

ISOGATE®
Slurry Valves

Excellent
Minerals
Solutions

WEIR
MINERALS

Valves for abrasive applications



ISOGATE® Slurry Valves

Isogate slurry valves are the proven choice for today's highly abrasive slurry applications with unique designs developed with both ease of maintenance and overall ownership costs in mind.



Weir Minerals' proven experience in abrasion and corrosion resistant materials including premium Linatex® rubber products makes for exceptional performance and wear life in abrasive flow applications.

Conventional valves, designed only for liquid service, have sometimes been applied in abrasive/corrosive slurries, though seldom with satisfactory results. Typical problems include rapid wear of valve seats and liners, sticking, and leakage to the atmosphere during operation. Isogate slurry valves are designed to eliminate these problems and improvements are constantly being made in material, product design, engineering and manufacturing to ensure minimized downtime and reduced risk of disruption during operation.

Reliable and versatile. Isogate slurry valves can operate under wide pressure and temperature ranges and are designed to handle the harshest and most abrasive process flow conditions.

Superior sleeve materials. Sleeves are available in a variety of materials to handle abrasive and chemical applications: natural rubber, EPDM, nitrile, neoprene and others as required by the application. Only Isogate slurry valves offer genuine Linatex® and Linard premium abrasion resistant natural rubber liners.

Simplified maintenance. All Isogate valve wear parts are easily replaced in the field, reducing down time and overall cost of ownership.



Industry Applications for Isogate® Valve Products

Weir Minerals provides a comprehensive range of slurry valves for a wide variety of applications in many industries.

Mining and Minerals Processing

Isogate® slurry valves operate in some of the harshest and most demanding environments across the globe. Our valves are used in a wide range of minerals processing and metallurgical applications in basic metals production (copper, nickel, iron); precious metals and gems production (gold, silver, platinum, diamonds), and industrial minerals (phosphates, talc, kaolin, silica, clays).

Construction Materials

Isogate® slurry valves are the perfect choice for on/off and throttling control of flowing media in the construction minerals industry.

Other Industries

Isogate® slurry valve products are a cost effective solution for on/off, throttling and reverse flow control of flowing media in industrial processes that involve abrasive or corrosive materials. Some of the many industries that have enjoyed the performance benefits of Isogate rubber lined valve products include sand and gravel, dredging, water and waste water, food collection, preparation and processing companies, coal fired power plants, pulp and paper mills, shot and sand blasting equipment manufacturers, and wineries.



Expertise where it countsSM

ISO GATE® Mechanical Pinch Valves

The Isogate MP Valve is a mechanical pinch valve used for effective control of abrasive and corrosive flow in industrial process systems. The valve uses a flexible rubber lined pinch sleeve that is collapsed between two mechanical bars to effect accurate modulating control, positive closure, and drip tight shut off. The pinch sleeve inside diameter is full line size for maximum throughput and minimum pressure drop.

The double acting pinch mechanism closes the pinch sleeve along the valve centerline to maximize control of the process flow and minimize wear damage to the sleeve liner.

The Isogate MP Valve is available with premium quality Linatex® natural rubber liners and is specifically designed for harsh, highly abrasive flow control applications in liquid-solids slurry.

ISO GATE® Pneumatic Pinch Valves

The Isogate PP Valves are pneumatic or hydraulic actuated enclosed body pinch valves used for control of abrasive and corrosive flowing media in industrial process systems. They are ideal for remote operation using typical plant air and do not require auxiliary cylinder operators.

Isogate PP Valves use flexible rubber lined pinch sleeves and pinch liners enclosed in robust cast metal bodies that collapse when plant air or hydraulic pressure is applied to them. Our PP Valves are available with premium quality LINATEX® natural rubber liners and are specifically designed for harsh, highly abrasive flow control applications in liquid-solids slurry.

Mechanical Pinch Valves

Open or closed body mechanical pinch valves

**Open Body Valve
Isogate® Series MP OB**

The open body pinch valve features a weight saving fabricated steel body that allows for easy pinch sleeve replacement and permits quick and positive indication of valve position.

