Severn Leeds OCT® Oblique Cone Technology

Triple Offset Control Valve
With over 50 years’ experience, the Severn Glocon Group plc provides world-class engineered valve products and services to process plants across the globe. The Severn Leeds brand is recognised globally for innovative butterfly valve solutions for critical shut off and control applications. Severn Leeds Manufacturing facilities in the UK, Brighouse and Chennai, India
OCT® Oblique Cone Technology
Triple Offset Control Valve

The Severn Leeds OCT® may be the first triple offset butterfly valve designed from the outset to provide the ultimate in cutting edge butterfly control valve technology.

Incorporating the 50 years’ experience in butterfly control of Severn Glocon Group and allied to real market feedback via the Groups’ “repair intelligence” capability, each facet of the valve has been designed to provide the most accurate, reliable and robust service capability possible:

✔ Maximised bore valve with high CV and truly circular geometry
✔ Low dynamic & sealing torque
✔ Available with a range of low noise & anti-cavitation trims
✔ Sealing rates for FCI 70.2 Class II to Class VI
✔ Laminated & solid seal designs with a multitude of sealing materials to suit all applications
✔ Actuated packages are supplied fully assembled and tested for peace of mind installation
✔ Fully in-field serviceable
OCT® – The Art of Control

The simplicity and ingenuity of OCT® represents the next generation of our pursuit of providing the ultimate in butterfly control valve technology.

Severn Leeds 
OCT® Technology

Traditional Triple Offset Design

With traditional triple offset valve geometry, an elliptical disc seal is effectively cut from a rotated cone.

OCT® – Breaking Tradition

The patent pending OCT® design is based on an ‘infinite circle’ based geometry. By this method we avoid having to consider ellipses and can achieve a perfectly circular ‘patent pending’ triple offset geometry.

This simple yet elegant solution to TOV geometry allows a sealing area to be created using an ever decreasing set of perfect circles, giving full bore capability without the flat spot typically seen on most triple offset butterfly valves.
Process Benefits

- Internal bolting removed or minimised to avoid risk of vibration loosening
- Disc shaped and optimised for smooth fluid flow control
- Direct anti-cavitation trim capability for increased pressure recovery, lower noise and reduced dynamic torques
- Circle geometry maximises Cv without compromising sealing capability
- Floating disc ensures excellent operational temperature capability
- Low emission gland to ISO15848 Part 2, class B
- Hard facing options for maximum wear resistance on abrasive service
A commitment to process understanding, ensuring the optimum valve, whatever the application

- All materials are selected to give excellent corrosion resistance and maximum service life
- High Grade seals designed to optimise performance
- Bespoke designs to meet non-standard specifications
- Actuated packages are supplied fully assembled and tested for peace of mind installation

Applications

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Examples Include

**Offshore Platform & FPSO**
- Seawater lift pump back pressure control
- Ballast water flow control
- Hydrocarbon gas flow control
- Fire main bypass control

**Refinery**
- Flare gas control
- Flow Balancing for Fiscal Metering

**Power Generation**
- LP & MP Steam control
- Cooling water flow & back pressure control
- Cooling Tower de-icing

**LNG Storage & Transportation**
- Loading & unloading flow control
- LNG Recirculation control
- LNG Tank flow control

**Urea, Ammonia & Fertilizer Production**
- Synthesis gas flow control
- Urea flow control
- HP steam pressure reduction
Tested for the Rigours of Critical Service Control

Designed for Life – Using the latest 3D and FEA technology the Severn Leeds butterfly control valve is designed with a maintenance free long life in mind.

Technical Data

Design
ANSI B16.34, API 609

Testing
API 598, BS 51551, FCI 70.2

Flange Drillings
ANSI, MSS, DIN & BS

Size Range
2” to 72” (50mm to 1800mm)

Body Ratings
150lb to 2500lb (DIN 10 to 400)

Temperature Range
– 200°C to + 800°C

Body Type
Wafer, Lugged, Flanged, Clamp Hub & Butt Weld

NACE
MR0103 & MR0175, ISO 15156

Fugitive Emission
ISO 15848, Shell 77/312

Desalination
✓ Seawater make up level control
✓ Brine Recycle
✓ Brine blow down
✓ Condensate back pressure control
✓ Distillate back pressure and flow control