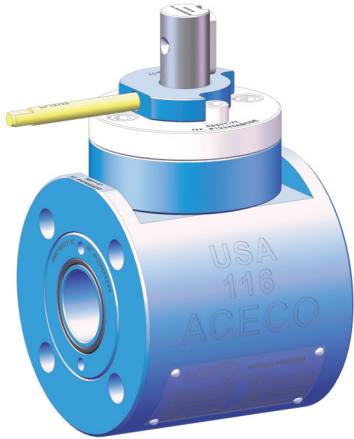




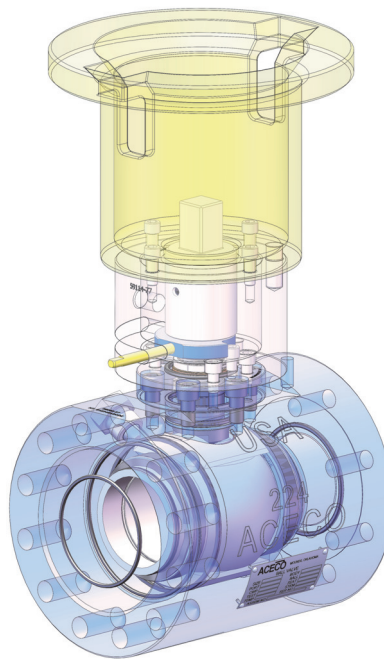
SUBSEA COMPACT VALVES



Compact Floating Ball Valve
w/ Travel stop and Position indicator

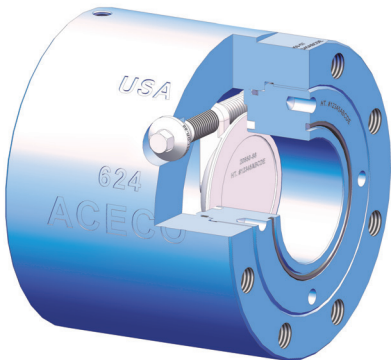


Compact Trunnion Ball Valve
w/ Travel stop and Position indicator

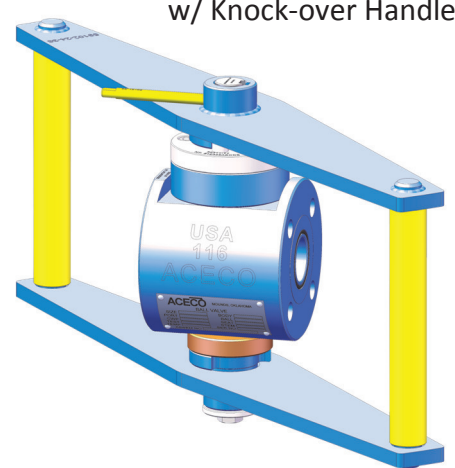


Compact Trunnion Ball Valve
w/ API 17H Torque Receptacle
for ROV's

Compact Check Valve



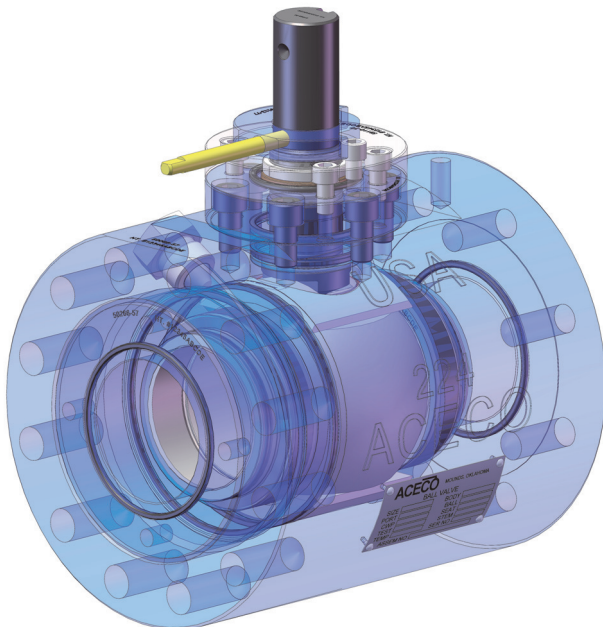
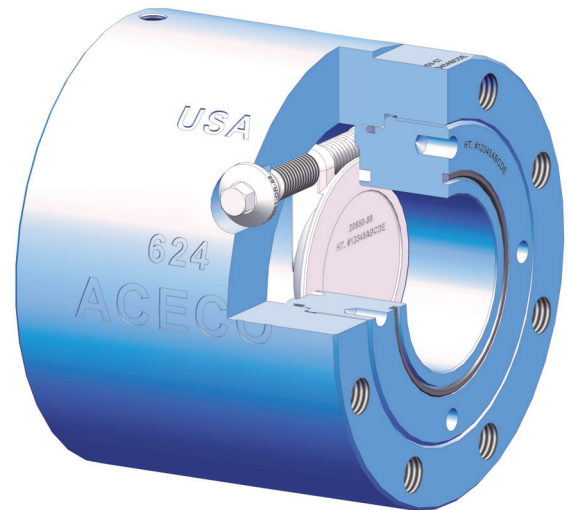
Compact Ball Valve
w/ Knock-over Handle



Valve Offering

Floating and Trunnion-mounted Compact Ball Valves and Check Valves designed specifically for temporary (typically 0-5 years) subsea service.

1. Rugged proven valve designs from a high-quality U.S.A. Valve manufacturer.
2. Pipe sizes from 1" to 10", with the valve bores closely matching the piping inside diameter.
3. Working pressures from ASME Class 600 (1,500 psi) up through 10,000 psi.
4. Performance-tested at ocean depths up to 10,000 feet.
5. Provided with either flanged, buttweld or customer-specific end connections.
6. A wide range of metallic and elastomeric materials available.



7. Multiple coating systems as required by the application.
8. Designed to be used with a broad range of operator/ actuator devices such as: Bare Stem, API 17H Receptacles for ROV's, Knock-Over handles, Subsea Gear operators, Subsea Hydraulic Actuators or customer-specific methods.
9. Designed to meet the requirements of: API 6A, API 17H and API 6DSS for material control, design stresses, testing, dimensions and subsea drive train requirements.
10. Compact and versatile design allows for easy inclusion in manifolds, pipe runs and tight locations.

API 17H ROV Torque Receptacle

API 17H Class 1-4 Receptacle Torque ratings:

