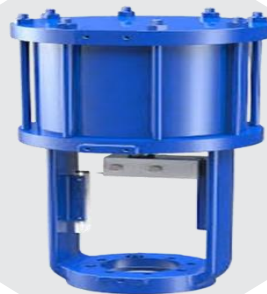
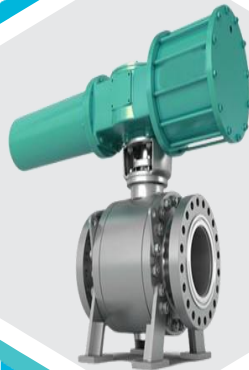


## TRINITY VALVES AND CONTROLS



"Innovative Valves for Reliable Performance"

# Gate Valve



Reliable, tight shutoff and low-pressure drop operation characterize the Trinity range of gate valves. Flexible wedge, split wedge, slab gate and double-disk configurations cover a range of requirements to meet any user need, from general service to severe conditions with gross thermal transients or dual-phase fluids.

Plant personnel are kept safe through the application of fast-acting valves manufactured to ASME Section III .

Gate valves serve as efficient on-off valves with flow in either direction. In such a design, a wedge slides cross a general passageway in order to control fluid flow (like a sliding gate - hence, the name).

# Gate Valve

One of the most significant characteristics of this type of valves is its straight-through, unobstructed passageway when set in the “full open” position.

This is made possible by the wedge lifting entirely out of the passageway. As a result, gate valves are characterized by a minimum of turbulence and pressure drop in operation. While gate valves are good for applications requiring these two factors, they are not recommended for installations in which throttling would be a function. They are designed for on/off service.

- **Valve sizes :-** 2” to 36”
- **Class :-** 150 – 2500
- **Material of construction** – DUCTILE IRON, WCB, CF8 ,CF8M
- **Standard gate valves:** solid wedge, flexible wedge and split wedge.  
Parallel slide gate valves.
- Through conduit gate valves to API 6D and API 6A
- Single and double expanding gate valves.-
- Bolted bonnet, pressure seal and cryogenic designs are available.
- **Designed to meet requirements of**  
Design as per – API600, API6D, API 603 , 6A  
Face to face – asme b16.10 / iso 5752  
Flanged end connction std – asme b 16.5 / 16.47 a & b, MSS SP – 44 &  
API 605  
but end connction std – asme b 16.25
- **Pressure** – temperature rating – asme b16.34
- **Testing standard** – API-598, ISO 5208,

# Check Valve



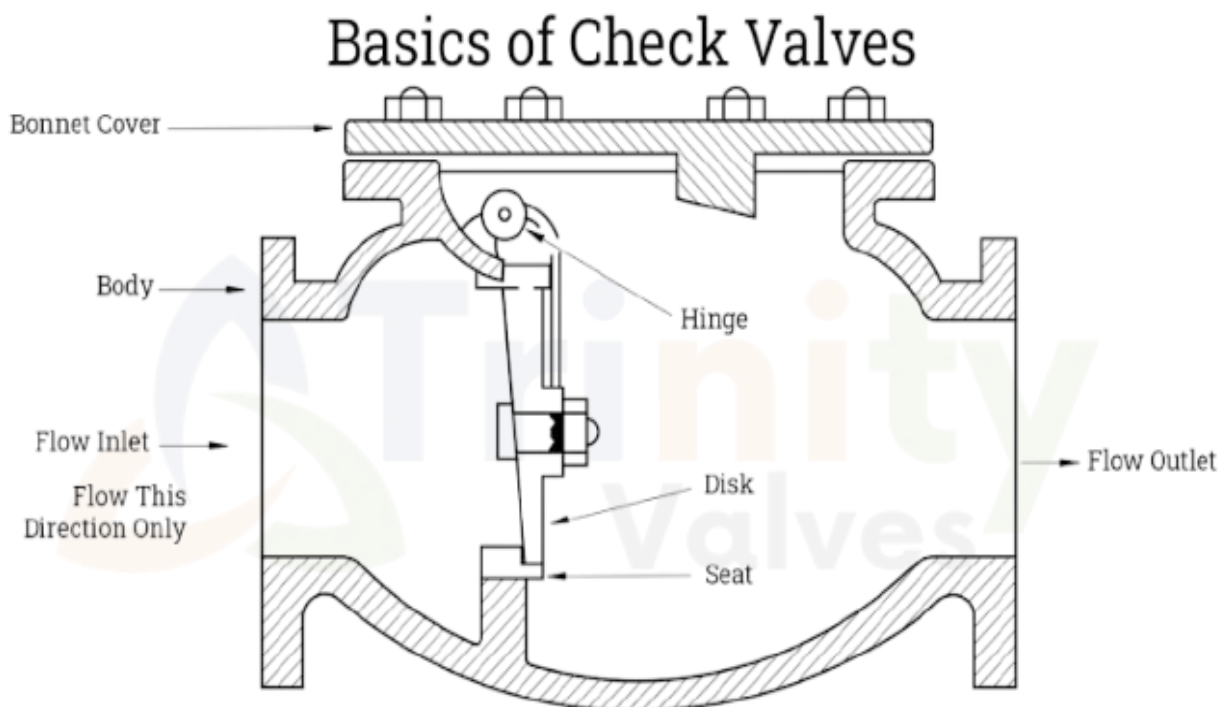
While not a valve in the traditional sense, check valves serve an important application—namely to prevent flow in one direction while allowing it in the other. A check valve is self-actuated and designed to prevent fluid from flowing back into the system (prevent reverse flow). Real-life applications include preventing backflow into an injection line or into a pump. The fluid flow opens the valve by forcing a disk or ball in one direction. When the flow stops, the disk or ball is seated and closes the valve. They can be installed in horizontal or vertical upward flow piping.

