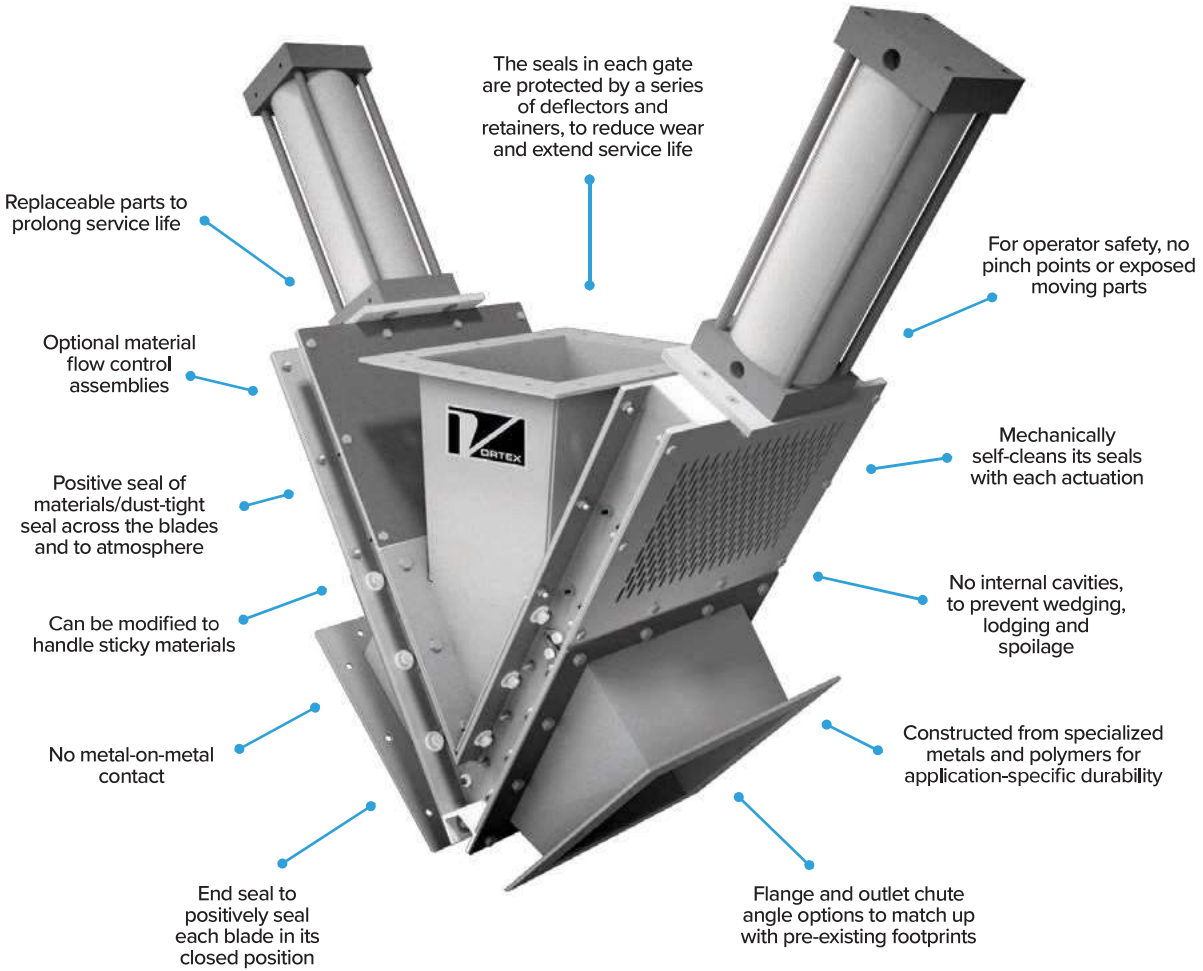
Model No. VXX

GRAVITY VEE DIVERTER

Ideal application: Replacement for conventional bucket diverters and flap diverters used to divert dry bulk solid materials from one source toward two destinations in gravity flow applications. The Vortex® Gravity Vee Diverter™ is ideal for use in high cycle applications.

