Series CSB Combination Valves

Available in sizes 2” - 14”

For general purpose applications in chilled, condenser, heating, and cooling tower systems.

One valve performs three separate functions:

- **C**heck valve, non-slam
- **S**hutoff valve
- **B**alance valve

Designed to:

- Reduce Material Cost
- Reduce Installation Cost
- Reduce Space Requirements
- Reduce Maintenance Cost
- Promote Ease of System Balancing & Flow Measurement

Maximum Working Pressure: 175 PSI
Maximum Working Temperature: 250°F

FEATURES AND BENEFITS

**Flanged, Cast Iron Combination Valve** – Three functions combined into one valve assembly with standard 125# ANSI flanges, promotes simplified installation and minimizes costs.

**Spring-loaded Disc** – Bronze disc with Stainless Steel spring-loading promotes chatter-free, corrosion-resistant operation and allows for valve to be installed in horizontal or vertical orientations.

**Durable Non-Slam Seat** – O-ring seat seal provides long-lasting, wear-resistant seat while maintaining soft and positive closure.

**Position Indicator with Memory** – Indicator scale and memory marker allows for quick visual inspection of valve position and precise return of original positioning after closure and re-opening, to preserve accurate balance.

**“Y” Pattern Valve** – Design saves space, promotes ease in adjustment and yields low pressure drop. CSB Valve is designed for quiet and efficient system operation.
### VALVE SELECTION CRITERIA

**Sizing Valves Based on Flow Rate** - In accordance with practices as recommended by ASHRAE, valves should be selected to provide minimum pressure drop at the design flow rate. To ensure accurate readings of flow using the measurement ports, a minimum of 2.5 feet of pressure drop is required. For a quiet, energy-efficient system and prolonged valve life, maximum pressure drop should not exceed 25 feet.

![Graph showing pressure drop vs. flow rate for PACO Series CSB Combination Valves](image)

### Typical Specifications

Furnish and install on the discharge side of each pump a PACO Series CSB Combination Valve incorporating three functions in one body: non-slam check, positive shut-off, and flow balancing (throttling). Valve shall be cast iron with bronze disc, stainless steel stem and spring. Connections shall be 125# ANSI flanges. Valve shall incorporate an O-ring seat to assure soft, positive, non-slamming valve closure. Valve body shall have two threaded port connections on each side of the valve seat for measurement purposes. A separate drainage port shall be provided. Valve shall include a visual indicator of valve positioning (percentage open) and shall incorporate a memory device to promote simplified return of valve to proper balance following valve closure.