# Check Valve

- **Valve sizes :-** 2" to 36"
- **Class :-** 150 – 2500
- **Material of Construction –** DUCTILE IRON, WCB, CF8, CF8M

## Designed to meet requirements of

- **Design as per –** API600, API 6D API 603 , 6A
- **Face to Face –** ASME B16.10 / ISO 5752
- **Flanged end Connction Std –** ASME B 16.5 / 16.47 A & B, MSS SP – 44 & API 605
- **But end Connction Std –** ASME B 16.25
- **Pressure – TEMPERATURE RATING –** ASME B16.34
- **Testing Standard –** API-598, ISO 5208



# Globe Valve



- **Valve sizes :- 2" to 12"**
- **Class :- 150,300,600 and 900**
- **Material of construction – DUCTILE IRON, WCB, CF8 ,CF8M**

## **Designed to meet requirements of**

- **Design as per – API600, API 6D API 603 , 6A**
- **Face to Face – ASME B16.10 / ISO 5752**
- **Flanged end Connction Std – ASME B 16.5 / 16.47 A & B, MSS SP – 44 & API 605**
- **But Weld Connction Std – ASME B 16.25**
- **Pressure – Temperature Rating – ASME B16.34**
- **Testing Standard – API-598, ISO 5208**

# Concentric Butterfly Valve



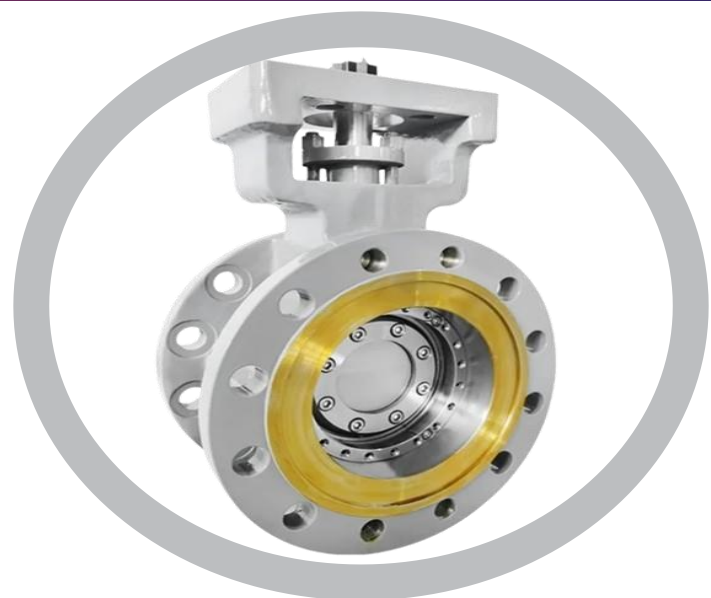
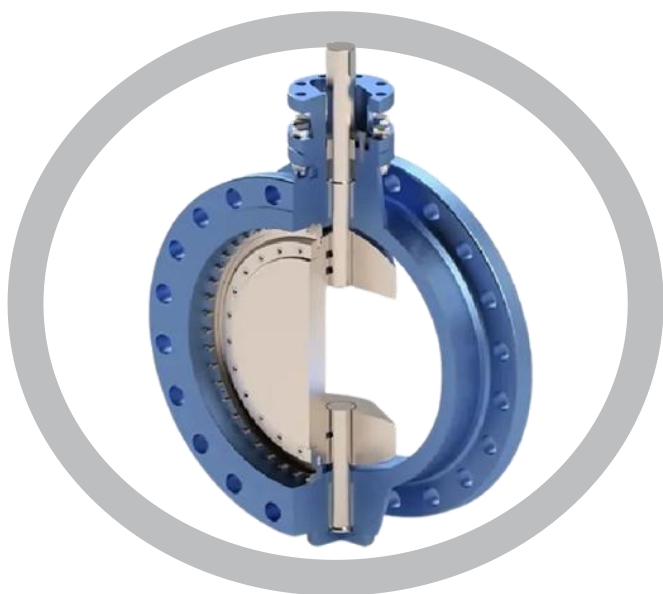
Rubber lined butterfly valve is a kind of acid resistant butterfly valve composed of different lining materials. It has a simple structure, light weight, good sealing performance and long service life. The rubber lined butterfly valve can be used for both cut off and adjusting applications.

