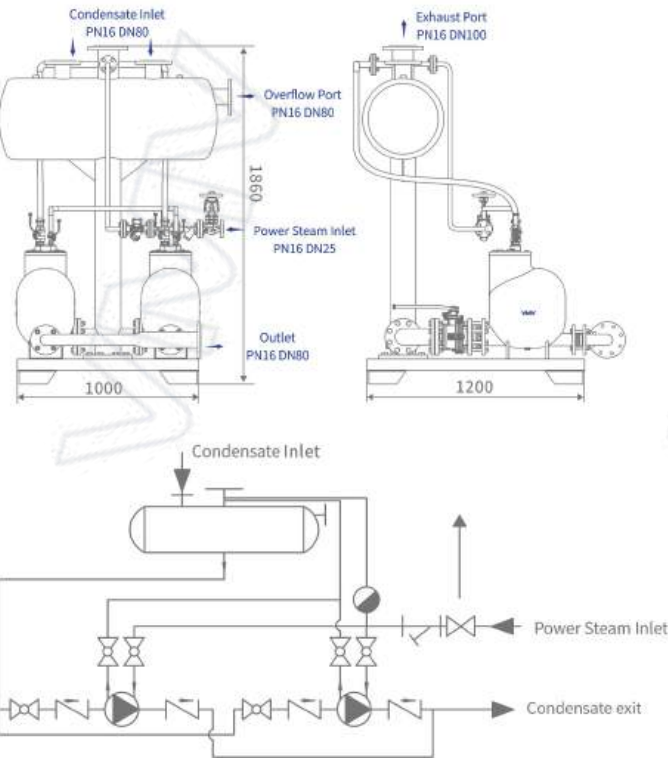


Model: SPT20D (open system)
Name: Double Pump Trap System Device (open)
Weight: 486kg
Volume:1000x1200x1860(mm)
Nominal pressure: PN16
Maximum Allowable pressure: 1.38MPa/200°C
Maximum Working pressure: 1.05MPa
Flange Standard: HG / T20592; PN16 RF
Power Steam Consumption: 5kg / T (condensate)
Power 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

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Chart



Flow chart of double pumping system

Device Configuration of three Pumping System

Part Name	Part Model	Specification	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	SHT21F	DN15	A105	1
Bellow Sealed 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

Pumping System

Three Pump Trap System Device (open) SPT20T

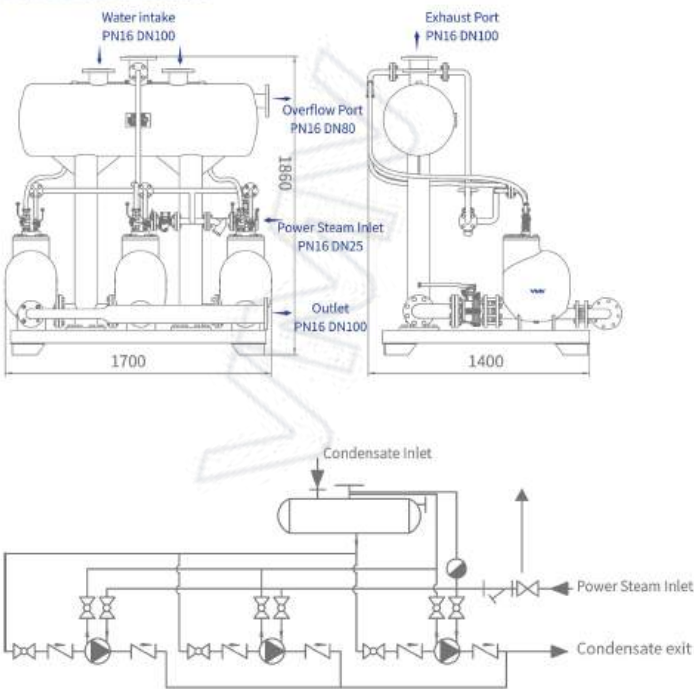


Model: SPT20T (open system)
Name: Three Pump Trap System Device (open)
Weight: 740kg
Volume:1700x1400x1860(mm)
Nominal pressure: PN16
Maximum Allowable Pressure: 1.38MPa/200°C
Maximum Working Pressure: 1.05mpa/250 ° C
Flange Standard: HG / T20592; PN16 RF
Power Steam Consumption: 5kg / T (condensate)
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

- ISO 6553: Automatic steam traps - Marking
- ISO 6554: Automatic steam traps - Face-to-face dimensions
- ISO 6948: Automatic steam traps - Production and performance characteristic tests

Structure Chart

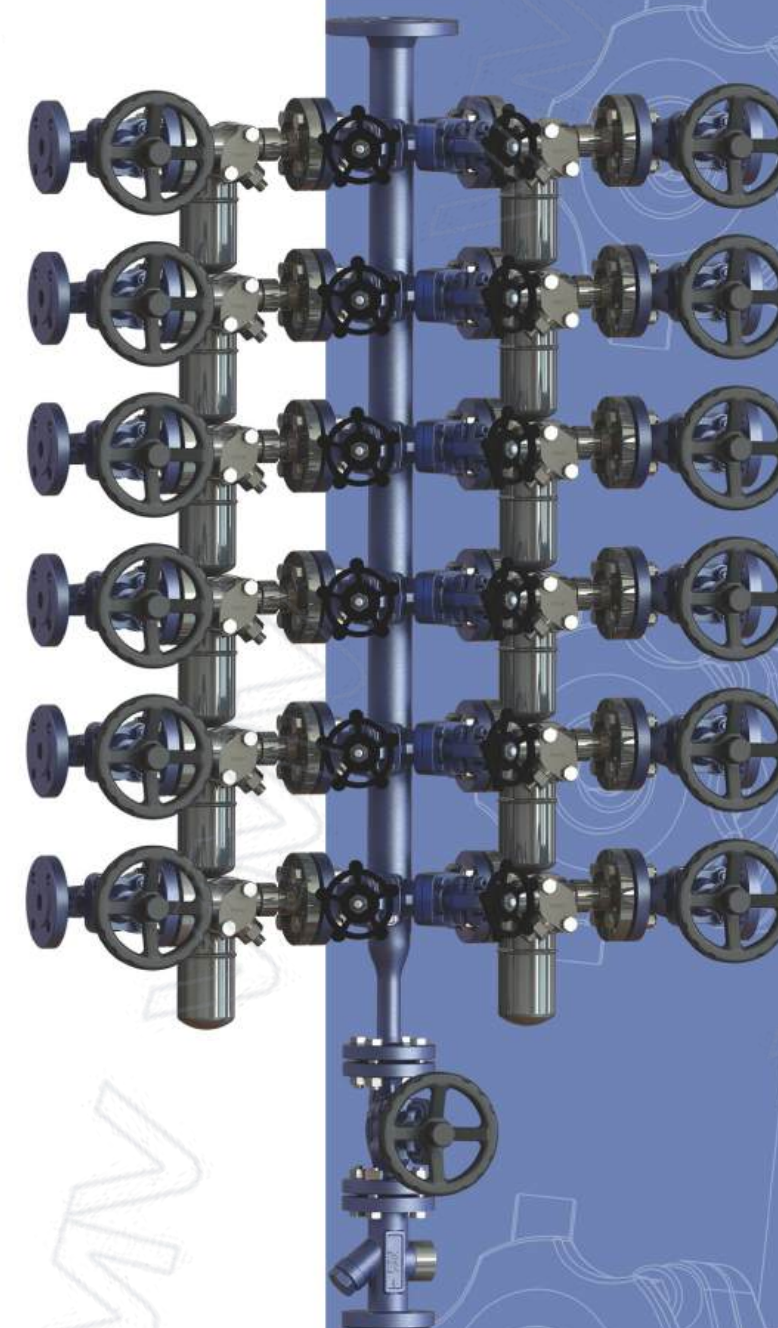


Flow chart of three Pumping system

Device Configuration of three Pumping 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	SHT21F	DN15	A105	1
Bellow Sealed 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

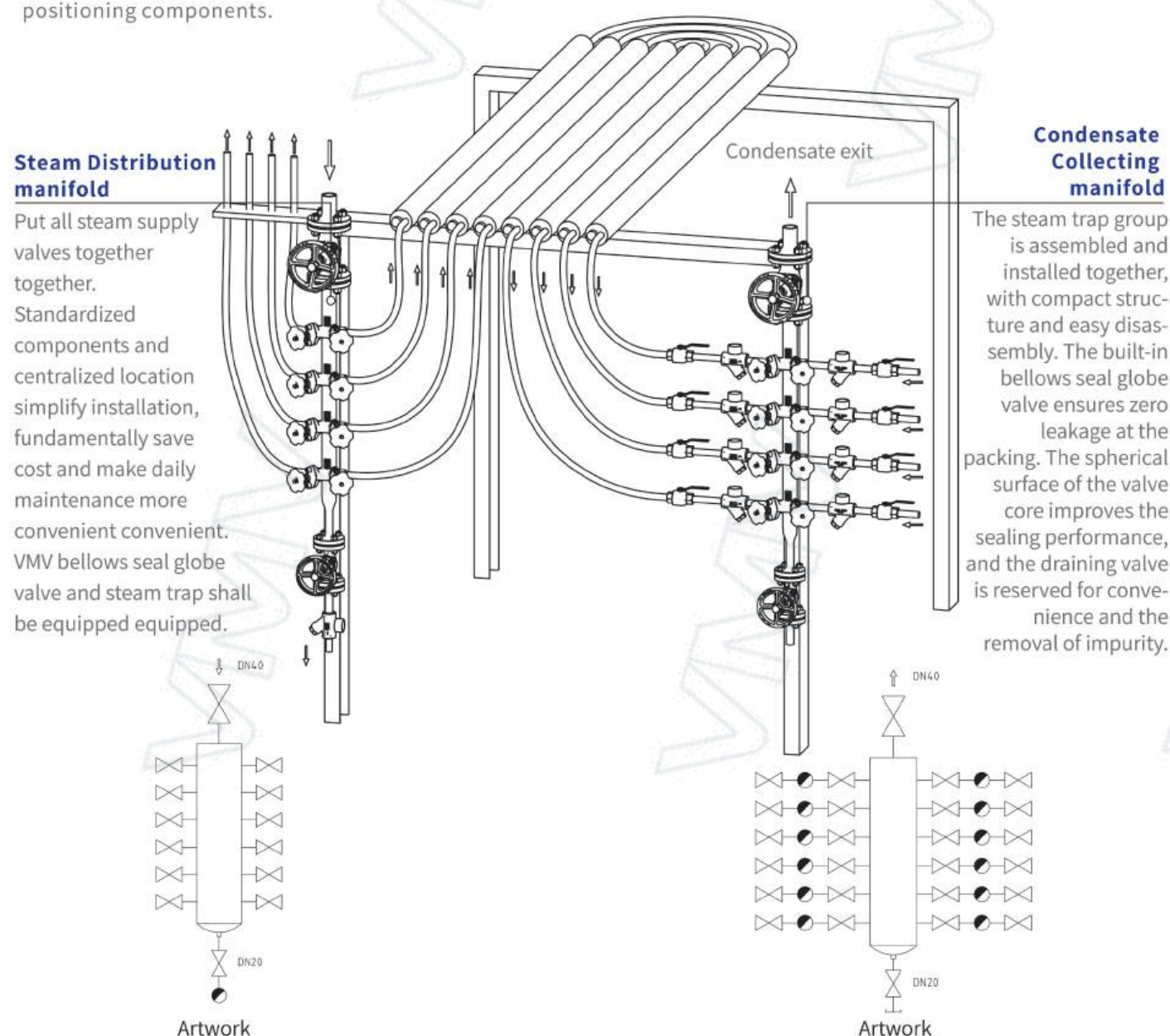
Bellows Stainless Steel Steam Manifolds

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

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
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

