



Valves

Handling the world's dry bulk solids®

VORTEX® METERING CONTROLS AND ACCESSORIES

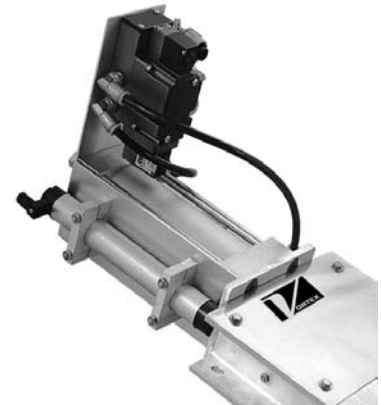
Vortex® offers a variety of controls that allow variable positioning of the gate blade on the opening or closing strokes. Metering controls are an ideal solution for Volume Metering Applications. These assemblies provide more Accurate Batchweights, and Reducing Fill Times. Assemblies can be ordered for the following standard Vortex® Valves: Orifice Gate™, Clear Action Gate™, Roller Gate, Aggregate Gate™, and Gravity Vee Diverter™. Note the Orifice Gate™ must be cycled to the full open position to utilize its self-cleaning feature and avoid packing of material in the seal area.

Vortex® Variable Position Applications

- Batching
- Metering into Screw Conveyors
- Dribble Flow
- Scaling Operations
- Loss in Weight Feeders
- Truck/Rail Loading

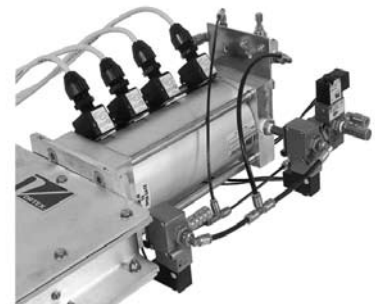
Infinite Variable Position

Positions	Infinite Open or Closed
Control Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve and Fail Safe Close Solenoid
Air Pressure	5.5 barg Constant Air Pressure to Operate Controls
Accuracy	+/- 2% of Total Stroke in Remote Mode or +/- 4% in Manual Mode
Position Confirmation	Input / Output Signal Via Control Panel. Input / Output Signal can be either 4-20mA or 0-10VDC
Compliance/Approvals	NEMA 4, IP65 or ATEX II 3GD with Control Panel Mounted in a Non-Hazardous Environment
System Requirements	PLC with 4-20 mA Input / Output Card or Local Control Only Via Supplied Control Panel



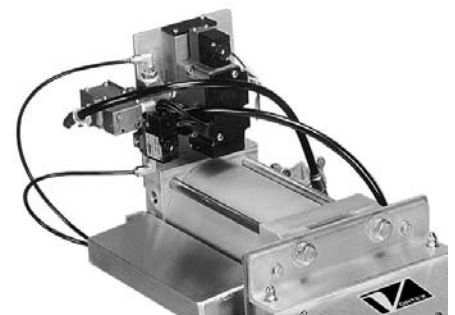
Adjustable Variable Position

Positions	Adjustable Open or Closed Positions for Each Magnetic Reed Switch
Control Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve and Fail Safe Close Solenoid
Air Pressure	5.5 barg Constant Air Pressure to Operate Controls
Accuracy	+/- 5mm of Set Point
Position Confirmation	Cylinder Mounted Magnetic Reed Switches
Compliance/Approvals	NEMA 4, IP65 or ATEX II 3GD
System Requirements	PLC with Relay Input / Output Card



Variable Position Open (VPO) / Closed (VPC)

Positions	Adjustable Open / Closed Positions for Each Pneumatic Trip Switch
Control Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve
Air Pressure	5.5 barg Constant Air Pressure to Operate Controls
Accuracy	+/- 2mm of Set Point
Position Confirmation	Cylinder Mounted Magnetic Reed Switches
Compliance/Approvals	NEMA 4, IP65 or Intrinsically Safe
System Requirements	Scale Controller or Relay Logic Circuit





Air Controls	
Valve Configuration	2 Position 4-Way
Compliance/Approvals	IP67, Intrinsically Safe, ATEX Approved - Consult Factory for Specific Rating
Air Pressure	2-10 barg, 5.5 barg Required to Operate Slide Gate
Configuration	Single Coil, Double Coil, Air Pilot
Temperature Range	-5°C to 50°C
Lubrication	Not Required, Medium Range Aniline Oil is Recommended if Used.
Operating Characteristics	*24VDC, 24VAC, 110VAC, 220VAC 50/60 Hz



Magnetic Reed Position Switches	
Function	SPST - Normally Open
Compliance/Approvals	NEMA 6, IP67, *CSA Class I Div 2 Gr. A, CE mark
Temperature Range	-20°C to 80°C
Operating Characteristics	*24-240 VAC 4 Amps max, 5-240 Volts AC/DC 1 Amp max, 5 mA min, 0-120 Volts AC/DC 0.5 amps max



Proximity Switch	
Function	*SPST - NO, SPDT - NO/NC
Compliance/Approvals	*NEMA 3,4X, 6P, IP68, UL Class I Div 1 Gr. A, UL, CSA, CE mark, ATEX Approved - Consult Factory for Specific Rating
Temperature Range	*-25°C to 70°C, -40°C to 105°C
Operating Characteristics	*24-240 VAC/DC 300 mA max 5 mA min, 5-240 Volts AC/DC 2 Amp max
Sensing Range	18mm Barrel 5 mm, 5/8-18 Barrel 2.5mm



Mechanical Switch	
Function	*SPDT - NO/NC, DPDT - 2NO/2NC
Compliance/Approvals	*NEMA 4, 6P, IP67, UL listed Class I Div 1 Gr. B, UL, CSA, CE mark, ATEX Approved - Consult Factory for Specific Rating
Temperature Range	*-30°C to 85°C
Operating Characteristics	*0-600 VAC/DC 10A max
Connection Type	1/2 NPT Conduit



Pre Wire Terminal Box	
Application	Can be Applied to All Slide Gates and Diverter Valves. Pre-wired to All Air Controls and Switches. Can be Used with Metering Control Assemblies.
Compliance/Approvals	*Nema 4, Nema 7/9, ATEX Approved - Consult Factory for Specific Rating
Temperature Range	*-20°C to 70°C
Terminal Box	**Painted Carbon Steel, Fiberglass or similar
Connection Type	1/2 Conduit, Strain Relief Connectors



*Consult factory for specific information and configuration
 **Custom configurations available