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**Technical Solutions**



**MSME**  
MICRO, SMALL & MEDIUM ENTERPRISES  
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Ministry of MSME, Govt. of India



## COMPANY PROFILE

R-tork was promoted by the technocrats having collective experience of over four decades in Control Valve Technology, established in 2012. The company is engaged in Design, Development and Manufacture of a comprehensive range of Control Valves & Automated on-off valves for all Process, Power generation and associated industries. Standard, Special and Customized Control Valves & Automated on-off valves are all available on demand for use in a wide range of applications and industries.

## DESIGN AND ENGINEERING

R-tork Engineering department's mission is design innovation. Our ability, experience and expertise through the use of sophisticated technology and CAD/CAE equipment results in the production of high quality Control Valves & Automated on-off valves for wide range of applications.

Valve Sizing & Selection is completed using current state of the art programmed software, taking into consideration Velocity, Mach No, Cavitations/Flashing, Noise Levels and energy conversion etc. This together with our application experience will ensure the optimum selection of Control Valves & Automated on-off valves for each duty.

## QUALITY

R-tork Quality Management System comply with ISO-9001:2008 and is certified by BVQI. The Quality of Globe type Control Valve has been further certified as "CE" in accordance to Pressure Equipment Directive by notified body Lloyd's Register.

R-tork Control Valves are produced in strict compliance with the Quality Management System Requirements and in conformance with the engineering codes in practice and relevant standards.

## MANUFACTURING

R-tork manufacturing unit is equipped with latest manufacturing machineries, equipments and test facilities. Our production team of skilled workers ensure that latest state-of-the-art modern techniques are inhibited in the entire cycle of production under stringent quality control procedures. The Valves & Component are manufactured to the highest degree of accuracy to ensure a trouble free long life and guaranteed interchangeability.

## CUSTOMER SERVICE

R-tork has fully integrated customer service division, which is fully geared to react speedily to all customers' enquiries and whatever technical support needed.

R-tork will undertake the complete plant service and overhaul of both indigenous and imported Control Valves. All Sizes, types, ratings can be accommodated regardless of age and will be refurbished to the highest standards to ensure complete satisfaction. Our flexible customer needs driven principles mean we can supply the smallest part, to the servicing of all valves during planned plant shutdown.

Individual parts can be reverse engineered to order, as well as valves being upgraded or customized to handle enhanced new duties, using the in house engineering expertise.



**THE COMPANY IS CONFIDENT IN ITS RESOURCES SETTING THE PACE IN VALVE TECHNOLOGY**

## BALL VALVE WITH ROTARY ACTUATOR

Designed and Manufactured as per  
ANSI B 16.34, BS 5351  
Pressure Testing: API 598, API 6D  
End Connection: ASME B 16.1

### FEATURES

- Compact and simple construction provides ease in maintenance without disturbing insulations and piping connections.
- Easy Operation even under high pressures.
- Full circular passages.
- Easily replaceable PTFE seats & Packing.
- Prolonged successful operation even under High Pressures.

### MOUNTING

Interface : ISO 5211.  
Body MOC : WCB, CF8, CF3, CF8M, CF3M (Special on Request).  
Trim MOC : CF8, CF3, CF8M, CF3M (Special on Request).  
Seat MOC : PTFE, GFT, PEEK (Special on Request).  
Size : ½" (15mm) to 8" (200mm).



## TYPES OF END CONNECTION



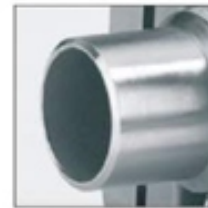
FLANGED



SCREWED



SOCKET WELD



BUTT WELD



TRI CLOVER

## PFA/FEP LINED BALL VALVE WITH ROTARY ACTUATOR



Designed and Manufactured as per  
ANSI B 16.34, BS 5351  
Pressure Testing: API 598, API 6D  
End Connection: ASME B 16.1

### FEATURES

- 2 Piece Designed Ball Valve. Body & Single piece Ball with Stem with minimum 3.5 mm thermostatic lining of PFA or FEP, universally used for highly corrosive and chemical applications.
- Floating Ball Seat for Bubble Tight Shut Off.
- Life Seats to minimize downtime and maintenance.
- Easily replaceable PTFE seats & Packing.
- Minimum 20 Kv Spark Test.

