MODEL 790EB THROTTLING CONTROL VALVE DEAD ANGLE FOR ZERO ADJUSTMENT POSITIONERS

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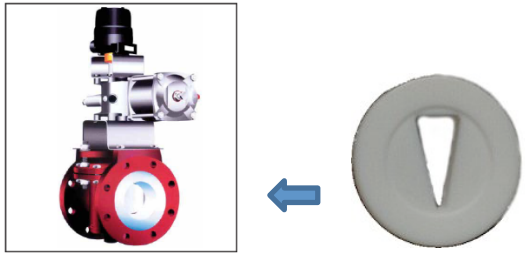
www.chemvalve.com

Issues with Throttling Applications:

- Virtually all quarter turn valves have a "no flow travel angle" that is created by the thickness of the sealing surfaces (seats - if the valve has them) as the inside edge of the hole through the plug or ball travels from the fully closed position to the point where that inside edge is just beginning to expose some flow area.
- If the "zero point" of the positioner input signal is not suppressed, the result will be a significant reduction in the real span of the control of the valve. For example, if the "no flow travel angle" of a valve is 30 degrees, then a standard positioner, without the special zero suppress feature, would actually control not from 4 to 20 ma, but from 9.33 to 20 ma. This can cause "PID wind-up" with controllers in the control loop.

MODEL 790EB V-PORT SEAT



ChemValve Solutions:

- ChemValve recommends that a special cam be furnished for a standard type positioner or special programming for a digital type positioner. This will allow the "zero point" to be suppressed to account for the "no flow travel angle" from the closed position to the point where some flow area is being exposed as the plug travels toward the open position.
- ChemValve has a chart that lists the "dead angle" of the v-port seats by the valve size. The "dead angle" is the amount of rotation, in degrees, of the plug, starting with the full closed position, that is required before any flow area of the v-port seat starts to be uncovered by the inside edge of the hole through the plug.

Valve Size	"Dead Angle" for V-Port Seats
1"	43°
1.5	30°
2"	24°
3"	22°
4"	27°
6"	27°
8"	17°