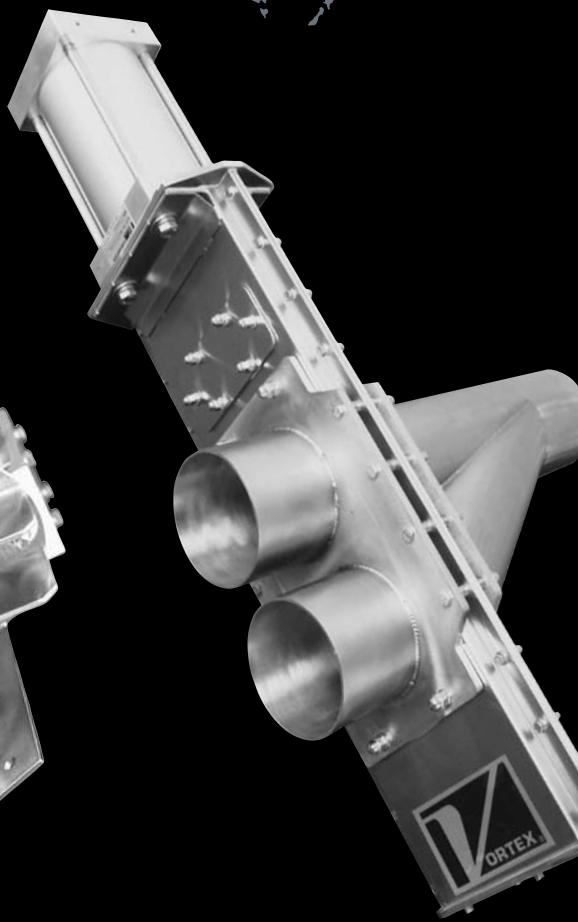
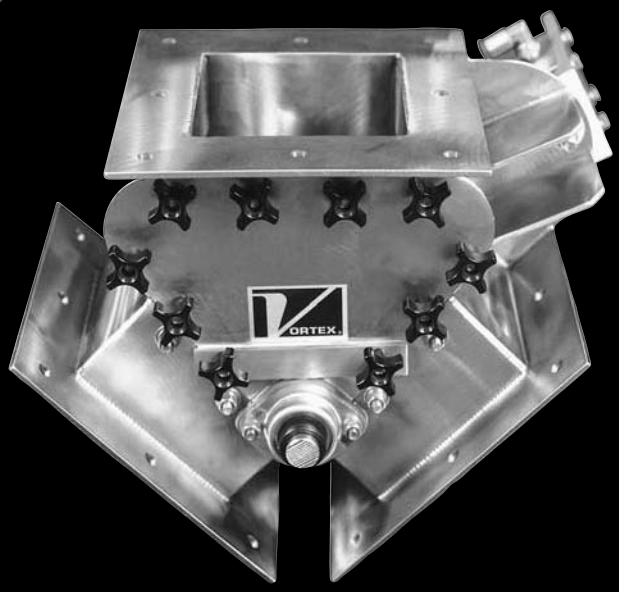
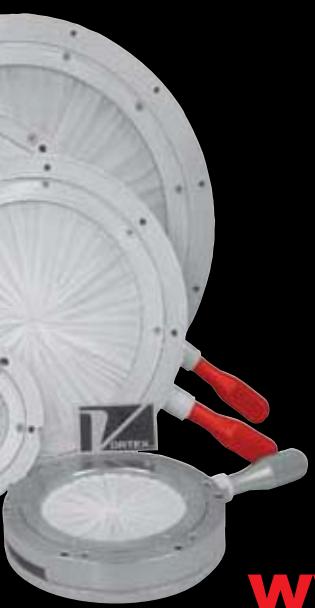
VORTEX® Valves

Product Catalogue

Handling the world's dry bulk solids®







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Powder & Dust

Granules

Pellets

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Precision Manufacturing

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Global Partnerships

VORTEX® QUANTUM™ ORIFICE GATE™

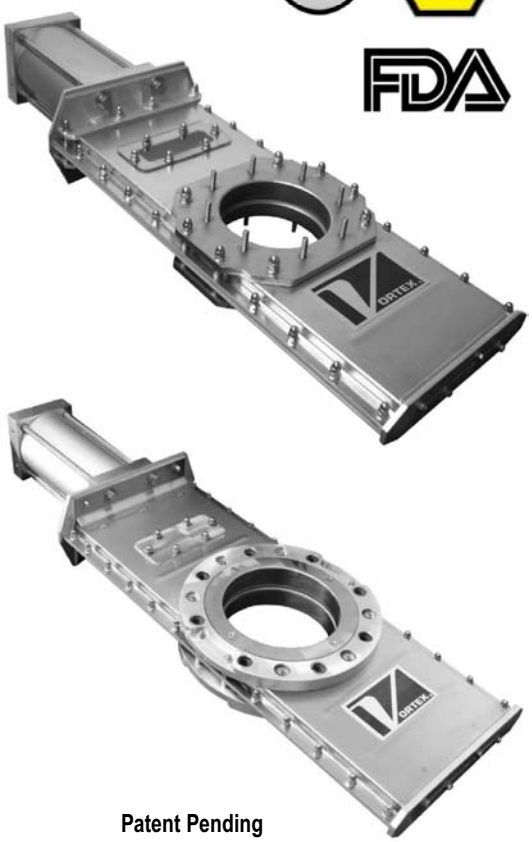
The patent pending Quantum™ Series Orifice Gate™ is specifically designed to handle dry bulk solids in gravity flow, dilute phase, or vacuum conveying systems. A full flow orifice provides unrestricted conveying of material with no disk or ledges to impede flow or cause material bridging. The gate seat and live-loaded seals are shielded from blast abrasion by a metal insert, which provides a smooth bore through the valve improving performance and decreasing any pressure drop across the orifice. By design, the valve "self cleans" material from the seat on each stroke of the valve blade, improving overall seat life. The Quantum™ Series Orifice Gate™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Quantum™ Series Orifice Gate™ Features

- Self-Cleaning Action, No Material Build-Up
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Accurate Metering of Material with Optional Metering Controls
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	50mm to 350mm Diameters
Media	Powder, Pellets, Granulars
Connection Options	SVC Standard Stud Pattern, ANSI, DIN, JIS, and Custom Flanges available
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	Up to 15 psig, -0.1 MPa +0.1 MPa, 1 barg, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Rubber, and/or Silicon
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve, Electric Actuator, Hand Crank, Chain Wheel, Hydraulic
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Patent Pending

Application Specific Modifications

G	Valve constructed of painted mild steel body and mounting flange with 304 or 316L stainless steel material contact.
H	Valve constructed of aluminium body and mounting flange with aluminium and stainless steel material contact.
F	Valve constructed of aluminium body with 304 or 316L stainless steel mounting flange and material contact.
J	Valve constructed of 304 stainless steel body and mounting flange with 304 or 316L stainless steel material contact.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing up to 204°C continuous to 232°C intermittent service.
WS1	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.

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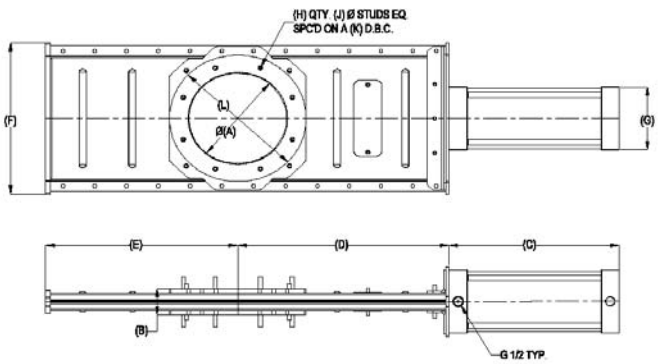
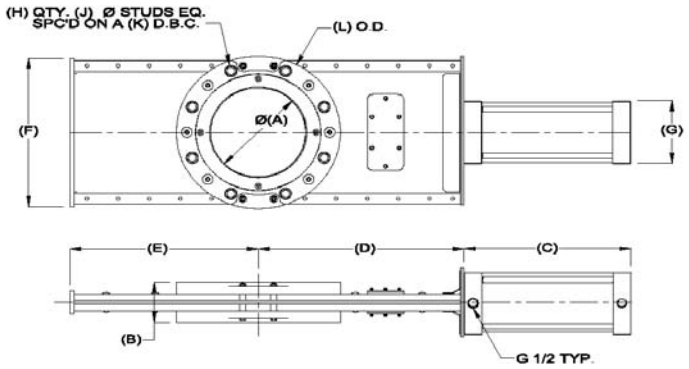
VORTEX® QUANTUM™ ORIFICE GATE™ DIMENSIONAL INFORMATION

Stud Bolt Model



DIN Model



Stud Bolt Model	A	B	C	D	E	F	G	H	J	K	L	WT (kg)
GRA50-F	44	54	171	191	152	181	86	4	M8 x 1.25 x 29	99	121	8
GRA75-F	70	54	216	227	200	206	105	4	M8 x 1.25 x 29	127	146	12
GRA100-F	95	60	241	276	235	232	130	6	M8 x 1.25 x 25	140	171	15
GRA125-F	124	60	267	319	276	257	130	8	M8 x 1.25 x 25	165	191	17
GRA150-F	149	60	298	357	314	283	140	8	M8 x 1.25 x 25	191	216	20
GRA200-F	200	60	349	434	391	333	140	8	M8 x 1.25 x 25	241	267	25
GRA250-F	251	67	425	511	467	387	165	8	M8 x 1.25 x 29	292	318	41
GRA300-F	302	67	476	588	543	441	165	12	M8 x 1.25 x 29	351	381	49
GRA350-F	352	67	527	675	619	492	165	12	M10 x 1.5 x 29	406	432	64

DIN Model	A	B	C	D	E	F	G	H	J	K	L	WT (kg)
GRA50-F-DIN	44	86	171	191	152	181	86	4	M16-2.0	125	165	15
GRA80-F-DIN	70	86	216	227	200	206	105	8	M16-2.0	160	200	15
GRA100-F-DIN	95	76	241	276	235	232	130	8	M16-2.0	180	220	17
GRA125-F-DIN	124	89	267	319	276	257	130	8	M16-2.0	210	250	19
GRA150-F-DIN	149	89	298	357	314	283	140	8	M20-2.5	240	285	23
GRA200-F-DIN	200	89	349	434	391	333	140	8	M20-2.5	295	340	28
GRA250-F-DIN	251	111	425	511	467	387	165	12	M20-2.5	350	395	43
GRA300-F-DIN	302	111	476	588	543	441	165	12	M20-2.5	400	445	52
GRA350-F-DIN	352	117	527	675	619	492	165	16	M20-2.5	460	505	66

All dimensions are in mm, Information subject to change without notice.

VORTEX® HDP® SLIDE GATE™

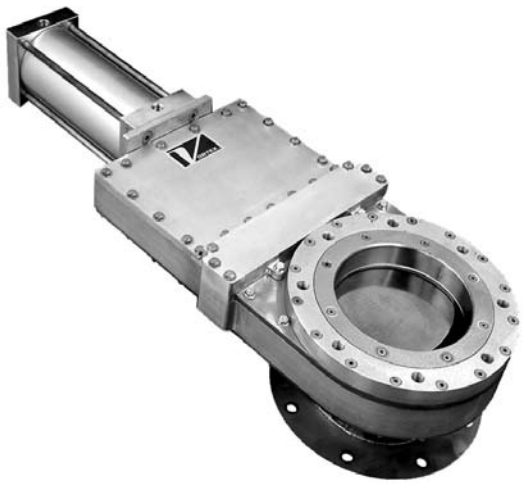
The unique "rising" blade design of the patented Vortex® HDP® Slide Gate sets itself apart from traditional industry slide gates by providing positive material shut-off in applications. The HDP® offers the durability and efficiency required to meet today's material processing demands. Traditional slide gates or butterfly valves are designed to handle gases and liquids, not dry materials. These valves rely on soft seals susceptible to blast abrasion and material packing, eventually allowing leakage of air and material through the valve or to the atmosphere. This causes the need for frequent valve maintenance, production inefficiencies, and unsanitary plant environments. The Vortex® HDP® Slide Gate is designed to prevent these problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® HDP® Slide Gate Features

- Designed to Handle Abrasive or Sticky Materials
- Positive Seal of Conveying Air and Fine Powders
- Seals Protected from Abrasion
- Long Service Life
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	100mm to 400mm Diameters
Media	Powder, Pellets, Granulars
Connection	ANSI, DIN, JIS, Custom Flanges
MediaTemperature	Up to 121°C continuous to 149°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	Up to +0.5 MPa, 5 barg, 75 psig, depending on size
Metal Construction Options	304, 316L Stainless Steel, Aluminium, and or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Rubber, and/or Silicon
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve
Position Confirmation	Magnetic Reed Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Patent No. 7163191
Patent No. 7163191

Application Specific Modifications

SC	Material contact is 304 Stainless Steel. Replace HR Carbon Steel Insert Flange and Ring, Upper Main Flange, Forward Liner, Forward Bonnet Seal Retainer, and Outlet Return Pan with 304 Stainless Steel.
S	Material contact is 316L stainless steel. Replace HR Carbon Steel Insert Flange and Ring, Upper Main Flange, Forward Liner, Forward Bonnet Seal Retainer, and Outlet Return Pan with 316LStainlessSteel.
MG	Air cylinder has a magnetic ring, which activates a magnetic reed position indication switch.
PET	PET replaces Nylon for the Blade Support Guides.
DIN	Replace Inlet ANSI pattern Flange with flange pattern to match DIN mounting pattern.
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
SSI	Add welded integral Special Service Inlet to standard Insert Flange and Insert Ring Assembly.

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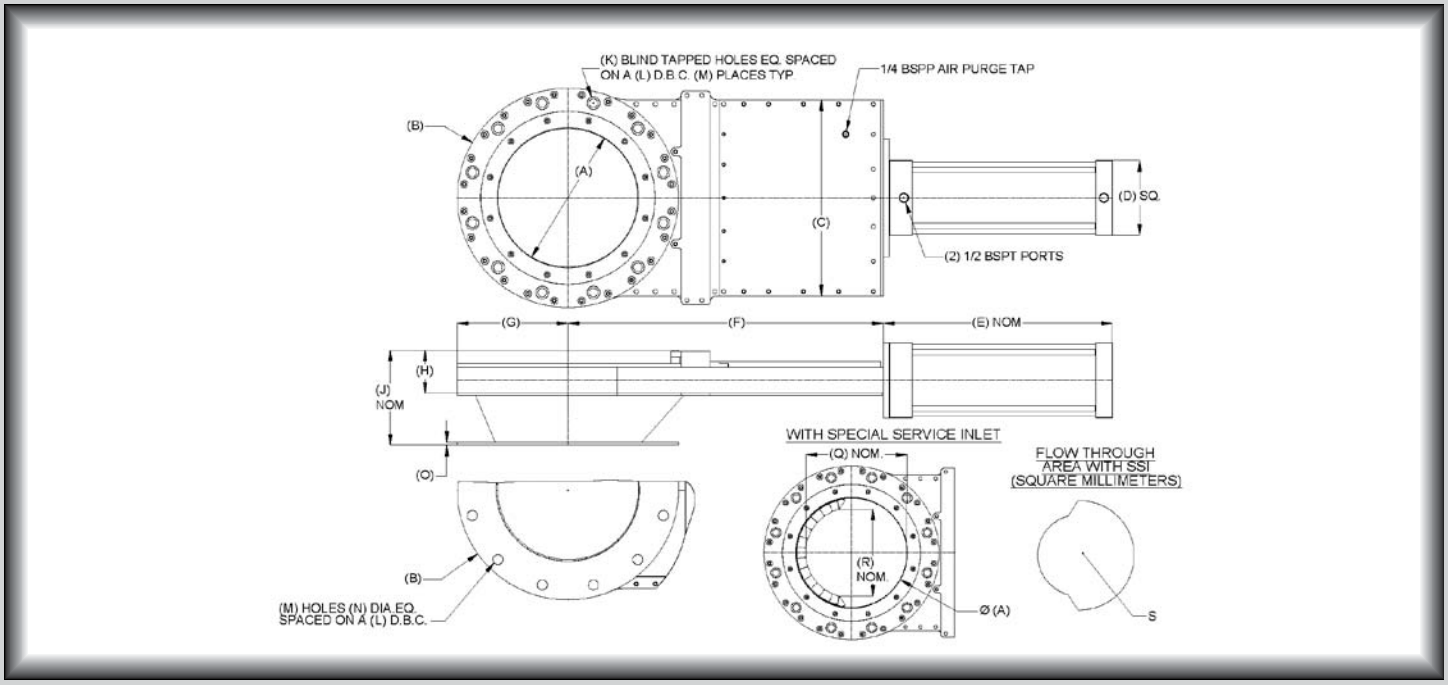
VORTEX® HDP® SLIDE GATE™ DIMENSIONAL INFORMATION



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	O	Q	R	S	WT (kg)
HDP100	100	229	229	130	266	349	114	95	197	M16-2.0 x 18	180	8	18	6	95	51	195	34
HDP150	150	279	279	140	324	422	140	95	197	M20-2.5 x 25	240	8	22	6	127	98	522	46
HDP200	200	343	330	140	362	508	171	95	197	M20-2.5 x 25	295	8	22	6	178	146	1010	60
HDP250	250	406	381	165	449	603	203	95	197	M20-2.5 x 25	350	12	22	6	229	197	1659	80
HDP300	300	483	432	165	500	689	241	95	210	M20-2.5 x 25	400	12	22	6	295	244	2467	102
HDP350	350	533	521	216	557	803	267	117	232	M20-2.5 x 25	460	16	22	13	333	295	3410	155
HDP400	400	597	572	216	621	918	298	117	232	M24-3.0 x 32	515	16	26	13	384	343	4536	193

All dimensions are in mm, Information subject to change without notice.

