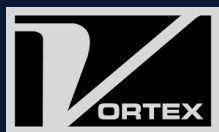


SYCSA[®]

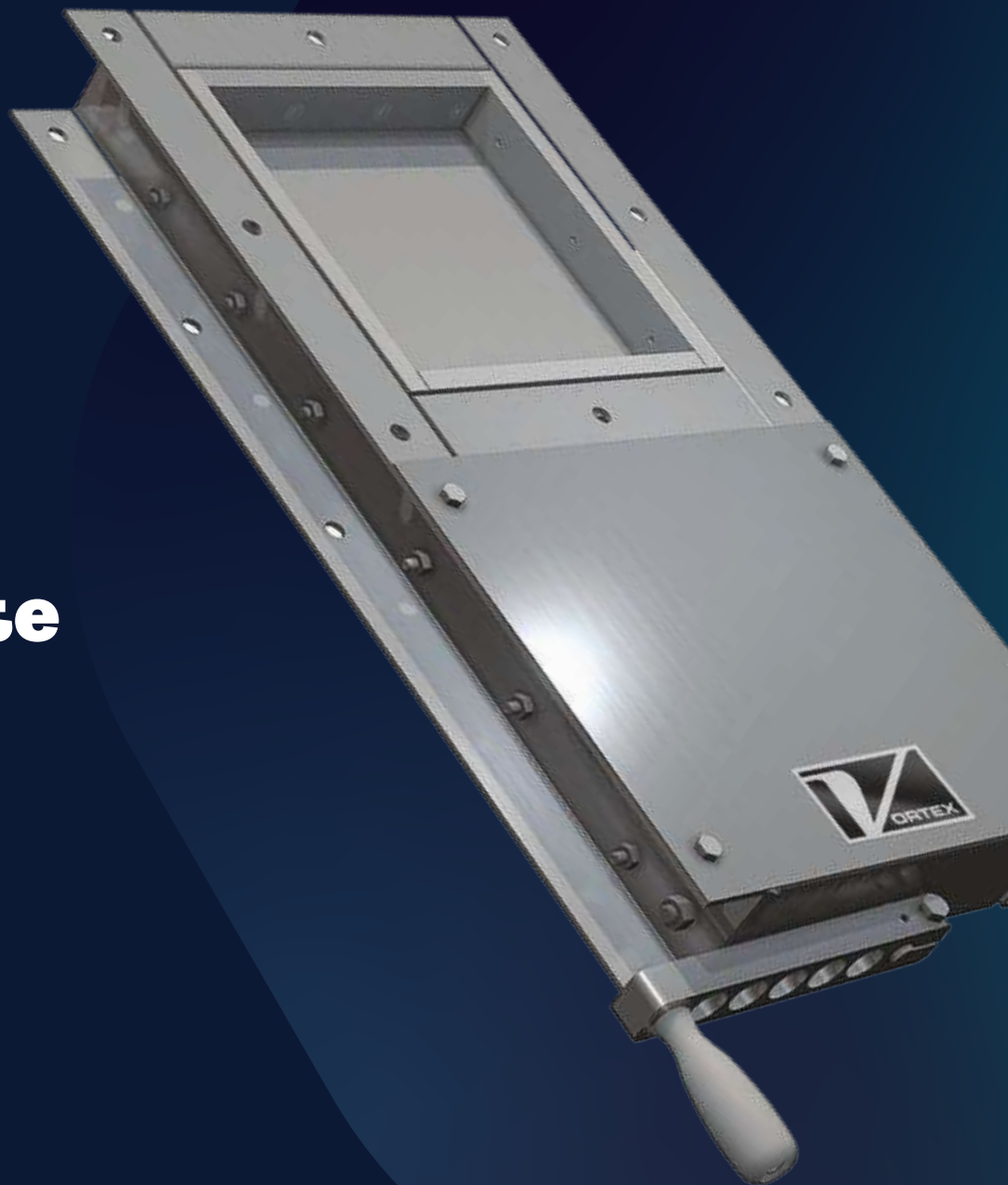
Maintenance Gate

Quantum
Series

Model No. MSCXX & MRCXX



PARTNER **SYCSA[®]**





Nuestras soluciones



No sólo te vendemos un producto
SYCSA® te acompaña en **todas las fases** de tu proyecto.