### MOUNTING

Interface: ISO 5211.  
Body MOC : Ductile Iron, Cf8, CF8M (LINED).  
Trim MOC : CF8, CF8M (LINED).  
Seat MOC : PTFE.  
Size : ½" (15mm) to 8" (200mm).



## FLUSH BOTTOM BALL VALVE WITH ROTARY ACTUATOR



Designed and Manufactured as per BS 5351  
End Connection: ASME B 16.5

### FEATURES

- The Valves are designed to open directly in the tank, reactor for 100% Flushing or discharging the material.
- Easy Operation even under high pressure.
- Full circular passages
- Easily replaceable PTFE seats & Packing.
- The design is featured with inclined bonnet which allows the automation OR manual operation to be free from fouling with the reactor disc end.

### MOUNTING

Interface	: ISO 5211.
Body MOC	: WCB, CF8, CF8M, CF3, CF3M (Special on Request).
Trim MOC	: CF8, CF8M, CF3, CF3M (Special on Request).
Seat MOC	: PTFE, GET, PEK (Special on Request).
Size	: 1/2" (15mm) to 8" (200mm).



## 3 Way Ball Valve with Rotary Actuator

Three Way Ball Valve is available in either "L" Port or "T" Port.

"L" Port Three Way Ball Valve is used for pipelines to switch the flow direction of two-flow lines perpendicular with each other.

"T" Port Three Way Ball Valve is used for diverting, mixing or switching the flow direction.

Ball passage is able to switch on three flow lines or switch on two of the three flow lines.

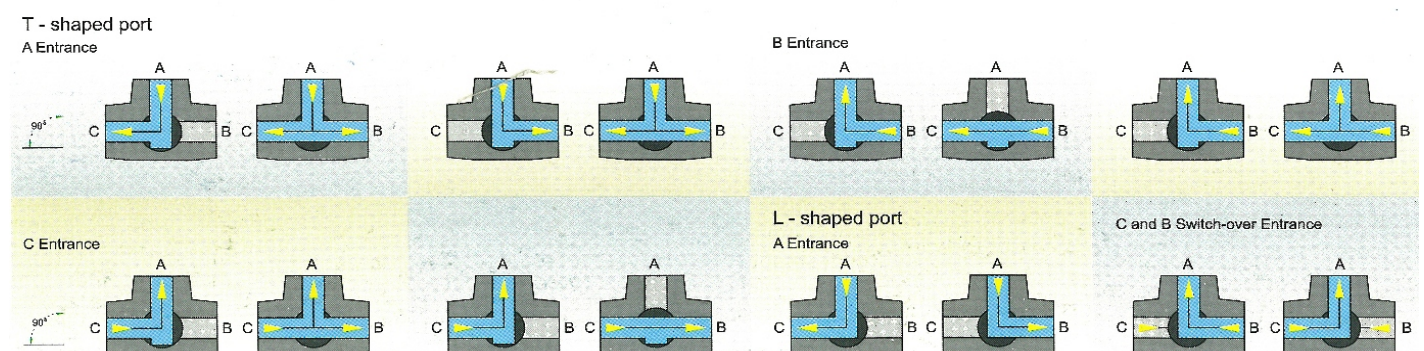
### FEATURES

- Four Seats for equal seat loading.
- Gland Packing, Seals & Spring Washers for zero leakage from gland.

### MOUNTING

Interface	: ISO 5211.
Body MOC	: CS, CF8, CF8M.
Trim MOC	: CF8, CF8M.
Seat MOC	: PTFE, GFT, PEEK (Special on Request).
Size	: 1" (25mm) to 8" (200mm).

## Types Of 3- Way Ball Valves Flow Directions



## BUTTERFLY VALVE

Designed and manufactured as per BS 5155, API 609, MSS SP 67 & ISO 5752  
 Body Type : Wafer, Double Flanged And Lugged Type  
 Operation : Wrench, Manual Gear And Pneumatic

### FEATURES

- Bi Directional zero leakage Butterfly Valve
- An Extremely negligible backlash between Stem & disc due to square drive.
- Butterfly Valves (Lined) are designed to fit without gaskets between flanges drilled to ANSI 125 #, ANSI 150#, DIN., ND 10, 16, BS 10 Table D, E and F.
- 100% Factory tested under Water /Air / Vacuum before the valve is Packed and shipped.
- 360° Disc Rotation.