VORTEX® CLEAR ACTION GATE™

The patented Vortex® Clear Action Gate™ is a problem solver specifically designed for demanding dry bulk material applications. Patented design concepts, specialized machining, and materials of construction produce a high quality yet economical valve for use in pneumatic conveying systems up to 15 PSIG (1 Barg). Traditional knife gates or butterfly valves are designed to handle gases and liquids, not dry materials. These valves rely on soft rubber seals, which erode or tear away during use, allowing leakage of air and material through the valve or into the plant's atmosphere. This causes the frequent need for valve maintenance, production inefficiencies, and unsanitary plant environments. The Clear Action Gate™ is designed to eliminate these problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Clear Action Gate™ Features

- Self-Cleaning Action on Closure, No Material Build-Up
- Positive Seal Across the Valve to Atmosphere
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Blast Abrasion
- Accurate Metering of Materials with Optional Metering Controls
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	150mm to 400mm Diameters
Media	Powder, Pellets, Granulars
Connection Options	SVC Standard Stud Pattern, ANSI, DIN, JIS, Custom Flanges Available
Media Temperature	Up to 121°F continuous to 149°F intermittent service
Media Pressure	Up to 15 psig, -0.1 MPa +0.1 MPa, 1 barg, depending on size
Metal Construction Options	304 or 316L Stainless Steel, or Aluminium
Seal/Seat Material Options	Nylon, PET, Natural Rubber, and/or Silicon
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve, Electric Actuator, Hand Crank
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Patent No. 4938250

Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
GP	Internal welds and surfaces are ground and polished.
P	The gate inlet and outlet have 7 gauge flanges with bolt pattern to match a #125/150 ANSI bolt pattern
WS1	Gate Slide Blade is electro-polished. Polyethylene Terephthalate (PET) dust seals are used to replace Nylon.

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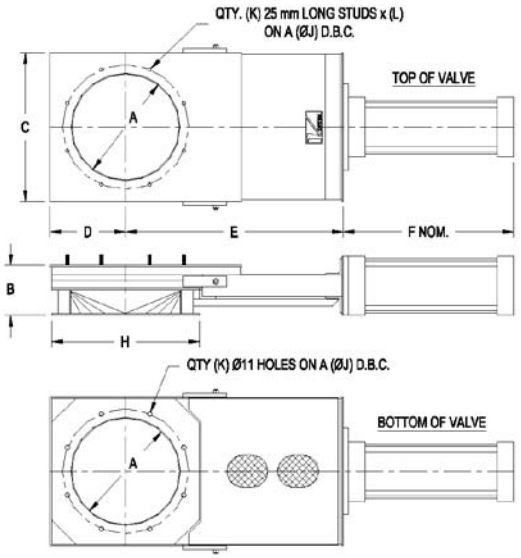
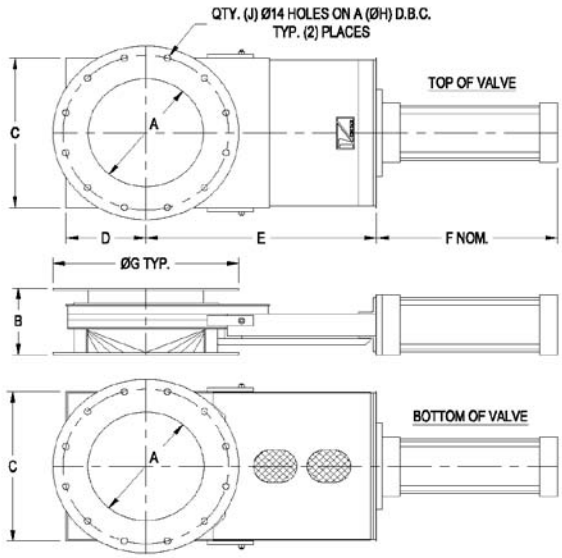
VORTEX® CLEAR ACTION GATE™ DIMENSIONAL INFORMATION

Stud Bolt Model



ANSI Model



Stud Bolt Model	A	B	C	D	E	F	G	H	J	K	L	WT (kg)
JA06	149	95	248	124	352	295	152	241	191	8	5/16 UNC	25
JA08	200	95	298	149	429	346	203	292	241	8	5/16 UNC	30
JA10	251	117	349	175	505	419	254	343	292	8	5/16 UNC	34
JA12	302	137	400	200	581	476	305	394	351	12	5/16 UNC	41
JA14	352	149	451	225	657	521	356	445	402	12	3/8 UNC	59
JA16	403	162	495	248	737	578	406	495	457	16	3/8 UNC	75

ANSI Model	A	B	C	D	E	F	G	H	J	WT (kg)
JA06-P	149	133	248	124	352	292	279	241	8	27
JA08-P	200	133	298	149	429	343	343	298	8	32
JA10-P	251	156	349	175	505	419	406	362	12	36
JA12-P	302	162	400	200	581	476	483	432	12	45
JA14-P	352	184	451	225	657	521	533	476	12	64
JA16-P	403	200	495	248	737	578	597	540	16	82

All dimensions are in mm, Information subject to change without notice.

VORTEX® QUICK CLEAN ORIFICE GATE™

The Vortex® Quick Clean Orifice Gate™ is a Clean Out of Place gate valve designed for frequent cleaning. The valve features a full-port opening and self-cleaning design. It can be disassembled and assembled in minutes without any tools. The valve can be modified to a USDA Dairy Standard Accepted rating and is an excellent choice for applications requiring daily sanitation of equipment. The Quick Clean Orifice Gate™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Quick Clean Orifice Gate™ Features

- FDA Approved Materials, USDA Dairy Standard Accepted Available
- Positive Seal of Dust and Fine Powders
- Valve Internals Accessed without Tools
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	50mm to 200mm Diameters
Media	Powder, Pellets, Granulars
Connection	Ferule Connection, and/or Tube Stub
MediaTemperature	Up to 82°C continuous service, Modifications allow up to 121°C continuous service
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 or 316L Stainless Steel Valve Body
Seal/Seat Material Options	PET, Silicon Sponge, and/or USDA Dairy rated Silicon
Drive/Actuation Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve
Position Confirmation	Magnetic Reed Switch
Compliance/Approvals	CE, ATEX, FDA, USDA
Industry Use	Pharmaceuticals, Pigments, Chemicals, Dairy

Patent No. 5938175

Application Specific Modifications

S	Material contact is 316L stainless steel.
NP	Nickel plated aluminium air cylinder.
SAN	USDA Dairy Standard Accepted.

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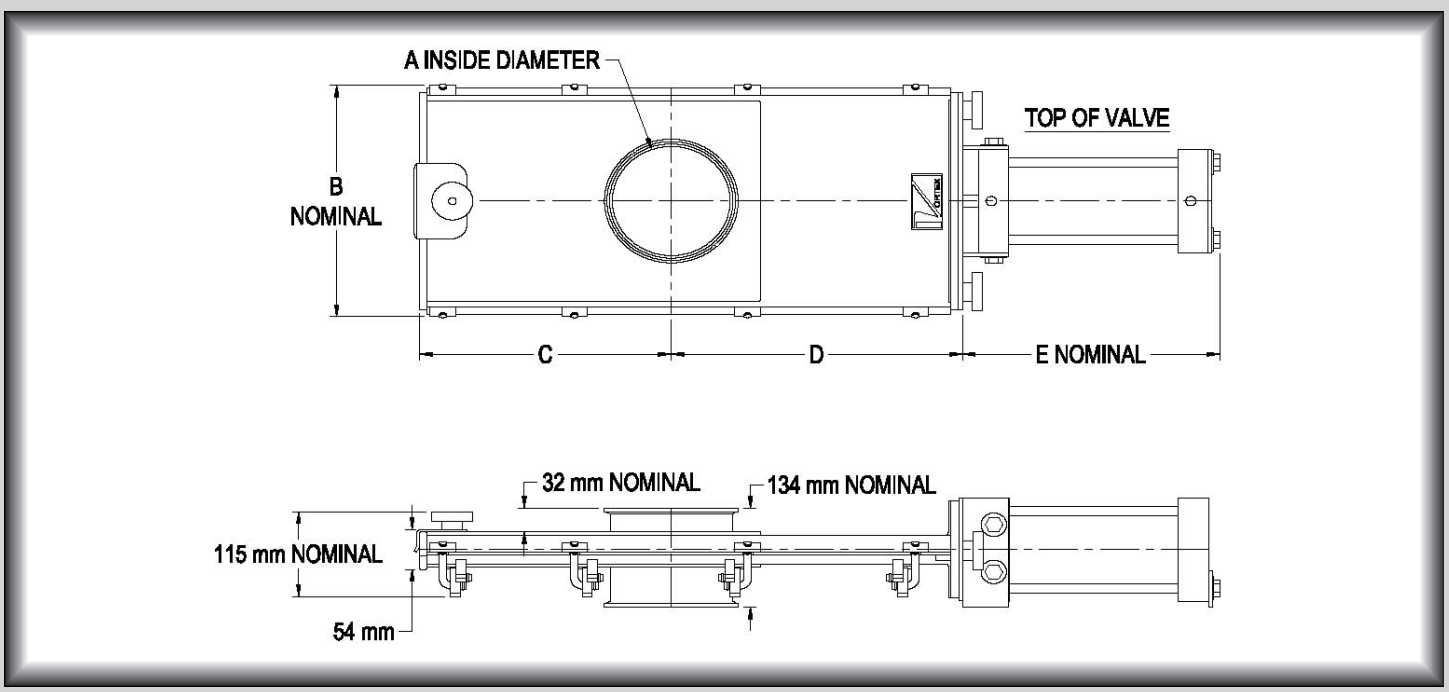
VORTEX® QUICK CLEAN ORIFICE GATE™ DIMENSIONAL INFORMATION



Model	Tube Size	A	B	C	D	E	WT (kg)
Q02	51	48	203	162	213	213	14
Q03	76	73	232	200	251	238	18
Q04	102	98	260	238	289	264	23
Q05	127	124	286	276	327	295	27
Q06	152	149	311	314	365	321	36
Q08	203	200	359	391	441	371	50

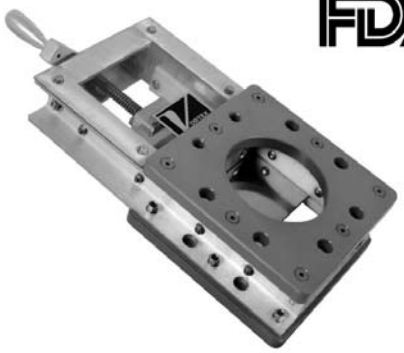
All dimensions are in mm, Information subject to change without notice.

VORTEX® MAINTENANCE GATE™

The Vortex® Maintenance Gate offers quality features at an economical price. This gate is the best choice when material needs to be positively isolated in a hopper or silo, while maintenance is being performed on equipment below. In the open position, the Vortex® Maintenance Gate positively seals conveying air to atmosphere. Available in a wide variety of configurations, including round inlet/outlet transitions, the Maintenance Gate is your best insurance policy against equipment failure.

Vortex® Maintenance Gate Features

- Self-Cleaning Action on Closure, No Material Build-Up
- Positive Seal Across the Valve to Atmosphere
- Live-Loaded, Wear Compensating Seals
- Narrow Profile
- Easy Installation and Maintenance



Valve Specifications

Size/Bore Options	150mm to 450mm Round or Square
Media	Powder, Pellets, Granulars
Connection Options	SVC Flange, ANSI, DIN, JIS, or Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	Up to 15 psig, -0.1 MPa +0.1 MPa, 1 barg depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, and/or Silicon Rubber
Drive/Actuation Options	Hand Crank
Position Confirmation	Visual Indication, Proximity Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Application Specific Modifications

S	Material contact is 316L stainless steel (MSC only).
SC	Slide Blade and gate liner are made of 304 stainless steel (MRC models only).
S-SC	Slide Blade and gate liner are made of 316L stainless steel (MRC models only).
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
WS	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) seals are used to replace nylon.

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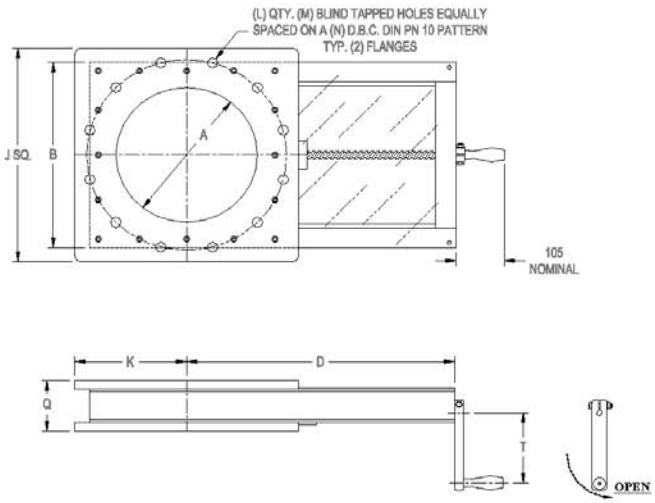
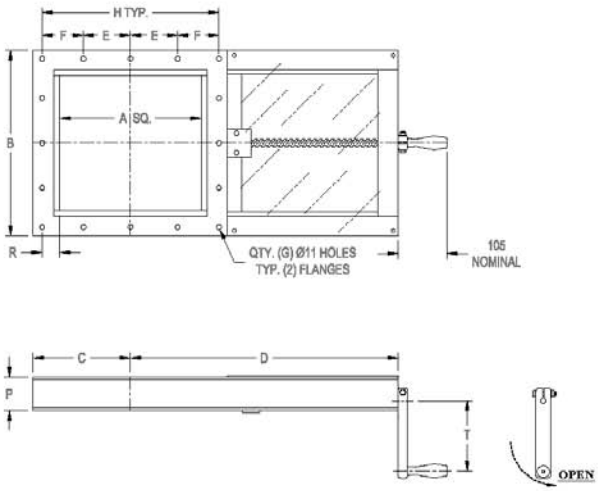
VORTEX® MAINTENANCE GATE™ DIMENSIONAL INFORMATION

MRC Model



MSC Model



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	T	WT (kg) MSC	WT (kg) MRC
150	152	267	133	349	114	--	8	229	279	140	8	M20 x 2.5	240	76	114	38	108	7	34
200	203	318	159	425	140	--	8	279	343	171	8	M20 x 2.5	295	76	114	38	108	10	37
250	254	368	184	502	83	--	16	330	406	203	12	M20 x 2.5	350	76	114	38	159	14	45
300	305	419	210	578	102	89	16	381	483	241	12	M20 x 2.5	400	76	114	38	159	16	59
350	356	470	235	654	108	--	16	432	533	267	16	M20 x 2.5	460	76	114	38	159	19	75
400	406	546	273	730	121	--	16	483	597	298	16	M24 x 3.0	515	102	140	38	210	22	91
450	457	597	298	806	133	--	16	533	635	318	20	M24 x 3.0	565	102	140	38	260	27	97

All dimensions are in mm, Information subject to change without notice.

VORTEX® ROLLER GATE™

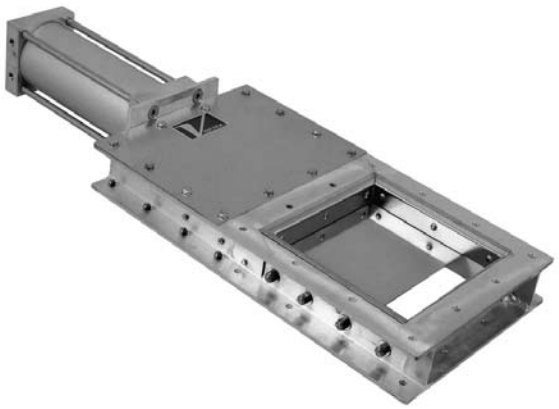
The Vortex® Roller Gate™ offers quality features at an economical price. This gate is your best choice for handling dry material in gravity flow applications where positive material shut-off and dust tight sealing are required in compact locations. The Vortex® Roller Gate™ is available in a wide variety of configurations to meet customer requirements, including rectangular sizes and customer specific hole patterns.