Purpose: The Gravity Vee Diverter incorporates a "dual gate" design with independent controls. This allows material flow to be diverted through both outlet chutes simultaneously, each chute individually, or a complete material shut-off. For total control over flow rates, the Gravity Vee Diverter is also compatible with Vortex material flow control assemblies (see pages 65 & 66), in order to achieve proper batchweights, ensure accuracy and provide repeatability in the manufacturing process.

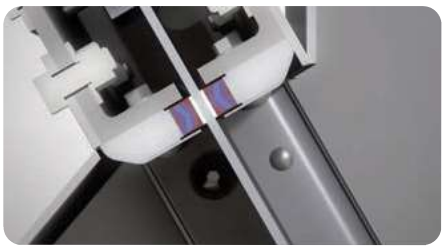
Round



KEY FEATURES

Allows material flow through both outlet chutes simultaneously, each chute individually, or a complete material shut-off

Replaceable bonnet seals for in-line maintenance



Live loaded, wear compensating hard polymer bonnet and 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 and granules. Modifications available for handling sticky and/or corrosive materials & for wash-down.
Standard Sizes	6 – 24 in | 150 – 610 mm Contact us for custom sizes
Inlet & Outlets	Available in square or rectangular sizes. Round transition options are available (see page 67)
Overall Height	25 – 60 in | 660 – 1,525 mm
Weight	130 – 400 lb | 60 – 180 kg
Outlet Chute Angle Options	45° or 60° from center Contact us for custom angles
Flange Options	Standard flange, ANSI #125/150, DIN PN10 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, carbon steel
Bonnet & Side Seal Options	PET, 25% glass-filled PTFE
Load Seal Construction	Silicone rubber
Roller Options	PET, hardened steel 25% glass-filled PTFE, stainless steel and bronze available by request
End Seal Options	UHMW-PE, polyurethane, PET, 25% glass-filled PTFE
Drive/Actuation	Double-acting air cylinder, hand 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)
Compliance	ATEX Zone 20 (internal), ATEX Zone 21 (external), FDA

THE POWER OF COMPARISON

Vortex Gravity Vee Diverter vs. Alternatives

- Flap diverters should not be shifted through a flowing column of material. Doing so can damage the blade and blade shaft. Instead, it is recommended to shut off material flow before shifting the flapper blade. To do so often requires an additional isolation gate above the diverter valve. The Vortex® Gravity Vee Diverter™ is a dual-purpose valve, used as both a diverter valve and as an isolation gate. Both gates can be open to divert through both outlet chutes simultaneously, one gate can be open to divert through one outlet chute independently, or both gates can be closed for a positive material shut-off. It is an ideal solution because it eliminates the need to purchase an additional gate above, and it improves processing speeds by shifting through a flowing column of material, rather than closing off the system to shift a bucket or flap diverter.

- To eliminate metal-on-metal contact, the Gravity Vee Diverter incorporates 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 blades. This design maintains the diverter's positive seal of materials/dust-tight seal with infrequent maintenance intervention.

- A problem inherent in alternative diverter designs is material packing along the bucket or flapper blade and its seals, resulting in actuation and sealing issues. To ensure positive material shut-off, the Gravity Vee Diverter's sliding blades are designed to mechanically clear materials away from the sealing surfaces with each actuation. With each closing stroke, the sliding blades mechanically self-clean their side seals. With each opening stroke, each gate's bonnet seals prevent the blade from carrying materials back into the bonnet area. Both of these design features 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 either 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, both gates feature access slots on each side of the gate that allow bonnet seal replacement while the diverter 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 gates are closed, if materials and dusts begin to leak past the sliding blades, 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 Gravity Vee Diverter's gates feature cam-adjustable rollers that 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 diverter 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**