A large diameter double flanged butterfly valve with a lightweight, slim disc design provides high cv values and low pressure loss figures at the fully open position. Concentric butterfly valve design makes it suitable for bi-directional flow and multi layered stem bearings ensure optimum torque figures are delivered and maintained. Replaceable seat ring makes maintenance easy and reduces costs.

# Concentric Butterfly Valve

- **Sizes** :- 2" to 48" DN 50 to 1200
- **Pressure rating** – PN3.5, PN6, PN10, PN12, AND PN 16.
- **Material** :- Body – Cast iron, ductile iron, WCB, CF8, CF8M, DUPLEX, SUPER DUPLEX.
- **Seat Material** – EPDM, NBR, VITON, SILICON.
- Rubber Seat Temperature Range
- **NBR**: -2°C~ +100°C
- **EPDM**: -35°C~+135°C
- **VITON**: -20°C~+200°C
- **Design Std** – API 609 , BS EN 593, EN12516-1 & 2, ASME B16.5 CLASS 150.
- **Ends** – WAFER, LUG AND FLANGED.
- **Flange Drilling** ASME B16.5 CL150 | ASME B16.1 CL125 | PN10, 16 | JIS 10K

# Double & Triple Offset Butterfly Valve





# Double & Triple Offset Butterfly Valve

A large Diameter Double Flanged butterfly valve with a Lightweight, slim disc design provides high CV values and low pressure loss figures at the fully open position. Butterfly valve design makes it suitable for bi-directional flow and multi layered stem bearings ensure optimum torque figures are delivered and maintained. Replaceable seat ring makes maintenance easy and reduces costs.

- **Sizes** :- 2" to 48" DN 50 to 1200
- **Pressure rating** – class 150, 300,600
- **Class 150 & 300** – 2" to 48"
- **Class 600** - 2" to 24"
- **Material** :- Body – WCB, CF8, CF8M, DUPLEX, SUPER DUPLEX.
- **Soft Seat Material** – PTFE, CFT, GFT
- **Metal Seat Material** :- SS, Inconel, PTFE + SS 316, RPTFE + SS316.
- **Design Std** – API 609 , BS EN 593, EN12516-1 & 2, ASME B16.5 CLASS 150.
- **Face to Face** – ASME B1610 / API 609 / ISO 5752.
- **Testing** – API 598
- **Ends** – WAFER, LUG AND FLANGED.
- **Flange Drilling** ASME B16.5 CL150 | ASME B16.1 CL125 | PN10, 16 | JIS 10K
- **Top actuator Mounting** – ISO 5211.

# PFA Lined Butterfly Valve



Fully PFA lined butterfly valves engineered for bidirectional bubble-tight shutoff in demanding corrosive, chemical, semiconductor, and ultrapure water applications.

Superior flexibility withstands repeated flexing and dynamic loads for extended service life. PFA liners will not take a permanent set.

