

TYPE III CONTROL MANUALLY OPERATED 4-WAY VALVE AND JOG BUTTON CONTROL FOR A DOUBLE ACTING CYLINDER

USE

This control system is used to operate a double acting hydraulic cylinder where a "jogging" action, possibly remotely controlled, is desired.

TYPICAL APPLICATIONS

1. Raising and lowering a double acting hydraulic jacking cylinder.
2. Operating a double acting hydraulic cylinder on a hydraulic shop press, forcing press, or platen press.

OPERATION

The jog button controls the solenoid operated venting valve. When the jog button is pushed, the valve will block the relief valve's vent line. This will cause the relief valve to function and will permit pressure buildup to the relief valve's setting. When the jog button is released, the relief valve's vent line will be connected to the tank. This will cause the relief valve to "dump" the combined delivery of the pumps back to the reservoir at low pressure.

The jog button will be mounted on 15 feet of cable for remote control. The 4-way valve, however, will remain on the pump unit.

The manually operated rotary 4-way valve has three positions and will remain in any position when the valve handle is released.

Position 1: In this position the cylinder piston will extend.

Position 2: In this position (Neutral) the cylinder will be locked in position hydraulically (the valve will hold pressure only for short periods) and the pump(s) will be connected to the reservoir at low pressure.

Position 3: In this position the cylinder piston will retract.

When the operator moves the valve handle into Position 1 or Position 3 and pushes the jog button, the following will occur:

1. For those units with a low pressure pump, a rapid cylinder speed will result initially due to the combined delivery of both pumps. At 1000 psi, the 1000 psi unloading valve will unload or "dump" the low pressure pump.
2. The high pressure pump will continue to move the cylinder until the pressure reaches the adjustable setting of the high pressure relief valve.
3. When the operator releases the jog button the check valve will hold the cylinder in position.

The pilot operated check valve shown in the hydraulic circuit is included only with the pump units having 12 or 22.5 GPM low pressure pumps. The pilot operated check valve is used to bleed off the excess flow which results from the differential areas of the cylinder as the ram retracts.

A globe valve must be added to the system if:

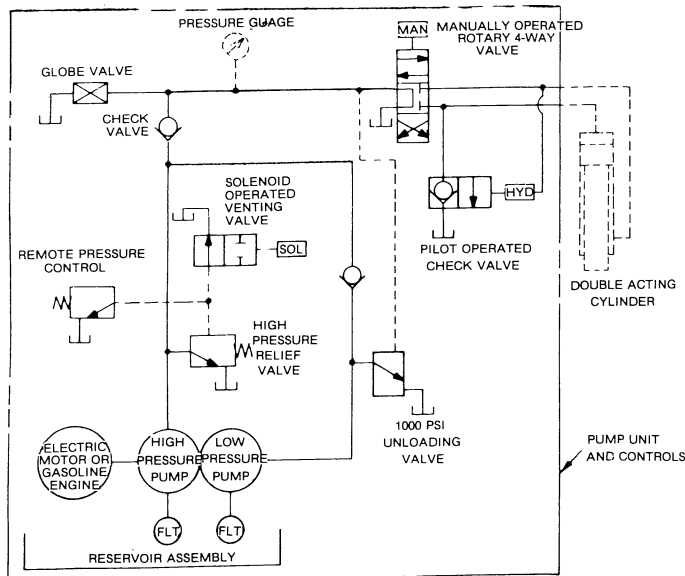
1. The cylinder is to be held or "locked" hydraulically.
2. A jacking cylinder is used to lower a load. The globe valve would meter flow to control the rate of descent.

ELECTRIC MOTOR DRIVEN PUMP UNITS

Model Number of Pump Unit and Controls	GPM of High Pressure Pump @ 1800 RPM	GPM of Low Pressure Pump @ 1800 RPM	Electric Motor H.P. @ 1800 RPM	Reservoir Capacity (Gallons)		Shipping Weight (Lbs.) Without Fluid	Maximum Pressure (PSI)	
				Total	Usable		Intermittent	Continuous
				84-1027	1.83			
84-1029	1.83	8	7½	50	35	730	10,000	6,700
84-3030	4.76	--	20	50	35	900	10,000	5,150
84-3031	4.76	12	20	50	35	950	10,000	5,150
84-3032	4.76	22.5	20	50	35	960	10,000	5,150

GASOLINE ENGINE DRIVEN PUMP UNITS

Model Number of Pump Unit and Controls	GPM of High Pressure Pump @ 1800 RPM	GPM of Low Pressure Pump @ 1800 RPM	Gasoline Engine H.P. @ 1800 RPM	Reservoir Capacity (Gallons)		Shipping Weight (Lbs.) Without Fluid	Maximum Pressure (PSI)	
				Total	Usable		Intermittent	Continuous
				1030	1.83			
1031	1.83	8	11.7	50	35	1300	10,000	10,000
3034	4.76	--	32	50	35	1610	10,000	10,000
3036	4.76	12	32	50	35	1680	10,000	10,000



NOTE

If the flow from the cylinder exceeds 65 GPM when the ram is retracting, the pilot operated check valve must be mounted on the customer's cylinder or manifold. Otherwise, the valve will be mounted on the pump unit. Please specify the desired position of pilot operated check valve mounting - pump unit or cylinder.