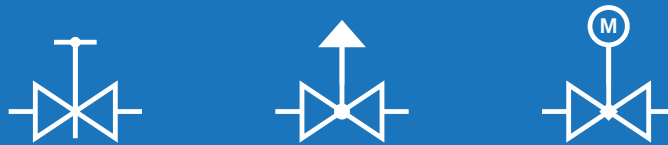




P&ID Control Valve Symbols Reference Guide

The Complete Reference for Engineers,
Designers & Procurement Professionals



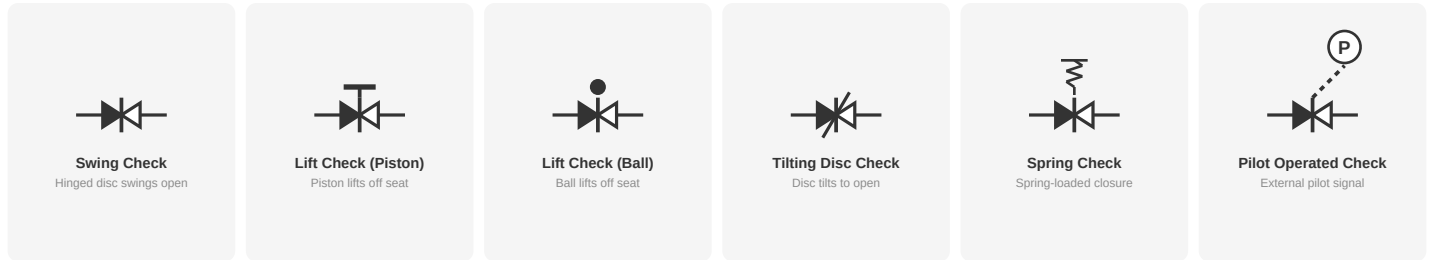
- 9 Main Valve Types with 13 Actuator Variations Each
- Check Valve, Relief Valve & Special Valve Symbols
- ISA 5.1 / ANSI Standard Compliant Symbols
- Print-Ready for Shop Floor & Office Use
- 130+ Total Valve Symbol Combinations

valveman.com

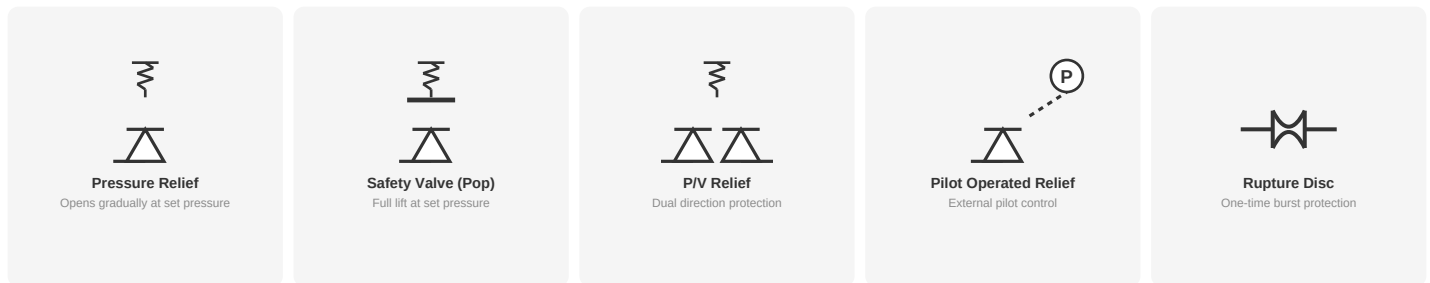
The Smartest Way to Buy Valves

	Hand Operated	Pneumatic Diaphragm	Pneumatic Piston	Motor Operated	Hydraulic	Solenoid	Balanced Diaphragm	Electric	Digital Modulating	Pilot Operated	Pneumatic Rotary	Electro- Hydraulic	Gear Operated
Gate Valve Full-bore isolation valve for on/off service with minimal pressure drop.													
Globe Valve Throttling valve with plug-and-seat for precise flow regulation.													
Ball Valve Quarter-turn valve with tight sealing, low torque, fast shutoff.													
Plug Valve Quarter-turn valve with cylindrical plug. Multi-port configurations.													
Butterfly Valve Rotating disc valve, compact design for large pipe sizes.													
Diaphragm Valve Flexible diaphragm seals flow path. For corrosive/sterile service.													
Needle Valve Fine-adjustment with tapered pin. Precision instrument flow control.													
Pinch Valve Compresses flexible tube. For slurries and abrasive media.													
Knife Gate Valve Sharp-edged blade cuts through solids and fibrous materials.													

