



GVK

STEAM CONTROL SOLUTION

Total Engineering Solution Service

Mission

기초에 근거하여 원천 기술을 살리고 원천 기술을
극대화하여 세계 중심에 서는 것

To stand at the centre of the world by
utilizing original technology based on the
foundation and maximizing original technology

Vision

우리는 옳은 일과 가치 있는 일에 주저함이 없이
최선을 다하고 실천하여 세계의 중심에 서자

Let us put ourselves at the center of the world by
doing our best and not hesitating to stand up for
what is right and worthy



GLOBAL VISION KOREA





Valve Product Service



GVK Limited, founded in June 2020 by a leader with 38 years of experience, focuses on R&D while ensuring quality, price, and functionality through domestic production. The company offers Process Valves, Valve Equipment, and Total Engineering services for industries such as Gas, Refining, Petroleum, Power generation, Environment, and Water treatment.

With a management team possessing 30-40 years of experience, GVK has developed numerous patents and adheres to quality standards like ISO 9001, 14001, 45001, and CE. Recognized for its advanced automatic control valves, GVK also supplies a range of Control Valves globally through OEM and ODM partnerships.

Although still in the early design and manufacturing stages, GVK has emerged as a leading company in Korea, equipped with skilled personnel and testing capabilities. The company aims to lower production costs, enhance efficiency, and improve quality while accumulating Hyper-Intelligence Valve Engineering (HIVE) technology. GVK Limited is committed to meeting customer needs with competitive pricing and high value-added services.

The Professional Provider of Automatic valve Actuators



Mutually Beneficial Relationships



To Be Your Best Partner



Twenty years experience "one stop" goods and services





GVK

Steam Control Solution

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GVK STEAM CONTROL SOLUTION

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Precision smart manufacturing process



3D modeling design

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

Manufacturing of key precision internals

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



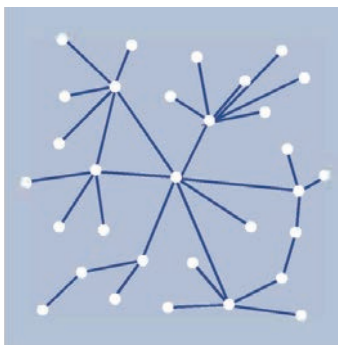
Precision CNC Intelligent Manufacturing

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

CNC intelligent control cloud platform

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

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



Steam System Products



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

Steam System Products



**Thermostatic (Bimetallic)
Steam Trap**

SHT16/32

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



Thermostatic (film box) Steam Trap

SKT16

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



Thermostatic (Bimetallic) Trap Station

SHT32TVS

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



Thermodynamic Steam Trap

STD01T

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



Thermodynamic

STD16

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

Steam System Products



Thermodynamic (Disc) Steam Trap
STD42

Model	Material	Max W. P. MPa	PN	Connection	Nominal Diameter		
					15	20	25
STD42TW-25	A105/SS	2.5	PN40	Threaded/Welded	●	●	●
STD42F-25	A105/SS	2.5	PN40	Flange	●	●	●
STD42TW-42	A105/15CrMo	4.2	PN63	Threaded/Welded	●	●	●
STD42F-42	A105/15CrMo	4.2	PN63	Flange	●	●	●



Thermodynamic (Disc) Steam Trap
STD80

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



Inverted Bucket Steam Trap
SBT10 / SBT20
SBT24 / SBT30

Model	Material	Max W. P. MPa	PN	Connection	Nominal Diameter					
					15	20	25	32	40	50
SBT10TW-16	WCB/SS	1.6	PN25	Threaded/Welded	●	●	●			
SBT10F-16	WCB/SS	1.6	PN25	Flange	●	●	●	●		
SBT20TW-16	WCB/SS	1.6	PN25	Threaded/Welded	●	●	●	●		
SBT20F-16	WCB/SS	1.6	PN25	Flange	●	●	●	●	●	
SBT24TW-32	WCB/SS	3.2	PN40	Threaded/Welded	●	●	●	●		
SBT24F-32	WCB/SS	3.2	PN40	Flange	●	●	●	●	●	
SBT30TW-16	WCB/SS	1.6	PN25	Threaded/Welded		●	●	●		
SBT30F-16	WCB/SS	1.6	PN25	Flange		●	●	●	●	

Steam System Products



Inverted Bucket Steam Trap
SBT11A



Inverted Bucket Steam Trap
SBT11TVS



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



Lever Ball Float Steam Trap
SFT10

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

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

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

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

Steam System Products



Lever Ball Float Steam Trap
SFT10A / SFT13A

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



Lever Ball Float Steam Trap
SFT20 / SFT23
SFT30 / SFT40

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



Lever Ball Float Proportional Regulating Steam Trap
SFT30A

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

Steam System Products



Lever Ball Float Steam Trap

SFT50 / SFT53

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



Lever Ball Float Steam Trap

SFT60

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



Lever Ball Float Steam Trap

SFT66

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



Lever Ball Float Steam Trap

SFT70

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

Steam System Products



Lever Ball Float Air Trap

AFT20 / AFT30
AFT40

Model	Material	Max W. P. MPa	PN	Connection	Nominal Diameter				
					15	20	25	32	40
AFT20TW-16	WCB/SS	1.6	PN25	Threaded/Welded	●	●	●		
AFT20F-16	WCB/SS	1.6	PN25	Flange		●	●	●	●
AFT30TW-16	WCB/SS	1.6	PN25	Threaded/Welded			●	●	
AFT30F-16	WCB/SS	1.6	PN25	Flange			●	●	●
AFT40F-16	WCB/SS	1.6	PN25	Flange			●	●	●



Pump Trap

PT20

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

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



System Device of Single Pump Trap

SPT20S



System Device of Double Pump Trap

SPT20D



System Device of Three pump Trap

SPT20T

Steam System Products



**Bellows Stainless Steel Steam
Distribution Manifolds**
BSPM03 / BCRM03

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



**Bellows Forged Steel Steam
Distribution Manifolds**
BSPM02 / BCRM02

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



Bellows Sealed Globe Valve

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



Bellows Sealed Gate Valve

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

Steam System Products



Vacuum Breaker
VB21



Silencer
DF3

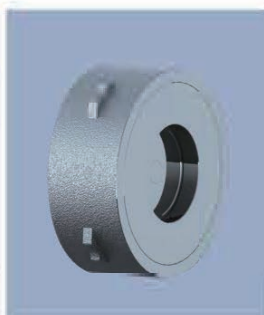
Model	Material	Max W. P. MPa	PN	Connection	Nominal Diameter		
					15	20	25
VB21	304	2.1	PN25	RC	●	●	●
DF3	304	4	PN40	RC	●	●	●



Mixer
IM40M



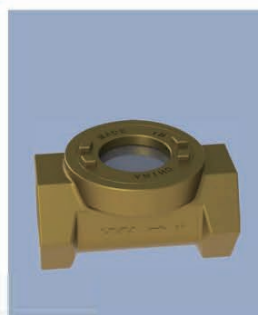
Water Separator
AS7



Wafer Check Valve
Z71H-25P



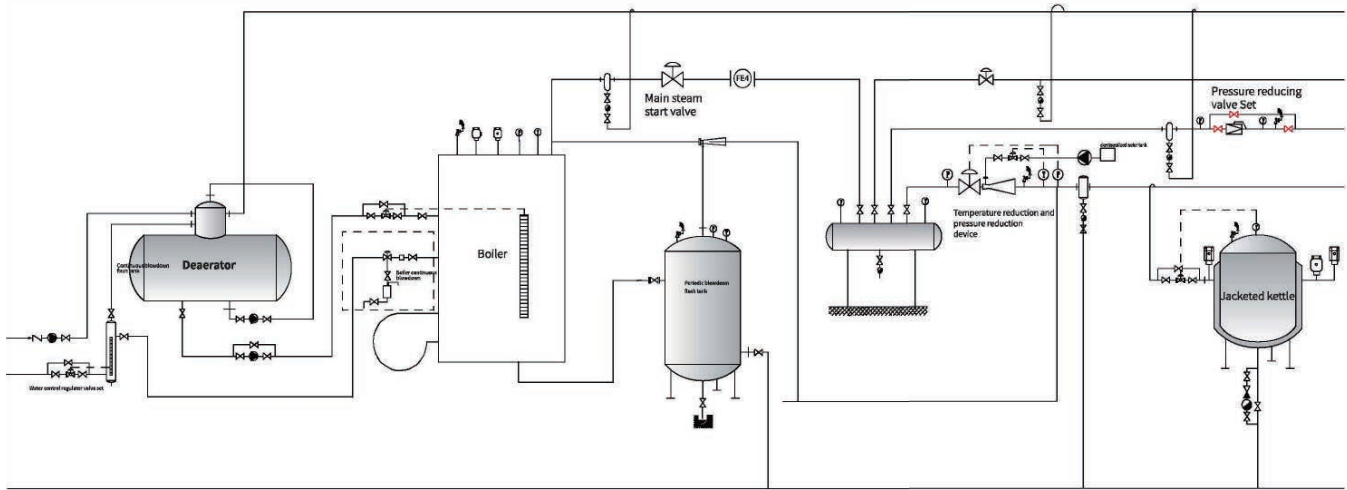
Y strainer



Sight Glass

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

Knowledge Consulting Product Service



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

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

P—Product Provide quality and reliable products.

Safe, reliable and switch flexible bellows globe valve;

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

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

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

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

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

Professional Terms

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

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

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

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

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

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

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

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

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

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

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



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

Measures for Efficient Utilization of Steam Thermal Energy

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

Properties of Steam

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

Properties of Steam

Gauge bar	Saturation Temperature °C	Sensible heat of water (specific enthalpy) kcal/kg	Latent heat of evaporation (specific enthalpy) kcal/kg	Total heat of steam (specific enthalpy) kcal/kg	Steam density kg/m ³	Density of water kg/m ³
17.5	208.51	212.79	455.28	668.07	9.305	854.63
18	209.84	214.23	453.98	668.21	9.550	853.02
18.5	211.14	215.65	452.69	668.35	9.796	851.43
19	212.42	217.04	451.43	668.47	10.041	849.83
19.5	213.67	218.41	450.18	668.59	10.287	850.48
20	214.90	219.76	448.94	668.69	10.533	846.81
20.5	216.10	221.08	447.72	668.79	10.779	845.24
21	217.29	222.38	446.51	668.89	11.025	843.81
21.5	218.45	223.66	445.32	668.97	11.272	842.32
22	219.60	224.92	444.14	669.05	11.519	840.83
22.5	220.72	226.16	442.97	669.12	11.766	839.42
23	221.83	227.38	441.81	669.19	12.013	838.01
23.5	222.92	228.58	440.67	669.25	12.260	836.61
24	223.99	229.77	439.53	669.3	12.508	835.21
24.5	225.05	230.94	438.41	669.35	12.756	833.82
25	226.09	232.1	437.3	669.39	13.004	832.43
25.5	227.11	233.24	436.19	669.43	13.253	831.12
26	228.12	234.36	435.1	669.46	13.502	829.74
26.5	229.11	235.48	434.01	669.49	13.751	828.43
27	230.10	236.57	432.94	669.51	14.000	827.13
27.5	231.06	237.66	431.87	669.53	14.250	825.83
28	232.02	238.73	430.81	669.54	14.500	824.54
28.5	232.96	239.79	429.76	669.55	14.750	823.25
29	233.89	240.83	428.72	669.56	15.001	821.96
29.5	234.81	241.87	427.69	669.56	15.252	820.75
30	235.72	242.89	426.66	669.55	15.504	819.47
30.5	236.61	243.9	425.64	669.54	15.755	816.99
31	237.50	244.91	424.63	669.54	16.007	814.6
31.5	238.37	245.9	423.62	669.52	16.260	812.22
32	239.24	246.88	422.62	669.5	16.513	809.85
32.5	240.09	247.85	421.63	669.48	16.766	807.49
33	240.94	248.81	420.64	669.46	17.019	805.22
33.5	241.77	249.76	419.66	669.43	17.273	802.95
34	242.60	250.71	418.69	669.4	17.527	800.7
34.5	243.41	251.64	417.72	669.36	17.782	798.47

Condensate Pipe Diameter/Velocity/Flow table

DN	Flow m ³ /h													
	0.4m/s	0.6m/s	0.8m/s	1.0m/s	1.2m/s	1.4m/s	1.6m/s	1.8m/s	2.0m/s	2.2m/s	2.4m/s	2.6m/s	2.8m/s	3.0m/s
20	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2	2.3	2.5	2.7	2.9	3.2	3.4
25	0.7	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5	3.9	4.2	4.6	4.9	5.3
32	1.2	1.7	2.3	2.9	3.5	4.1	4.6	5.2	5.8	6.4	6.9	7.5	8.1	8.7
40	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9	10	10.9	11.8	12.7	13.6
50	2.8	4.2	5.7	7.1	8.5	9.9	11.3	12.7	14.1	15.6	17	18.4	19.8	21.2
65	4.8	7.2	9.6	11.9	14.3	16.7	19.1	21.5	23.9	26.3	28.7	31.1	33.4	35.8
80	7.2	10.9	14.5	18.1	21.7	25.3	29	32.6	36.2	39.8	43.4	47	50.7	54.3
100	11.3	17	22.6	28.3	33.9	39.6	45.2	50.9	56.5	62.2	67.9	73.5	79.2	84.8
125	17.7	26.5	35.3	44.2	53	61.9	70.7	79.5	88.4	97.2	106	114.9	123.7	132.5
150	25.4	38.2	50.9	63.6	76.3	89.1	101.8	114.5	127.2	140	152.7	165.4	178.1	190.9
200	45.2	67.9	90.5	113.1	135.7	158.3	181	203.6	226.2	248.8	271.4	294.1	316.7	339.3
250	70.7	106	141.4	176.7	212.1	247.4	282.7	318.1	353.4	388.8	424.1	459.5	494.8	530.1
300	101.8	152.7	203.6	254.5	305.4	356.3	407.1	458	508.9	559.8	610.7	661.6	712.5	763.4
350	138.5	207.8	277.1	346.4	415.6	484.9	554.2	623.4	692.7	762	831.3	900.5	969.8	1039.1
400	181	271.4	361.9	452.4	542.9	633.3	723.8	814.3	904.8	995.3	1085.7	1176.2	1266.7	1357.2
450	229	343.5	458	572.6	687.1	801.6	916.1	1030.6	1145.1	1259.6	1374.1	1488.6	1603.2	1717.7
500	282.7	424.1	565.5	706.9	848.2	989.6	1131	1272.3	1413.7	1555.1	1696.5	1837.8	1979.2	2120.6
600	407.1	610.7	814.3	1017.9	1221.4	1425	1628.6	1832.2	2035.7	2239.3	2442.9	2646.5	2850	3053.6

Technical Standard

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

Professional Terms

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

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

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

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

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

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

Professional Terms

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

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

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

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

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

Operating temperature TO: valve temperature in the applicable medium.

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

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

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

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

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

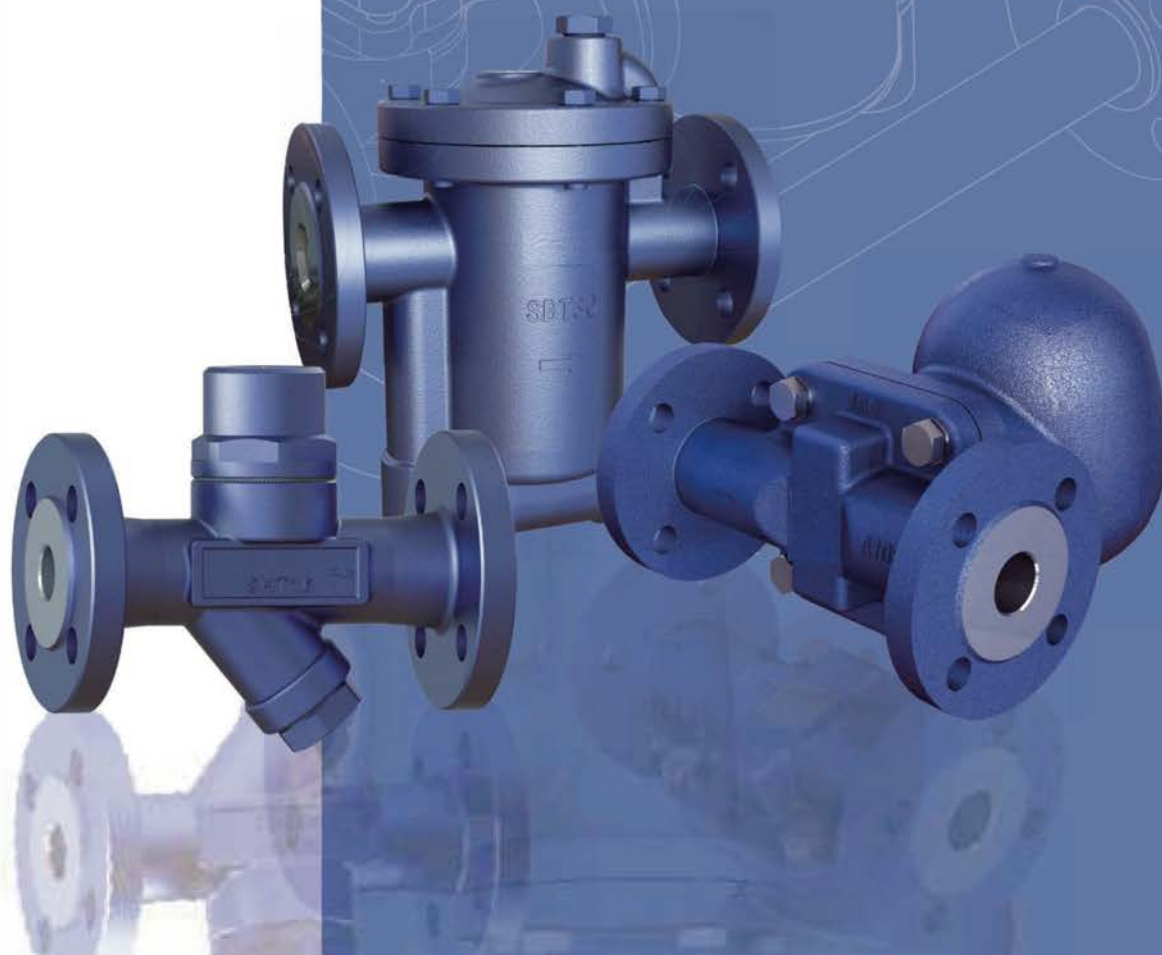
Steam loss quantity QL: The amount of fresh steam leaking from the steam trap per unit time.

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

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



Steam Trap



Thermostatic (Bimetallic) Steam Trap

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.

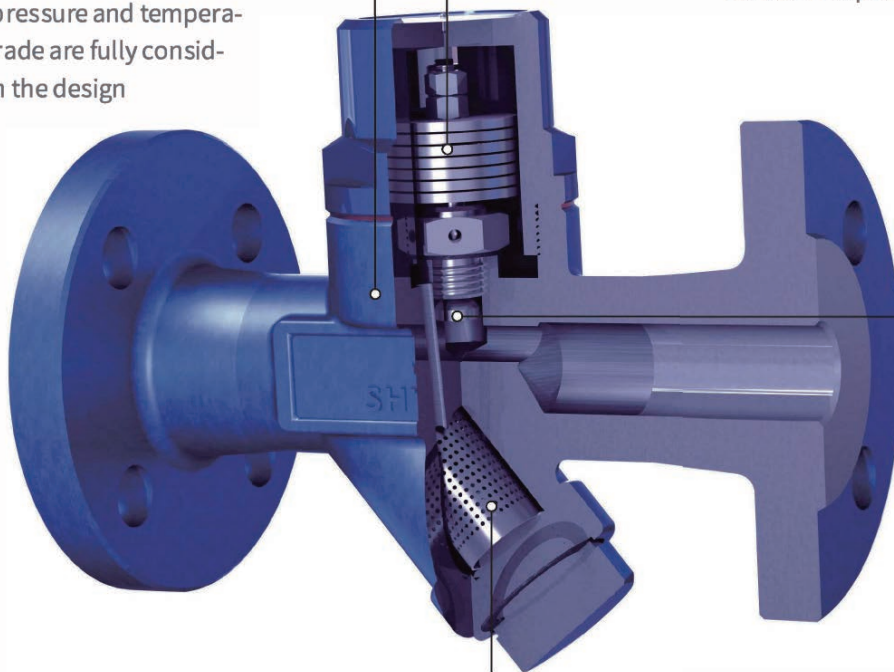
The technical advantages of VMV traps are unique and reasonable structure and high precision internal parts

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

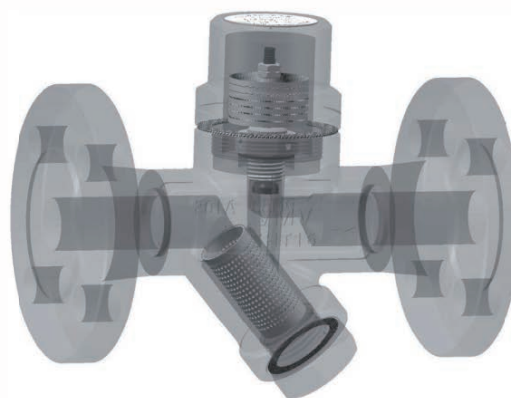
Thermostatic (Bimetallic) Steam Trap

Structural characteristics

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

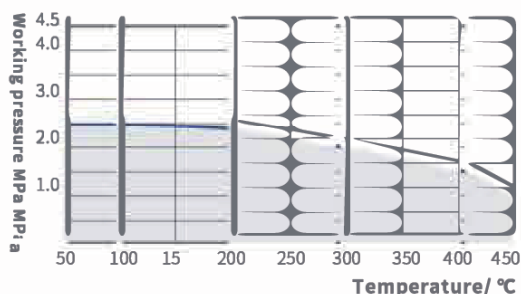
The bimetallic steam trap adopts a line sealing closing system, which has no steam leakage, no noise, good air venting capacity, and makes full use of the sensible heat of condensate, resulting in good energy saving effect.

