



Model No. SXX

ROLLER GATE

Ideal application: Installations above or below gravity-fed hoppers/silos, mixers, and augers/screw conveyors. It is also an excellent choice for application as an air shut-off gate/damper valve in vacuum dust collection systems. Custom sizes are available to accommodate any combination of gate stroke or width.



Square



Rectangle



Dual Cylinder

OPTIONS

For operator safety, no pinch points or exposed moving parts

Optional dual cylinder actuators for limited space installations and greater closing force. Can reduce the gate's overall footprint by 30%.

Constructed from specialized metals and polymers for application-specific durability

No internal cavities, to prevent wedging, lodging and spoilage

Can be modified to handle sticky materials

No metal-on-metal contact

Mechanically self-cleans its seals with each actuation

Flange options to match up with pre-existing footprints

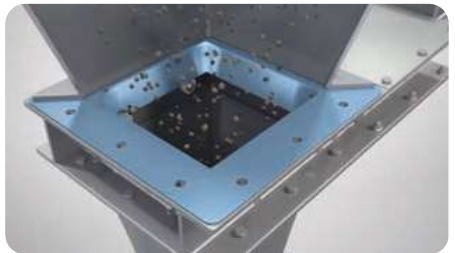
A series of deflectors and retainers protect the gate's seals from material flow

Positive seal of materials/dust-tight seal across the blade and to atmosphere

Narrow profile for limited space installations

Replaceable parts to prolong service life

KEY FEATURES



Optional Special Service Inlet protects rollers and minimizes material contact with the seals



Cam-adjustable rollers for in-line maintenance



Replaceable bonnet seals for in-line maintenance



Live loaded, wear compensating hard polymer bonnet & side seals

TECHNICAL SPECIFICATIONS

Conveyance Type	Gravity flow only. Contact us to discuss suitability for use in low pressure/vacuum applications.
Materials Handled	Non-abrasive to moderately abrasive powders, pellets, granules and dusts. Modifications available for handling sticky and/or corrosive materials, and for wash-down.
Standard Sizes	6 – 30 in 150 – 760 mm Contact us for custom sizes
Opening	Available in square or rectangular sizes. Round transition options are available (see page 67)
Overall Height	3 – 4 in 75 – 100 mm
Weight	30 – 200 lb 15 – 90 kg
Flange Options	Standard flange or CEMA flange Custom flanges are available
Material Temperatures	180°F 80°C for standard gate, with modifications that allow up to 400°F 205°C
Body/Frame Options	6061-T6 aluminum, 304 or 316L stainless steel
Material Contact Options	304 or 316L stainless steel
Bonnet & Side Seal Options	Nylon, PET, 25% glass-filled PTFE, felt
Load Seal Construction	Silicone rubber
Roller Options	PET, 25% glass-filled PTFE, hardened steel, stainless steel & bronze
End Seal Options	UHMW-PE, polyurethane, PET, 25% glass-filled PTFE
Drive/Actuation	Double-acting air cylinder, hand wheel/crank, chain wheel, electric actuator (see pages 61 & 62)
Position Confirmation	Magnetic reed, proximity or mechanical limit switches, and/or clear bonnet covers 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) Sealed body air purge (see page 64) Return Pan & Special Service Inlet (see page 67)
Compliance	ATEX Zone 20 (internal), ATEX Zone 21 (external), FDA



THE POWER OF COMPARISON

Vortex Roller Gate vs. Alternatives

The Vortex® Roller Gate™ provides 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 Roller 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.
- 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 Roller 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 Roller Gate's sliding blade is designed to mechanically clear materials away from the sealing surfaces with each actuation. With each closing stroke, the Roller 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.
- 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 Roller 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.
- When the Roller Gate is closed, if materials and dusts begin to leak past the sliding blade, it indicates that the gate's side seals have partially worn and the compression load is lessened, causing the blade to no longer be forced against the side seals as it should be. With this maintenance indication, the Roller Gate's cam-adjustable rollers can be utilized to restore the gate's dust-tight seal. Using simple tools, the cam rollers can be adjusted to lift the sliding blade against the side seals and restore the compression load. This maintenance process can be performed while the gate remains in-line, and can be repeated several times before the side seals must be replaced.

For more information & technical resources, please visit:

www.vortexglobal.com