



With their headquarters and manufacturing base in Houston, Texas, USA, VOLK FLOW CONTROLS, INC. is a proven leading manufacturer of valves for all industries. Valves such as gate valves, globe valves, check valves, control valves together with severe service metal seated zero leakage ball valves and severe service control valves are available in all types, sizes, materials pressure classes and automation.

In addition to valves, VOLK FLOW CONTROLS, INC. also offers the GT (GIANT TORK) complete range of electric and pneumatic actuators suitable for all types of linear and quarter turn valves.

VOLK FLOW CONTROLS, INC. is a major manufacturer and supplier of valves and actuators to the Power, Oil & Gas, Refining, Petrochemical, Chemical, Mining, Marine, Metals, Aerospace Industries among others with installations in most countries of the world.

All VOLK FLOW CONTROLS, INC. products are designed, engineered and manufactured by dedicated and experienced industry engineers to provide safe, reliable, dependable and affordable valves, actuators and solutions. All VOLK FLOW CONTROLS, INC. products are tracked in the field using our database to monitor performance and service life. Together with continual feedback from our customers from valves operating in their Plants, and our

high manufacturing, rigorous testing and Quality Control procedures, VOLK FLOW CONTROLS, INC. guarantees long service life with less maintenance. Bubble-tight and Zero-leakage valves are guaranteed for both high and low temperatures and pressure. VOLK FLOW CONTROLS, INC. provides customers with affordable, dependable and reliable solutions and looks forward to working with your company.



Forged Steel Metal Seated Ball Valve with Downstream Protection . . . . . 4  
900 LB - 4500 LB    1/2" - 4"



Check Valve . . . . . 10  
150 LB - 2500 LB    1/2" - 24"



Gate Valve . . . . . 6  
150 LB - 2500 LB    2" - 24"



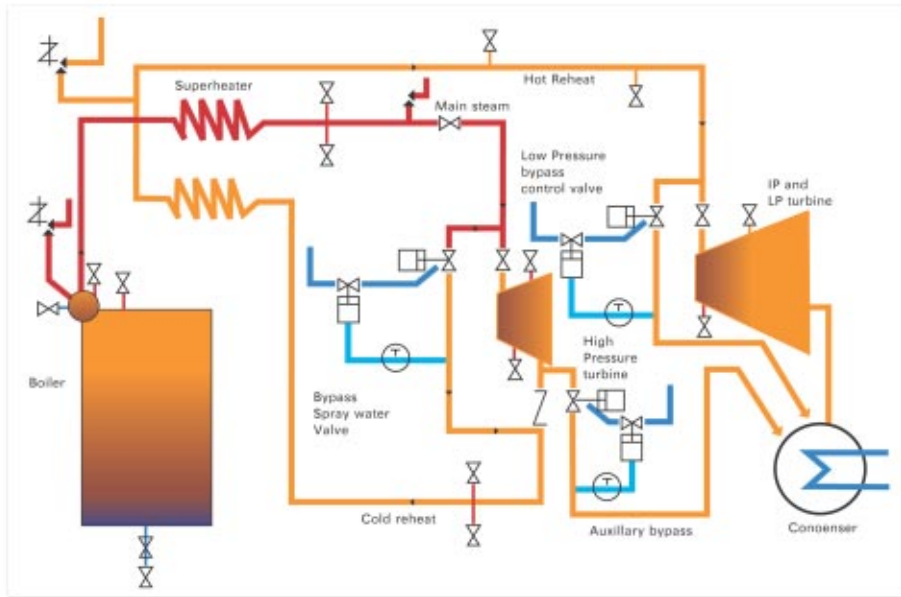
Control Valve . . . . . 12  
150 LB - 2500 LB    1" - 12"



Globe Valve . . . . . 8  
150 LB - 2500 LB    1/2" - 10"



Instrument Valve . . . . . 14  
6000 psi    1/6" - 3/4"



Severe service conditions such as high temperature and high pressure exist everywhere in the operation of thermal power plants. The power Industry has grown rapidly in recent years in China and many supercritical units have been put into service. The performance of supercritical units demands that only quality, reliable and dependable severe service valves are used.

As a major supplier of quality, reliable and dependable severe service valves to the Power Industry, VOLK FLOW CONTROLS, INC. has, over the last few years, provided different types of valves in various materials for over 400 new projects worldwide.

The flagship of VOLK FLOW CONTROLS, INC. is the Zero Leakage Metal Seated Ball Valve. Its long service life and Zero Leakage performance under high temperature and high pressure condition saves enormous energy and therefore cost for power plants.

VOLK FLOW CONTROLS, INC. also supplies gate valves, globe valves, check valves, control valves and instrument valves for all applications and projects. The high quality of VOLK Valves allows safe and reliable operation of power plants.

VOLK FLOW CONTROLS, INC. is committed to provide the best in price, quality, delivery and after-sale service.

