

Icon Valves & Engineering Private Limited

# Flush Bottom Valves



#### **About Us**

ICON VALVES AND ENGINEERING PVT LIMITED, formerly known as Industrial Valves and Equipments incepted in the year 1996, is prominent organizations engaged in manufacturing, supplying, and exporting a comprehensive range of industrial valves and fittings.

Mr. Bimal Metha & Mr. Sanjay Mehta have carved a niche for the company. It is their years of experience and trade exposure, which has enabled us to conduct business on fair and ethical grounds. The company enjoys long-term relationships with customers, suppliers, and employees.

ICON is an expert in manufacturing flush bottom valves. Every valve is customised as per customers' requirements. Customisation flush bottom valves, which deliver reliable performance are the hallmark of ICON valves.

ICON is a preferred supplier of customized flush bottom valves for leading companies like Reliance, Cipla, Lupin, Sun Pharma, Piramal, OEM's, and also exports worldwide.

Leveraging on our state-of-the-art infrastructure equipped with the latest machines, we have been able to offer these flush bottom valves conform to various international technical standards like CE. We are supported by dedicated professionals who relentlessly put in their efforts and this helps us in offering qualitative components in stipulated time frame.

We have the ability to customize our range to meet the specific requirements of our clients. We also welcome feedback from our clients on a regular basis and our open attitude of listening to their grievances and complaints has put us on the list of our clients.





#### Innovative and Tailored Flush Bottom Valves

At ICON, we understand that every process is unique, necessitating equally unique solutions. That's why we specialize in offering flush bottom valves meticulously tailored to meet each client's specific operational and technical demands. Our valves are renowned for their versatility and precision.

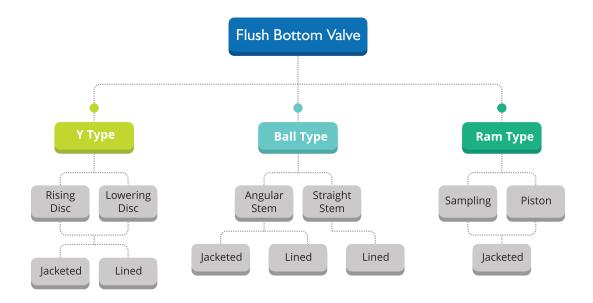
Whether it's the classic bottom valve, crucial for efficient reactor flushing, or our advanced actuated control valves, automated for optimal performance, we have the perfect solution. Our lined flush bottom valves also come with superior anti-corrosive coatings, ensuring longevity and reliability. Our flush bottom sampling valves are engineered for accuracy for those

needing precise sampling. A jacketed flush bottom valve is suggested for the processes that need heating or cooling.

Proudly the preferred supplier for industry giants like Reliance, Cipla, Lupin, Sun Pharma, Piramal, and numerous OEMs, ICON has also garnered international acclaim, exporting our top-tier products globally.

Our commitment at ICON extends beyond providing a product. We offer a partnership in excellence, ensuring every valve is not just a component but a tailored solution. Our customization capabilities mean your flush bottom valve is not just a purchase; it's an investment in quality and reliability.

#### **Spectrum of Our Flush Bottom Valves**



In this catalogue, explore the full Spectrum of our Flush Bottom Valves.



# Y-Type Flush Bottom Tank Valve

Due to the Y shape of the valve, it is known as a Y-type flush bottom valve. As these valves are fitted at the bottom of tanks to drain the content, they are also known as flush bottom tank valves or bottom flush valves, or bottom valves.

ICON Zero-Hold up design of flush bottom tank valve thoroughly flushes out the liquid or slurry from tanks, reactors, or receivers quickly.

Characteristics	On-Off
Type of Valve	Disc Rising into the Tank or Disc Lowering into the Valve
Size Range	15 NB to 300 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, 300#, 600#, PN10, PN 16, PN 40. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	Conical Metal to Metal Disc Seating / PTFE Seating with Option of Fixed or Renewable Seat. Further Metal Seating Can Be Hard- faced by Stellite™
Gland Packing	PTFE, Graphoil with Bolted Stuffing Box
Discharge Angle of Valve	Available at 45 Degrees and Can Also Be Tailored to 60 Degrees
Operations of Valve	Manually, Pneumatically, and Electrically Actuated
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, RTD Sensors, Manual Override
Other Types	Jacketed and Anti-corrosive Lined





## Y-Type Actuated Flush Bottom Valve

Actuators are used to automate the working of the ICON Y-type bottom tank valves. Liquid and slurry can be drained off remotely and with minimum labor.

