

Model No. TSXX

TITAN SLIDE GATE

Ideal application: Installations above or below gravity-fed hoppers/silos, mixers, and augers/screw conveyors. Custom sizes are available to accommodate any combination of gate stroke or width.

Purpose: A robust roller-supported slide gate featuring bonnet seals and side seals to provide a better seal of fine materials and dusts across the blade and to atmosphere.



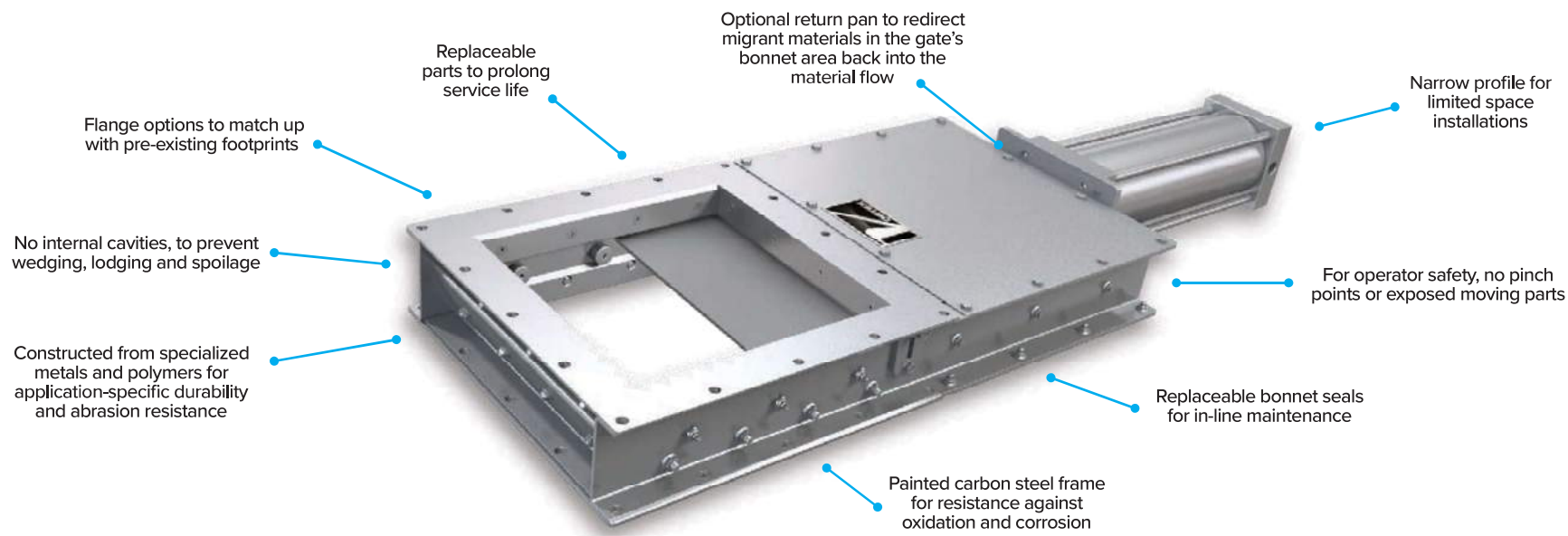
Square



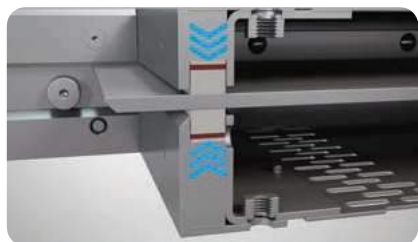
Rectangle



Dual Cylinder



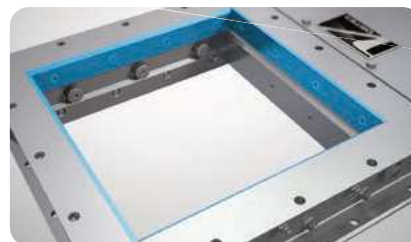
KEY FEATURES



Live loaded, wear compensating hard polymer bonnet and side seals



Displacement pocket prevents wedging and packing into an end seal. For fine materials, standard end seal is available.