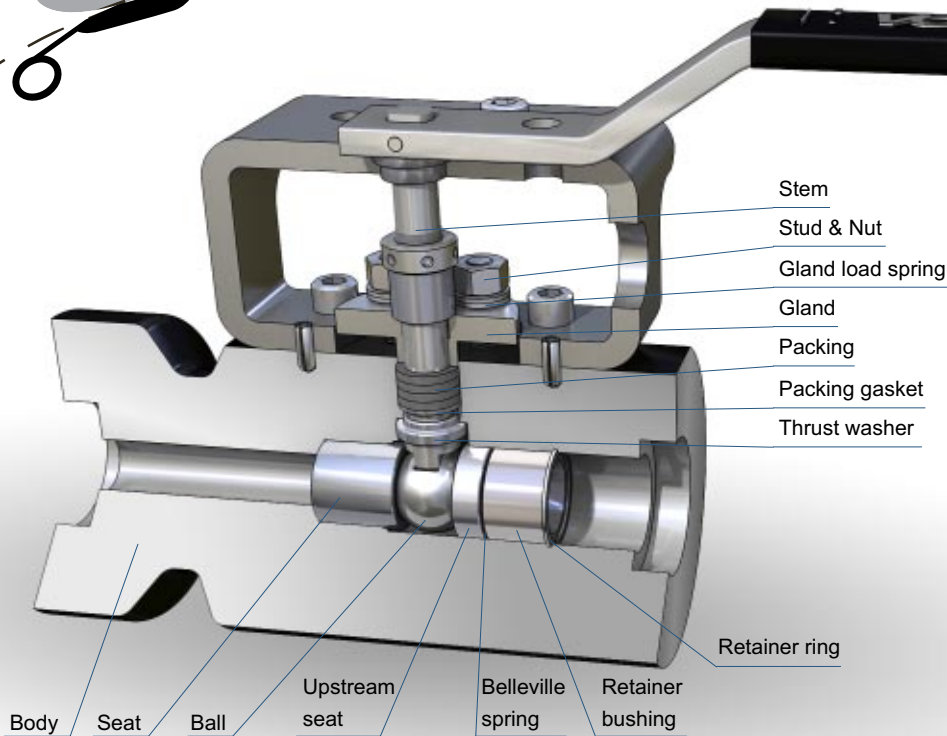
Over 50,000 VOLK Valves are operating in more than 500 power plants in China. To support the Chinese installed base, a professional after-sale and customer service group was established in China in 2004, providing unsurpassed and excellent service to its customers 24 hours per day, 7 days per week, 365 days per year. All other installations are supported from our factory in Houston and Service Centers around the World. This brochure is a basic introduction of VOLK Valves. For more information, please refer to the detailed information brochure of each valve or visit our website <http://www.volkvalves.com> or contact our sales office.



# Thermal Power Plant Valve

## *Forged Steel Metal Seated Ball Valve*

### *with Downstream Protection*



ANSI Class: 900 LB - 4500 LB  
 Sizes: 1/2" - 4"  
 End Conn.: BW, SW

### Features:

#### 1. Zero Leakage

VOLK FLOW CONTROLS, INC. guarantees Zero Leakage.

#### 2. Protection Device on the Stem

The protection device on the stem will prevent stem moving downward when subjected to abnormal external force. Composed of a protection sleeve and screwed nuts, the protection device can adjust position through screw thread on the stem during installation, preventing the downward movement of the stem, which ensures seal.

#### 3. Stem Blow out Protection

The cutting sleeve on the stem has diameter larger than the stem shoulder, which can prevent the blow out of the stem.

4. Reliable packing gland design and the

use of belleville springs provide long lasting, maintenance-free, stem packing seal and tightness.

#### 5. Isolated Body Cavity

The ball and seat are in full constant contact, isolating the body cavity from flow to prevent build-up of solids

#### 6. Quarter Turn Valve

The quick 90 degree rotation of the stem of the quarter turn valve reduces the wear of the stem and the packing and prolongs the service life of the packing. Its quarter turn operation and zero leakage make this valve ideal for Emergency Shut Down applications.

#### 7. Application of HVOF Coatings

The ball and seat are chromium or tungsten carbide impregnated by HVOF coat-

ing techniques with surface hardness of Rc 68-72 and are mate-lapped to a very high RMS finish (5 micro inches RMS), providing Zero Leakage, and long, maintenance free service life.

#### 8. Inconel 718 Belleville Spring

The Belleville Spring maintains tight constant contact between seats and ball, therefore protecting seats in an open and closed position and allowing valve to seal bubble tight under both high and low pressure operations.

#### 9. Belleville Spring Guide Sleeve

In case of incorrect installation or reverse flow pressure, the design prevents the ball and the upstream seat from blowing out.

### Typical Application of VOLK Valves

As the flagship of VOLK FLOW CONTROLS, INC., the Zero Leakage Metal Seated Ball Valves are widely used in the power plants where tight shutoff is needed under high temperature and high pressure operations and is the best choice to replace the old type globe valve. For supercritical units, special valves with F91 material providing Zero Leakage operations are used. At present, over 50,000 VOLK Valves are operating safely for drains, vents and blow down etc., in more than 500 power plants in China.

## Material

Item	Description	Materials for Class 900#, 1500#, 2500#, 3200#				Materials for Class 3500#, 4500#			
		A105	F22/A182	F91/A182	F316/A182	A105	F22/A182	F91/A182	F316/A182
1	Body	A105	F22	F91	F316	A105	F22	F91	F316
2	Seat	F6a.Cl.3 / H.F				Gr.660 / H.F, Inconel 718/ H.F			
3	Ball	F6a.Cl.3 / H.F				Gr.660 / H.F, Inconel 718/ H.F			
4	Upstream seat	431SS				431SS			
5	Belleville spring	Inconel 718				Inconel 718			
6	Retainer bushing	F6a.CL.3/A182		F316/A182		F316/A182			
7	Retainer ring	Gr.660/ A638				Gr.660/ A638			
8	Thrust washer	410 SS		Inconel 718		Inconel 718			
9	Packing gasket	410 SS				410 SS			
10	Packing	Graphite + 316 SS				Graphite + 316 SS			
11	Gland	410 SS				410 SS			
12	Gland load spring	302 SS				302 SS			
13	Stud	B8M / A 193				B8M / A 193			
14	Nut	8M / A 194				8M / A 194			
15	Stem	Gr.660/A638		Inconel 718		Inconel 718			



### Application:

Main feed water pipeline drain  
 Main steam pipeline drain  
 Inner Cylinder drain  
 Outer Cylinder drain  
 Reheat Connecting pipe drain  
 Reheater inlet drain  
 Reheater desalt drain

