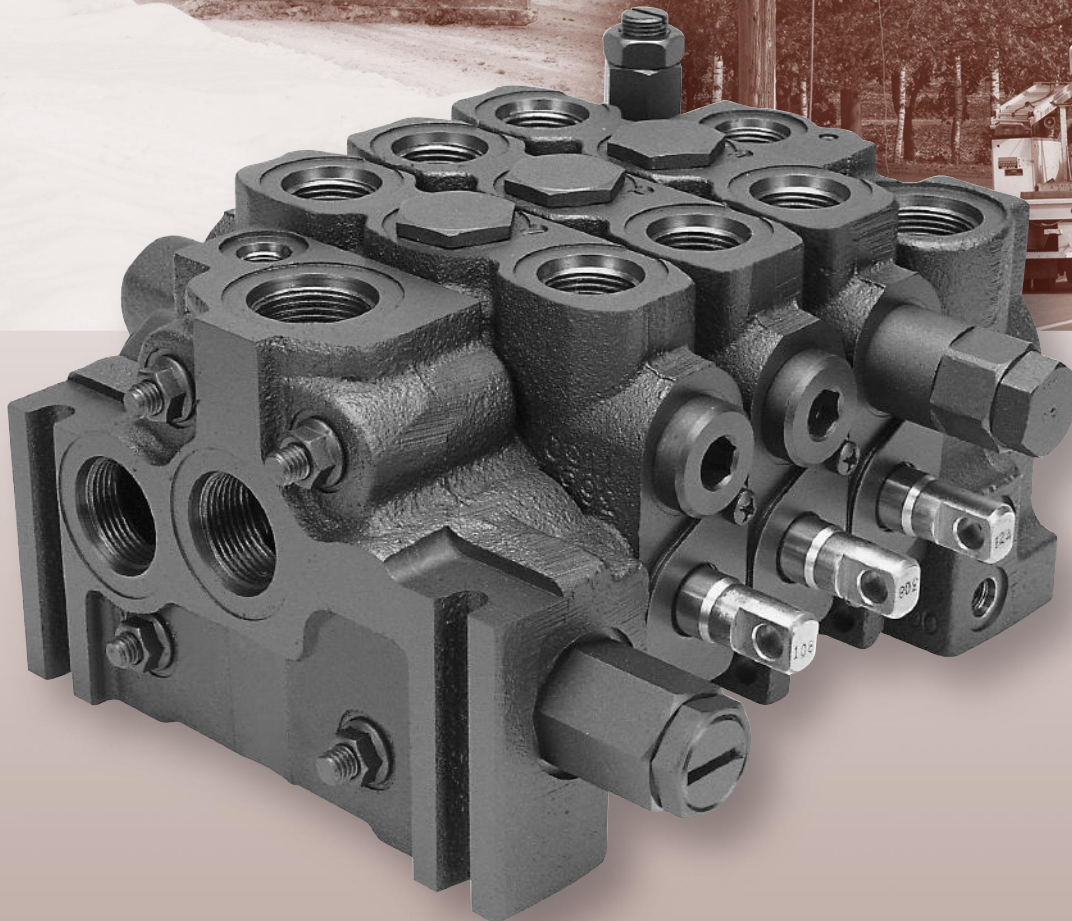




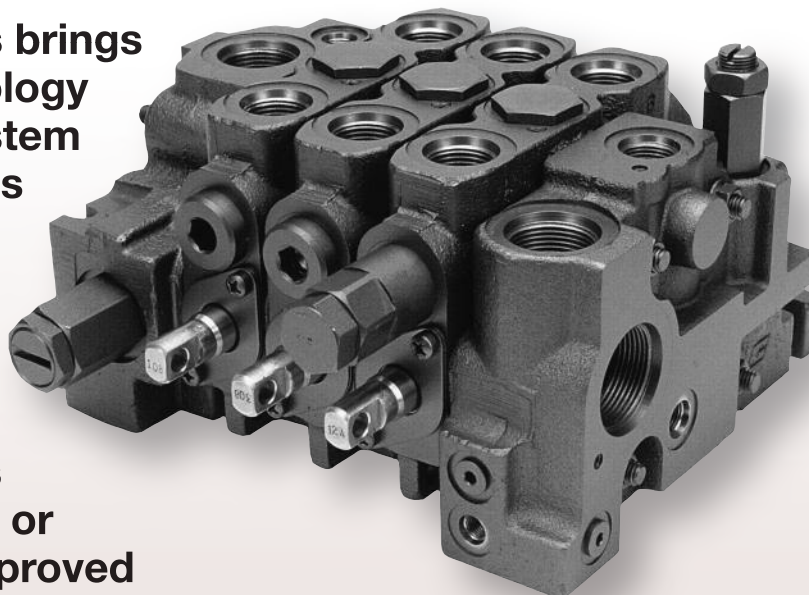
# 65LS SERIES DIRECTIONAL CONTROL VALVE



65 GPM (246 LPM) • 4000 PSI (275 BAR) • SECTIONAL TYPE

# 65LS SERIES DIRECTIONAL CONTROL VALVE

**Muncie Power Products** brings to you the latest in technology for all your load sense system needs with the 65LS Series valve. Providing both flow and pressure compensation at each work section gives the operator complete system control regardless of varying load conditions or pump rpm, resulting in improved efficiency and less fatigue. Call today so we can help you with all your hydraulic system needs.



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## APPLICATIONS

- Snow and Ice Removal Systems • Refuse Equipment • Utility Equipment •
- Loaders and Materials Handling • Product and Transfer Equipment •

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## VALVE FEATURES

- Dedicated load sense signal passage for immediate response.
- Easy access pressure compensators/load check cartridges with independent shuttle network.
- Over demand shuttle spool system to assure induced loads don't shut down flow to other work sections.
- Internally vented load sense drain passage.
- Several flow options for complete cycle control.
- Stackable (sectional) design allows for customizing the assembly to your specific needs.
- Larger variety of spool types and backcap actions including 12VDC proportional.
- Excellent metering characteristics with extra low spool force.
- Wide range of work port options.
- Work sections are 100% preassembled and pretested before shipping.