Diaphragm actuators are used for disc-raising valves, and cylinder actuators are used for disc-lowering types.

ICON Zero-Hold up design of flush bottom tank valve thoroughly flushes out the liquid or slurry from tanks, reactors, or receivers quickly.

Characteristics	On-Off
Type of Valve	Disc Rising into the Tank or Disc Lowering into the Valve
Operations of Valve	Pneumatically Actuated with Diaphragm Type Actuators for Rising Disk Type Valves and Cylinder Type for Lowering Disk Type Valves. Also Offers Electrical Actuators
Size Range	15 NB to 300 NB in BS, ANSI & DIN Standards.
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, 300#, 600#, PN 10, PN 16, PN 40 Flanged End

MOC for Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	Conical Metal to Metal Disc Seating / PTFE Seating with Option of Fixed or Renewable Seat. Further Metal Seating Can Be Hard- faced by Stellite™
Gland Packing	PTFE, Graphoil with Bolted Stuffing Box
Discharge Angle of Valve	Available at 45 Degrees and Can Also Be Tailored to 60 Degrees
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, RTD Sensors, Manual Override
Other Types	Jacketed and Anti-Corrosive Lined





### Y-Type Jacketed Flush Bottom Valve

The jacketed flush bottom valve facilitates smooth handling of liquids or slurries that change state when passing through the bottom valve. Steam, Oil, or Water can be circulated within the jacket to heat or cool the liquid or slurry in the flush bottom tank valve.

ICON Zero-Hold up flush bottom tank valve design thoroughly flushes out the liquid or slurry from tanks, reactors, or receivers quickly.

Characteristics	On-Off
Type of Valve	Disc Rising into the Tank or Disc Lowering into the Valve
Jacket	Carbon Steel or Stainless Steel Jacket with Inlet, Outlet, and Drain Nozzle with Screwed or Flanged Connection
Size Range	15 NB to 200 NB in BS, ANSI & DIN Standards.
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, 300#, 600#, PN10, PN 60, PN 40. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	Conical Metal to Metal Disc Seating / PTFE Seating with Option of Fixed or Renewable Seat. Further Metal Seating Can Be Hard- faced by Stellite™
Gland Packing	PTFE, Graphoil with Bolted Stuffing Box

Discharge Angle of Valve	Available at 45 Degrees and Can Also Be Tailored to 60 Degrees
Operations of Valve	Manually, Pneumatically, and Electrically Actuated
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, RTD Sensors, Manual Override
Other Types	Actuated and Anti-Corrosive Lined





# Y-Type Jacketed Actuated Flush Bottom Valve

Actuators are used to automate the working of the Jacketed Tank Valve. Liquid & Slurry can be drained remotely and with minimum labor from the tank, reactor, or vessel.

ICON Zero-Hold up flush bottom tank valve design thoroughly flushes out the liquid or slurry from tanks, reactors, or receivers quickly.

Characteristics	On-Off
Type of Valve	Disc Rising Into the Tank or Disc Lowering into the Valve
Jacket	Carbon Steel or Stainless Steel Jacket with Inlet, Outlet, and Drain Nozzle with Screwed or Flanged Connection
Size Range	15 NB to 200 NB in BS, ANSI & DIN Standards.
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, 300#, 600#, PN10, PN 60, PN 40. Flanged End

MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	Conical Metal to Metal Disc Seating / PTFE Seating with Option of Fixed or Renewable Seat. Further Metal Seating Can Be Hard- faced by Stellite™
Gland Packing	PTFE, Graphoil with Bolted Stuffing Box
Discharge Angle of Valve	Available at 45 Degrees and Can Also Be Tailored to 60 Degrees
Operations of Valve	Manually, Pneumatically, and Electrically Actuated
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, RTD Sensors, Manual Override
Other Types	Anti-Corrosive Lined





# Y-Type Lined Flush Bottom Valve

FEP / PFA Lined and ECTFE / ETFE Coated Y Type Flush Bottom Valve for corrosive and food grade applications.

ICON Zero-Hold up flush bottom tank valve design thoroughly flushes out the liquid or slurry from tanks, reactors, or receivers quickly.

