RESOLUTE BALL™ DESIGN

THE CONCEPT

The Resolute Ball™ design was developed by working closely with our customers to understand and address a variety of challenges within their applications. In many demanding applications, media accumulates on the upstream side of the ball, when in the closed position. Over time, this media accumulation leads to increased operating torque and damaged seal surfaces, causing the valves to leak prematurely.

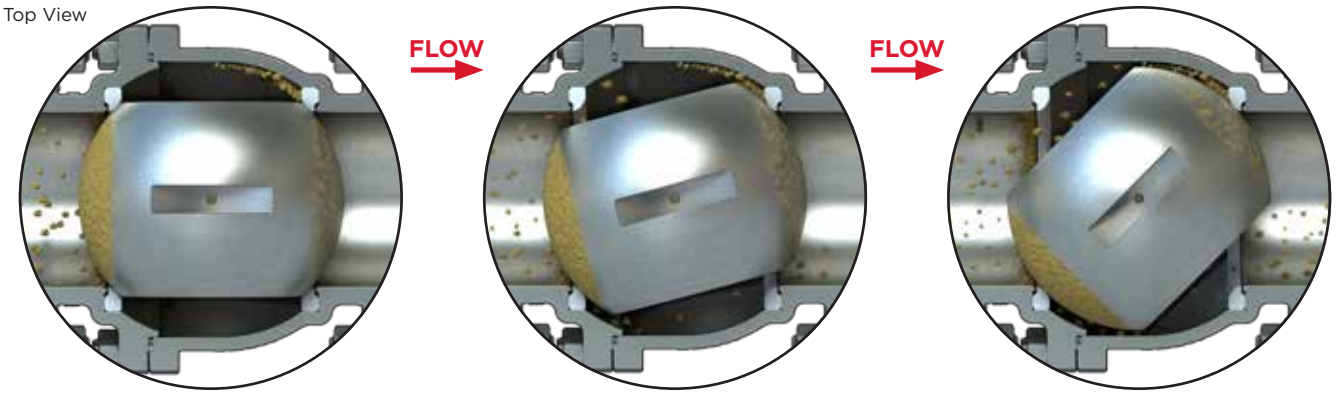
Our unique ball design has been field-proven to overcome those challenges. Media contact with the seat is minimized throughout the quarter-turn operation, while the modified ball geometry allows media particles to be flushed past the ball and seats. This provides:

- Lower operating torque
- Improved operability
- Extended service life
- Increased reliability
- Greatly reduced total cost of ownership

DESIGN ADVANTAGES

TRADITIONAL BALL DESIGN CHALLENGES

Top View



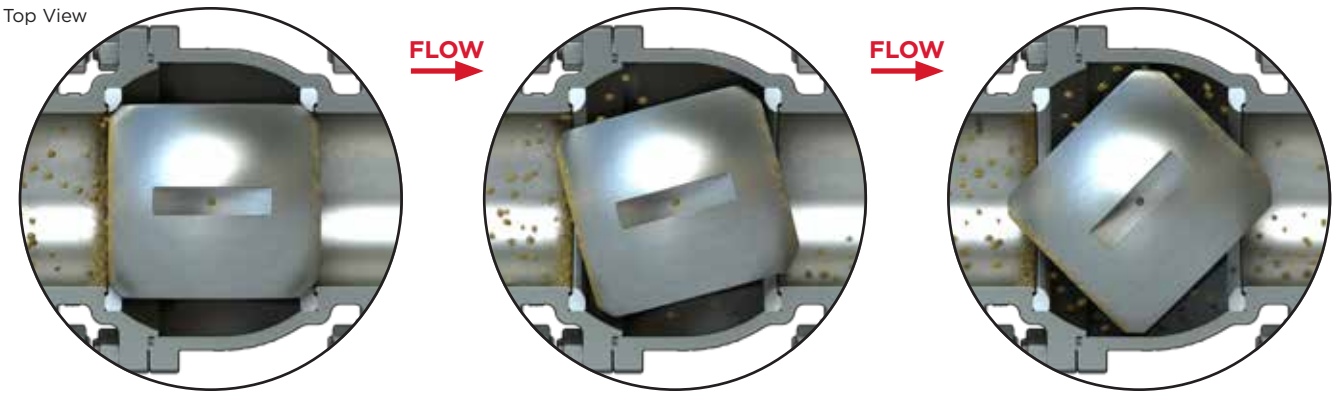
Large spherical surface area allows media buildup on ball surface and downstream ball cavity.

Media buildup leads to increased torque and seat damage, due to constant contact between ball and seat during full 90° rotation.

