Ductile Iron Swing Check Valve

Weights: 11kg - 235kg
Sizes: DN 50 – 350
Class: 150
Pressure: PN16
Temperatures: -10°C to 400°C

Application

The Ductile Iron Swing Check Valve Flanged ensures fluid flow and prevents backflow. Constructed from ductile iron, these swing check valves offer excellent mechanical strength and corrosion resistance, making them suitable for demanding environments. The design offers a low pressure drop and minimal turbulence, making it an ideal choice for applications where a smooth and uninterrupted flow is crucial. It also minimizes the risk of water hammer, which can cause damage to pipes and equipment due to sudden pressure surges.

Designed for various industrial applications such as water supply systems, wastewater treatment plants, and oil and gas pipelines, the ductile iron swing check valve flanged ensures smooth operations and protects the integrity of the overall system. The ductile iron enhances flexibility and resistance to fractures, allowing the valve to withstand high pressures and maintain integrity over extended periods. It is also known for its durability and versatility, and its robust construction and flexibility make it a reliable component in various industrial applications.

Dimensions

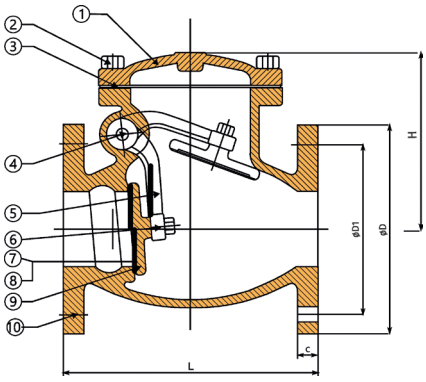
NPS	DN	L	ø D	ø D1	C	H	Kg
2	50	203	152	120	16.00	127	11
2.5	65	216	178	139	18.00	151	14
3	80	241	191	152	19.10	165	20
4	100	292	229	190	23.90	178	29
5	125	330	254	216	23.90	205	37
6	150	356	279	241	25.40	221	55
8	200	495	343	298	28.60	249	77
10	250	622	406	362	30.20	306	120
12	300	698	483	432	31.80	330	189
14	350	787	533	476	35.00	425	235

P/T Ratings

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

Temperature ° Celsius	-10°C to +38°C	93°C	149°C	204°C	260°C	316°C	371°C	400°C
Pressure Bar	19.6	17.9	15.9	13.8	11.7	9.7	7.6	6.5

Diagram



#	Part	Material
1	Bonnet	Ductile Iron ASTM A536
2	Bolts and Nuts	Carbon Steel
3	Middle Gasket	Graphite and SS304
4	Pin	SS304
5	Arm	Ductile Iron ASTM A536
6	Bolts and Nuts	Carbon Steel
7	Disc Seal Face	SS304
8	Disc	Ductile Iron ASTM A536
9	Seal Seat RIngs	SS304
10	Body	Ductile Iron ASTM A536

Specifications

Models
VT493N

Body Material
Ductile Iron

Iron Grade
ASTM A536 65-45-12

Trim
304 SS

Drill Tables
Table 10, 16, D, ASA150

Standards
Design Standard MSS SP-70
Flanges conform to ANSI B16.5
Face to Face conform to ANSI B16.10
Hydrostatically tested to AP1598
Shell Test Water 350 PSIG 2.41Mpa
Seat Test: Water 250 PSIG 1.76Mpa

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
DISWINGN
DI SWING CHECK 304SS TRIM CL150 FLANGED
Ductile Iron Swing Check 304 Stainless Steel Trim Class 150 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