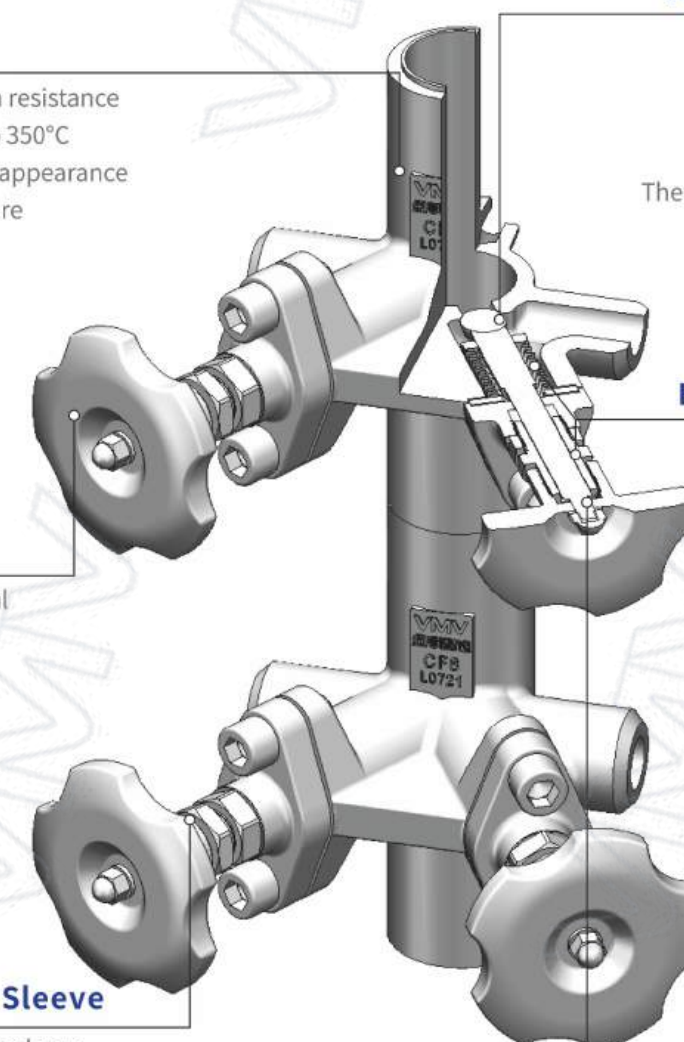
Integral spherical valve core
Matching Conical Seat
Achieve linear sealing
Improve sealing performance
The valve core adopts martensitic hardening treatment
Improve scour resistance

Bellows Components

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

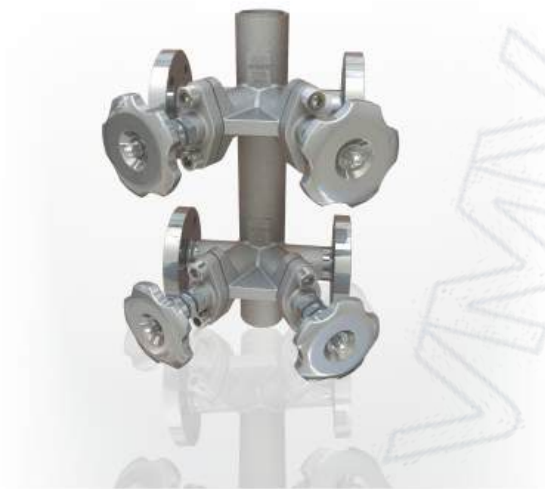
Concealed Drive Thread

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



Bellows Stainless Steel Steam Manifolds

Bellows Stainless Steel Steam Distribution Manifolds



Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (shell)	2.72MPa/200°C
Max. allowable temperature (shell)	350°C/2.33MPa
Max. operating 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 Features

- 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

- ASME B16.34-2025: Valves for Flanged, Threaded, and Welded End Connections
- ASME A105-2025: Carbon Steel Forgings for Piping Components
- ASME B16.5-2025: Pipe Flanges and Flanged Fittings
- API STD 598-2023: Valve Inspection and Testing

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.

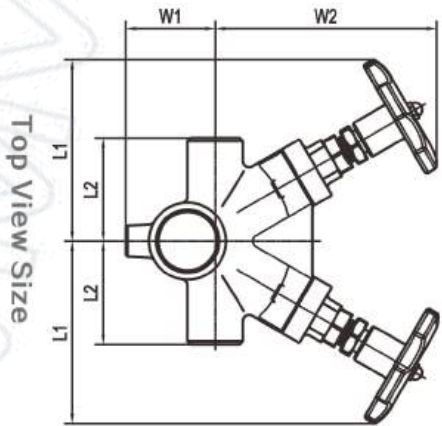
Condensate Manifolds

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.

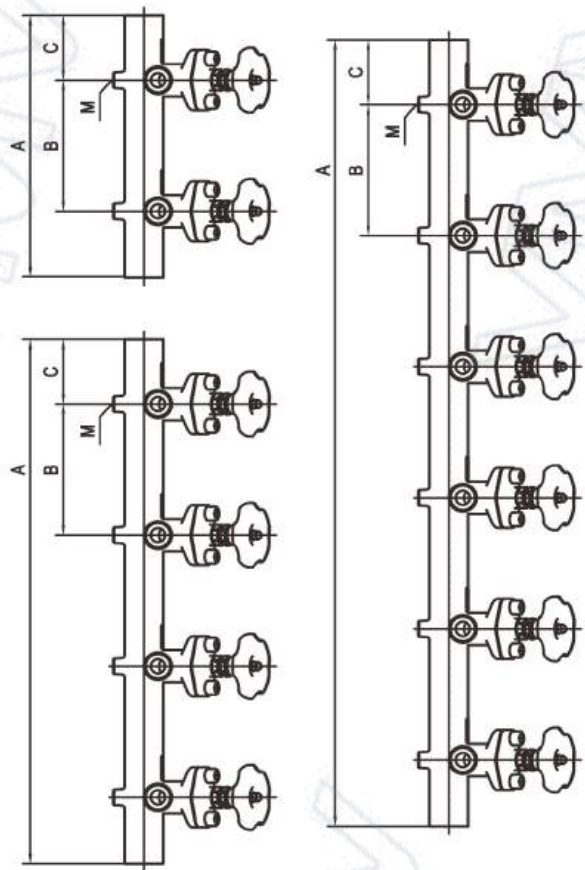
Material Table

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	Connection	Main pipe	Manifold	Overall Dimensions								Weight
				A	B	C	L1	L2	W1	W2	M	
BSPM03-4	4	40/50	15/20	340	170	85	120	67	145	58	M12	9.2
BSPM03-6	6	40/50	15/20	510	170	85	120	67	145	58	M12	13.8
BSPM03-8	8	40/50	15/20	680	170	85	120	67	145	58	M12	18.5
BSPM03-10	10	40/50	15/20	850	170	85	120	67	145	58	M12	23.1
BSPM03-12	12	40/50	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.

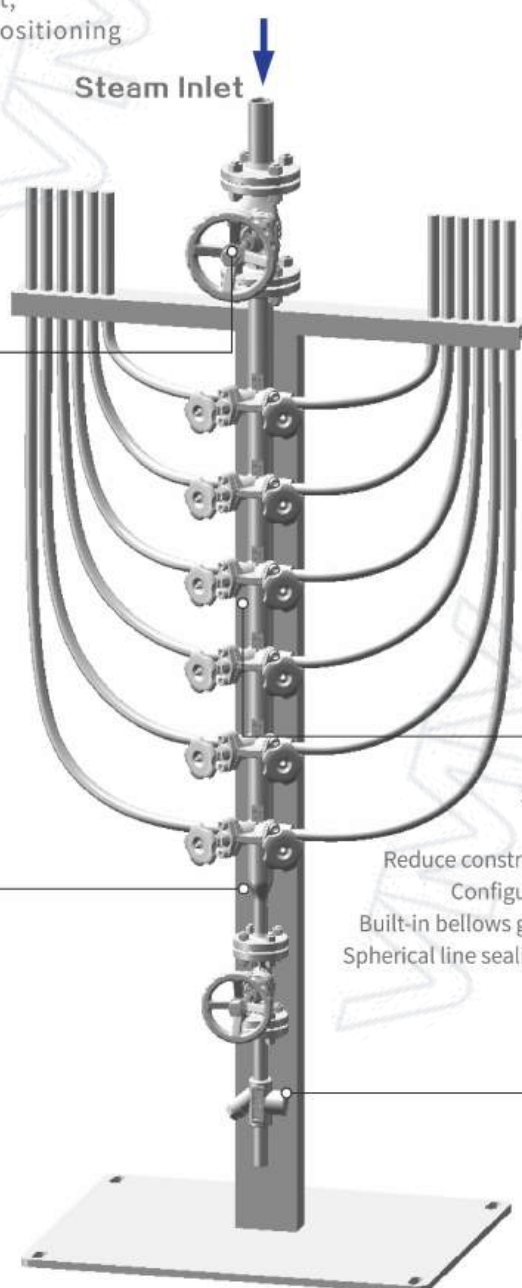
The Body is made of corrosion-resistant material CF8, which is suitable for highend manifolds, instruments, chemical corrosion-resistant pipes and pipeline heating. The instrument heating distribution pipes can be connected by ferrules.