## SPECIFICATION

Valve Size : 1 1/2" (40 mm) to 36" (900 mm)  
 Rating : ANSI / BS 125# / 150#.  
 Design : Centric Disc, Single to Triple Offset Disc Fully Lined & Unlined Body.  
 End Connection : Wafer, Lugged & Double Flanged.  
 Operation : Pneumatic.  
 Port Opening : Full.  
 Seat : Nitrile EPDM / Neoprene / Silicon /Viton etc.  
 Disc : Solid Dual Shaft / Single Shaft.  
 Design Code : API – 609 / BS – 5155.  
 Testing : API 598

### RUBBER LINED BUTTERFLY VALVE



### TEFLON SEATED BUTTERFLY VALVE



### TEFLON LINED BUTTERFLY VALVE

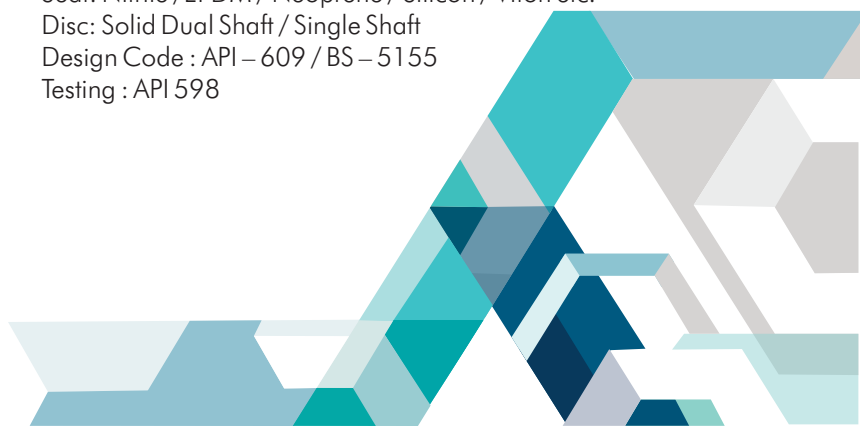


## MANUAL BUTTERFLY VALVE

R-tork Controls Butterfly Valve, with integrally moulded elastomers body sleeve are designed for longer life and trouble free performance. Integrally moulded sleeve ensures perfect resistance against friction between the disc and the sleeve.

## SPECIFICATION

Valve Size: 1 1/2" (40 mm) to 36 (900 mm)  
 Rating: ANSI / BS 125# / 150#  
 Design: Centric Disc, Single to Triple Offset Disc Fully Lined & Unlined Body  
 End Connection: Wafer, Lugged & Double Flanged  
 Operation: Wrench / Manual Gear  
 Port Opening: Full  
 Seat: Nitrile /EPDM / Neoprene / Silicon /Viton etc.  
 Disc: Solid Dual Shaft / Single Shaft  
 Design Code : API – 609 / BS – 5155  
 Testing : API 598



## MANUAL BALL VALVE

R-Tork Controls are designed and manufactured as per ASME B16.34/ API 6D/ BS EN 17292.

These Standards Cover Pressure – Temperature ratings, minimum shell thickness, bore diameter for each size/class.

Castings inspection as per MSS-SP 53, 54, 55, 59, 93 & 94

Actuator mounting pad on the valve is as per ISO 5211.

Other applicable standards

Face to Face: ASME B 16.10

Flange Dimension: ASME B 16.5

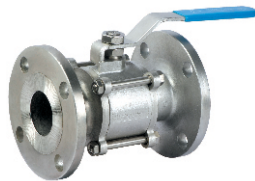
Butt Welded: ASME B 16.25 /

Valve Ends: B31.3 / B31.4 / API 6D

Pressure Tests : API 598 / BS EN 12266 – I / API 6D.

