

### About our PermaSeat Butterfly Valves

In 1992, Curtiss-Wright's Enertech business unit introduced the first Safety-Related and ASME Code triple-offset butterfly valves (TOSV) to the nuclear power industry with its PermaSeat product line. Today the triple offset valve design is installed in almost every U.S. plant and plays a critical role in the safe and efficient operation of a nuclear reactor.

With over 450 installations in over 30 reactors worldwide, PermaSeat butterfly valves have proven to be effective and reliable in isolation, as well as, modulating applications.

In addition to the TOSV, next generation PermaSeat also provides large diameter butterfly valves (80" to 144"), high performance and rubber-lined designs. This complete range of butterfly valves is one of the largest in the nuclear industry.

# PermaSeat

## Butterfly Valves

All of PermaSeat's valve designs can be supplied Commercial, Safety-Related, or ASME Code Section III; Enertech maintains 10CFR50 Appendix B Program and N & NPT Stamps. Additionally, with an extensive offering of pneumatic, electric, and electro-hydraulic nuclear qualified actuators, Enertech is able to provide extreme, single-sourced valve and actuation packages.

PermaSeat valves can be designed to match the face to face dimensions and torque requirements of your installed obsolete and poor performing butterfly valves (BFV).

### Triple Offset BFVs – TOSV

- Triple offset geometry eliminates unnecessary wear and prolongs seat and seal life
- Replaceable seat and seal ring reduces maintenance
- Bi-directional shut-off with zero leakage capability
- Non-galling design enables a wide variety of material options
- Additional options: live loaded packing, double block and bleed design
- Size: 3" – 84"
- ANSI Rating: 150 – 2500 lb.

### Large Diameter BFVs – E & R Series

- Single or double offset geometry for control and isolation duties
- Features either integral body seat, individual seat, or resilient seal ring that is field replaceable
- Positive shut-off is achieved without excessive interference between seat and seal ensuring maximum seal life and low seating and unseating torque
- Ebonite liner available for ocean & brackish water applications
- Size: Up to 144"
- ANSI: 150 – 300 lb.

### High Performance BFVs – T Series

- Double offset geometry provides low unseating and seating torques
- Maintenance friendly field replaceable PTFE insert and secondary metal seat
- Single piece shaft prevents excessive disc deflection, ensuring bi-directional sealing
- For ambient and low temperature applications the PTFE seal is rigidly held in the body and energized on to the disc by the secondary seat
- Size: 2" – 48"
- ANSI Rating: 150 – 300 lb.

### Rubber-Lined BFVs – C Series

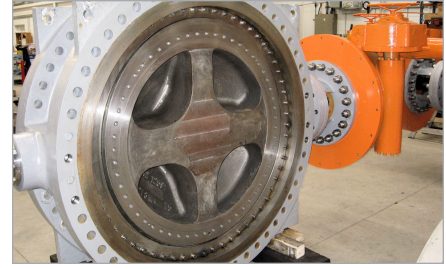
- Bi-directional, consistently tight shut-off using the integral body liner
- Standard elastomer material is EPDM with a choice of alternatives to suit specific duty
- Single piece shaft is splined to the disc to ensure high integrity construction
- Easy maintenance, no special tools required
- Size: 2" – 54"
- ANSI Rating: 150 lb.

### Nuclear Plant Services Include:

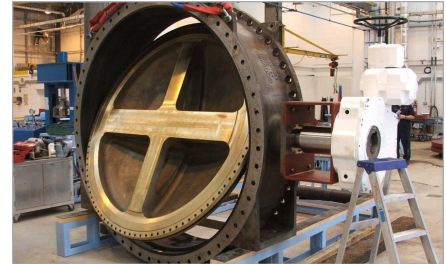
- Application engineering assistance
- Upgrades, repair, and refurbishments
- Complete spare parts support
- Site walkdowns

### Model MAK, WAK, OSK Obsolescence Support

Enertech provides aftermarket spare parts and like for like replacements for the obsolete PermaSeat MAK, WAK, and OSK valve designs.



TOSV



E-Series



R-Series



T-Series



C-Series

#### CONTACT INFORMATION:

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