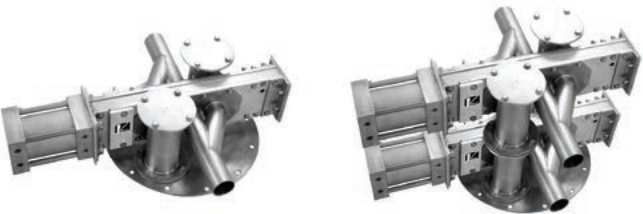


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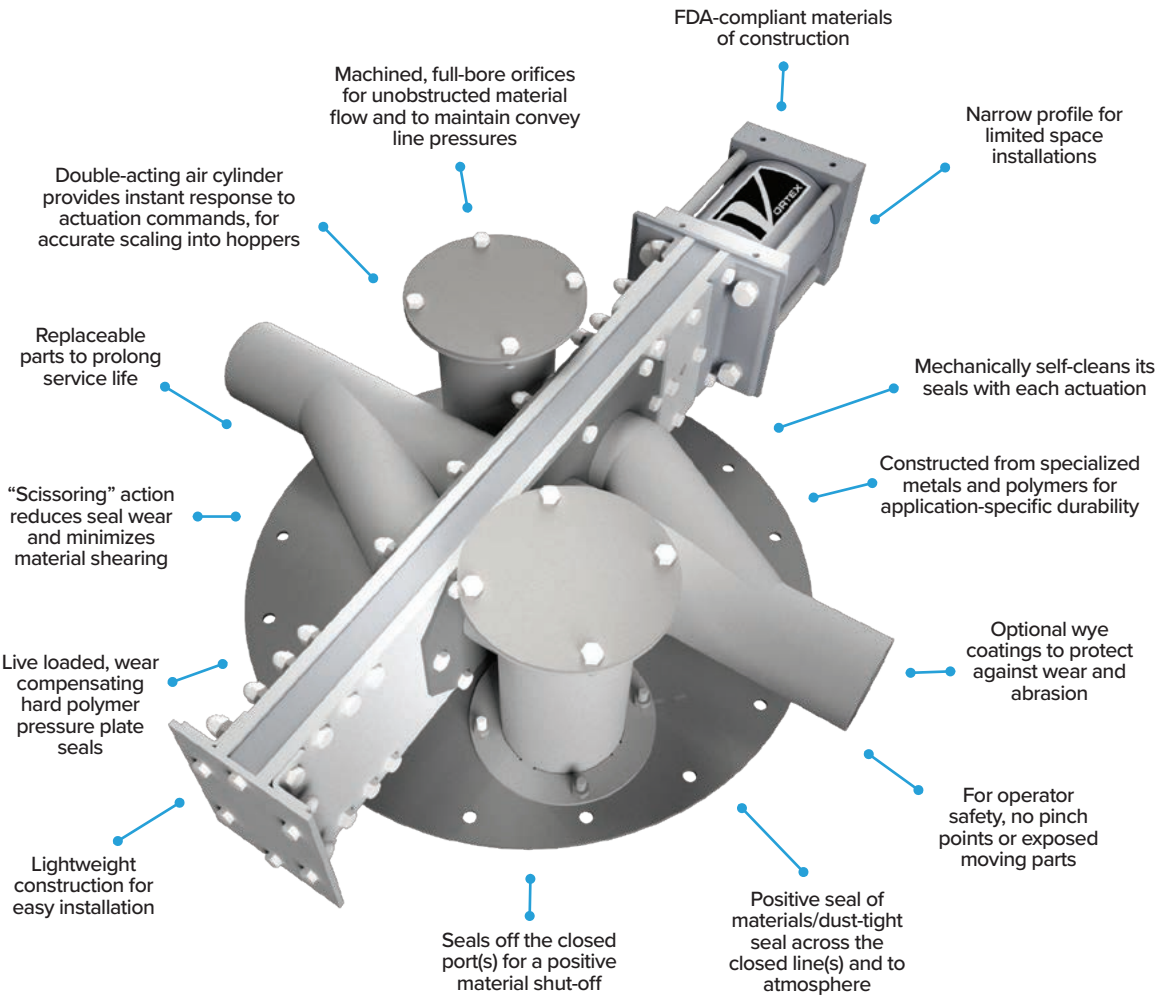
FILL PASS DIVERTER

Ideal application: Filling one or more tanks or scale hoppers when pneumatically conveying dry bulk solid materials via a closed loop system. Vortex® Fill Pass Diverters™ are stackable so that several convey lines can be compacted to route toward a common source.