DISEÑAMOS



INSTALAMOS



AUTOMATIZAMOS



BRINDAMOS SERVICIO POSTVENTA

MAINTENANCE GATE

Ideal application: Shut off material flow when maintenance of downstream equipment is required or if an upset condition occurs.

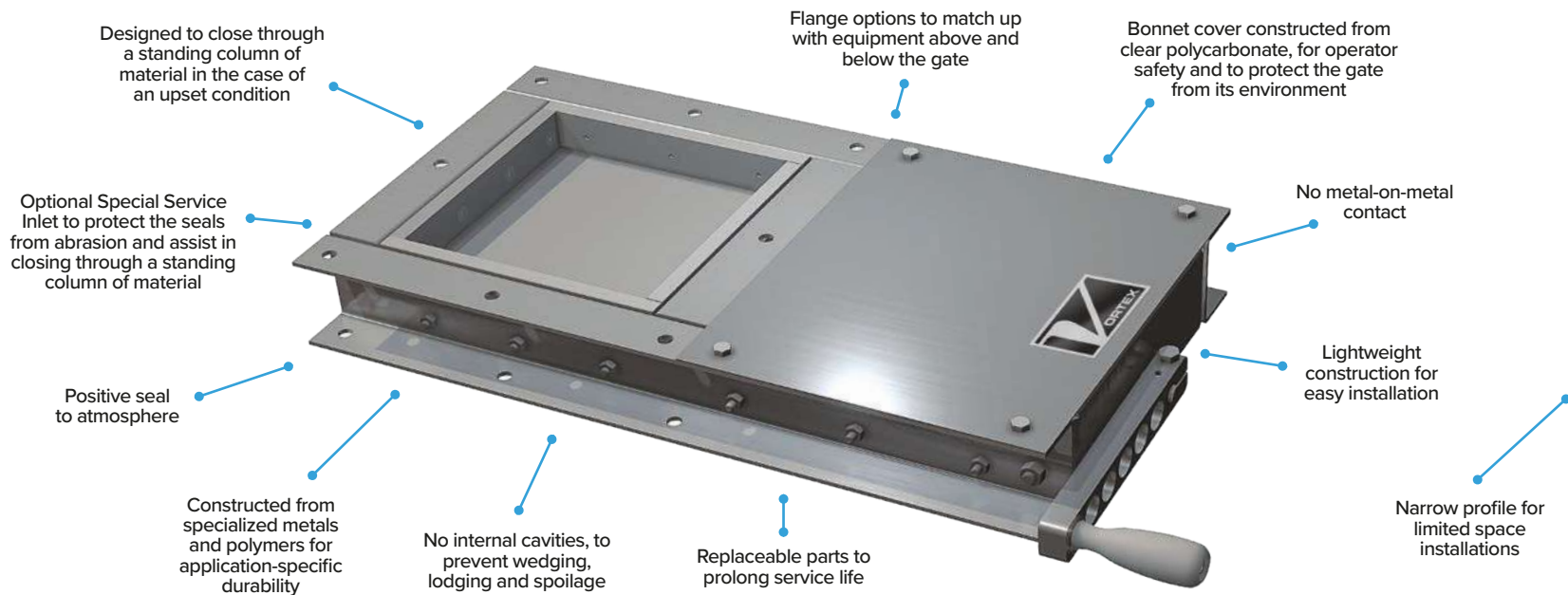
Square



Round



OPTIONS



KEY FEATURES



PTFE-treated bonnet packing gland, for greater wear resistance and longer service life



