





# **Trinity Valves And Controls**



"Innovative Valves for Reliable Performance"

## **Gate Valve**





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 and knife edge gate valve.

- 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 connection std - ASME B 16.5 / 16.47 A & B, MSS SP - 44

& API 605

BUT END CONNECTION STD – ASME B 16.25

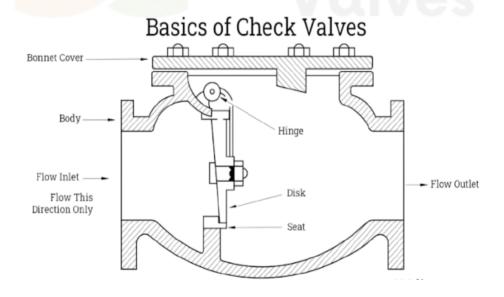
- Pressure Temperature rating ASME B16.34
- Testing standard API-598, ISO 5208

## **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 end Connction Std ASME B 16.25
- Pressure TEMPERATURE RATING ASME B16.34
- Testing Standard API-598, ISO 5208

# **Concentric Butterfly Valve**



- Sizes: 2" to 48" DN 50 to 1200
- Pressure ratting 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
- Top Actuator Mounting ISO 5211.

# **Double & Triple Offset Butterfly Valve**





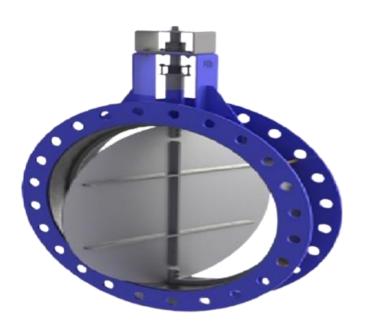
- Sizes :- 2" to 48" DN 50 to 1200
- **Pressure ratting** class 150, 300,600
- Class 150 & 300 2" to 48"
- Class 600 2" to 24"
- Material: Body WCB, CF8, CF8M, DUPLEX, SUPER DUPLEX.
- Soft Seat Material PTFE, CFT, GFT
- Metal Seat Material :- SS, Inconel, PTFE + SS 316, RPTFE + SS316.
- Design Std API 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 flange ISO 5211
- Top actuator Mounting ISO 5211.

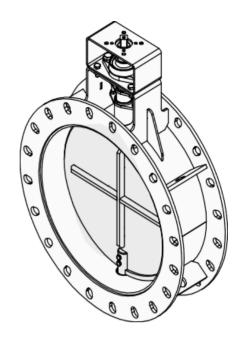
## **PFA Lined Butterfly Valve**



- 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**





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

- 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  $600 \times 600$  mm.

- Material :- SS304 / SS316 / Etc.
- Operation :- Manual / automation.

## **Ball Valve Floating**





- Design type Three piece design floating, full port.
- Size ½" to 3"
- End Connection Screwed End and socked weld
- Pressure rating :- Class 150, 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 AND GUN
  METAL
- 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 reudce port
- Size ½" to 12"
- End Connection Flanged End
- Pressure rating: Class150,300,600
- 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

## **Trunnion Mounted Ball valve**





- Design Type Two- and three-piece design trunnion mounting, full port and reudce 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° to 540°
- 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.

## **Diaphragm Actuator**



- Valve sizes :- ½" to 8"
- Material: cast Iron, SGI, WCB, CF8, CF8M
- Pressure :- PN3 TO PN16 Barg.
- Operating :- Manual and auto both.
- 100% Bubble Tight
- Emission less
- Wide range of Diaphragms and Linings
- Can be used in any orientation/position
- In line maintenance
- Longer Diaphragm Life due to Nylon Reinforcement.
- Moulded Open design of Diaphragm for Longer Life.
- Visible On-off Indication on the valve.
- Lubrication reservoir provided for smooth functioning of the valve.

## **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 ptfe for long life.
- O ring :- High quality NBR/VITON/SILICON
- 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 stell and stateless steel
- Piston rod :- En24 with electro nickel plated. (ENP)
- Bearings: Bronze filled PTFE self lubricated for long life.
- O ring :- High quality NBR/VITON/SILICON
- **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 ptfe self lubricated for long life.
- O Ring :- High quality NBR/VITON/SILICON
- **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 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 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.





### . Description -

Designed for higher efficiencies and lower input effort on handwheel

- 11 models up to 35,000 Nm torque capacity.
- Alloy steel worm shafts
- Rugged design
- High performance axial bearings
- Polyurethane coating
- Integral top flange (ISO drive coupling available on request)
- Enclosure sealed to IP-65
- Temperature range: -20°C (-4°F) to +120°C (+248°F)
- Powder coated handwheels for smooth and easy operation
- Stroke 0-90° (+5° adjustable)
- Smooth and easy clutch declutch mechanism

#### **Features**

Housing material options (ductile iron / stainless steel)

- Worm shaft, fasteners and hand wheel material option available in stainless steel
- Worm wheel material option available in aluminum bronze
- High temperature variant up to +200°C (+392°F) & low temperature variant up to -52°C (-61.6°F) available
- Marine application (all exposed shafts and fasteners in stainless steel)
- Finish painting available on request
- Padlock arrangement option available
- Chainwheel operation available.

### Quarter-turn Manual gear box for manual operation





#### . Description -

Designed for higher efficiencies and lower input effort on handwheel

- 12 models up to 60000 Nm torque capacity.
- Alloy steel worm shafts
- Rugged design
- High performance axial bearings
- Polyurethane coating
- Integral top flange (ISO drive coupling available on request)
- Enclosure sealed to IP-65
- Temperature range: -20°C (-4°F) to +120°C (+248°F)
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- Finish painting available on request
- Padlock arrangement option available
- Chainwheel operation available.

## **Power Cylinder**



Cylinder Sizes :- 4" to 20"

Stroke :- 2" to 16"

Material:- carbon stell and aluminium

Seals:- Nitrile and viton

Supply Pressure :- 7kg/cm2

Input Signal :- 0.2 – 1.0 kg/cm2 to positioner.

(4-20mA to I/P convertor)

split signal 0.2-.06 kg/cm 2 & .06 - 1.0

kg/cm2 optional

Operating temperature :- -20 C to 150 C

### **Fasteners**



- Hex bolt, socket head cap bolt, anchor bold,
  Heady duty bolt. Stud
- Hex Nut, lock Nut,
- Plain washer, spring washers, machined washers
- MATERIAL MS, SS, DUPLEX, INCONAL, ALUMINIUM, HTS & HDG.

## **Companion Flanges**



- Welding neck flange, Slip-on flange, Socket weld flange, Blind flange, tongue and Groove flange,
   Threaded flange
  - Threaded flange
- :- DN15(1/2") to DN1200 (48")
- Material A105, MS, SS 304, SS316

### **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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