Characteristics	On-Off
Type of Valve	Disc Rising into the Tank or Disc Lowering into the Valve
Lining and Coating	PFA Lined as per ASTM D 3418 FEP Lined as per ASTM D 2116 Coating of ECTFE or ETFE as per Specific Requirement
Operations of Valve	Manually, Pneumatically and Electrically Actuated
Size Range	25 NB to 150 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, PN10, PN 16. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	PTFE or RPTFP Renewable Seat
Gland Packing	PTFE or RPTFP with Bolted Stuffing Box
Discharge Angle of Valve	Available at 45 Degrees and Can Also Be Tailored to 60 Degrees
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, RTD Sensors, Manual Override





# Y-Type Lined Actuated Flush Bottom Valve

Y Type Flush Bottom Valve, lined with FEP/PFA & coated with ECTFE/ETFE, is ideal for corrosive and food-grade applications. Automate the operation of the Y-type lined flush bottom valve with an actuator.

ICON Zero-Hold up design of flush bottom tank valve thoroughly flushes out the liquid or slurry from tanks, reactors, or receivers quickly.

Characteristics	On-Off
Type of Valve	Disc Rising into the Tank or Disc Lowering into the Valve
Lining and Coating	PFA Lined as per ASTM D 3418 FEP Lined as per ASTM D 2116 Coating of ECTFE or ETFE as per Specific Requirement
Operations of Valve	Pneumatically Actuated with Diaphragm Type Actuators for Rising Disk Type Valves and Cylinder Type for Lowering Disk Type Valves. Also Offers with Electrical Actuators

Size Range	25 NB to 150 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, PN10, PN 16. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	PTFE or RPTFP Renewable Seat
Gland Packing	PTFE or RPTFP with Bolted Stuffing Box
Discharge Angle of Valve	Available at 45 Degrees and Can Also Be Tailored to 60 Degrees
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, RTD Sensors, Manual Override





### **RAM Type** Flush Bottom Valve

Ram-Type Flush Bottom
Valves, also called Piston-type
flush bottom valves and
Sampling valves, are
designed for discharging,
flushing, or sampling flowing
media and ensure 100% free
flow from the tank.

These valves are especially vital in polymer manufacturing for their smooth, unobstructed flow, unlike disc-type valves where the disc and stem can impede the medium.

Characteristics	On-Off and Sampling
Application Type	For Reactor Bottom Discharge or Inline Pipe Sampling
Type of Valve	Piston Type
Size Range	15 NB to 200 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, 300#, 600#, PN10,PN 16, PN 40. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material

Valve Seating	Conical Metal to Metal Seating/ PTFE Seating with Renewable Seat. Further Metal Seating Can Be Hard-Faced by Stellite™
Gland Packing	PTFE, Graphoil with Bolted Stuffing Box
Discharge Angle of Valve	Available at 45 Degrees and Can Also Be Tailored to 60 Degrees
Operations of Valve	Manually, Pneumatically, and Electrically Actuated
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, RTD Sensors, Manual Override
Other Types	Actuated and Jacketed



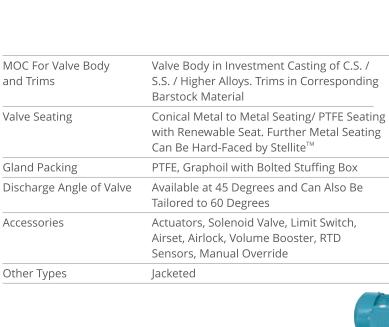


### **RAM Type Actuated Flush Bottom Valve**

Ram-Type Actuated Flush Bottom Valves, also known as Piston-Type flush bottom Valves and Sampling Valves, are used discharging, flushing, or sampling flowing media.

The use of Actuators automates the operation of ICON Piston type flush bottom valves, enabling remote and labor-minimal drainage of Liquid, Slurry, or Polymer from tanks, reactors, or vessels.

Characteristics	On-Off and Sampling
Application Type	For Reactor Bottom Discharge or For Inline Pipe Sampling
Type of Valve	Piston Type
Operations of Valve	Pneumatically Actuated with Cylinder Type Actuator for Movement of Ram / Piston. Also Offered with Electrical Actuators
Size Range	15 NB to 200 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	ANSI B-16.34, API-598
Valve Rating	ANSI 150#, 300#, 600#, PN10, PN 16, PN 40. Flanged End







# **Ball Type** Flush Bottom Valve

Ball-type flush bottom valves are ideally suitable for the free flow of liquid where space below the vessel, tank, or rector is insufficient.

ICON Zero-Hold up design of ball-type flush bottom valve thoroughly flushes out the liquid from tanks, reactors, or receivers quickly. The design assures contamination-free process operation.