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

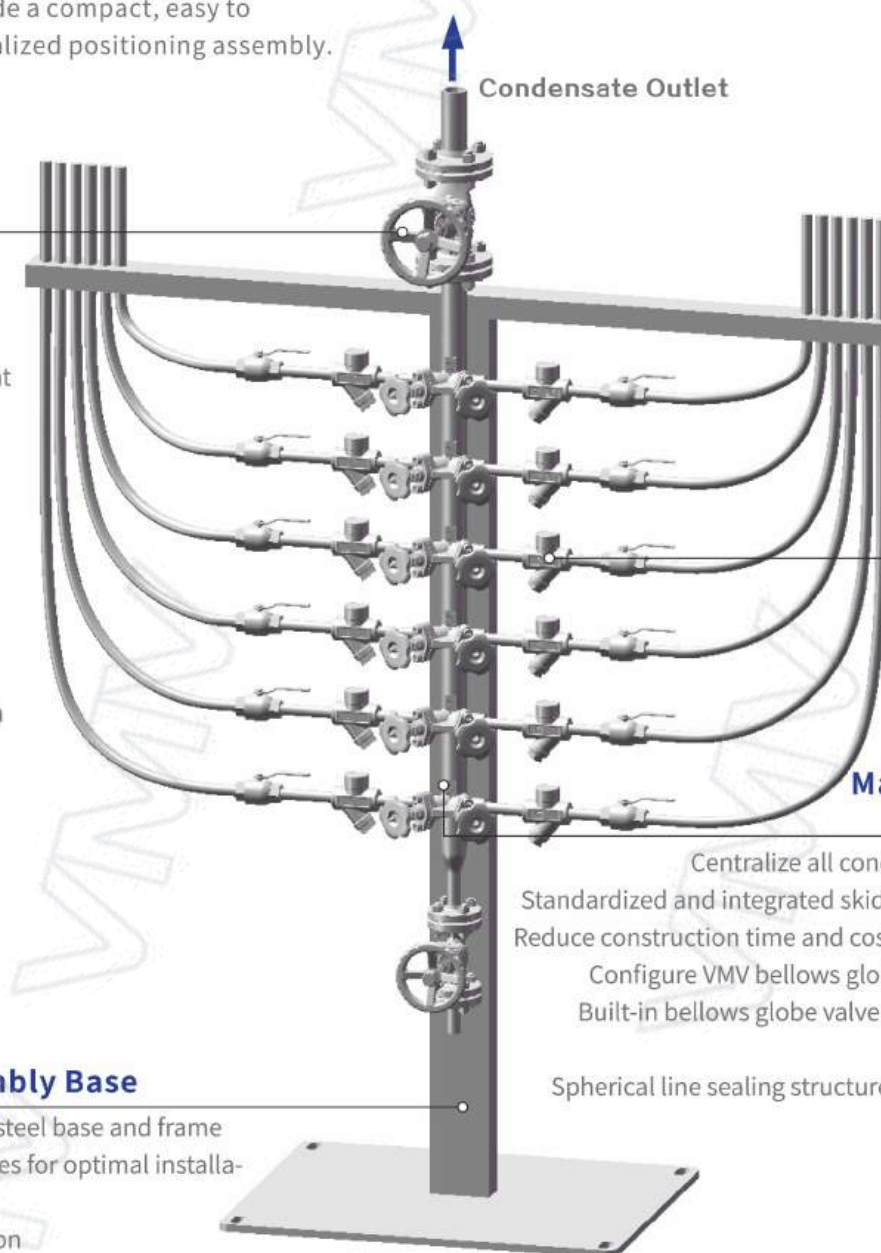
Product Description

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 corrosion-resistant material CF8, which is suitable for highend manifolds, instruments, chemical corrosion-resistant 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.

Manifold Body

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

Handwheel

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

Gland,Packing Gland

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

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

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

Bellows Assembly

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

Valve Bonnet

Special custom forged bonnet
High structural strength



Technical Parameter

Nominal pressure	PN40
Max. allowable pressure (shell)	3.46MPa/200°C
Max. allowable temperature (shell)	350°C/2.92MPa
Max. operating pressure	3.2MPa
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

- ASME B16.34-2025: Valves for Flanged, Threaded, and Welded End Connections
- ASME A105-2025: Carbon Steel Forgings for Piping Components
- ASME B16.5-2025: Pipe Flanges and Flanged Fittings
- API STD 598-2023: Valve Inspection and Testing

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

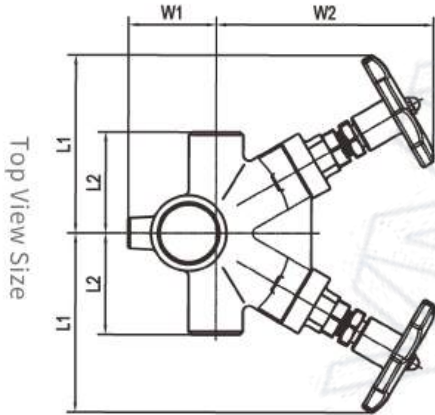
During installation, it is recommended that the top be the condensate outlet, and the bottom should be installed with a shut-off valve for sewage discharge.

Material Table

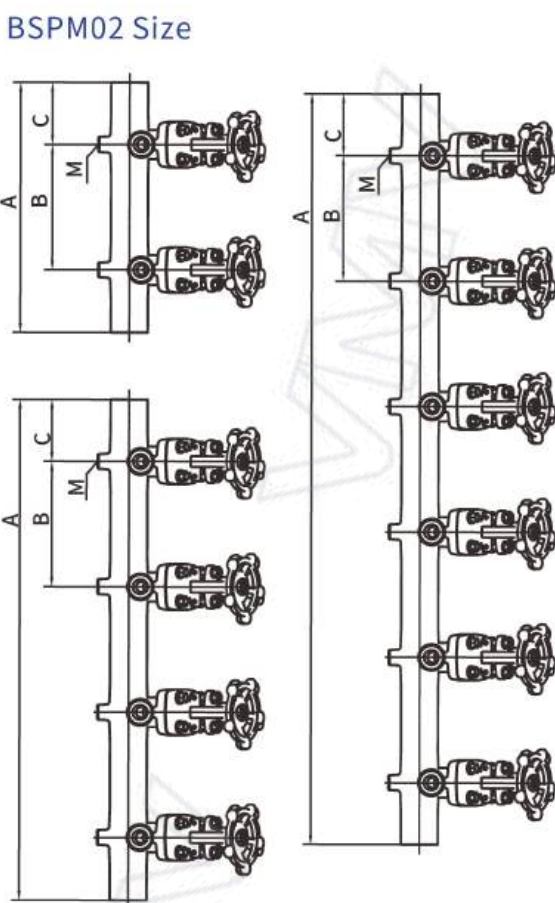
Manifolds Body	A105
Bonnet	A105
Bellows Assembly	SS304
Stem	SS304
Valve Core	SS440C
Handwheel	SS304
Gasket	Flexible Graphite

Bellows Forged Steel Steam Distribution Manifolds

Bellows Forged Steel Steam Distribution Manifolds



Top View Size



BSPM02 Size



BSPM02-12

Structure Size Table

Product	Connection	Main pipe	Manifold	Overall Dimensions								Weight
Model	QTY	Size	Size	A	B	C	L1	L2	W1	W2	M	Kg
BSPM02-4	4	40/50	15/20	340	170	85	135	75	168	58	M12	10.5
BSPM02-6	6	40/50	15/20	510	170	85	135	75	168	58	M12	15.8
BSPM02-8	8	40/50	15/20	680	170	85	135	75	168	58	M12	21.2
BSPM02-10	10	40/50	15/20	850	170	85	135	75	168	58	M12	26.5
BSPM02-12	12	40/50	15/20	1020	170	85	135	75	168	58	M12	31.8

Unit(mm)

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

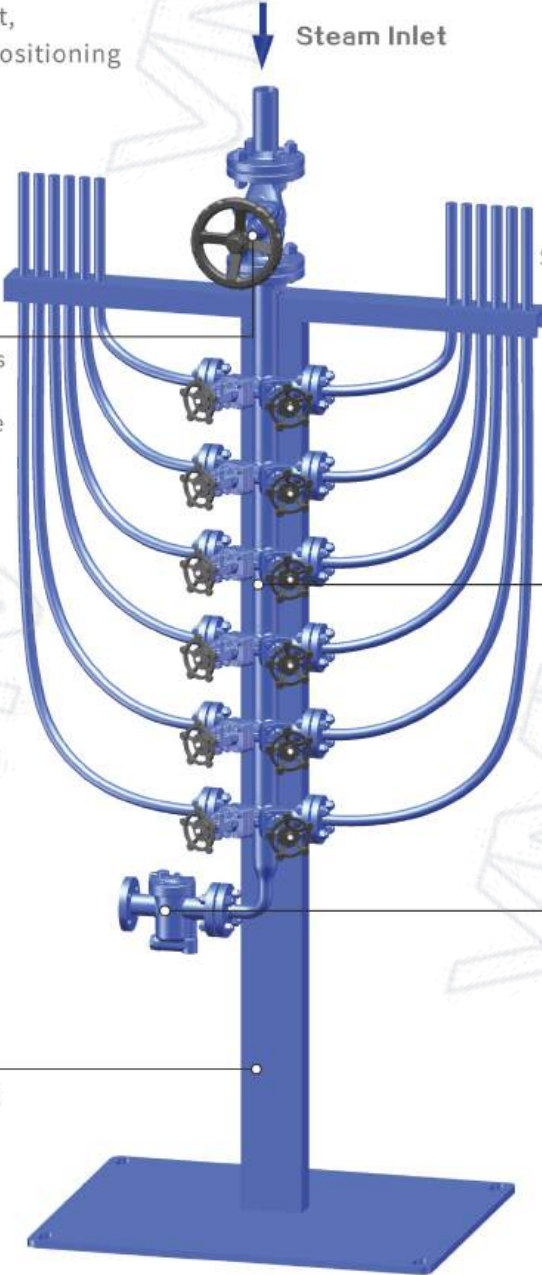
Centralize all steam distribution valves
Standardized and integrated skid-mounted combination
Reduce construction time and cost for on-site installation
Configure VMV bellows globe valve and steam trap
Built-in bellows globe valve ensures zero leakage at packing
Spherical line sealing structure of valve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



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.