Class 1 and 2: 200 ft-lbf— 11/16" Sq Drive

Class 3: 1000 ft-lbf— 1-1/8" Sq Drive

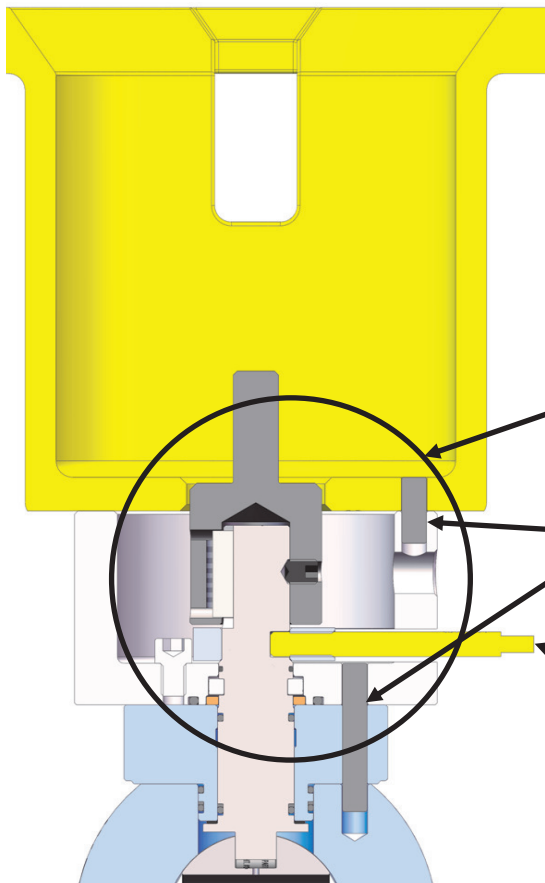
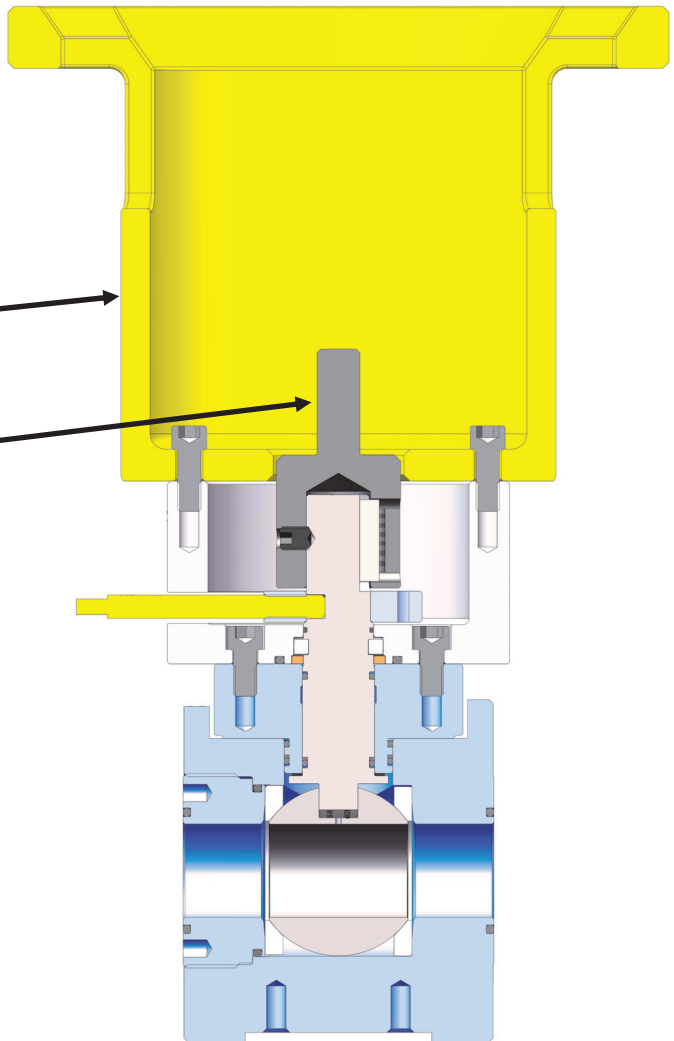
Class 4: 2000 ft-lbf— 1-1/2" Sq Drive

API 17H Class 1-4 ROV
Torque Receptacle

API 17H Class 1-4 ROV Torque Drive
Coupling, sized to match the required
valve torque

Multiple coatings and materials offered
to reduce corrosion and marine growth

The entire Drive Train complies with API 6DSS



The drive train is designed so that any failure in it will happen outboard of the Valve Body Seals, eliminating the risk of environmental contamination from over-torque

Torque Shear Pins remove any shear and twisting on the drive train bolting

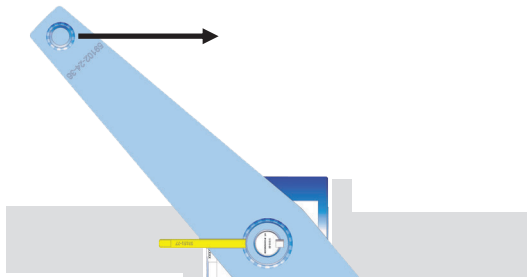
Open/Closed Position Indicator: attached directly to the Stem and independent of the Receptacle and Coupling.

