Series 300 and 400 Monoblock Control Valves

Description

The Parker Series 300 valve is designed to control single-acting cylinders or a uni-directional hydraulic motors. The spool in this valve is a 3-way, 3-position spool. The positions are power, neutral, and exhaust. “B” port is always the power port and “A” port is always plugged.

The standard Series 300 valve is spring-centered to neutral position with work port blocked in neutral. Optional spool and spool positioner assemblies are available. This valve which is available in single-spool monoblock housing only, is ideal for general mobile and industrial hydraulic applications.

The Parker Series 400 valve is designed to control a double-acting cylinder or a reversible hydraulic motor. The standard spool for this valve is a 4-way, 3-position spool. The Series 400 valve cannot be converted to a 300 valve.

The Series 400 valve does not have a load (reverse flow) check to prevent reverse flow when spool is in transition between neutral and power positions.

The spool is spring-centered to neutral position with cylinder ports blocked in neutral. Optional spool and spool positioner assemblies are available. This valve which is available in single-spool monoblock housing only, is ideal for general mobile and industrial hydraulic applications.

Features

- Monoblock body design
- Available in open center or closed center configurations
- Built-in, shim-adjustable relief valve
- Built-in, load (reverse flow) check (series 300 only)
- Control handles may be mounted in “up” or “down” position
- Numerous spool positioner options available
- Replaceable, hardened relief valve seats
Specifications

Nominal Flow Rating ................................................................. Up to 16 GPM (60.6 lpm)

Operating Pressure (maximum)
  Continuous (SAE Porting) ..................................................... 2500 PSI (172.5 bar)
  Continuous (NPT Porting) ..................................................... 2000 PSI (138.0 bar)
  Exhaust Core 1 ................................................................. 1000 PSI (69.0)

Operating Temperature .............................................................. -40° F (-40° C) TO + 176° F (+80° C)

Available Port Sizes
  Inlet & Outlet ................................................................... .34" NPT, (SAE #12 - Optional)
  Work Ports ........................................................................ .12" NPT, (SAE #10 - Optional)

Fluid ................................................................................ Petroleum Based, 60-1000 SSU (10-216 cSt)

Filtration Required (minimum) .................................................. 33 micrometer

Shipping Weight (approx.) ....................................................... 81/4 Lbs (3.74 kgs)

Seals .................................................................................... Buna-N (Standard)

Mounting Position ................................................................. Not Restricted

1 Valves with exhaust cores pressures exceeding 500 PSI (34.5 bar) may required a heavy spool centering spring.

PERFORMANCE CURVES

Typical Pressure Drop Thru Open Center
with Standard Ports
150 SUS (3.65 Centistokes) Oil at 100° F

Typical Pressure Drop Thru Open Center
with Standard Ports
150 SUS (3.65 Centistokes) Oil at 100° F

Flow Rate (GPM) (litres/min.)
Pressure Drop (PSI)
DIMENSIONS - Series 300 and 400

DIMENSIONS ARE IN INCHES (MILLIMETERS) AND ARE FOR REFERENCE ONLY.
**SPOOL AND POSITIONER OPTIONS**

3-Way Spool
For control of single acting cylinders or starting and stopping non-reversible hydraulic motors where free-wheeling is not required. The work port is blocked in the neutral position.

4-Way Spool
For control of double acting cylinders or reversible hydraulic motors where floating a cylinder or motor free-wheeling is not required. Both work ports are blocked in the neutral position.

4-Way Free Flow Spool
For control of double acting cylinders or reversible hydraulic motors. Because both work ports are open to tank in the neutral position, free flow spools will allow a motor to coast.

Warning: If you are using the free flow “F4” spool configuration when installing a Model 340 or 440 directional control valve in a cylinder lift application, it must be used in conjunction with a load holding device. A load holding device will prevent the load from free falling when the spool is in the neutral position. A free falling load could cause serious bodily injury or property damage if the holding device is not installed. Be sure to clear the work area prior to testing the cylinder lift application to avoid a potential dangerous situation.

Spring-Centering Spool Positioner
Furnished as standard, unless otherwise specified. This option spring returns the valve spool to neutral from the “A” and “B” power positions when the handle is released.

3-Position Detent Spool Positioner
This option “detents” the valve spool in neutral and the “A” and “B” power positions. There is no spring to return the valve spool to neutral. The valve spool will remain in the position in which it was manually placed when the handle is released.

This option is NOT intended for use as a positive spool locking device against excessive external forces or machine vibration.

(Optional) Detent Stops are available to limit spool travel to two detented positions, either Neutral and Spool In or Neutral and Spool Out.

Spring Extended Spool Positioner
This option eliminates Spring-Centering to Neutral, and spring loads the spool to the “OUT” position only. This option is usually used for “Cam-Operation” of spool. Customer must supply cam-follower mechanism.

A handle assembly is NOT furnished with this option.
HANDLE OPTIONS

Standard handles will be furnished, unless otherwise specified when ordering. All standard handles are cast iron with a black plastic coating. The following handle options are available:

LHO (Less Handle Only) - If the bracket, links and pins are required, but not the handle, specify “LHO”.

LCHA (Less Complete Handle Assembly) - If the complete bracket, handle, link and pins are not required, specify “LCHA”.

Approx. 7.60 (195.5)

3.75 (9.52)

1.35 (34.27)

4.38 (11.13)

3.9 (10.0)

4.37 (11.10)

Dia.
**ORDER CODE**

### Basic Model
- [3] Prefix for 300 Series
- [4] Prefix for 400 Series

### 1 Positioner Type
- [00] Spring Return to Neutral (Standard)
- [10] 3-Position Detent
- [20] Spool Spring-Loaded to "Out" Position (Furnished with spool clevis only—typically used for Cam Control).

### Handle Information
- [-] Complete Handle Assembly (Standard)
- [LHO] Less Handle Only (Includes Bracket & Pins)
- [LCHA] Less Complete Handle, Bracket & Pins

### Relief Valve Options 2
- [-] Standard Relief
  (Specify Relief Setting When Ordering. If not specified, relief valves will be set at 1500 PSI @ 7.6 GPM)
- [NR] No Relief Option
  (Relief area Stamped "NR")

### 1 Spool Type
- (00) Open Center (Work Ports Blocked, Pump to Tank in Neutral)
- (30) Closed Center (All Ports Blocked in Neutral)
- (40) Free Flow (All Ports Open to Tank in Neutral)

### Notes
1. A Positioner Type and a Spool Type may be combined in one valve assembly. Example: A Free Flow motor spool (Model 440) may be combined with a 3-Position Detent (Model 410) and should be specified as Model 410-40.
2. Valves shipped from the factory with "NR" Option CANNOT be modified to install a Relief Valve.
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