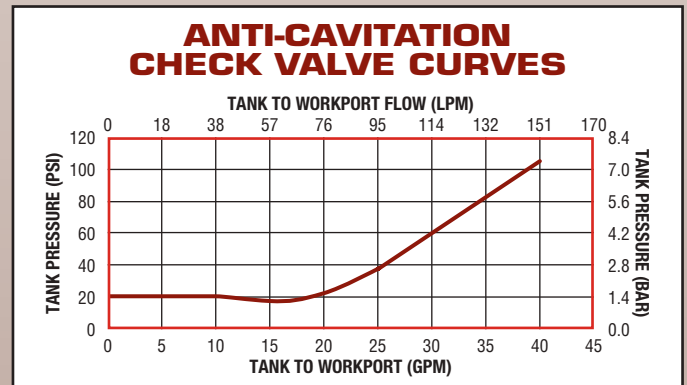
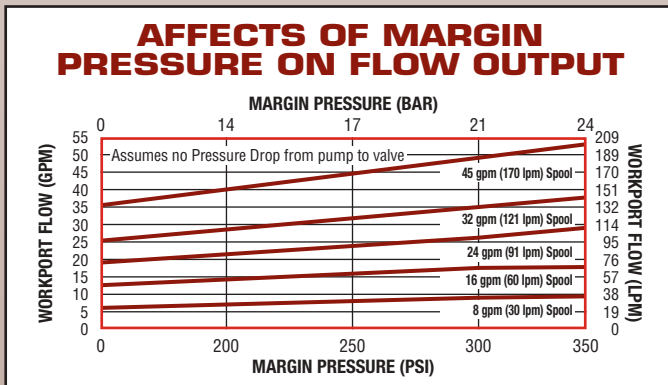
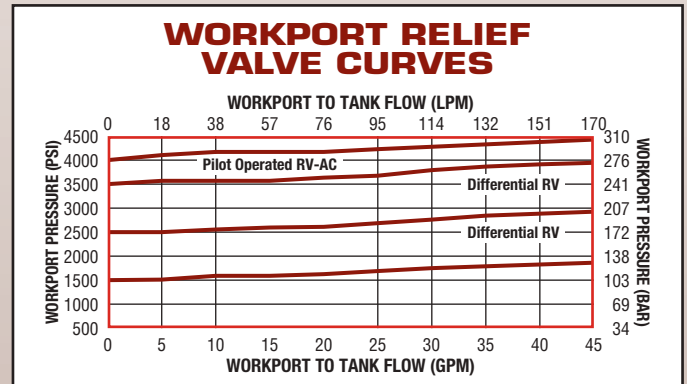
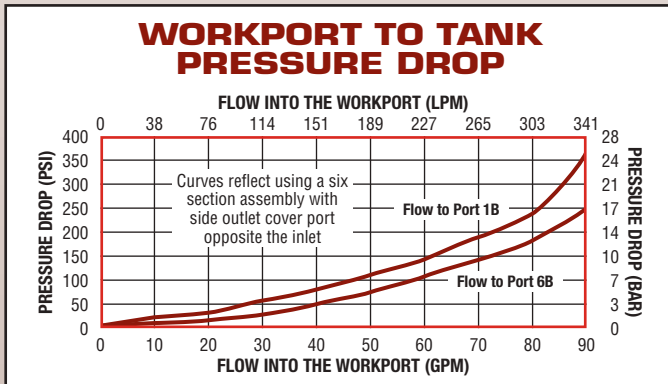
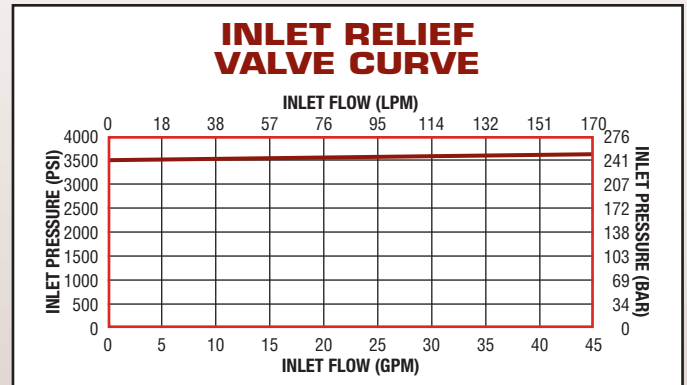
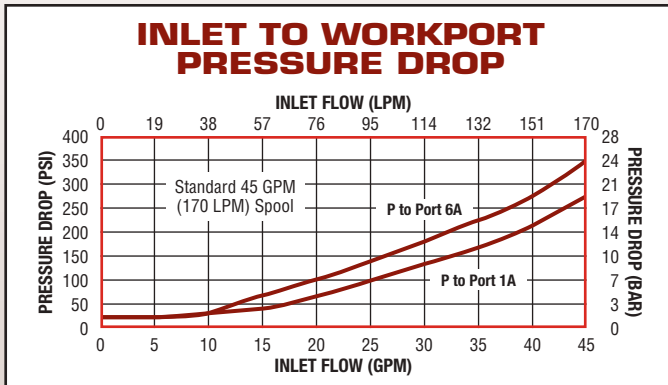


# PERFORMANCE AND SPECIFICATIONS

## TECHNICAL DATA

<b>Construction</b> .....	Sectional	<b>Spool Force</b> .....	50 Lbs. (22.7 Kg) Maximum
<b>Circuit</b> .....	Closed Center/Load Sense	<b>Temperature</b> .....	-20°F to 200°F (-29°C to 93°C)
<b>Capacity</b> .....	45 GPM (170 LPM) Nominal 65 GPM (246 LPM) Maximum	<b>Seal Type</b> .....	Buna-N
<b>Maximum System Pressure</b> ....	4000 PSI (275 Bar)	<b>Relief Valve</b> .....	Inlet-Differential Type Adjustable from 2500 to 4000 PSI (172 to 275 Bar) [preset at 2500 PSI (172 Bar)]. Load Sense R.V. Adjustable from 500 to 4500 PSI (35 to 310 Bar) [preset at 2000 PSI (138 Bar)]
<b>Maximum Tank Pressure</b> .....	300 PSI (21 Bar)		
<b>Typical Margin Pressure</b> .....	250 PSI (17 Bar)		
<b>Filtration</b> .....	10 Micron ISO 17/14		