Primary economizer recirculation flow element  
 Primary main feed water flow element  
 Main steam valve inlet pressure (right)  
 Reheat steam pressure (left, right)  
 Regulating stage outlet pressure  
 Superheater secondary desalt pipeline exhaustion  
 Economizer vent

## Thermal Power Plant Valve

# Gate Valve

ANSI Class: 150 LB - 2500 LB

Sizes: 2" - 24"

End Conn.: BW, RF, SW

**Stem:** Ensure seal performance and smooth operation

**Gland bolt:** stud for easy repacking

**Art hole:** For easy removal of retainer ring

**Flexible wedge:** Smooth operation with leak tight performance

**Sleeve:** Can be disassembled without split of yoke and stem

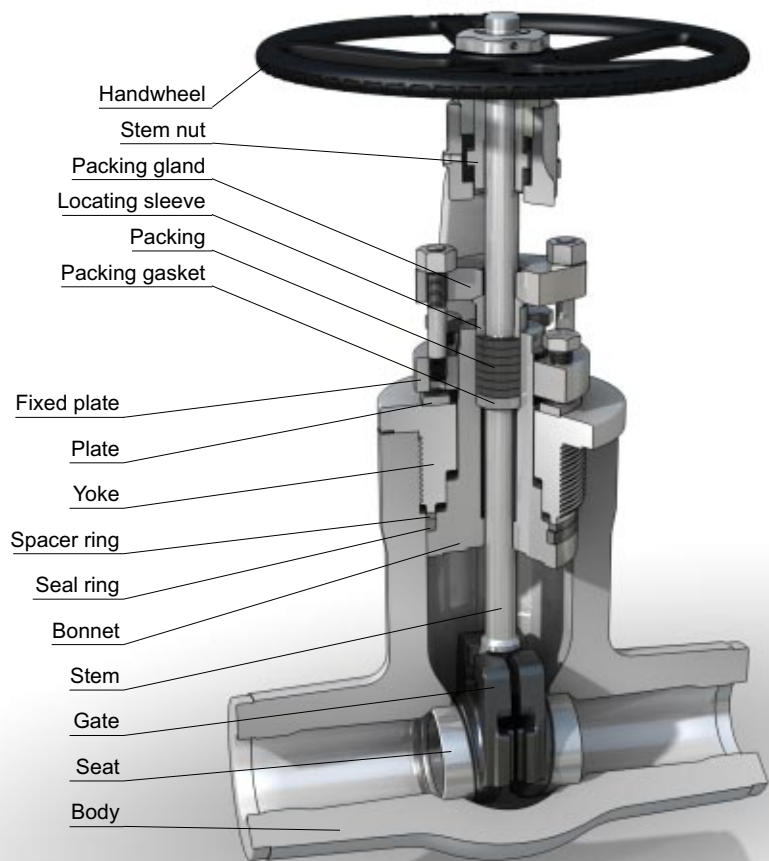
**Thrust ball bearing:** Easy and smooth operation

**Yoke:** Two arms design for rigidity and accessibility

**Graphite gasket:** Excellent sealing performance even under thermal cycling

**Bonnet with cooling chamber:** Maintains packing at normal temperature

**Hardfaced seat surface:** Resistance to heat, corrosion and erosion



### Features:

1. Flexible wedge gate valves are designed for high pressure and high temperature steam applications where tight shutoff and reliable operation are critical.
2. VOLK flexible wedge gate valves have a low pressure drop.
3. The flexible wedge is of one piece and fully guided with cast central hub. It compensates for the distortion of the body seat by thermal cycling and bolt stresses from pipe connections and provides a tight seal in a low differential pressure condition. It also prevents sticking or galling in severe operating conditions.
4. The body guide allows true linear operation of the seat face.
5. The seat surface of body and disc are overlaid with stellite for reliable operation in a high differential pressure condition.

### Application:

Superheater primary desalt

Superheater Secondary desalt

Warm water pump pipeline

Reheater desalt

Separator outlet pipeline nitrogen charge

Circulating pump minimum flow rate pipeline

Feed water pipeline

Water washing pipeline

Overflow pipeline

Economizer recirculation pipe

Superheater desalt main pipe

Item	Description	QTY.	Material						
			A216	A217			A351		A352
			WCB	WC6	WC9	C12A	CF8	CF8M	LCB
1	Body	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB
2	Bonnet	1	A105/ A216-WCB	A182-F11/ A217-WC6	A182-F22/ A217-WC9	A182-F91/ A217-C12A	A182-F304/ A351-CF8	A182-F316/ A351-CF8M	A352-LCB
3	Stem	1	A182-F6a			A182-F91	A182-F304	A182-F316	A182-F316
4	Disc	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB
5	Seat Ring	2	A105/ A216-WCB	A182-F11/ A217-WC6	A182-F22/ A217-WC9	A182-F91/ A217-C12A	A182-F304/ A351-CF8	A182-F316/ A351-CF8M	A352-LCB
6	Packing Washer	1	A276-410				A182-F304	A182-F316	A182-F304
7	Gland	1	A276-410				A182-F304		
8	Gland Packing	1set	Graphite with Inconel Wire						
9	Gland Flange	1	A105				A351-CF8/A182-F304		A352-LCB
10	Gland Bolt	2	A193-B7				A320-B8		
11	Gland Bolt Nut	2	A194-2H				A194-8		
12	Yoke	1	A216-WCB				A351-CF8		A352-LCB
13	Sleeve	1	A439-D2						
14	Handwheel Key	1	A108-1045						
15	Handwheel	1	A536						
16	Handwheel Nut	1	A194-2H						
17	Yoke Bolt Nut	1set	A194-2H				A194-8		
18	Yoke Bolt	1set	A193-B7				A320-B8		
19	Thrust Ball Bearing	2set	Steel						
20	Seal Ring	1	Graphite with Inconel Wire						
21	Spacer Ring	2	A276-410				A182-F304	A182-F316	A182-304
22	Ring Retainer	1set	A276-410				A182-F304	A182-F316	A182-304
23	Bonnet Retainer	1	A105/A216-WCB				A182-F304/A385-CF8		A352-LCB
24	Gland Bolt Clamp	1set	A216-WCB				A182-F304/A385-CF8		A352-LCB
25	Clamp Bolt	2	A193-B7				A194-B8		A320-L7
26	Clamp Bolt nut	4	A194-2H				A194-8		A194-4
27	Retainer Bolt	1set	A193-B7	A193-B16*			A193-B8		A320-L7
28	Retainer Bolt Nut	1set	A194-2H	A194-7/A194-8M*			A194-8		A194-4
Trim Surface			HF STL						



