

Valve Maintenance

This five-day course discusses valve fundamentals and construction, maintenance and testing, relief and safety valves, valve actuators and operators, and Limitorque valves.

I. Valve Fundamentals

- Functions and Terminology
- Markings
- Designations

II. Valve Construction

- Valves
- Globe Valves
- Gate Valve
- Knife Valves
- Ball Valves
- Plug Valves
- Diaphragm Valves
- Pinch Valves
- Butterfly Valves
- Needle Valves
- Control Valves
- Regulators and Reducers
- Check Valves
- Bonnets
- Seats and Seat Leakage
- Stem Seals

III. Valve Maintenance and Testing

- Valve Inspection
- Packing
- Packing Adjustment
- Packing Installation
- Lapping
- Blueing
- Optical Flats
- Specific Valve Type Maintenance

- Non-Destructive and Performance Testing

IV. Relief and Safety Valves

- Principles of Operation
- Terminology
- Relief Valves
- Safety Valves
- Troubleshooting
- Safety Valve Maintenance
- Safety Valve Testing
- Vacuum Breakers and Rupture Discs

V. Actuators and Operators

- Manual Operators
- Electric Operators
- Solenoid Operators
- Solenoid Operator Maintenance
- Pneumatic Operators
- Diaphragm Operator Maintenance
- Fire System Valves
- Hydraulic Operators
- Hydraulic Operator Maintenance

VI. Limitorque Valves

- Basic Principle of Operation
- MOV Failures
- Motor Operations
- Hand Operations
- Description of Major Subassemblies
- Nameplate Information
- Lubrication

- Removal
- SMB-000 Overhaul
- SMB-0 Overhaul
- Installation Procedure