Vortex® Roller Gate™ Features

- Narrow Profile
- Positive Seal of Dust and Fine Powders
- Seals and Cam Adjustable Nylon Rollers Protected from Abrasion
- Accurate Metering of Material with Optional Metering Controls
- Easy Installation, Maintenance, and in-place Bonnet Seal Replacement

Valve Specifications

Size/Bore Options	150mm to 750mm and larger in Square or Rectangular sizes
Media	Powder, Pellets, Granulars
Connection Options	SVC Flange, CEMA Flange, and/or Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	Aluminium, 304 or 316L Stainless Steel, and Carbon Steel. Material contact is 304 or 316L Stainless Steel.
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve, Electric Actuator, Hydraulic Actuator, Hand Crank, or Chain Wheel
Position Confirmation	Magnetic Reed, Proximity, or Mechanical Limit Switches
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HS	Hardened steel cam rollers replace standard nylon cam rollers.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing up to 204°C continuous to 232°C intermittent service.
WS1	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) dust seals are used to replace nylon.
SB	Bonnet is manufactured with solid covers and has a gasket. (Allows the valve to accept air purge.)
RS	Access ports are provided for removing/replacing worn bonnet seals.

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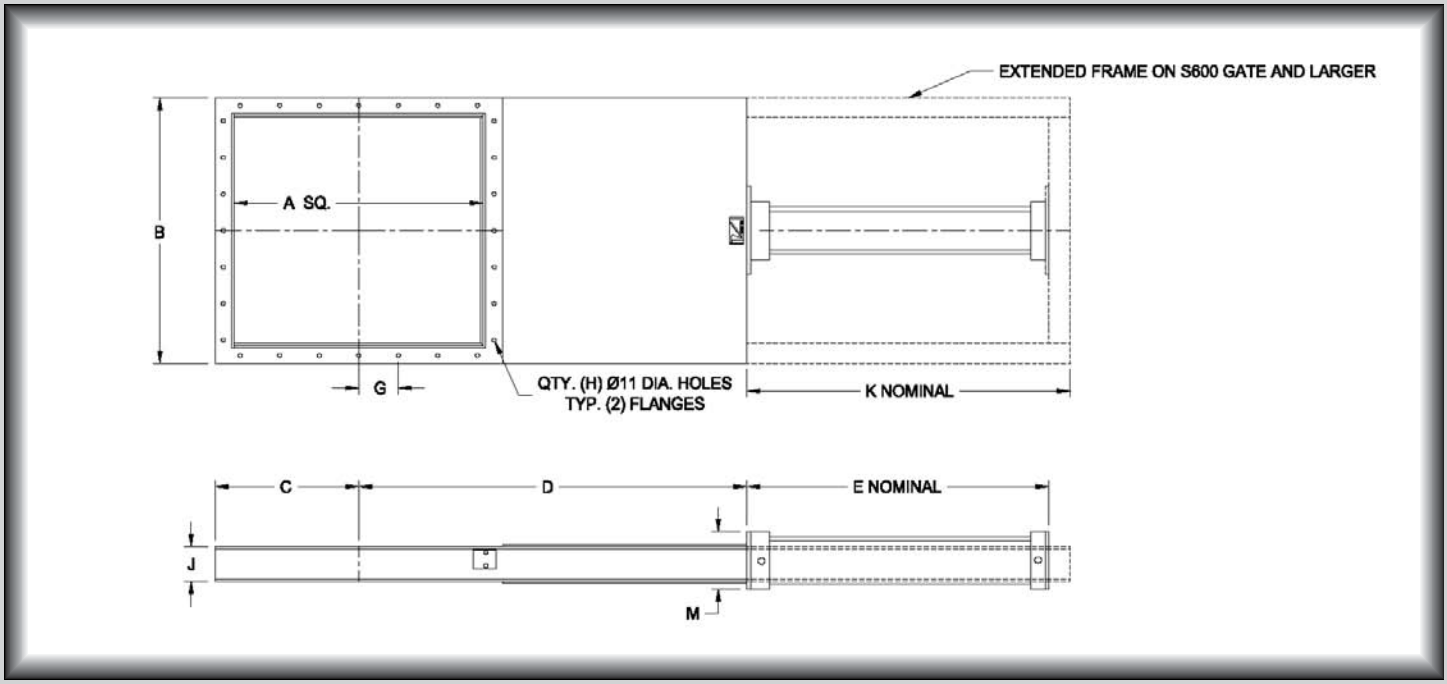
VORTEX® ROLLER GATE™ DIMENSIONAL INFORMATION



Model	A	B	C	D	E	F	G	H	J	K	WT (kg)
S150	152	254	127	305	279	114	105	8	76	--	14
S200	203	305	152	381	330	114	89	12	76	--	17
S250	254	356	178	457	381	114	114	12	76	--	20
S300	305	406	203	533	432	114	70	20	76	--	22
S350	356	457	229	610	483	114	83	20	76	--	27
S400	406	508	254	686	533	140	95	20	76	--	34
S450	457	559	330	762	584	140	108	20	76	--	38
S500	508	610	305	838	635	140	76	28	76	--	45
S550	559	660	406	914	686	140	89	28	76	--	63
S600	610	737	368	991	--	140	95	28	102	813	77
S750	762	889	445	1220	--	140	92	36	102	959	91

All dimensions are in mm, Information subject to change without notice.

VORTEX® HAND SLIDE ORIFICE GATE™

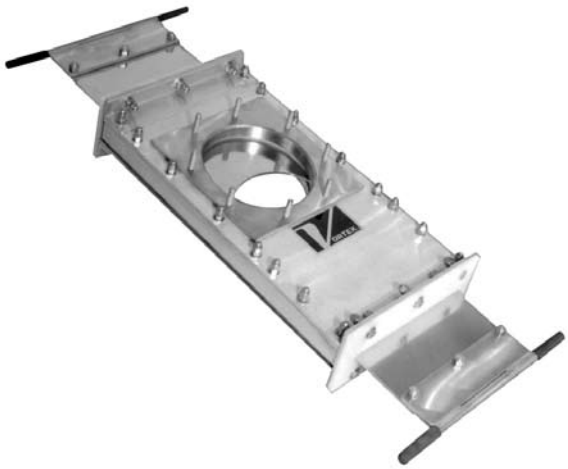
The Vortex® Hand Slide Orifice Gate™ is designed specifically to handle dry bulk solids in gravity flow conveying. A full flow orifice provides unrestricted conveying of material with no disk or ledges to impede flow or cause material bridging. The gate seat and live loaded seals are shielded from blast abrasion by a metal insert. By design, the valve "self cleans" material from the seat on each stroke of the valve blade, improving overall seat life. The Hand Slide Orifice Gate™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Hand Slide Orifice Gate™ Features

- Self-Cleaning Action, No Material Build-Up
- Narrow Profile
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	50mm to 300mm Diameters
Media	Powder, Pellets, Granulars
Connection Options	SVC Standard Stud Pattern, ANSI, DIN, JIS, Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	0 barg, Gravity Only
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Rubber, and/or Silicon
Drive/Actuation Options	Hand Slide
Position Confirmation	Visual Detection
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Application Specific Modifications

S	Material contact is 316L stainless steel.
P	Mounting studs are removed and special mounting holes matching an ANSI pattern are provided for bolting through the gate flange.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing up to 204°C continuous to 232°C intermittent service.
WS1	Gate blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals are used to replace nylon.

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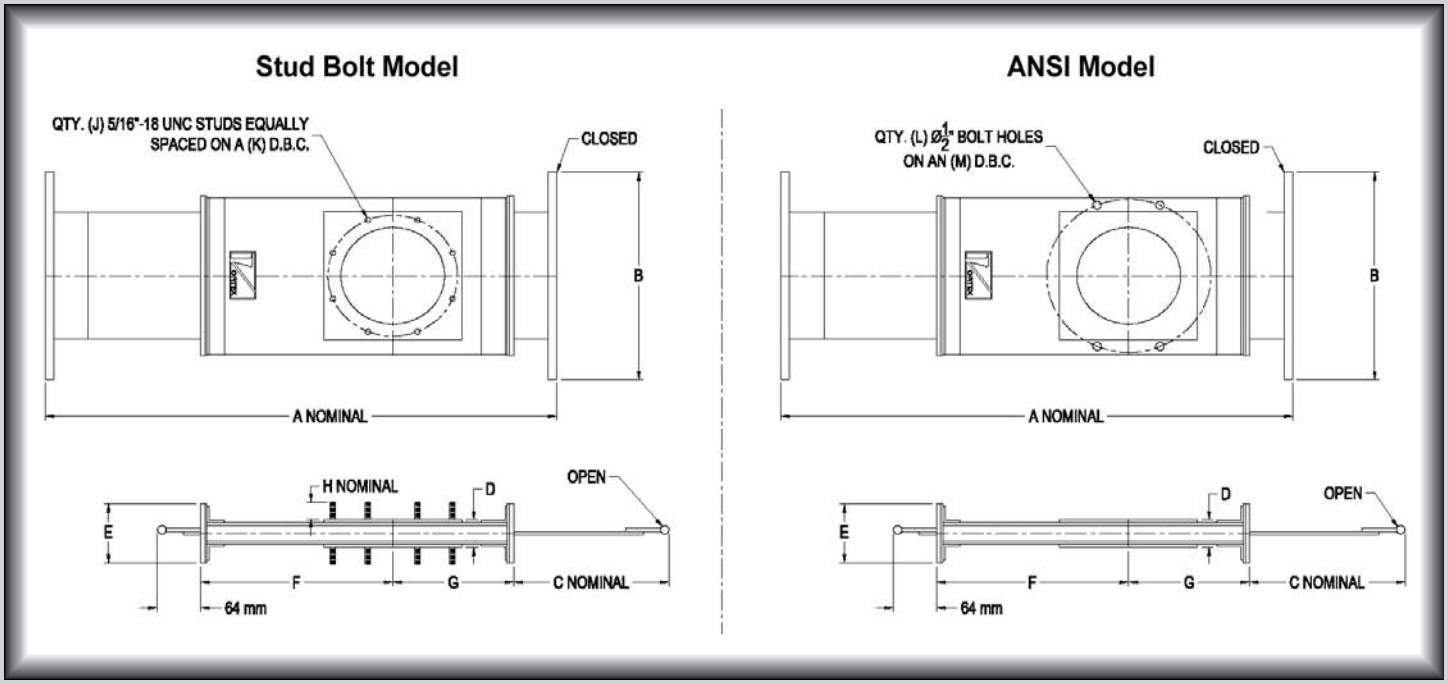
VORTEX® HAND SLIDE ORIFICE GATE™ DIMENSIONAL INFORMATION



Model	A	B	C	D	E	F	G	H	J	K	ANSI Model L	ANSI Model M	WT (kg)
HS02	410	225	127	44	89	121	98	29	102	98	51	121	5
HS03	489	257	152	44	92	159	114	29	102	127	51	152	6
HS04	575	283	181	44	89	203	127	29	152	140	102	191	7
HS05	660	302	203	44	92	270	149	29	203	165	102	216	9
HS06	752	327	229	44	92	283	178	29	203	191	102	241	12
HS08	902	378	286	44	89	359	200	29	203	241	102	298	16
HS10	1057	429	330	44	92	438	225	32	203	292	102	362	27
HS12	1213	479	381	48	121	511	251	32	305	351	102	432	33

All dimensions are in mm, Information subject to change without notice.

VORTEX® DUAL CYLINDER ROLLER GATE™

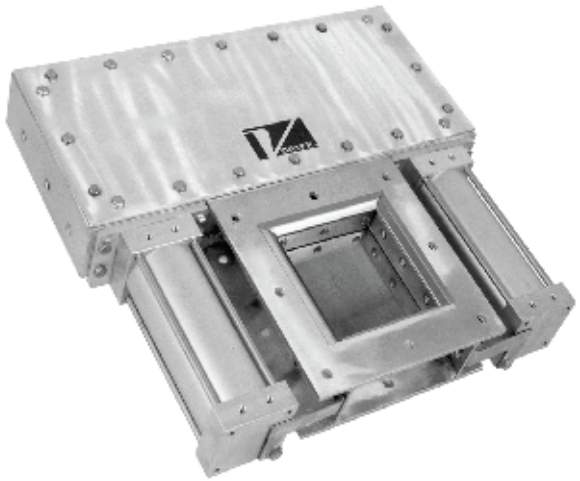
The Vortex® Dual Cylinder Roller Gate ™ offers quality features at an economical price. This gate is your best choice for handling dry material in gravity flow applications where positive material shut-off and dust tight sealing are required in compact locations. The Vortex® Dual Cylinder Roller Gate ™ is available in a wide variety of configurations, including rectangular sizes and round inlet/outlet transitions.

Vortex® Dual Cylinder Roller Gate™ Features

- Narrow Profile
- Positive Seal of Dust and Fine Powders
- Seals Protected from Abrasion
- Accurate Metering of Material with Optional Metering Controls
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	150mm to 750mm Square, Round, or Rectangular
Media	Powder, Pellets, Granulars
Connection Options	SVC Flange, CEMA Flange, and/or Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service.
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Rubber, and/or Silicon
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve.
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HS	Hardened steel rollers replace standard nylon rollers and bonnet seal protector is installed.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing up to 204°C continuous to 232°C intermittent service.
WS1	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals are used to replace nylon.
SB	Bonnet is manufactured with solid, gasket covers. (Allows the valve to accept air purge.)
RS	Access ports are provided for removing worn bonnet seals.

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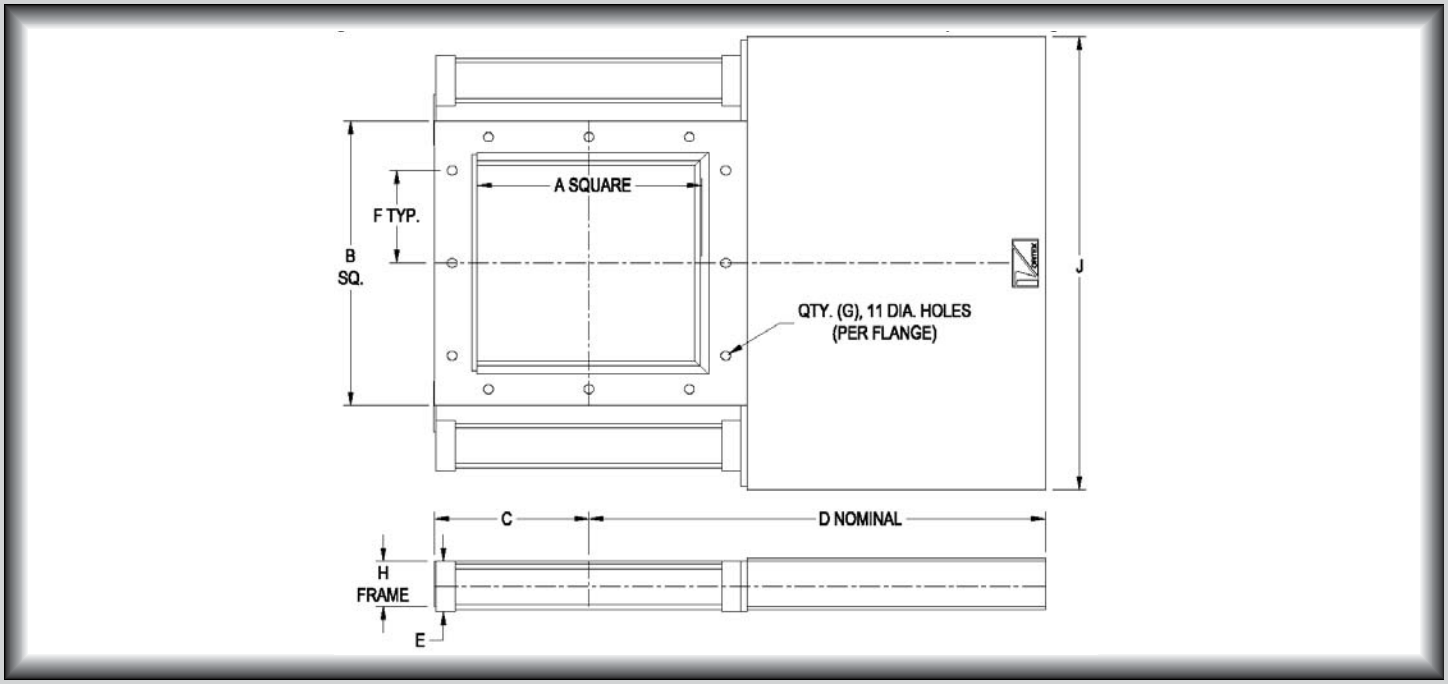
VORTEX® DUAL CYLINDER ROLLER GATE™ DIMENSIONAL INFORMATION



Model	A	B	C	D	E	F	G	H	J	WT (kg)
SD150	152	254	127	371	86	105	8	76	540	18
SD200	203	305	152	448	86	89	12	76	591	20
SD250	254	356	178	524	86	114	12	76	641	23
SD300	305	406	203	600	86	70	20	76	692	27
SD350	356	457	229	676	86	83	20	76	743	29
SD400	406	508	270	768	105	95	20	76	832	36
SD450	457	559	295	845	105	108	20	76	883	41
SD500	508	610	321	921	105	76	28	76	933	48
SD550	559	660	346	997	105	89	28	76	984	52
SD600	610	737	368	1089	130	95	28	102	1124	57
SD750	762	889	445	1318	130	92	36	102	1276	79

All dimensions are in mm, Information subject to change without notice.