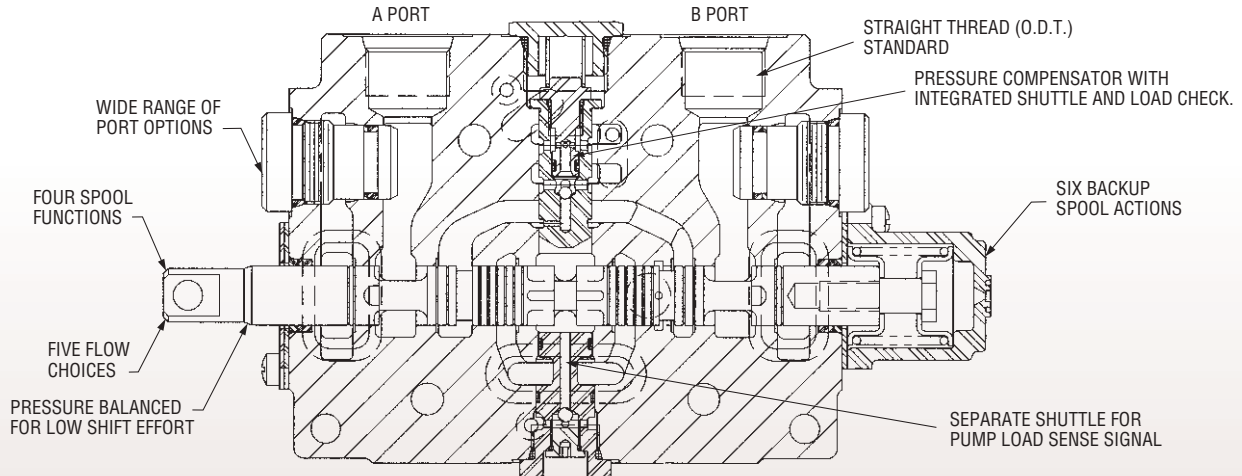
## PERFORMANCE DATA CURVES





# VALVE CONSTRUCTION

The latest in valve technology has been applied to the 65LS Series to provide the quickest responding, best controlled, load sense valve system available.

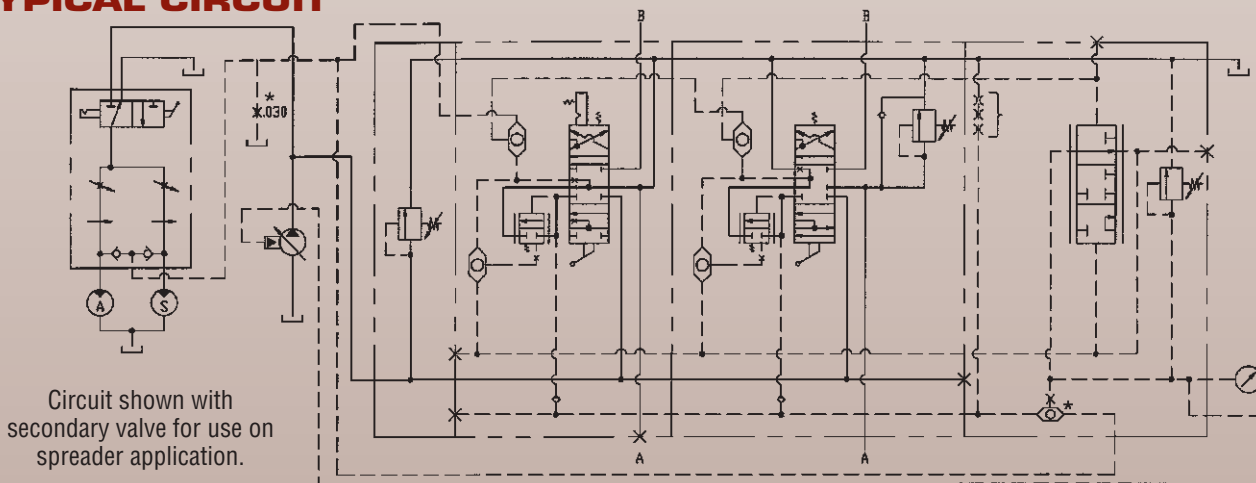


**WORK SECTIONS** - designed with a dedicated load sense signal passage and shuttle network immediately past the valve spools. This provides quick response with no delays when communicating the need for flow to the piston pump or when used with unload style load sense gear pumps (MLSA and MLSM Series) with extremely low standby pressures (typically 15-25 PSI/1-1.7 Bar). The compensator cartridges are installed on the top for easy access and serviceability. They have their own integral shuttle network to feed the highest work section pressure to the other sections. This assures that the output flow stays constant out of each work section regardless of the other sections varying load conditions. Each compensator also serves as the load check for that section. Spools are machined for various flows based on 250psi (17 Bar) margin pressure (see chart on page 3 for other flows). Optional 12VDC proportional work sections are drilled for pilot and drain passages to feed solenoids (requires inlet with pressure reducing valve).