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



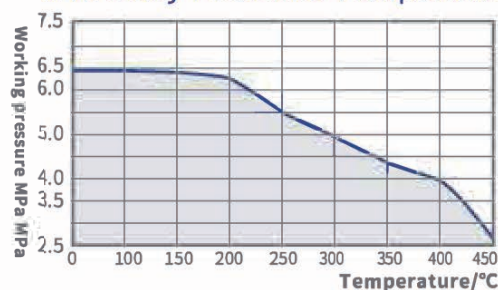
WCB/A105 Material PN25

Valve Body Pressure-Temperature Ratings



WCB/A105 Material PN63

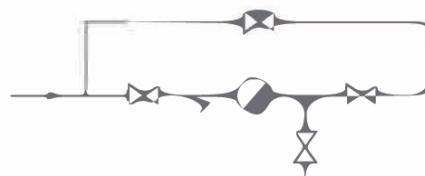
Valve Body Pressure-Temperature Ratings



Selection and Installation of Bimetallic Steam Traps

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

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



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

SHT16 Thermostatic(Bimetallic)Steam Trap



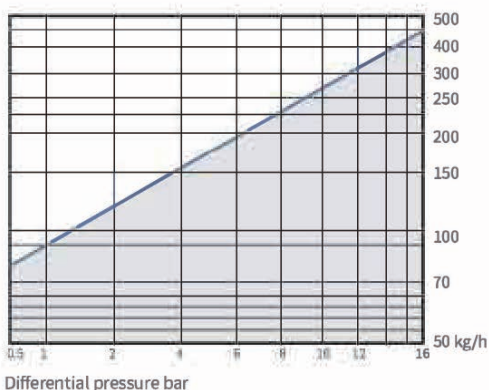
Technical Parameters

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

Material

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

SHT16 Capacity Curve



Working Principle

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

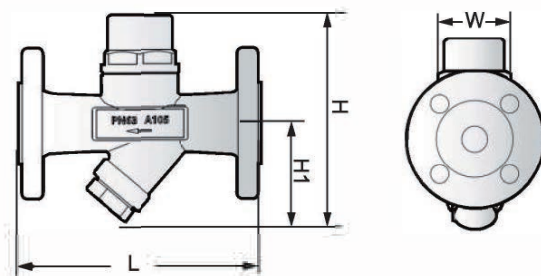
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

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

Thermostatic (Bimetallic) Steam Trap

Thermostatic(Bimetallic)Steam Trap **SHT32**

Working Principle

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

Features

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

Technical Standard

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



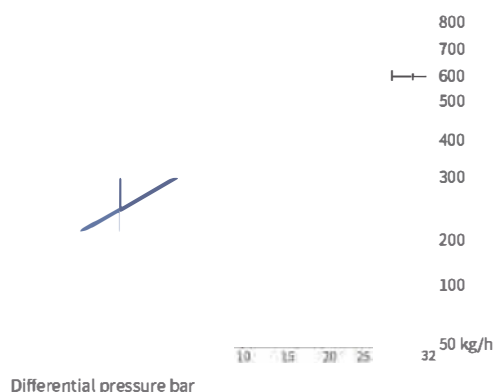
Technical Parameters

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

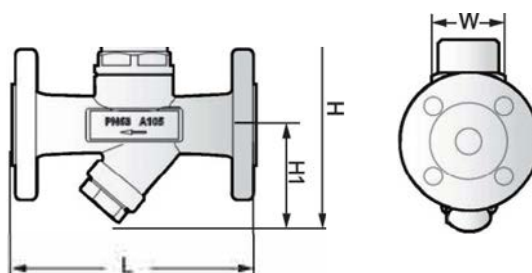
Material

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

SHT32 Capacity Curve



Structure Diagram



Structural Dimension Table

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

unit (mm)

Thermostatic (Membrane) Steam Trap

Membrane traps are widely used in heat tracing pipelines and equipment with small capacity and low temperature requirements due to their small size, large sub-cooling degree, good energy saving effect and low temperature resistance.

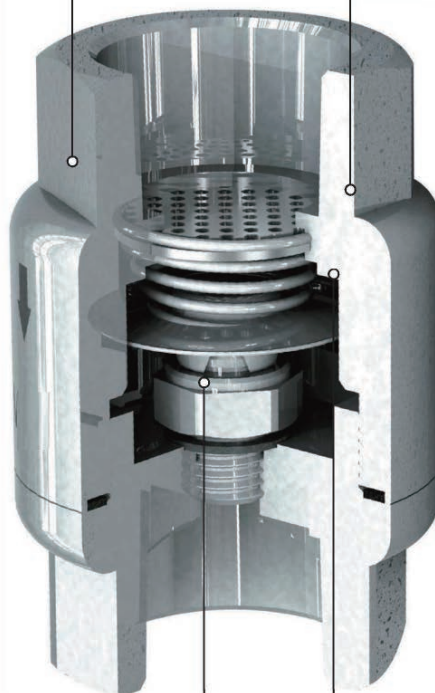
The technical advantages of *VMV* traps are unique and reasonable structure and high-precision internal parts.

High Corrosion Resistance

Stainless steel SS304 has beautiful appearance and good performance.

Integrated Filtration Design

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



Large Subcooling Film Box Module

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

Suitable For Clean Pipes

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

Thermostatic (film box) Steam Trap



Structural Features

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

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

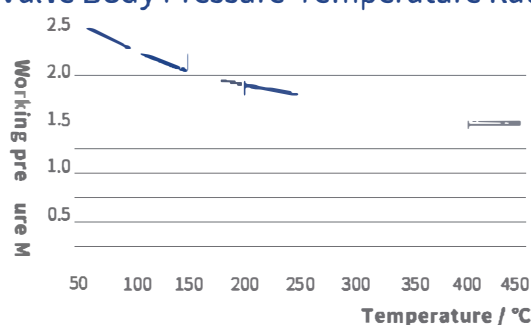
Film box traps work on the difference in temperature between steam and condensate. When the steam in the pipe releases heat and the temperature decreases to produce condensate, the diaphragm in the diaphragm box shrinks and moves to open the valve seat to discharge condensate. The Film box trap can be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

Technical Standard

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

304 Material PN16

Valve Body Pressure-Temperature Ratings



Steam Trap Selecting and Installation

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

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

Structure Diagram



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

Thermostatic (Membrane) Steam Trap

SKT16 Thermostatic (Membrane) steam trap



Technical Parameter

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

Material

Bonnet: SS304/SS316

Body: SS304/SS316

Seat: Martensitic stainless steel Austenitic Stainless Steel

Valve core: Martensitic stainless steel

Other internal parts:

Working Principle

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

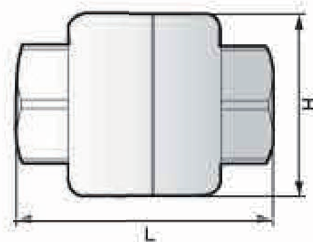
Features

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

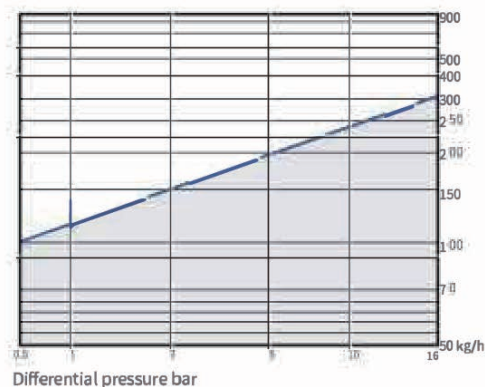
Technical Standard

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

Structure Diagram



SKT16 Capacity Curve



Structural Dimension Table

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

Bimetallic Steam Trap station

Bimetallic steam trap station **SHT32TVS**

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

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

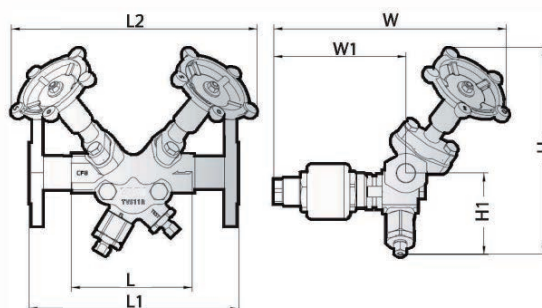
Technical Standard

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

Material

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

Structure Diagram



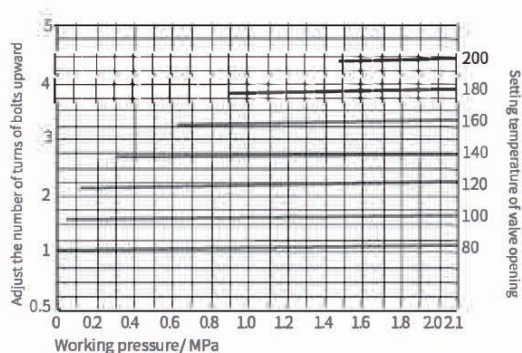
Structural Dimension Table

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

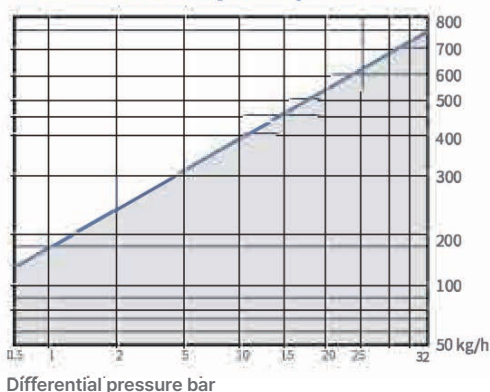


Technical Parameter

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



SHT32TVS Capacity Curve



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.

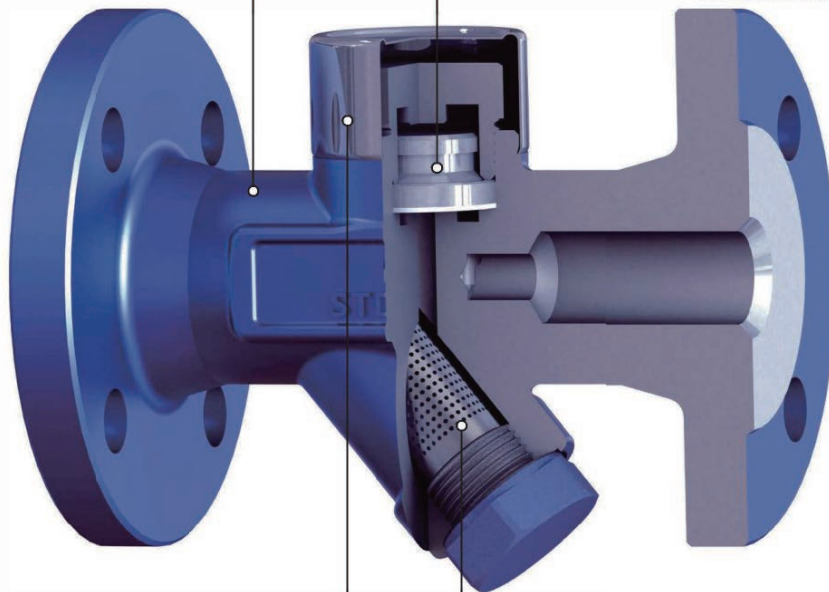
The technical advantages of VMV steam traps are unique and reasonable structure, high-precision internal parts, changeable valve seat.

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.

Thermodynamic (Disc) Steam Trap

Structural Features

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

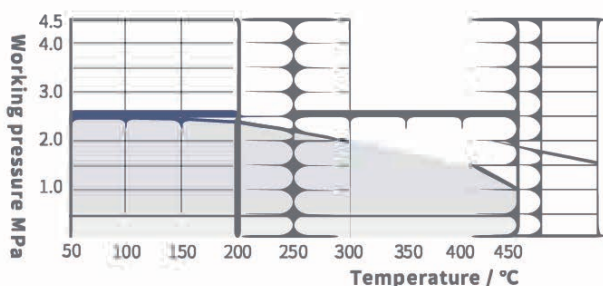
According to the Bernoulli equation, it has been repeatedly calculated and finally finalized through a large number of experiments. The product is available in low temperature and saturated versions. The low-temperature type venting the condensate at a lower temperature (higher venting of subcooling)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

VMV 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



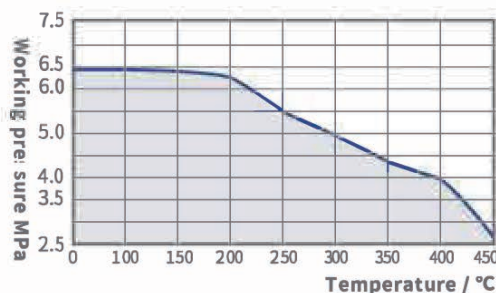
A105 Material PN25

Valve Body Pressure-Temperature Ratings



A105 Material PN63

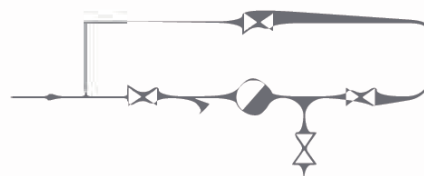
Valve Body Pressure-Temperature Ratings



Thermodynamic Trap Selection and Installation

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

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



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

STD01 Thermodynamic (Disc) Steam Trap



Technical Parameter

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

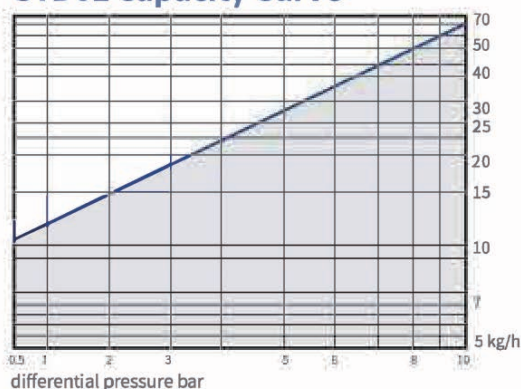
Material List

Bonnet: 304

Body: Martensitic Stainless Steel

Disc: Martensitic Stainless Steel

STD01 Capacity Curve



Working Principle

- By taking advantage of thermodynamics characteristics

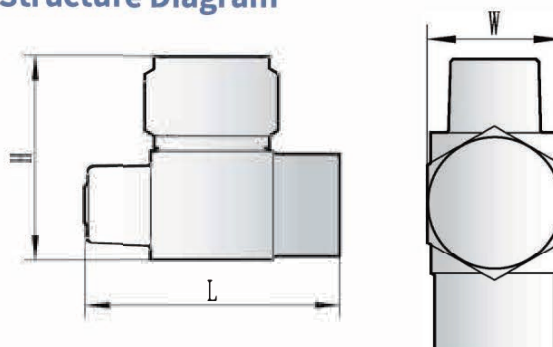
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

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

- Suitable for steam irons and instrument pads in the garment

Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap **STD16**

Working Principle

- By taking advantage of thermodynamics characteristics

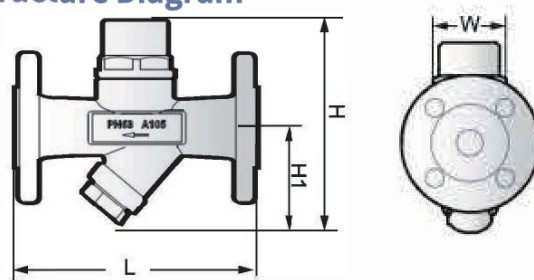
Features

- The valve body and valve cover are all made of forged steel.
- The valve disc and valve seat are made of materialistic 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 less heat loss and eliminate invalid actions.
- The fluid channel of the internal structure is designed strictly according to Bernoulli's equation, and the structure is reasonable.
- Built-in filter makes the trap work in a clean environment.
- The back pressure rate is as high as 80% or more.
- Exclude low temperature version, it needs to be customized.

Technical Standard

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

Structure Diagram



Structural Dimension Table

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

- Suitable for drainage of saturated or superheated steam pipelines.



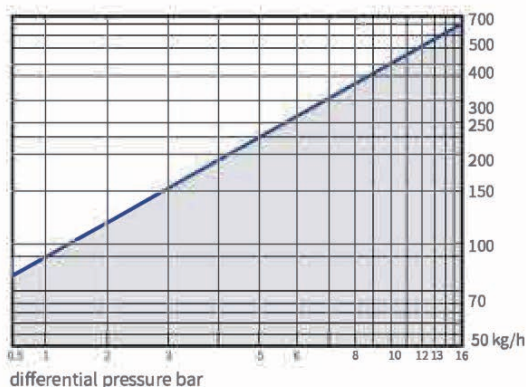
Technical Parameter

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

Material List

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

STD16 Capacity curve



Thermodynamic (Disc) Steam Trap

STD42 Thermodynamic (Disc) Steam Trap



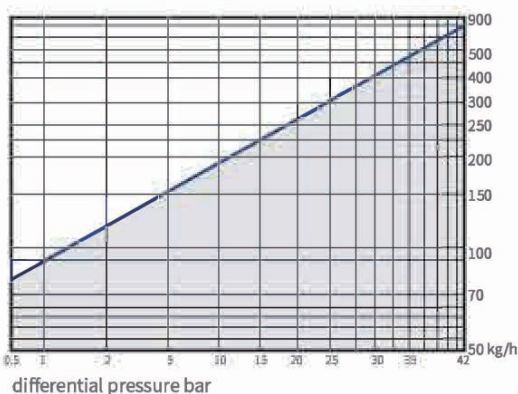
Technical Parameter

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

Material List

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

STD42 Capacity Curve



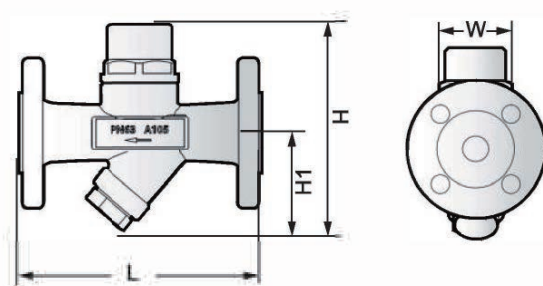
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

Structural Dimension Table

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

- Suitable for saturated or superheated steam pipeline drainage

Thermodynamic (Disc) Steam Trap

Thermodynamic (Disc) Steam Trap **STD80**



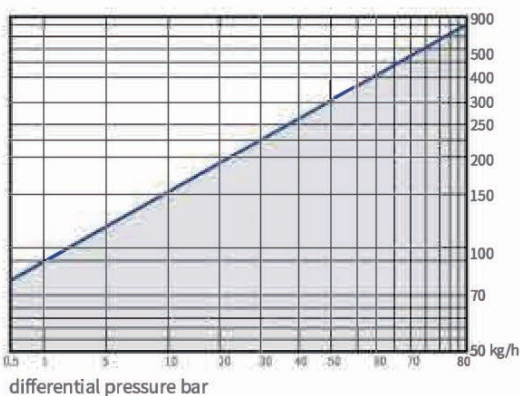
Technical Parameter

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

Material List

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

STD80 Capacity Curve



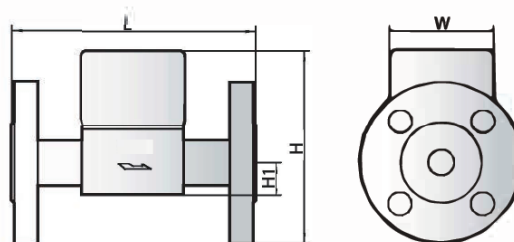
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

						Unit(mm)
Model	Size	L	H	H1	W	Weight
STD80W	DN15-25	85	112	25	90	4.0Kg
STD80F	DN15-25	190	112	25	90	7.5Kg

- Suitable for saturated or superheated steam pipeline drainage.

Inverted Bucket Steam Trap

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

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

High Corrosion Resistance

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

Flexible Closing System

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

Stainless Steel Bucket Vent hole 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

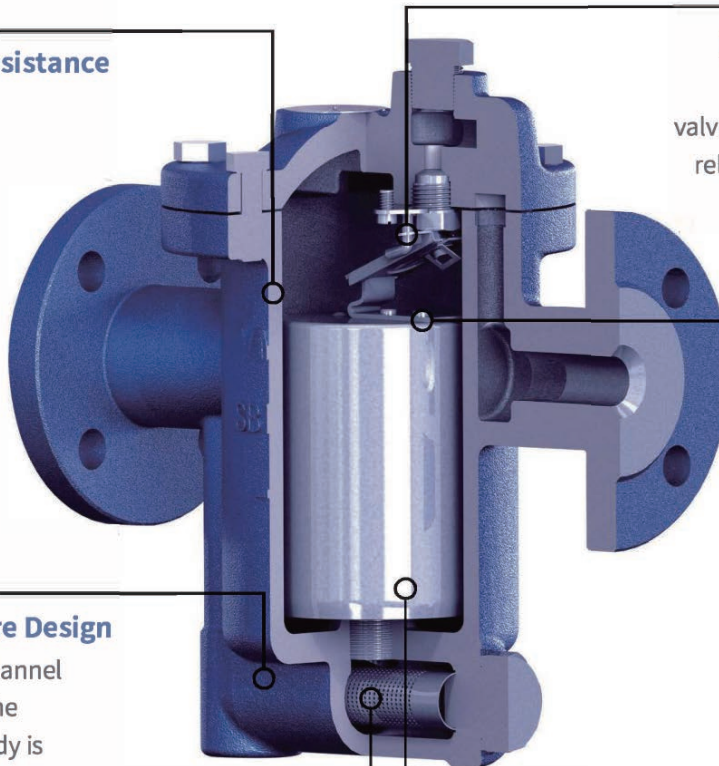
The U-shaped flow channel design ensures that the inside of the valve body is in a water-sealed state
No original steam leakage

Built-in Filter

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

Built-in Check Valve

Prevents water hammer from damaging internals. Also suitable for super-heated steam environments



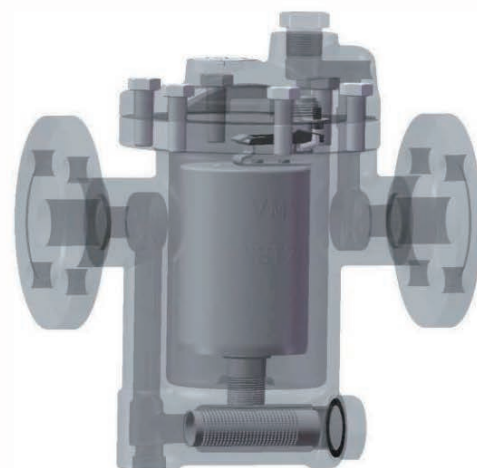
Inverted Bucket Steam Trap

Structural Features

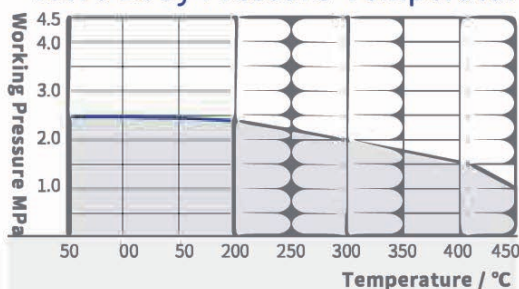
VMV steam trap design has fully considered factors such as shell strength, pressure and temperature grade, casting manufacturability, tightness of valve plug and seat closure, impact caused by water and vapor mixing, and the strength of valve cover gasket is affected by low temperature environment and 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 vent hole on the upper part of the bucket removes the non-condensable gas, the bucket loses buoyancy and drives the valve core to move down, the trap opens to drain, and when steam enters the bucket after draining, the bucket floats to drive the valve. The core closes the trap.

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



WCB/A105 Material PN25 Valve Body Pressure-Temperature Ratings

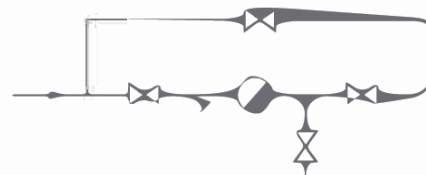
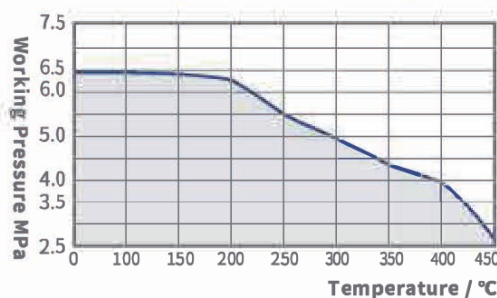


Selection and Installation of Inverted Bucket Steam Traps

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

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

WCB/A105 Material PN63 Valve Body Pressure-Temperature Ratings



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

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

Inverted Bucket Steam Trap

SBT10 Inverted Bucket Steam Trap



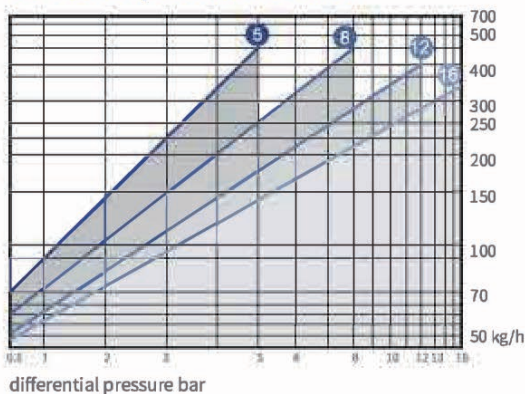
Technical Parameter

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

Material list

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

SBT10 Displacement Curve



Working Principle

- Relying on the difference in vapor and liquid density.