VORTEX® ABRASIVE DUTY GATE™

The Vortex® Abrasive Duty Gate ™ is designed to meet the demanding applications associated with handling material such as sand, gravel, whole grains, and coal. The narrow profile, choice of actuators, and custom rectangular size make this slide gate adaptable to most existing installations. Optional round inlets or outlets flanges and dust return pans are also available. Abrasive Duty Gate™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Abrasive Duty Gate™ Features

- Hardened Steel Rollers with Grease Fittings
- Designed for Tough Abrasive Handling
- Positive Seal of Material
- Seals Protected from Abrasion
- Accurate Metering of Material with Optional Metering Controls
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	150mm to 600mm Square, Rectangular, or Round
Media	Abrasives, Granulars
Connection Options	ANSI 150LB, DIN/PN10/PN40, JIS/10K, Custom Flanges Square or Rectangular
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 288°C continuous to 316°C intermittent service.
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 Stainless Steel, Carbon Steel, and/or Abrasion Resistant Carbon Steel
Seal/Seat Material Options	Nylon, PET, Glass Filled Teflon, Carbon Steel
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve, Electric Actuator, Hydraulic, Hand Wheel, or Chainwheel
Position Confirmation	Magnetic Reed Switch, Proximity Switch, Mechanical Switch
Compliance/Approvals	CE, ATEX
Industry Use	Plastics, Petrochemicals, Chemicals, Minerals, Textiles, Agriculture

Application Specific Modifications

SC	Slide Blade and frame are 304 stainless steel. Rollers are 440 stainless steel and roller stud bolts are 304 or 18-8 stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
HT6	Modifications are made allowing 288°C continuous to 316°C intermittent service.
AR	Slide Blade is made of AR plate for handling more abrasive materials.
DS	The dust seal will help to eliminate or reduce dusting to atmosphere. The Enhanced Bonnet Seal option would be preferred for handling rocks with dust present.

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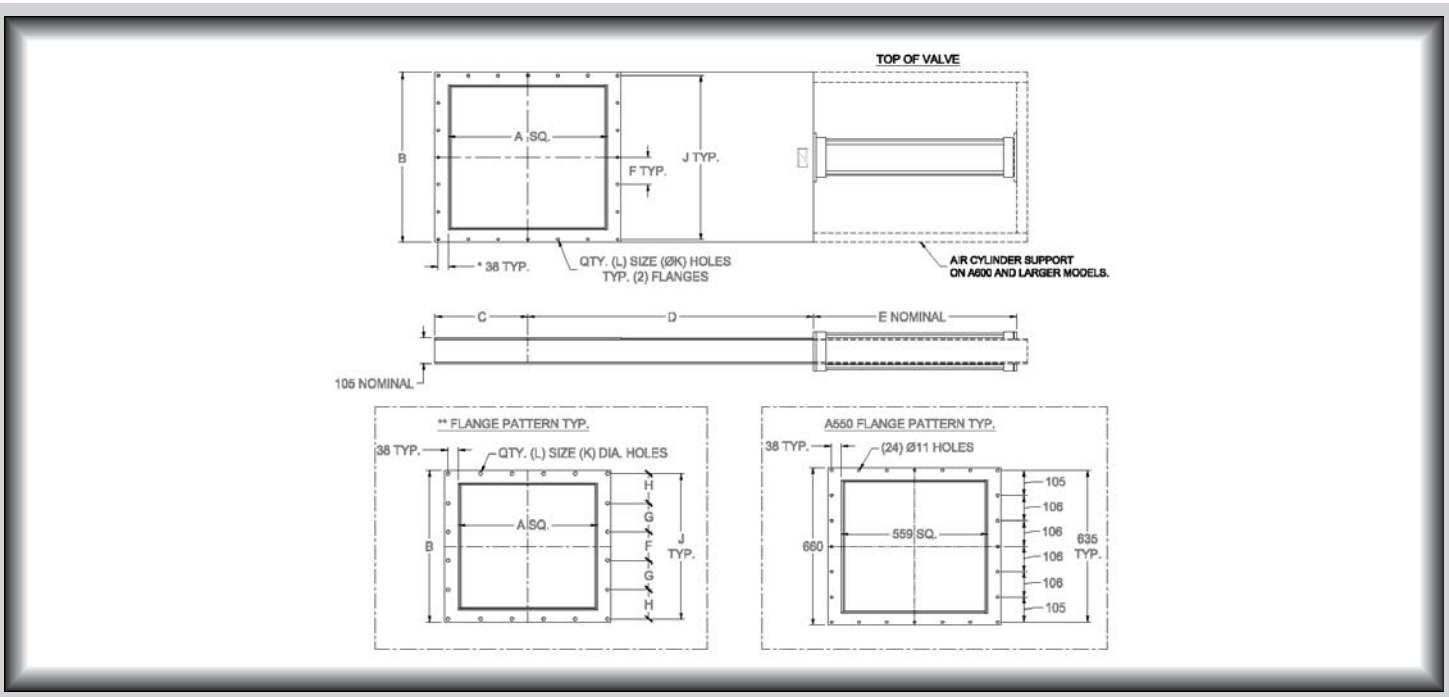
VORTEX® ABRASIVE DUTY GATE™ DIMENSIONAL INFORMATION



Model	A	B	C	D	E	F	G	H	J	K	L	WT (kg)
A150	152	254	127	406	279	114	--	--	229	11	8	29
A200	203	305	152	483	330	140	--	--	279	11	8	34
A250	254	356	178	559	381	83	--	--	330	11	16	43
A300	305	406	203	635	432	95	--	--	381	11	16	50
A325**	330	432	216	673	457	133	--	130	394	11	12	59
A350	356	457	229	711	489	108	--	--	432	11	16	68
A375**	381	483	241	749	514	89	89	89	445	11	20	77
A400	406	508	254	787	540	121	--	--	483	11	16	86
A425**	432	533	267	826	565	102	102	95	495	11	20	95
A450	457	559	279	864	591	133	--	--	533	11	16	104
A475**	483	584	292	902	616	111	111	113	559	14	20	113
A500	508	610	305	940	641	146	--	--	584	11	16	122
A525	533	635	318	978	667	121	121	124	610	14	20	132
A550	559	660	330	1016	692	106	--	105	638	11	24	141
A600	610	711	356	1092	816	114	--	--	686	11	24	179

All dimensions are in mm, Information subject to change without notice.

*Typical dimension except for A475, A525, & A550. (Dimension = (J - A) / 2)

**Indicates CEMA standard flange.

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

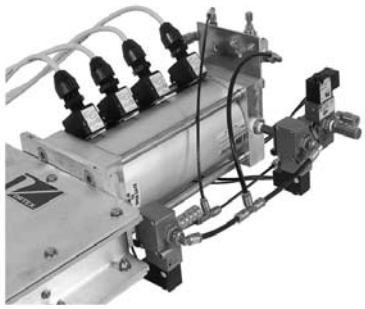
- Batching
- Metering into Screw Conveyors
- Dribble Flow
- Scaling Operations
- Loss in Weight Feeders
- Truck/Rail Loading

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

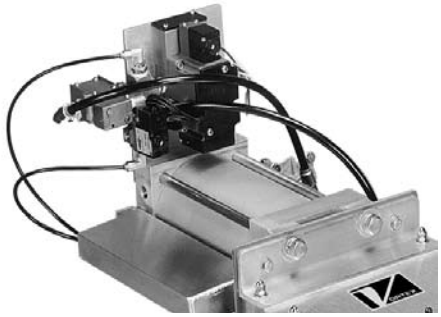
Adjustable Variable Position

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



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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	½ 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	½ Conduit, Strain Relief Connectors

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

VORTEX® QUANTUM™ SERIES 2-WAY WYE LINE DIVERTER™

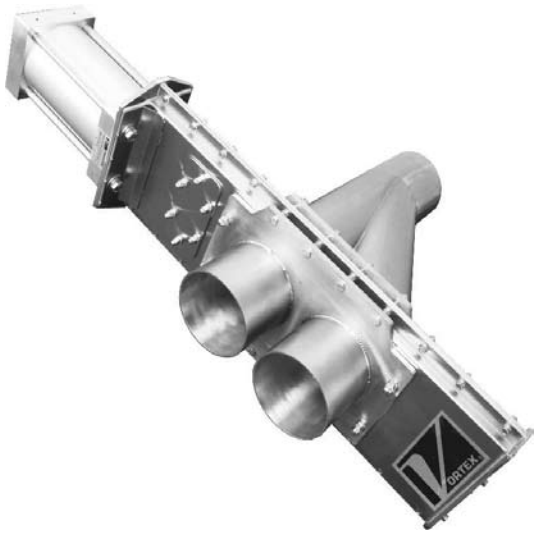
The patent pending Vortex® Quantum™ Series Wye Line Diverter™ is specifically engineered to handle dry bulk solids in vacuum or dilute phase pneumatic conveying systems with pressures up to 15 psig (1 barg). A full flow orifice provides unrestricted conveying of material with no disk or ledges to impede flow. The diverter seat and live-loaded seals are shielded from abrasion by a metal insert, which provides superior shearing action. The Wye Line Diverter™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Quantum™ Series Wye Line Diverter™ Features

- Ability to Shift without Shutting Down Blower
- Improves Conveying Efficiency
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	50mm to 125mm Diameters Pipe, 50mm to 150mm Tube. Consult Factory for 150mm to 300mm Pipe, 200mm to 300mm Tube Models
Media	Powder, Pellets, Granulars
Connection Options	ANSI, DIN, JIS, or Compression Couplings
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service.
Media Pressure	-0.1 MPa +0.1 MPa, 1 barg, 15 psig, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve, Electric Actuator, Handwheel, or Chainwheel
Position Detection	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Patent Pending

Application Specific Modifications

S	Material contact is 316L stainless steel.
SL	Diverter has straight through conveying line designed for easier "in line" installation and less system conveying pressure drop when using multiple diverters.
MG	Air cylinder has a magnetic piston, which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing up to 204°C continuous to 232°C intermittent service.
P10	Diverters are made with schedule 10 Pipe throughout.
P20	Diverters are made with schedule 20 Pipe throughout.
P40	Diverters are made with schedule 40 Pipe throughout.
WS1	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.

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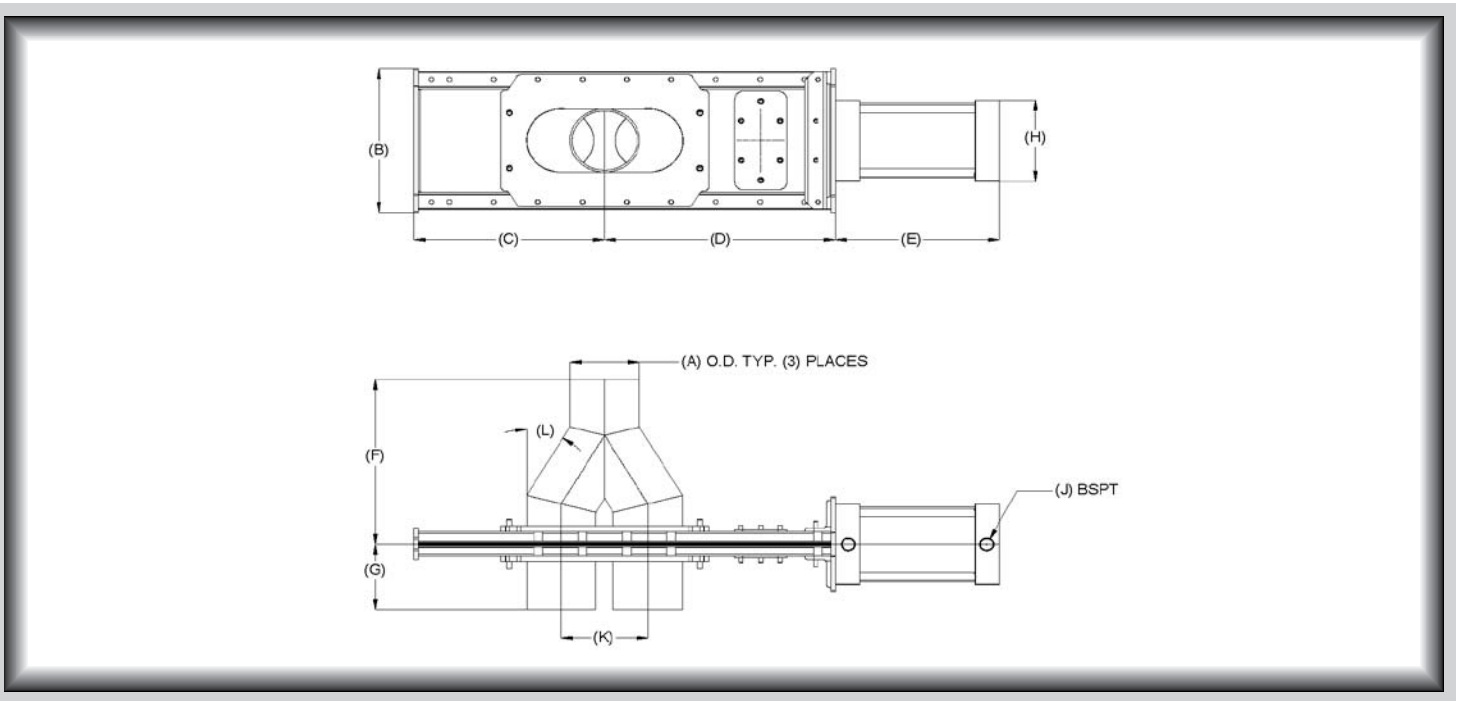
VORTEX® 2-WAY WYE LINE DIVERTER™ DIMENSIONAL INFORMATION



Tube Model	A	B	C	D	E	F	G	H	J	K	L
DR50-2(XX)	51	181	165	210	159	184	108	89	10	64	30
DR65-2(XX)	64	206	216	279	203	203	108	105	13	89	30
DR75-2(XX)	76	206	216	279	203	222	108	105	13	89	30
DR100-2(XX)	102	232	279	340	241	267	108	130	13	127	30
DR125-2(XX)	127	257	330	394	273	324	133	140	13	152	30
DR150-2(XX)	152	283	381	445	298	356	133	140	13	178	30

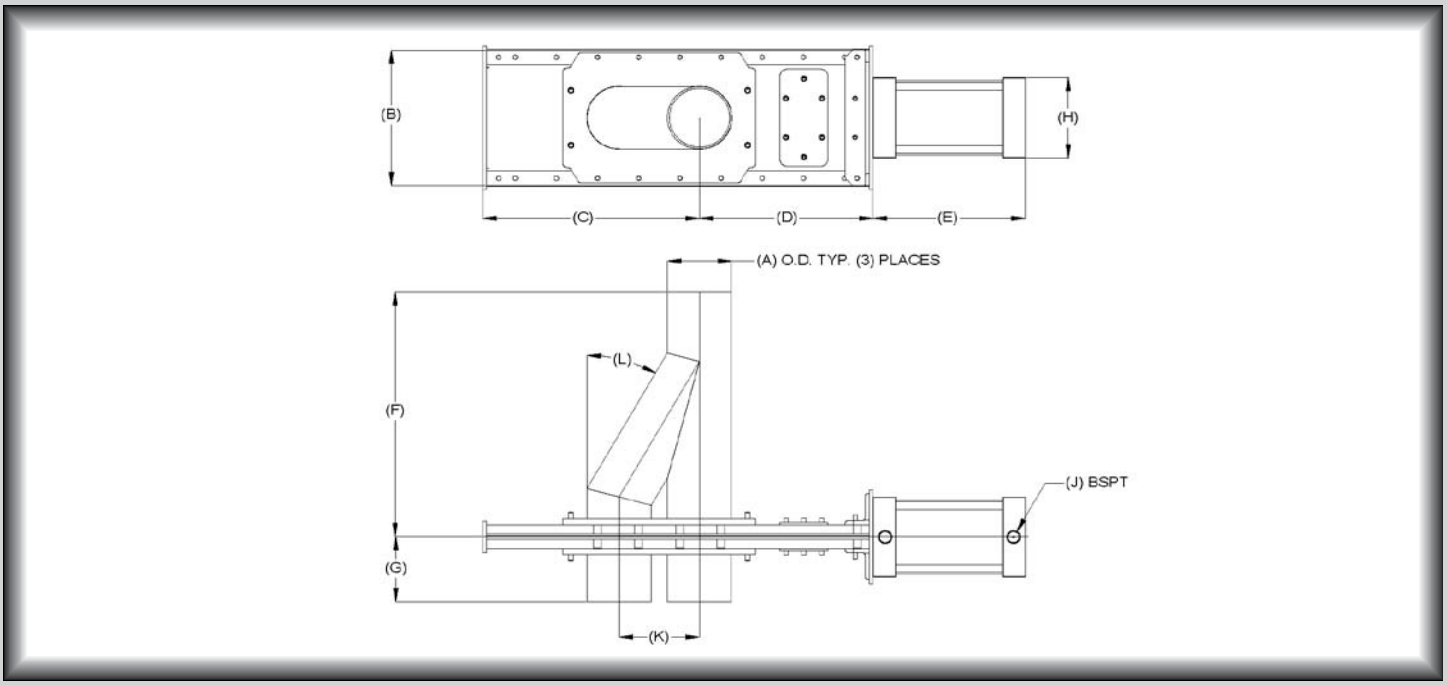
Pipe Model	A	B	C	D	E	F	G	H	J	K	L
DR50-2(XX)-PXX*	60	206	216	279	203	260	121	105	13	89	30
DR65-2(XX)-PXX*	73	206	216	279	203	260	130	105	13	89	30
DR75-2(XX)-PXX*	89	232	279	340	241	327	159	130	13	127	30
DR100-2(XX)-PXX*	114	257	330	394	273	352	159	140	13	152	30
DR125-2(XX)-PXX*	143	283	381	445	298	387	165	140	13	178	30

All dimensions are in mm, Information subject to change without notice.

