#### 3-WAY/2-POSITION MANUAL VALVES

Applications - Single-acting cylinders.

Actuation - Lever operated.

Functions - Cylinder piston "advance," "hold" and "return."

**Used on these pumps** – P460, PE17, PE21, PE30, PE46, PE55, PE84, PE90, and PE120 series.

No. 9582 - 3-way/2-position manual valve. Wt., 2.5 lbs.

No. 9584 - Same as 9582, but has "flipper" control. Wt., 1.8 lbs.

#### 3-WAY/2-POSITION, PILOT OPERATED AUTOMATIC VALVE

Application - Single-acting cylinders.

Actuation - Pilot oil.

**Functions** – When pump is started, pilot oil automatically closes valve and directs oil to cylinder; when pump is stopped, valve automatically opens and oil returns to reservoir.

**Used on these pumps** – Furnished with pilot lines and adapters for PA55, PA90, PE30, PE55, PE90 and PE120 series.

No. 9610 - 3-way/2-position pilot operated automatic valve. Wt., 4.2 lbs.

# 2/3-WAY/2-POSITION MANUAL/PILOT OPERATED AUTOMATIC VALVE

**Application –** Manual operation for load lifting and holding with single-acting cylinders; automatic "dump" for operating hydraulic tools.

Actuation - Flipper lever/pilot oil.

**Functions** – With lever in closed position, valve will hold the load. When lever is "open," valve functions as a true automatic "dump" valve.

**Used on these pumps** – Furnished with pilot lines and adapters for PA55, PA90, PE30, PE55, PE90 and PE120 series. For application on other pumps, consult factory. **No. 9610A** – 2/3-way/2-position manual/pilot operated automatic valve. Wt., 4.4 lbs.

#### 2-WAY/2-POSITION MANUAL VALVE

**Application –** Single-acting cylinders.

**Actuation** – Flipper lever operated.

Functions - Cylinder piston "advance," "hold" and "retract."

**Used on these pumps –** PE172, PA172 and PE84 series.

No. 9517 - 2-way/2-position manual valve. Wt., 3.2 lbs.

#### 3/4-WAY/2-POSITION MANUAL VALVE

Application - Single or double-acting cylinders.

**Actuation** – Lever operated, detent positioned.

**Functions** – Pos. 1 – Oil is directed to "advance" side of cylinder, oil from "retract" side goes to reservoir; cylinder "holds" with pump shut off. Pos. 2 – Oil goes to "retract" side of cylinder; cylinder "holds" with pump shut off. When using as a 3-way valve for single-acting cylinders, port "A" or "B" is plugged. See note on page 124 regarding plugging of ports and resulting heat build-up.

**Used on these pumps** – P460, PA6D, PA17, PA46, PA55, PA60, PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PE200, PE400, PQ60 and PQ120 series. **No. 9504** – 3/4-way/2-position manual valve. Wt., 4.2 lbs.

NOTE: 9504 can be remote mounted with a 9510 subplate (see page 131).

**NOTE:** A pressure switch and/or gauge may be attached to any valve on this page (refer to pages 131, 110-111).

**ACAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a No. 9596 Load Lowering Valve or No. 9720 Counter Balance Valve (see page 118) in conjunction with the directional valve used in your application.

**IMPORTANT:** Conversion kit 251528 must be used when mounting any of the valves on this page on PA17 or PE17 pumps.

**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, ½" longer mounting screws are required. For valves 9504, 9584, 9610 and 9610A, order four 12001 cap screws. For valve 9582, order two 12001 and two 10856 cap screws.

### **VALVES**

## Hydraulic

**Pump Mounted** 