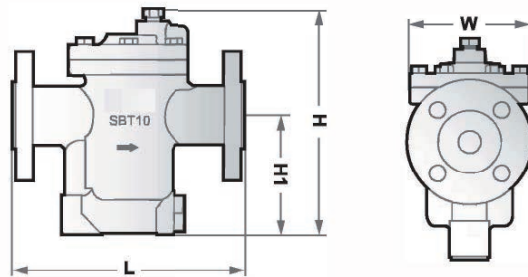
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

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

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap **SBT20**



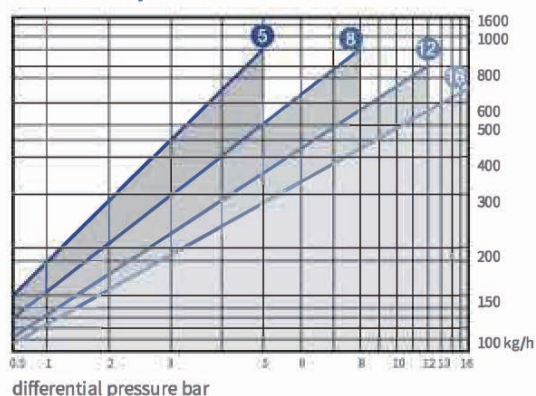
Technical Parameter

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

Material List

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

SBT20 Displacement Curve



working Principle

- Relying on the difference in vapor and liquid density.

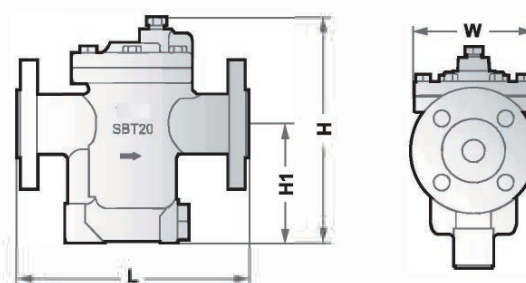
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

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

Inverted Bucket Steam Trap

SBT24 Inverted Bucket Steam Trap



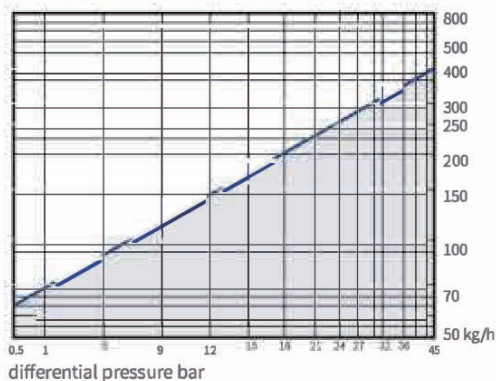
Technical Parameter

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

Material List

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

SBT24 Capacity Curve



Working Principle

- By the difference in vapor and liquid density.

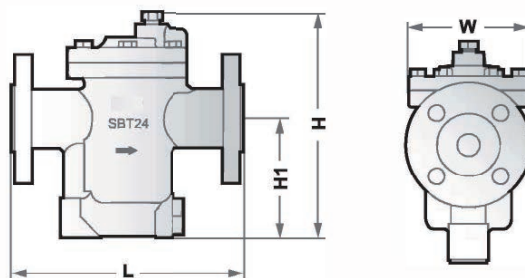
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

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

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap **SBT30**



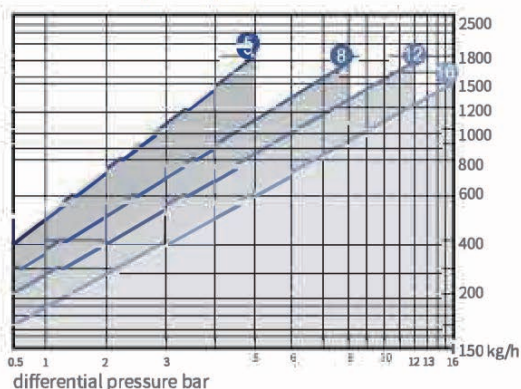
Technical Parameter

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

Material List

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

SBT30 Capacity Curve



working Principle

- By the difference in vapor and liquid density.

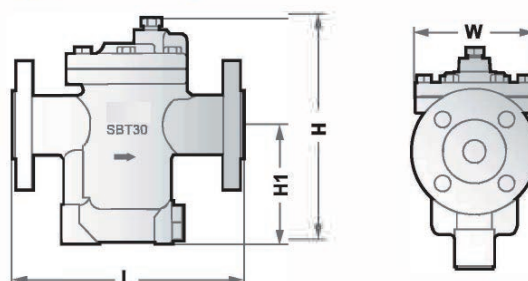
Features

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

Technical Standard

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

Structure Diagram



Structural Dimension Table

Structural Dimension Table						Unit(mm)
Model	Size	L	H	H1	W	Weight
SBT30T	DN25-32	210	320	187	174	15Kg
SBT30W	DN25-32	210	320	187	174	15Kg
SBT30F	DN25-50	270	320	187	174	19.5Kg

Inverted Bucket Steam Trap

SBT11A Inverted Bucket Steam Trap



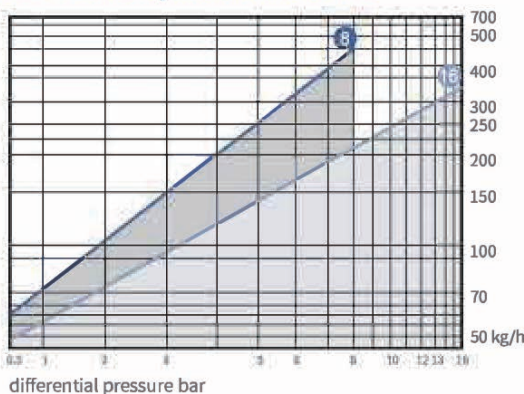
Technical Parameter

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

Material List

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

SBT11A Displacement Curve



Working Principle

- By the difference in vapor and liquid density.

Features

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

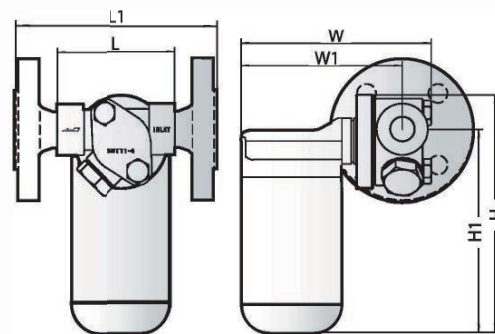
Technical Standard

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

Flow Chart



Structure Diagram



Structural Dimension Table

Unit(mm)						
Model	Size	L	L1	W	W1	H
SBT11A	DN15-25	88	210	152	130	176

Weight

SBT11A:4.2Kg
SBT11AF:6.1Kg

Inverted Bucket Steam Trap

Inverted Bucket Steam Trap Station **SBT11TVS**

Working Principle

- By the difference in vapor and liquid density.

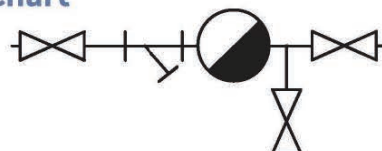
Features

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

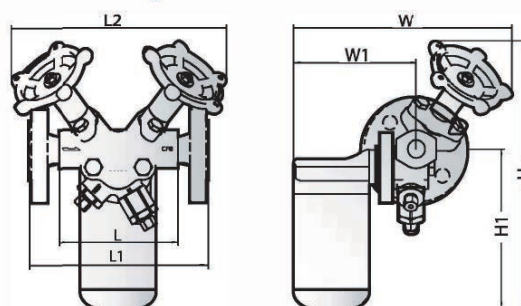
Technical Standard

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

Flow Chart



Structure Diagram



Structural Dimension Table

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

Weight

SBT11TVS: 5.4Kg
SBT11TVSF: 7.6Kg



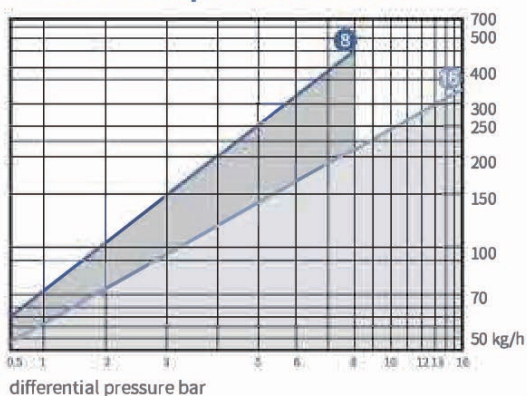
Technical Parameter

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

Material List

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

SBT11TVS Displacement Curve



Pilot Inverted Bucket Steam Trap

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

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

High Corrosion Resistance

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

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 live steam leakage

Flexible Pilot Closure System

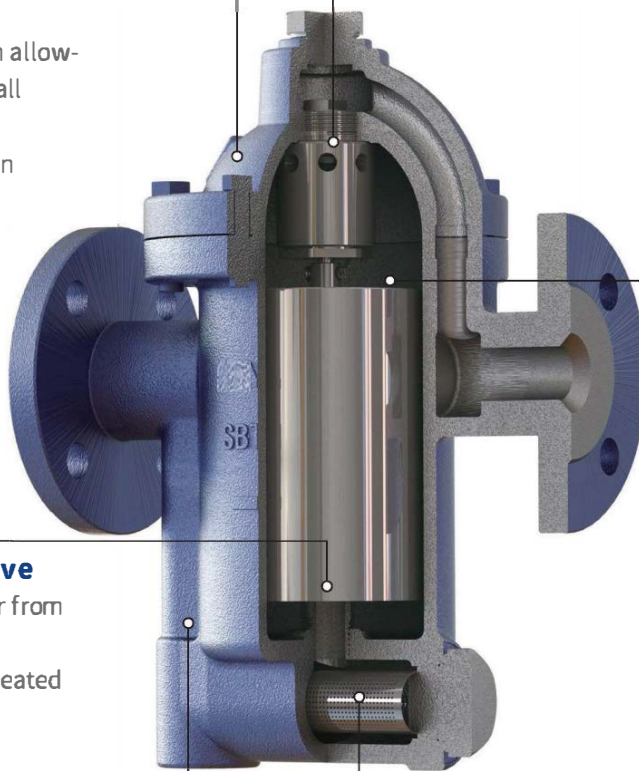
High-precision flexible pilot closing system Pilot valve guides the main valve to open and close

Stainless Steel Bucket Vent Hole Structure

Small holes 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

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.

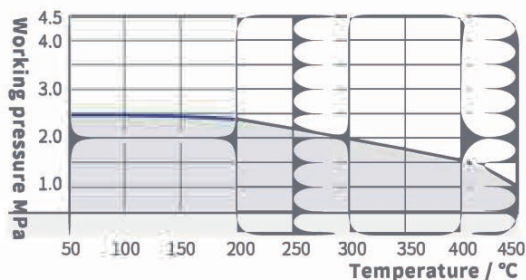
Pilot inverted bucket steam traps work on the difference in density between steam and condensate. When the bucket is full of condensed water and non-condensable gas, the vent hole on the upper part of the bucket removes the non-condensable gas, the bucket loses buoyancy and drives the pilot valve core 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 capacity, high back pressure rate, long life, reliable action, convenient maintenance, and no steam leakage.



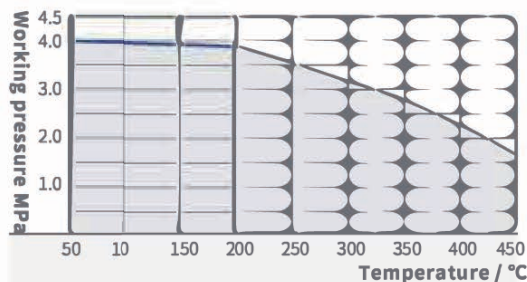
WCB/A105 Material PN25

Valve Body Pressure-Temperature Ratings



WCB/A105 Material PN40

Valve Body Pressure-Temperature Ratings



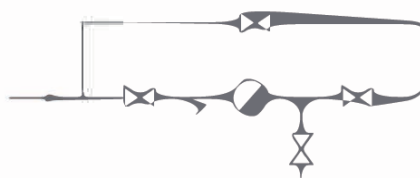
Selection and Installation of Pilot Inverted Bucket Steam Traps

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

The amount of condensed water and the differential pressure of the steam-using equipment are important indicators for model selection. For the same type of steam trap, the capacity increases with the increase of the differential pressure. See the details on capacity curve.

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

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



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

Pilot Inverted Bucket Steam Trap

SBT40 Pilot Inverted Bucket Steam Trap



Technical Parameter

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

Material List

Bonnet: WCB/CF8/CF8M

Body: WCB/CF8/CF8M

Seat: Martensitic

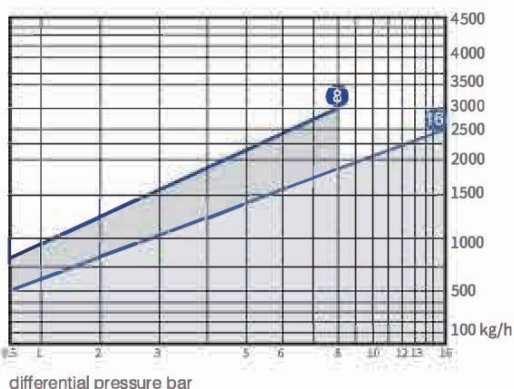
Stainless Steel

Disc: Martensitic Stainless Steel

Other internal parts:

Austenitic Stainless Steel

SBT40 Capacity Curve



Working Principle

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

Features

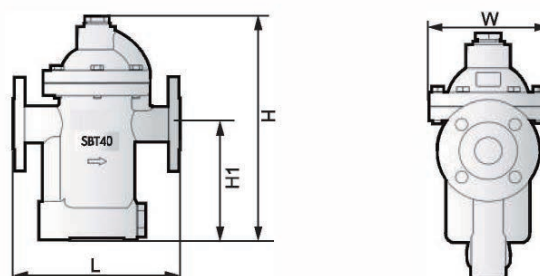
- The valve body and valve cover are made of cast steel.
- The internal parts are all made of stainless steel, and the wear allowance has been fully considered in the design of the movable parts, which improves the service life of the trap.
- U-shaped runner design achieves water sealing effect without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

Technical Standard

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

Production and performance characteristic tests

Structure Diagram



Dimension Table

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

Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap **SBT50**



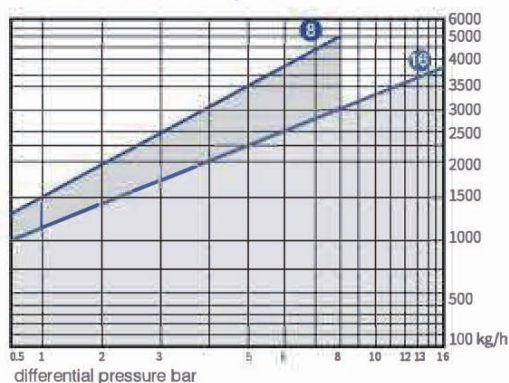
Technical parameter

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

Material List

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

SBT50 Capacity Curve



Working Principle

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

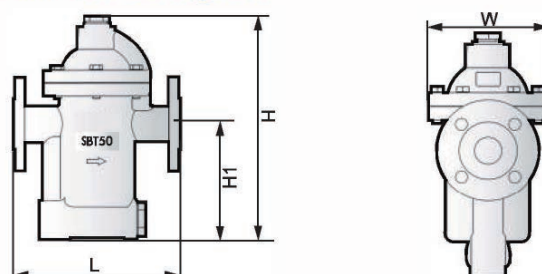
Features

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

Technical Standard

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

Structure Diagram



Dimension Table

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

Pilot Inverted Bucket Steam Trap

SBT60 Pilot Inverted Bucket Steam Trap



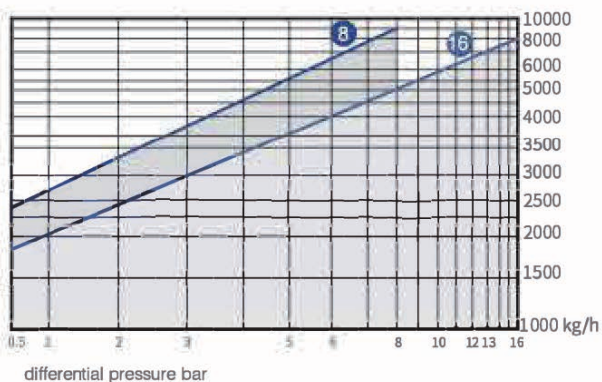
Technical Parameter

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

Material List

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

SBT60 Capacity Curve



Working Principle

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

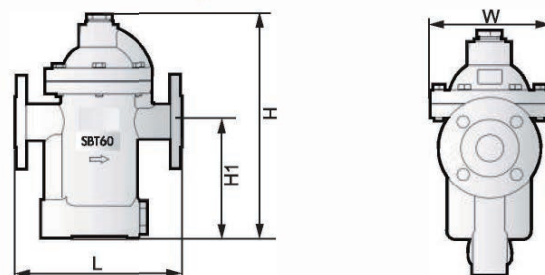
Features

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

Technical Standard

- GB/T 12250-2005 Steam Trap Terminology Marking Structure Length
- GB/T 22654-2008 Technical Conditions for Steam Traps
- GB/T 12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Diagram



Dimension Table

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

Pilot Inverted Bucket Steam Trap

Pilot Inverted Bucket Steam Trap **SBT63**



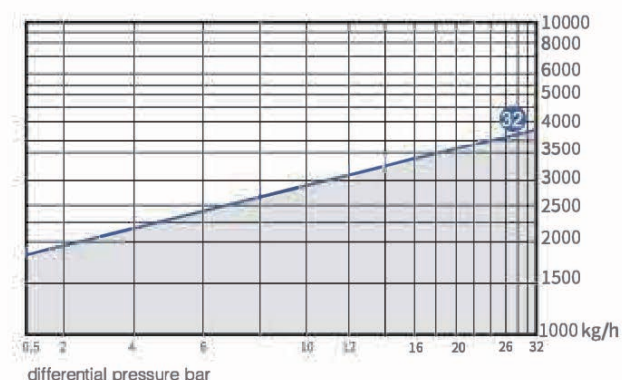
Technical Parameter

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

Material List

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

SBT63 Capacity Curve



Working Principle

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

Features

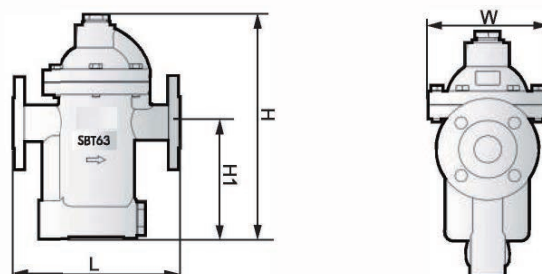
- The valve body and valve cover are made of cast steel.
- The internal parts are all made of stainless steel, and the wear allowance has been fully considered in the design of the movable parts, which improves the service life of the trap.
- U-shaped flow channel design achieves water sealing effect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

Technical Standard

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

Production and performance characteristic tests

Structure Diagram



Dimension Table

Dimension Table

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

Lever Ball Float Steam Trap

The lever ball float trap has the characteristics of large capacity, long life, good energy saving effect, water hammer resistance, aesthetically pleasing, etc. It is widely used in process heat tracing, jacketed heating kettles tank, re-boilers and other equipment.

High Corrosion Resistance

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

Unique Air Venting Valve

The unique air venting valve makes the trap no air locking symptom 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

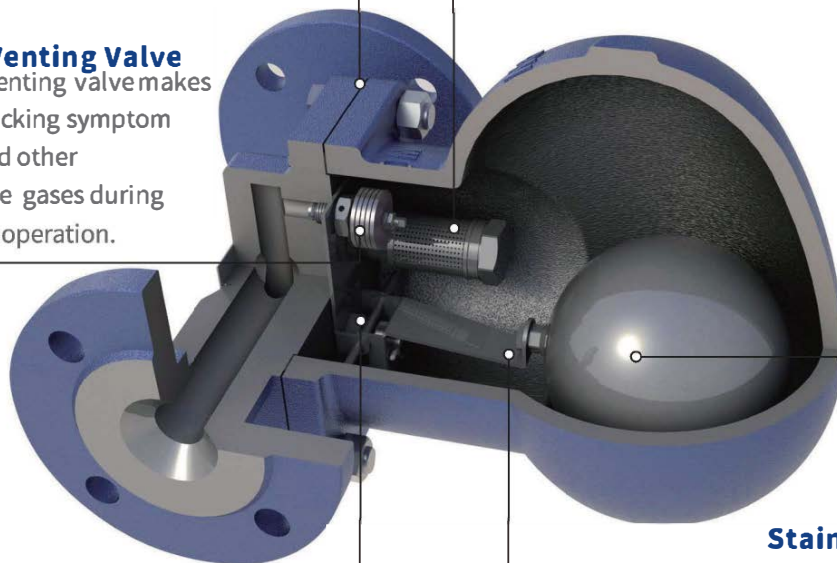
Effectively prevent pipeline impurities from entering the valve
Keeps traps working properly while preventing water hammer from damaging internal components

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



Lever Ball Float Steam Trap

Structural Features

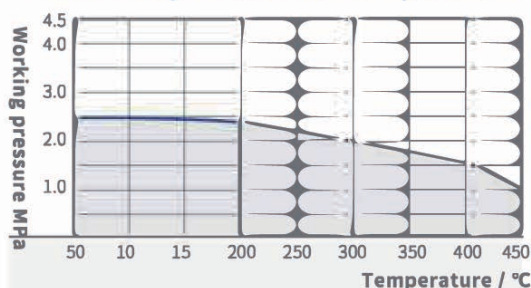
The flexible closing system is applied to the lever ball float trap, which solves the problems of short life and closing. In the design, the strength of the shell, the pressure and temperature grade, the manufacture ability of casting, the impact caused by the fluid flow channel and the water-vapor mixing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

Lever ball float steam trap works on the difference in density between steam and condensate. When the valve body is filled with condensed water and non-condensable gas, the air venting valve is opened to remove the non-condensable gas, the ball float moves up to drive the valve core to open, and after the condensate is discharged the ball 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 (differential pressure 0.0 bar can work), long life, reliable action, easy maintenance and no steam leaking

WCB/A105 Material PN25

Valve Body Pressure-Temperature Ratings

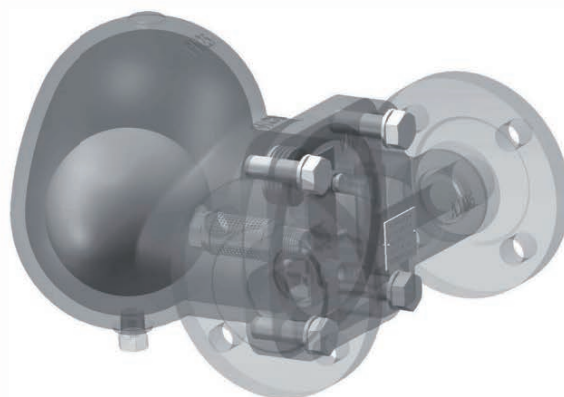


Lever Ball Float Trap

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/steam pressure). In general, the safety factor is 2-3 times when selecting, and 5-8 times for air separation units and drying cylinders. Condensate volume and differential pressure of steam-using equipment are important indicators for model selection. The same type of trap increases with the increase of pressure difference and capacity. See the details on displacement curve.