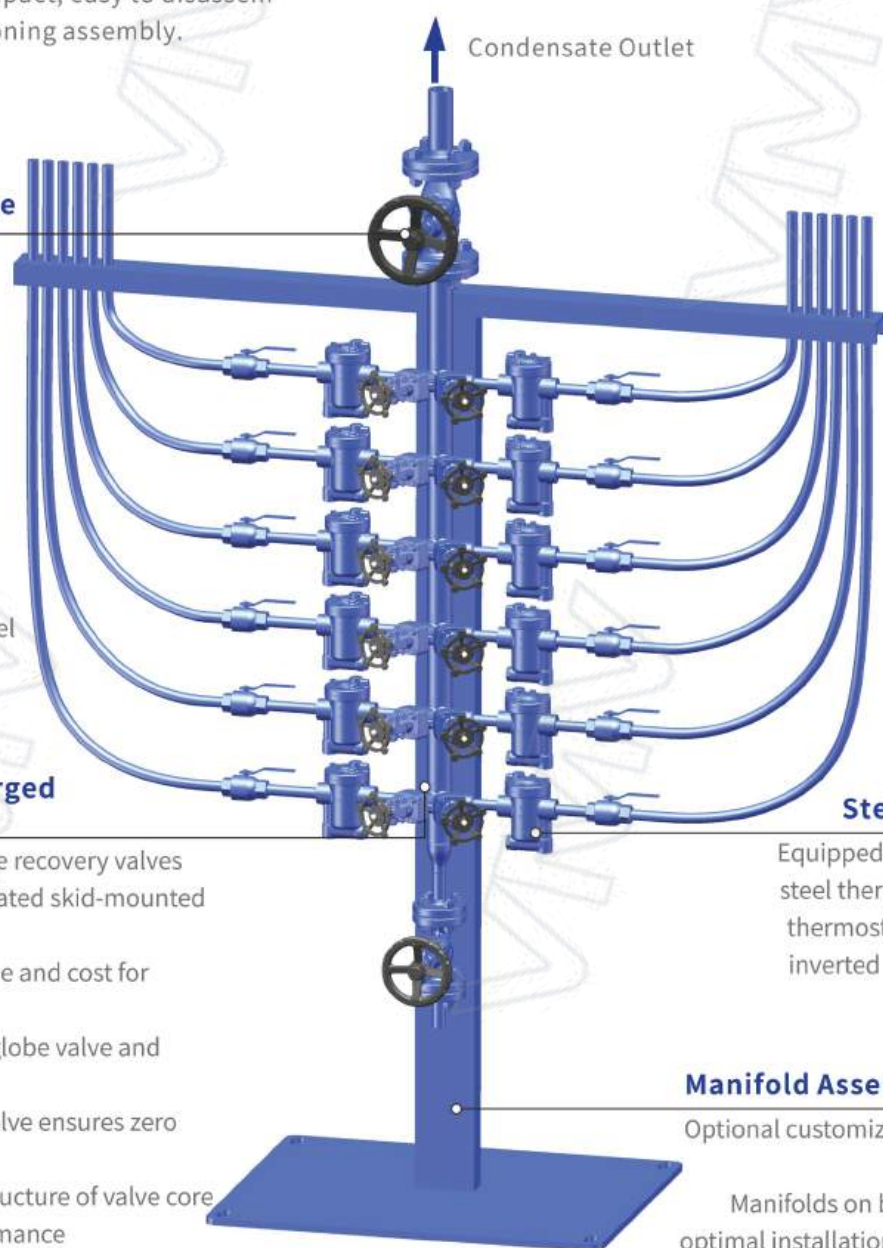
The Body is made of forged carbon steel material A105, the main body is dense, and it is suitable for high-pressure chemical pipelines and pipe-line heating.

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.

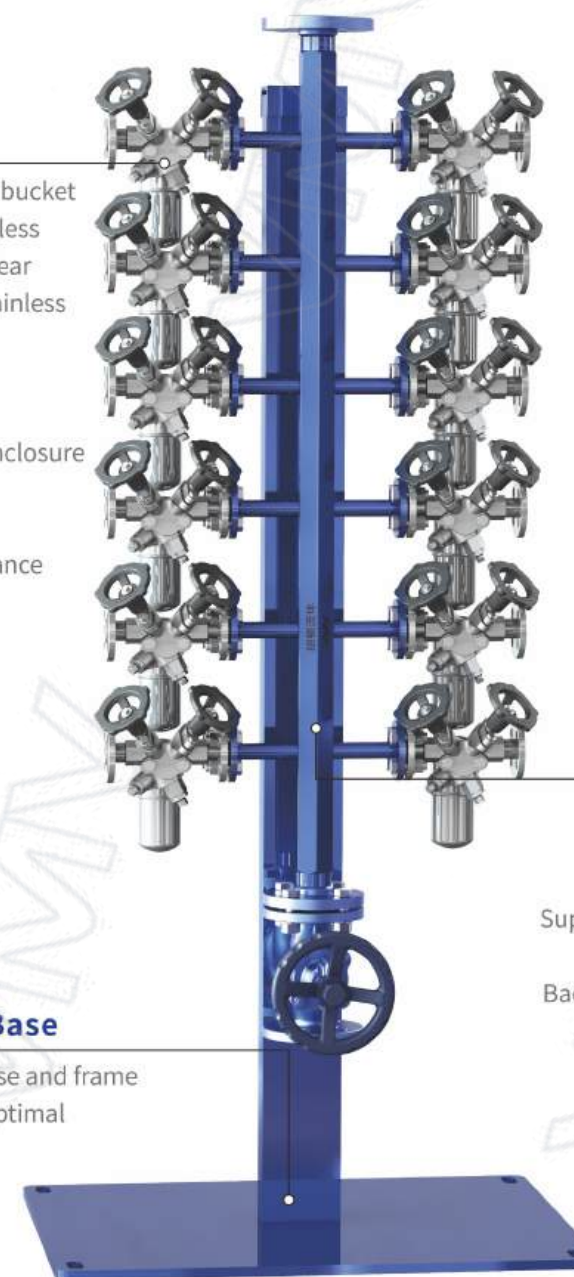
Manifold Assembly Base

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



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

Manifold Assembly Base

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

BCPM03-12

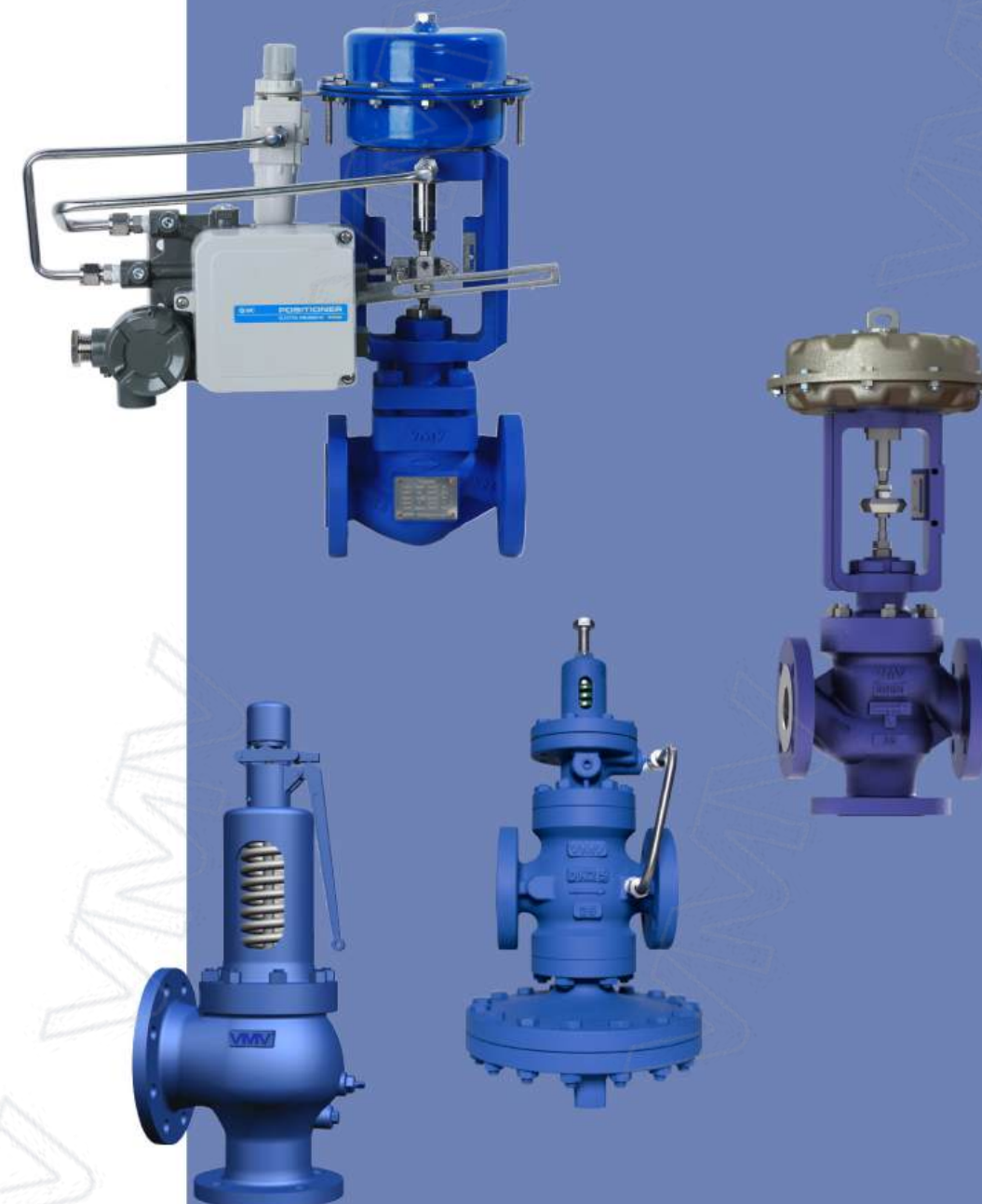
Steam System Control Valve

V8000 Series Control Valve

V9000 Series Bellows Control Valve

V6000 Series Three-way Control Valve

MT Series Pneumatic Diaphragm Actuator



V8000 SERIES CONTROL VALVE

Product advantages

- Good stability against high differential pressure
 - Long-lasting seals in high-temperature operations
 - High regulation precision with low leakage
 - Long service life of packing
 - Convenient and quick on-site valve maintenance
- Fast response speed
VMV equipped with either pneumatic diaphragm actuator or electric actuator according to the user's on-site energy.



Structure and characteristics

Single-seat control valve

Valve stem double guided structure

Keeping the packing and valve stem coaxial at any times can prevent abnormal wear of the packing caused by eccentricity, greatly improving the service life of the packing.

Thread + pin connection structure

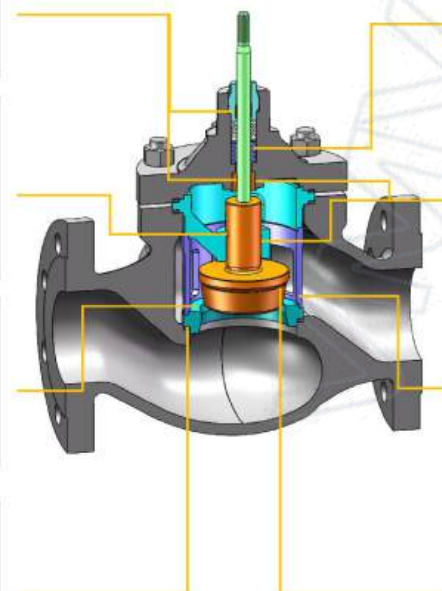
The valve plug and the valve stem is tightly connected by threads and pins, with no any relative movement gap, effectively prevent fatigue and fracture of the valve stem from relative swing of the valve plug and valve stem.