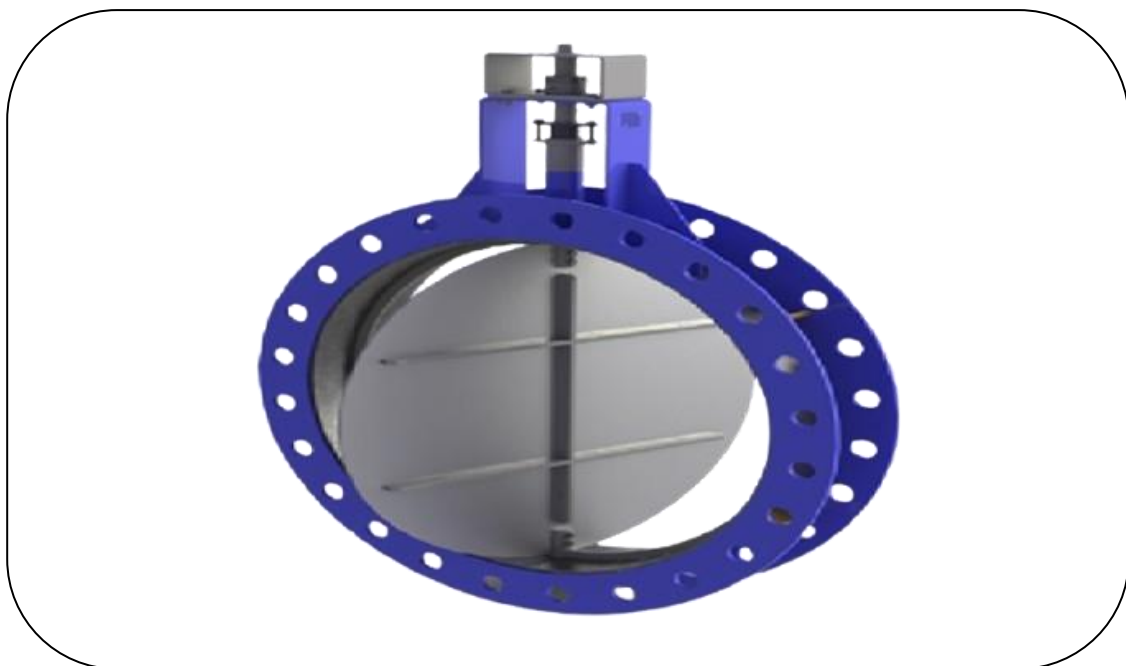
Higher resistance to permeation provides increased durability, with lower total cost of ownership.

- Lower particle shedding for maximum purity.
- Superior creep resistance at high temperatures.
- Increased resistance to microbial contamination.

# PFA Lined Butterfly Valve

- **Size Range** NPS 2" to 24" | DN 50 to 600
- **Temperature Range** -20°F to 320°F | -29°C to 160°C
- **Pressure Rating** NPS 2 to 6: Up to 232 psi DN 50 to 150: Up to 16 bar NPS 8 to 24: Up to 150 psi DN 200 to 600: Up to 10 bar
- **Body Style** 2-piece | Wafer, Lug
- **Valve Design** MSS SP-155 | MSS SP-67
- **Seat Tightness** API 598 | ISO 5208
- **Face-to-Face** API 609 | ISO 5752 | EN 558 Series 20
- **Flange Drilling** ASME B16.5 CL150 | ASME B16.1 CL125 | PN10, 16 | JIS 10K
- **Top Flange** ISO 5211

# Damper Butterfly Valve



# Damper Butterfly Valve

## Flange mounted butterfly damper for gas regulation/control and isolation

Regulating or isolating round butterfly damper. Normally with one single disc on a central shaft and optionally with multiple interconnected blades.

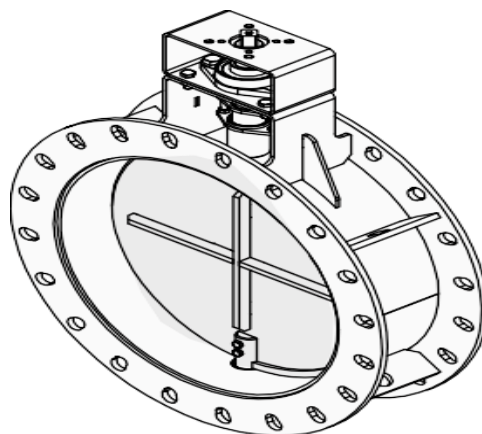
Available with pneumatic, electric, hydraulic or manual actuator.

