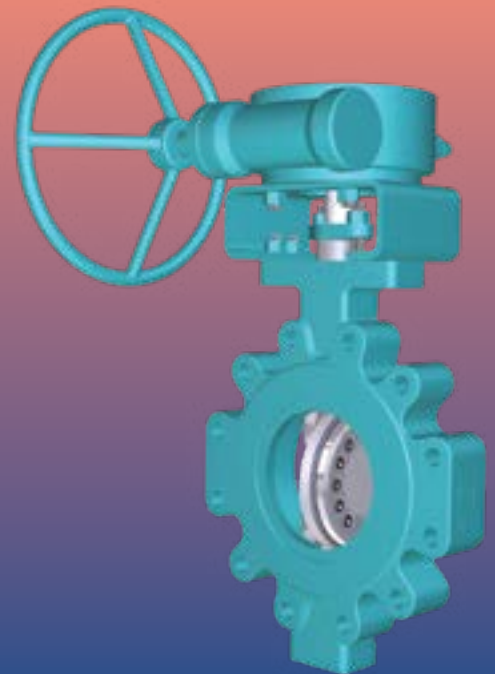




# WKM Valves— Triple Offset Valves

High-quality, bidirectional valves for critical applications in demanding markets



# WKM Valves — Triple Offset Valves

The TOV completes our reliable, performance-proven, quarter-turn butterfly valve portfolio. The true triple offset geometry of this valve allows for bubble-tight sealing to create a valve that delivers fully bidirectional zero-leakage shutoff per API Standard 598.

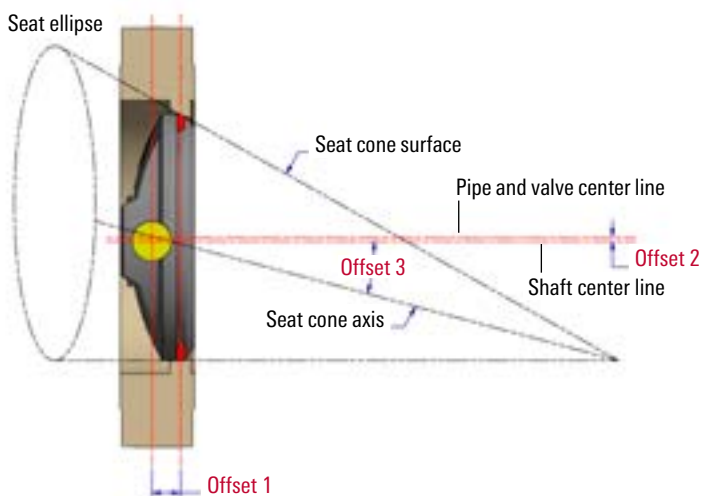
Backed by our world-class engineering, manufacturing, and sourcing expertise, the TOV provides a trusted solution ideal for crucial applications. Operators around the world rely on our dedication to high-quality standards, competitive manufacturing processes, and world-class support for total valve life cycle support.

## Advantages

- True triple offset geometry
- Fully bidirectional zero-leakage shutoff per API 598
- Field-replaceable metal seat
- Life cycle tested as a bubble-tight bidirectional valve
- Standard bearing seals
- Self-centering disc
- Available in a wide range of configurations: lug and short (ISO) and long pattern
- Carbon and stainless steel standard; other materials on request



## Triple Offset Geometry



Offset 1 provides full 360° uninterrupted sealing.

Offset 2 provides eccentric rotation of the disc that swings the seal ring completely off the seat upon opening.

Offset 3 moves the centerline of the cone rotation laterally from the centerline of the disc rotation, enabling the cone to seal without rubbing.

## Compliance and Specifications

API Standard 609

ASME B16.34

ASME B16.5

API Standard 598

ISO-5752 flange dimension

ASME B16.47 for Series A mating pipe flange dimensions for valve sizes 26 in and larger, Classes 150, 300, and 600

ASME B16.10

MSS-SP-55

ISO 5211

API Standard 607, latest edition for fire testing

Fugitive-emissions testing per API Spec 641 and ISO 15848-1

# Major Markets

## Power and steam

- District heating
- Bitumen

## Petrochemicals (refining and chemicals)

- Coking
- Reformers — cracking
- Tank switching
- Ethylene
- Butadiene
- Isocyanates — plastics

## Midstream

- Tank and terminal
- Tank switching
- Long pattern for gate valve replacement
- Storage for all types of hydrocarbons and chemicals
- Liquid transfer

## Upstream production

- Process equipment
- Separation — molecular sieve
- Switching
- Floating production platforms
- Manifolds
- Slurry, oil sands, and SAGD methods
- Secondary recovery

# Applications

## Oil and gas

- Critical isolation
- Steam piping and condensate
- Offshore platforms
- Cooling water systems
- Seawater
- Produced fluids processing systems

## Refining and petrochemical processing

- Hydrocarbon processing
- Hydrogen
- Oxygen
- Thermal fluids
- Hot gases
- Sulfur (tail gas)

- Chemical solvents
- Chlorinated solvents
- Flare gas

## Liquefied natural gas

- LNG storage
- LNG production

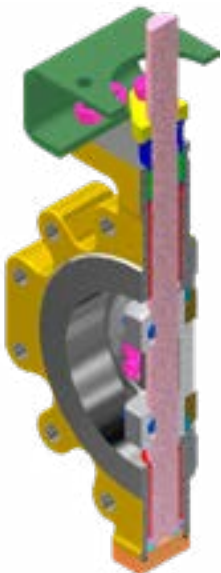
## Power and district heating

- Steam isolation
- Hot water control systems
- Geothermal steam

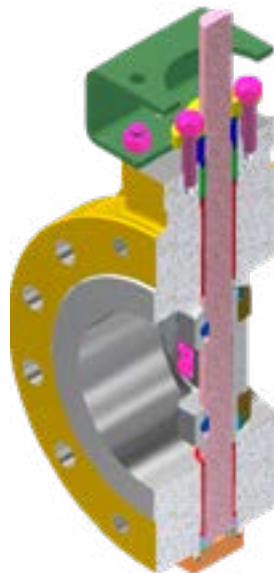
## Midstream

- Tank isolation
- Manifold system isolation
- Metering systems
- SCADA systems

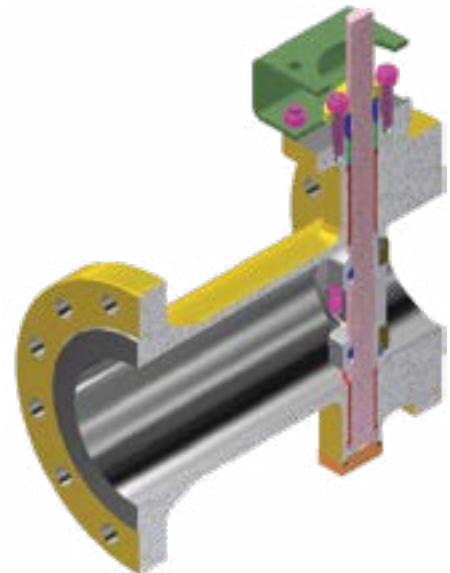
# Flange Connections



Lug pattern per API 609



Short pattern per ISO 5752/API 609



Long pattern per ASME B16.10 and API 609

# WKM Valves—Triple Offset Valves



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