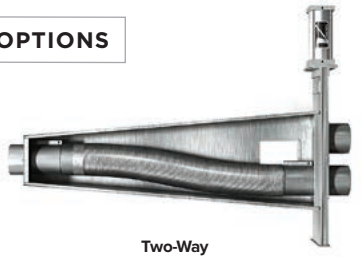
Model No. TXX

FLEX TUBE DIVERTER

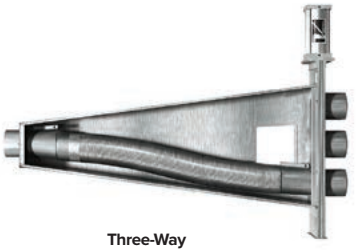
Ideal application: Diverting or converging in applications where material cross-contamination is a concern.

Purpose: The Vortex® Flex Tube Diverter™ is specifically designed to eliminate material cross-contamination. It also offers the convenience of continuous conveying.

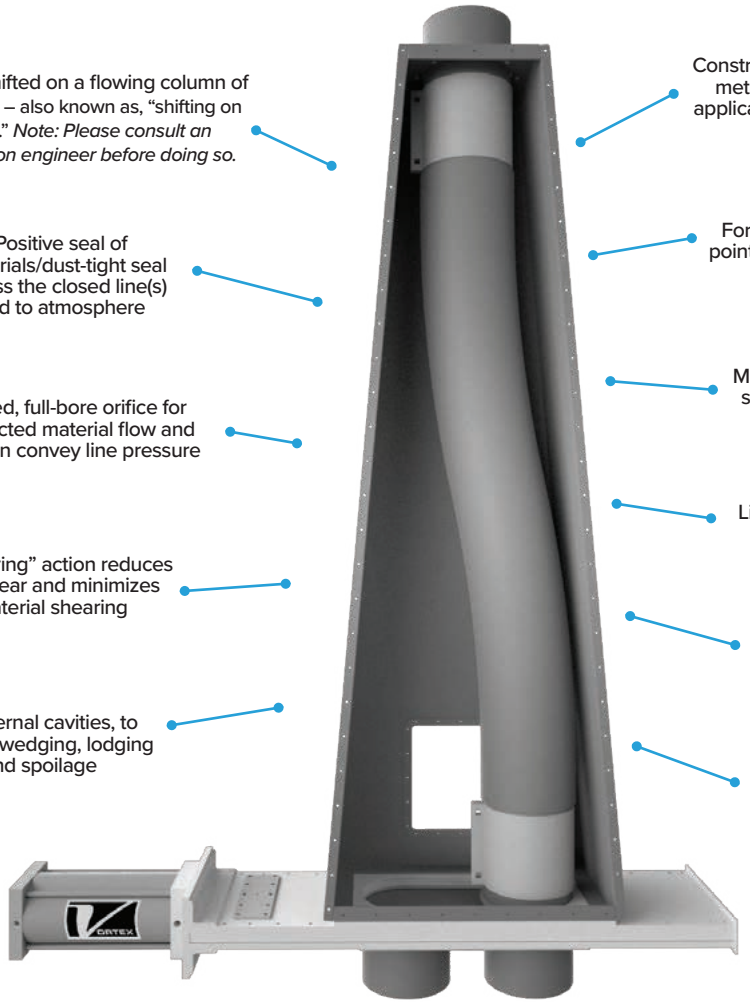
OPTIONS



Two-Way



Three-Way



Can be shifted on a flowing column of materials – also known as, "shifting on the fly." *Note: Please consult an application engineer before doing so.*

Positive seal of materials/dust-tight seal across the closed line(s) and to atmosphere

Machined, full-bore orifice for unobstructed material flow and to maintain convey line pressure

"Scissoring" action reduces seal wear and minimizes material shearing

No internal cavities, to prevent wedging, lodging and spoilage

Constructed from specialized metals and polymers for application-specific durability

For operator safety, no pinch points or exposed moving parts

Mechanically self-cleans its seals with each actuation

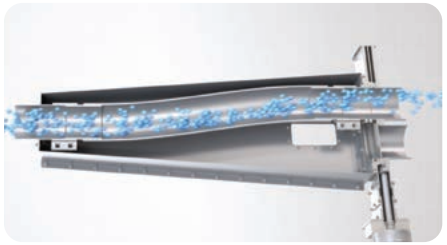
Lightweight construction for easy installation