Depending on the sealing system, varying levels of tightness can be obtained (95% -100 %).

Suitable for low pressure combustion gases at high temperatures (600°C).

Applications in cogeneration plants, waste heat recovery systems.

- **Size Range** 2" – 60" (50mm - 1500mm)
- **Body Material** - Cast Iron Standard options available
- **Temperature** -20°F (-4 °C) to 1500°F (815°C) with optional materials
- **Stem Material** - 416 Stainless Steel Standard, options available Pressure Rating Varies with size.
- **Disc Material** Cast Iron Standard, Options available
- **Shutoff Rating** – ANSI Class II
- **Seat Style** Swing-Thru, Step, and Tadpole Seat
- **Body Style** - Wafer
- **Design Standard** - ASME/ANSI B16.34, with the exceptions of shell/ hydro testing and "Face to Face"/laying lengths.
- **Flange** - ASME/ANSI B16.1, Class 125 ASME/ANSI B16.5, Class 150 ASME/ANSI 16.47 Class 150 Series A, 26" (650 mm) and up.
- **Applications** - Where flow control is needed in a Low-Pressure system with Very High Cycles



# Rectangular Damper Valve



Rectangular dampers are produced in three versions. The first one is the multi-blade damper.

The enclosure is made of 4 galvanized profiles terminated with a pq frame and galvanized sheet metal feathers.

Maximal dimensions of the damper are limited by its width and equals to 1400 mm. The second one is the multi-blade damper in which all elements are made of aluminum profiles.

In case of bigger dimensions, the damper is composed of 2 or 3 segments. The third one is the galvanized single-blade damper DSQ which is applicable for maximal cross-sections 600 x 600 mm.

- **Material** :- SS304 / SS316
- **Operation** :- manual / automation.

# Floating Ball Valve



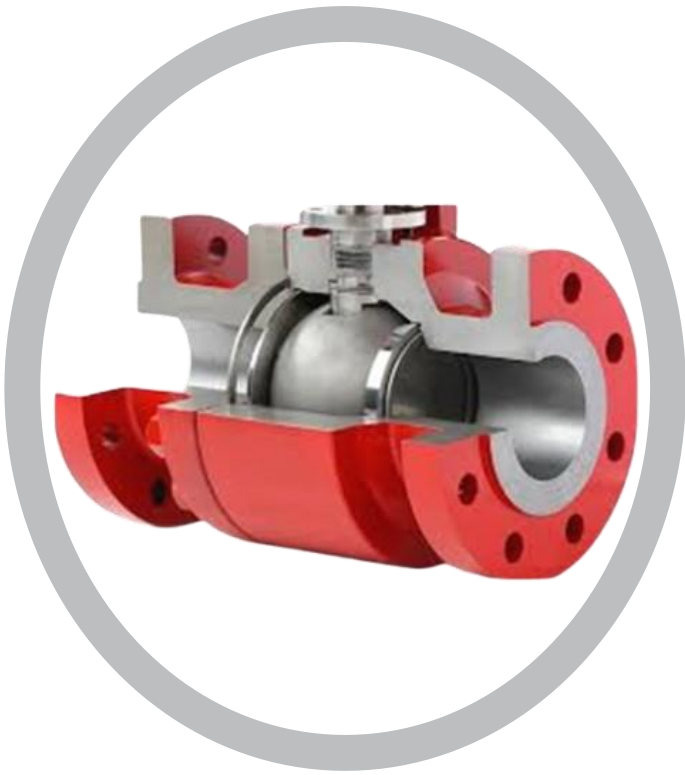
- **Design type** – Three piece design floating, full port.
- **Size** – ½” to 3”
- **Pressure rating** :- class150,300,600 & 800
- **Temperature** :- -20 degg to 180 deg.
- **Seat** :- PTFE, RPTFE, CFT, GFT, GRAFOIL.
- **Anti-static device**
- **Fire safe** in compliance with API 607 / API 6FA
- **Actuator mounting** as per iso 5211.
- **Blow-out proof design.**
- **Material** – WCB, CF8, CF8M CF3, CF3M, 105, F316, F304
- **Codes and standards** :- iso 17292 / bs5351 / api6d / asme B 16.34.  
/ Iso 5211

