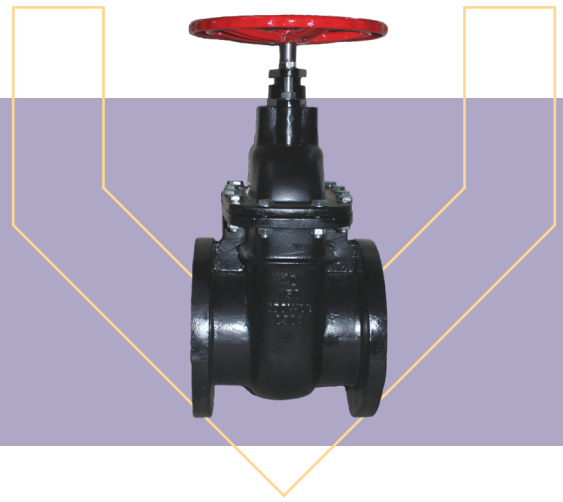


# Ductile Iron Gate Valve Non-Rising Stem

**Weights:** 14kg - 780kg  
**Sizes:** DN 50 – 600  
**Class:** 150  
**Pressure:** PN16  
**Temperatures:** -10°C to 400°C



## Application

The Ductile Iron Gate Valve Non-Rising Stem is used to completely shut off fluid flow or provide full flow in a pipeline when in the fully open position. They are used in on/off, non-throttling services and are suitable for most mediums, including steam, water, oil, air, and gas. Commonly used in refineries and petrochemical plants where pressure remains relatively low, NRS Gate Valves add stability where temperatures can get high (300 °C+).

The non-rising stem has no upward movement, so the Ductile Iron Gate Valve Non-Rising Stem takes up less space. When the handwheel is turned in a clockwise rotation, the disc travels up the stem while the stem itself remains vertically stationary. Due to their dimensions not changing during operation, these valves take up less space and are better suited to underground or confined environments.

## Dimensions

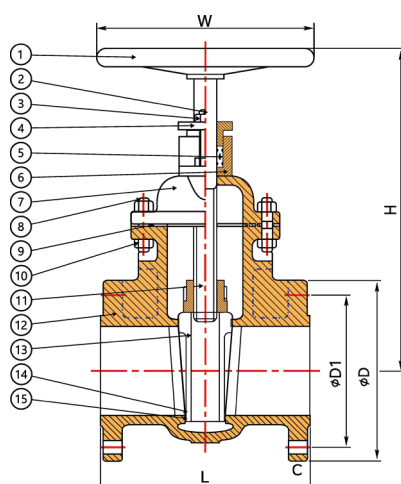
NPS	DN	L	φ D	φ D1	C	H	W	Kg
2	50	178	152	120	15.90	254	180	14
2.5	65	190	178	139	17.50	273	180	16
3	80	203	191	152	19.10	315	200	21
4	100	229	229	190	23.90	375	200	31
5	125	254	254	216	23.90	423	250	39
6	150	267	279	241	25.40	494	250	44
8	200	292	343	298	28.60	603	280	81
10	250	330	406	362	30.20	652	350	110
12	300	356	483	432	31.80	722	350	168
14	350	381	533	476	35.00	850	450	240
16	500	406	597	540	36.60	1,056	450	305
18	450	432	635	578	39.70	1,180	600	550
20	500	457	699	635	42.90	1,285	600	695
24	600	508	813	749	47.70	1,352	600	780

## 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	372°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	Handwheel	Ductile Iron A536
2	Gland Bolt	Carbon Steel
3	Gland Bolt Nut	Carbon Steel
4	Gland	Ductile Iron A536
5	Gland Packaging	Flexible Graphite
6	Buffing Box	SS304
7	Bonnet	Ductile Iron A536
8	Bonnet Bolt	Carbon Steel
9	Bonnet Gasket	Graphite & SUS304
10	Bonnet Bolt Nut	Carbon Steel
11	Stem	SS410
12	Body	Ductile Iron A536
13	Disc	Ductile Iron A536
14	Disc Seat Ring	SS304
15	Body Seat Ring	SS304