Non-rising stem, for easier manual actuation



Hand crank actuation, as a standard

TECHNICAL SPECIFICATIONS

Conveyance Type	Gravity flow and dilute phase pneumatic conveying applications. Can handle differential pressures up to 15 psig 1 barg 0.1 MPa, depending on gate size. Can be used in pressure or vacuum systems.
Materials Handled	Non-abrasive to moderately abrasive powders, pellets and granules. Well-suited for handling corrosive materials and/or for wash-down.
Standard Sizes	6 – 18 in 150 – 455 mm ID & OD diameters are available. Also available in schedule 10, 20 or 40 pipe sizes. Contact us for custom sizes.
Opening	Available in square or rectangular sizes. Round transition options are available (see page 67)
Overall Height	5 – 6 in 115 – 140 mm
Weight	15 – 200 lb 5 – 90 kg
Flange Options	Standard stud bolt pattern, DIN PN10, ANSI #125/150 Custom flanges are available
Material Temperatures	180° F 80° C for standard gate, with modifications that allow up to 400° F 205° C
Body/Frame Options	6061-T6 aluminum, painted carbon steel
Material Contact Options	304 or 316L stainless steel, carbon steel
End & Side Seal Options	Nylon, PET, UHMW-PE, 25% glass-filled PTFE
Bonnet Seal Construction	Bonnet seal cartridge with PTFE-treated packing gland
Clevis Construction	Ratio 5:1 ACME threaded rod
Drive/Actuation	Hand wheel/crank, chain wheel (see pages 61 & 62)
Position Confirmation	Clear bonnet cover for visual indication and/or proximity switches (see page 63)
Other Options	Special Service Inlet (see page 67)
Compliance	ATEX Zone 20 (internal), ATEX Zone 21 (external), FDA



THE POWER OF COMPARISON

Vortex Maintenance Gate vs. Alternatives

The design and construction of the Vortex® Maintenance Gate offers significant advantages over traditional carbon steel maintenance gates.

- The Maintenance Gate's aluminum body and frame make it lightweight and corrosion-resistant. The gate's stainless steel material contact areas provide additional resistance to corrosion and wear. This provides the Vortex Maintenance Gate with long-term and reliable service.
- Many alternative maintenance gates allow metal-on-metal sliding, which creates galling. This causes a gate to seize and bind, and can create foreign metal fragment contamination. The Maintenance Gate's hard polymer liners eliminate metal-on-metal contact to resolve each of these concerns.
- Many alternative maintenance gates rely on soft rubber seals which are directly exposed to the material flow stream. These seals rapidly erode or tear away in service. This deficiency promotes leakage of materials and dusts past the gate and to atmosphere, in addition to actuation issues and several other maintenance concerns. The Maintenance Gate addresses these issues by incorporating a bonnet seal cartridge, which houses a PTFE-treated packing gland. PTFE-treated packing gland provides greater wear resistance and longer service life than alternative sealing materials. Within the bonnet seal cartridge, the packing gland expands to create a dust-tight seal around the vertical perimeter of the blade. The bonnet seal cartridge shields the packing gland from the material flow stream, to protect it from abrasion. This design maintains the gate's positive seal with infrequent maintenance intervention. Once the packing gland has experienced significant frictional wear, it can be removed and replaced to restore the gate's dust-tight seal. This maintenance process can be performed while the gate remains in-line.
- The Maintenance Gate's stainless steel blade and hard polymer liners are FDA-compliant. This makes it an excellent choice in food handling applications and other applications where carbon steel and aluminum are not acceptable for material contact.


CASE STUDY

Multi-Port Diverter Handling Flour

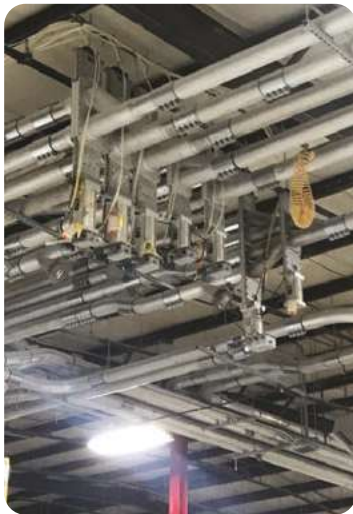
Client: Pasta producer

Application: Pneumatically convey/divert flour from a main supply line into 8 silos. Each silo feeds a separate production line. Each line produces a different pasta type.

Results:

The client previously used a manual hose switching station in this process. They were concerned about labor intensity, workplace safety, profitability, explosion potential, waste reduction and maintenance costs, among other things.

With the Vortex Multi-Port Diverter, the automated system ensures the different grades of flour are conveyed into their proper silo. The client has already saved dollars and labor hours, plus avoided potential processing errors and improved plant safety.


CASE STUDY

Gates & Diverters Handling Plastics

Client: Manufacturer of styrofoam cups, plates & bowls

Application:

- Reintroduce plastic scrap/regrind into the extrusion process.
- Convey resins/compounds into the extrusion process.
- Converge resins from various holding bins into a common convey line.