(XX) Material of construction, aluminum (AL), carbon steel (CS), or stainless steel (SS).

*Select pipe schedule 10, 20, or 40.

VORTEX® 2-WAY WYE LINE DIVERTER™ DIMENSIONAL INFORMATION



Tube Model	A	B	C	D	E	F	G	H	J	K	L
DR50-2(XX)-SL	51	181	197	178	159	248	108	89	10	64	30
DR65-2(XX)-SL	64	206	260	235	203	260	108	105	13	89	30
DR75-2(XX)-SL	76	206	260	235	203	298	108	105	13	89	30
DR100-2(XX)-SL	102	232	343	276	241	400	108	130	13	127	30
DR125-2(XX)-SL	127	257	406	318	273	451	133	140	13	152	30
DR150-2(XX)-SL	152	283	470	356	298	514	133	140	13	178	30

Pipe Model	A	B	C	D	E	F	G	H	J	K	L
DR50-2(XX)-SL-PXX*	60	206	260	235	203	337	121	105	13	89	30
DR65-2(XX)-SL-PXX*	73	206	260	235	203	333	159	105	13	89	30
DR75-2(XX)-SL-PXX*	89	232	343	276	241	438	159	130	13	127	30
DR100-2(XX)-SL-PXX*	114	257	406	318	273	489	159	140	13	152	30
DR125-2(XX)-SL-PXX*	143	283	470	356	298	540	165	140	13	178	30

All dimensions are in mm, Information subject to change without notice.
(XX) Material of construction, aluminum (AL), carbon steel (CS), or stainless steel (SS).

*Select pipe schedule 10, 20, or 40.

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VORTEX® 3-WAY WYE LINE DIVERTER™

The Vortex® 3-Way 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). A full flow orifice provides unrestricted conveying of material with no disk or ledges to impede flow. The diverter seat and live-loaded seals are shielded from abrasion by a metal insert, which provides superior shearing action. The Wye Line Diverter ™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Wye Line Diverter™ Features

- Ability to Shift without Shutting Down Blower
- Improves Conveying Efficiency
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Easy Installation and Maintenance

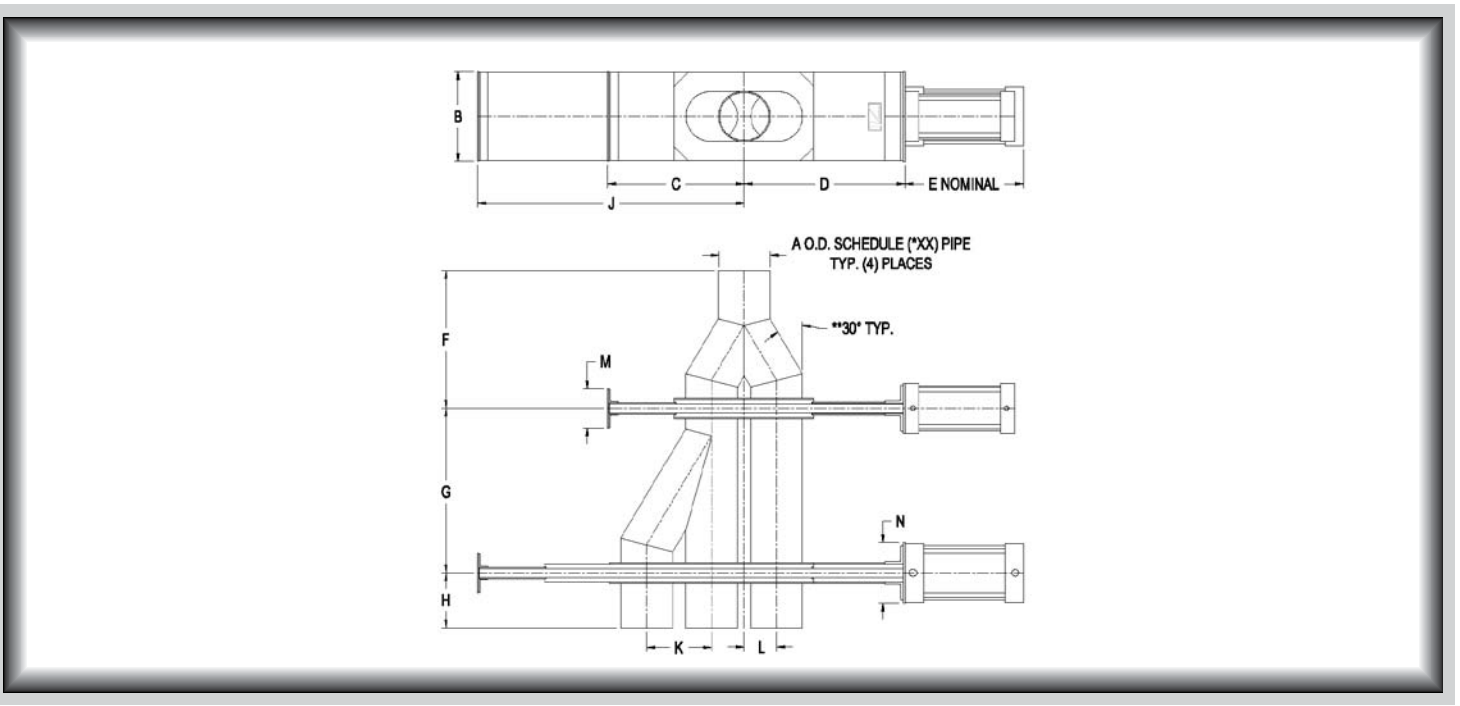
Valve Specifications

Size/Bore Options	50mm to 200mm Diameters, Pipe or Tube
Media	Powder, Pellets, Granulars
Connection Options	Compression Coupling
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service.
Media Pressure	-0.1 MPa +0.1 MPa, 1 barg, 15 psig, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve
Position Confirmation	Magnetic Reed Switch or Proximity Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
P10	Diverters are made with Schedule 10 Pipe.
P40	Diverters are made with Schedule 40 Pipe.
WS1	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.

VORTEX® 3-WAY WYE LINE DIVERTER™ DIMENSIONAL INFORMATION



Tube Model	A	B	C	D	E	F	G	H	J	K	L	M	N
D2-3(XX)Y	51	133	146	200	159	184	203	105	273	64	32	105	114
D3-3(XX)Y	76	152	197	251	203	219	254	105	375	89	44	117	111
D4-3(XX)Y	102	184	264	324	260	264	337	105	518	127	64	114	140
D5-3(XX)Y	127	225	324	391	267	321	394	130	619	152	76	111	171
D6-3(XX)Y	152	251	375	467	324	352	464	130	730	178	89	111	171

Pipe Model	A	B	C	D	E	F	G	H	J	K	L	M	N
D2-3(XX)Y-P*	60	152	197	251	203	257	254	130	375	89	44	117	140
D3-3(XX)Y-P*	89	184	264	324	264	324	337	156	518	127	64	114	165
D4-3(XX)Y-P*	114	225	321	391	298	346	384	156	629	152	76	111	171
D5-3(XX)Y-P*	141	251	375	441	302	387	464	156	730	178	89	111	171
D6-3(XX)Y-P*	168	292	549	597	400	394	441	178	1026	254	127	76	229

All dimensions are in mm, Information subject to change without notice.

(XX) Material of construction, aluminum (AL), carbon steel (CS), or stainless steel (SS).

*Select pipe schedule 10, 20, or 40.

** D6 model has 45° angle.

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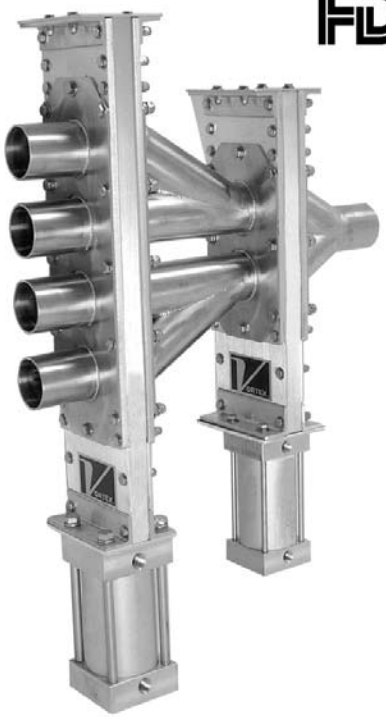
VORTEX® 4-WAY WYE LINE DIVERTER™

The Vortex® 4-Way 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). A full flow orifice provides unrestricted conveying of material with no disk or ledges to impede flow. The diverter seat and live-loaded seals are shielded from abrasion by a metal insert, which provides superior shearing action. The Wye Line Diverter ™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Wye Line Diverter™ Features

- Ability to Shift without Shutting Down Blower
- Improves Conveying Efficiency
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Easy Installation and Maintenance



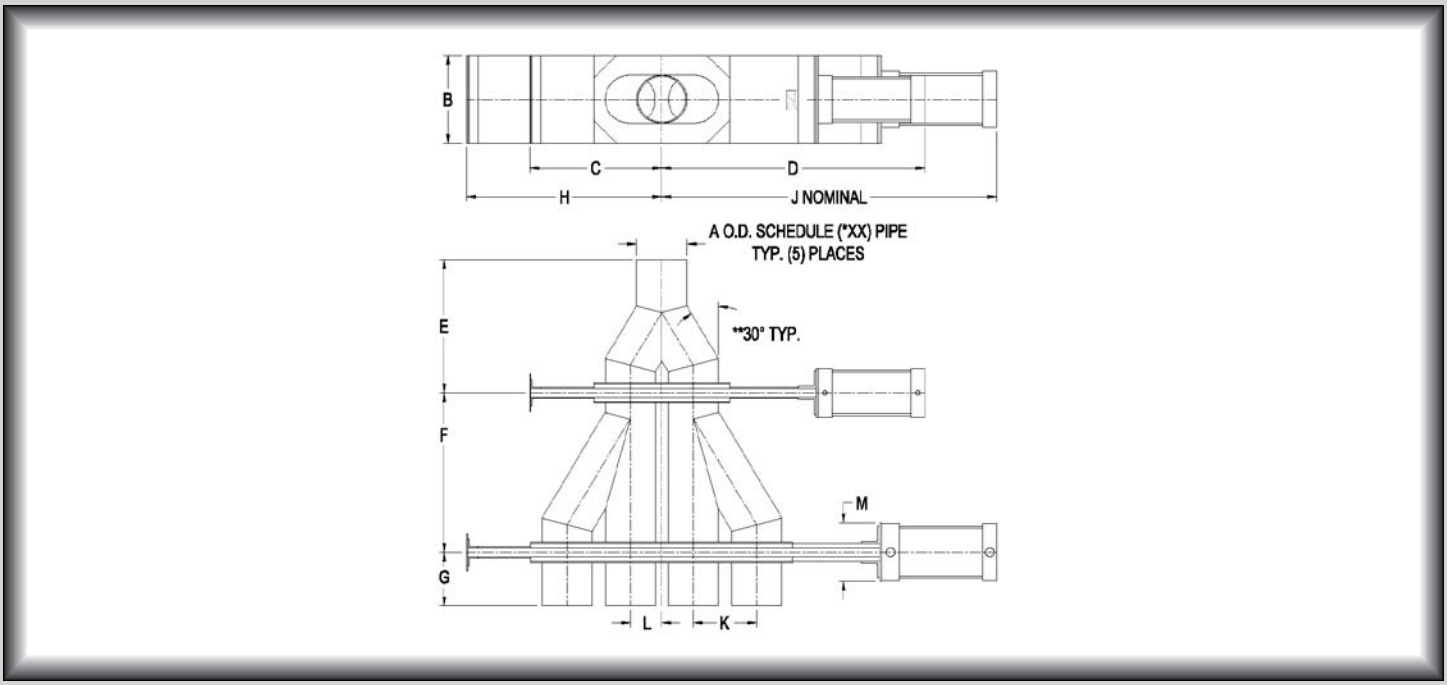
Valve Specifications

Size/Bore Options	50mm to 200mm Diameters, Pipe or Tube
Media	Powder, Pellets, Granulars
Connection Options	Compression Coupling
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	-0.1 MPa +0.1 MPa, 1 barg, 15 psig, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
P10	Diverters are made with Schedule 10 Pipe.
P40	Diverters are made with Schedule 40 Pipe.
WS1	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.

VORTEX® 4-WAY WYE LINE DIVERTER™ DIMENSIONAL INFORMATION



Tube Model	A	B	C	D	E	F	G	H	J	K	L	M
D2-4(XX)Y	51	133	146	359	184	203	105	210	445	64	32	114
D3-4(XX)Y	76	152	197	454	219	276	105	286	521	89	44	140
D4-4(XX)Y	102	184	267	584	267	337	105	394	759	127	64	178
D5-4(XX)Y	127	229	324	664	321	394	130	476	841	152	76	178
D6-4(XX)Y	152	254	375	740	429	464	130	552	943	178	89	178

Pipe Model	A	B	C	D	E	F	G	H	J	K	L	M
D2-4(XX)Y-P*	60	159	197	454	257	254	137	279	552	89	44	140
D3-4(XX)Y-P*	89	184	267	584	324	337	156	394	737	127	64	178
D4-4(XX)Y-P*	114	229	324	664	349	394	156	476	841	152	76	178
D5-4(XX)Y-P*	141	254	375	740	352	464	130	552	943	178	89	178
D6-4(XX)Y-P*	168	292	549	997	394	441	178	772	1251	254	127	178

All dimensions are in mm, Information subject to change without notice.

(XX) Material of construction, aluminum (AL), carbon steel (CS), or stainless steel (SS).

*Select pipe schedule 10, 20, or 40.

** D6 model has 45° angle.

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VORTEX® MULTI-PORT WYE LINE DIVERTER™

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). A full flow orifice provides unrestricted conveying of material with no disk or ledges to impede flow. The diverter seat and live-loaded seals are shielded from abrasion by a metal insert, which provides superior shearing action. The Wye Line Diverter™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment cost.

Vortex® Wye Line Diverter™ Features

- Ability to Shift without Shutting Down Blower
- Improves Conveying Efficiency
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	50mm to 200mm Diameters, Pipe or Tube
Media	Powder, Pellets, Granulars
Connection Options	Compression Coupling
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	-0.1 MPa +0.1 MPa, 1 barg, 15 psig, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Rubber, and/or Silicon
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
P10	Diverters are made with Schedule 10 Pipe.
P40	Diverters are made with Schedule 40 Pipe.
SM	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.

VORTEX® 2-WAY FLEX TUBE DIVERTER™

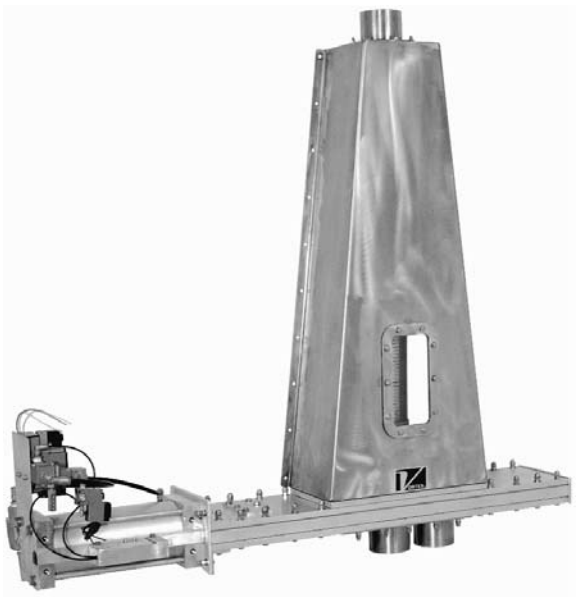
The Vortex® Flex Tube Diverter™ is specifically engineered to handle dry bulk solids in vacuum or dilute phase pneumatic conveying systems up to 15 psig (1 barg). The unique design eliminates material cross contamination by a positive seal across the closed port and the elimination of internal ledges and pockets where material can lodge and remain trapped. A smooth unobstructed transition from inlet to outlet shields the wear compensating seals from abrasion. The Flex Tube Diverter™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Flex Tube Diverter™ Features

- Improves Conveying Efficiency
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seals Protected from Abrasion
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	50mm to 200mm Diameters, Pipe or Tube
Media	Powder, Pellets, Granulars
Connection Options	Compression Coupling, ANSI, DIN, JIS, Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 121°C continuous to 149°C intermittent service
Media Pressure	-0.1 MPa +0.1 MPa, 1 barg, 15 psig, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Rubber, and/or Silicon
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve, Electric Actuator, or Hand Wheel
Position Confirmation	Magnetic Reed Switch or Proximity Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Application Specific Modifications

FS1	304 Stainless Steel directional flex hose is installed for material to run through the valve from one port to two ports.
FS2	304 Stainless Steel directional flex hose is installed for material to run through the valve from two ports to one port.
S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing 204°C continuous to 232°C intermittent service.
SM	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.
P1/P4	Utilizing Schedule 10 or Schedule 40 Pipe.
OF 45/30	Inlets and outlets are flanged with ANSI, DIN or JIS connections. The outlet opposite the air cylinder is offset at 45 or 30 degrees.

