**LOAD LOWERING VALVE**

**Application:** Precision metering for controlled cylinder piston return.

**Operation:** Permits free flow when extending cylinder, built-in pressure relief and “Posi-Check®” locks and holds load in raised position until operator opens valve. May be pre-set to provide consistent metered return, or operator may select rate of return with each actuation. Has 3/8” NPTF ports.

**NOTE:** Pressure relief valve setting is 12,000 psi. Operating pressure is 10,000 psi and max. flow rate is 5 gpm.

**No. 9596** – Load lowering valve. Wt., 2.1 lbs.

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**SEQUENCE VALVE**

**Application:** Used when one cylinder in a multi-cylinder application must advance before any other.

**Operation:** Pump is connected to port “P” and separate cylinders to ports “A” and “B”. When pressure is applied to port “P”, cylinder “A” advances. Cylinder “B” will not advance until a predetermined pressure setting is reached in cylinder “A”. Pressure setting is adjustable from 500 to 8,000 psi with adjustment screw; factory preset at 1,000 psi. Has 3/8” NPTF ports.

**No. 9597** – Pressure control sequencing valve. Wt., 5.6 lbs.

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**PRESSURE REDUCING VALVE**

**Application:** Provides complete, independent pressure control to two or more clamping systems operated by a single power source.

**Operation:** Can be used to provide different pressures in various stages of a single system. Virtually zero leakage across valve means each system can be operated by a single continuous pressure source. Adjustable from 1,000 to 5,000 psi at outlet port “B” (secondary). Has 1/4” NPTF ports.

**No. 9608** – Pressure reducing valve. Wt., 5.8 lbs.

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**COUNTER BALANCE VALVE**

**Application:** Double-acting cylinders. Provides positive holding and controlled, “chatter-free” lowering of a load.

**Operation:** Load is raised at flow rate of pump, and held when pump is shut off. When the pump is shifted to “retract”, the counter balance valve will continue to hold the load until system pressure exceeds pressure caused by load. The load can then be lowered smoothly to the flow rate of the pump. The counter balance valve is designed to operate with pumps having a high pressure flow rate of up to 120 cu. in./min. and cylinder ratios of 3 to 1.

**No. 9720** – Counter balance valve, including two male and two female half two hydraulic hoses, fittings and dust caps. Wt., 10 lbs.

**No. 9721** – Same as 9720, but does not include couplers, hoses, fittings and dust caps. Wt., 9.2 lbs.

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**CAUTION:** The 9720 patented counter balance valve has a pilot pressure as high as 3,000 psi. Because this pressure is applied to the rod end of the cylinder while it is already under load, the system should not be sized for loads greater than 80% of cylinder rated capacity.

**CAUTION:** 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 in conjunction with the directional valve used in your application. See above, this page.
Shut-off valve
Application: This needle valve permits fine metering of hydraulic oil.
Operation: Can be used for controlling multiple single-acting cylinders.
No. 9575 – Shut off valve with 1/8” NPTF ports. Wt., 1.4 lbs.

Check valve
Application: Permits flow of hydraulic oil in one direction only.
Operation: Installs right in hydraulic line.
No. 9580 – Check valve with 3/8” NPTF male ends. Wt., .4 lb.

Pilot operated check valve
Application: For use with open or tandem center valves. Permits free flow of fluid in one direction.
Operation: Flow is blocked in opposite direction until pilot oil pressure is applied. This prevents the loss of pressure if the valve is inadvertently shifted or the pump line is broken. Minimum cracking pressure is 60 psi. Required pilot pressure is approximately 16% of checked system pressure.
No. 9581 – Pilot operated check valve with 3/8” NPTF ports. Wt., 3.8 lbs.

“In-line” pressure relief valve
Application: Single- or double-acting cylinders. For remote locations in a hydraulic circuit where maximum pressure requirements are less than basic overload valve setting in pump.
Operation: Adjustable from 1,000 to 10,000 psi. Valve is spring-loaded and direct-acting.
No. 9623 – Pressure relief valve with 3/8” NPTF ports. Wt., 2 lbs.

