QUANTUM SERIES

VALVES FOR DRY BULK PROCESSING & CONVEYING
The Vortex Seal Tite Diverter is designed for use in gravity flow applications where material can be diverted from one source to either two or three destinations. The Seal Tite Diverter offers a removable access door for interior inspection, cleaning and maintenance.

**FEATURES**
- Handles powders, granules and pellets
- Leading edge of blade protected from material flow
- Wear compensating shaft seal prevents leakage
- Removable access door for internal inspection, cleaning and maintenance
- Positive seal of dust and fine powders
- Available in 2 and 3-way configurations
- Internal access without tools
- Material construction options available
- Standard sizes: 4” - 30” Contact us for custom sizes

**GRAVITY FLOW**

**DILUTE PHASE PNEUMATIC CONVEYING** (Pressure or Vacuum)

**DENSE PHASE PNEUMATIC CONVEYING**
The recessed blade protects the leading edge of seal from material flow and eliminates excess wear.

A removable blade allows for seal replacement without extracting the valve from service.

The shaft seal replaces the open area where migration of material to the off leg normally occurs.

For a complete list of specifications, modifications, dimensional drawings and measurements, visit [WWW.VORTEXVALVES.COM](http://WWW.VORTEXVALVES.COM).
The Vortex Quantum Series Wye Line Diverter is specifically engineered to handle dry bulk solids in vacuum or dilute phase pneumatic conveying systems with pressures up to 15 psig (1 barg) depending on size. A full flow orifice provides unrestricted conveying of material. The live-loaded seals are shielded from abrasion by a metal insert.

- **GRAVITY FLOW**
- **DILUTE PHASE PNEUMATIC CONVEYING** (Pressure or Vacuum)
- **DENSE PHASE PNEUMATIC CONVEYING**

**Features**

- Handles powders, granules and pellets
- Shifts “on the fly”
- Wear compensating hard polymer seals
- Unobstructed opening
- Positive seal through closed port
- Serviceable while in-line
- Diverts or converges material flow
- Available in 2, 3, or 4-way configurations
- Material construction options available
- Standard sizes: 2” - 12”
- Contact us for custom sizes
For a complete list of specifications, modifications, dimensional drawings and measurements, visit [WWW.VORTEXVALVES.COM](http://WWW.VORTEXVALVES.COM)
Unlike common in-line flap or plug-type diverters, Vortex's series of Wye Line Diverters offer a wider range of dilute phase and vacuum conveying options. The design features a stainless steel sliding blade with unrestricted flow ports, and is capable of shifting directions while the system's blower or vacuum pump continues to operate. If installed near a destination point, the diverter may also shear through material to facilitate continuous conveying.
DETAILS

APPLICATIONS

- Compact lightweight design
- Ability to shift “on the fly” without requiring blower shutdown
- Full port opening eliminate internal ledges that can trap material
- Shim removal for seal adjustment while valve is in-line

For a complete list of specifications, modifications, dimensional drawings and measurements, visit www.vortexvalves.com
The unique design of the Vortex Flex Tube Diverter eliminates material cross contamination through a positive seal across the closed port. Pockets where material can lodge and remain trapped have also been eliminated. A smooth unobstructed transition from inlet to outlet shields the wear compensating seals from abrasion.

**GRAVITY FLOW**

- **DILUTE PHASE PNEUMATIC CONVEYING** (Pressure or Vacuum)
- **DENSE PHASE PNEUMATIC CONVEYING**

**FEATURES**

- Handles powders, granules and pellets & is excellent for sugar-based solids
- Eliminates cross contamination
- Diverts or converges material flow
- Unobstructed opening
- Available in 2 or 3-way configurations
- No pinch points or exposed moving parts for safe operation
- Material construction options available
- Standard sizes: 2” - 8”
- Contact us for custom sizes
Housing encloses all moving parts to eliminate external pinch points and support the flex tube.

Shim removal for seal adjustment while valve is in-line.

This diagram shows the isolation of the off leg to eliminate material cross contamination.

8” (203mm) Flex Tube Diverter handling PVC compound.

8” (152mm) Flex Tube Diverter handling coffee beans.

For a complete list of specifications, modifications, dimensional drawings and measurements, visit [WWW.VORTEXVALVES.COM](http://WWW.VORTEXVALVES.COM)
The Vortex Gravity Vee Diverter is designed to divert dry bulk solids in gravity flow conveying systems. The design allows for material flow through both outlets simultaneously, one outlet at a time, or a complete shut-off of flow. The Gravity Vee Diverter is also capable of metering flow through either outlet port.