**INLET SECTION** - designed with top and side ports for flexibility in connecting the pressure line. The inlet relief is standard to reduce potential pressure spikes. The relief needs to be set at least 250-400 psi (17-28 Bar) higher than the load sense relief in the outlet. Porting for tank connection and communication to a secondary valve assembly is standard. Optional inlet available with pressure reducing valve for use with the solenoid type proportional work sections.

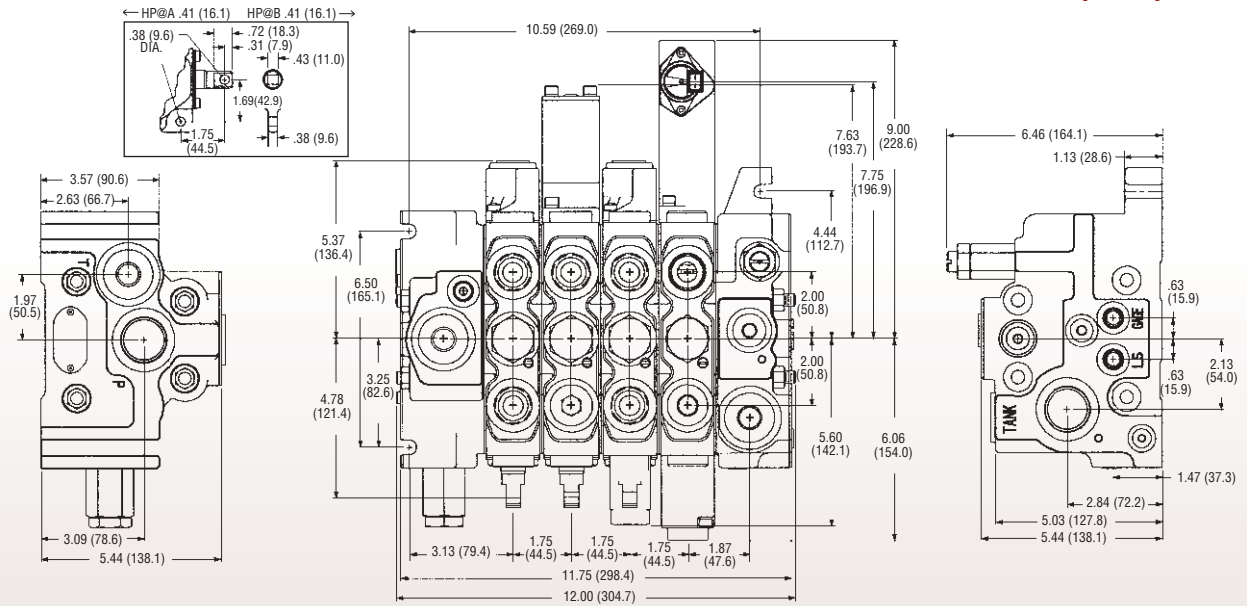
**OUTLET SECTION** - designed with top and side ports for connecting the tank line. Also contains a gauge port and the pump's load sense port. Porting for communication with the secondary valve assembly is standard. The isolation spool provides over demand control to assure induced loads don't shut down flow to other work sections. Instead, flow is reduced and metered proportionally to all sections but never shuts them down. The load sense relief limits maximum pressure capability of the pump with reduced or limited flow when in a dead head situation. A standard inlet or work port relief bypasses all available pump flow.

## TYPICAL CIRCUIT



\*External drain required if secondary valve does not have internal drain built in. Shuttle kit number 65LS-1823-427 required for use with secondary valve.

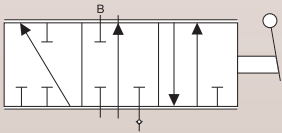
# DIMENSIONAL DATA IN INCHES (MM)



PORT SIZES	INLET (ALL)	OUTLET	WORK PORTS	LOAD SENSE
SAE O.D.T.	-16 (1 <sup>5</sup> / <sub>16</sub> -12)	-16 (1 <sup>5</sup> / <sub>16</sub> -12)	-12 (1 <sup>1</sup> / <sub>16</sub> -12)	-6 (9 <sup>1</sup> / <sub>16</sub> -18)
WEIGHTS	INLET	OUTLET	WORK SEC. MANUAL/PROPORTIONAL	
Approx. Wts. Lbs(Kg)	16.1 (7.3)	15.4 (7.0)	14.2 (6.4) / 22.0 (10.0)	

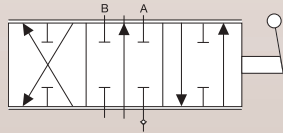
## SPool FUNCTION OPTIONS

**P (SINGLE ACTING)**  
3 Position – 3 Way



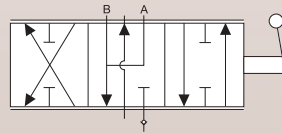
For single acting cylinder and non-reversing motors.