Metering valve
Application: For systems using large cylinders or extended lengths of hydraulic hose.
Operation: Controls surges by restricting flow if it exceeds 7 gpm. When flow subsides, valve reopens automatically. Has 3/8” NPTF male end to thread into return port of system control valve, and a 1/8” NPTF female end, permitting return hose to be directly connected.
No. 9631 – Metering valve. Wt., 0.2 lb.

“In-line” pressure regulator valve
Application: Single- or double-acting cylinders. Permits adjusting operating pressures at various values below relief valve setting of pump.
Operation: Regulator valve is easily adjusted to maintain pressures between 300 and 10,000 psi. Maintains a given pressure setting within 3% over repeated cycles. Flow range is 17 cu. in./minute to 6 gpm.
No. 9633 – In-line pressure regulator valve with two 3/8” NPTF inlet ports, one 1/8” NPTF tank port and 3 foot drain line kit. Wt., 1.9 lbs.

Simply turn the handle clockwise to increase the pressure setting, counter-clockwise to reduce pressure. Note: 3” Drain Line Kit is Included.

Relief valves
Application: Provide an economical means of protecting an hydraulic circuit against over pressurization.
Operation: These factory preset valves are designed for maximum flow rate of 5 gpm. Furnished with 1/8” NPTF male port. All valves weigh 0.2 lb. See chart to the right for ordering information.

Valve
Order No.  
Pressure 
Setting (psi)  
Valve 
Order No. 
Pressure 
Setting (psi)
R  V  2  1 2 7 8  
10,100 / 10,700  
R  V  2  1 2 7 8-5  5,100 / 5,700
R  V  2  1 2 7 8-6  600 /640  
R  V  2  1 2 7 8-62  5,300 / 5,900
R  V  2  1 2 7 8-10  900 / 1,000  
R  V  2  1 2 7 8-55  5,600 / 6,200
R  V  2  1 2 7 8-15  1,500 / 1,700  
R  V  2  1 2 7 8-57  5,800 / 6,400
R  V  2  1 2 7 8-17  1,600 / 1,800  
R  V  2  1 2 7 8-60  6,100 / 6,700
R  V  2  1 2 7 8-20  1,900 / 2,200  
R  V  2  1 2 7 8-65  6,600 / 7,200
R  V  2  1 2 7 8-25  2,300 / 2,700  
R  V  2  1 2 7 8-70  7,100 / 7,700
R  V  2  1 2 7 8-27  2,600 / 2,800  
R  V  2  1 2 7 8-75  7,600 / 8,200
R  V  2  1 2 7 8-28  2,700 / 3,000  
R  V  2  1 2 7 8-80  8,100 / 8,700
R  V  2  1 2 7 8-30  3,000 / 3,400  
R  V  2  1 2 7 8-83  8,400 / 9,000
R  V  2  1 2 7 8-32  3,100 / 3,300  
R  V  2  1 2 7 8-86  8,700 / 9,300
R  V  2  1 2 7 8-35  3,500 / 3,800  
R  V  2  1 2 7 8-88  8,900 / 9,600
R  V  2  1 2 7 8-38  3,750 / 3,950  
R  V  2  1 2 7 8-90  9,100 / 9,700
R  V  2  1 2 7 8-40  4,100 / 4,500  
R  V  2  1 2 7 8-114  11,500 / 12,100
R  V  2  1 2 7 8-43  4,400 / 4,800  
R  V  2  1 2 7 8-8280  6,380 / 6,900
R  V  2  1 2 7 8-48  4,900 / 5,300

Preset — Non-Serviceable

NOTE: Care should be exercised to protect workers from hot, pressurized hydraulic oil. Install these valves only in an enclosed or shielded area.