Features:

- Linatex® premium rubber is the standard pinch sleeve wear liner material. A wide range of natural and synthetic rubber liner materials are also available
- Center pinch operation and flexible pinch sleeve construction ensure accurate flow control and long pinch sleeve life
- Reduced weight fabricated steel body
- The compact short length design features integral end flange gaskets on the pinch sleeves that ensure leak tight installation into process piping
- The heavy duty pinch mechanism requires low input force for smooth hand wheel operation at maximum working pressures

**Closed Body Valve
Isogate® Series MP CB**

The closed body includes a cast metal body that encloses and protects the pinch sleeve and pinch bars while providing initial splash protection against leaking flow media.

Features:

- Linatex® premium rubber is the standard pinch sleeve wear liner material. A wide range of natural and synthetic rubber liner materials are also available
- Center pinch operation and flexible pinch sleeve construction ensure accurate flow control and long pinch sleeve life
- The robust cast metal body encloses and protects the pinch sleeve and pinch bars while providing initial splash protection against leaking flow media
- The compact short length design features integral end flange gaskets on the pinch sleeves that ensure leak tight installation into process piping
- The heavy duty internal pinch mechanism requires low input force for smooth hand wheel operation at maximum working pressures



MP CB and MP OB maximum working pressures

Size	Pressure
1/2" to 6" (1 cm to 15 cm)	150 psi (10 bar)
8" (20 cm)	125 psi (9 bar)
10" to 12" (25 cm to 30 cm)	100 psi (7 bar)
14" (36 cm)	75 psi (5 bar)
Up to 24" (61 cm)	50 psi (3 bar)

Pneumatic Pinch Valves

One piece pinch sleeve or two piece pinch liner pneumatic pinch valves



**One Piece Pinch Sleeve
Isogate® Series PP 1PS**

The Series PP 1PS uses a full bore pinch sleeve that delivers maximum flow at minimum pressure drop when fully open and drip tight shut off when fully closed. It is ideal for use in on/off control of coarse particle slurries.

Features:

- Linatex® premium rubber is the standard pinch sleeve wear liner material. A wide range of natural and synthetic rubber liner materials are also available
- Flexible pinch sleeve construction ensures positive closure and long pinch sleeve life
- The robust cast metal body contains the pneumatic/hydraulic supply pressure, encloses and protects the pinch sleeve and provides secondary process containment
- The full bore pinch sleeve has integral end flange gaskets to ensure leak tight installation into process piping
- The PPV 1PS can be operated in any pipeline position

**Two Piece Pinch Liner
Isogate® Series PP 2PL**

The Series PP 2PL uses a two piece split pinch liner that responds quickly to changes in operating fluid control pressure. The PP 2PL is ideally suited for flow control in process applications requiring frequent and/or rapid on/off flow cycles.

Features:

- Linatex® premium rubber is the standard wear liner material. A wide range of natural and synthetic rubber liner materials are also available
- Flexible pinch liner construction and short stroke design ensures positive closure and long pinch liner life
- The robust cast metal body contains the pneumatic/hydraulic supply pressure, encloses and protects the pinch liner and provides secondary process containment
- The molded rubber pinch liners have integral end flange gaskets to ensure leak tight installation into process piping
- Can be operated in any pipeline position

Maximum working pressures

Valve	Size	Pressure
PP 1PS	1" to 14" (3 cm to 36 cm)	100 psi (7 bar)
PP 2 PL	1" to 6" (3cm to 15 cm)	150 psi (10 bar)
PP 2 PL	8" (20 cm)	125 psi (9 bar)
PP 2 PL	10" to 14" (25 cm to 36 cm)	100 psi (7 bar)



Isogate® Knife Gate Valves

Using materials proven by Weir Minerals' experience in abrasion and corrosion resistance, the Isogate® heavy duty slurry knife gate valve combines a low maintenance design with a wide range of available materials making the valve suitable for a variety of applications.

Isogate knife gate valves are designed for those applications where high abrasion resistance is needed. The WB Series' robust design and rugged heavy duty construction provides greater reliability and longer life in heavy duty, highly abrasive, corrosive and coarse slurries. The WS Series' unique design provides reliable service together with ease of maintenance and cost effectiveness in a light weight, compact package.

Isogate® Check Valves

Isogate® check valves are designed specifically for use in tough abrasive and corrosive slurries. Their fully lined bodies and coated internal components are ideal for use in liquid-solids slurry applications. With more than 20 years of check valve experience, Weir Minerals provides simple, fully field serviceable check valves for the most arduous slurry applications.