**D (DOUBLE ACTING)**  
3 Position – 4 Way



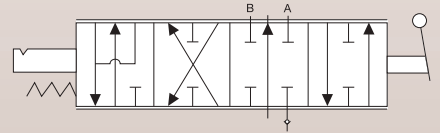
For double acting cylinders.

**C (MOTOR)**  
3 Position – 4 Way



For reversible motors.

**F (FLOAT)**  
4 Position – 4 Way

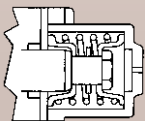


For single or double acting cylinders with 4th position work ports open to tank.

## SPool ACTION OPTIONS

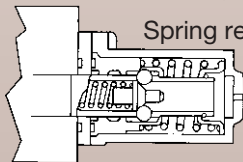
*Note: Code 11 Single Sided Solenoid Shift not shown.*

**SPRING CENTERED (CODE 1)**



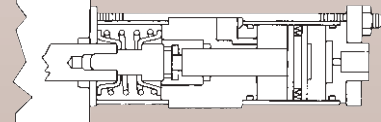
Three positions with spring return to neutral.

**SPRING CENTERED/FLOAT (CODE 3) (For DA Cylinders)**



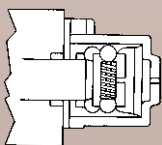
Spring return to neutral with a fourth detented (float) position. (Use only with F spool.)

**AIR SHIFT (CODE 7)**



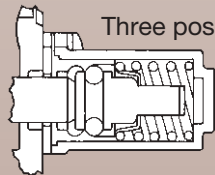
Three positions with spring return to neutral but air shifted.

**DETENT (CODE 2)**



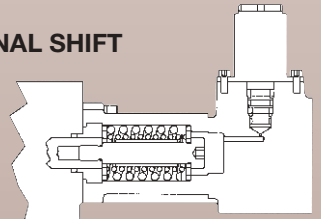
Will remain in any of the three detented positions. No spring return to neutral.

**SPRING/DETENT (CODE 6) (For SA Cylinders)**



Three positions with spring centered to neutral on one side and detented on the other side.

**PROPORTIONAL SHIFT (CODE 12)**

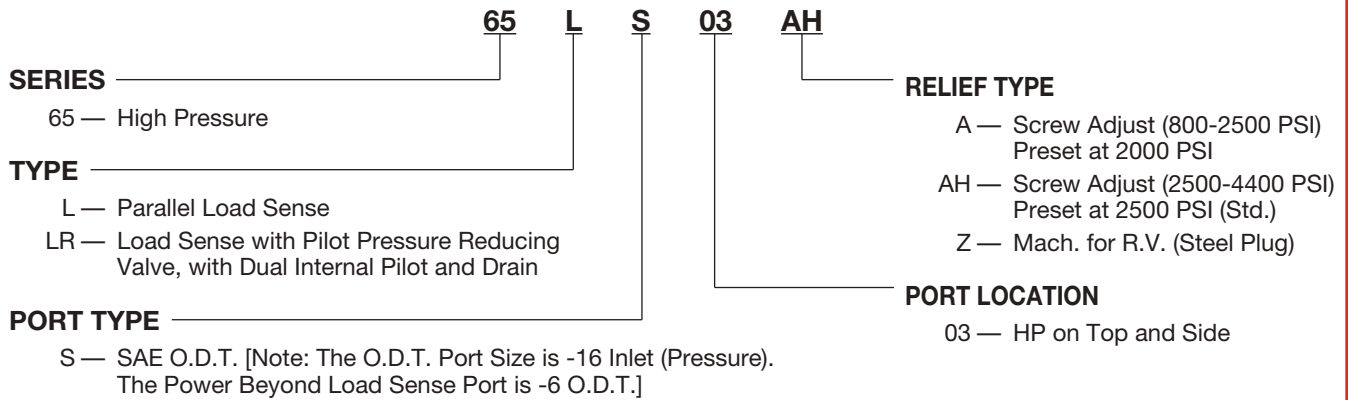


12VDC proportional with spring return to neutral. Requires "LR" type inlet.