## Thermal Power Plant Valve

# Globe Valve

ANSI Class: 150 LB - 2500 LB

Sizes: 1/2" - 10"

End Conn.: BW, RF, SW

**Yoke:** Two arms design for rigidity and accessibility

**Gland bolt:** Eyebolt type for easy re-packing

**Gland and Gland flange:** Self-aligning type

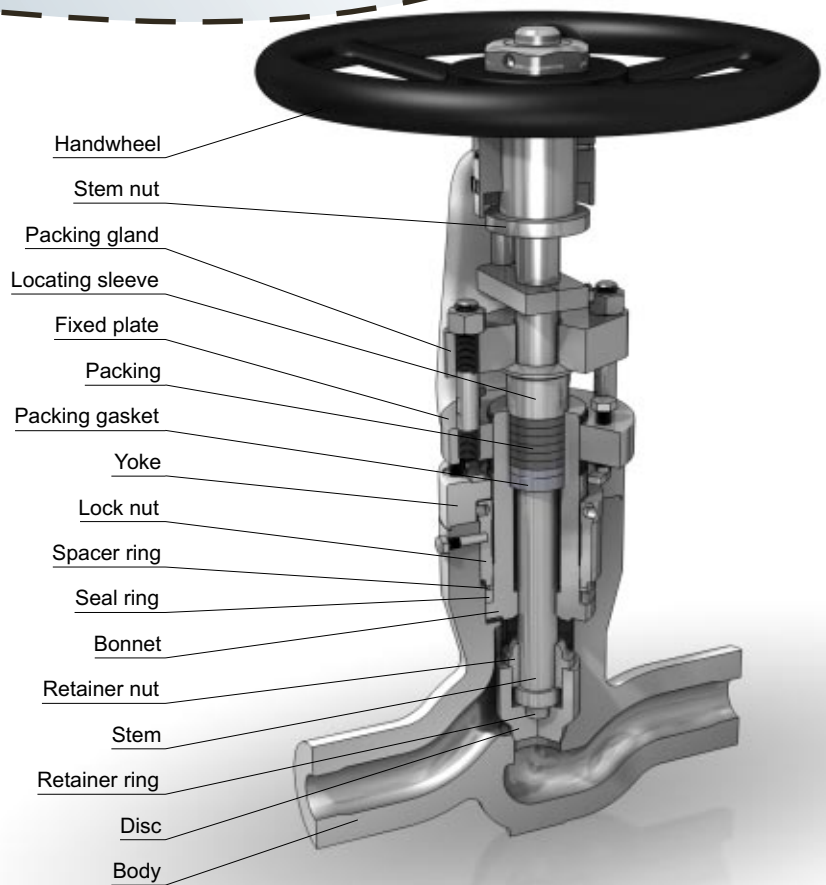
**Expanded Graphite Seal Ring:** Excellent seal performance at low and high pressure, even under severe pressure and temperature transients

**Back Seat:** In case of packing leakage, tight backseat sealing achieved with less seating force due to the differential in mating angles between the stem shoulder and the hardfaced bonnet backseat.

**Stem:** Smooth finish ensure seal and smooth operation; upper stem threaded by machine for toughness and increased durability.

**Bonnet with cooling chamber:** Increases the packing life and sealability by maintaining packing at normal temperature.

**Bonnet pressure seal part:** Pressure



seal design incorporates a graphite seal which become tighter as the pressure increases.

**Disc:** Improved seal performance under the high pressure and temperature by use of a plug type disc.

**Seat ring:** Renewable and easy to replace seat ring are seal welded to minimize distortion from body stress.

**Seat surface:** Hardfaced seat ensures long service life, better resistance to heat, corrosion and erosion.

### Features:

1. VOLK globe valve uses body guided discs which are held concentric with body seat. Guiding is provided at full length of the disc to form a fully body-guided disc.
2. VOLK globe valve are suitable for "blow down" applications for a high differential pressure across the valve when it is partially opened.

### Application:

Superheater primary desalt  
Superheater Secondary desalt  
Superheater desalt main pipe  
Warm water pump pipeline  
Reheater desalt  
Separator outlet pipeline nitrogen charge

Circulating pump minimum flow rate pipeline  
Feed water pipeline  
Water washing pipeline  
Overflow pipeline  
Economizer recirculation pipe