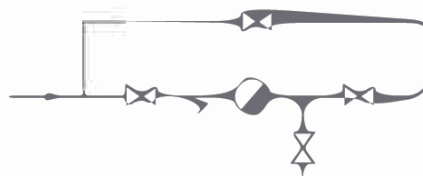
Special reminder: Please do not mistakenly think that a trap with a large diameter has a large capacity.

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



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

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



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

Lever Ball Float Proportional Regulating Steam Trap

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

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

Unique Float Assembly

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

High Corrosion Resistance

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

Unique Air venting Valve

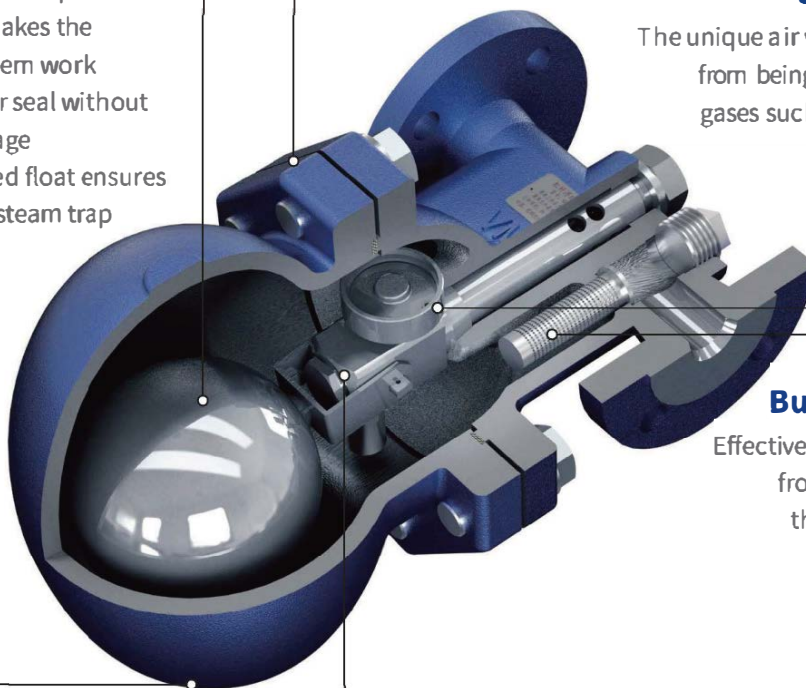
The unique air venting valve prevents the trap from being blocked by non-condensable gases such as air during initial or normal operation.

Built-in Filtering Device

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

Precise and Reliable Controller

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



Reserved the sewage outlet to regularly discharge the dirt

Lever Ball Float Proportional Regulating Steam Trap

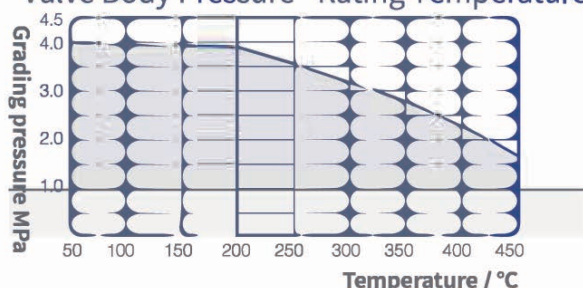
Structural Features

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

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

WCB/A105 Material PN40

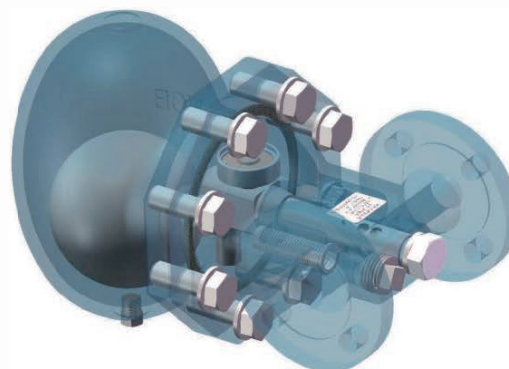
Valve Body Pressure - Rating Temperature



Lever Ball Float Proportional Regulating Steam Trap Selection and Installation

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

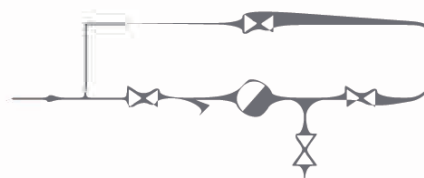
Notice: Please don't mistake it for a large-diameter trap with a large capacity.



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

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

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

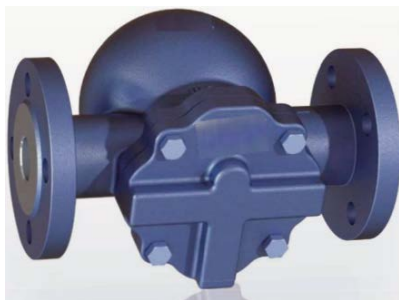


The lever ball float proportional regulating steam trap is installed horizontally at the bottom of the pipeline or equipment. The basic configuration is shown on the graph.

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

Lever Ball Float Steam Trap

SFT10 Lever Ball Float Steam Trap



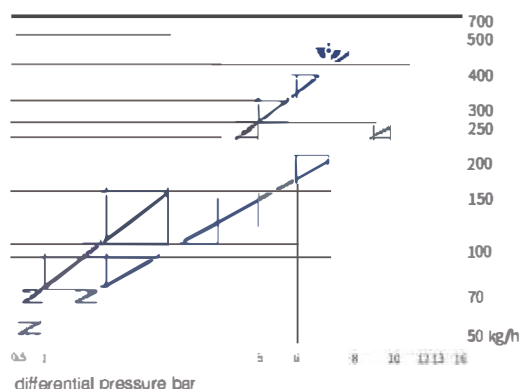
Technical Parameters

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

Material List

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

SFT10 Capacity Curve



Working Principle

- Based on the density of vapor and liquid.

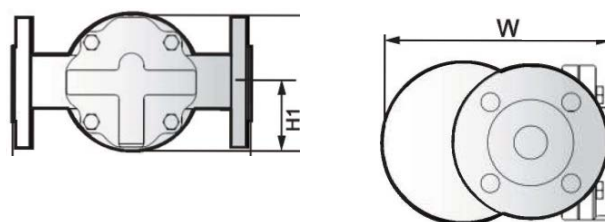
Features

- 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 exhaust valve to prevent air lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%

Technical Standard

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

Structure Diagram



Dimension Table

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

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap **SFT10A**



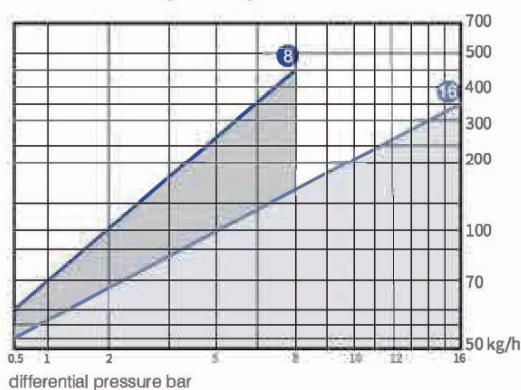
Technical Parameters

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

Material List

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

SFT10A 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 exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water is removed after stopping, to prevented floating ball from freezing in cold weather.

Technical Standard

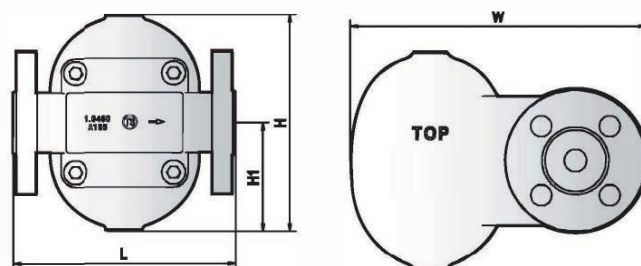
- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

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

Lever Ball Float Steam Trap

SFT20 Lever Ball Float Steam Trap



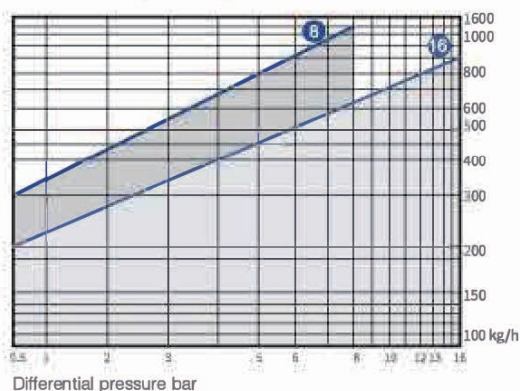
Technical Parameters

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

Material List

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

SFT20 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 exhaust valve to prevent air lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

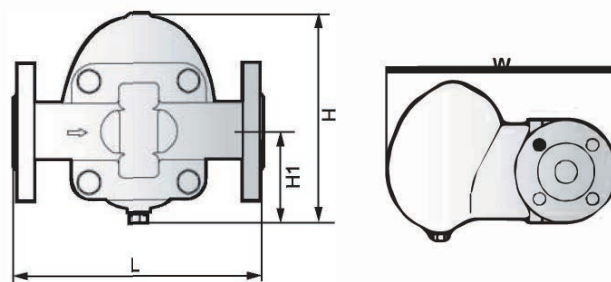
- GB/T22654-2008 Technical Conditions for Steam Traps

- GB/T12251-2005 Test Method for Steam Traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

Dimension Table

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

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap SFT30



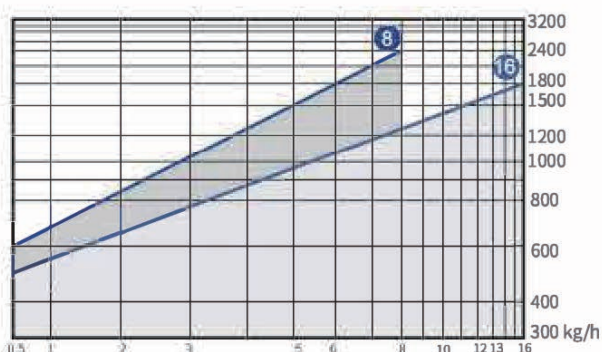
Technical Parameters

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

Material List

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

SFT30 Capacity Curve



Differential pressure bar

Working Principle

- Based on the density of vapor and liquid.

Features

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

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

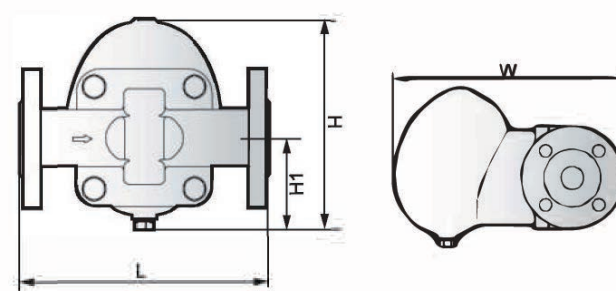
- GB/T22654-2008 Technical Conditions for Steam Traps

- GB/T12251-2005 Test Method for Steam Traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

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

Lever Ball Float Steam Trap

SFT40 Lever Ball Float Steam Trap



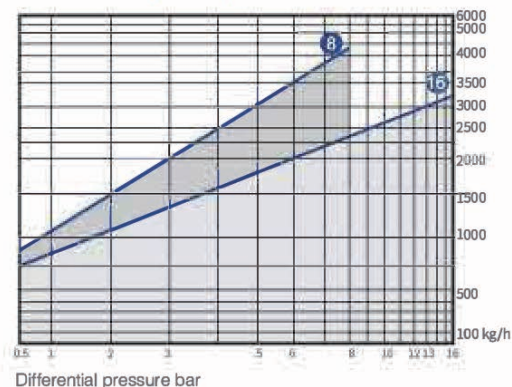
Technical Parameters

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

Material List

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

SFT40 Capacity Curve



Working Principle

- Based on the density of vapor and liquid.

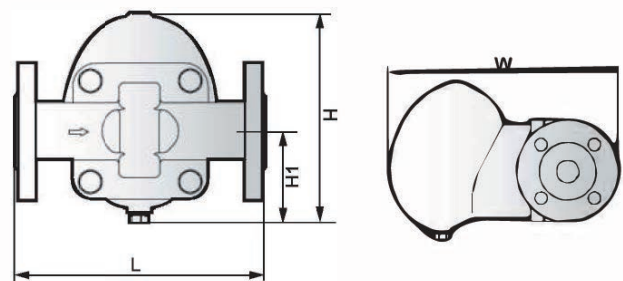
Features

- 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 exhaust valve to prevent air lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

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

Structure Diagram



Dimension Table

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

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap **SFT50**



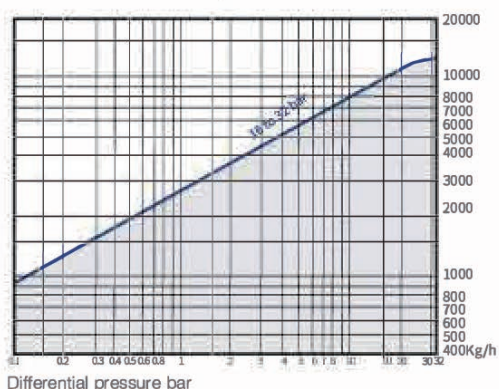
Technical Parameters

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

Material List

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

SFT50 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 exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

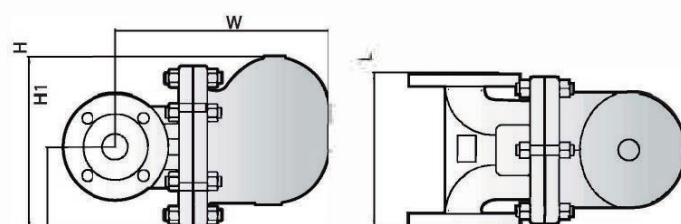
- GB/T22654-2008 Technical Conditions for Steam Traps

- GB/T12251-2005 Test Method for Steam Traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

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

Lever Ball Float Steam Trap

SFT60 Lever Ball Float Steam Trap



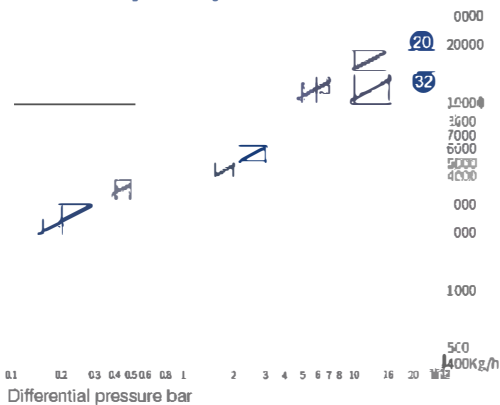
Technical Parameters

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

Material List

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

SFT60 Capacity Curve



Working Principle

- Based on the density of vapor and liquid.

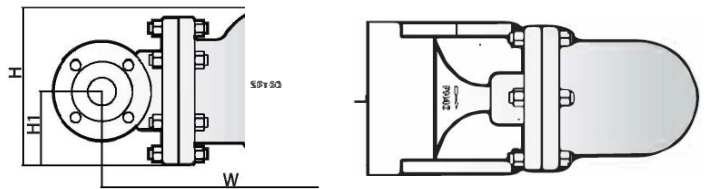
Features

- 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 exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%
- The drain plug is designed at the bottom of the trap to ensure that the internal water will be removed, to prevent floating ball from freezing in cold weather.

Technical Standard

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

Structure Diagram



Dimension Table

Unit(mm)					
Model	Size	L	H	H1	W
SFT60	DN32	230	262	125	363
	DN40	230	262	125	363
	DN50	230	262	125	363

Lever Ball Float Steam Trap

Lever Ball Float Steam Trap **SFT66**



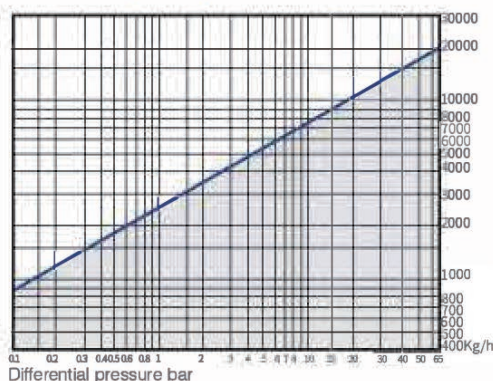
Technical Parameters

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

Material List

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

SFT66 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 exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

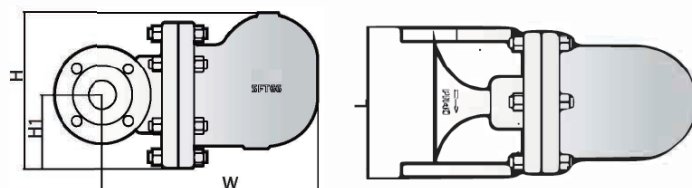
- GB/T22654-2008 Technical Conditions for Steam Traps

- GB/T12251-2005 Test Method for Steam Traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

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

Lever Float Steam Trap

SFT70 Lever Float Steam Trap



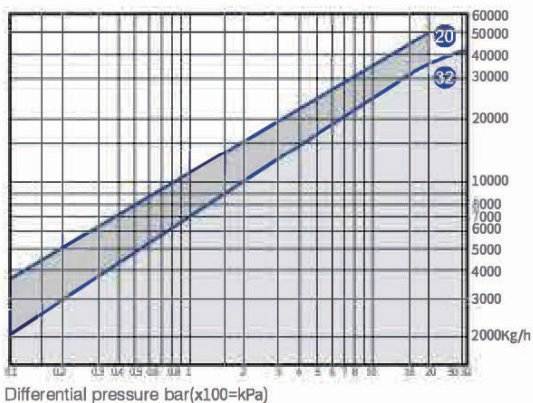
Technical Parameters

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

Material List

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

SFT70 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 exhaust valve to prevent steam lock.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The back pressure rate is as high as 95%

Technical Standard

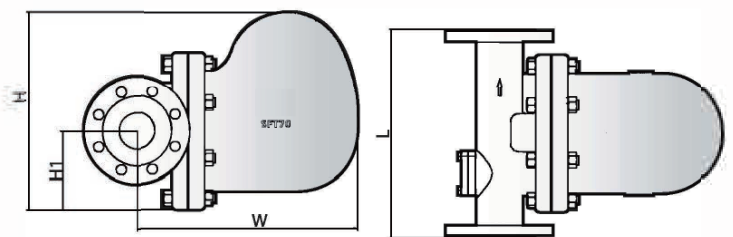
- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

- GB/T22654-2008 Technical Conditions for Steam Traps
- GB/T12251-2005 Test Method for Steam Traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

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

Lever Float Steam Trap

Lever Float Proportional Regulating Steam Trap **SFT30A**

Working Principle

- Based on the density of vapor and liquid.

Features

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

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Structure Length

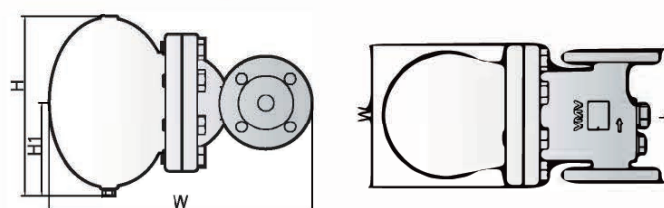
- GB/T22654-2008 Technical Conditions for Steam Traps

- GB/T12251-2005 Test Method for Steam Traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Diagram



Dimension Table

Unit(mm)						
Model	Size	L	H	H1	W	K
SFT30AF	DN20	150	222	115	325	170
	DN25	150	222	115	330	170



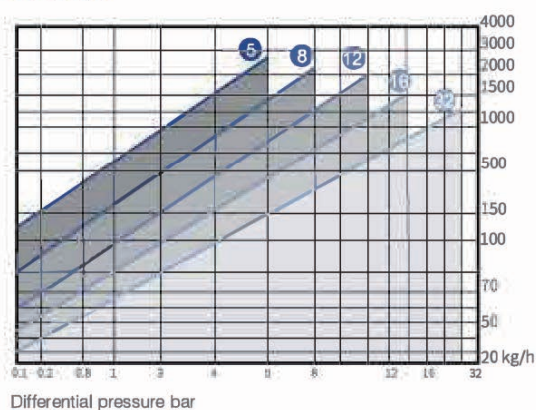
Technical Parameters

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

Material List

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

SFT30A



Air Trap

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

long life, good energy-saving effects, water hammer resistance, and aesthetically pleasing. They are widely used in compressed air or non condensable gas tanks, pipelines and air separation equipment.

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

High Strength Corrosion Resistance

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

Flexible Closing System

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

Built-in Filter Device

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

Pressure Equalizing Flange

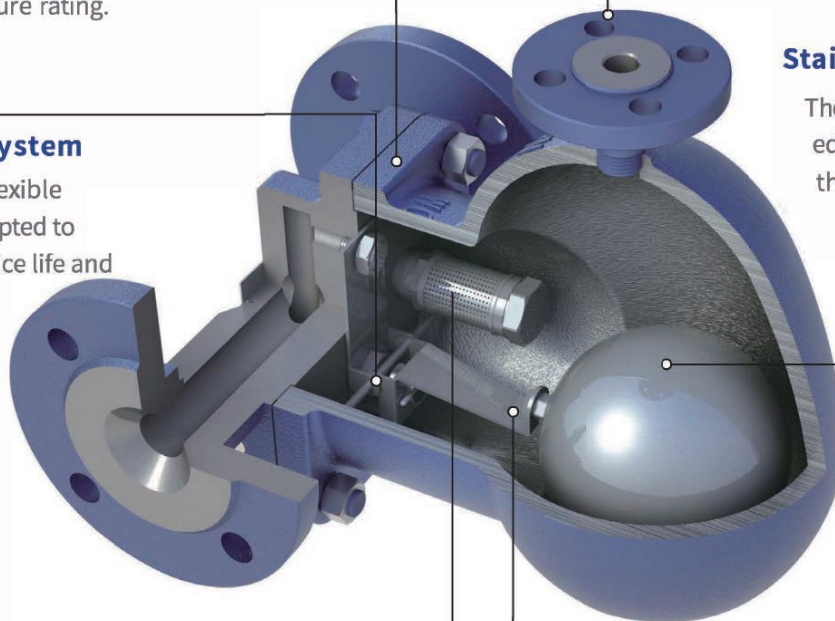
Structure with pressure equalizing balance pipe
Release Air Locking

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.

