



## Ball Segment Valve (BSV)

### The valve that meets the market demand of the process industry

From the 1<sup>st</sup> of June 2009 HEINKEL Process Technology GmbH has taken over the Ball Segment Valve business from Techno-G, The Netherlands. The experienced team around the Ball Segment Valve remains unchanged. HEINKEL will provide you with a perfect product, supported by a professional project team starting with the inquiry, through delivery to installation and continued support through the BSV life.

The Ball Segment Valve has been developed to meet the unique process requirements of vacuum drying and pressurized process reactors. From experience gained in the field, it is now being supplied as a stand-alone component for a far broader range of applications. The valve seats are machined to very fine tolerances and this, combined with special bearings provides an excellent vacuum and pressure tight seal. The standard inflatable seal design will meet the demand of individual processes and product requirements.

#### Characteristics of the BSV:

- Excellent reliability and long operating life
- Excellent vacuum and pressure tight properties
- No dead areas, sanitary design
- cGMP-conformity and CIP-able
- Full bore design, unobstructed product discharge
- Modular system
- Different sealing materials available

#### Standard specifications:

Valve size	150 to 400 mm (6" to 16")
Flanges	According to DIN, ANSI and as tri-clamp execution
Material	1.4404 (316L), 1.4571 (316Ti), 2.4602 (HC22)
Inflatable seal	EPDM, Viton <sup>®</sup> (FKM), Perlast <sup>®</sup> (FFKM)
Operation temp.	-10°C to 135°C (14°F to 275°F)
Operation pressure	-1 to +6 bar (90 Psig)
Atex	According to Atex 94/9/EG

#### Physical, process relevant bulk characteristics:

- Wide range of bulk densities
- Solvent-wet bulk materials or free flowing
- Crystalline and abrasive particles
- Hard and soft granulates
- Wide particle size spectrum
- Pasty, mushy or creamy products

#### Process applications:

- Outlet and inlet valve for vacuum dryers
- Vacuum locks
- Outlet and Inlet valve for blender
- Discharge valve for centrifuges
- Outlet and inlet valve for reactors

#### Markets:

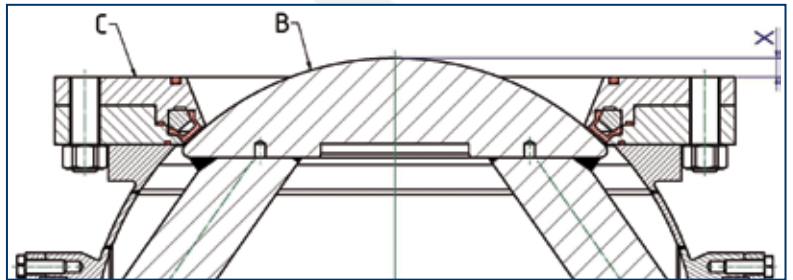
- Pharmaceuticals
- Chemicals
- Fine chemicals, API
- Food
- Cosmetics
- Minerals
- Metals
- Others



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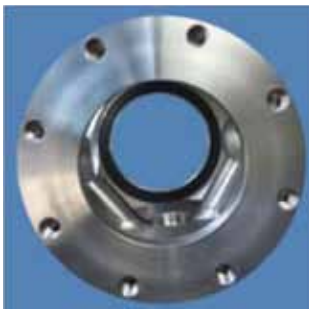
### Reduction of unmixed passive zone

The larger the dimension X and the more the ball segment (B) stands over the assembly flange (C), the unmixed passive zone in the process room, between the ball segment (B) and the mixing agitator will be reduced to a minimum. The flange connection can be designed individually to customer specification.



### Full bore discharge design

Due to its totally unobstructed full bore design, a 90° turn of the ball segment is required to move from the fully closed to fully open position, i.e. the ball segment is entirely out of the product flow.



Bottom view –  
full open position

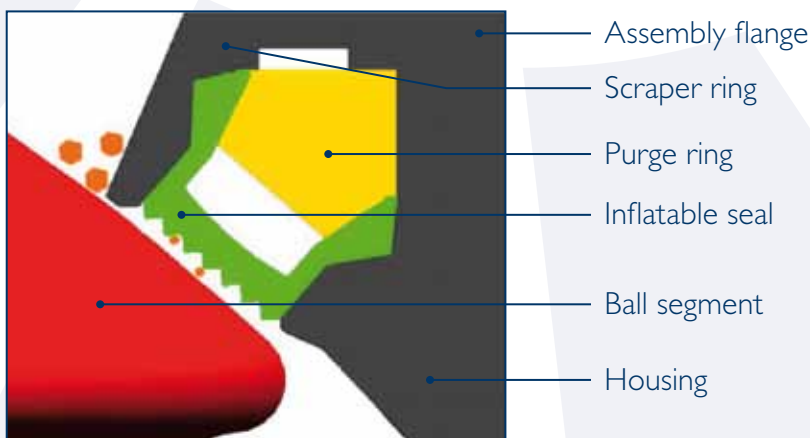


Bottom view –  
semi open position



Bottom view –  
closed position

### Principle of the inflatable seal



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