## Specifications

### Models

VT68N

### Body Material

Ductile Iron

### Iron Grade

ASTM A536 65-45-12

### Stem Operation

Non-Rising

### Trim

SS304

### 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

### Services

Water, Oil, Gas, Steam

### Industries

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

### Priority Media

Acetylene, Borax, Butane Gas, Carbon Dioxide, Castor Oil, Caustic Soda, Detergents, Diesel Fuels, Hydraulic Oil, Linseed Oil, Nitrogen, Propane Gas, Steam, Tributyl Phosphate

### Inventory Code and Description

DIGATEVT68N

DI GATE RS 304SS TRIM CL150 FLANGED  
 Ductile Iron Non-Rising Stem 304 Stainless Steel Trim Class 150 Flanged

### Also Known As:

Insider Screw Valve, Rotational Stem Design Gate Valve, Non-Rising Stem Wedge Gate Valve, Sluice Valve

# Gate Valves

<b>Models:</b>	VT84N ; VT84 ; VT68N ; VT68 ; 201
<b>Class:</b>	150 ; 125
<b>Sizes:</b>	DN 50 – 600 ; DN 15 - 100
<b>Pressure:</b>	PN16; PN40
<b>Body Material:</b>	Ductile Iron ; Cast Iron ; Brass
<b>Temperatures:</b>	-10°C to 400°C ; -2°C to 120°C 14kg -
<b>Weights:</b>	870kg ; 250g - 6kg



## Specifications

### Services

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

### Industries

Water, Oil, Gas, Steam

### Priority Media

Acetylene, Borax, Butane Gas, Carbon Dioxide, Castor Oil, Caustic Soda, Detergents, Diesel Fuels, Hydraulic Oil, Linseed Oil, Nitrogen, Propane Gas, Steam, Tributyl Phosphate

### Also Known As:

Insider Screw Valve (Non-Rising)  
Outside Screw and Yolk (OS+Y; Rising)  
Rotational Stem Design Gate Valve  
Non-Rising Stem Wedge Gate Valve  
Rising Stem Wedge Gate Valve  
Sluice Valve

## Gate Valve Details

A Gate Valve is used in On/Off applications that do not require throttling. Due to their heavy-duty design and casting, they can handle high temperatures and are durable under constant, lower pressures while media is able to flow in both directions.

## Application

When fully opened, the Gate Valve wedge disc is completely removed from the space within the valve, removing all resistance to the flow of media resulting in little pressure drop. Because there is the absence of any valve components within the tunnel when it is fully opened, high-viscosity slurries such as pulp and mining solids or sludge can travel through without obstruction, preventing blockages.

When the valve is fully closed, the disk-to-seal ring surface creates a 360° contact, which enables good sealing via the wedge. This means that very little or no leakage occurs across the disk, no matter the volume of media or the pressure behind it and the media can flow in both directions.

### Typical applications of Gate Valves include:

- **Isolation and Shutoff** in pipelines carrying fluids or gases as their design allows for a tight seal when fully closed, effectively stopping the flow of the medium through the pipeline
- **High-Pressure Systems** due to their sturdy construction and ability to provide a tight seal, making them suitable for use in pipelines where the pressure requirements are significant
- **On/Off Flow Control** as opposed to throttling as their primary strength lies in their ability to provide full flow or complete shutoff

### Advantages:

- **Unchanged dimensions** when open or closed, so the installation space is smaller if a Non-Rising Stem is used. A Rising Stem makes it easy to identify from a distance as to whether the valve is open or closed
- **High-temperature resistance** enables the valve to withstand elevated temperatures without significant degradation, warping or deterioration
- **Cheap and easy maintenance** due to their simplicity in design, making them one of the most common valves for industrial applications
- **Versatility in applications** provides for a wide range of fluids, including liquids, gases, and slurries making them suitable for every industry
- **Low pressure drop** and full flow provide a straight-through, unobstructed flow path when fully open, minimising pressure drop allowing for efficient and high-capacity fluid flow

### Common Industry Uses:

- Underground piping or buried installations
- Clean liquid and gasses, and Heating and Conditioning (HVAC)
- Potable water applications
- Wastewater, water treatment, and distribution systems
- Corrosive mediums such as diesel, petroleum and acids