Item	Description	QTY.	Material						
			A216	A217			A351		A352
			WCB	WC6	WC9	C12A	CF8	CF8M	LCB
1	Body	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB
2	Bonnet	1	A105/ A216-WCB	A182-F11/ A217-WC6	A182-F22/ A217-WC9	A182-F91/ A217-C12A	A182-F304/ A351-CF8	A182-F316/ A351-CF8M	A352-LCB
3	Stem	1	A182-F6a			A182-F91	A182-F304	A182-F316	A182-F304
4	Disc	1	A105/ A216-WCB	A182-F11/ A217-WC6	A182-F22/ A217-WC9	A182-F91/ A217-C12A	A182-F304/ A351-CF8	A182-F316/ A351-CF8	A182-F304
5	Seat Ring	2	A105/ A216-WCB	A182-F11/ A217-WC6	A182-F22/ A217-WC9	A182-F91/ A217-C12A	A182-F304/ A351-CF8	A182-F316/ A351-CF8	A182-F304
6	Disc Nut	1	A276-410				A182-F304	A182-F316	A182-F304
7	Gland	1	A276-410				A182-F304	A182-F316	A182-F304
8	Gland Packing	1set	Graphite with Inconel Wire						
9	Gland Flange	1	A105				A182-F304		A352-LCB
10	Gland Bolt	2	A193-B7				A320-B8		
11	Gland Bolt Nut	2	A194-2H				A194-8		
12	Yoke	1	A216-WCB				A351-CF8		A352-LCB
13	Sleeve	1	A439-D2						
14	Handwheel Key	1	A108-1045						
15	Handwheel	1	A536						
16	Handwheel Nut	1	A194-2H						
17	Yoke Bolt Nut	1set	A194-2H				A194-8		
18	Yoke Bolt	1set	A193-B7				A320-B8		
19	Thrust Ball Bearing	2set	Steel						
20	Seal Ring	1	Graphite with Inconel Wire						
21	Spacer Ring	1set	A276-410				A182-F304	A182-F316	A182-304
22	Ring Retainer	1set	A276-410				A182-F304	A182-F316	A182-304
23	Bonnet Retainer	1	A105/A216-WCB				A182-F304/A351-CF8		A352-LCB
24	Gland Bolt Clamp	1set	A216-WCB				A182-F304/A351-CF8		A352-LCB
25	Clamp Bolt	2	A193-B7	A193-B7			A194-B8		A320-L7
26	Clamp Bolt nut	4	A194-2H	A194-2H			A194-8		A194-4
27	Retainer Bolt	1set	A193-B7	A193-B16			A193-B8		A320-L7
28	Retainer Bolt Nut	1set	A194-2H	A194-7/A194-8M*			A194-8		A194-4
Trim Surface			HF STL						



# Thermal Power Plant Valve

## Check Valve

ANSI Class: 150 LB - 2500 LB  
 Sizes: 1/2" - 24"  
 End Conn.: BW, RF, SW

**Retainer ring:** The four-split retainer ring retains the internal pressure and is easily replaced.

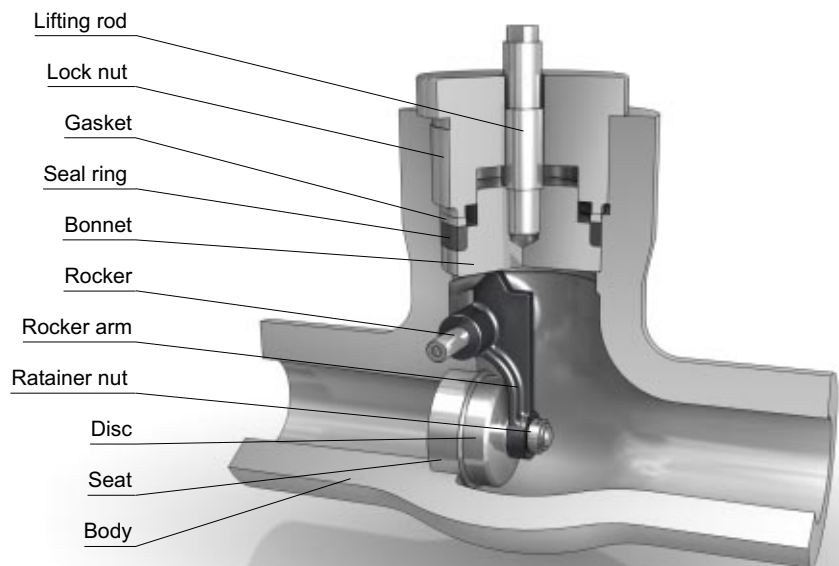
**Hinge pin:** Seal mechanism through hinge pin is the same construction as the pressure seal bonnet.

**Seat ring:** Renewable and easy to replace stellited faced seat ring is seal welded to minimize distortion from body stress.

**Seat surface:** Hardfaced seat assures long service life, better resistance to heat, corrosion and erosion.

**Retainer bolt:** Studs establish the initial seal of the pressure seat joint.

**Expanded graphite seal ring:** Excellent seal performance at low and high



pressure, even under severe pressure and temperature transients

**Art hole:** By inserting knockout pin into a drilled hole, the segmental thrust ring can be easily driven out of the retaining groove.

**Bonnet pressure seal part:** Pressure seal design incorporates a graphite seal

which seals tighter as the pressure increases.

**Disc nut assembly:** Set screw is used to ensure a secure connection between the hinge and the disc nut. The disc assembly is self aligning and closes in the no flow condition.

### Features:

1. Swing check valves opens automatically at normal forward flow and closes at reverse flow.
2. Swing check valves are installed on horizontal pipe line, and can also be installed on the vertical pipe line (upward flow through valve).
3. Due to the spherical body shape with large radius, swing check valves have low pressure drop and minimize the effect of water hammer by reducing the open angle of the disc.

This design has minimum stress, turbulence and resistance. An inner shaft design is also available

4. The hinge pin is located near the disc center of gravity, minimizing seat surface radius rotation and velocity.
5. The seat seat surface is hardfaced to prevent wear of the disc seat.
6. Swing check valves are designed to maintain a disc opening angle more than 10 degrees under the minimum flow condition to prevent chattering.

7. Swing check valves have an advantage of light weight, less maintenance and relatively low cost.

### Water Hammer:

Water hammer is a pressure surge resulting from a rapid change in flow rate, such as that caused when pipeline valve is suddenly closed. Severe vibration and hammering noise are associated with water hammer phenomenon, which leads to damage to the piping system.