Fire Safety: API 607 / API 6FA / BS 6755 PART II

TYPE	END CONNECTION	PORT	ASME CLASS	SIZE												
				1/2"	3/4"	1"	1 1/2"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"		
SINGLE PIECE	FLANGED	FULL / REDUCED	150		✓	✓		✓	✓		✓	✓				
TWO PIECE	FLANGED	FULL / REDUCED	150 / 300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		FULL / REDUCED	600			✓		✓	✓		✓	✓	✓	✓	✓	✓
THREE PIECE	FLANGED / SOCKET WELD / SCREWED	FULL / REDUCED	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
THREE PIECE FORGED	SOCKET WELD / SCREWED	FULL / REDUCED	800	✓	✓	✓		✓	✓							
SINGLE PIECE / FULL JACKETED	FLANGED	FULL	150			✓		✓	✓				✓	✓		
3-WAY L PORT	FLANGED	FULL	150 / 300			✓		✓	✓			✓	✓	✓	✓	✓
3-WAY T PORT	FLANGED	FULL	150 / 300			✓		✓	✓			✓	✓	✓	✓	✓



## 3 WAY GLOBE VALVES (SERIES 010-1)

### TECHNICAL SPECIFICATIONS

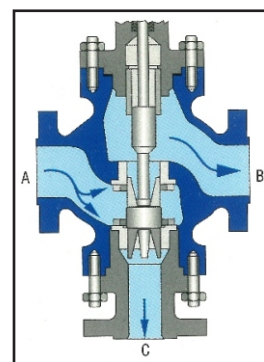
DESIGN	: ASME B16-34
BODY FORM	: Globe type with Tail piece to provide third port
VALVE SIZE	: 15 to 300 mm ( 1/2" to 12" )
RATING	: ANSI 150 to 1500
TRIM FORM	: Linear, V- Port Skirt Guided
FLOW CHAR.	: Linear, On/Off
SEAT LEAKAGE	: IV, V & VI As per FCI-70-2 (ANSI B 16.104)
ACTUATOR TYPE	: Diaphragm, Cylinder or Electric.
ACTUATOR ACTION	: Direct / Reverse Acting.

### DESIGN AND PERFORMANCE FEATURES

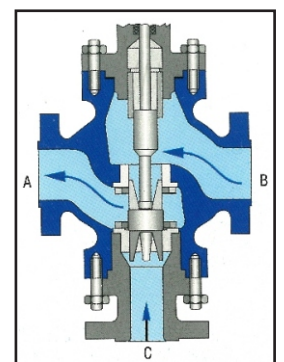
- High flow Valve capacity and rangeability.
- Heavy - Duty stem.
- Wide range of interchangeable trim sizes.
- Bellow seals available for positive stem sealing.
- Comprehensively designed and tested to ensure its optimum performance for the tough process parameters specified.
- Wide selection of actuator to meet most system requirements

### QUALITY AND PERFORMANCE GUARANTEE

- Full material certification available for all major component Parts.
- Full guarantee on design and Performance.
- All testing performed to the requirements of ANSI B16.34.



DIVERTING SERVICE



MIXING SERVICE

## GLOBE 2 WAY CONTROL VALVES (SERIES 010)

### TECHNICAL SPECIFICATIONS

DESIGN	: ASME B16-34
VALVE SIZE	: 15 to 450 mm ( 1/2" to 18" )
RATING	: ANSI 150 to 2500 or Equivalents to BS, DIN, etc.
FACE TO FACE and above	: ISA S.75.03 1985 up to 600, ISA S.75.16 900
END CONNECTION	: Flanged, Screwed, Butt Weld, Socket weld.
BODY MATERIALS	: Carbon Steel, Chrome-moly Steel, Stainless Steel, Monel, Alloy20, Hastelloy B/C, PP, Teflon etc.
BONNET	: Teflon Lined / Teflon Metal Housed : Standard upto 250°C : Normalizing (Finned) between 250°C to 500°C : Extended cold service - 20°C to - 200°C : Extended Bellows seals.
GLAND PACKING	: Grafoil / PTFE V Rings.
TRIM DESIGNS	: Top Guided Contoured : Splined Micro Flow : V-Ported (Balanced / Unbalanced) : Low Noise ( Upto four stage pressure reduction
Balanced / Unbalanced)	
TRIM MATERIALS	: Stainless Steel, Alloy20, Monel, Hastelloy B/C, Stellite (Alloy 6 )
CHARACTERISTICS	: Equal Percentage, Linear and Quick Opening.
SEAT LEAKAGE	: As per FCI-70-2 (ANSI B 16.104) : Class III, IV, V and VI ( STANDARD LEAKAGE
RATES )	
of rated Cv.	: Metal to Metal Seating Class IV, Less than 0.01% : Metal to Soft Seating – Bubble tight (Zero Leakage)
ACTUATOR TYPE	: Diaphragm, Cylinder or Electric.
ACTUATOR ACTION	: Direct / Reverse Acting.