# Floating Ball Valve



- **Design type** – Two- and three-piece design floating, full port and reduced port
- **Size** – ½” to 12”
- **Pressure rating:** - class150,300,600
- **Temperature:** - -20°C to 180°C .
- **Seat** :- PTFE, RPTFE, CFT, GFT, GRAFOIL.
- **Anti-static device**
- **Fire safe** in compliance with API 607 / API 6FA
- **Actuator mounting** as per iso 5211.
- **Blow-out proof design.**
- **Material** – WCB, CF8, CF8M CF3, CF3M, 105, F316, F304
- **Codes and standards** :- ISO 17292 / BS5351 / API6D / ASME B 16.34.  
/ ISO 5211

# Trunnion Mounted Ball valve



- **Design Type** – Two- and three-piece design trunnion mounting, full port and reduce port
- **Size** – 2”(dn50 to 24”(dn 600)
- **Pressure Rating:** - class150,300,600,900,1500 & 2500
- **Seat** :- PTFE, RPTFE, CFT, GFT, GRAFOIL. SS316, INCONEL (TC COATING/CRC COATING)
- **Temperature:** - -20° C to 540° C .
- **Anti-static device**
- **Fire safe** in compliance with API 607 / API 6FA
- **Actuator Mounting** as per iso 5211.
- **Blow-out** proof design.
- **Material** – WCB, CF8, CF8M CF3, CF3M, 105, F316, F304
- **Codes And Standards** :- ISO 17292 / BS5351 / API6D / ASME B 16.34. / ISO 5211.



# Forged Steel Chek Valve



- **Valve size** :- DN15(1/2") to DN50 (2")
- **Pressure rating** : class 800/1500/2500
- **Ends** : screwed & socket weld
- **Body** : forged steel  
105,F304,F316,F11,F22
- **Trim** : SS304, 316 , AISI 410.

# High Pressure Needle Valve



- **Valve size** :- DN6(1/4") to DN50 (2")
- **Pressure rating** :  
1000/3000/6000/9000 PSI
- **Ends** : **screwed**
- **Body** : SS 304 / 316
- **Trim** : SS304,316

# Rack and Pinion Actuator

- **Double acting** :- stay put.
- **Single acting** :- fail safe condition close and open.
- **Torque range** – 5 Nm to 4800 Nm
- **Design standard** :- EN ISO 15714-3 / API 6DX
- **Valve mounting standard** :- ISO 5211
- **Pressure** :- min Operating pressure 2 bar.  
Max. Operating pressure 8 bar.
- **Temperature rating deg.** – NORMAL - NITRILE-20°C and +80°C
- **HIGH** - VITON -20°C and +149°C
- **Low** - silicon - up to -49°C
- **Travel stop** :- +/- 5°.
- **Extra travel stop arrangement** :- 100% opening and closing travel stop arrangement.
- **Bottom valve stem drive** :- standard square drive with star for 90°. And diagonal.
- **Body** :- extruded aluminium with hard anodised body.
- **Piston and end cal.** :- aluminium die cast.
- **Pinion** :- En8 with electro nickel plated. (Enp)
- **Bearings** :- bronze filled ptfе for long life.
- **O ring** :- high quality nbr/silicon/viton.
- **Spring**:- preloaded cartridge type spring design with powder coated (easily replace on site)



# Scotch Yoke Actuator

- **Double acting** :- stay put.
- **Single acting** :- fail safe condition close and open.
- **Torque range** :- 2000nm to 200000nm.
- **Design standard** :- EN ISO 15714-3 / API 6DX
- **Valve mounting standard** :- ISO 5211
- **Pressure** :- min. Operating pressure 2 bar.
  - Max. Operating pressure 8 bar.
- **Temperature rating deg.** – NORMAL - NITRILE -20°C and +80°C
  - - HIGH - VITON -20°C and +149°C
  - - Low - silicon -up to -49°C
- **TRAVEL STOP** :- +/- 5 deg.
- **Extra travel stop arrangement** :- 100% opening and closing travel stop arrangement.
- **Bottom valve stem drive** :- standard square drive with star for 90 deg. And diagonal.
- **Body** :- ductile iron or mild steel
- **Piston and end cal** :- mild steel and stainless steel
- **Piston rod** :- en24 with electro nickel plated. (Enp)
- **Bearings** :- bronze filled ptfе self lubricated for long life.
- **O ring** :- high quality nbr/silicon/viton.
- **Spring** :- en47 spring with powder coated.