### Application:

- Superheater primary desalt
- Superheater Secondary desalt
- Superheater desalt main pipe
- Warm water pump pipeline
- Reheater desalt
- Separator outlet pipeline nitrogen charge

- Circulating pump minimum flow rate pipeline
- Feed water pipeline
- Water washing pipeline
- Overflow pipeline
- Economizer recirculation pipe

Item	Description	QTY.	Material							
			A216	A217			A351		A352	
			WCB	WC6	WC9	C12A	CF8	CF8M	LCB	
1	Body	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB	
2	Cover	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB	
3	Disc	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB	
4	Seat Ring	1	A105/ A216-WCB	A182-F11/ A217-WC6	A182-F22/ A217-WC9	A182-F91/ A217-C12A	A182-F304/ A315-CF8	A182-F316/ A351-CF8M	A352-LCB	
5	Disc Nut	1	A194-2H	A194-7			A194-8			
6	Disc Washer	1	A276-304					A182-F316		
7	Swing Arm	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB	
8	Gasket	1	Graphite With Inconel Wire							
9	Cover Bolt	1set	A193-B7	A193-B16			A193-B8		A320-L7	
10	Cover Bolt Nut	1set	A194-2H	A194-7/A194-8M*			A194-8		A194-4	
11	Hinge Pin	1	A276-410				A182-F316			
12	Spacer Ring	1	A105/ A216-WCB	A182-F11/ A217-WC6	A182-F22/ A217-WC9	A182-F91/ A217-C12A	A182-F304	A182-F316	A352-LCB	
13	Ring Retainer	1	A276-410				A182-F304/	A182-F316/	A352-LCB	
14	Cover Retainer	1	A216-WCB	A217-WC6	A217-WC9	A217-C12A	A351-CF8	A351-CF8M	A352-LCB	
15	Eye Bolt	1	A36							
Trim Surface		HF STL								

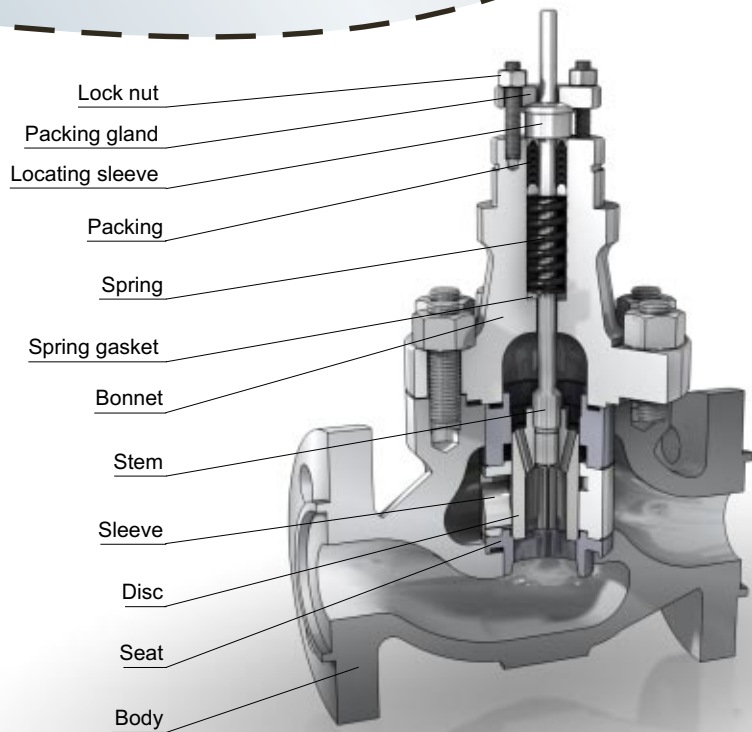


# Thermal Power Plant Valve

## Control Valve

ANSI Class: 150 LB - 2500 LB  
 Sizes: 1" - 12"  
 End Conn.: BW, RF, SW

VOLK FLOW CONTROLS, INC. manufactures multi-type valves in Carbon Steel, Alloy Steel and Stainless Steel. All valves are manufactured in accordance with American standards or standard specified by the customer.



### Features:

#### Easily Replaced disc

The design of the disc maintains equivalent pressure around the stem to decrease vibration and prevent other potential problems.

#### Anti-cavitation Trim

When the pressure fluctuates around the saturation vapor pressure of the fluid and then suddenly increases, the fluid will be compressed and the cavitation will follow which leads to noise and vibration. Multi-labyrinth and multi-turn

disc design is used by VOLK FLOW CONTROLS, INC. to eliminate cavitation.

#### Low Noise

Compressible fluid at high pressures and velocities in the system results in noise and vibration and use of multi-labyrinth and multi-turn discs reduce noise and vibration.

#### Easily Changed Flow Capacity and Characteristics

Flow capacities and characteristics are

changed through the use of sleeve changes.

#### Acid Gas / Corrosive Fluid

Multi-choice of material of body and trim enable VOLK control valves to be used on acid gas and corrosive fluid, in accordance with the technical requirements of National Association of Corrosion Engineers (NACE).

#### Simple Maintenance

Top entry design allows simple replacement of seat and seat sleeve ring.