Single

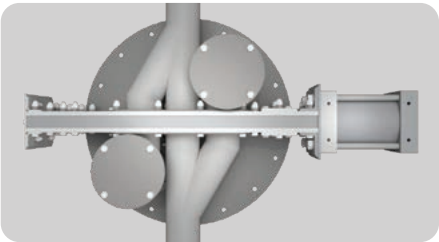
Stacked



KEY FEATURES



Shimming system for in-line maintenance



The diverter's spread stack offers better separation of air and materials



Material deflector to direct material flow and minimize material carryover

TECHNICAL SPECIFICATIONS

Conveyance Type	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 – 6 in 50 – 150 mm ID & OD diameters are available. Schedule pipe sizes are also available.
Inlet & Outlets	Available in round sizes
Overall Height	7 – 13 in 90 – 165 mm
Weight	60 – 115 lb 25 – 50 kg
“Fill” Angle Options	30° or 45° from center Contact us for custom angles
Connection Options	Compression couplings
Material Temperatures	180° F 80° C for standard gate, with modifications that allow up to 400° F 205° C
Body/Frame Construction	Aluminum
Weldment Options	304 or 316L stainless steel
Material Contact Options	304 or 316L stainless steel
Pressure Plate Options	Nylon, PET, 25% glass-filled PTFE
Load Seal Options	Natural rubber and/or silicone rubber
Drive/Actuation	Double-acting air cylinder (see pages 61 & 62)
Position Confirmation	Magnetic reed or proximity switches, and/or clear bonnet cover 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 Fill Pass 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® Fill Pass 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.
- The Fill Pass Diverter is specifically designed to provide a positive seal of materials/dust-tight seal, in order to prevent material leakage into hoppers below. Especially in applications where batchweights are critical, the Fill Pass Diverter ensures accurate scaling of materials. Also lending to fill accuracy, the Fill Pass Diverter can be quickly shifted on a flowing column of materials – also known as, "shifting on the fly." *Note: Please consult an application engineer before doing so.*
- Alternative pneumatic diverters can pack and grind materials against the seals. This causes seal wear, material degradation and damaged product quality. Materials may also wedge in the seals, causing the diverter to seize and bind. To address these issues, the Fill Pass 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 used in closed loop systems are poorly designed to exhaust air pressure from inside the hopper(s) below. This causes inefficient filling and inaccurate batchweights. To address this concern, the Fill Pass Diverter is designed with a "stack" inlet and outlet. As materials are pneumatically conveyed into the hopper through the inlet stack, the spent air is immediately exhausted back out of the hopper through the outlet stack. This allows exhausted air pressure to continue downstream, away from the hopper(s).
- The Fill Pass Diverter incorporates a spread stack concept. A cyclonic effect is created in the inlet stack for better separation of air and materials as they enter the hopper(s) below. Below the inlet stack, a material deflector intervenes to prevent material carryover. The spread stack concept ensures efficient material movement and reduced fill times.
- The Fill Pass Diverter's FDA-compliant materials of construction make it an ideal solution for the Food & Beverage industries – most notably, bakeries and confectionary manufacturers.
- The Fill Pass Diverter features flanged inlet and outlet stacks. This makes Fill Pass Diverters stackable so that several convey lines (of uniform or differing sizes) can be connected to route several material types toward a common source via a compact and efficient process. This capability is especially beneficial in applications where several materials must be blended, mixed or compounded in a common batch.
- The Fill Pass Diverter's double-acting air cylinder provides instant response to actuation commands. This allows for highly accurate and repeatable scaling, based on desired weights, fill levels or time intervals.