# Diaphragm Actuator

- **Double Acting** :- stay put.
- **Single Acting** :- fail safe condition close and open.
- **Design Standard** :- EN ISO 15714-3 / API 6DX
- **Valve Mounting Standard** :- as per customer requirement
- **Pressure** :- min. Operating pressure 2 bar.

Max. Operating pressure 8 bar.

- **Temperature Rating Deg.** – NORMAL - NITRILE-20°C and +80°C
  - HIGH - VITON -20°C and +149°C
  - Low - silicon - up to -49°C
- **Extra Travel Stop Arrangement** :- 100% opening and closing travel stop arrangement.
- **Body** :- mild steel
- **Diaphragm** :- neoprene
- **Piston Rod** :- En24 with electro nickel plated. (ENP)
- **Bearings** :- bronze filled ptfе self lubricated for long life.
- **O Ring** :- high quality nbr/silicon/viton.
- **Spring**:- En47 spring with powder coated.
- **Valve Sizes** :- ½" to 4" class 150.
- **Valve Type** – control valve and gate valve.



# Piston Actuator (Heavy Duty)

- **Double Acting** :- stay put.
- **Single Acting** :- fail safe condition close and open.
- **Design Standard** :- EN ISO 15714-3 / API 6DX
- **Valve Mounting Standard** :- as per customer requirements
- **Pressure** :- Min. Operating pressure 2 bar.  
Max. Operating pressure 8 bar.



- **Temperature Rating Deg.** – NORMAL - NITRILE -20°C and +80°C  
- HIGH - VITON -20°C and +149°C  
- Low - silicon -up to -49°C
- **Extra Travel Stop Arrangement** :- 100% opening and closing travel stop arrangement.
- **Body** :- mild steel and carbon steel
- **Piston** :- mild steel / stainless steel.
- **Piston rod** :- en24 with electro nickel plated. (Enp)
- **Bearings** :- bronze filled ptfe self lubricated for long life.
- **O Ring** :- high quality nbr/silicon/viton.
- **Spring** :- en47 spring with powder coated.
- **Valve Sizes** :- 2" to 24" class 150. / 300 /600/900/1500/2500
- **Valve Type** – control valve and gate valve. And liner operation.

# Electrical Actuator



The electrical rotary actuator Type 9003 is a compact and powerful actuator system with a long service life. Materials and components have been chosen for a maintenance-free operation even in aggressive environments and ensure low thermal loading on the actuator. The modular design offers many additional features to be added to the basic device such as extra limit switches, potentiometers and emergency power. With the control actuator version the input signals as well as the output signals (e.g., 4...20 mA, 0...20 mA, 0...10 V) can be programmed. Heating resistors and torque limiters are standard features. Direct mounting on quarter-turn valves (ball and butterfly valves)

- Manual override in standard
- Adjustable limit switches
- Multi-voltage
- Torque switches.
- Torque Range – 10Nm to 500Nm

# Limit Switch Box



- **Body Material**

Limit switch boxes can be made from aluminium die cast, polyamide, or glass reinforced resin

- **Enclosure Protection**

Limit switch boxes can be weatherproof with an IP 65, IP 67, or IP 68 rating

- **Temperature Range**

Limit switch boxes can operate in temperatures ranging from -20°C to 80°C

- **Conduit Entry**

Limit switch boxes can have ½" conduit entries

- **Switch Rating**

Limit switch boxes can have an AC switch rating of 250V 3A or 125V 5A, or a DC switch rating of 250V 0.2A, 125V 0.4A, 30V 4A, 14V 5A, or 8V 5A

- High corrosion resistance.
- Polycarbonate dome.
- (2) ½" conduit entries.
- Namur mounting as standard. VDI/VDE 3845
- Weather proof IP 65 / IP67 / ATEX.



# INDUSTRIES SERVED

- Sugar Industry
- Heavy Engineering
- Boiler Manufacturers
- Equipment MFGR's
- Sugar Plant MFGR's
- Petroleum Refineries
- Fertilizers
- Power Plant
- Steel & Allied Industry
- Chemical Industry
- Oil & Gas
- Cement
- Dairy
- Pharmaceuticals
- Sewage Treatment
- Water Treatment
- Textile Industry



## Trinity Valves & Control



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