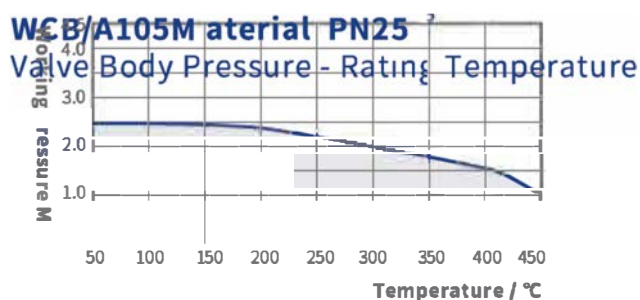


Structural Features

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-con-densable 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.



Air Trap Selection and Installation

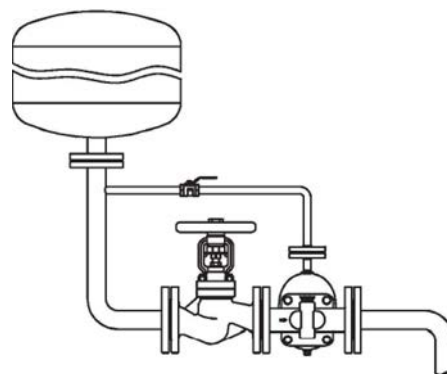
The air trap can drain water continuously. It is suitable for discharging water or liquid from gas transmission pipeline, gas storage tank and air separation unit. Generally, the safety factor is 2-3 times when selecting models. The displacement of air trap increases with the increase of pressure difference.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

The basic configuration is shown on the graph.



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

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



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

Air Trap

AFT20 Air Trap



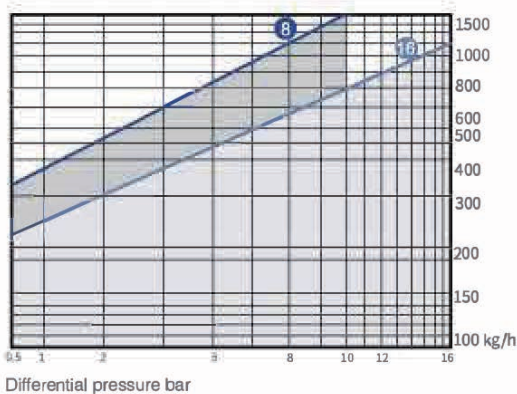
Technical Parameters

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

Material List

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

AFT20 Capacity Curve



Working Principle

- Based on the density of vapor and liquid.

Features

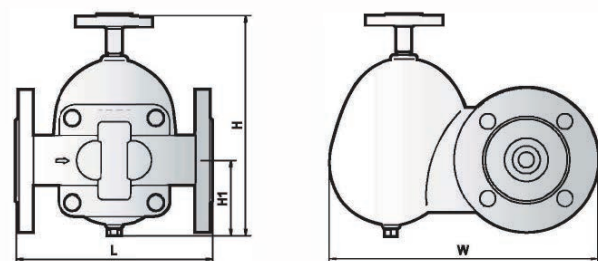
- The valve body and bonnet are made of cast steel/forged steel.
- All internal parts are made of stainless steel, and the wear allowance has been fully considered in the design of movable parts, which improves the service life of the trap.
- Special flow channel design to achieve zero water hammer.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

Technical Standard

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

Production and performance characteristic tests

Structure Chart



Data Size Table

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

Air Trap

Air Trap **AFT30**



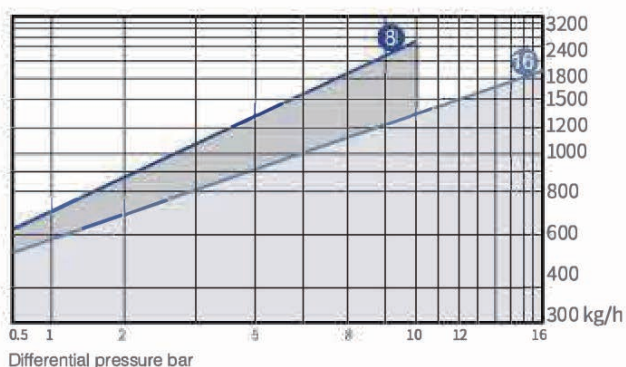
Technical Parameters

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

Material List

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

AFT30 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.
- The pressure equalizing and balancing pipe completely solves the gas blockage.
- The independent filter makes the trap work in a clean environment.
- Choose different displacement curves according to the pressure.
- The blowdown plug is designed at the bottom of the air trap to ensure that the internal ponding is removed after shutdown and prevent the floating ball from freezing.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Construction Length

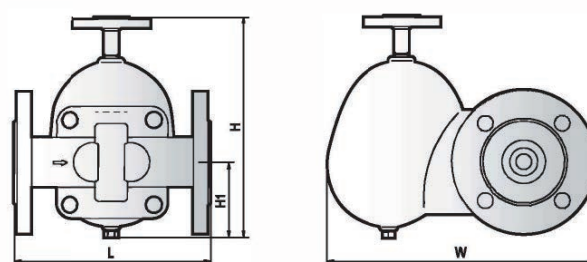
- GB/T22654-2008 Technical conditions of steam traps

- GB/T12251-2005 Test methods for steam traps

- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Chart



Data Size Table

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



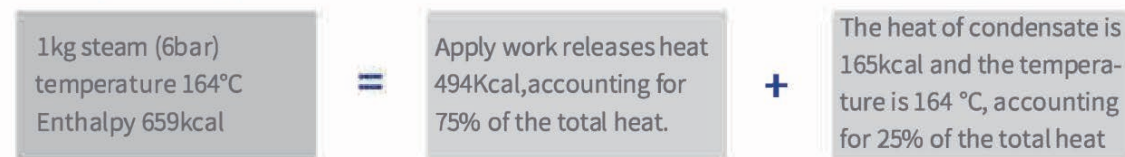
Pump Trap System



Properties of Steam & Condensate Recovery

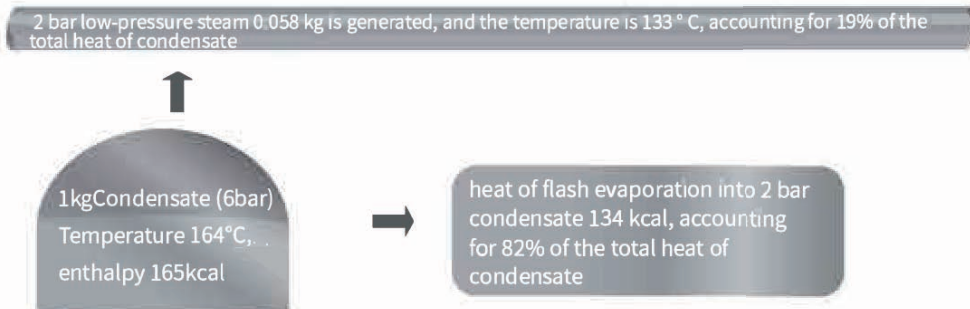
Why recycle condensate

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.

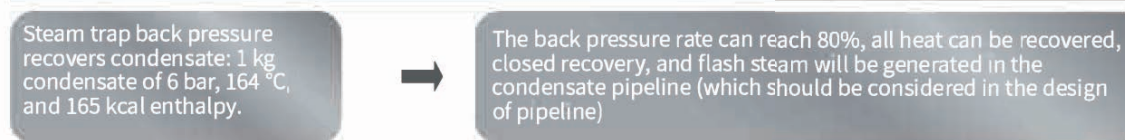


Condensate heat energy recovery method

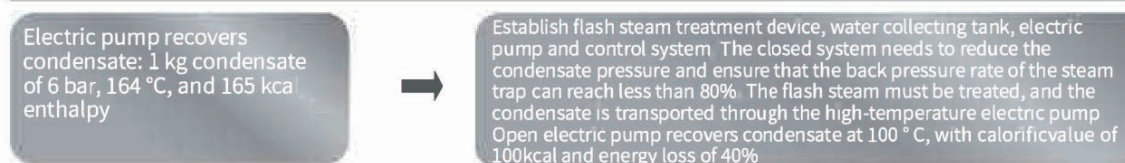
Recovery of heat energy by flash tank



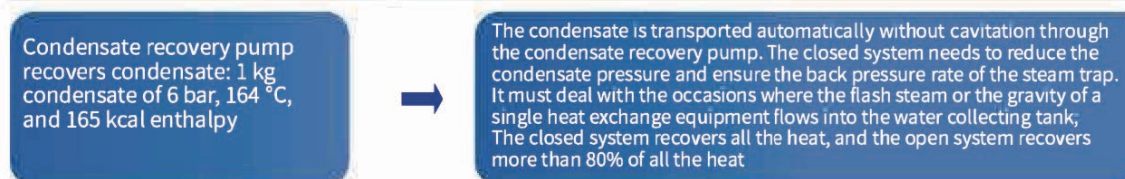
Steam trap back pressure recovers condensate heat energy



Electric pump recovers condensate heat energy



recovers condensate heat energy



Pump Trap T20

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

Condensate recovery pump has a series of 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

Valve Core and Valve Seat

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

High Corrosion Resistance

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

Long Life and High Precision

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

Selection conditions of pump trap

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

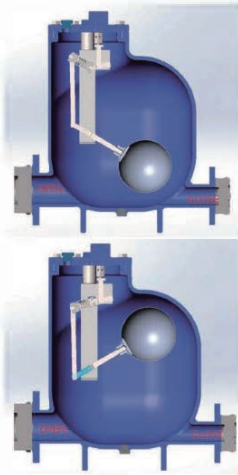


Pump Trap

Working Principle

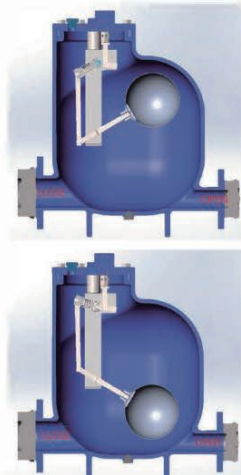
Enter condensate and exhaust steam(air)

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



Enter steam(air) and exhaust condensate

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



Technical Parameter

Design Standards

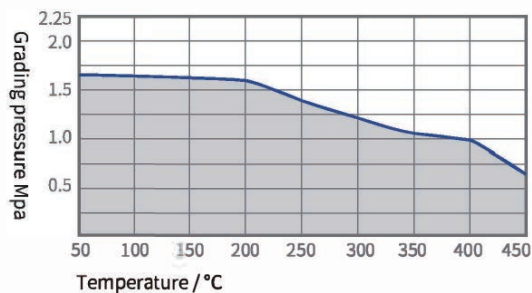
- GB / T22654-2008 Technical conditions for steam traps
- GB / T12251-2005 Test methods for steam traps
- GB / T12224-2005 General requirements for steel valves

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

Material List of Main Parts

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

WCB/A105Material PN16 valve shell pressure temperature rating



Pump Trap

Pump Trap **PT20**

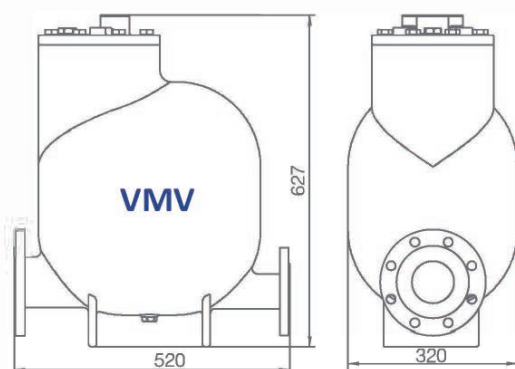
Performance characteristics

- 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 backpressure 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.

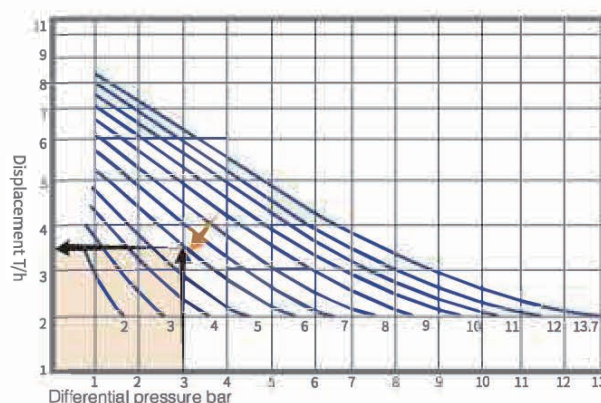
Structure diagram



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



How to check the displacement

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 capacity value and get the capacity of 3.5t/h;
Step 4: 3.5t/h x head height correction coefficient = actual capacity

Head Height Correction Coefficient

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

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

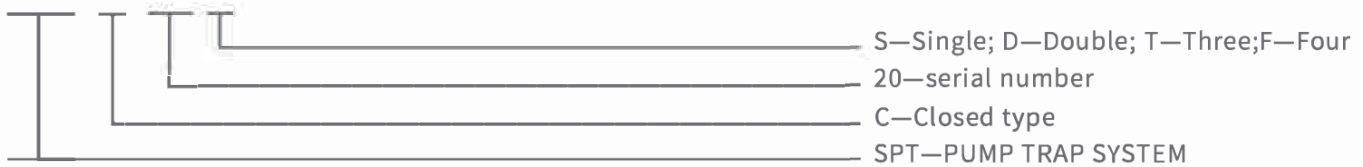
Pump Trap System

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

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

Product Model Compilation

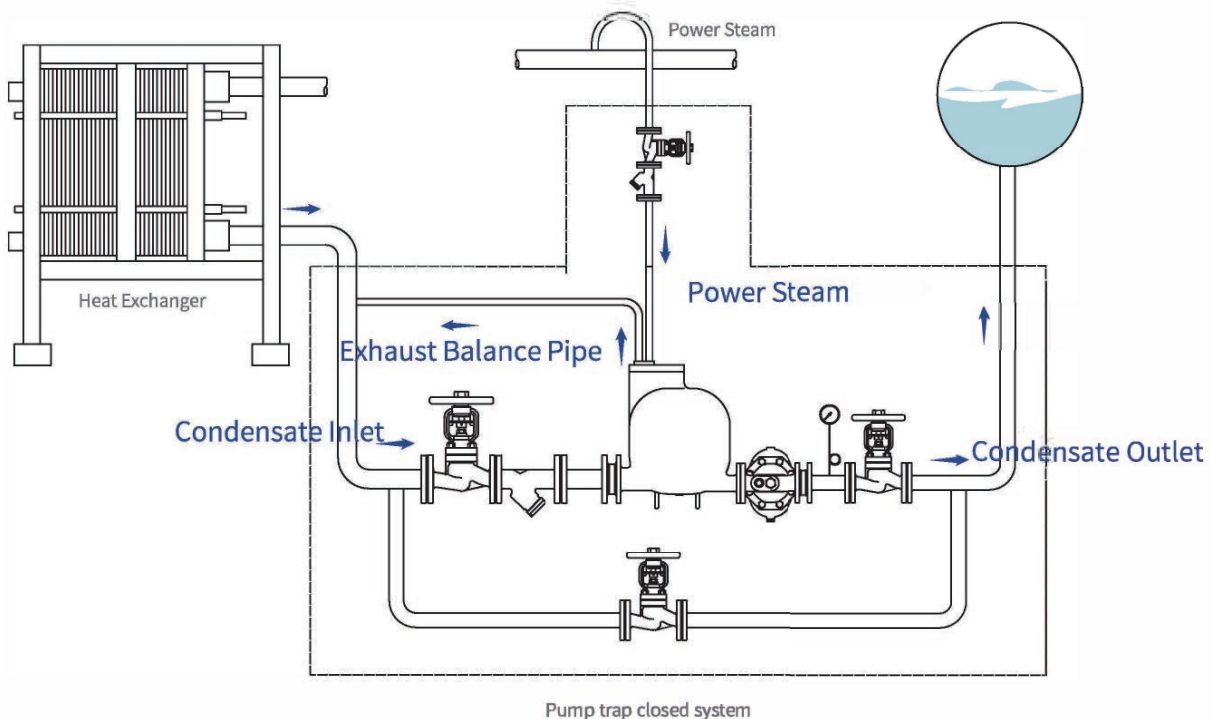
: SPT C 20 S



Model of open system: SPT20S, SPT20D, SPT20T, SPT20F

Model of closed system: SPTC20S, SPTC20D, SPTC20T, SPTC20F

Pump Trap Closed System



Pump Trap System

Single pump trap system device (open) **SPT20S**

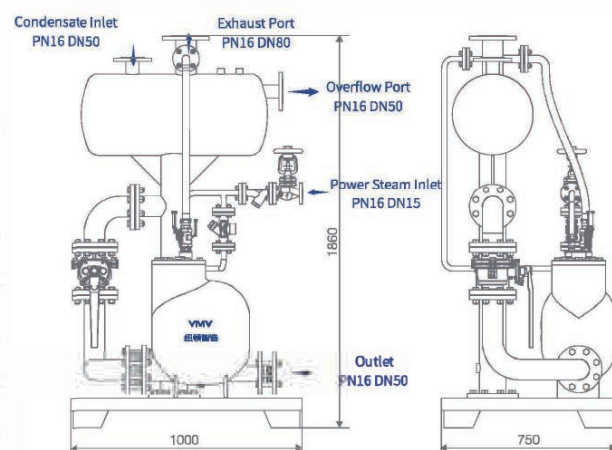


Model: SPT20S (open system)
 Name: Single Pump Trap System Device (open)
 Weight: 280kg
 Volume: 1000x750x1688 (mm)
 Nominal pressure: PN16
 Maximum Allowable Pressure: 1.6mpa/204 ° C
 Maximum Working Pressure: 1.37mpa/250 ° C
 Flange Standard: HG/T20592; PN16 RF
 Power Steam Consumption: 5kg / T (condensate)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

Technical Standard

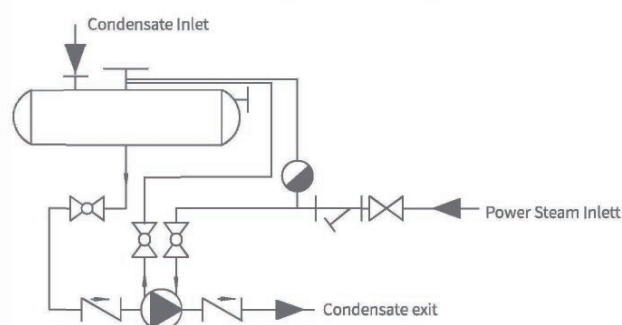
- GB/T12250-2005 Steam Trap Terminology Marking
- Construction Length
- GB/T22654-2008 Technical conditions of steam traps
- GB/T12251-2005 Test methods for steam traps
- ISO 6948 Automatic steam traps
- Production and performance characteristic tests

Structure Chart



Device Configuration of Single Pump Trap System

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



Flow Chart of Single Pump Trap Systemt

Pump Trap System

SPT20D SPT20D Double Pump Trap System Device (Open)



Model: SPT20D (open system)

Name: Double Pump Trap System Device (Open)

Weight: 486kg

Volume: 1000x1200x1860 (mm)

Nominal pressure: PN16

Maximum Allowable pressure: 1.6mpa/204 ° C

Maximum Working pressure: 1.37mpa/250 ° C

Flange Standard: HG / T20592; PN16 RF

Power Steam Consumption: 5kg / T (condensate)

Power Air Consumption: 7.6m³/t (condensate)

Limitation: The water collecting tank (upper water tank) is not under pressure and is only used as open buffer water collection.

Technical Standard

- GB/T12250-2005 Steam Trap Terminology Marking

Construction Length

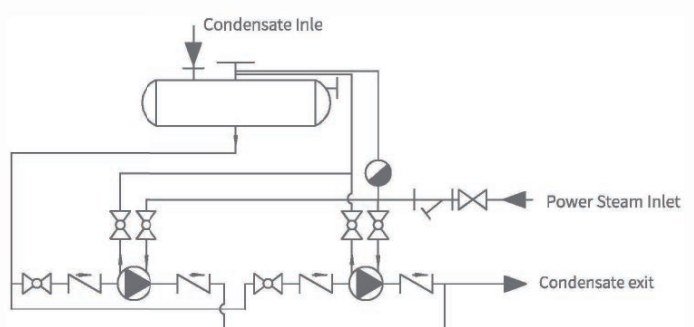
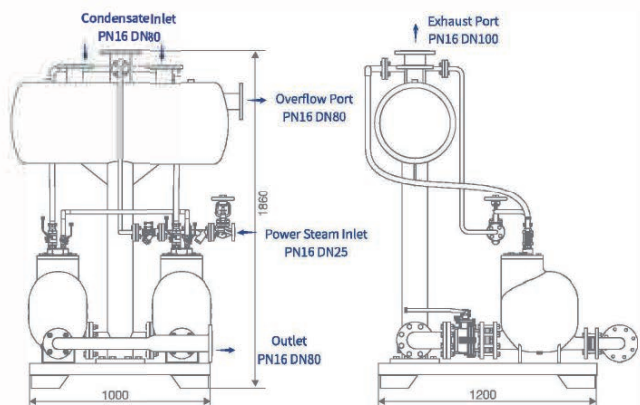
- GB/T22654-2008 Technical conditions of steam traps
- GB/T12251-2005 Test methods for steam traps
- ISO 6948 Automatic steam traps

Production and performance characteristic tests

Structure Chart

Device Configuration of Double Pump Trap System

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



Flow chart of double pump trap system

Pump Trap System

Three Pump Trap System Device (Open) **SPT20T**



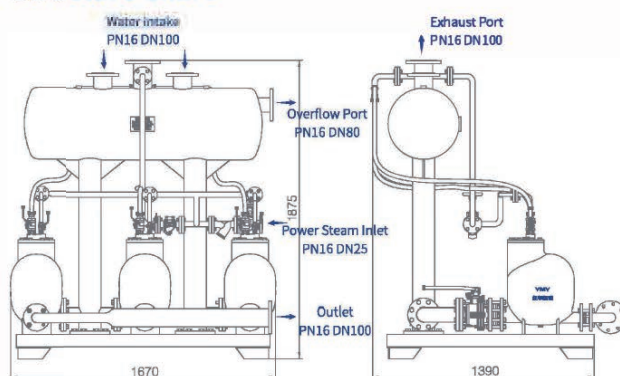
Model: SPT20T (open system)
 Name: Three Pump Trap System Device (Open)
 Weight: 740kg
 Volume: 1670x1390x1875 (mm)
 Nominal pressure: PN16
 Maximum Allowable Pressure: 1.6mpa/204 °C
 Maximum Working Pressure: 1.37mpa/250 °C
 Flange Standard: HG / T20592; PN16 RF
 Power Steam Consumption: 5kg / T (condensate)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

Technical Standard

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

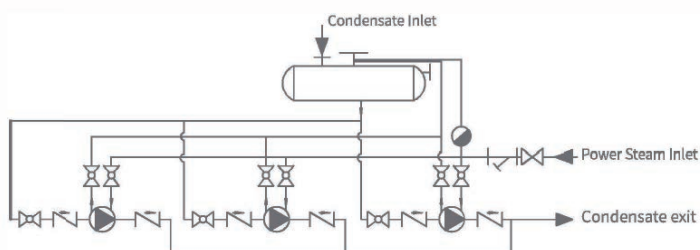
Production and performance characteristic tests