BW



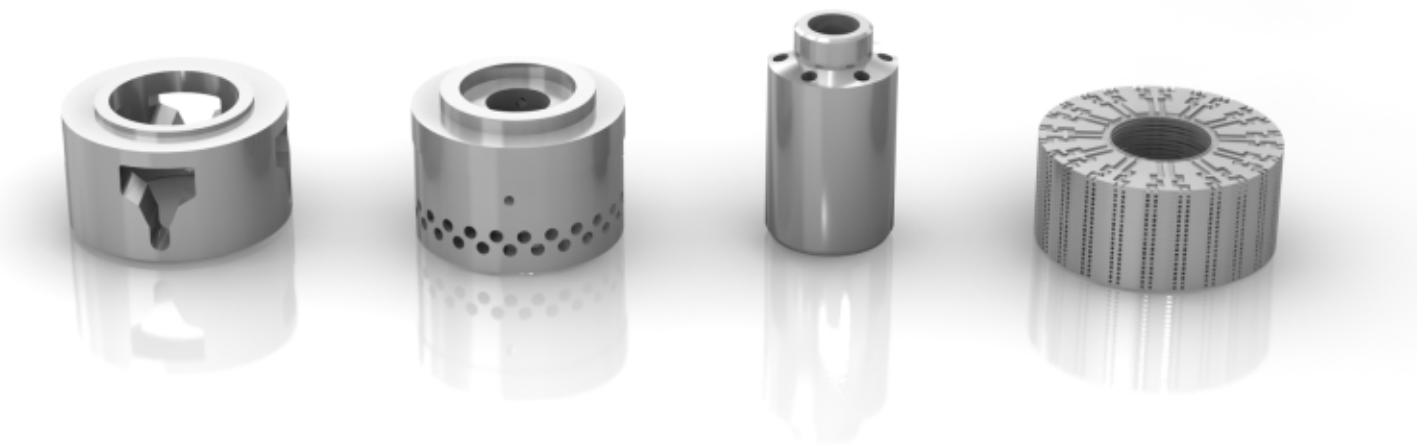
RF



Multistage decompression

## Technical Specifications

Nominal Diameter (DN)	Conventional DN 20-300 or design according to the requirement of the customer	
Nominal Pressure (MPa)	ANSI 150 LB - 2500 LB	
End Connection	RF & BW	
Flange Standard	ASME B16.5 or other standards required by the customer	
Body Material	WCB / CF8/ CF8M / WC6 / WC9 / A105 / F22 / F91 / F316	
Balance Seal Ring	Flexible Graphite / high performance seal ring	
Temperature of the fluid	Normal temperature: -19℃ ~ 230℃ / Medium temperature: 230℃ ~ 593℃	
	Low temperature: -100℃ ~ -45℃ : -196℃ ~ -100℃	
Flow Characteristic	Linear/ equal percentage	
Material of disc	F304 / F316 / F304+STL / F316+STL / 17-4PH	
Operator	Multi-spring diaphragm type	Electric
	Air Source Pressure Kpa 140 160 280	Power Source AC 220V 50Hz
	140-400 Kpa Air Source interface: Rc 1/4 M16X1.5	Wiring termination: 2-PF1/2
	Range of spring: 20 ~ 100 80 ~ 240	Regulated input: DC 4Ma ~ 20 Ma
	Direct or Diverse	
Basic Error	With locator max.1% FS Without locator max. 5%FS	± 1%
Backlash	With locator max.1% FS Without locator max. 4%FS	≤ 1%
Ambient Temperature	-30℃ ~ -70℃	
Leakage	ANSI B16.104 IV or more strict standard	
Optional Accessories	Locator, Air filtration pressure reducer, solenoid valve, valve position transmitter, and handwheel (according to the requirement of the order)	



### Application:

Main feed water pipeline

Heat supply pipeline to heating steam

Primary desalt system

Secondary desalt system

No.1 low pressure/ No.5 high pressure heater normal/ emergent drain

No.2 low pressure/ No.6 high pressure heater normal/ emergent drain

No.3 low pressure/ No.7 high pressure heater normal/ emergent drain

No.4 low pressure/ No.8 high pressure heater normal/ emergent drain

Main condensate pipe

Deaerator water level (Primary)

Deaerator water level (Secondary)

Condensation water drain to storage water tank

Condensation water drain to high pressure heater emergent drain flash tank

Low pressure heater drain pump outlet

Condensate pump minimum flow

Turbine oil cooler backwater

Generator hydrogen cooler backwater

Auxiliary steam to condenser

Auxiliary steam to low pressure cylinder steam cooler

Auxiliary steam to air pre-heater steam

Auxiliary steam to steam converter valve

Boiler continuous blow down

Condenser water supplement flow

## Thermal Power Plant Valve

# Instrument Valve

ANSI Class: 6000 psi

Sizes: 1/6" - 3/4"

End Conn.: BW, NPT, SW



### Features:

Non-rotation stainless steel valve needle provides Zero Leakage and long service life. Screw threads of the stem are isolated with the fluid.

1. Special design ensures tightness and toughness. Through-style and angle-style are available.
2. Body is available in stainless steel, brass and carbon steel in accordance with NACE MR0517 or ISO 15156, making it suitable for acid and sour gas.
3. High pressure packing and bonnet seal are available.
4. Maximum pressure 6000 psig (413 bar).
5. With PTFE packing, the maximum temperature is 231°C (450°F) with Graphite packing, the maximum temperature is 343°C (650°F). High temperature Graphite seal allows temperature up to 650°C (1202°F).

## Application:

Main feed water pipeline pressure gauge

1# water level measurement

2# water level measurement

3# water level measurement

Water side exhaustion and drain

Economizer outlet pressure gauge

Reheater outlet pressure gauge

Reheater inlet pressure transmission/ pressure gauge

Reheater desalt main pipe pressure gauge

Reheater desalt branch pipe pressure gauge

Platen superheater inlet pipeline pressure gauge

Superheater primary desalt branch pipe pressure gauge

Superheater secondary desalt branch pipe pressure gauge

Water storage tank steam side pressure transmitter

Boiler drum emergent drain

Boiler drum balance tank

Superheated steam sampling

Item	Description	Material			
		316SS	F91	A105	Brass
1	Body	A182-F316	A182-F91	A105	Brass B283-377
	Seat	Weld stellite seat optional			
2	Lower Stem	A276-316	A182-F91	A105	A276-316
		Optional			
3	Disc	A276-316	A182-F91	A105	Brass B16-316
4	Packing	PTFE or PEEK or Graphite			
5	Gland	A276-316	A182-F91	A105	Brass B16-316
6	Lock Nut	B783-316			
7	Upper Stem	A276-316	A182-F91	A105	Brass B16-316
8	Packing Nut	A276-316	A182-F91	A105	
9	Handle	Stainless steel or black knob			
10	Lock Screw	Nickel cadmium-plated steel			