Characteristics	On-Off
Type of Valve	Ball Type
Operations of Valve	Manually, Pneumatically, and Electrically Actuated
Size Range	25 NB to 250 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	BS 5351, BS EN ISO 17292 BS 5146 / API 598 / BS EN 12266
Valve Rating	ANSI 150#, 300#, 600#, PN10, PN 16, PN 40. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	PTFE, RPTFP, PEEK, Renewable Seat
Gland Packing	PTFE, RPTFP, PEEK, Graphoil With Bolted Stuffing Box
Accessories	Actuators, Solenoid Valve, Limit Switch, Positioner, Airset, Airlock, Volume Booster, Manual Override
Other Types	Actuated and Jacketed





### **Actuated** Flush Bottom Ball Valve

Pneumatic rotary actuators are used to automate the working of the ICON Flush Bottom Ball Valve. The actuators can be singleacting or double-acting as per requirement. The liquid can be drained remotely and with minimum labor from the flush bottom ball valve.

ICON Zero-Hold up design of Ball-Type Flush Bottom Valve thoroughly flushes out the liquid from tanks, reactors, or receivers quickly.

Characteristics	On-Off
Type of Valve	Ball Type with Angular Stem
Operations of Valve	Pneumatically or Electrically Actuated with Rotary Actuators
Size Range	40 NB to 250 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	BS 5351, BS EN ISO 17292 BS 5146 / API 598 / BS EN 12266
Valve Rating	ANSI 150#, 300#, 600#, PN10, PN 16, PN 40. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	PTFE, RPTFP, PEEK, Renewable Seat
Gland Packing	PTFE, RPTFP, PEEK, Graphoil with Bolted Stuffing Box
Accessories	Actuators, Solenoid Valve, Limit Switch, Airset, Airlock, Volume Booster, Manual Override
Other Types	Jacketed and Lined





### **Actuated Jacketed Flush Bottom Ball Valve**

Pneumatic rotary actuators are used to automate the working of the ICON Jacketed Flush Bottom Ball Valve. The actuators can be singleacting or double-acting as per requirement. The liquid can be drained remotely and with minimum labor from the flush bottom ball valve.

ICON offers Pneumatic Actuators with Single acting (fail-safe) design and Double acting (stay-put) design of reputed brands.

Characteristics	On-Off
Type of Valve	Jacketed Ball Type with Angular Stem
Operations of Valve	Pneumatically or Electrically Actuated with Rotary Actuators
Size Range	40 NB to 250 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	BS 5351, BS EN ISO 17292 BS 5146 / API 598 / BS EN 12266
Valve Rating	ANSI 150#, 300#, 600#, PN10, PN 16, PN 40 Flanged End
MOC for Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Jacket	AISI SS 304 / Carbon steel
Valve Seating	PTFE, RPTFP, PEEK, Renewable Seat
Gland Packing	PTFE, RPTFP, PEEK, Graphoil with Bolted Stuffing Box
Accessories	Actuators, Solenoid Valve, Limit Switch, Positioner, Airset, Airlock, Volume Booster, Manual Override
Other Types	Lined







### **LINED** Flush Bottom Ball Valve

ICON produces flush bottom ball valves lined with FEP / PFA, featuring a 3 to 5-mm thick fluoropolymer lining that's both anti-corrosive and suitable for food-grade applications.

Alternatively, ICON offers its flush bottom valves with ECTFE / ETFE linings and various anti-corrosive coatings, maintaining a coating thickness of 800 to 1000 microns.

Characteristics	On-Off
Type of Valve	Ball Type
Lining	PFA Lined as per ASTM D 3418 FEP Lined as per ASTM D 2116
Operations of Valve	Manually, Pneumatically, and Electrically Actuated
Size Range	40 NB to 100 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	BS 5351, BS EN ISO 17292 BS 5146 / API 598 / BS EN 12266
Valve Rating	ANSI 150#. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	PTFE and RPTFP Renewable Seat
Gland Packing	PTFE and RPTFP with Bolted Stuffing Box
Accessories	Actuators, Solenoid Valve, Limit Switch, Positioner, Airset, Airlock, Volume Booster, Manual Override
Other Types	Actuated



### **Lined Actuated Flush Bottom Ball Valve**

ICON makes FEP / PFA lined flush bottom ball valves with 3 to 5 mm thick fluoropolymer lining, which is anti-corrosive and food grade. Fluoropolymers are inert to almost major acids and alkalis and give a longer

Instead of FEP or PFA lining, ICON flush bottom valves are also offered with ECTFE / ETFE and different anticorrosive coating.

working life.