Up-pressure valve seat structure

By loosening the valve bonnet bolts, the internal components of the valve can be removed one by one, allowing for quick maintenance and components on-site, thus saving the user's replacement of the valve seat and internal maintenance time

Gasket quantitative compression structure

Prevent the gasket from being overly compressed to achieve durable sealing without external leakage.



Spring-loaded packing gland structure

Provide a continuous and stable compressive force for the packing, allowing the packing to automatically compensate for wear during use, achieving long-term stable sealing.

Valve plug double-guided structure

The valve plug operates smoothly, not prone to vibration and sticking, ensuring higher regulating precision.

Elastic pressure cage compensation structure

Under high-temperature conditions, the pressure cage can absorb the axial displacement caused by high temperatures and convert it into radial elastic deformation, prevent the gasket or valve internal components from failing due to thermal stress deformation.

Single seat sealing structure

Lower leakage and hard sealing can meet level V and above leakage requirements for a long time.

Product advantage

- Long-term operation, maintenance-free to keep working
 - Zero leakage of valve stem during long operation cycles
 - Bellows' operational service life >500,000 times
 - High regulating precision
 - Fast response speed
 - Convenient and quick on-site valve maintenance
 - Wide temperature range(-196°C~588°C)
- VMV equipped with either pneumatic diaphragm actuator or electric actuator according to the user's on-site energy



Structure and Characteristics

Single-seat control valve

Bellows anti-rotation Structure

The keyway on the valve stem is matched with the pin of the bellows sleeve. Forcing the bellows to move along the axis to prevent damage and increase the service life of the bellows.

Bellows failure detection structure

A pressure gauge or pressure sensor can be connected to the detection port on the valve bonnet for real-time monitoring of bellows leakage.

Single bonnet structure

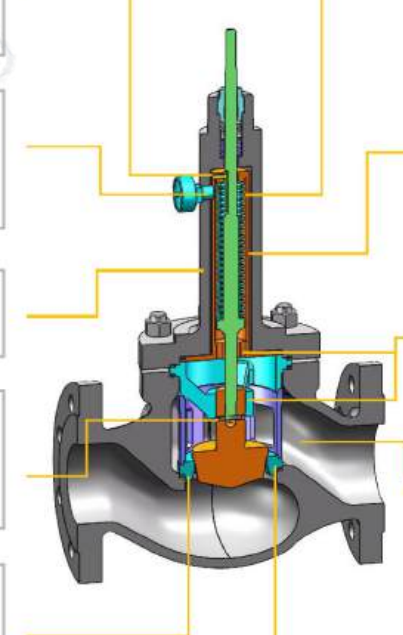
Lower external leakage risk.

Thread + Pin Connection Structure

The plug and stem are closely connected, and there is no relative moving gap. Effectively prevent stem fatigue and fracture caused by the relative swing of the plug and stem.

Sealing gasket quantitative compression structure

Prevent the gasket from being overly compressed to achieve durable sealing without leakage.



Bellows external pressure bearing structure

Provide stable pressure load for bellows, reduce movement and increase the maximum allowable stress, thus improving the bellows service life and valve operation accuracy.

Bellows structure with protective armor

Protects the bellows during handling, installation, and operation. Without bonnet parts, more convenient and fast to replace

Double-guided valve plug structure

The valve core operates smoothly, not prone to vibration and sticking, ensuring higher regulating precision.

Bellows and flow channel separation structure

Prevent the medium from directly impacting the bellows, improve the service life of the bellows.

Up-pressure valve seat structure

By loosening the valve bonnet bolts, the internal components of the valve can be removed one by one, allowing for quick maintenance and replacement of the valve seat and internal components on-site, thus saving the user's maintenance time

V6000 SERIES THREE-WAY CONTROL VALVE

MT SERIES PNEUMATIC DIAPHRAGM ACTUATOR

Product Advantages

The V6000 series control valves have the following features:

- High regulating precision with low leakage rates
 - Long service life of the packing material
 - Convenient and quick on-site valve maintenance
 - Fast response speed
 - Optional bellows seal to achieve zero external leakage
- Long-term operation, maintenance-free to keep working
VMV equipped with either pneumatic diaphragm actuator or electric actuator according to the user's on-site energy



Structure and Characteristics

Three-way control valve

Valve stem double-guided structure

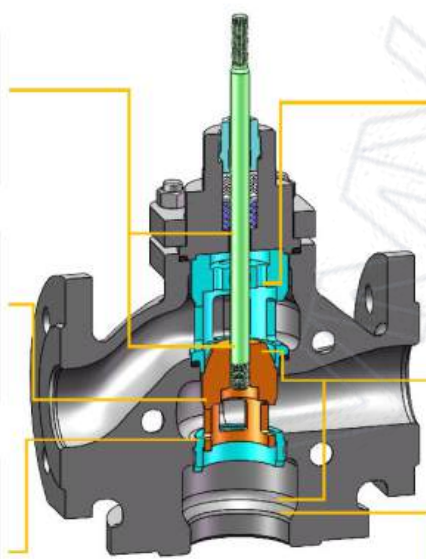
Keeping the packing and valve stem coaxial at all times can prevent abnormal wear of the packing caused by eccentricity, greatly improving the service life of the packing.

Up-pressure valve seat structure

By loosening the valve cover bolts, the internal components of the valve can be removed one by one, allowing for quick maintenance and replacement of the valve seats and internal components on-site, thus saving the user's maintenance time.

Sealing Gasket Quantitative Compression Structure

Prevent the gasket from being overly compressed to achieve durable sealing without leakage.



Spring-loaded packing gland structure

Provide a continuous and stable compressive force for the packing, allowing the packing to automatically compensate for wear during use, achieving long-term stable sealing.

Valve plug double-guided structure

The valve plug operates smoothly, not prone to vibration and sticking, ensuring higher regulating precision.

Single seat sealing structure

Lower leakage and hard selling can meet level V and above leakage requirements for a long time

Product Introduction

The MT series pneumatic diaphragm actuator is designed with a single-spring or multi-spring structure, providing an axial output thrust. It is compact in structure, light in weight, small in size, performs highly, has a long service life, and delivers a significant output thrust. It is used in conjunction with GLOBE control valves, globe valves, and other straight-stroke valves, facilitating a tight and easy valve closure.

Working principle: The electrical signal from the control instrument, after being converted into air pressure by the positioner or solenoid valve, is input into the diaphragm chamber. This pressure acts on the diaphragm to generate thrust, causing the output shaft to move.

MT actuator has excellent versatility and interchangeability. In the field, the action mode can easily be reversed by simply flipping the upper and lower diaphragm chambers. Its unique design, which requires no external air supply tubing, means air is supplied to the positioner and actuator through holes in the mounting bracket, eliminating the need for external tubing. Compared to traditional designs, this arrangement is more reliable and requires less space for control valves assembly. This method ensures a safe air supply to the actuator and significantly simplifies the assembly process of the positioner.



MT2 and MT3 actuators

Anti-loosening nut structure

Prevents the push rod from loosening, enhancing connection stability

Ultra-high fatigue strength diaphragm material

Operational life of over 200,000 cycles, ensuring long maintenance-free periods for customers.

Dustproof sealing ring structure

Double sealing, long-lasting and leak-proof.

Opening and closing nut connection structure

Closely connected with no gaps, easy to disassemble, high adjustment precision, and high stability.

Embossed diaphragm cover structure

Enhances the pressure resistance of the diaphragm cover, and increases the output thrust of the actuator.

Ultra-long self-lubricating bearing guide structure

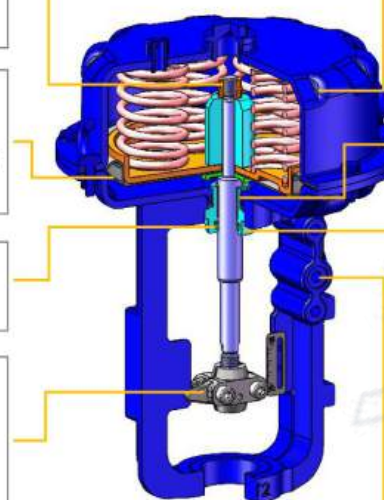
Operates smoothly without creep, low friction, and high action type precision.

External threaded connection structure

Enables quick interchangeability between direct and reverse action, improving the efficiency of on-site changeovers of operational modes for users.

Built-in air intake hole structure

No external air source tubing required, reduces the space needed for positioner installation, and decreases the number of potential leak points, regulating more stable.



VA SERIES SAFETY VALVES

VA SERIES SAFETY VALVES

Working Principle

As an overpressure protection device, the safety valve is widely applied to pressure equipment including boilers, pressure vessels and pressure pipelines. When the internal medium pressure exceeds the set value, the valve opens automatically and performs full-flow discharge to stop pressure from rising further. It will close automatically once the pressure falls back to the rated value, so as to ensure the safe and stable operation of the equipment.

Product Features

- Compact structure and reliable sealing, with excellent corrosion resistance and high temperature resistance.
- Adopted precision machining technology to ensure flexible opening & closing and accurate operation.
- Springs undergo strict heat treatment, featuring stable elasticity and long service life.
- Flange connection between valve body and bonnet facilitates installation and maintenance.
- All key components pass full factory inspection and comply with relevant standards.