- **GRAVITY FLOW**
- **DILUTE PHASE PNEUMATIC CONVEYING**
- **DENSE PHASE PNEUMATIC CONVEYING**

**FEATURES**

- Handles powders, granules and pellets
- Design allows for total material flow control
- Wear compensating hard polymer seals
- Seals protected from blast abrasion
- Positive seal of dust and fine powders
- Serviceable while in-line
- Material construction options available
- Standard sizes: 5” - 24”
- Contact us for custom sizes
Design allows for total material flow control
Wear compensating hard polymer seals
Positive seal of dust and fine powders
Material construction options available
Standard sizes: 5” - 24”
Contact us for custom sizes

Multiple actuators allow for independent control of material flow through each outlet
The bonnet seals can be replaced while valve is in-line

8” (203mm) Gravity Vee Diverter below a rotary valve handling zinc oxide
24” (610mm) Dual Cylinder Gravity Vee Diverter for handling flour

For a complete list of specifications, modifications, dimensional drawings and measurements, visit www.vortexvalves.com
The Vortex Fill Pass Diverter is specifically engineered to handle dry bulk solids in vacuum or dilute phase pneumatic conveying systems with pressure up to 15 psig (1 barg) depending on size. It provides a versatile and reliable solution for filling one or more in-line weigh hoppers when material is conveyed pneumatically through a closed loop system. The design of the Fill Pass Diverter utilizes spread hopper inlet/outlet stacks for improved air and material separation reducing fill time and down line material carryover.

- **GRAVITY FLOW**
- **DILUTE PHASE PNEUMATIC CONVEYING** (Pressure or Vacuum)
- **DENSE PHASE PNEUMATIC CONVEYING**

**FEATURES**

- Separates air and material before filling the hopper
- Shifts “on the fly”
- Weigh from up to 5 sources and/or materials
- Positive seal through closed ports
- Unobstructed opening
- Serviceable while in-line
- Material construction options available
- Standard sizes: 2” - 6”
- Contact us for custom sizes
Shim removal for seal adjustment while valve is in-line
The valve's spread stack offers better material/air separation
The material deflector directs material flow to minimize material carryover

5" (127mm) Fill Pass Diverter above a scale hopper handling calcium carbonate
6" (152mm) Fill Pass Diverter above a scale hopper handling baking mixtures

For a complete list of specifications, modifications, dimensional drawings and measurements, visit [WWW.VORTEXVALVES.COM](http://WWW.VORTEXVALVES.COM)
STACKABLE FILL PASS DIVERSERS
and their placement in a closed loop pneumatic system

CONVEYED MATERIAL AND AIR PASSES HOPPER
when weight or volume is attained

BLUE represents airflow toward hopper
RED represents airflow away from hopper
STACKABLE **FILL PASS DIVERTERS**

are used to batch different materials using two separate systems into multiple hoppers

**PRODUCT BENEFITS**

- Positive seal in pass mode reduces material carryover
- Material and air separation also reduces material carryover
- Less carryover means faster hopper fill times
- Positive seal also results in more accurate batching
- Hopper is vented as it fills eliminating the need for a bin vent
- Stacked Fill Pass Diverters reduce required footprint

1. Air and material X move toward hopper in line 1
2. Air and material X are diverted down into hopper
3. Material X is deflected away from vent as it fills the hopper
4. Air is vented back in-line with minimal material carryover
5. Air pressure continues in-line with minimal material carryover
6. Air and material Z in line 2 move pass hopper when in pass mode

For a complete list of specifications, modifications, dimensional drawings and measurements, visit [WWW.VORTEXVALVES.COM](http://WWW.VORTEXVALVES.COM)
The Vortex Multi-Port Wye Line Diverter is specifically engineered to handle dry bulk solids in vacuum or dilute phase pneumatic conveying systems with pressures up to 15 psig (1 barg) depending on size. The multi-port eliminates the need for complicated hose manifold stations. This helps address potential errors when manually switching hoses and greatly reduces safety hazards.

**Features**

- Handles powders, granules and pellets
- Mechanically self cleans on opening stroke
- Shifts “on the fly”
- Wear compensating hard polymer seals
- Unobstructed opening
- Serviceable while in-line
- Material construction options available
2 x 8 Multi-Port Diverter handling PVC compounds

4” (102mm) Cross-Over Diverter handling titanium dioxide

2 x 8 Multi-Port Diverter handling plastic pellets

5 x 5 Multi-Port Diverter with all lines running simultaneously handling plastic resin

For a complete list of specifications, modifications, dimensional drawings and measurements, visit WWW.VORTEXVALVES.COM