

# BI-DIRECTIONAL KNIFE GATE VALVES

Acceptable Brands: ITT Fabri-Valve

## Tightness

- Knife Gate valves must be bi-directional, bubble tight to the valve's full cold working pressure rating (CWP).

## Knife Gate Body

- The valve body must be a single solid casting. Lined valves and two piece valves are not acceptable.
- Valve flanges must be drilled to ANSI Class 150.
- Minimum body rating must be 150 CWP.

## Gate

- Front, back and sides of gate must be finished ground.
- Gate edges must be rounded or radiused.

## Seat

- The valve must be perimeter seated. Valve designs utilizing two separate seats, one on each side of the gate are not acceptable.
- The trapezoidal shaped perimeter seat must be mechanically retained in a trapezoidal groove in the body to eliminate seat roll-over and seal pull out.
- A relief must be behind the perimeter seat to reduce seal compression set.
- Seat must be equal to or wider than the gate thickness.

## Packing

- Packing must be multiple layers braided packing.
- 6" (DN 150) and larger valves must have energized cored packing and packing supports.

## Valve Internal Diameter (ID)

- The port ID of 2-12" valve must be the same as the nominal inside diameter of Schedule 40 pipe.
- The port ID of 14" and larger valves must not be less than 95% of the nominal inside diameter of Schedule 40 pipe.

## Stem

- The valve must have a 1/4" pitch. 1/4" lead.

## Testing

- All valves must be body shell tested, seat tested and cycle tested prior to shipment.
- Body must be hydro-tested at 1.5 times the rated CWP (cold working pressure). Leakage is not acceptable.
- The seat must be hydro-tested at 15 psi (1 bar) and the rated CWP. Leakage past the seat is not acceptable.
- The valve must be cycled prior to shipment to ensure proper functioning of all moving parts.

## Travel Stop

- The valve must include a travel stop to prevent over-tightening of the valve.

## Lock-Out Device

- Handwheel actuated valves must include a provision for a locking device.

