

Free-floating ball air trap Model:VCS41H/VCS11H

Features

Suitable for air ducts or air tanks, stainless steel air traps, applicable to small and medium-sized process equipment;
When the water load changes, the automatically adjusting free-floating ball can provide continuous, stable, and low-speed condensate discharge;
With only one moving part—a float—it avoids concentrated wear, requires no maintenance, and extends its service life.
Built-in large flow area filter screen ensures trouble-free operation;
Online replacement of internal parts is simple and easy to clean, reducing maintenance costs.

Manufacturing standards

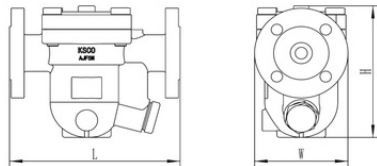
- GB/T 12250-2005
- GB/T 12250-2023
- GB/T 22654-2008
- GB/T 12251-2005
- ISO6948 Automatic steam traps - Production and performance characteristic tests;
- ISO7840 Automatic steam trap Determination of steam loss- test methods;
- ISO7842 Automatic steam trap- Determination of discharge capacity-test methods.

Structural Dimensions
(Unit: mm)

Model	Size	L	H	W	Weight/kg
VCS41H	DN15	210	168.5	110	8.2
VCS41H	DN20	210	168.5	110	8.8
VCS41H	DN25	210	168.5	115	9.2
VCS41H	DN32	210	168.5	140	10.4
VCS41H	DN40	210	168.5	150	11
VCS41H	DN50	210	168.5	165	12.2
VCS11H	DN15	160	168.5	110	6.6
VCS11H	DN20	160	168.5	110	6.4
VCS11H	DN25	160	168.5	110	6.4

Connection method

Flange standards: HG/T 20592 PN40 RF; ASME B16.5 class300 RF;
Socket welding standard: GB/T 14383, ASME B 16.11 class 3000;
Thread standards: ASME B16.11 RC, NPT, BSPT
Basic diameters: DN15 (1/2")/DN20 (3/4")/DN25 (1");
Extended diameter: DN32/DN40/DN50.



Working principle

1. During initial startup, water released from compressed air enters the valve body, while compressed air inside the valve flows back to the inlet;
2. As water continues to enter, the liquid level inside the valve gradually rises, causing the float to rise with the liquid level, increasing the flow area of the valve seat orifice, and allowing water to be discharged efficiently;
3. After the condensate is discharged, the liquid level inside the valve drops, causing the float to fall back, closing the valve seat orifice and blocking fluid flow;
4. When water is released from the compressed air and re-enters the valve body, the system enters the next working cycle.



Technical parameters

Serial number	Technical parameters	
1	Working medium	Air
2	Nominal pressure	PN40
3	Highest working pressure	2.5MPa
4	Maximum pressure difference	2.5MPa
5	Maximum operating temperature	220°C/2.5MPa
6	No-load steam leakage rate	≤0.5%
7	Maximum back pressure rate	≥85%

Main parts

serial number	Name	Material
1	Valve body	WCB/304
2	Valve seat	420
3	Plug gasket	Flexible graphite + 304 metal spiral wound pad
4	External hexagonal screw plug	Carbon steel
5	Float	304
6	Filter components	304
7	Valve cover gasket	304+ Flexible Graphite
8	Drain valve	304
9	Copper gasket	Copper
10	valve cover	WCB/304
11	External hexagonal studs	Carbon steel 8.8
12	signage	304
13	External Hexagonal Stud II	Carbon steel 8.8

Installation, commissioning and maintenance

The VCS11H/VCS41H free-floating ball air trap must be installed horizontally, with the fluid flow direction aligned with the arrow on the valve body. Before installation, blow out any dirt or contaminants from the pipes and ensure the pipes are clean. Maintenance and repair can be performed according to the instruction manual.

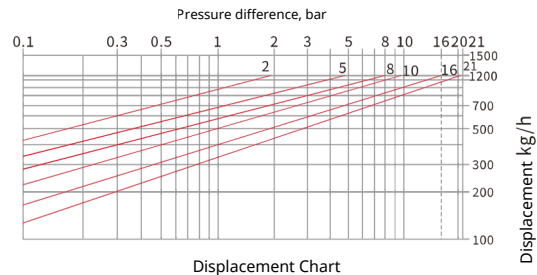
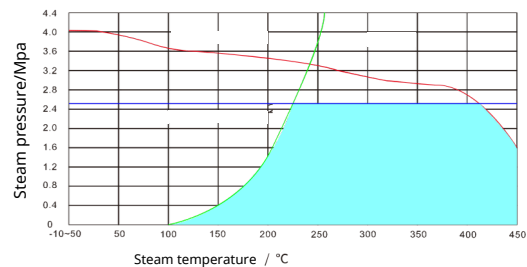
Application scope

It is widely used in air compressors, compressed air pipelines, and air tanks.

Ordering instructions

Product model, nominal pressure, nominal diameter, connection method and standard, material and connection length.

Free-Floating Ball Air Steam Trap Operating Range
(PN40; A105 Material)



Displacement Chart