Technical Standards

- TSG21 Safety Technical Supervision Regulation for Stationary Pressure Vessels
- GB/T 12241 General Requirements for Safety Valves
- GB/T 12242 Performance Test Methods for Pressure Relief Devices
- GB/T 12243 Spring Loaded Safety Valves
- JB/T 2203 Structural Length of Spring Safety Valves
- API 526 Steel Flanged Pressure Relief Valves
- API 527 Seat Tightness of Pressure Relief Valves
- API RP 576 Inspection of Pressure Relief Devices
- DIN EN ISO 4126 Safety Devices for Over pressure Protection

Main Parts Material

Part Name	Part Material Code				
	C	I	P	R	R _L
Body	WCB	WC6	CF8	CF8M	CF3M
Seat & Disc	20Cr13/304	304/316	304/316	316/316L	316L
Guide sleeve & Dash pot	20Cr13/304	304	304	316	316L
Stem	20Cr13	20Cr13	304	316	316L
Bonnet/Cover	WCB	WCB/WC6	CF8	CF8M	CF3M
Spring	50CrVA	50CrVA	50CrVA Powder Coating		

Inlet & Outlet Flange Nominal Pressure Specification (MPa)

Nominal Pressure	1.6	2.5	4.0	6.4	10.0
Inlet Flange Nominal Pressure	1.6	2.5	4.0	6.4	10.0
Outlet Flange Nominal Pressure	1.6	1.6	1.6	4.0	4.0

Setting Pressure Classification Table

Nominal Pressure (Mpa)	Setting Pressure P _k (MPa)							
1.6	≥0.1~0.16	>0.16~0.25	>0.25~0.4	>0.4~0.6	>0.6~0.8	>0.8~1.0	>1.0~1.3	>1.3~1.6
2.5	>1.3~1.6	>1.6~2.0	>2.0~2.5					
4.0	>1.3~1.6	>1.6~2.0	>2.0~2.5	>2.5~3.2	>3.2~4.0			
6.4	>2.5~3.2	>3.2~4.0	>4.0~5.0	>5.0~6.4				
10.0	>3.2~4.0	>4.0~5.0	>5.0~6.4	>6.4~8.0	>8.0~10.0			

Performance Specification Sheet

Performance Specification Applicable Medium	Shell Test Pressure P _s (Mpa)	Seal Test Pressure P _m (Mpa)	Blow down Pressure ΔP (Mpa)	Relieving Pressure P _p (Mpa)	Lift Height H(mm)
Steam	1.5 PN	90% of P _k or the minimum reseating pressure, whichever is lower	If P _k ≤0.4: then ≤0.04 If P _k >0.4: then ≤10% P _k	≤1.1 P _k	≥1/4 d ₀
Air or Other Gases		For P _k ≤0.3: then P _k -0.03 For P _k >0.3: then 90% P _k	If P _k ≤0.2: then ≤0.03 If P _k >0.2: then ≤15% P _k	≤1.1 P _k	
Water or Other Liquids			If P _k ≤0.3: then ≤0.06 If P _k >0.3: then ≤20% P _k	≤1.2 P _k	

Note: PN refers to the nominal pressure of the safety valve, PK refers to the set pressure, and d₀ is the throat diameter.

V5001 SERIES PILOT OPERATED PRESSURE REDUCING VALVE

V5001 SERIES PILOT OPERATED PRESSURE REDUCING VALVE



Product Advantages

- High pressure reduction accuracy:13%
- Wide pressure adjustment range: 0.02-2MPa
- Large pressure reduction ratio: 20:1
- Good control stability
- Long service life
- High temperature and pressure resistance
- Large flow capacity
- Fast response speed

Technical Parameters

Size: DN15~DN100
 Pressure: PN16~PN40
 Inlet max. pressure: 3MPa
 Outlet pressure: 0.02-2MPa
 Max. temperature: 315°C

Performance

Flow characteristic: quick-opening
 Max. pressure reduction ratio: 20:1
 Leakage level: <Rated flow 0.0001%
 Min.differential pressure: 0.05MPa
 Accuracy: $\leq \pm 3\%$

The use temperature of valve body material corresponds to the pressure range(MPa)

TEMP°C	PN16					PN25					PN40				
	WCB	WC6	WC9	CF8	CF8M	WCB	WC6	WC9	CF8	CF8M	WCB	WC6	WC9	CF8	CF8M
-196~-30	-	-	-	1.57	1.57	-	-	-	2.45	2.45	-	-	-	3.92	3.92
-29~38	1.61	1.63	1.63	1.57	1.57	2.52	2.55	2.55	2.45	2.45	4.03	4.08	4.08	3.92	3.92
50	1.58	1.63	1.63	1.51	1.52	2.47	2.55	2.55	2.36	2.37	3.95	4.08	4.08	3.78	3.8
100	1.46	1.63	1.63	1.29	1.33	2.29	2.54	2.54	2.02	2.08	3.66	4.06	4.07	3.23	3.33
150	1.43	1.57	1.58	1.17	1.22	2.23	2.45	2.48	1.83	1.9	3.57	3.93	3.96	2.93	3.04
200	1.38	1.51	1.54	1.09	1.13	2.16	2.37	2.41	1.70	1.76	3.46	3.79	3.85	2.72	2.82
250	1.32	1.46	1.46	1.03	1.05	2.06	2.28	2.29	1.60	1.65	3.29	3.64	3.66	2.56	2.63
300	1.22	1.35	1.35	0.97	1.00	1.91	2.11	2.11	1.51	1.56	3.06	3.38	3.38	2.42	2.50
350	1.17	1.27	1.27	0.93	0.96	1.82	1.98	1.98	1.46	1.5	2.92	3.18	3.18	2.33	2.40
375	1.15	1.23	1.23	0.92	0.94	1.80	1.91	1.91	1.44	1.47	2.88	3.06	3.06	2.30	2.36
400	1.09	1.15	1.15	0.90	0.93	1.70	1.80	1.80	1.41	1.45	2.72	2.89	2.89	2.26	2.32
425	0.91	1.11	1.11	0.88	0.92	1.42	1.73	1.73	1.37	1.44	2.27	2.77	2.77	2.20	2.30

Materials for valve internals

Body/Cover	Seat	Plug	Stem
WCB	420+HT	420+HT	410+HT
CF8	304+STL	304+STL	304

Rated Cv Value

Size	DN 15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
Rated Cv	5	7	11	14	20	35	54	70	108

Dimension and weight

Size	L	H	H1	Weight
	mm	mm	mm	kg
DN15	150	410	180	14.8
DN20	150	410	180	15.7
DN25	160	420	185	20.3
DN32	180	450	205	23.5
DN40	200	450	205	25.1
DN50	230	515	225	30.6
DN65	290	565	265	65.2
DN80	310	590	275	71.3
DN100	350	680	335	112.2

Steam Piping Accessories

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



Bellows Seal Globe Valve

Bellows Seal Globe Valve



Conical seal:The sealing surface has self-cleaning function and is not easy to adhere to impurities, which can achieve linear sealing.



Balanced disc seal:Small disc relieves pressure and drives large disc to open easily.



Flat soft seal:The surface of the soft seal can prevent the sparks when opening and closing,it's suitable for gas media and corrosion resistance conditions.

Product Advantage

- Conical disc design. Benefit from the cone and streamline shape design,the disc can remove the impurities, keep valve in reliable seal and longer service life.
- Double seal design(bellows+packing). Bellows design form a metal seal to prevent leakage, and packing can provide seal if the bellow failed.

Specifications

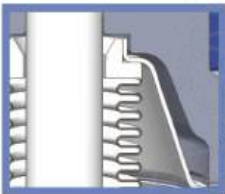
- Design standard: EN12516
- Face to face dimension: EN558
- Flange ends: EN1092-1
- Test & inspection: EN12266

Application

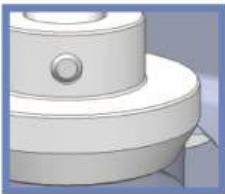
- Thermal oil,Steam,Hot and cold water,Fatty acids, Ammonia, Natural gas, etc.



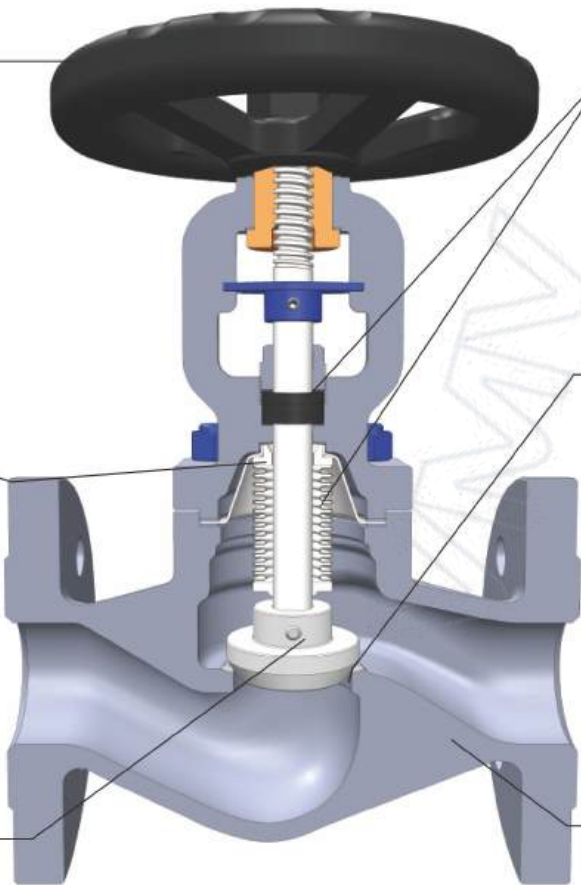
• Ergonomic hand wheel design



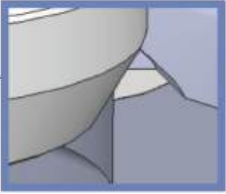
• Bellows transition connection
• Improve welding quality



• Conical disc or other customized disc



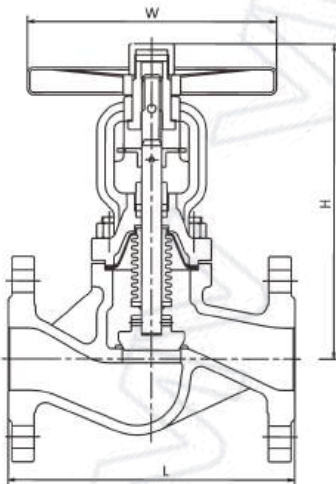
• Double seal design (bellows+packing)



• Sealing surface overlay welding alloy layer
• Roughness≤0.5um



• German coated sand casting
• Surface finish: 12.5~25 microns



Data Dimension Table

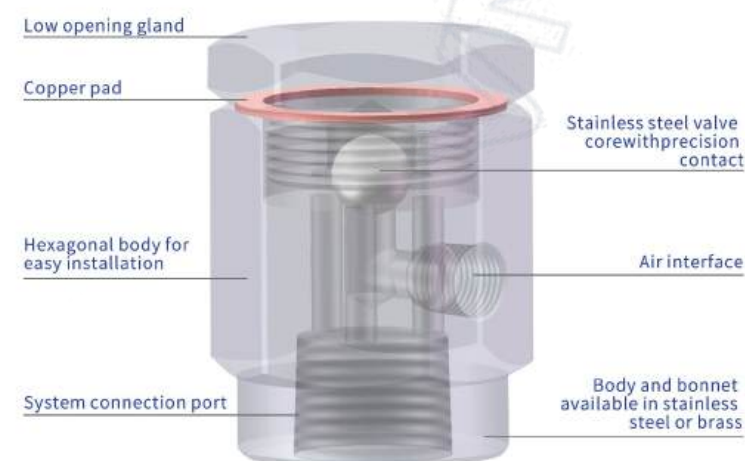
DN	PN16			PN25			PN40		
	L	W	H≈	L	W	H≈	L	W	H≈
15	130	Φ140	192	130	Φ140	192	130	Φ140	192
20	150	Φ140	192	150	Φ140	192	150	Φ140	192
25	160	Φ160	207	160	Φ160	207	160	Φ160	207
32	180	Φ160	207	180	Φ160	207	180	Φ160	207
40	200	Φ180	234	200	Φ180	234	200	Φ180	234
50	230	Φ200	253	230	Φ200	253	230	Φ200	253
65	290	Φ220	305	290	Φ220	305	290	Φ220	305
80	310	Φ250	337	310	Φ250	337	310	Φ250	337
100	350	Φ300	391	350	Φ300	391	350	Φ300	391
125	400	Φ350	441	400	Φ350	441	400	Φ350	441
150	480	Φ400	497	480	Φ400	497	480	Φ400	497
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	1021	980	Φ700	1021	980	Φ700	1021
400	1100	Φ700	1140	1100	Φ700	1140	1100	Φ700	1140