No metal-on-metal contact

Horizontal or vertical orientation

KEY FEATURES

Can be shifted on a flowing column of materials – also known as, "shifting on the fly." *Note: Please consult an application engineer before doing so.*



No material cross-contamination into the opposite line(s)

Live loaded, wear compensating hard polymer pressure plate seals

TECHNICAL SPECIFICATIONS

Conveyance Type	Gravity flow and dilute phase pneumatic conveying applications. Can handle differential pressures up to 15 psig | 1 barg | 0.1 MPa, depending on gate size. Can be used in pressure or vacuum systems.
Materials Handled	Non-abrasive to moderately abrasive powders, pellets and granules. Modifications available for handling corrosive materials and/or for wash-down.
Standard Sizes	2 – 8 in | 50 – 205 mm ID & OD diameters are available. Schedule pipe sizes are also available.
Inlet & Outlets	Available in round sizes
Overall Height	35 – 100 in | 875 – 2,545 mm
Weight	100 – 500 lb | 45 – 225 kg
Connection Options	Compression couplings, ANSI #125/150 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 Construction	Aluminum
Housing Construction	304 stainless steel w/ clear polycarbonate viewport
Weldment Options	Aluminum, 304 or 316L stainless steel, carbon steel
Hose Options	Natural rubber w/ steel wire helix, 304 stainless steel
Material Contact Options	304 or 316L stainless steel
Pressure Plate Options	Nylon, PET
Load Seal Options	Natural rubber and/or silicone rubber
Drive/Actuation	Double-acting air cylinder, hand wheel, electric actuator (see pages 61 & 62)
Position Confirmation	Magnetic reed or proximity switches, and/or clear access panel for visual indication (see page 63)
Other Options	Sealed body air purge (see page 64)
Compliance	ATEX Zone 20 (internal), ATEX Zone 21 (external), FDA

THE POWER OF COMPARISON

Vortex Flex Tube Diverter vs. Alternatives

- Many alternative pneumatic diverters rely on soft rubber seals which are directly exposed to the material flow stream. These seals rapidly erode or tear away in service, which allows materials and dusts to leak into the opposite line(s) and to atmosphere. Seal damage can also cause actuation issues and several other maintenance concerns. The Vortex® Flex Tube Diverter™ addresses these issues by incorporating "live loaded" hard polymer pressure plate 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 blade. The seals are also shielded from the material flow stream, to protect them from abrasion. This design maintains the diverter's positive seal of materials/dust-tight seal with infrequent maintenance intervention.

- Many alternative pneumatic diverters 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 valve to seize and bind. Wedged materials also create risk for cross-contamination and spoilage. To prevent wedging, the Flex Tube Diverter's sliding blade is designed to mechanically clear materials away from the sealing surfaces with each actuation. This ensures 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 valves with sliding blades allow metal-on-metal sliding, which creates galling. This causes a valve to seize and bind, and can create foreign metal fragment contamination. The Flex Tube Diverter's hard polymer seals eliminate metal-on-metal contact to resolve each of these concerns.

- Alternative pneumatic diverters can pack and grind materials against the seals. This causes seal wear, material degradation and damaged product quality. To address these issues, the Flex Tube Diverter's "scissoring" action tapers off material flow as it shifts between lines. In keeping the pressure plate seals clear of materials, their service life is also extended.

- Many alternative pneumatic diverters have blade(s) and seals which are directly exposed to the material flow steam. This disrupts convey line pressures and obstructs material flow as they pass through the valve, which can cause line plugs and other maintenance concerns. To resolve these issues, the Flex Tube Diverter's sliding blade is machined with an unobstructed, full-bore orifice that maintains convey line pressure and allows unrestricted material movement.

- Many alternative flexible hose diverters feature an exposed flexible hose. When installed outdoors, this subjects the flexible hose to its surrounding environment. Regarding operator safety, an exposed flexible hose also creates hazardous pinch points. To address these issues, the Flex Tube Diverter is designed with a housing that protects the flexible hose and encloses all moving parts.

For more information & technical resources, please visit: **www.vortexglobal.com**