A Mechanical Position stop ensures fully-Open and fully-Closed positions

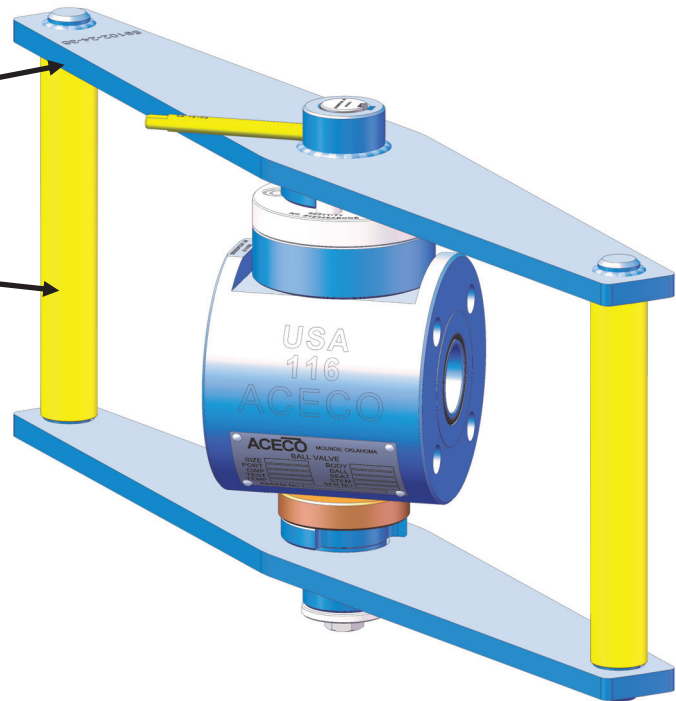
Dual-Sided Knock-Over Handle

Rugged Design allows Diver or ROV to push Handle and rotate the valve.

Freely rotating Guide bars ensure smooth operation

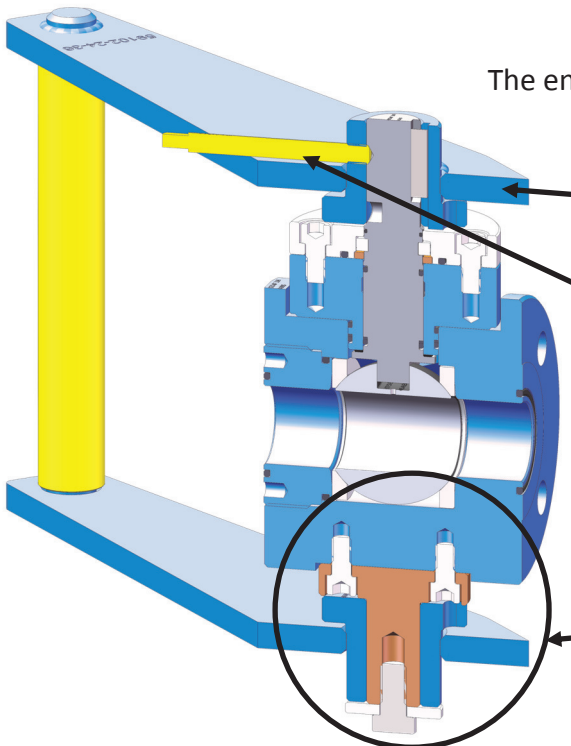


Clockwise to close,
Counter-Clockwise to open



Various Handle Lengths per customer specifications and requirements.

Multiple coatings and materials offered to reduce corrosion and marine growth



The entire Drive Train complies with API 6DSS

The drive train is designed so that any failure will happen outboard of the Valve Body Seals, eliminating the risk of environmental contamination

Open/Closed Position Indicator, attached directly to the Stem

A Mechanical Position stop ensures fully-Open and fully-Closed positions

The Lower Trunnion support does not penetrate the body, and is made from a seawater corrosion-resistant bearing material, for a long life and smooth operation