Vacuum Breaker

Vacuum Breaker

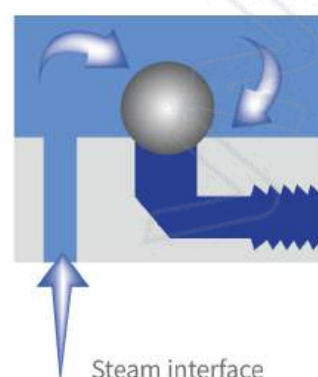
Vacuum Breaker VB21

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



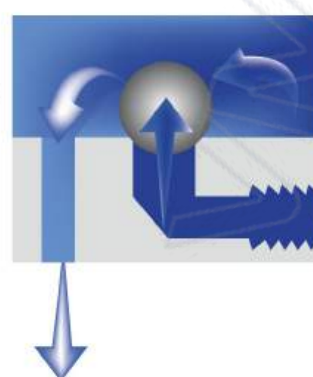
working principle

when working fine



The high and precision valve core valve seat adopts a linear seal. When the pipeline is under pressure, the valve seat and valve core is tightly closed, and there is no steam leakage.

when a vacuum occurs



When the pressure of the steam system drops to normal pressure, the steam in the equipment cools down, and the valve core opens when a negative pressure is generated and a vacuum state occurs.

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

Technical Parameter

Working medium	Steam, Air	Max. allowable temperature	200°C/300°C/450°C
Nominal pressure	2.5MPa	Max. air intake	9m³/h
Max. working pressure	2.1MPa	No load leak rate	0.1%
Max. pressure	0.01MPa	Connection	RC

Application

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

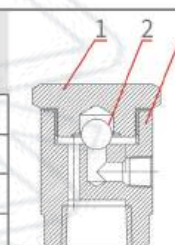
- Heat Exchanger
- Steam Storage Tank
- Boiler
- Jacketed pot
- Sterilization room
- Steam main line

Advantage

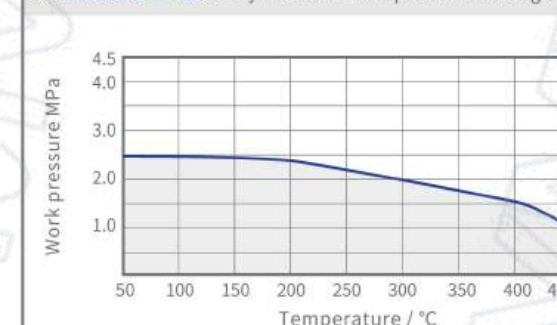
- Protects expensive equipment from vacuum damage
- Small size and sensitive action
- Simple, robust and reliable design
- VMV's domestic expert team technology, knowledge and service guarantee

Material of main parts

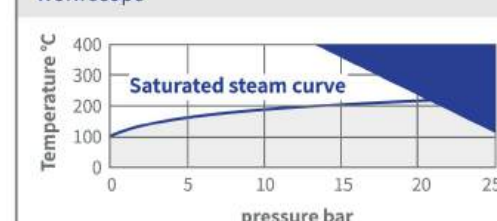
Number	Name	Material
1	Bonnert	SS304
2	Valve core	SS440C
3	Valve body	SS304



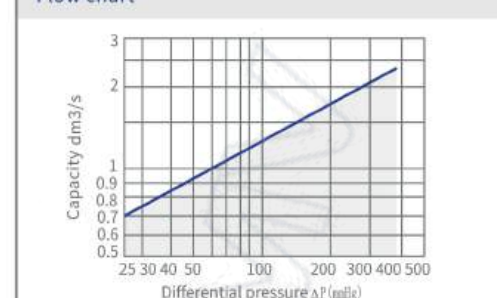
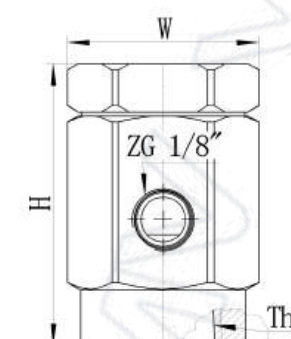
304 material PN25 Body Pressure-Temperature Ratings



Work scope



Flow chart



Size Parameters

Connection	Pressure	DN(IN)	H	W	KG
T	PN16/25 CL150	15(0.5")	52	41	0.38
		20(0.75")	52	41	0.38
		25(1")	76	52	0.71

• T: Thread; W: Weld; F: Flange.

Silencer

Mixer

DF3 Silencer

Mixer IN40M



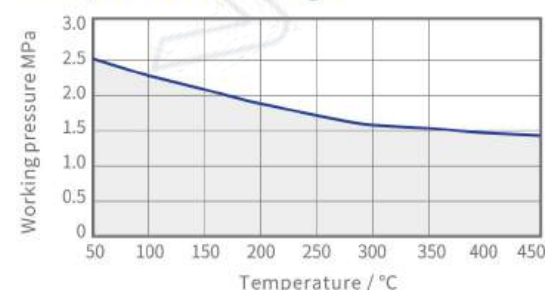
Technical Parameter

Model	Connection Method	Nominal Pressure PN MPa	Working Pressure Range MPa	Max. allowable Temp. °C @ Pre. MPa
DF1	thread	25	0.05-2.5	350°C/1.46MPa
DF2	thread	25	0.05-2.5	350°C/1.46MPa
DF3	thread	25	0.05-2.5	350°C/1.46MPa

Material Table

Body: 304
Interface: 304
Other trims: 304

304 Material PN25 Valve Body Pressure-Temperature Ratings



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.

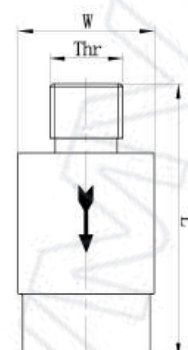
The main body of the silencer is made of SS304, the inner part is stainless steel, and a filter device is installed at the inlet.

- Nominal pressure PN25;
- The maximum allowable temperature is 350°C;
- Maximum working pressure 3.2 Mpa;
- Maximum operating temperature 350°C;
- The connection method is threaded Rc, BSP, NPT

Technical Standard

- ISO 14163-1998: Acoustics – Guidelines for noise control by silencers
- ASME B16.34-2025: Valves for Flanged, Threaded, and Welded End Connections

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	L	W	KG
T	PN16/25 CL150	15(1/2")	95	47	0.48
		20(3/4")	95	47	0.48
		25(1")	95	47	0.48

• T: Thread; W: Weld; F: Flange.



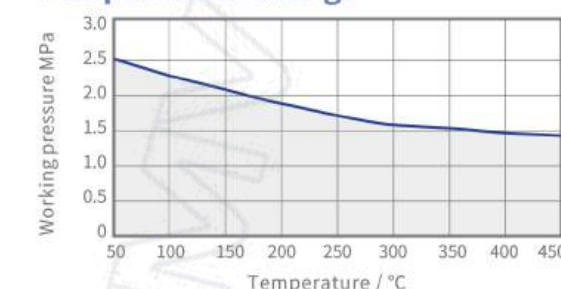
Technical Parameter

Model	Connection Method	Nominal Pressure PN	Working Pressure Range MPa
IN40M	Thread	25	0.5-1.7
	Butt welding	25	0.5-1.7
Condition Temperature °C / Pressure MPa		Maximum Heating Temperature °C /	
200°C/1.7MPa		90	
200°C/1.7MPa		90	

Inlet Pressure VS Flow Rate

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

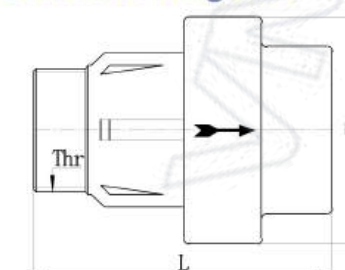
Installation Notes

- 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

- GSO ISO 1608-1:2009: Vapour vacuum pumps — Measurement of performance characteristics — Part 1: Measurement of volume flow rate (pumping speed)
- ISO 3529-2:1981: Vacuum technology — Vocabulary — Part 2: Vacuum pumps and related terms
- ASME BPVC-IX 2023: Welding, Brazing, and Fusing Qualifications
- ASME B16.34-2025: Valves for Flanged, Threaded, and Welded End Connections

Structure Diagram



Structure Dimension Table

Connection	Pressure	DN(IN)	H	W	KG
T	PN16/25 CL150	40(1 1/2")	117	90	1.6

• T: Thread; W: Weld; F: Flange.

Mixer

Wafer Lift Check Valve

IN Silencer Mixer

Wafer Lift Check Valve H71



Features

Silencers are used where steam is used to heat water or other fluids. When working, the highly sprayed steam inhales the liquid from the ring hole, mixes it, and then sprays the heated medium into the water tank. The steam and the medium are fully mixed to avoid the difference in temperature stratification. The mixer is externally threaded and butt-welded, and two or more injectors can be installed in parallel when higher flow rates are required.

Structural Features

All stainless steel.
No moving parts, compact work involving noise and vibration minimization

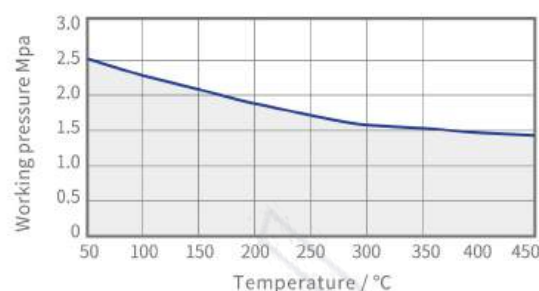
Occasion Applicable

Boilers Ideal for feed water heating and deaeration Efficient steam heating, mixing and circulation of water and other fluids.

Installation Precautions

The silencer is installed at a lower position in the tank, preferably at the center line, spraying steam horizontally.
Pipes can be installed inside or outside the tank. Steam piping must be securely secured against vibration and stress on the tank walls.
It is recommended to use a suitable adhesive for threaded joints.