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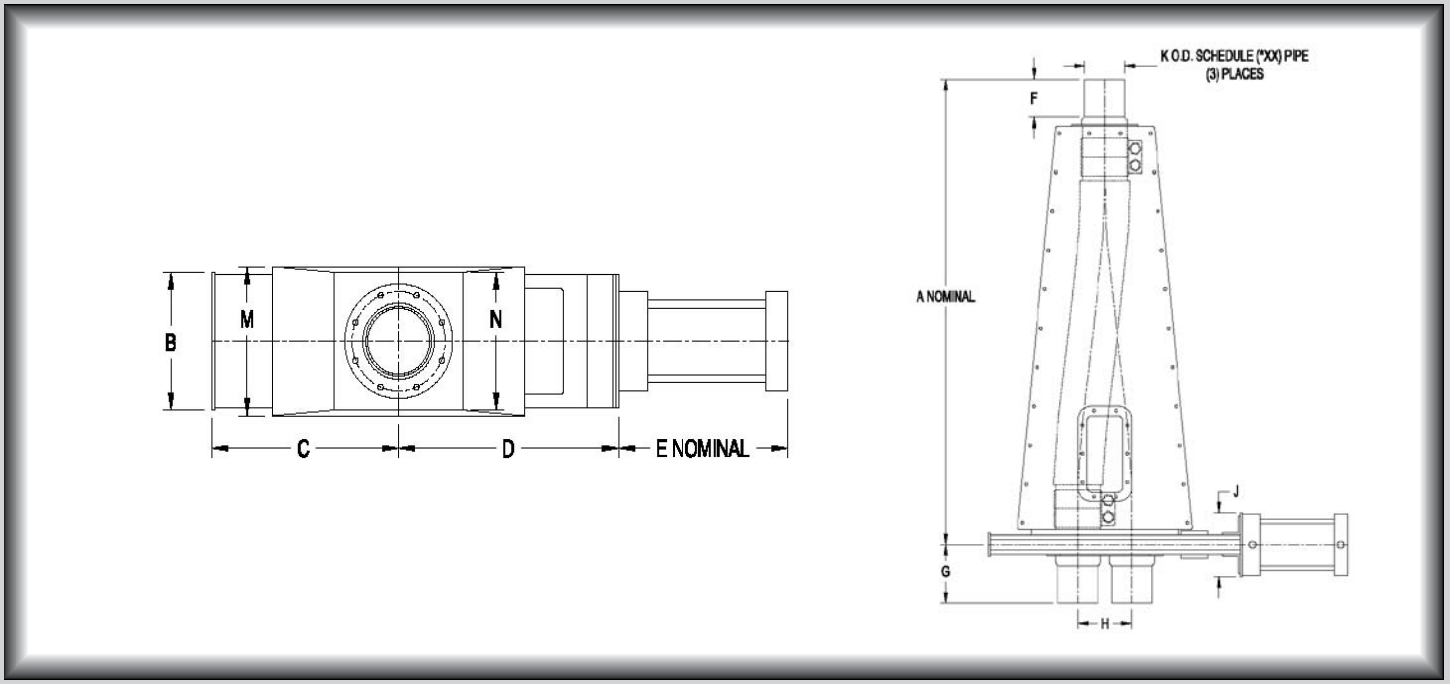
VORTEX® 2-WAY FLEX TUBE DIVERTER™ DIMENSIONAL INFORMATION



MODEL	TUBE SIZE	A	B	C	D	E	F	G	H	J	K	M	N	WT (kg)
T2-2(XX)Y	51	775	127	149	197	184	76	108	64	121	51	159	127	36
T2.5-2(XX)Y	64	895	165	197	251	203	105	133	89	133	64	203	168	41
T3-2(XX)Y	76	867	165	197	251	203	73	105	89	159	76	203	168	43
T4-2(XX)Y	102	1108	191	270	340	248	79	108	127	140	102	216	181	57
T5-2(XX)Y	127	1213	229	330	391	298	95	130	152	171	127	248	232	66
T6-2(XX)Y	152	1527	264	378	441	324	102	130	178	171	152	298	257	98
T8-2(XX)Y	203	1664	318	546	584	406	98	235	254	194	203	333	333	120

MODEL	PIPE SIZE	A	B	C	D	E	F	G	H	J	K	M	N	WT (kg)
T2-2(XX)Y-P*	51	895	165	197	251	203	76	133	89	159	60	203	168	45
T2.5-2(XX)Y-P*	64	895	165	197	251	203	76	133	89	159	73	203	168	45
T3-2(XX)Y-P*	76	1159	191	270	340	235	102	159	127	140	89	216	181	59
T4-2(XX)Y-P*	102	1245	229	330	391	298	102	159	152	171	114	248	232	68
T5-2(XX)Y-P*	127	1553	264	378	441	324	102	156	178	171	141	298	257	100
T6-2(XX)Y-P*	152	1565	264	378	441	324	102	187	194	171	168	298	257	100
T8-2(XX)Y-P*	203	1759	318	546	584	406	152	241	254	194	219	333	333	123

All dimensions are in mm, Information subject to change without notice.

(XX) Material of construction, aluminum (AL), carbon steel (CS), or stainless steel (SS).

*Select pipe schedule 10 or 40, note flex tube is O.D. hose.

VORTEX® 3-WAY FLEX TUBE DIVERTER™

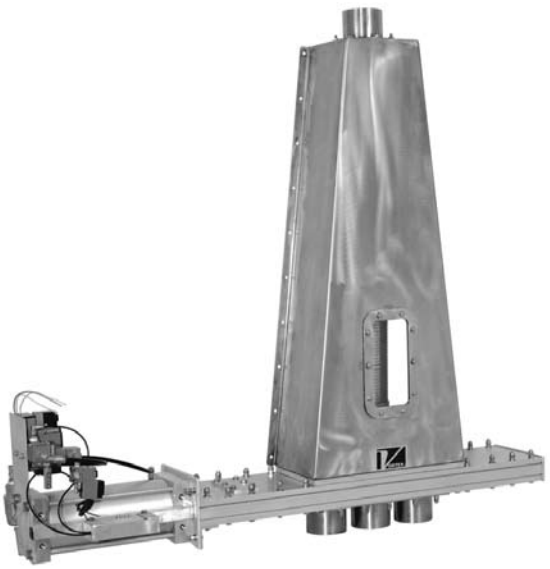
The Vortex® Flex Tube Diverter™ is specifically engineered to handle dry bulk solids in vacuum or dilute phase pneumatic conveying systems up to 15 psig (1 barg). The unique design eliminates material cross contamination by a positive seal across the closed port and the elimination of internal ledges and pockets where material can lodge and remain trapped. A smooth unobstructed transition from inlet to outlet shields the wear compensating seals from abrasion. The Flex Tube Diverter™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Flex Tube Diverter™ Features

- Improves Conveying Efficiency
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	50mm to 200mm Diameters, Pipe or Tube
Media	Powder, Pellets, Granulars
Connection Options	Compression Coupling, ANSI, DIN, JIS, Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 121°C continuous to 149°C intermittent service
Media Pressure	-0.1 MPa +0.1 MPa, 1 barg, 15 psig, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Rubber, and/or Silicon
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve, Electric Actuator, or Hand Wheel
Position Confirmation	Magnetic Reed Switch or Proximity Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Application Specific Modifications

FS1	304 Stainless Steel directional flex hose is installed for material to run through the valve from one port to two ports.
FS2	304 Stainless Steel directional flex hose is installed for material to run through the valve from two ports to one port.
S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
SM	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.
P1/P4	Utilizing Schedule 10 or Schedule 40 Pipe.

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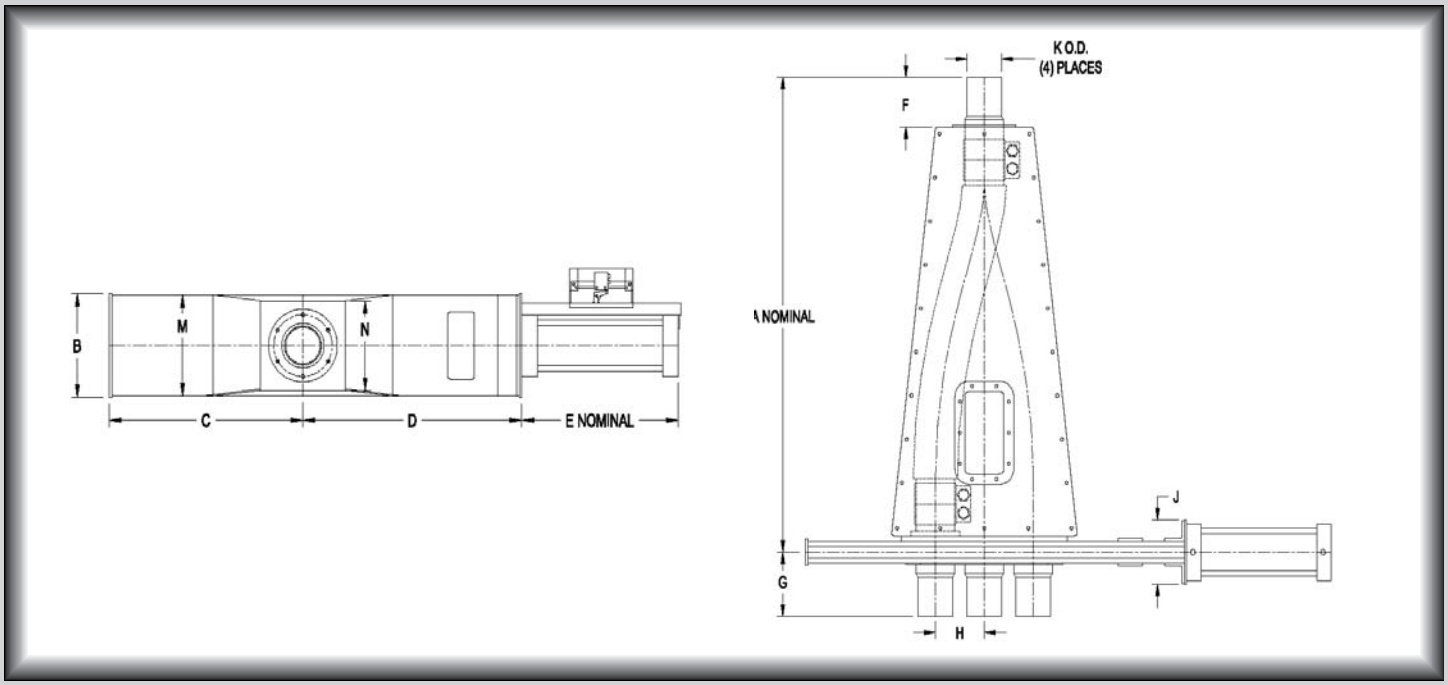
VORTEX® 3-WAY FLEX TUBE DIVERTER™ DIMENSIONAL INFORMATION



MODEL	TUBE SIZE	A	B	C	D	E	F	G	H	J	K	M	N	WT (kg)
T2-3(XX)Y	51	772	184	273	330	248	76	105	64	127	51	184	127	45
T2.5-3(XX)Y	64	921	225	333	403	365	76	133	89	159	64	219	168	59
T3-3(XX)Y	76	889	225	333	403	365	73	108	89	159	76	225	168	59
T4-3(XX)Y	102	1118	229	467	527	375	67	105	127	159	102	229	191	73
T5-3(XX)Y	127	1229	270	537	625	451	92	133	152	184	127	270	232	91
T6-3(XX)Y	152	1829	286	641	705	502	98	130	178	171	152	286	254	118
T8-3(XX)Y	203	2203	337	927	972	657	98	235	254	391	203	356	333	145

MODEL	PIPE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	WT (kg)
T2-3(XX)Y-P*	51	921	225	333	403	365	76	133	89	159	60	76	219	168	59
T2.5-3(XX)Y-P*	64	921	225	333	403	365	76	133	89	159	73	76	219	168	59
T3-3(XX)Y-P*	76	1178	235	467	527	375	102	156	127	140	89	102	229	178	73
T4-3(XX)Y-P*	102	1257	270	562	625	451	102	162	152	184	114	127	260	232	91
T5-3(XX)Y-P*	127	1549	286	641	705	502	102	156	178	165	141	152	279	254	118
T6-3(XX)Y-P*	152	1873	286	641	705	502	146	**	184	171	168	152	279	254	125
T8-3(XX)Y-P*	203	2305	337	927	972	657	152	241	254	391	219	203	356	333	227

All dimensions are in mm, Information subject to change without notice.

(XX) Material of construction, aluminum (AL), carbon steel (CS), or stainless steel (SS).

*Select pipe schedule 10 or 40, note flex tube is O.D. tube.

** - For T6-3(XX)Y-P* the (G) dimension for outside ports is 187mm, (G) dimension for center port is 378mm to allow for Morris couplings.

VORTEX® FILL PASS DIVERTER™

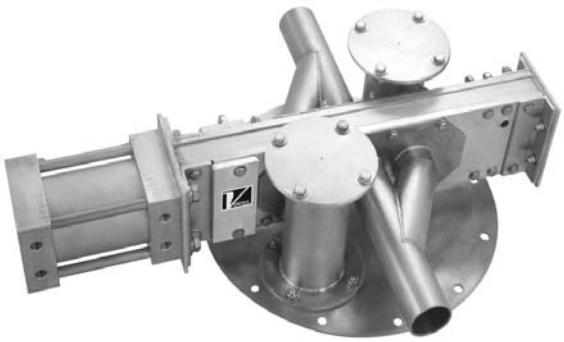
The Vortex® Fill Pass Diverter is specifically engineered to handle dry bulk solids in vacuum or dilute phase pneumatic conveying systems with pressures up to 15 psig (1 barg). It provides a versatile and reliable method for filling one or more "in-line" weigh hoppers when material is conveyed pneumatically through a closed loop system. The Fill Pass Diverter is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Fill Pass Diverter Features

- Superior Air/Material Separation
- Improves Weighing Efficiency and Accuracy
- Smooth, Unobstructed Bore for Unrestricted Flow of Material
- Seal Protected from Abrasion
- Ability to Shift without Shutting Down Blower

Valve Specifications

Size/Bore Options	50mm to 200mm, Diameters, Pipe or Tube
Media	Powder, Pellets, Granulars
Connection Options	Compression Couplings
Media Temperature	Up to 121°C continuous to 149°C intermittent service
Media Pressure	-0.1 MPa +0.1 MPa, 1 barg, 15 psig, depending on size
Metal Construction Options	304 or 316L Stainless Steel, Aluminium, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder and Solenoid Operated Air Control Valve
Position Confirmation	Magnetic Reed Switch or Proximity Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture



Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
P1	A standard tube size diverter is modified with pipe size inlets and outlets. The -P1 modification would match schedule 10 pipe.
P4	A standard tube size diverter is modified with pipe size inlets and outlets. The -P4 modification would match schedule 40 pipe.
SM	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) pressure plate seals replace Nylon.

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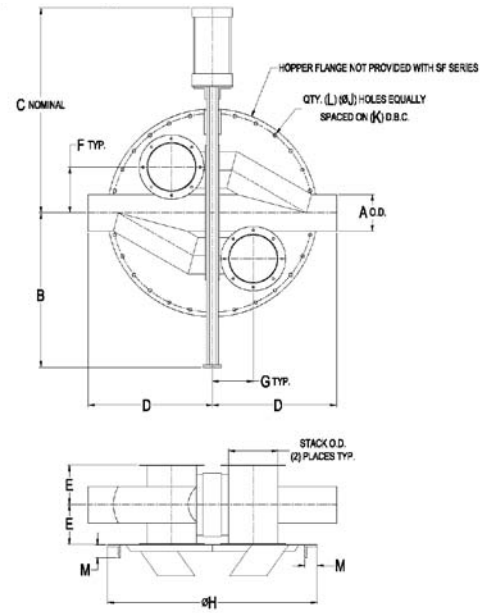
VORTEX® FILL PASS DIVERTER™ DIMENSIONAL INFORMATION



Series	Model	A	B	C	D	E	F	G	H	J	K	L	M
HOPPER COMPACT HC SERIES	D23-3SSHC	51	111	410	244	89	76	76	384	11	351	305	38
	D33-4SSHC	76	333	498	302	102	102	102	502	11	460	406	44
	D43-4SSHC	102	429	702	397	127	127	127	603	11	562	508	44
HOPPER STACKABLE HS SERIES	D23-6SSHS	51	111	410	244	89	165	168	762	11	724	610	51
	D23-8SSHS	51	238	410	244	89	191	168	864	11	826	711	51
	D33-6SSHS	76	327	498	302	102	165	168	762	11	724	610	51
	D33-8SSHS	76	327	498	302	102	191	168	864	11	826	711	51
	D43-6SSHS	102	429	702	397	127	165	168	762	11	724	610	51
	D43-8SSHS	102	429	702	397	127	191	168	864	11	826	711	51
	D53-8SSHS	127	552	765	448	152	191	168	864	11	826	711	51
	D63-8SSHS	152	641	854	511	165	191	168	864	11	826	711	51
STACKABLE FLANGE SF SERIES	D23-6SSSF	51	238	410	244	89	165	168	--	--	--	--	--
	D23-8SSSF	51	238	410	244	89	191	168	--	--	--	--	--
	D33-6SSSF	76	327	498	302	102	165	168	--	--	--	--	--
	D33-8SSSF	76	327	498	302	102	191	168	--	--	--	--	--
	D43-6SSSF	102	429	702	397	127	165	168	--	--	--	--	--
	D43-8SSSF	102	429	702	397	127	191	168	--	--	--	--	--
	D53-8SSSF	127	552	765	448	152	191	168	--	--	--	--	--
	D63-8SSSF	152	641	854	511	165	191	168	--	--	--	--	--

All dimensions are in mm, Information subject to change without notice.