Structure Chart



Device Configuration of Three Pumps Trap System

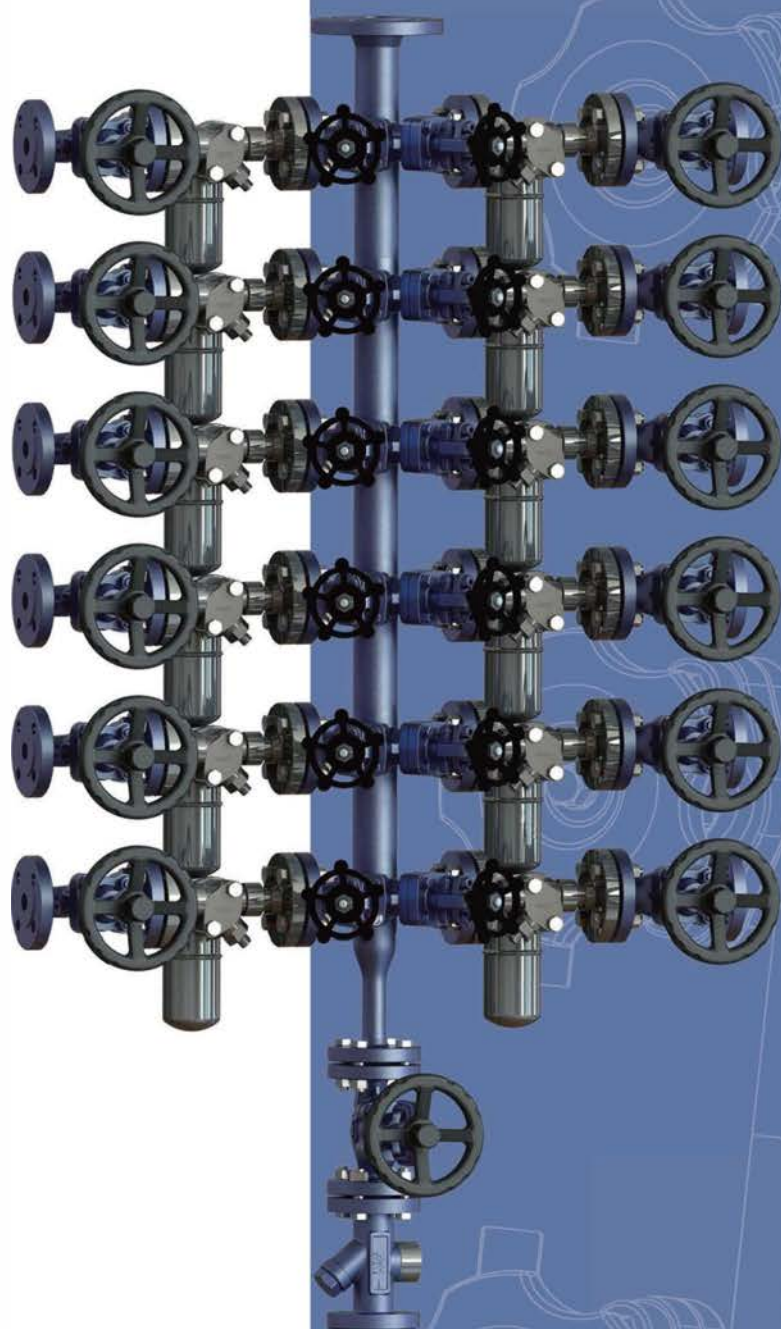
Part Name	Part Model	Specifications	Material	Quantity
Pump Steam Trap	PT20	DN80/DN50	WCB	3
Check Valve	H71H-16P	DN80 PN16	304	3
Check Valve	H71H-16P	DN50 PN16	304	3
Open water collecting tank			Q345	1
Ball Valve	Q11H-16P	DN25	304	3
Ball Valve	Q11H-16P	DN15	304	3
Steam Trap	STD16F-16	DN15	WCB	1
Bellow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



Flow chart of three pump trap system



Heating System Solution



Typical Heating System

Product Description

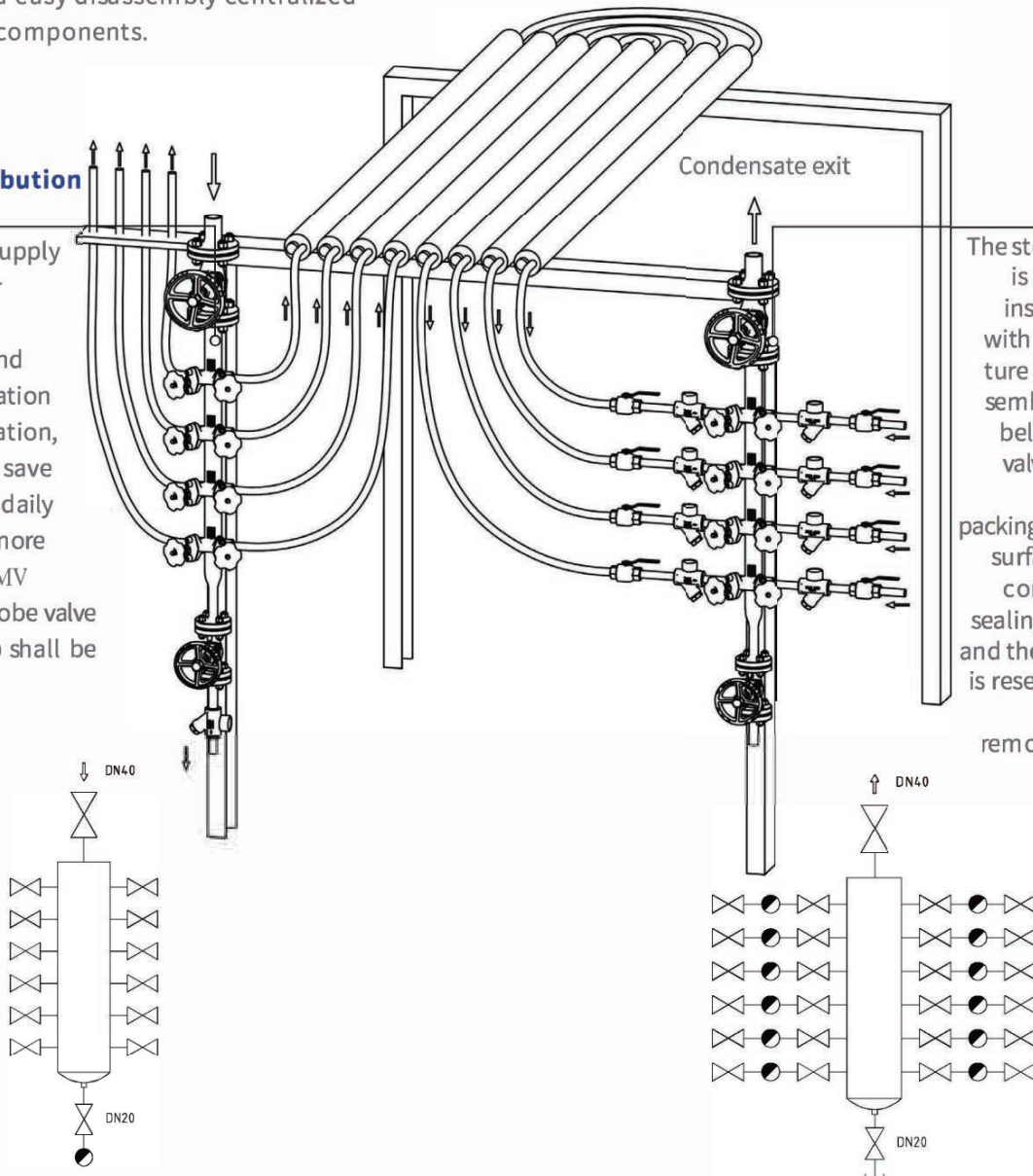
VMV typical Heat tracing system" integrates all the components required by steam distribution tube bundle and condensate collection tube bundle (steam trap, manifold, valve, etc.), and designs all the components together. The manifold, reduces the device cost and provides compact and easy disassembly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

Application of manifold

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

Steam Distribution manifold

Put all steam supply valves together. Standardized components and centralized location simplify installation, fundamentally save cost and make daily maintenance more convenient. VMV bellows seal globe valve and steam trap shall be equipped.



Condensate Collecting manifold

The steam trap group is assembled and installed together, with compact structure and easy disassembly. The built-in bellows seal globe valve ensures zero leakage at the packing. The spherical surface of the valve core improves the sealing performance, and the draining valve is reserved for convenience and the removal of impurity.

Bellows Stainless Steel Steam Manifolds

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.

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

Manifolds Body

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

Handwheel

Corrosion-resistant material
handwheel
Beautiful
Good grip

Threaded Pressure Sleeve

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

Valve Core, Valve Seat

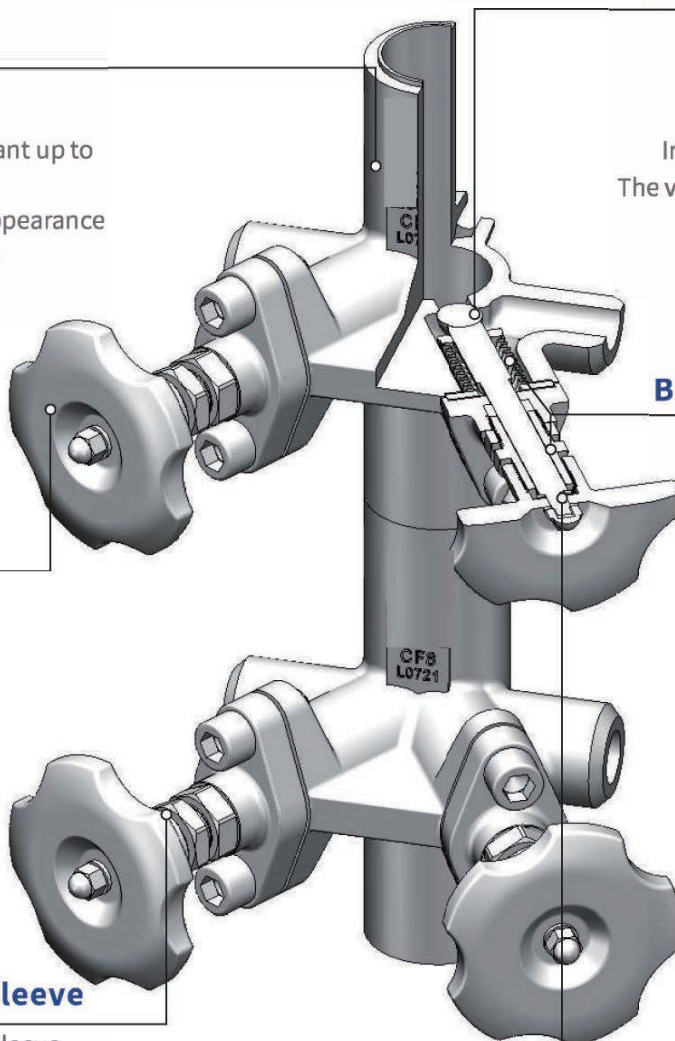
Integral spherical valve core
Matching Conical Seat
Achieve linear sealing
Improve sealing performance
The valve core adopts martensitic hardening treatment
Improve scour resistance

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 hand wheel
Dust proof and waterproof, Easy to replacement



Bellows Stainless Steel Steam Distribution Manifolds



Technical Parameters

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

Notice

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

Structural Featurest

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

Technical Standard

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

Steam Distribution Manifolds

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

Condensate Manifolds

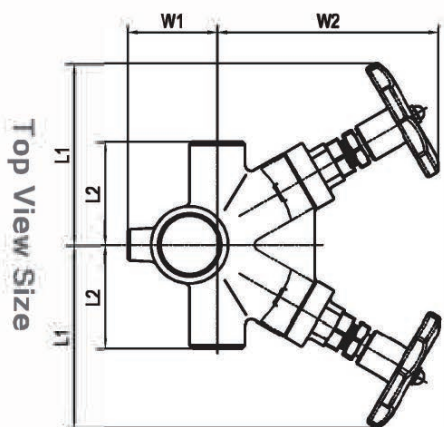
During installing, it is recommended that the top be the condensate outlet, and the bottom should be installed with a shut-off valve for sewage discharge.

Material Table

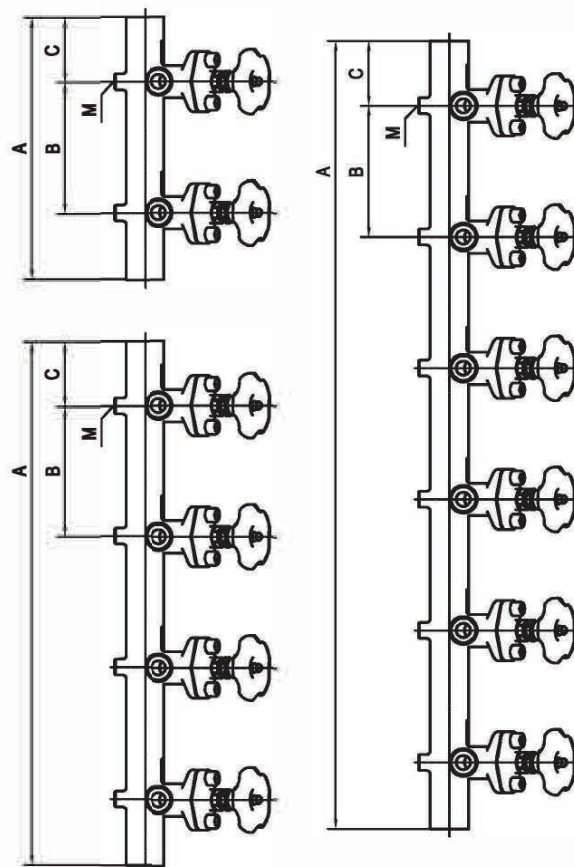
Manifolds	CF8
Bonnet	CF8
Bellows Assembly	SS304
Stem	SS304
Valve core	SS440C
Handwheel	SS304
Gasket	Flexible graphite

Bellows Stainless Steel Steam Distribution Manifolds

Structural Diagram



BSPM03 Size



Structure Size Table

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

Bellows Stainless Steel Steam Distribution Manifolds

Product Description

VMV "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 position assembly.

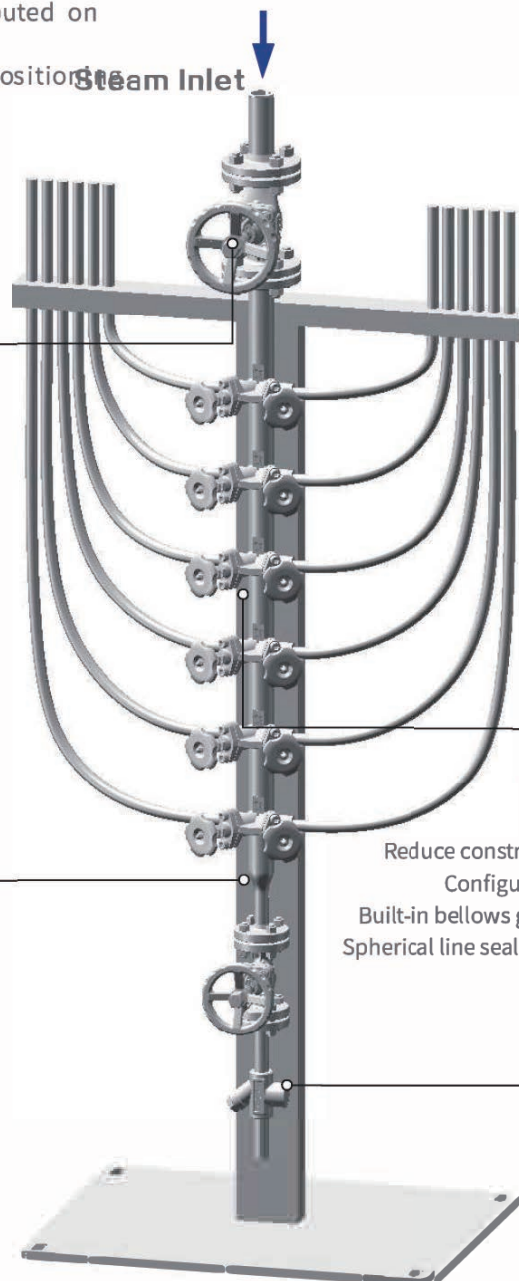
The Body is made of corrosion resistant material CF8, which is suitable for high end manifolds, instruments, chemical corrosion resistant pipes and pipeline heating. The instrument heating distribution pipes can be connected by ferrules.

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

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

Bellows Globe Valve

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

Condensate Outlet

Steam Trap

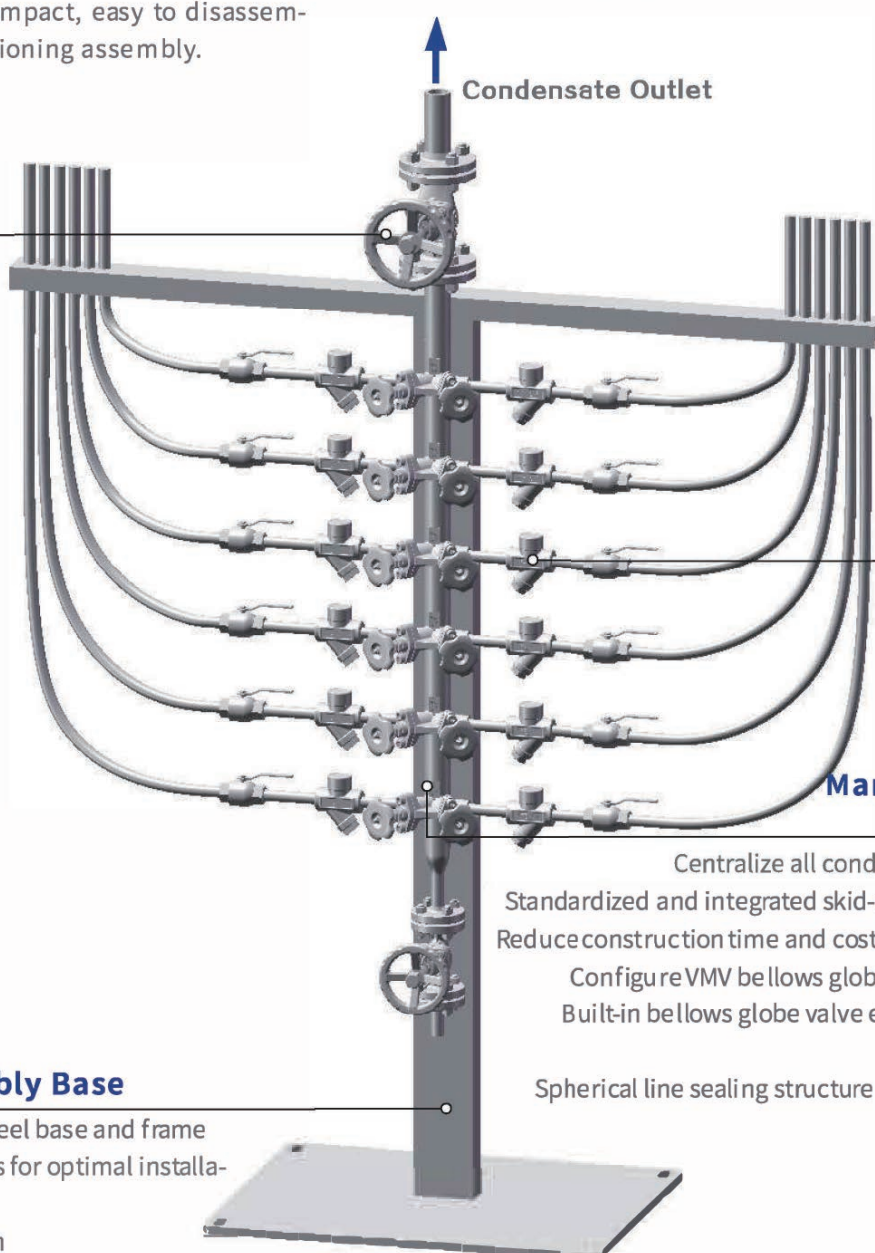
Configure thermodynamic, thermostatic, bucket inverted and other types of steam traps

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

Product Description

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

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

Manifold Body

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

Valve Core, Valve Seat

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

Bellows Assembly

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

Handwheel

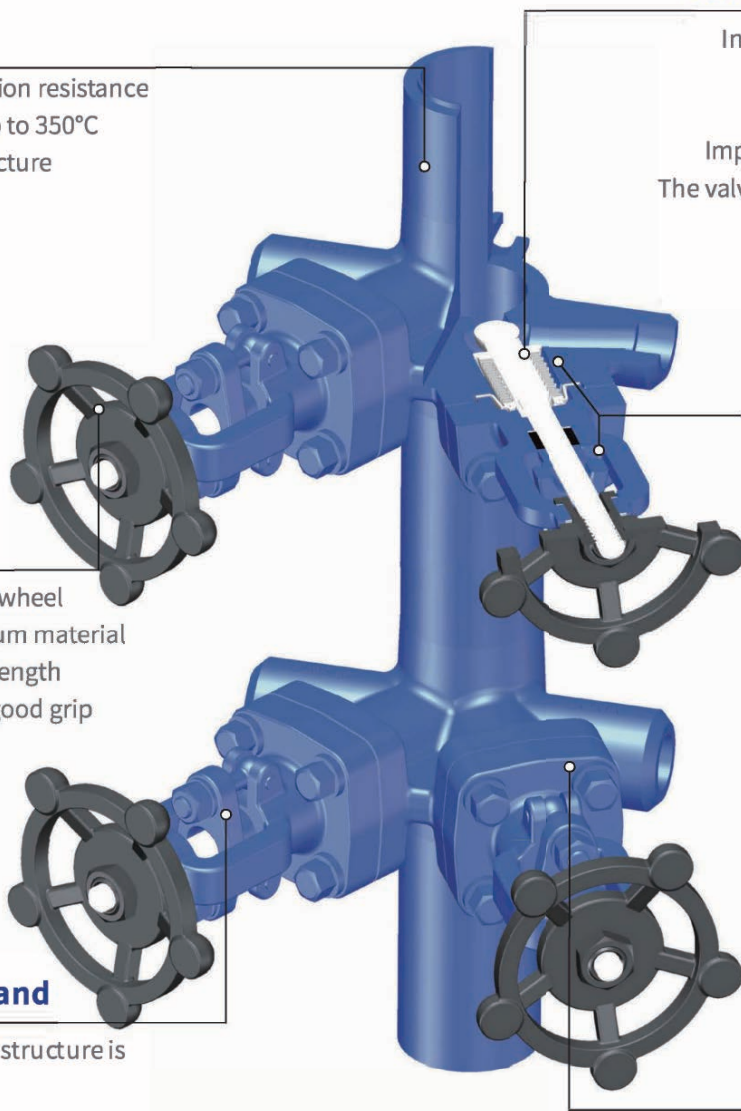
Integral molding of handwheel
made of die-cast aluminum material
Light weight and high strength
Beautiful and compact, good grip