Knife Gate Valves

Wide body or wafer style heavy duty knife gate valves for highly abrasive and corrosive applications

**Wide Body Valve
Isogate® Series WB**

WB series wide body heavy duty slurry knife gate valve is specifically designed for highly abrasive and corrosive applications.

Features:

- Heavy duty use
- Replaceable abrasion resistant sleeves
- Optional lower stem guards available
- Pneumatic, hydraulic, electric motor, and bevel gear actuators available
- ANSI 150# class flanges standard on sizes 18" to 24" (46 cm to 61 cm). Slotted flange pattern per MSS SP 44 for sizes 26" (61 cm) and larger



WB Series available in sizes 18" (46 cm) through 54" (137 cm)



WS Series available in sizes 2" (5 cm) through 24" (61 cm)

**Wafer Style Valve
Isogate® Series WS**

The WS series wafer style slurry knife gate valve is designed to provide reliable service in tough abrasive and corrosive slurry applications. The WS series' unique design provides reliable service together with ease of maintenance and cost effectiveness in a light weight, compact package.

Features:

- Heavy duty use
- Replaceable abrasion resistant sleeves
- Bellows and valve stem protected against dusty environments
- Manual, pneumatic, hydraulic, electric motor, and bevel gears actuators available
- Upper seal does not require periodical adjustments
- Installation between ANSI B16.5 150# class flanges standard

Maximum working pressures

Valve	Size	Pressure
WS	Up to 16" (41 cm)	150 psi (10 bar)
WS	Larger than 16" (41 cm)	up to 90 psi (6 bar)
WB	18" to 24" (46 cm to 61 cm)	100 psi (7 bar)
WB	Larger than 24" (61 cm)	75 psi (5 bar)

Check Valves

Single non-return swing check valve for prevention of reverse flow



CV Series maximum working pressures

Size	Pressure
1" to 14" (3 cm to 36 cm)	125 psi (9 bar)

**Single Non-Return Check Valve
Isogate® Series CV**

The single non-return valve CV series is specifically designed for reverse flow prevention for harsh, highly abrasive applications in liquid-solids slurry services.

Features:

- Linatex® premium rubber is the standard wear liner and disc material. A wide range of natural and synthetic rubber liner and disc materials are also available
- Full bore design with low friction loss and high flow capacity
- Drip tight shut off
- The replaceable molded rubber liners and disc are held in place by the body fasteners - no adhesives are required
- Robust cast metal bodies

Autoball® Valves

Enables quick changeover between duty and standby pumps



The Autoball® AB3 valve is specially designed to enable quick changeover between duty and standby pumps in the toughest slurry applications.

Features:

- Heavy duty use
- Interior anti-abrasive coating
- Actuates with differential pressures
- Installs between ANSI 150# class flange or victaulic couplings

AB3 maximum working pressures

Size	Pressure
Up to 6" (15 cm)	150 psi (10 bar)
8" to 14" (20 cm to 36 cm)	100 psi (7 bar)
Larger than 14" (36 cm)	75 psi (5 bar)

Geographical footprint

Weir Minerals has the geographical presence to service all the major minerals markets around the world. This global supply capability provides a competitive advantage in this relatively fragmented market.

Weir Minerals has operations across:

- North America
- Latin America
- Africa
- Russia
- Europe
- Australia
- Asia

Customer profile

Our customers range from the world's largest minerals and mining multinationals to single pumpset operators.

We support customer operations worldwide with consistent products and local engineering expertise. As part of the Weir Group, we have the reach and resource to build close, long term relationships with all our customers, helping them to achieve ...

The Lowest Cost of Ownership

Service and support

This global capability with our own dedicated service teams combined with the service centres of our sister companies within the Weir Group and those of our strategic partners provide support in virtually every developed market.

WARMAN® Centrifugal Slurry Pumps
GEHO® PD Slurry Pumps
LINATEX® Rubber Products
VULCO® Wear Resistant Linings
CAVEX® Hydrocyclones
FLOWAY® PUMPS Vertical Turbine Pumps
ISOGATE® Slurry Valves
MULTIFLO® Mine Dewatering Pumps
HAZLETON® Specialty Slurry Pumps
LEWIS® PUMPS Vertical Chemical Pumps
WEIR MINERALS SERVICES™



For further information on any of these products or our support services contact your nearest sales office or visit:

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