

KNIFE GATE VALVE COMPARISON

When comparing knife gate valves, ask yourself the following questions:

- 1) Does the valve have a large body cavity, small body cavity, or no body cavity at all? (Check under seat ring or seat area). This aids in preventing sludge build-up.
- 2) Is the valve available in both Non-Rising Stem and Rising Stem? NRS is good for space savings. The valve should also be available with rising stem, it would be an Open Stem Yoke Design, to let the operator view from a distance if the valve is open or closed.
- 3) Is the blade (or gate) fully guided? This prevents blade movement, which causes stuffing box seal failure.
- 4) Is the gate fully machined (gates have full radius on both sides) and are the edges rounded? This results in much closer tolerances, no leaking through it, and allows less frictional contact.
- 5) Do the valves have stoppers, to allow the gate to form a tight seal against the seat seal?
- 6) Does the gate blade have a wiper edge design? This allows the blade to cut through sludge and push the sludge out as the valve closes, to ensure no sludge build-up occurs on the side of the body. If the gate blade is in fact flat, instead, this would cause sludge to pack into the body and make operation difficult.
- 7) Does valve construction have dissimilar metals in contact with each other? This metal-to-metal contact can result in galvanic corrosion.
- 8) Does the superstructure of the valve allow easy modification to adapt electric or pneumatic actuator? Solid stainless steel, 4-post design ensures alignment and ease of field retrofit.
- 9) When performing all piping pressure tests, can the valve be closed or must the valve remain open?
- 10) Can the valve be used in dead end service, with the downstream flange removed?

These are some critical questions to be considered, and answered, before choosing a knife gate valve for your application.