Gland,Packing Gland

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

Valve Bonnet

Special custom forged bonnet
High structural strength



Bellows Forged Steel Manifolds



Technical Parameter

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

Notice

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

Structural Features

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

Technical Standard

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

Steam Distribution Manifolds

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

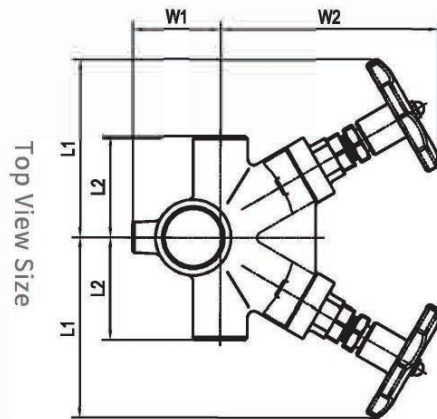
Condensate Manifolds

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

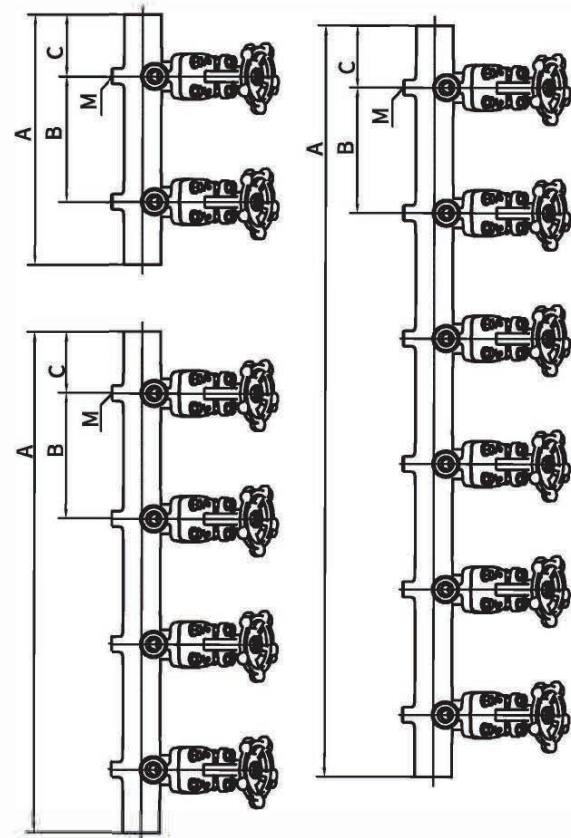
Material Table

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

Bellows Forged Steel Steam Distribution Manifolds



BSPM02 Size



BSPM03-12

Structure Size Table

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

Bellows Forged Steel Steam Distribution Manifolds

Product Description

VMV "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

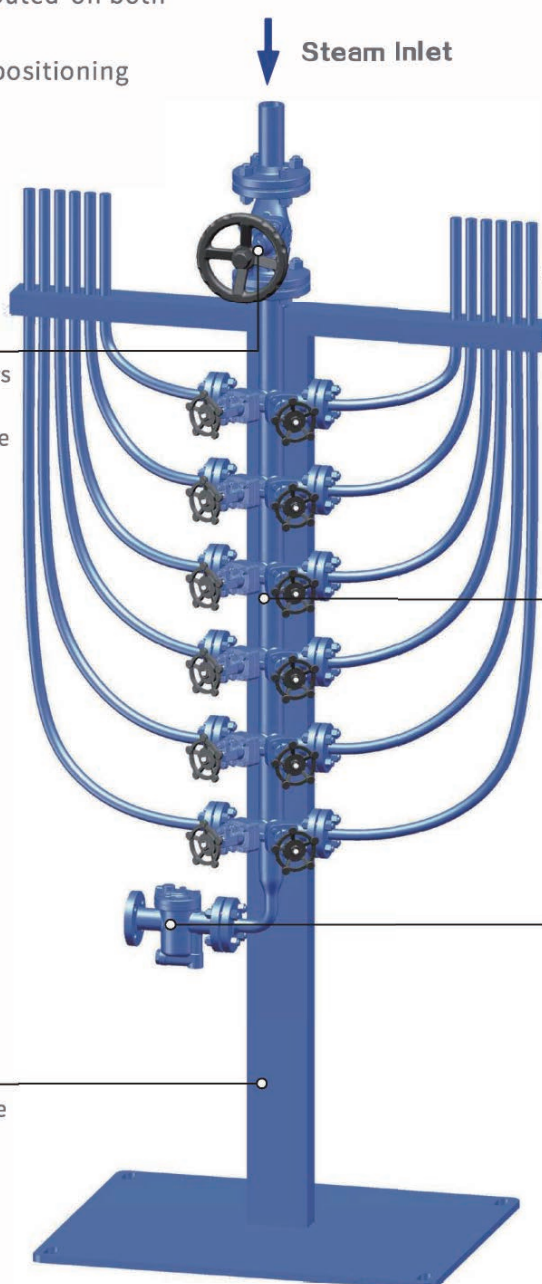
Centralize all steam distribution valves
Standardized and integrated skid-mounted combination
Reduce construction time and cost for on-site installation
Configure VMV bellows globe valve and steam trap
Built-in bellows globe valve ensures zero leakage at packing
Spherical line sealing structure of valve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

Product Description

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

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

Bellows Globe Valve

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

Manifolds Body Forged Carbon Steel

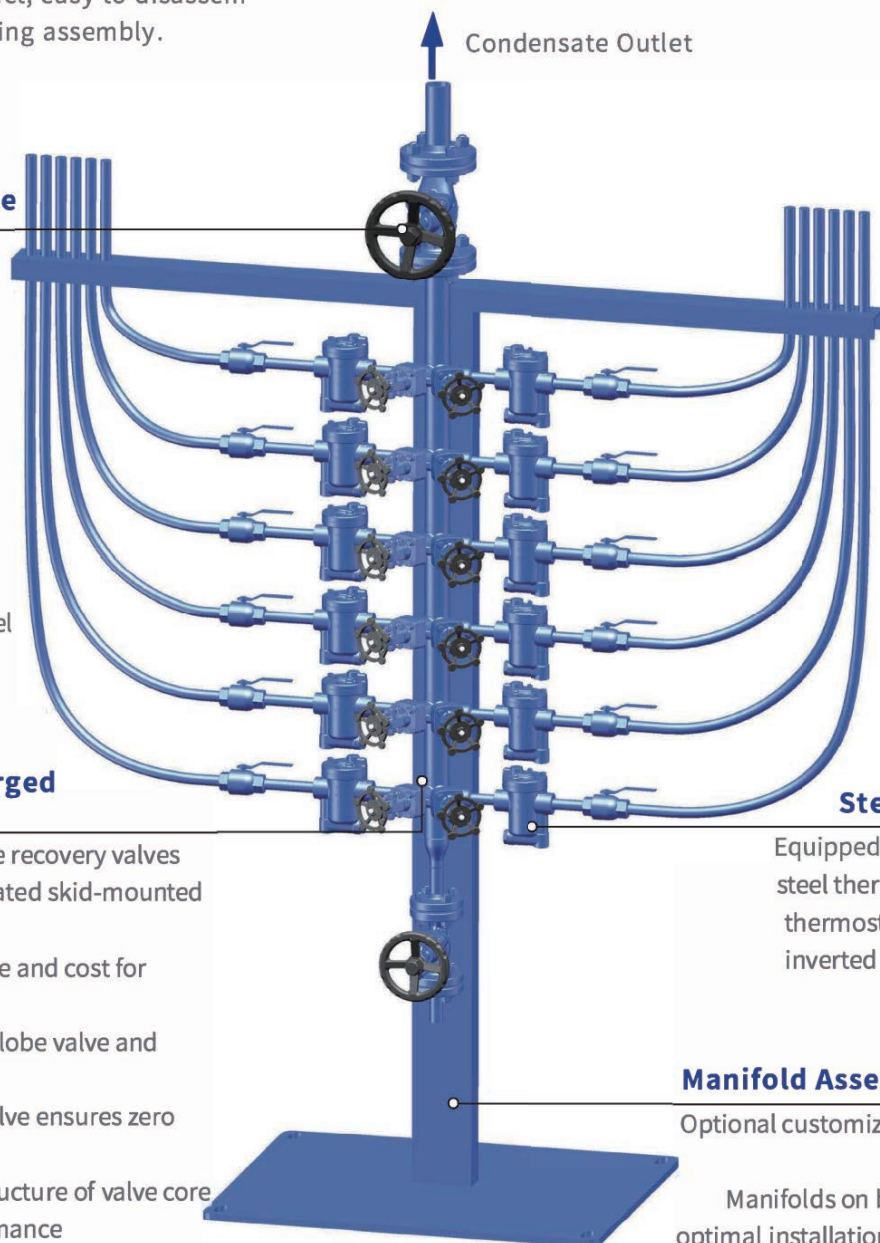
Centralize all condensate recovery valves
Standardized and integrated skid-mounted combination
Reduce construction time and cost for on-site installation
Configure VMV bellows globe valve and steam trap
Built-in bellows globe valve ensures zero leakage at packing
Spherical line sealing structure of valve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

Steam Traps

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

Manifold Assembly Base

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



Bellows Forged Steel Condensate Collection Manifolds

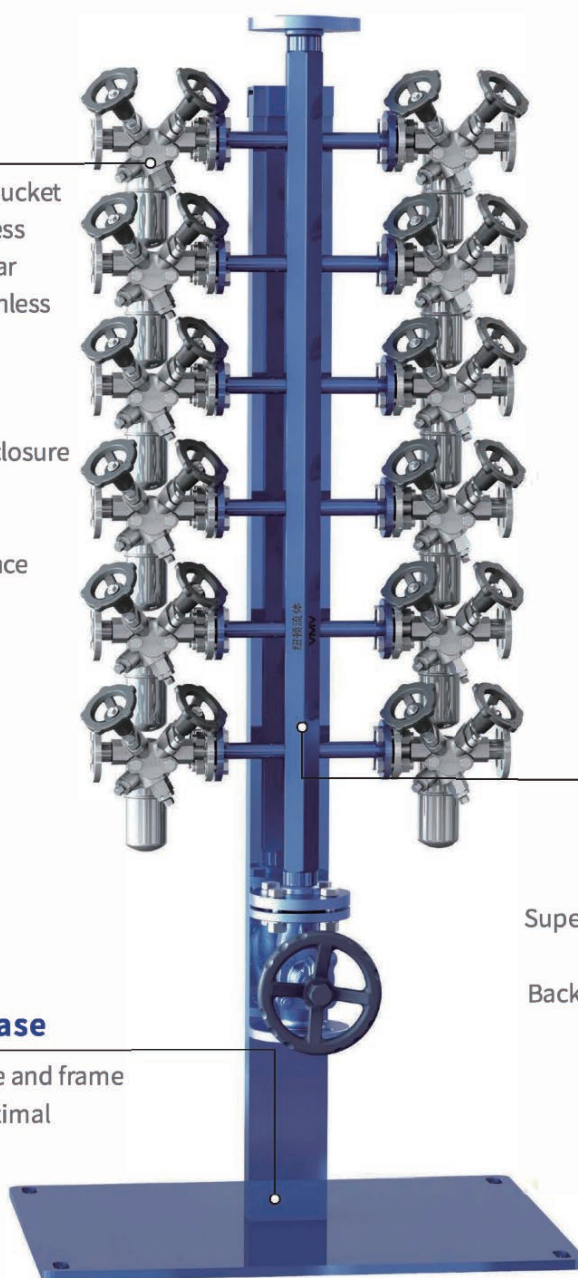
Stainless Steel Trap Combination

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

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

Manifold Assembly Base

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



Manifolds Body Forged Steel Material

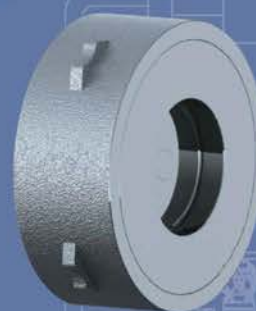
A105 forged steel material
Hexagonal steel pipe design
Fully consider corrosion allowance
Super strong siphons inside the manifolds form a water seal
Back pressure recovers condensate at low points in the pipeline

BCPM03-12



Steam Piping Accessories

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



Control Valve

Controller

Sensor

Vacuum Breaker

Trap Combination

Bellows Sealed Globe Valve



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



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

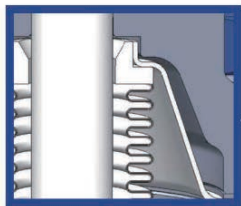


Flat soft seal: The soft seal surface can prevent sparks when opening and closing, and is suitable for gaseous media or working conditions with corrosion resistance requirements.

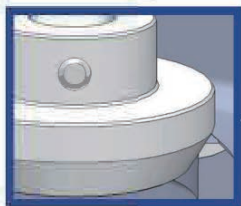


Ergonomic handwheel design

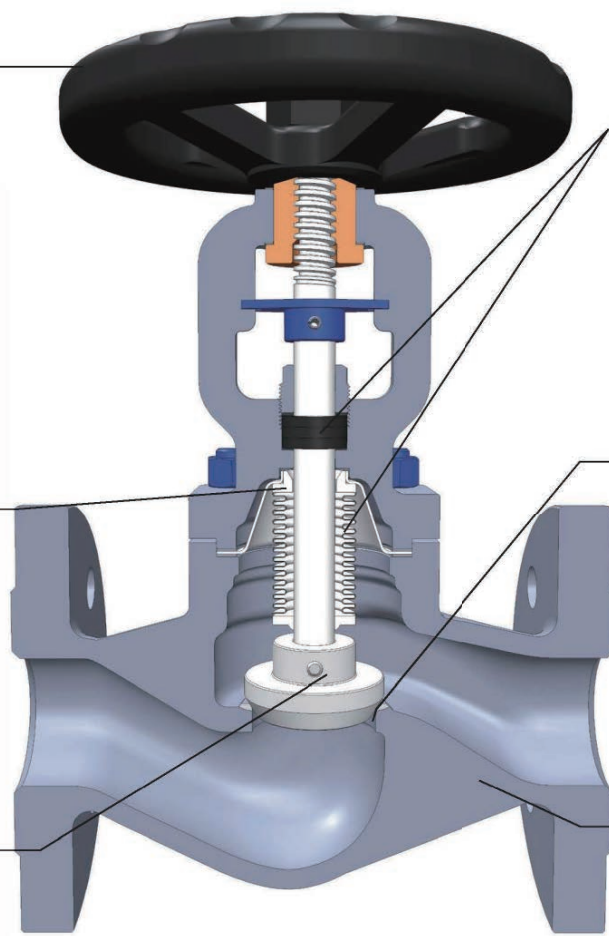
Intelligent drive such as impact handwheel, bevel gear, electric or pneumatic can be customized.



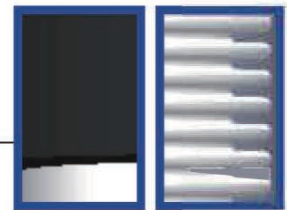
Bellows transition piece
Improve the welding quality of core components



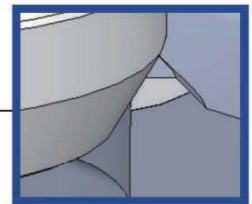
Conical disc
Customized sealing surface material and sealing way



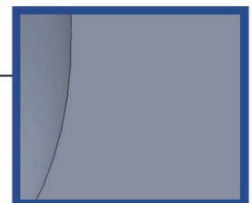
Large size valves are equipped with special devices, which can effectively reduce the vibration of the valve during operation. The noise is reduced to below 60 decibels, and the service life is increased by more than 150%



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



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



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

Bellows Sealed Globe Valve

Structural Features

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

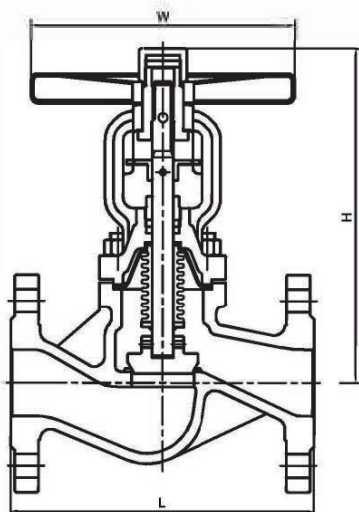
- Double sealing design of bellows and packing, with double guarantee, making the sealing at the valve stem safer and more reliable, and in line with international sealing standards.
- Bellows are 100% tested for fugitiveness according to ISO15848 Class A standard; all bellows components and valves are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

Technical Specifications

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

Applicable Media

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



Data Size Table

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

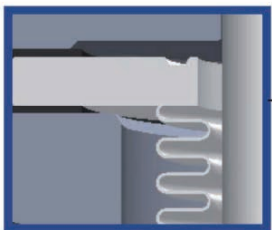
Bellows Sealed Globe Valve

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

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



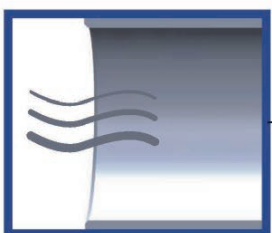
Welding of bellows components: Microcomputer controls the welding speed to ensure the quality of core components



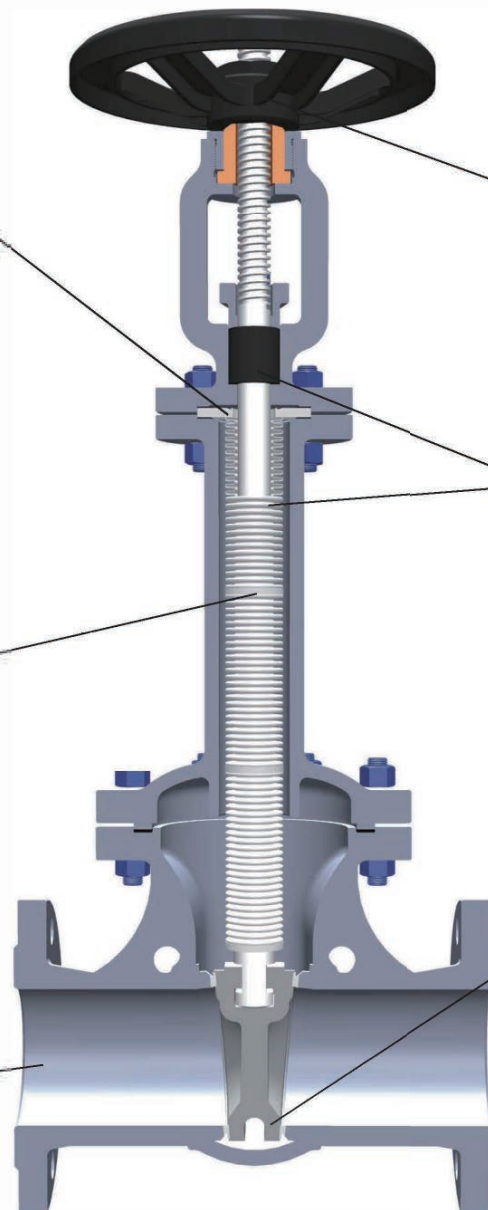
Automatic seam welding of upper end and connecting plate



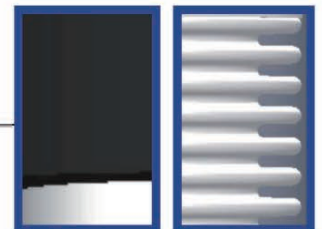
Multi-layer bellows, with guiding structure to prevent instability



Full bore, high flow rate, zero flow resistance



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



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



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

Bellows Sealed Globe Valve

Structural Features

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

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

- The valve cover has its own grease fitting, which can directly lubricate the valve stem, nut and bushing, unlike the traditional lubricating oil only on the thread.
- Ergonomic handwheel design. Intelligent drive such as impact handwheel, bevel gear, electric or pneumatic can be customized.

Technical Specifications

Design standard: EN12516, GB/T12224, GB/T12234

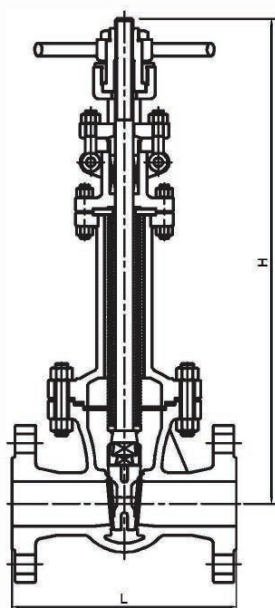
F to F Dim: EN558, GB/T12221

Flange ends: EN1092-I, GB/T9113

Test inspection: EN12266, GB/T26480

Applicable Media

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

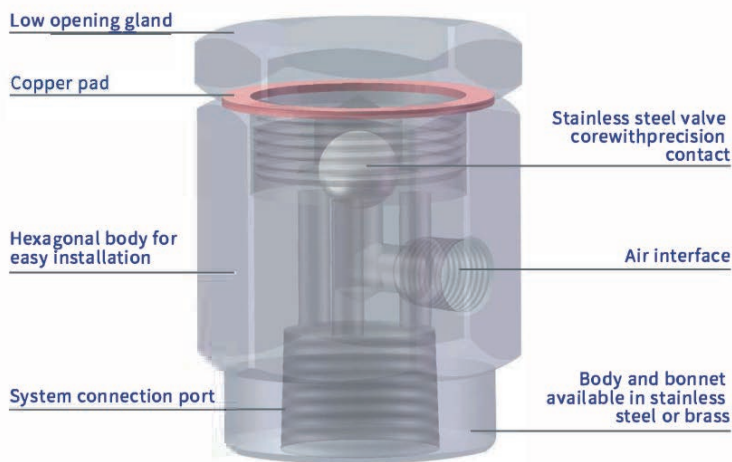


Data Size Table

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

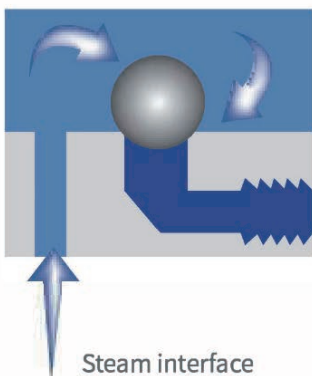
Vacuum Breaker

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



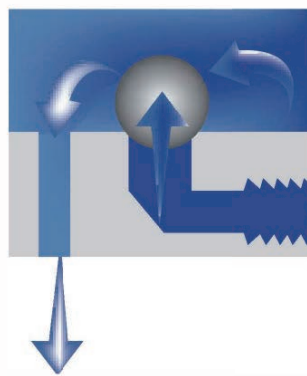
working principle

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



Air entering

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 4.6mmHg

Vacuum Breaker

Technical Parameter

Working medium	steam、air	Max. allowable temperature	425℃
Nominal pressure	2.5MPa	Max. air intake	9000m ³ /h
Max. working pressure	2.1MPa	No load leak rate	0.1%
Max. pressure	0.01MPa	Connection method	RC

Application

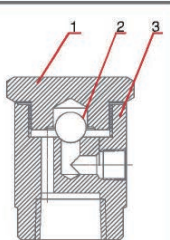
This product is robust and reliable and can be used in a variety of systems and equipment to prevent vacuum, such as:

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

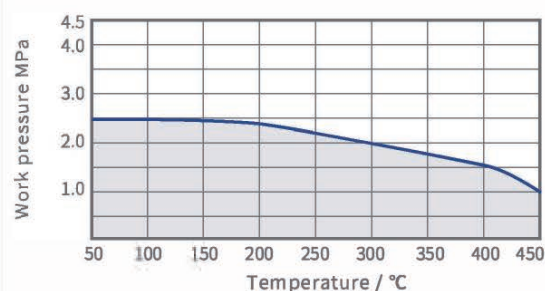
Advantage

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

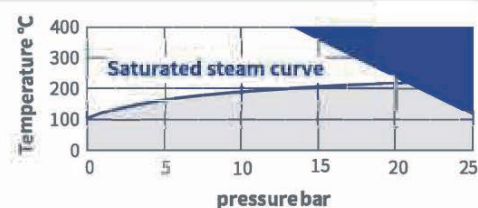
Material of main parts		
Number	Name	Material
1	Bonnert	SS304
2	Valve core	SS440C
3	Valve body	SS304



