

# Bolz-Summix® Ultimo

## Improved Product Discharge

The Ball Segment Valve meets internationally recognised standards relating to:

- Vacuum
- Pressure tightness
- Cleanability
- Seal design
- Drive specification

## Minimum Dead Space due to the Spherical Form

When used as a discharge valve on a conical screw dryer or blender the ball segment has minimal clearance to the mixing screw resulting in dead space being practically eliminated. The action of the mixing screw continually agitates the area of the ball segment and with most products this prevents product build-up and obviates the risk of product plugging the vessel discharge.

## Product Phases

During drying, products go through various aggregation phases. The product, entering the dryer as a filter or centrifuge cake may pass through a sticky phase. This can result in encrusting of the discharge valve. With a 5 to 10 mm clearance to the agitator the volume of encrusted product on a slide valve or ball segment valve can be considerable! This can be a problem when it comes to opening the discharge valve as the actuator may not be able to overcome the resistance of the encrusted layer preventing the valve from moving.

Mr G Weggemans, product development

manager at Bolz-Summix, explains

*"We have learned five important lessons from our experience with the Bolz-Summix Ball Segment Valve.*

- *Users of our BSV with inflatable seal experience reduced seal wear.*
- *Consequently less production down time is experienced compared with alternative valve designs.*
- *The valve's vacuum tightness leads to consistently better dryer operating conditions, hence better product quality and improved dryer performance.*
- *The valve can be reliably actuated against the product flow allowing product flow control.*
- *The latest ball segment valve is able to overcome encrusting problems. The segment can actually be lowered before rotating, allowing an encrusted layer on the segment*

*to clear the seal area before the actuator rotates the segment to open the valve."*



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**BOLZ**<sup>®</sup>  
**summix**<sup>®</sup>

# Bolz-Summix® Ultimo: "The valve that begins where others stop."

Gerald Weggemans continues, "Encrusting of the ball segment or surface of a knife valve can prevent the valve from operating correctly to the point where it will no longer open. It is not always the case that encrusting can be overcome by using coated or heated surfaces. Even the use of actuators on both ends of a valve shaft cannot always solve the problem. This solution assumes that the product can be removed from the valve surface by mechanical action and this is not always the case."



Segment in raised position



Segment in lowered position

## Bolz-Summix Breaks the Crust!

"One of the options on our modular design BSV allows the valve's ball segment to be raised and lowered. This "Ultimo" movement option together with the fully inflatable seal is a new innovation designed to help our customers overcome operating difficulties such as those described above. After the inflatable seal has been depressurised and it has retracted in to the valve housing, the ball segment is sequenced to lower by approximately 15mm. This will break the product crust. The valve can then be opened fully by a 90° rotation, or opened partially for controlled product discharge. This results in:

- Opening and closing of the valve unhindered by encrusting products.
- Correct operation of the inflatable seal, i.e. no contact when the ball segment is moving
- A valve that can be used universally for powders, slurries and fluids.
- A valve that can be used for vacuum or over pressure operation.
- Powders with high flow characteristics can be discharged in a controlled manner by positioning the ball segment.



## Operating sequence

The valve is closed by rotating the ball segment back to the 0° position, elevating the segment and re-pressurising the inflatable seal. The inflatable seal is guaranteed to contact the ball segment continuously around its periphery thus ensuring that the valve seals correctly.

One option available from our modular design is the two-stage rotary valve actuator. This rotates the valve actuator by 90° to open and then by a further 90° to allow the ball segment to be inspected or cleaned. In this 180° position the ball segment protrudes from the valve housing giving clear access, ideal for inspection and maintenance.

Gerald Weggemans concludes: "The Bolz-Summix ball segment valve that you have seen in the past has been redesigned with a series of modular options allowing us to quickly construct a valve, designed to meet your needs, from off the shelf components. This leads to very short delivery periods."