Reference A (Nominal Size O.D. tubing)

VORTEX® 2-WAY SEAL TITE DIVERTER™

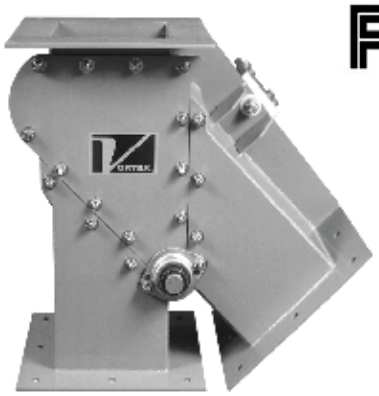
The Vortex® 2-Way Seal Tite™ Diverter is designed for use in gravity flow applications where material can be diverter from one source to either of two destinations. The Seal Tite™ Diverter offers a removable access door for replacement of blade and shaft seals. All internal ledges have been eliminated to promote cleanliness. The Seal Tite™ Diverter's superior design promotes efficiency, durability, and long service life.

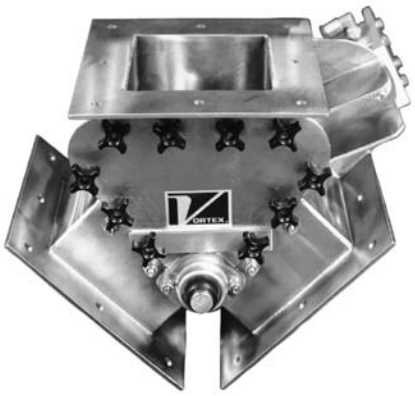
Vortex® Seal Tite™ Diverter Features

- Positive Seal of Dust and Fine Powders
- Leading Edge of Blade Seal Protected from Abrasion
- Access Door for Internal Inspection, Cleaning, or Maintenance
- Easy Installation and in-place Maintenance

Valve Specifications

Size/Bore Options	100mm to 750mm Diameter Round, Square, or Rectangular
Media	Powder, Pellets, Granulars
Connection Options	SVC Standard Flange, ANSI, DIN, JIS, or Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 or 316L Stainless Steel, and Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, Kryptane, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve, Electric Actuator, or Hand Lever
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture





Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing up to 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing up to 204°C continuous to 232°C intermittent service.
CIP	Access panel and fasteners allow for quicker access to the interior of the valve for more frequent inspection, cleaning or sanitation.
RT	Round transitions with SVC bolt hole pattern are mounted to the inlet and two outlets of the valve.
RTP	Round transitions with ANSI, DIN, or JIS bolt hole pattern are mounted to the inlet and two outlets of the valve.
45 / 30	The angle the outlets are offset (45 or 30) degrees.
KS	Kryptane blade seal for more abrasive materials.

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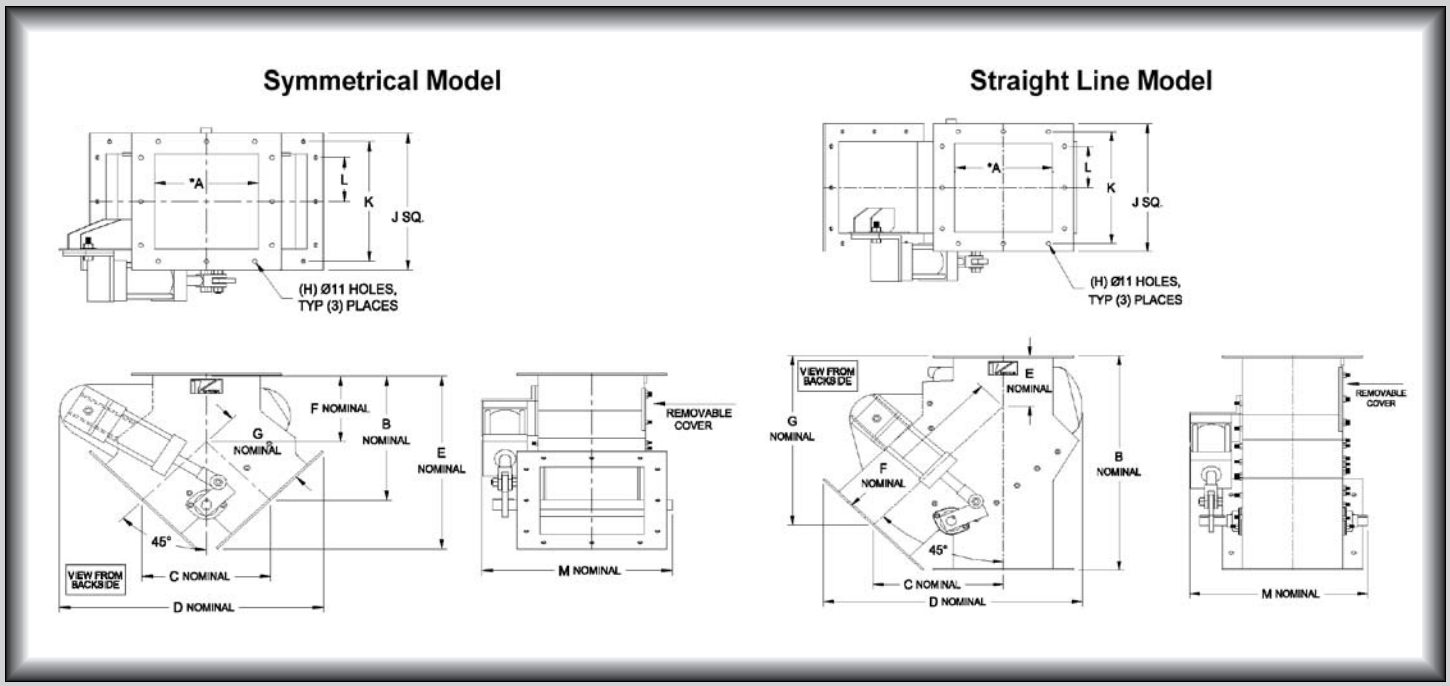
VORTEX® 2-WAY SEAL TITE DIVERTER™ DIMENSIONAL INFORMATION



Symmetrical Model	A	B	C	D	E	F	G	H	J	K	L	M	WT (kg)
Z100-2XX-45	102	229	191	403	302	133	133	203	203	159	79	305	18
Z150-2XX-45	152	260	229	457	349	146	162	203	254	210	105	349	23
Z200-2XX-45	203	292	267	495	400	159	187	305	305	260	89	400	30
Z250-2XX-45	254	330	305	625	457	178	216	305	356	311	114	451	36
Z300-2XX-45	305	362	330	673	505	197	235	508	406	362	70	502	43
Z350-2XX-45	356	400	368	699	562	216	260	508	457	413	83	610	54
Z400-2XX-45	406	432	406	765	613	229	289	508	508	464	95	660	64
Z450-2XX-45	457	483	483	876	679	241	340	508	559	514	108	711	209
Z500-2XX-45	508	546	559	991	762	267	394	711	610	565	76	762	84
Z550-2XX-45	559	584	610	1076	819	279	432	711	660	616	89	813	95
Z600-2XX-45	635	648	737	1257	908	279	521	711	737	667	95	927	163
Z650-2XX-45	660	686	787	1346	965	292	559	711	787	718	105	978	195
Z700-2XX-45	711	756	838	1432	1051	337	594	711	838	768	108	1029	227
Z750-2XX-45	762	775	889	1518	1089	330	629	914	889	819	92	1080	259

Straight Line Model	A	B	C	D	E	F	G	H	J	K	L	M	WT (kg)
Z100-2XX-45-SL	102	387	203	384	114	289	314	203	203	159	79	305	23
Z150-2XX-45-SL	152	464	248	464	114	349	375	203	254	210	105	349	30
Z200-2XX-45-SL	203	533	292	562	133	413	425	305	305	260	89	400	34
Z250-2XX-45-SL	254	597	330	657	140	467	470	305	356	311	114	451	50
Z300-2XX-45-SL	305	667	375	746	149	530	524	508	406	362	70	502	59
Z350-2XX-45-SL	356	743	419	810	159	594	581	508	457	413	83	610	82
Z400-2XX-45-SL	406	832	470	937	181	664	651	508	508	464	95	660	100
Z450-2XX-45-SL	457	914	521	1054	197	737	718	508	559	514	108	711	118
Z500-2XX-45-SL	508	1003	572	1165	216	810	787	711	610	565	76	762	136
Z550-2XX-45-SL	559	1092	622	1251	238	879	860	711	660	616	89	813	159
Z600-2XX-45-SL	610	1181	686	1356	235	968	921	711	737	667	95	927	227
Z650-2XX-45-SL	660	1270	737	1483	254	1041	991	711	787	718	105	978	318
Z700-2XX-45-SL	711	1346	787	1578	264	1114	1051	711	838	768	108	1029	409
Z750-2XX-45-SL	762	1372	810	1641	251	1146	1070	914	889	819	92	1080	499

All dimensions are given in mm, Information subject to change without notice.
* less material thickness.

VORTEX® 3-WAY SEAL TITE DIVERTER™

The patented Vortex® 3-Way Seal Tite™ Diverter is designed for use in gravity flow applications where material can be diverter from one source to either of three destinations. The Seal Tite™ Diverter offers a removable access door for replacement of blade and shaft seals. All internal ledges have been eliminated to promote cleanliness. The Seal Tite™ Diverter's superior design promotes efficiency, durability, and long service life.

Vortex® Seal Tite™ Diverter Features

- Positive Seal of Dust and Fine Powders
- Leading Edge of Blade Seals Protected from Abrasion
- Access Door for Internal Inspection, Cleaning, or Maintenance
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	100mm to 450mm Diameter Round, Square, or Rectangular
Media	Powder, Pellets, Granulars
Connection Options	SVC Standard Flange, ANSI, DIN, JIS, or Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 or 316L Stainless Steel, and/or Carbon Steel
Seal/Seat Material Options	PET, UHMW, Natural Rubber, Kryptane, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve, Electric Actuator, or Hand Lever.
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Patent No. 7290566

Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT3	Modifications are made allowing up to 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing up to 204°C continuous to 232°C intermittent service.
CIP	A special access panel and fasteners that allow for quicker access to the interior of the valve for inspection, cleaning or sanitation.
RT	Round transitions with SVC bolthole pattern are mounted to the inlet and two outlets of the valve.
RTP	Round transitions with ANSI, DIN, or JIS bolt hole pattern are mounted to the inlet and two outlets of the valve.
45 / 30	The angle the outlets are offset (45 or 30) degrees.
KS	Kryptane blade seal for more abrasive materials.

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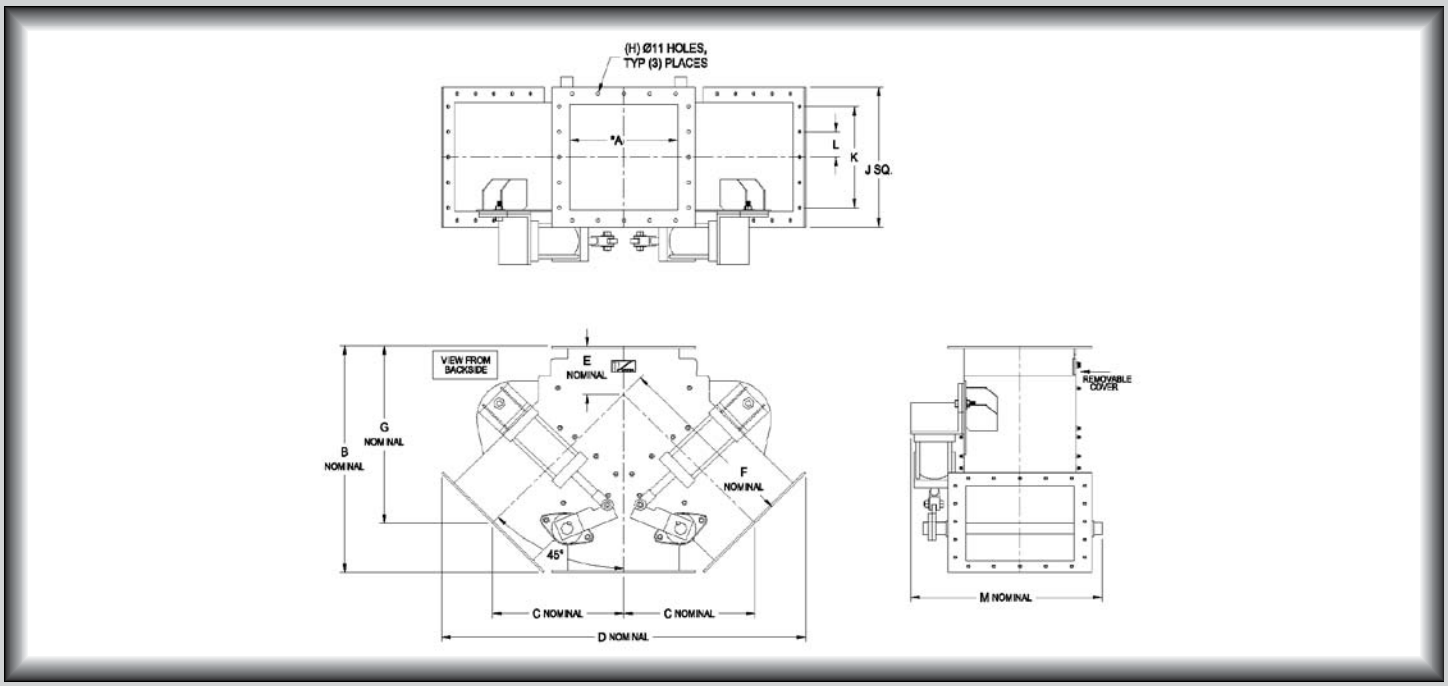
VORTEX® 3-WAY SEAL TITE DIVERTER™ DIMENSIONAL INFORMATION



Model	A	B	C	D	E	F	G	H	J	K	L	M	WT (kg)
Z100-3XX-45	102	387	203	549	114	289	314	203	203	159	79	305	45
Z150-3XX-45	152	457	248	676	121	349	368	203	254	184	105	349	68
Z200-3XX-45	203	533	292	800	133	413	425	305	305	260	89	375	91
Z250-3XX-45	254	584	330	911	127	467	457	305	356	311	114	451	114
Z300-3XX-45	305	660	375	1038	140	530	518	508	406	362	70	502	136
Z350-3XX-45	356	737	419	1162	156	594	575	508	457	413	83	610	204
Z400-3XX-45	406	826	470	1299	178	664	645	508	508	464	95	660	238
Z450-3XX-45	457	914	521	1435	197	737	718	508	559	514	108	711	272

All dimensions are given in mm, Information subject to change without notice.
* less material thickness.

VORTEX® ABRASIVE DUTY DIVERTER™

The Vortex® Abrasive Duty Diverter™ is designed to meet the demanding applications associated with handling material such as sand, gravel, whole grains, and coal. This diverter has been engineered to address the problems associated with typical aggregate or "bucket" diverters. The removable access door and abrasion resistant wear liners allow for a "maintenance friendly" diverter. The Abrasive Duty Diverter™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Abrasive Duty Diverter™ Features

- Heavy Duty Construction
- Seals and Body Protected from Abrasion
- Access Door for Internal Inspection, Cleaning, or Maintenance
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	150mm to 600mm Diameter Round, Square, or Rectangular
Media	Abrasives, Granulars
Connection Options	SVC Standard Flange, ANSI, DIN, JIS, or Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 204°C continuous to 232°C intermittent service
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 or 316L Stainless Steel, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Chute Rubber, Belted Rubber, Kryptane, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve, Electric Actuator, or Hand Lever
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX
Industry Use	Plastics, Petrochemicals, Chemicals, Minerals, Textiles, Agriculture

Application Specific Modifications

45 / 30	The angle the outlets are offset (45 or 30) degrees.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
DP	Carbon steel special service inlet with built-in dead pocket deflector.
PL	Replaceable abrasion resistant polymer liner on bucket legs.
HL	AR400 carbon steel honeycomb liner on bucket legs.
HB	AR400 carbon steel honeycomb liner on bucket.
RT	Round transitions with Vortex Standard flange patterns are mounted to the inlet and two outlets of the valve.
RTP	Round transitions with ANSI, DIN, or JIS flange patterns are mounted to the inlet and two outlets of the valve.