Seals are protected by a series of deflectors and retainers to reduce wear and extend service life



Cam-adjustable rollers for in-line maintenance

TECHNICAL SPECIFICATIONS

Conveyance Type	Gravity flow only
Materials Handled	Heavy-duty and/or abrasive powders, pellets and granules. Modifications available for handling abrasive, fine materials.
Standard Sizes	6 – 36 in 150 – 915 mm Contact us for custom sizes
Opening	Available in square or rectangular sizes. Round transition options are available (see page 67)
Overall Height	4 – 6 in 100 – 150 mm
Weight	50 – 560 lb 25 – 255 kg
Flange Options	Standard flange Custom flanges are available
Material Temperatures	250°F 120°C for standard gate, with modifications that allow up to 400°F 205°C
Body/Frame Construction	Carbon steel
Material Contact Options	400 BHN abrasion-resistant steel, carbon steel, 304 stainless steel
Bonnet & Side Seal Options	PET, 25% glass-filled PTFE
Load Seal Construction	Silicone rubber
Roller Options	Hardened steel, 304 stainless steel, bronze bushings
End Seal Construction	25% glass-filled PTFE
Drive/Actuation	Double-acting air cylinder (see pages 61 & 62)
Position Confirmation	Proximity switches, magnetic reed switches and/or clear bonnet cover for visual indication (see page 63)
Material Flow Controls	AVP, IVP, VPO, VPC (see pages 65 & 66)
Other Options	Dual cylinder actuators (see page 61) Return pan & Special Service Inlet (see page 67)
Compliance	ATEX Zone 20 (internal), ATEX Zone 21 (external), FDA



THE POWER OF COMPARISON

Vortex Titan Slide Gate vs. Alternatives

The Vortex® Titan Slide Gate™ provides significant advantages over alternative roller-supported slide gates:

- Many alternative roller-supported slide gates rely on soft rubber seals which are directly exposed to the material flow stream. These seals rapidly erode or tear away in service. Others rely on bonnet packing, which can relax and allow material packing in the bonnet area. These deficiencies promote leakage of materials and dusts past the gate and to atmosphere, in addition to actuation issues and several other maintenance concerns. The Titan Slide Gate addresses these issues by incorporating "live loaded" hard polymer bonnet seals and side seals. Hard polymer provides greater wear resistance and longer service life than alternative sealing materials. The hard polymer seals are "live loaded" with compressed rubber backing to ensure even as the polymer experiences frictional wear from many actuations over time, the rubber load seals continuously force the polymer seals against the sliding blade. When equipped with a Special Service Inlet, the seals and rollers are also shielded from the material flow stream, to protect them from abrasion. This design maintains the gate's positive seal of materials/dust-tight seal with infrequent maintenance intervention.
- If materials and dusts begin to migrate and collect in the gate's bonnet area, it indicates that the gate's bonnet seals have partially worn and the compression load is lessened, causing the seals to no longer be forced against the sliding blade as they should be. With this maintenance indication, the Titan Slide Gate features access slots on each side of the gate that allow bonnet seal replacement while the gate remains in-line. Using simple tools, new bonnet seals are driven into one access port as the worn bonnet seals are simultaneously ejected on the other side of the gate, through the opposite access port.
- Many alternative slide gates allow metal-on-metal sliding, which creates galling. This causes a gate to seize and bind, and can create foreign metal fragment contamination. The Titan Slide Gate's hard polymer seals eliminate metal-on-metal contact to resolve each of these concerns.
- Many alternative roller-supported slide gates have open cavities where materials can wedge and prevent positive material shut-off. Wedging can also create seal wear and material degradation, and cause a gate to seize and bind. Wedged materials also create risk for cross-contamination and spoilage. To prevent wedging and ensure positive gate closure, the Titan Slide Gate's sliding blade is designed to mechanically clear materials away from the sealing surfaces with each actuation. With each closing stroke, the Titan Slide Gate mechanically self-cleans its side seals. With each opening stroke, the gate's bonnet seals prevent the blade from carrying materials back into the bonnet area. Both of these considerations ensure migrant materials are forced back out of the seals and are discharged into the process line, rather than packing in the seals and causing actuation issues.
- Many alternative slide gates pack materials into an end seal, preventing positive closure. This promotes material leakage through the valve, can cause blade damage, and can cause other actuation issues. In the Titan Slide Gate, the leading edge of the sliding blade is beveled. The gate is also designed with a displacement pocket, rather than a true end seal. Both of these features ensure that materials remaining at the leading edge of the blade can fall away into the process line below, rather than packing into an end seal.

For more information & technical resources, please visit:

www.vortexglobal.com