# ANSI B 16.34a (1998) Pressure -Temperature Ratings

Material:A105/A216-WCB(psig)

ANSI Class	Working Pressure by Class(°F)													
	-20/100	200	300	400	500	600	650	700	750	800	850	900	950	1000
150	285	260	230	200	170	140	125	110	95	80	65	50	35	20
300	740	670	655	635	600	550	535	535	505	410	270	170	105	50
600	1480	1350	1315	1270	1200	1095	1075	1065	1010	825	535	345	205	105
900	2220	2025	1970	1900	1795	1640	1610	1600	1510	1235	805	515	310	155
1500	3705	3375	3280	3170	2995	2735	2685	2665	2520	2060	1340	860	515	260
2500/3200	7750	6974	6783	6548	6187	5655	5550	5500	5210	4250	2760	1770	1066	530
3500/4500	11110	10120	9845	9505	8980	8210	8055	7990	7560	6170	4010	2570	1545	770

Material:A182-F22/A217-WC9(psig)

ANSI Class	Working Pressure by Class(°F)																	
	-20/100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
150	290	260	230	200	170	140	125	110	95	80	65	50	35	20	20	20	20	15
300	750	750	730	705	665	605	590	570	530	510	485	450	375	260	175	110	70	40
600	1500	1500	1455	1410	1330	1210	1175	1135	1065	1015	975	900	755	520	350	220	135	80
900	2250	2250	2185	2115	1995	1815	1765	1705	1595	1525	1460	1350	1130	780	525	330	205	125
1500	3750	3750	3640	3530	3325	3025	2940	2840	2660	2540	2435	2245	1885	1305	875	550	345	205
2500/3200	7750	7750	7225	6950	6720	6250	6080	5865	5490	5245	5035	4645	3900	2690	1800	1135	700	425
3500/4500	11250	11250	10925	10925	9965	9070	8825	8515	7970	7610	7305	6740	5665	3910	2625	1645	1030	615

Material:A182-F91/A217-C12A(psig)

ANSI Class	Working Pressure by Class(°F)																	
	-20/100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
150	290	260	230	200	170	140	125	110	95	80	65	50	35	20	20	20	20	20
300	750	750	730	705	665	605	590	570	530	510	485	450	385	365	360	300	225	145
600	1500	1500	1455	1410	1330	1210	1175	1135	1065	1015	975	900	775	725	720	605	445	290
900	2250	2250	2185	2115	1995	1815	1765	1705	1595	1525	1460	1350	1160	1090	1080	905	670	430
1500	3750	3750	3640	3530	3325	3025	2940	2840	2660	2540	2435	2245	1930	1820	1800	1510	1115	720
2500/3200	7750	7750	7527	7292	6868	6249	6081	5866	5492	5244	4834	4644	3990	3756	3720	3330	2480	1523
3500/4500	11250	11250	10925	10585	9965	9070	8825	8515	7970	7610	7305	6740	5795	5450	5400	4525	3345	2160

Material: A182-F316/A351-CF8M(psig)

ANSI Class	Working Pressure by Class(°F)																	
	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
150	125	110	95	80	65	50	35	20	20	20	20	20	20	20	20	20	20	15
300	440	430	425	420	420	415	385	360	360	305	235	185	145	115	95	75	60	40
600	885	870	855	845	835	830	775	725	720	610	475	370	295	235	190	150	115	85
900	1325	1305	1280	1265	1255	1245	1160	1090	1080	915	710	555	440	350	290	225	175	125
1500	2210	2170	2135	2110	2090	2075	1930	1820	1800	1525	1185	925	735	585	480	380	290	205
2500/3200	4588	4490	4415	4365	4315	4291	3993	3614	3552	3154	2444	1914	1520	1200	990	780	600	430
3500/4500	6625	6515	6410	6335	6265	6230	5795	5450	5400	4575	3550	2775	2210	1750	1440	1130	875	620

\*ASME B 16.34a-1998 Pressure-temperature Ratings

## Transportation, Storage and Installation of the Valves

1. The protective caps and the package of the valves should not be removed during transportation and storage to prevent the end connection being damaged and impurities entering the body cavity.
2. The valve should be stored in a dry room.
3. During transportation, the valve should be in the open position
4. All the valves have been tested in accordance with respective standards before shipment and can be put into operation once they arrive at the destination. If it is necessary for the user to re-test the valves, the test should be conducted strictly in accordance with respective standards and specification to prevent damage to the valve. After the pressure test, if the valve needs to be stored, it should be thoroughly dried and cleaned.
5. The protective caps should be removed when the valves are installed and special attention should be paid to the end

connections. Protective measures should be taken when welding BW or SW valves to prevent distortion of the body and seat.

6. The valve should be tested and installed in the direction of the flow arrow on the valve.

## After-sale Service

VOLK FLOW CONTROLS, INC. offers reliable and in-time after-sale service and technical support. Engineers authorized by VOLK FLOW CONTROLS, INC. will arrive at the site within 48 hours to solve any problems.

ALL service centers of VOLK FLOW CONTROLS, INC. are carefully selected and trained by our professional engineers.

## Delivery

With modern manufacturing, assembly and test facilities controlled by strict quality control and quality assurance procedures, VOLK FLOW CONTROLS, INC. is committed to ensure that each valve is delivered to the customer RIGHT, ON TIME, EVERY TIME.





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