KEYSTONE SLIDE GATE VALVES

Figure 215

Slide through, O-port gate design for severe service applications

FEATURES

- Ideal valve for dense slurry and solids applications and wet or dry abrasives.
- Slide through gate design cuts through solids providing consistent operation in the most difficult applications.
- O-port style gate fully protects the seat face in open position, giving you longer service life.
- Will close through a static column of material.
- Fully fabricated from heavy plate and sheet.
- Available in 304, 316 and 317L stainless steel wetted parts or custom designed for your needs using a wide variety of materials including
  - Monel®
  - Titanium
  - 254SMO
  - Hastelloy®
  - Alloy 20
  - 310 S/S
- MSS face-to-face standard.
- Other special face-to-face dimensions are available.
- Precision machined seat with multiple gate guides.
- Uni-directional shut-off.
- Full operation, leakage and cycling tests.
- Certified test reports on request.

GENERAL APPLICATION

- For severe service and specialty applications
- Pulp and paper
- Recycle paper
- Chemical
- Petrochemical
- Power
- Mining
- Wastewater

TECHNICAL DATA

- Size range: DN 50 - 600 (NPS 2 - 24)
- Pressure rating: 1000 kPa (150 psi) CWP
- Options:
  - Hardface seat
  - Purge ports
  - Hardened gate V-Port or diamond port for throttling Gate guard

Available operators and accessories

- Handwheel (standard)
- Bevel gear
- Lock-Pin for open, closed or both
- Air/Hydraulic/Spring cylinders
- Electric motor operators
- Control accessories
- Extension stems, floorstands
- Stem guides
WHY A SLIDE GATE VALVE?

The Keystone F215 slide gate valve is designed to cut through solids to give you consistent shut-off in the most difficult applications. Unlike a conventional knife gate valve, the F215 does not have to push its way through the media; it simply displaces it, making the valve ideal for dense slurry and solids applications. The F215 also features a fully protected seat face, giving you longer service life.

With a conventional knife gate valve, solids may build up in front of the exposed seat.

This can cause problems; the seat is subject to wear and the gate may not fully close.

Using a slide gate valve, a similar buildup may occur, but the seat is protected and....

....instead of having to push its way through, the gate moves into the lower body, taking the solids with it....

....when the gate goes to the open position, the solids are drawn back out and sent downstream.

SPECIFICATION, FIGURE F215-(SF)

Bonnetless slide gate valve, 1000 kPa (150 psi) design for 1000 kPa (150 psi) CWP, MSS-SP81 face-to-face dimension with flanges drilled and tapped to ASME B16.5/150, AS 2129 or DIN PN10 with machined raised gasket faces. Valve body shall be fully fabricated from heavy gauge stainless steel with steel plate body and port flanges. Inlet port and seat face to be hard surfaced with hard gate guides and four (4) purge ports. Seating shall be in one direction. Gate to be hardened stainless steel finish ground, with a round orifice hole in gate, in line with seat I.D.

To deter atmospheric leakage, the valve body features an adjustable packing assembly at each end consisting of multiple layers of braided asbestos free PTFE impregnated synthetic or equal packing around gate evenly compressed by a one-piece packing gland. Valve is equipped with a heavy-duty double acting cylinder actuator assembled to a self-supporting yoke.

The clevis shall be fabricated from three pieces, with the top piece drilled and tapped to accept a threaded-welded connector rod. Grade 8 gate bolts used unless stainless steel bolting is required.

Specify Keystone F215-(SF) as manufactured by Emerson.
FEATURES

- Umbrella stop-stud assembly allows gate adjustment, assures proper flow
- Heavy cross-section stem, single-lead ACME threads for ease of operation
- Self-locking retaining nut
- Cast iron handwheel
- Acid-resistant bronze stem nut for smooth operation
- Heavy-duty steel T-Bar yoke provides greater strength
- Precision ground stainless steel gate for tight shut-off
- Multiple rows of AFPL or other packing at both ends
- Locknuts used on all bolting
- Smooth flowing fabricated steel body
- Flanges drilled and tapped to ASME B16.5/150 or AS 2129
- Machined gasket faces
- Gate protects seat when valve is in full open position, ideal for heavy stock and cutting through static columns
- Full gate guides to assure proper seating
- Metal-to-metal seat (O-ring or hard surfaced available)
- Steel plate body and port flanges, heavy-duty construction throughout for strength
- Heavy reinforced cast ductile iron packing gland at both ends

Note: Round port design is depicted, optional diamond port or V-Port available for throttling.
The Keystone F215 can be modified to survive the rigors of recycle applications. It is well suited for use on cyclones, junk traps, repulpers (isolation and dump valves) and others. Specify the F215-(SF) secondary fiber slide gate valve and you will get a heavy duty slide through gate design that can cut through solids like wires, staples, and heavy stock. The F215-(SF) features a fully protected seat, a hardened gate, port, seat and guides along with purge ports, giving you a long service life. Available in any size, with ASME, AS2129 or DIN drilling to match specific applications.

**Standard**
- Heavy-duty construction
- Slide through design
- Protected seat in open position
- ASME flange drilling

**Specify the F215-(SF) and you will get**
- Purge ports
- Hardened gate
- Hard seat face
- Hard inlet
- Hard gate guides

**Optional**
- Ni-Hard deflector cone
- Gate guards (upper and lower)
- DIN flange drilling

**Kv*, |Cv❖| VALUES**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>Flow round port</th>
<th>Area of opening</th>
<th>Flow diamond port</th>
<th>Area of opening</th>
</tr>
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<td>50 [2]</td>
<td>1.09 (288)</td>
<td>20.0 (3.1)</td>
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<td>-</td>
</tr>
<tr>
<td>80 [3]</td>
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<td>182.6 (28.3)</td>
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<tr>
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<td>49.91 (13184)</td>
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</table>

* Area is in square centimeters. Flow is in cubic meters per minute of water at 0.07 bar pressure drop.
❖ Area is in square inches. Flow is gallons per minute (GPM) of water at 1 psi pressure drop.

**CODE OF MATERIAL**

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<th>Item</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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AFPL is an asbestos free PTFE impregnated synthetic packing suitable for services up to 260°C (500°F) and a pH of 3-11, other packings are available.

* Alternate material is fabricated carbon steel.
### Keystone Slide Gate Valves

**Figure 215**

**Dimensions and Weights**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>ØA (in.)</th>
<th>C (in.)</th>
<th>C1 (in.)</th>
<th>D (in.)</th>
<th>ØE (in.)</th>
<th>F (in.)</th>
<th>G (in.)</th>
<th>Weight (kg)</th>
<th>Weight (lbs)</th>
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<tr>
<td>50 (2)</td>
<td>150 (6.0)</td>
<td>397 (15.63)</td>
<td>457 (18.00)</td>
<td>50 (1.88)</td>
<td>200 (8)</td>
<td>210 (8.25)</td>
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<td>80 (3)</td>
<td>190 (7.5)</td>
<td>451 (17.75)</td>
<td>533 (21.00)</td>
<td>50 (2.00)</td>
<td>300 (12)</td>
<td>210 (8.25)</td>
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<td>100 (4)</td>
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