Valves:

- 7 Roller Gates
- 31 Wye Line Diverters
- 32 Orifice Gates

Results:

This client operates 5 shifts, 24 hours per day — and all but two days each year.

With the addition of Vortex gates and diverters, this client has a solution for automated material transport — and has reduced their manufacturing waste to less than 1%.


CASE STUDY

Seal Tite Diverter Handling Pet Food

Quantity: 4

Special Features: Spin knobs, for easy in-line access without using tools.

Application: Divert kibble into two disc conveyors, to be transported to a packaging line.


CASE STUDY

Iris Valve Handling Powdered Drink Mix

Quantity: 2

Application: Avoid contamination when handling food & beverage materials.

Special Features: A Teflon-coated body was specified because Teflon does not chemically react or corrode from material contact, which would otherwise compromise taste and create contamination. Teflon also assures food purity because it does not absorb preservatives. Because Teflon is non-stick, it also provides ease of maintenance.



TECHNICAL ARTICLE

How to Select a Valve for Solids & Bulk — Handling

Valve suppliers should have the application engineering knowledge and experience to know what valves and modifications should be applied for certain application parameters. Make sure your supplier is asking the right questions.

Many people think that selecting a slide gate or diverter valve for handling dry bulk solid materials is a relatively simple process. They typically assume the only information needed is:

- Opening shape & size
- Available stack-up height
- Matching connections or bolt hole patterns

But in reality, valve suppliers need much more information to be able to identify the right valve for the application. The more information a valve supplier has about the application parameters, costly mistakes are avoided. Misinformation can put you on either end of the spectrum — whether it be using an expensive valve for a simple application, or an inexpensive valve that is poorly designed for the application.

1. Valve Selection

The most critical questions are:

- What is the valve intended to do?
- Is a slide gate, diverter valve, iris valve or butterfly valve needed to best fulfill the application?

Follow-up questions include:

- What is the valve's opening size? Is the opening square, round or rectangular?
- What is the shape and size of the conveying line? Are the lines tube or pipe? If the lines are pipe, is it schedule 10 or 40?
- Will the valve be used in a pressure, vacuum or gravity flow application? If pressure or vacuum, how much? If pressure, will the system convey material in dilute or dense phase?
- Will the valve be installed indoors or outside?
- What is the temperature of the air and materials being conveyed?

- What should the valve be constructed from (aluminum, stainless steel, carbon steel, etc.)?
- Will the valve be subject to wash-downs? If so, will it be washed with hot water or a caustic liquid?
- If the valve is installed below a bin or silo — Will there be flow aides (aeration, vibration, etc.)? What is the sequence of operations for the system (e.g. When are the flow aides activated, in relation to the cycle of the gate valve)? How is material conveyed into the bin or silo?

Then, you must consider material characteristics:

- What is the material?
- Is it in powder, pellet or granular form?
- What is its particle size?
- What is its weight per cubic foot?
- Is it sticky? Abrasive? Corrosive?
- Is there sanitary or spoilage concerns?
- If multiple materials will pass through a common conveying line, is there cross-contamination concerns?

2. Actuator Selection

The most critical questions are:

- What is your power availability? Is compressed air available?
- What is the cycle frequency?
- Will the valve close on material? If yes, will the material be a standing or flowing column?
- Does actuation speed matter?
- If only intended for maintenance purposes, can I use manual actuation?
- If installed outside, will the valve be subject to cold temperatures?
- What are the cost variables for replacement and repair?
- Will the valve operate in a potentially explosive environment?

3. Standard Modifications

Your valve supplier should offer standard modifications to suit your application/material-specific requirements.

When selecting valve modifications, some application-specific factors that should be considered are:

- Is the application high-cycle?
- Is the material handled abrasive duty? Corrosive? Friable? Food-specific?
- Is chemical compatibility a concern?
- How often will the valve be serviced? Are in-line maintenance features desired?

4. Valve Location & Orientation

The most critical questions are:

- Where will the valve be installed (e.g. below a bin/silo, etc.)?
- Will it be installed in a vertical or horizontal orientation?

This helps determine which accessories may be required for your application. For example, if a slide gate is mounted below a surge hopper, a variable positioning assembly may be required to meter material into the weigh hopper.

