



**HRI "HRI" SLURRY KNIFE GATE VALVE**

The "HRI" wafer style slurry knife gate valve offers the latest in elastomeric technology with the sleeve design.

**FEATURES**

- 100% isolation, bubble-tight shut-off results in absolutely zero downstream leakage.
- Double-seated design provides bi-directional flow and shut-off.
- Unobstructed flow eliminates turbulence, minimizes pressure drop across valve.
- No seat cavity where solids can collect and prevent full gate closure.
- Dynamic self-adjusting secondary seal.
- No gate or stem packing is required, eliminating packing leakage and maintenance.
- Long lasting lubrication.
- No metal parts in contact with the flowing slurry.
- Adaptable frame (yoke) design featuring a top-removal stem nut, can be field modified to an air cylinder or bevel gear in the field without welding.
- Open-Closed lockout brackets standard through NPS 16 (DN 400), ready for optional factory supplied or customer supplied lockout pins.

**TECHNICAL DATA**

- Size Range: DN 50 to DN400)
- Temperatures: Standard sleeve rated to 180°F (80°C), up to 300°F (150°C) with optional elastomer selection
- Standard pressure ratings: DN 50 to 400 rated to 150 psi (10 bar) Optional pressure ratings: Up to 200 psi (14 bar) Sleeve: Silicon Rubber

**NOTE**

Zero leakage is defined as no visible leakage of water past the seat at any test pressure up to the fully rated pressure of the valve.

**OPEN POSITION**

- Gate positioned above seals
- Tight fit between sleeves and the Internal sleeve profile contain the line pressure
- Metal parts not in contact with slurry
- Unobstructed port area eliminates turbulence, Minimizes pressure drop across valve
- No seat cavity where solids can collect and prevent full gate closure

**CLOSED POSITION**

- Gate travels through sleeves to provide blind flange shut off and expel solids allowing complete closure
- 100% isolation-bubble tight shut-off results in absolutely zero downstream leakage
- Double-seated design provides bi-directional flow and shut-off
- Sleeve profile and tight fit between sleeves and gate contains internal pressure
- Controlled stroke prevents gate from penetrating too far, minimizing stress on sleeve

## **NOTE**

It is normal to discharge media during the opening and closing cycle. This helps prevent solids build-up between the sleeves. Discharge can be controlled by optional splash drain plate.

## **STANDARD SLEEVE MATERIALS**

**Natural rubber** - This category includes all natural gum elastomers, both filled and unfilled and synthetic polyisoprene. Has high tensile strength, superior resistance to tear and abrasion and good resistance to heat build-up. Maximum continuous operating temperature 180°F (82°C).

**EPDM**-HTP Advantages - excellent resistance to heat, ozone and sunlight, very good flexibility at low temperature, good resistance to alkalis, acids, and oxygenated solvents and superior resistance to water and steam. Limitations - poor resistance to oil, gasoline, and hydrocarbon based solvents. Maximum continuous operating temperature 300°F (149°C). **OPTIONAL SLEEVE MATERIALS** The following elastomer compounds are available upon request and review of application and installation. for additional information.

**NBR (Nitrile) and HNBR (Nitrile-HTP) Advantages** - very good resistance to petroleum based greases/oils, silicone greases/oils and nonoxidizing chemicals. Good resistance hydrocarbon based fuels. Limitations - Inferior resistance to ozone and oxygenated solvents. Maximum continuous operating temperature 275°F (135°C) for NBR and 325°F (163°C) for HNBR.

**Fluoroelastomer Advantages** - outstanding resistance to high heat, excellent resistance to oil, gasoline and hydrocarbon solvents. Very good impermeability to gases, vapor and oxygen. Limitations - poor resistance to tear and cut growth, very little resistance to oxygenated solvents. Maximum continuous operating temperature 400°F (204°C) (Contact your "HRI" sales representative for temperatures higher than 400°F/204°C).

## **STANDARD CONFIGURATION**

- Ductile iron body housings
- 316 stainless steel gate
- Universal body housing drilled and tapped to match ASME B16.5 Class 150 companion flanges
- High tear strength natural rubber sleeves with integral support discs
- EPDM secondary seal

## **Why Elastomeric seated valves at better than metal to Metal/Epdm seated valves (unidirectional)??**

1. HRI supplied Elastomeric valves are bidirectional valves with zero leakages whereas other valves doesn't ensure zero leakages from both direction: Due to back pressure kgv seat get damaged due to passing from opposite to flow direction due to its unidirectional sealing nature.
2. As the plate is outside the flow path area the frequency of slide plate worn out will be almost less in elastomeric valve which is a major maintenance issues due to passing in kgv.
3. In ordinary KGV we face frequent gland failure & lots of dust during failure of gland . In elastomeric valves this issue will not be observed as the plate is completely outside of the flow area during open condition & during closed condition plate is sealed with both side elastomer seat, ensuring no leakage from gland.