Characteristics	On-Off
Type of Valve	Ball Type
Lining	PFA Lined as per ASTM D 3418 FEP Lined as per ASTM D 2116
Operations of Valve	Pneumatically or Electrically Actuated with Rotary Actuators
Size Range	40 NB to 100 NB in BS, ANSI & DIN Standards
Design, Manufacturing, and Testing Standards	BS 5351, BS EN ISO 17292 BS 5146 / API 598 / BS EN 12266
Valve Rating	ANSI 150#. Flanged End
MOC For Valve Body and Trims	Valve Body in Investment Casting of C.S. / S.S. / Higher Alloys. Trims in Corresponding Barstock Material
Valve Seating	PTFE and RPTFP Renewable Seat
Gland Packing	PTFE and RPTFP with Bolted Stuffing Box
Accessories	Actuators, Solenoid Valve, Limit Switch, Positioner, Airset, Airlock, Volume Booster, Manual Override







#### **Customized Flush Bottom Valves**

Designing and manufacturing flush bottom valves per client process requirements is our forte. Our expertise in customization has been trusted by leading Pharmaceutical and Chemical producers, Process Equipment and valve manufacturers, System integrators, Valve automation experts, and various industrial companies across the manufacturing spectrum.

Discover a selection of our bespoke valve solutions; this showcase is just a glimpse of our capabilities.

For your specific requirements, please reach out to us.



#### Specialty Chemical Manufacturer

Valve Type : Manual and Jacketed

Flush Bottom Valve

Customization: Jacketed valve with

perfectly oriented nozzles, followed by actuated jacketed valves with positioners.



#### World's Largest Refinery

Valve Type : Ram Type Flush

Bottom Valve

Customization: Largest 6" 300# valve, used in

reverse for charging operations.



#### Top Pharmaceutical Company

Valve Type : Jacketed Flush

Bottom Tank Valves

Customization: Eighty-five jacketed

valves were supplied in a single project.



#### Metal Powder Manufacturer

Valve Type : Flush Bottom Valve

for Ball Mills

 ${\it Customization: Valve\ with\ slitted}$ 

disc, ensuring no ball discharge during slurry release from

ball mills.



#### Intermediates & Fine Chemicals Manufacturer

Valve Type

: Nickel Claded Flush

Bottom Tank Valve

Customization : 6" Nickel claded tongue & groove

tongue & groove type for high corrosion resistance.



#### Leading Pharma Manufacturer

Valve Type

: Lined Actuated Flush

Bottom Ball Valves

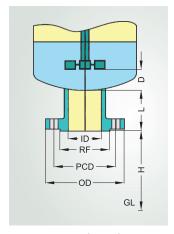
Customization : Lined actuated flush

bottom ball valve of size 4" x 2" manufactured with and inclined stem.

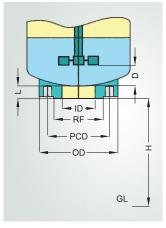


#### **Ordering Information**

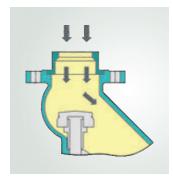
- Applications
- \_ Working Pressure and Temperature
- Material of Construction
- Size
- Openings(Opening into the tank or valve)
- Accessories
  - Flushing Points
  - Pneumatic or
  - Electric Actuator
  - Solenoid Valve
  - Limit Switch
  - RTD Sensors



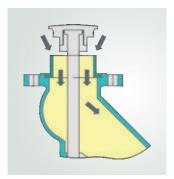
Mounting Detail Nozzle Type



Mounting Detail Pad Type



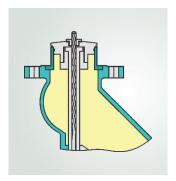
Lowering Disc



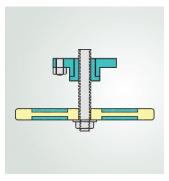
Rising Disc



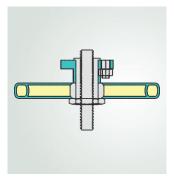
Provision for Flushing Nozzle



Provision for RTD Sensor



Rising Stem



Non Rising Stem





### **Some of Our Esteemed Clients**





















































### Icon Valves & Engineering Private Limited

CIN: U29253MH2015PTC265423

**Office and Works:** Unit No. 3 & 4, Pinnacle Industrial Park, Sativali, Vasai Road (E), Palghar, Maharashtra - 401208, INDIA +91 98192 17070 • fbv@ivevalves.com • www.flushbottomvalves.net