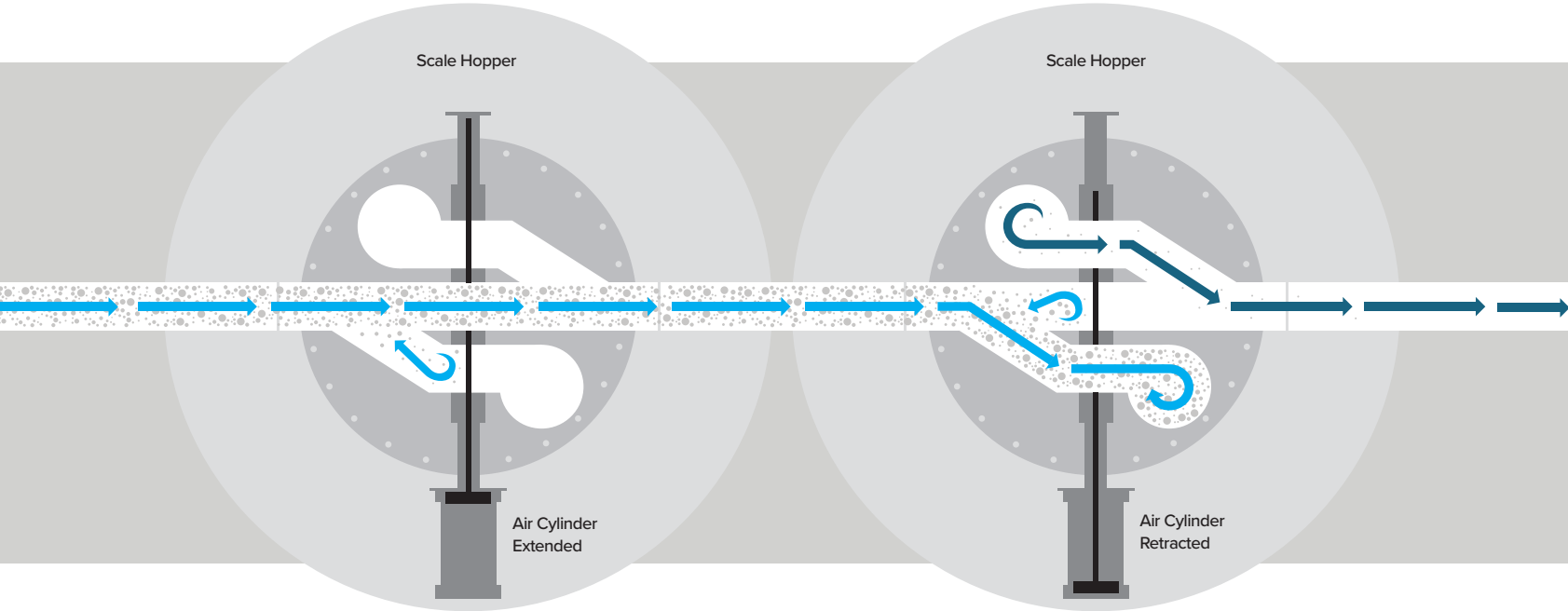
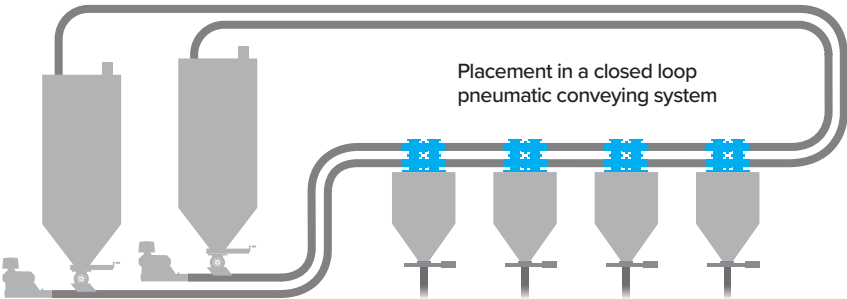
For more information & technical resources, please visit:

www.vortexglobal.com

(Continued)

FILL PASS DIVERTER

Ideal application: Filling one or more tanks or scale hoppers when pneumatically conveying dry bulk solid materials via a closed loop system.



PASS MODE

Air and materials are conveyed past the hopper when weight or volume is attained

FILL MODE

Materials are conveyed into the scale hopper as air pressure is exhausted downstream, back to the source

STACKABLE FILL PASS DIVERTERS

Connecting multiple convey lines to route various material types toward a common source

- 1 In Line 1, air and material X convey toward the hopper
- 2 Air and material X are diverted down into the hopper via the inlet stack
- 3 Material X is deflected away from the vent as it fills the hopper
- 4 Air is exhausted back out of the hopper via the outlet stack
- 5 Air continues downstream in Line 1, back to the source
- 6 In Line 2, air and material Z convey past the hopper and back to the source