High valve torque is required to break significant media buildup. Valve seats could leak prematurely, valve could fail to operate, or stem could twist and/or shear.

RESOLUTE BALL™ DESIGN SOLUTIONS

Top View



Modified ball design minimizes effects of media buildup on ball sealing surface and allows particles to be flushed through the body cavity upon opening.

Seat life is extended, due to reduced media buildup and reduced seat-to-ball contact during operation.

Reduced valve torque is required to break minimal media buildup. Valve easily operates with standard actuation.

FEATURES AND BENEFITS

1 DIRECT REPLACEMENT BALL DESIGN
- > Resolute Ball™ is a direct replacement for standard balls in select Flow-Tek valves
- > Product line versatility allows short delivery times

2 SELF FLUSHING / CLEANING
- > Provided by unique ball geometry

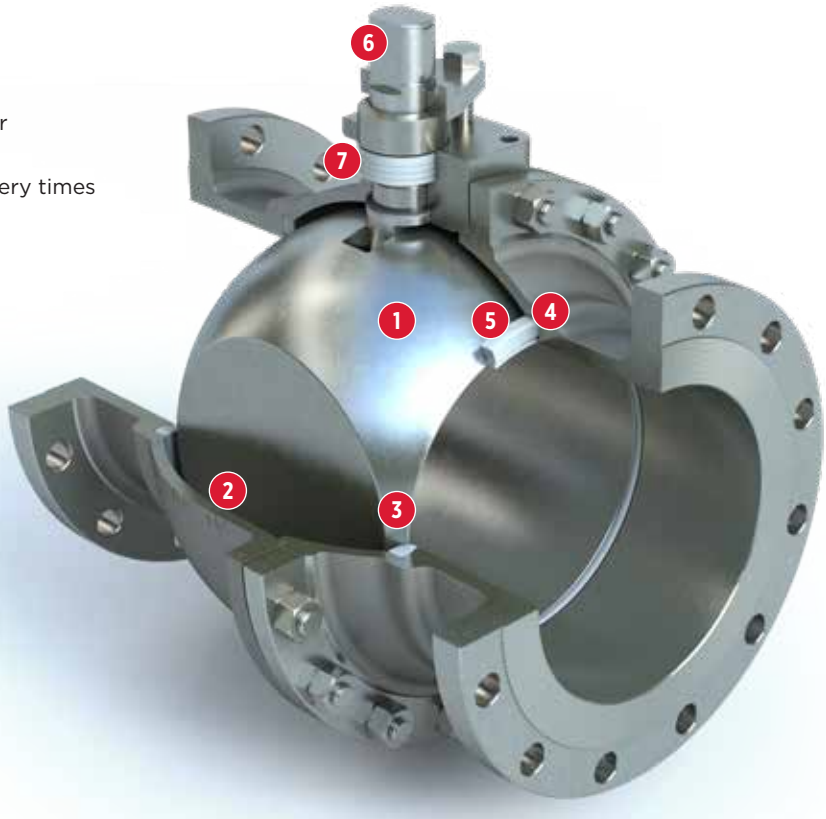
3 REDUCED SEAT-TO-BALL INTERFACE
- > Provides lower operating torques
- > Extends seat life

4 BIDIRECTIONAL SEALING
- > Tested to API 598

5 MULTIPLE SEATING OPTIONS
- > PEEK | TFM | Tek-Fil®

6 STANDARD HIGH-STRENGTH STEM
- > 17-4 PH material
- > Blowout-proof design

7 MULTIPLE PACKING OPTIONS
- > Fugitive emissions packing available



TYPICAL APPLICATIONS

- > Pulp & paper
  - White liquor, green liquor, black liquor
- > Polyvinyl Chloride (PVC)
  - Reactor discharge | slurry
- > Abrasive slurries
- > Calcifying and crystallizing medias
- > Storage tank drains and isolation
- > Pump isolation
- > Produced water
- > Low-temperature steam
- > Petrochemicals
- > Polymers/monomers
- > Mining and minerals

VALVE COMPATIBILITY

Body Style	Series	Pressure Class	Size Range	
			NPS	DN
Flanged (full port)	F15	ASME Class 150 PN 10/16	1/2 to 12	15 to 300
	F30	ASME Class 300 PN 25/40		
Flanged (standard port)	RF15	ASME Class 150 PN 10/16	1 to 12	25 to 300
	RF30	ASME Class 300 PN 25/40		

NOTES
Refer to Bray sales literature and technical documentation for specific valve information.

AVAILABLE STANDARDS & CERTIFICATIONS

Valve Design	NACE MR0175 / ISO 15156
Fugitive Emissions	API 641
	ISO 15848-1
	ISO 15848-2