Check Valves

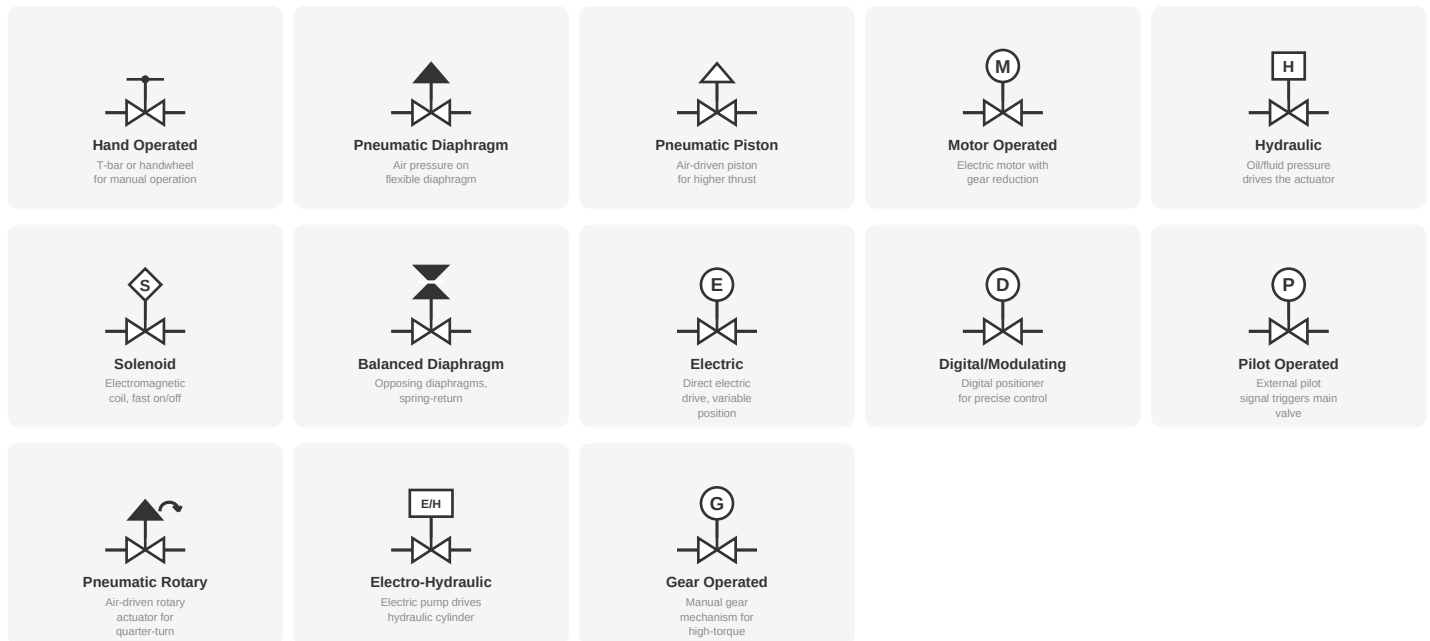


Relief & Safety Valves



Actuator Symbol Legend

Each symbol sits atop the valve stem, indicating method of operation.



Valve Body Shape

- The body shape identifies the valve type.
- Control valves use a bowtie (two opposing triangles).
- Check valves use one filled + one open triangle.
- Relief valves use an angled/bent body shape.

Actuator Symbol

- The symbol above the valve stem shows how it's operated.
- Circles with letters: M (motor), E (electric), etc.
- Filled/open triangles: pneumatic diaphragm/piston.
- Diamonds: solenoid. Rectangles: hydraulic.

Failure Position

- FC = Fail Closed, FO = Fail Open, FL = Fail Last.
- Shown as text adjacent to the valve symbol.
- Critical for safety system design.

Valve Notation

- Tag numbers (e.g., XV-101) identify specific valves.
- XV = on/off, TV = temperature, FV = flow, PV = pressure.
- Numbers reference the P&ID loop and instrument index.

ISA Standards

- ISA 5.1 defines standard symbols for P&ID diagrams.
- ANSI/ISA-5.1-2009 is the current revision.
- Symbols in this guide comply with ISA 5.1 standards.
- Always verify with project-specific symbol legends.