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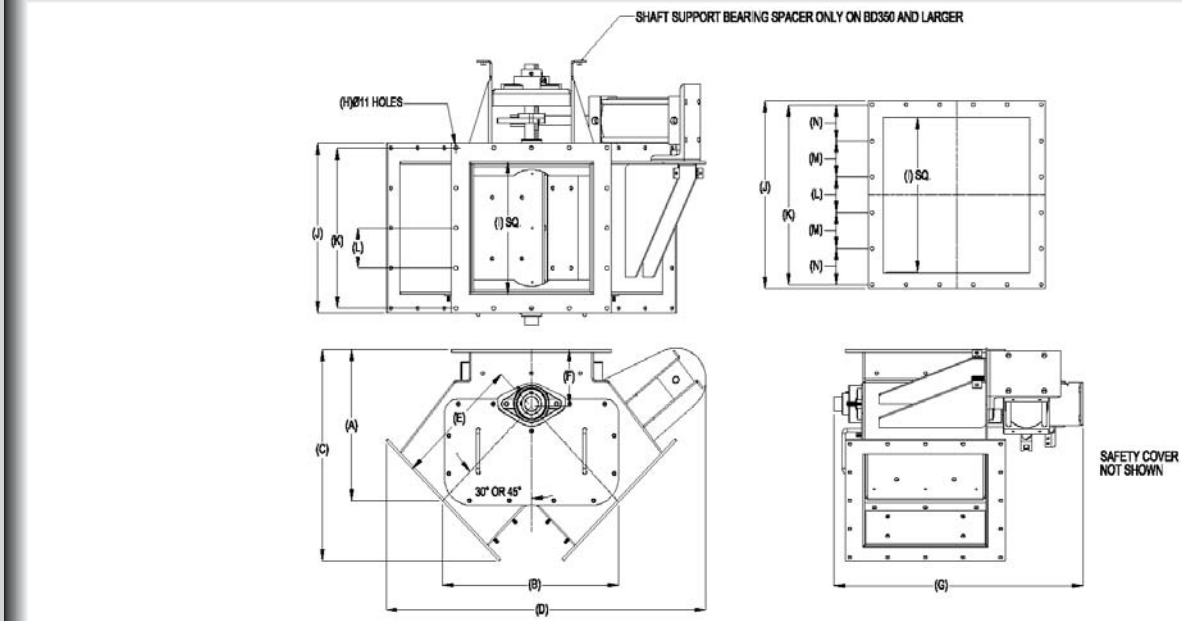
VORTEX® ABRASIVE DUTY™ DIMENSIONAL INFORMATION



Model	A	B	C	D	E	F	G	H	I	J	K	L	M	WT (kg)
BD150-2CS-45	292	305	381	603	216	140	356	203	143	254	229	114	--	32
BD200-2CS-45	318	356	425	648	251	140	406	203	194	305	279	140	--	45
BD250-2CS-45	343	406	470	772	289	140	457	406	244	356	330	83	--	59
BD300-2CS-45	368	457	511	813	324	140	508	406	295	406	381	95	--	82
BD350-2CS-45	406	508	568	914	359	152	610	406	346	457	432	108	--	109
BD400-2CS-45	432	559	613	991	394	152	762	406	397	508	483	121	--	127
BD450-2CS-45	457	610	654	1092	432	152	813	406	448	559	533	133	--	145
BD500-2CS-45	533	660	759	1178	467	203	889	406	495	635	584	146	--	261
BD550-2CS-45	559	711	800	1251	502	203	921	610	546	686	635	106	105	284
BD600-2CS-45	673	914	937	1476	648	216	1016	610	597	737	686	114	--	318

All dimensions are in mm, Information subject to change without notice.

VORTEX® GRAVITY VEE DIVERTER™

The Vortex® Gravity Vee Diverter™ is designed for diversity when diverting the flow of dry bulk solids in a gravity flow conveying system. 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 in both or either direction. The Gravity Vee Diverter™ is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labor and equipment costs.

Vortex® Gravity Vee Diverter™ Features

- Positive Seal of Dust and Fine Powders
- Seals Protected from Abrasion
- Accurate Metering of Material with Optional Metering Controls
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	150mm to 450mm Diameter Round, Square, or Rectangular
Media	Powder, Pellets, Granulars
Connection Options	SVC Standard Flange, ANSI, DIN, JIS, Custom Flanges
Media Temperature	Up to 82°C continuous to 121°C intermittent service, Modifications allow up to 121°C continuous to 149°C intermittent service
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 or 316L Stainless Steel, Aluminum, and/or Carbon Steel
Seal/Seat Material Options	Nylon, PET, UHMW, Glass Filled Teflon, Natural Rubber, and/or Silicon Rubber
Drive/Actuation Options	Double Acting Air Cylinder with Solenoid Operated Air Control Valve, Electric Actuator, or Hand Wheel
Position Confirmation	Magnetic Reed Switch, Proximity Switch, or Mechanical Switch
Compliance/Approvals	CE, ATEX, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Application Specific Modifications

S	Material contact is 316L stainless steel.
MG	Air cylinder has a magnetic ring which activates a magnetic reed position indicating switch.
WS1	Slide Blade is electro-polished. Polyethylene Terephthalate (PET) dust seals replace Nylon.
HT3	Modifications are made allowing 121°C continuous to 149°C intermittent service.
HT4	Modifications are made allowing 204°C continuous to 232°C intermittent service.
HS	Hardened steel rollers replace standard nylon rollers.
SB	Bonnet is manufactured with solid, gasket covers. (Allows the valve to accept air purge.)
AD	Modifications are made to handle medium abrasive products. Includes flow deflector and 5mm 304 stainless steel blade.

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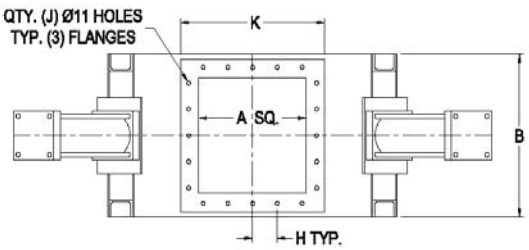
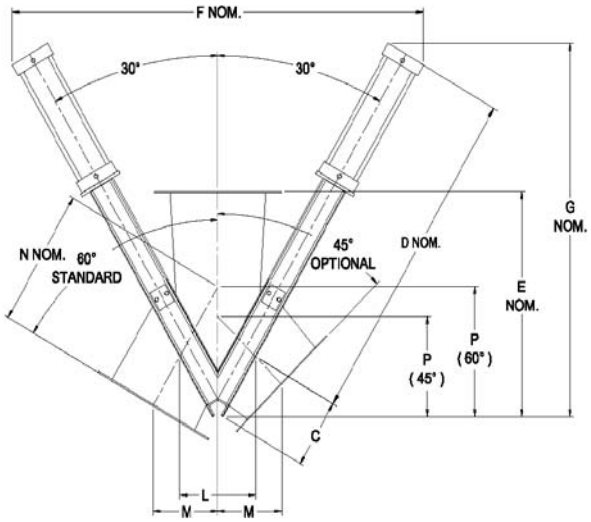
VORTEX® GRAVITY VEE DIVERTER™ DIMENSIONAL INFORMATION





Model	A	B	C	D	E	F	G	H	J	K	L	M (60°)	M (45°)	N (60°)	N (45°)	P (60°)	P (45°)	WT (kg)
V150-2(XX*) S-60-NR	152	279	133	645	441	835	718	105	8	254	165	146	149	292	213	260	200	63
V200-2(XX*) S-60-NR	203	330	159	772	530	987	864	89	12	305	191	162	168	324	235	305	235	77
V250-2(XX*) S-60-NR	254	381	184	899	610	1140	991	114	12	356	216	187	191	375	267	349	270	91
V300-2(XX*) S-60-NR	305	432	210	1026	679	1292	1124	70	20	406	241	208	206	416	289	391	305	104
V350-2(XX*) S-60-NR	356	483	235	1153	784	1445	1257	83	20	457	267	230	233	460	330	435	340	118
V400-2(XX*) S-60-NR	406	533	260	1280	899	1600	1372	95	20	508	295	237	241	397	340	483	375	131
V450-2(XX*) S-60-NR	457	584	286	1407	940	1775	1524	108	20	559	321	275	259	549	365	524	406	145

All dimensions are in mm, Information subject to change without notice.

*(XX) Material of construction, aluminum (AL), carbon steel (CS), or stainless steel (SS).

VORTEX® IRIS VALVE™

The patented Vortex® Iris Valve is designed specifically to handle dry bulk solids in gravity discharge of free-flowing material from bins, bulk bags, chutes, and hoppers. The Vortex® Iris Valve is constructed with stainless steel control rings, metal handle and trigger lock, and nylon shim for durability and smooth actuation. A form fitted fabric sleeve provides a dust tight seal and product barrier, which prevents material leakage to atmosphere. The Iris Valve is designed to eliminate problems, enabling you to meet your objectives by increasing production, while decreasing labour and equipment costs.

Vortex® Iris Valve Features

- No Binding or Galling. Smooth Actuation
- Unobstructed Bore for Unrestricted Flow of Material
- Fabric Sleeve Prevents Material Degradation
- Easy Installation and Maintenance

Valve Specifications

Size/Bore Options	100mm to 450 mm Diameters
Media	Powder, Pellets, Granulars
Connection Options	Standard Flange Pattern, Tube Stub, or Ferrule Couplings
Media Temperature	Up to 66°C continuous / intermittent service
Media Pressure	0 barg, Gravity Flow Only
Metal Construction Options	304 or 316L Stainless Steel, and/or Aluminium
Sleeve Material Options	Nylon, Teflon, Urethane, or Rubber
Drive/Actuation Options	Infinite Position Hand Lever , Quick Lock Hand Lever, or Tote Handle
Position Confirmation	Visual, Proximity Switch
Compliance/Approvals	CE, FDA
Industry Use	Plastics, Petrochemicals, Chemicals, Foods, Minerals, Textiles, Agriculture

Patent No. 7021604

Application Specific Modifications

SC	All steel material contact components are 304 stainless steel.
S-SC	All steel material contact components are 316L stainless steel.
UR	Valve Sleeve is a 4 oz. nylon that is urethane coated.
TF	Valve Sleeve is an 8 oz. Teflon material.
FP	Optional bolt-hole pattern is specified.

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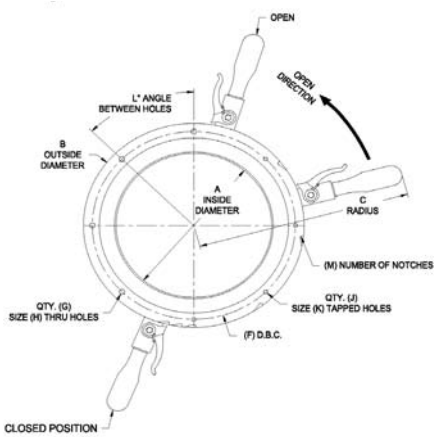
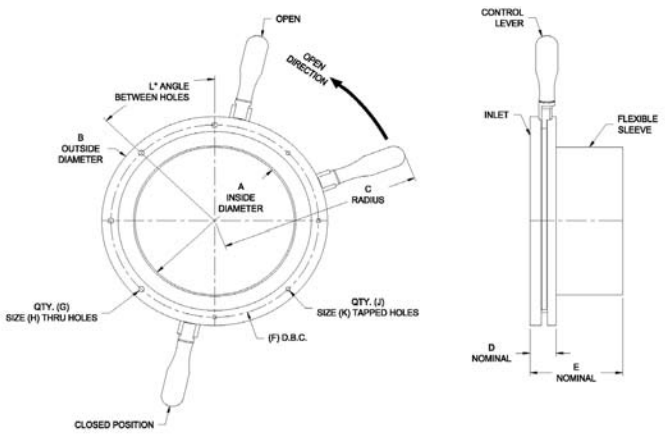
VORTEX® IRIS VALVE™ DIMENSIONAL INFORMATION

Quick Lock Model



Infinite Position Model



Quick Lock Model	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	WT (kg)
UB100QL	102	178	257	41	57	152	3	9	3	M8-1.25	60	4	1	--	--	--	--	--	3
UB150QL	152	229	283	41	89	203	3	9	3	M8-1.25	60	4	3	3	9/32	3	1/4-20 UNC	60	6
UB200QL	203	279	308	41	114	254	4	9	4	M8-1.25	45	4	4	3	9/32	3	1/4-20 UNC	60	7
UB250QL	254	356	346	41	146	327	4	9	4	M8-1.25	45	4	5	4	13/32	4	3/8-16 UNC	45	10
UB300QL	305	406	371	41	165	378	4	9	4	M8-1.25	45	4	7	4	13/32	4	3/8-16 UNC	45	16
UB375QL	381	495	416	41	203	470	6	9	6	M8-1.25	30	4	11	4	13/32	4	3/8-16 UNC	45	25
UB450QL	457	559	448	41	267	530	9	9	6	M8-1.25	30	4	15	--	--	--	--	--	34

Infinite Position Model	A	B	C	D	E	F	G	H	J	K	L	WT (kg)
UB100IP	102	178	232	41	57	152	3	9	3	M8-1.25	60	1
UB150IP	152	229	257	41	90	203	3	9	3	M8-1.25	60	3
UB200IP	203	279	283	41	114	254	4	9	4	M8-1.25	45	4
UB250IP	254	356	321	41	146	327	4	9	4	M8-1.25	45	5
UB300IP	305	406	346	41	165	378	4	9	4	M8-1.25	45	7
UB375IP	381	495	391	41	203	470	6	9	6	M8-1.25	30	11
UB450IP	457	559	422	41	254	530	6	9	6	M8-1.25	30	15

All dimensions are in mm, Information subject to change without notice.

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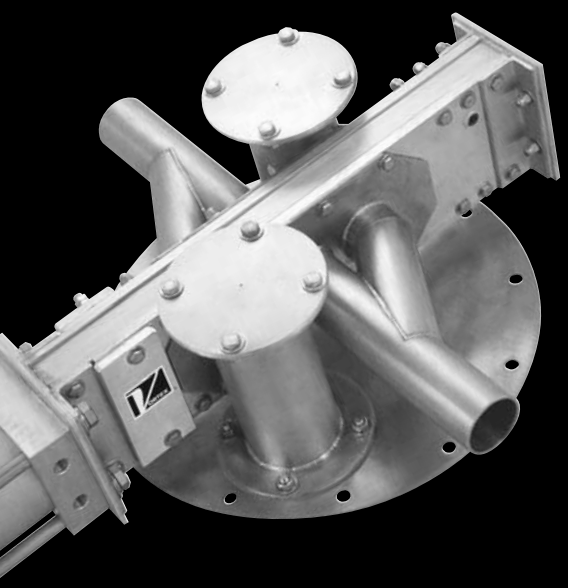
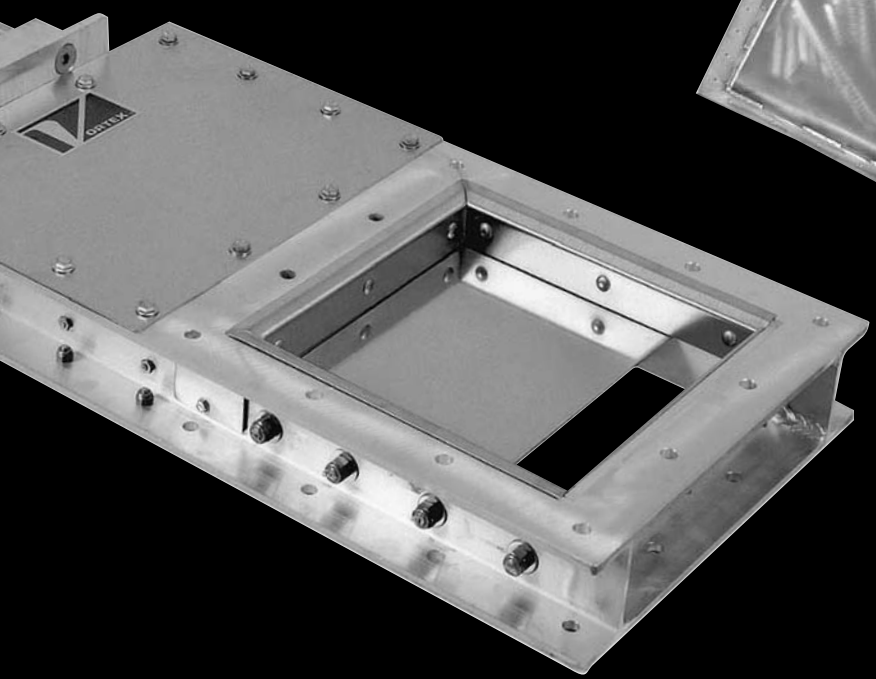
Slide Gates, Diverter Valves, and Iris Valves





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