Valve Shell Pressure-temperature Rating (2.5MPa; 304 material)



Structure Diagram



Structure Dimension Table

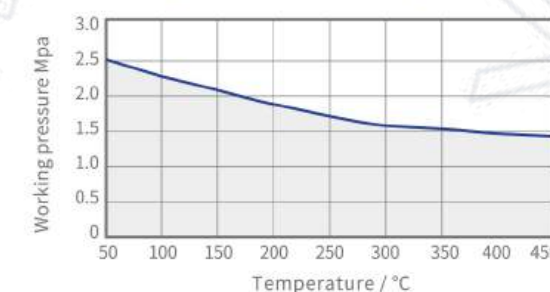
Connection	Pressure	DN(IN)	H	W	W2	KG
T	PN16/25 CL150	15(0.5")	210	36	40	0.51
		20(0.75")	210	40	45	0.53
		25(1")	230	46	52	0.86
		32(1.25")	270	52	59	1.7
		40(1.5")	320	60	68	2.5
		50(2")	360	70	76	4.2

•T: Thread; W: Weld; F: Flange.



Structural Features

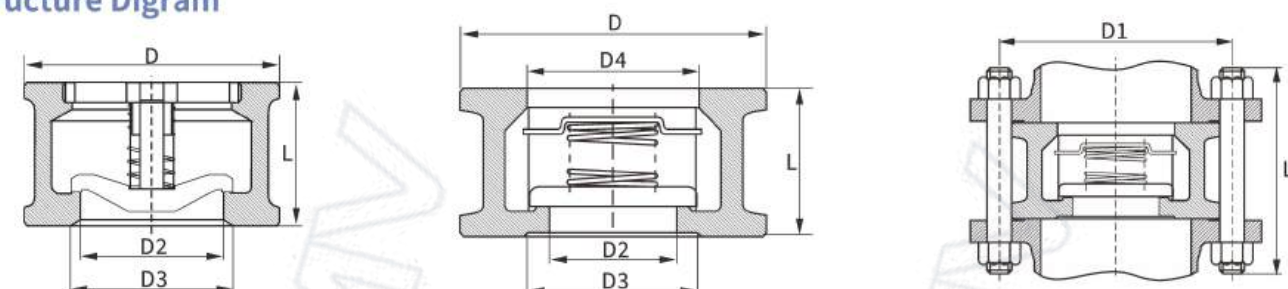
Model H71 Wafer Lift Check Valve. The valve seat and valve disc are processed by heat treatment and aging treatment, and the machining accuracy reaches Micron (μm) level, and zero leakage when closed. Suitable for steam pipelines, noncorrosive gases, liquids and other media

(PN25; CF8/304 material)
Valve Body Pressure-Temperature Ratings

Material Table

Valve body: 304 Disc: 304 Spring: 304

Structure Diagram



Pressure level	Size		Dimensions(mm)					Weight (Kg)	Pipe flange (for reference)					
	NPS	DN	L	D	D2	D3	D4		Bolt hole center Diameter D1	Bolt Quantity	Screw diameter d		Bolt length L1	
											in	mm	RF	RJ
Class150 PN2.0MPa	1/2	15	25	46	15	25	25	0.28	60.5	4	1/2	M14	90	-
	3/4	20	31.5	56	19	30	30	0.42	70	4	1/2	M14	100	-
	1	25	35.5	65	24	36	36	0.56	79.5	4	1/2	M14	105	120
	1 1/4	32	40	74	31	43	43	0.75	89	4	1/2	M14	115	130
	1 1/2	40	45	84	39	52	52	1.3	98.5	4	1/2	M14	120	135
	2	50	56	103	48	62	62	2.1	120.5	4	5/8	M16	140	155
	2 1/2	65	63	122	62	75	75	2.8	139.5	4	5/8	M16	155	170
	3	80	71	135	76	90	90	3.6	152.5	4	5/8	M16	165	180
	4	100	80	173	95	112	112	4.8	190.5	8	5/8	M16	175	190
	5	125	110	195	110	125	132	12	216.0	8	3/4	M20	210	225
	6	150	125	220	127	150	158	17	241.5	8	3/4	M20	230	245
	8	200	160	277	165	200	208	29	298.5	8	3/4	M20	270	285

DIN Y-Strainer

Steam Separator

YG45 DIN Strainer

Steam Separator AS7



Structural Features

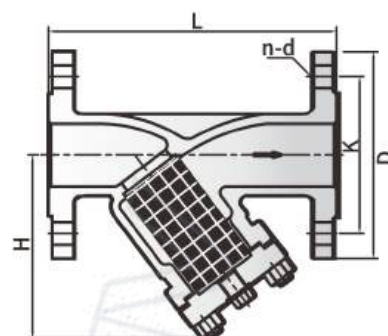
The DIN standard Y type strainer is a device used to eliminate particulate impurities in the medium, which can effectively protect the normal operation of valves and equipment on the pipeline. When cleaning is required, just take out the detachable strainer screen and reload it after processing, which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

Optional drain plug for quick maintenance.

Technical Standard

- EN 12516:2014: Industrial valves
- ASME B16.34-2025: Valves for Flanged, Threaded, and Welded End Connections

Structure Diagram

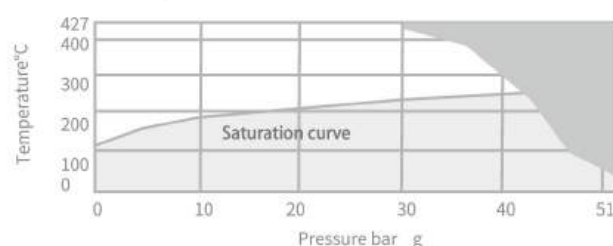


Structure Dimension Table

Model	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

unit(mm)

Work Scope



Working Principle

Steam-water separator separates suspended water droplets contained in steam by sharply changing the flow direction of steam, thus improving product quality and production efficiency.

Structural Features

1. It supplies high-dryness steam for steam equipment and delivers it to steam-using equipment, improving the thermal efficiency of equipment and reducing the impact force inside the pipeline.
2. It can also prevent water hammer. The separated condensed water is discharged through the steam trap at the lower part of the separator.
3. The UFS type steam-water separator is also applicable to separating condensed water from compressed air.

Structural Dimension Table

Model	Specification	Connection Type	Design Pressure (Mpa)	Body Material	Connection Length	Overall Height	Vent Thread	Drain Port Thread
AS	DN15	F/T	1.6	20#--304	320	450	1/2"	1/2"
	DN20		1.6		320	450	1/2"	1/2"
	DN25		1.6		320	500	1/2"	1/2"
	DN32		1.6		320	500	1/2"	1/2"
	DN40		1.6		320	500	1/2"	3/4"
	DN50		1.6		420	638	1"	3/4"
	DN65	F	1.6		420	638	1"	3/4"
			2.5		420	638	1"	3/4"
	DN80		1.6		523	735	2"	3/4"
			2.5		523	735	2"	3/4"
	DN100		1.6		574	795	2"	3/4"
			2.5		574	795	2"	3/4"
	DN125		1.6		656	843	2"	3/4"
			3.0		656	843	2"	3/4"
	DN150		1.6		706	935	2"	3/4"
			3.0		706	935	2"	3/4"
	DN200		0.6		850	1200	2"	2"
			1.6		850	1200	2"	2"
	DN250		0.6		850	1200	2"	2"
			1.6		950	1580	2"	2"
	DN300		0.6		950	1580	2"	2"
			3.0		960	1580	2"	2"
			0.6		1000	1700	2"	2"
			1.6		1000	1700	2"	2"
			3.0		1010	1700	2"	2"

•T: Thread; W: Weld; F: Flange.

Sight Glass

S1 Sight Glass



Technical Parameter

Name	Technical Scope
Size	DN15~DN250
Pressure	0.6MPa~6.4MPa
Temperature	0°C~600°C
Connection	Threaded, Flanged, Clamp Type, Ferrule Type

Material Table

	①	②	③	④	⑤
No.	1	2	3	4	5
Name	Bolt&Nut	Sealing Gasket	Body	Gland	Glass
Main Material	Carbon Steel Stainless Steel Special Steel	PTFE Gasket Graphite Gasket Other Sealing Gaskets	WCB,CF8, CF8M,CF3, CF3M,Others	WCB,CF8, CF8M,CF3, CF3M,Others	Tempered Borosilicate Glass, HB Glass, Quartz Glass

Structural Features

- 1. The structure is compact, saving installation space to the greatest extent and meeting customer needs.
- 2. Temperature resistant calcified glass lens with explosion proof function.

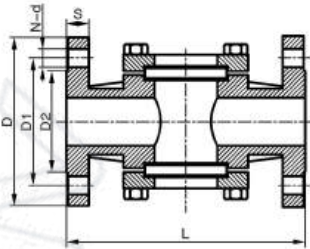
Applicable scope

It is used to monitor the flow and reaction of media such as liquids, gases and steam in pipelines of industrial production facilities for petroleum, chemical, pharmaceutical, food and other industries.

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



Structure Dimension Table

DN	L	D	D1	D2	S	N-d	Glass
15	130	95	65	45	16	4-14	φ45x6
20	150	105	75	58	18	4-14	φ45x6
25	160	115	85	68	18	4-14	φ65x10
32	180	140	100	78	18	4-18	φ65x10
40	200	150	110	88	18	4-18	φ80x10
50	230	165	125	102	18	4-18	φ95x15
65	290	185	145	122	18	8-18	φ95x15
80	310	200	160	138	20	8-18	φ120x20
100	350	220	180	158	20	8-18	φ145x20
125	400	250	210	188	22	8-18	φ170x20
150	450	285	240	212	22	8-22	φ170x20
200	480	340	295	268	24	12-22	φ170x20
250	500	405	355	320	26	12-26	φ170x20

Condensate Recovery System and Steam Energy-saving Products

Condensate Flash Recovery System



Condensate flash system



P1	Primary steam pressure	bar	P	Power steam pressure	bar
P2	Flash steam pressure	bar	Pb	Back pressure	bar
Q1	Saturated condensate flow rate	kg/h			

Steam Ejector



Main Parameters

Noun	Definition	Unit
Pp	Operating Steam Absolute Pressure	Pa
tp	Operating Steam Temperature	°C
Vp	Operating Steam Specific Volume	M³/kg
ip	Operating Steam Specific Enthalpy	kJ/kg
PH	Ejector Steam Absolute Pressure	Pa
TH	Ejector Steam Temperature	°C
VH	Ejector Steam Specific Volume	M³/kg
iH	Ejector Steam Specific Enthalpy	kJ/kg
GH	Ejector Steam Flow Rate	kg/h
PC	Compressed Steam Pressure	Pa

Tube Heat Exchanger



Main Parameters

S	Heat Exchange Area	m²	Q2	Secondary medium flow rate	kg/h
	Primary medium			Secondary medium	
Ps	Primary pressure	bar	T21	Secondary medium inlet temp.	°C
T1	Primary temperature	°C	T22	Secondary medium outlet temp.	°C
DN	Primary nominal diameter	DN		Secondary nominal diameter	