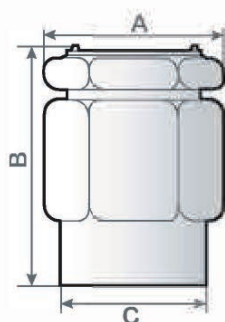
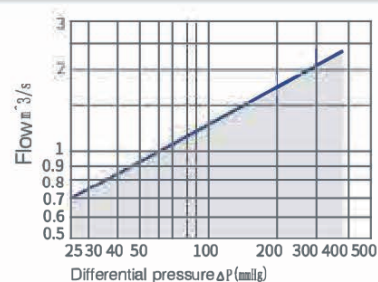
304 material PN25 Body Pressure-Temperature Ratings



Work scope



Flow chart



Size Parameters

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

Silencer

Silencer



Product Features

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

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

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

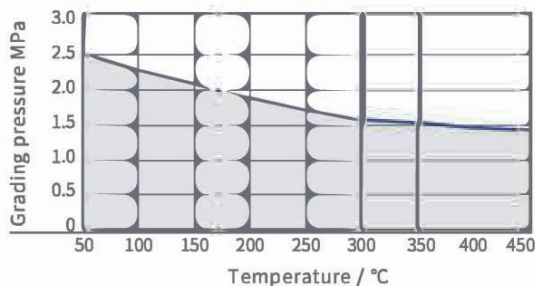
Technical Parameter

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

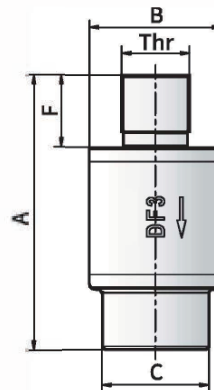
Material Table

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

304 Material PN25 Valve Body Pressure-Temperature Ratings



Structure Diagram



Structural Dimension Table

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

Mixer

Mixer



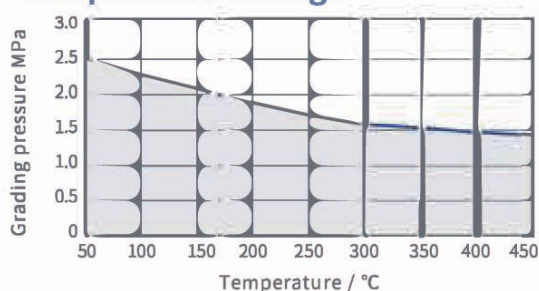
Technical Parameter

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

Inlet pressure versus flow

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

CF8 Material PN25 Valve Body Pressure-Temperature Ratings



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

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

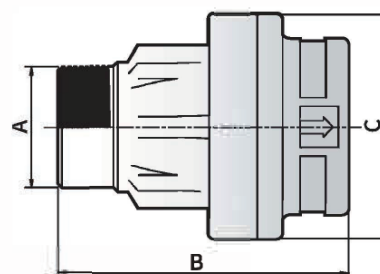
Structural Features

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

Installation Notes

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

Structure Diagram

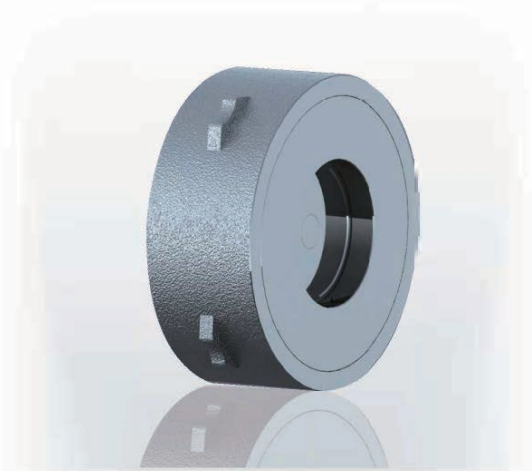


Structural Dimension Table

unit(mm)					
Model	Nominal Size	A	B	C	Weight
IN40M	DN40	48	115	88	1.6 kg
	DN40	48	115	88	1.6 kg

Wafer Check Valve

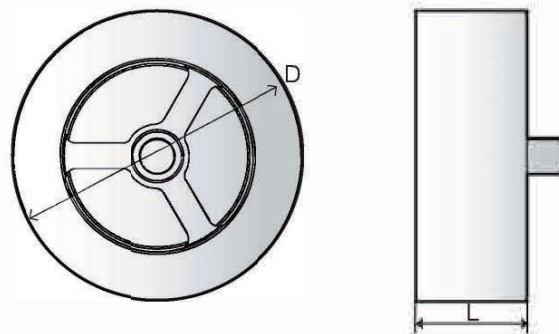
Wafer Check Valve



Structural Features

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

Structure Diagram



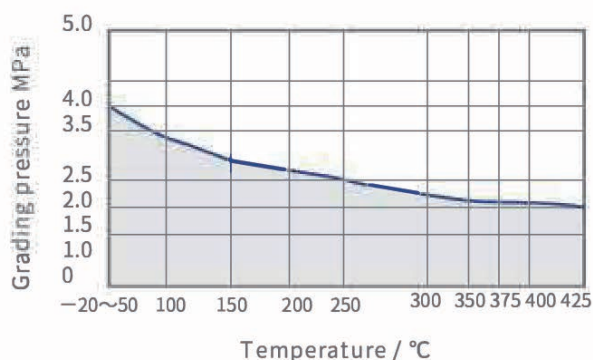
Technical Parameter

Model	Connection Method	Nominal Pressure PN	Working Pressure Range MPa	Condition Temperature $^{\circ}\text{C}$ / Pressure MPa
MH71H-25P	Wafer	25	0.05-2.5	220/2.5
		25	0.05-2.5	220/2.5
		25	0.05-2.5	220/2.5
		25	0.05-2.5	220/2.5
		25	0.05-2.5	220/2.5
		25	0.05-2.5	220/2.5
		25	0.05-2.5	220/2.5

Material Table

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

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



Structural Dimension Table

unit(mm)				
Model	Nominal Size	L	D	Weight
MH71H-25P	DN20	19	55	0.24 kg
	DN25	22	64	0.36 kg
	DN32	28	74	0.55 kg
	DN40	32	84	0.76 kg
	DN50	40	103	1.32 kg
	DN65	46	122	2 kg
	DN80	50	135	2.5 kg

DIN Strainer

DIN Strainer



Structural Features

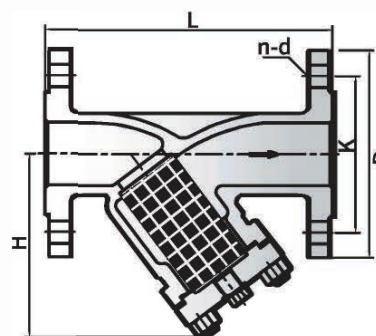
The DIN standard Ytype strainer is a device used to eliminate particulate impurities in the medium, which can effectively protect the normal operation of valves and equipment on the pipeline. When cleaning is required, just take out the detachable strainer screen and reload it after processing, which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

Optional drain plug for quick maintenance.

Technical Parameter

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

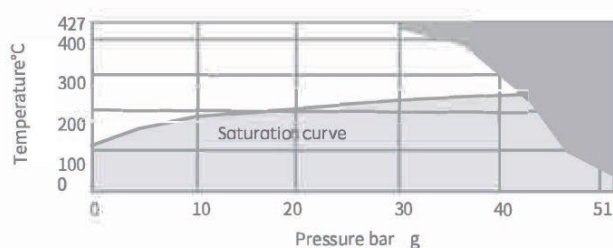
Structure Diagram



Structural Dimension Table

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

Pressure-Temperature Range



Water Separator

Water Separator



Working Principle

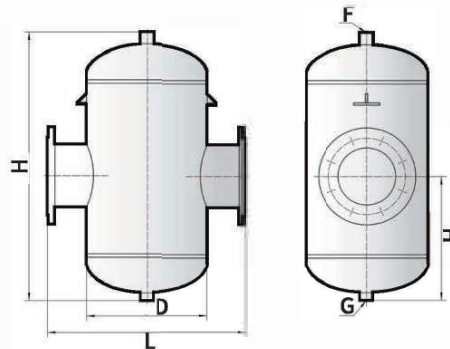
The product is a baffle type separator, which is used to separate liquid droplets contained in steam, compressed air and other gas systems. It can improve the working performance of the separator when equipped with a thermal insulation jacket. The steam with a large amount of water enters the steam separator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

A105 Pipe Material

Technical Parameter

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

Structure Diagram

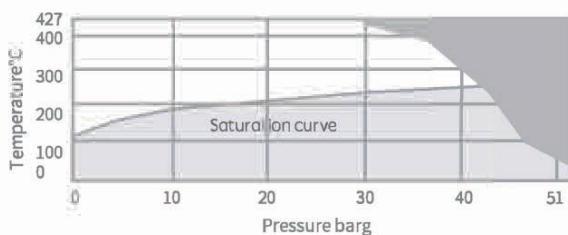


Structural Dimension Table

Structural Dimension Table

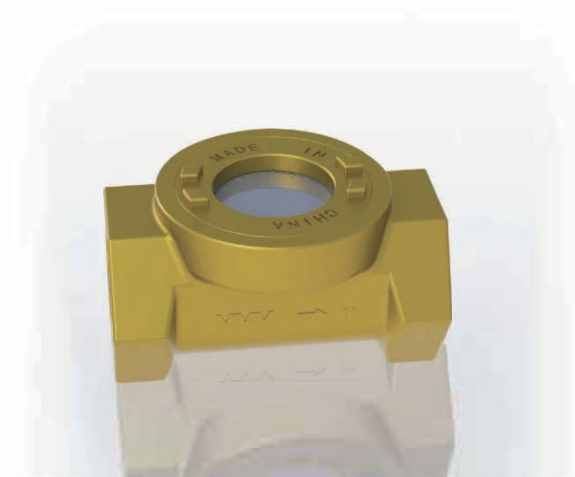
								unit(mm)	
Model	Nominal Size	L	H	D	E	F	G	Weight	Capacity
AS7	DN15	230	450	108	200	1/2"	1/2"	2.9kg	2.9L
	DN20	230	450	108	200	1/2"	1/2"	3.5kg	3.5L
	DN25	350	500	159	220	1/2"	1/2"	4.8kg	4.8L
	DN32	350	500	159	220	1/2"	1/2"	6.6kg	6.6L
	DN40	360	500	159	220	3/4"	1/2"	8.8kg	8.8L
	DN50	420	638	219	252	1"	3/4"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

Pressure-Temperature Range



Sight Glass

Sight Glass



Technical Parameter

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

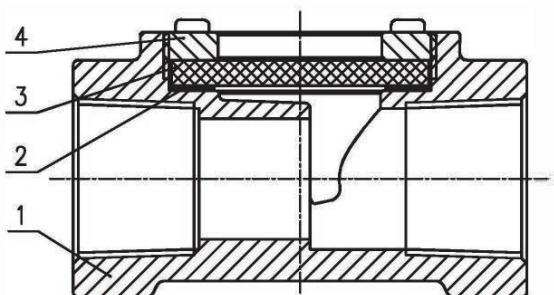
Material Table

Body:bronze, brass

Gasket: Flexible Graphite

Window: high temperature quartz glass

Bonnet: Bronze, Brass



Overview

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

Structural Features

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

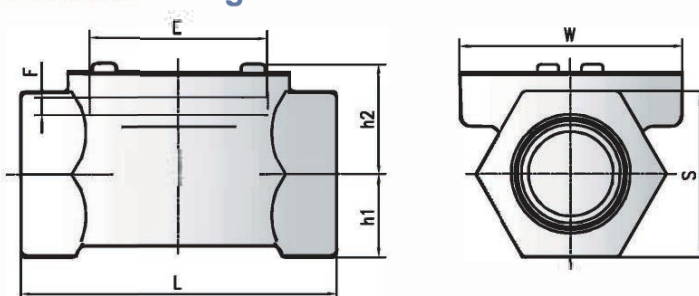
Applicable Scope

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

Warning

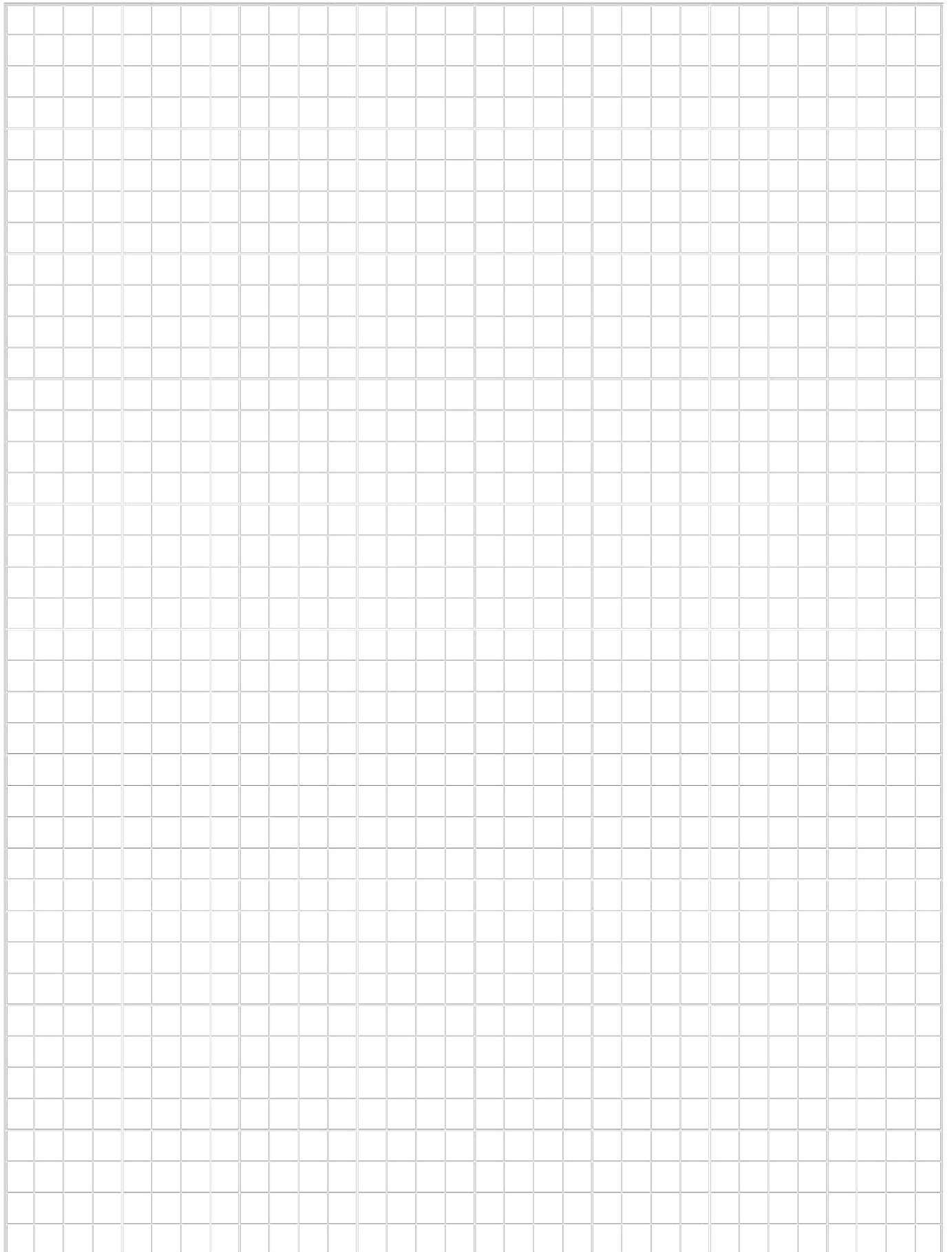
Condensed water in some applications can dissolve the window glass, especially if the water contains corrosive alkaline and acidic substances. Therefore, it is recommended to check the window glass regularly and replace the glass immediately if it becomes thinner. When viewing, wear goggles to protect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

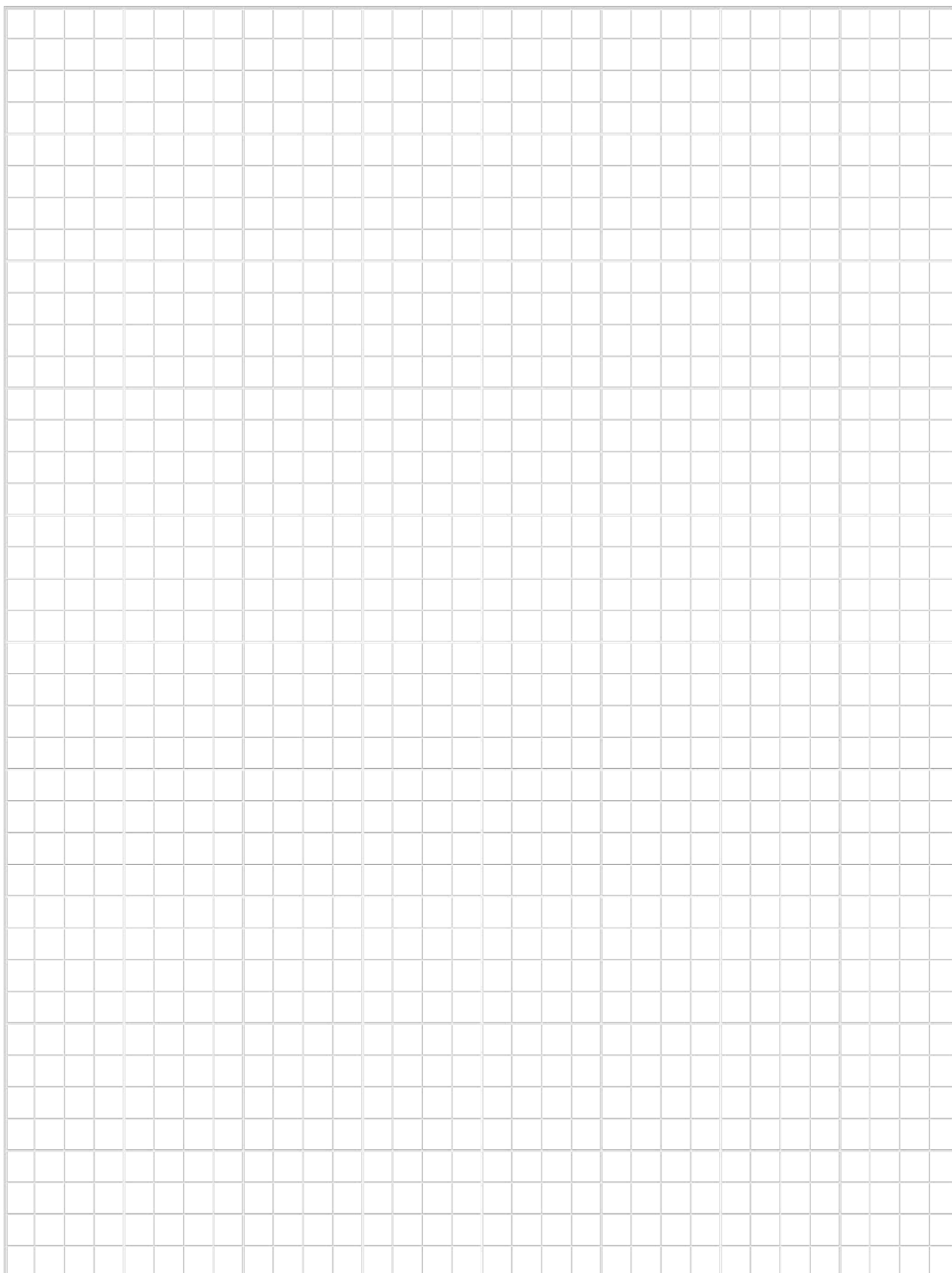
Structure Diagram



Structural Dimension Table

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







Product Service Qualified Certificate

ISO 9001:2015

ISO 14001:2015

ISO 45001:2018



CE: Globe Control Valve

CE : Ball Valve

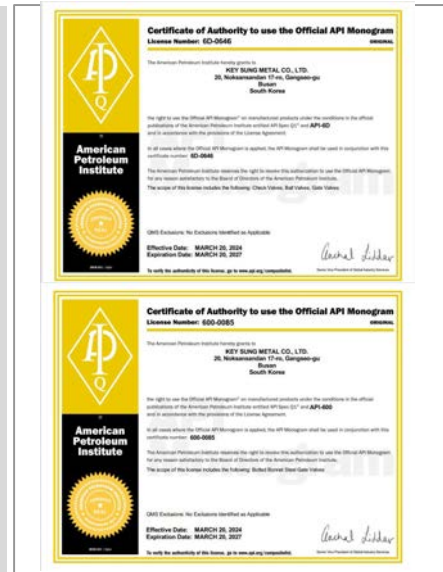
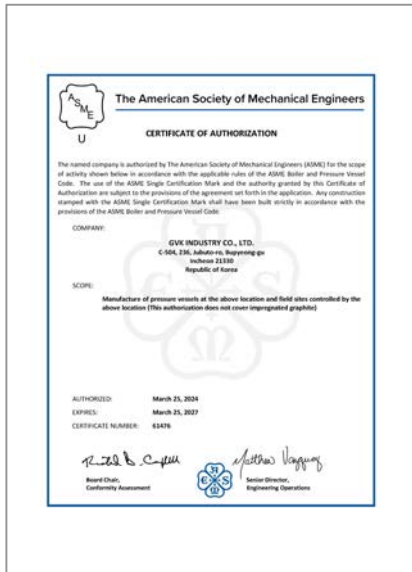
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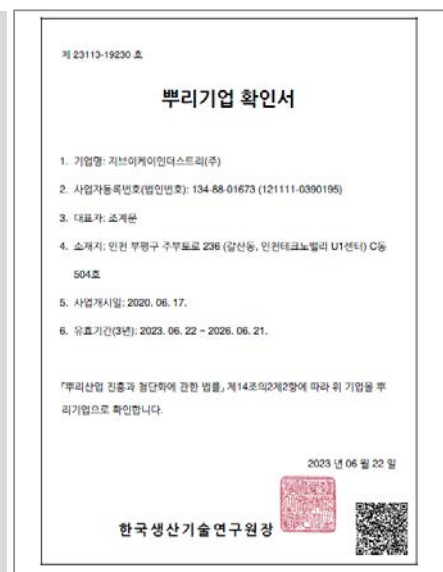
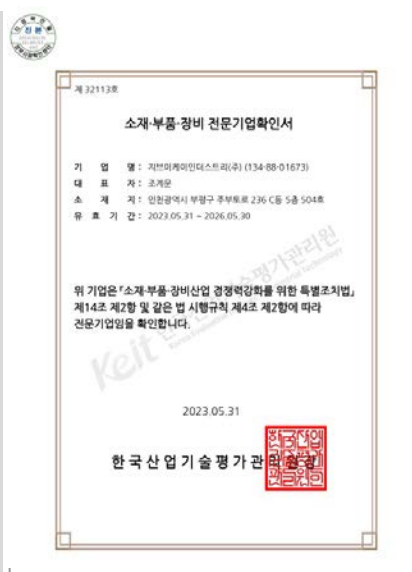
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