5. Features Selection

Common modifications include:

- Abrasion-resistant blade & liners
- Adjustable blade rollers
- Custom valve sizes
- Sealed body with an air purge assembly
- Replaceable seals, liners & wetted parts
- Wear-compensating seals
- Wear-reducing material deflectors
- Wear-resistant blade, bucket blade or pivoting chute

...to name a few.

6. Accessory Selection

When specifying valve accessories, there are four distinct areas:

- Variable positioning assemblies — Vortex offers a VPO/VPC (relay control with manual adjustability); AVP (PLC control with manual adjustability); and an IVP (infinite positioning via a 4-20mA signal).
- Feedback — Vortex offers push-button control panels, and valve/sensor manifold technologies with a variety of PLC interfaces.
- Safety devices — A vented ball valve should always be installed in front of the air control valve, in order to bring the slide gate or diverter valve to a “zero mechanical” state before servicing. This type of ball valve bleeds off any residual downstream pressure contained in the air lines supplying the air cylinder. The ball valve should always be installed within arm's reach of the air control.
- Fabricated accessories — Fabricated transitions provide flexibility when mating up to existing equipment. This includes matching special bolt hole patterns, tube stubs, or blind flanges that allow in-the-field hole placement and installation.

○ **EQUIPOS PARA RECEPCIÓN, CARGA Y DESCARGA**

Descarga de sacos y supersacos
 Descarga de liners
 Descarga de ferrocarril
 Boquillas telescópicas
 Rompebóvedas
 Sistema de aireación
 Activadores de tolva

○ **ALMACENAMIENTO**

Silo atornillado
 Silo soldado
 Silo híbrido
 Silo mezclador
 Silo pesador
 Tanque atornillado
 Tanque presurizable
 Tolva

○ **VÁLVULAS**

Guillotinas
 Diversora
 Mariposa
 Rotatoria
 Iris

○ **SISTEMAS DE SEGURIDAD**

Sistemas pararrayos
 Válvulas de alivio vacío/presión
 Paneles de explosión
 Sistemas de supresión
 Válvulas de aislamiento
 Arrestador de flama

○ **MEZCLADO**

Mezcladora tipo listón
 Mezcladora de paletas
 Mezcladora para lodos
 Mezcladores para plásticos

○ **TRANSPORTE MECÁNICO**

Elevadores de cangilones.
 Transportadores de banda sencillo o reversible
 Alimentadores vibratorios
 Transportadores de rastra
 Transportadores helicoidales
 Transportadores tubulares de discos

○ **SISTEMAS DE MONITOREO Y TRAZABILIDAD**

Silos y tolvas pesadoras
 Sistemas de pesaje en línea
 Sistemas de trazabilidad
 Tableros de control
 Celdas de carga
 Básculas camioneras y ferrocarrileras
 Medición de nivel

○ **TRANSPORTE NEUMÁTICO**

Transporte fase diluida
 Transporte fase densa
 Sopladores
 Motosopladores
 Bomba neumática

○ **EQUIPO PERIFÉRICO**

Cargadores
 Enfriadores para aire de transporte
 Secadoras de aire caliente
 Cristalizado de PET
 Secadoras dehumificadoras

○ **COMPONENTES PARA LÍNEA DE TRANSPORTE**

Lanzas y mirillas
 Empaques
 Tubos y curvas
 Coples
 Mangueras PVC y metálicas
 Manifold para vacío
 Caja de vacío

○ **DOSIFICACIÓN Y ALIMENTACIÓN A MÁQUINAS**

Dosificadores volumétricos
 Dosificadores gravimétricos
 Adición de pigmentos o aditivos

○ **FILTRADO Y LIMPIEZA DE MATERIAL**

Filtros para venteo
 Filtros recibidores
 Colectores de polvo
 Trampas magnéticas
 Cribas

Conoce toda
nuestra oferta



The SYCSA logo is positioned in the top left corner. It features the word "SYCSA" in a bold, white, sans-serif font. A red horizontal bar is located under the letter "A". A registered trademark symbol (®) is placed to the upper right of the "A".

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INGENIERÍA, CONSTRUCCIÓN,
AUTOMATIZACIÓN Y MANTENIMIENTO DE
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CON MANEJO A GRANUL**