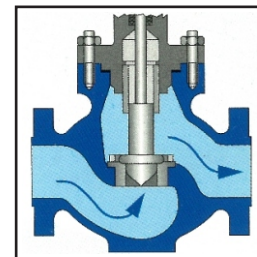
**INSTRUMENTS** Smart Positioner, Airset, Solenoid Valve, Air Lock, Volume Booster, I/P Converter, Position Transmitter, Limit – Proximity Switches etc. Removable Blind Head, Steam Jacketing, etc.

### DESIGN AND PERFORMANCE FEATURES

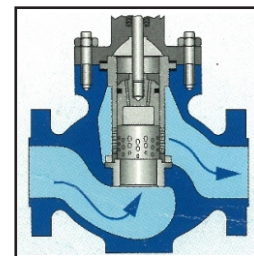
- High flow capacity and rangeability.
- Large variety of Trim design.
- Top opening for easy trim inspection without disturbing insulation or piping connection.
- Tight closing for reliable control even when changes in pressure / temperature are sudden and extreme.
- Bolts located outside of the piping stress area to eliminate gasket crush problems, reducing downtime.
- Wide selection of actuators to meet most system requirement.
- Rigorously proven on-site performance.

### QUALITY AND PERFORMANCE GUARANTEE

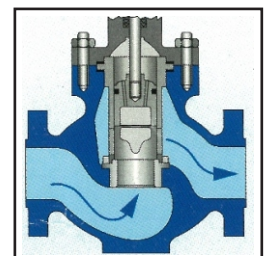
- Full material certification available for all major component Parts.
- Full guarantee on design and Performance.
- All testing performed to the requirements of ANSI B16.34.



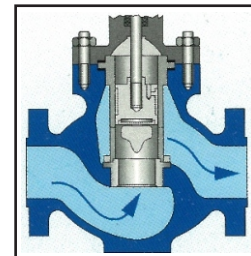
CONTOURED TRIM



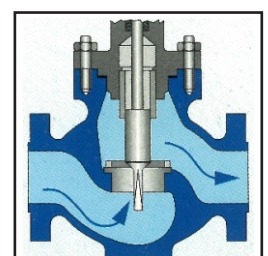
LOW NOISE CAGE GUIDED BALANCED TRIM



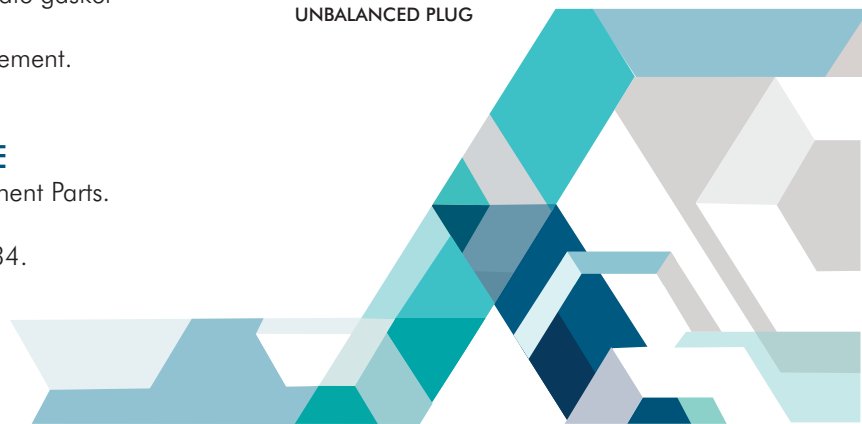
V-PORTED TRIM WITH BALANCED PLUG & RING



V-PORTED TRIM WITH UNBALANCED PLUG



SPLINED MICRO FLOW TRIM



## PNEUMATIC ROTARY ACTUATOR

Rotary actuators are pneumatically operated quarter turn with dual rack and piston design. Available in spring return and double acting models with output torque from 3 Nm to 4000 Nm for 90° and upto 180° operating for range to pressure upto 8 bar.

### FEATURES

- Compact design in hard anodized extruded aluminum body & rack
- Namur mounting for solenoid valves and auxiliary accessories
- Mounting interface ISO 5211 for valve and actuator
- Blow-out proof pinion with zing flake coating
- No metal to metal contacts



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