Cast Iron Swing Check Valve

Weights: 11kg - 461kg
Sizes: DN 50 – 350
Class: 125
Pressure: PN14
Temperatures: -10°C to 230°C

Application

The Cast Iron Swing Check Valve consists of a hinged disc that swings open when the fluid or media flows in the forward direction, allowing uninterrupted flow. When the flow reverses, the disc quickly closes preventing any backflow and maintaining system integrity. This design feature makes it ideal for applications where backflow prevention is critical, such as in water supply systems, sewage treatment plants, and industrial processes.

One of the key advantages of the cast iron swing check valve flanged is its material strength. Cast iron is renowned for its durability and resistance to high temperatures and pressures, making it suitable for demanding environments. Cast iron also provides excellent corrosion resistance, ensuring the valve's longevity and reducing maintenance requirements. Its robust construction, durability, and versatility make it a reliable choice for ensuring pipelines' smooth operation and efficiency.

Dimensions

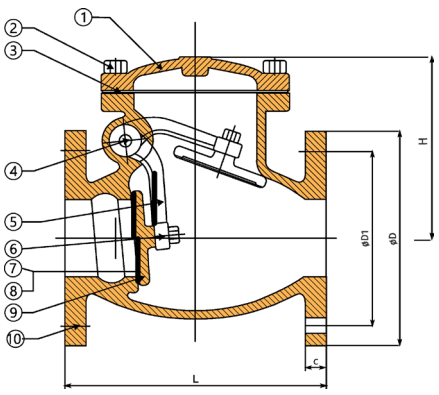
NPS	DN	L	ø D	ø D1	C	H	Kg
2	50	203	152	120	16	117	11
2.5	65	216	178	139	18	127	14
3	80	241	191	152	19	145	19
4	100	292	229	190	24	161	32
5	125	330	254	216	24	190	48
6	150	356	279	241	25	248	59
8	200	495	343	298	29	303	107
10	250	622	406	362	30	365	171
12	300	698	483	432	32	410	245
14	350	787	533	476	35	533	461

P/T Ratings

Valvetech's Pressure/Temperature Ratings according to ANSI B16.10

Temperature ° Celsius	-10°C to +65°C	100°C	120°C	140°C	150°C	160°C	200°C	230°C
Pressure Bar	13.8	12.7	12.1	11.6	11.4	10.8	9.8	8.6

Diagram



#	Part	Material
1	Bonnet	ASTM A126 B
2	Bolts & Nuts	ASTM A307 B / ASTM A536
3	Middle Gasket	Graphite & Steel
4	Pin	ASTM A276 420
5	Arm	ASTM A216 WCB
6	Bolts & Nuts	ASTM A307 B / ASTM A536
7	Disc Seal Face	13Cr
8	Disc	ASTM A126 B
9	Seal Seat Rings	13Cr
10	Body	ASTM A126 B

Specifications

Models
VT493

Body Material
Cast Iron

Iron Grade
ASTM A126 B

Trim
13 Chrome

Drill Tables
Table 10, 16, D, ASA150

Standards
Design Standard MSS SP-70
Flanges conform to ANSI B16.1
Face to Face conform to ANSI B16.10
Hydrostatically tested to BS 5150
Shell Test Water 350 PSIG 2.41Mpa
Seat Test: Water 200 PSIG 1.38Mpa

Services
Water, Oil, Gas

Industries
Petrochemicals and Petroleum, Refineries, Primary Energy, Agriculture, Water Works, HVAC

Priority Media
Acetylene, Borax, Castor Oil, Caustic Soda, Detergents, Diethylene Glycol, Gasoline, Hydraulic Oil, Linseed Oil, Methyl Acetone, Nitrogen, Oxygen, Mercury, Propane Gas, Sodium Sulphate

Inventory Code and Description
CISWING
CI SWING CHECK 13CR SS TRIM FLANGED
Cast Iron Swing Check 13 Chrome Stainless Steel Trim Flanged

Also Known As:
Check Valve, Non-return Valve, Stop Valve, One-Way Valve

Check Valves

Models:	VT493N ; VT493 ; R16-N ; R16
Class:	150 ; 125
Sizes:	DN 50 – 350 ; DN 50 - 600
Pressure:	PN16 ; PN14
Body Material:	Ductile Iron ; Cast Iron
Temperatures:	-10°C to 400°C ; -2°C to 120°C
Weights:	11kg - 235kg ; 1.5kg - 172kg

Specifications

Services

Petrochemicals and Petroleum, Refineries, Primary Energy, Agriculture, Water Works, HVAC

Industries

Water, Oil, Gas, Steam

Priority Media

Acetylene, Borax, Castor Oil, Caustic Soda, Detergents, Diethylene Glycol, Gasoline, Hydraulic Oil, Linseed Oil, Methyl Acetone, Nitrogen, Oxygen, Mercury, Propane Gas, Sodium Sulphate

Also Known As:

Check Valve
Non-return Valve
Stop Valve
One-Way Valve

Check Valve Details

The primary function of a Check Valve is to prevent backflow, enabling the flow control of media and ensuring that only a one-way direction of fluid flow is possible. If the flow reverses for any reason, such as pressure, velocity changes, or water hammer, the spring or arm-operated disc automatically closes.

Application

With a Swing Check Valve, the hinged-disc swings open during a forward motion of media which allows for minimal resistance of flow. The Dual Plated Wafer Check Valve, however, has two spring-loaded plates that open swiftly and independently of each other. Because both mechanisms are self-actuating, there is no need for mechanical or electronic control systems, making these devices a cost-effect alternative to complex installations.

They can be installed in various positions, both horizontally, diagonally, or vertically, and are secured either via drilled flanges, or seated between the flanges of connecting pipes. The main consideration for the installation is the flow of media, the direction of which is indicated on the valve itself for ease of use and understanding.

Typical applications of Check Valves include:

- **Preventing Backflow** of fluids in a piping system as the valve allows the flow of fluids in one direction while automatically blocking the reverse flow. This is particularly important in applications where backflow could lead to contamination, damage to equipment, or disruption of processes
- **Commonly used in sewage systems**, preventing the reverse flow of water or wastewater
- **Prevents condensate** from returning to the steam generator in steam applications

Advantages:

- **Prevents Backflow** by immediately closing the valve, therefore blocking the backwards regression of media back into the system,
- **No Electric or Manual Intervention** as changes in pressure or media flow direction create a passive yet immediate gravitational response
- **Reduces Water Hammer** impact when a sudden unexpected pressure surge occurs
- **Low Maintenance** due to the efficient design and fewer moving parts. The self-actuating mechanism has no complex componets
- **Versatile Applications** due to their ability to operate in high-and-low-pressure water, oil, gas, wastewater and plumbing systems

Common Industry Uses:

- HVAC Systems to regulate fluid flow and prevent the reverse flow of refrigerants or other fluids
- Water Treatment purification plants to manage the flow of water, preventing backflow and contamination
- Mining and Ore Processing to regulate the flow of slurry and other fluids, ensuring efficient processing and preventing damage to equipment
- Pulp and Paper Industry to control the flow of liquids and gases involved in various production processes
- Power Generation where maintaining the direction of fluid flow in steam, water, or gas systems is critical