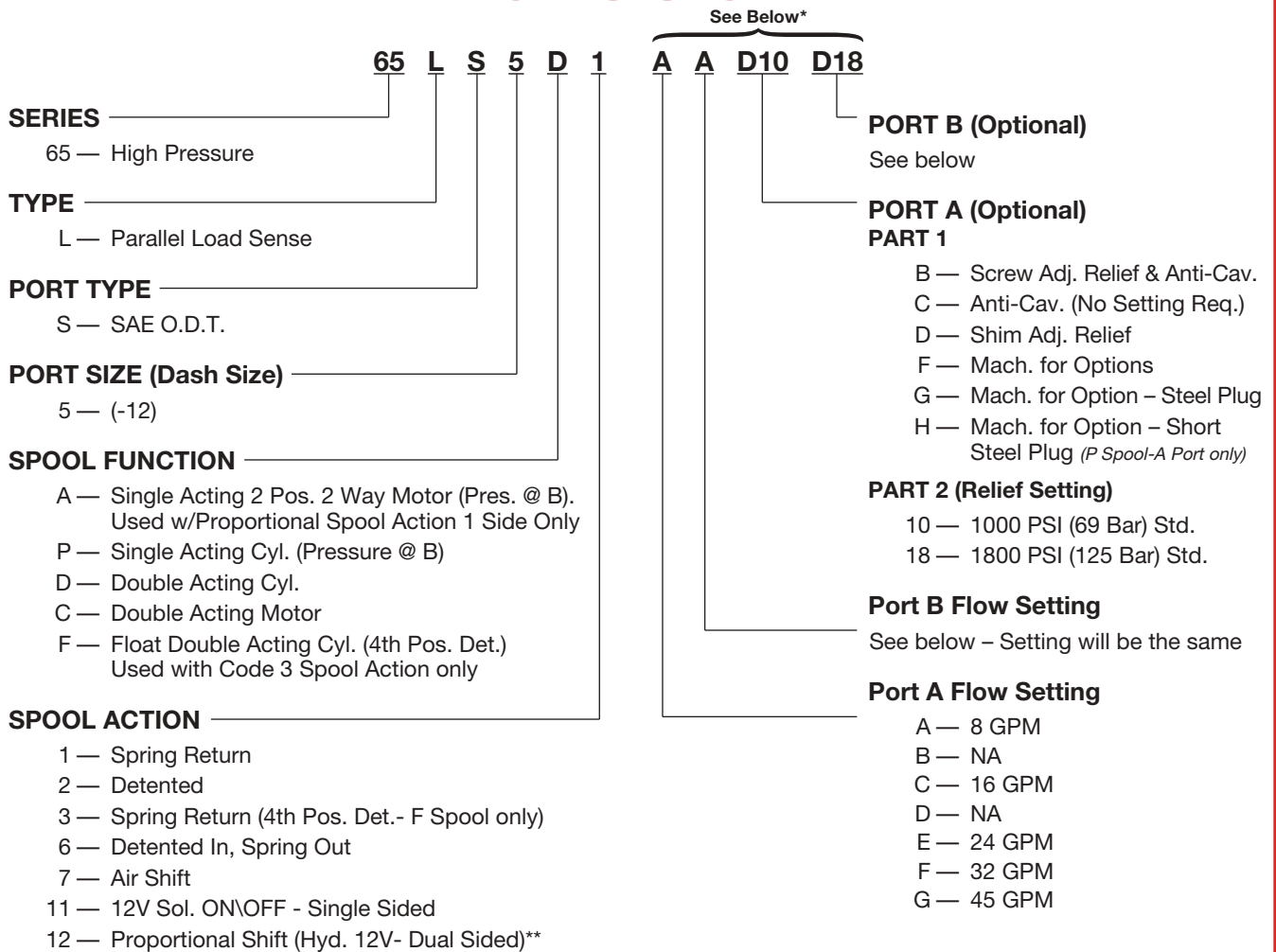


# MODEL NUMBER CONSTRUCTION

## INLET SECTION



## WORK SECTION



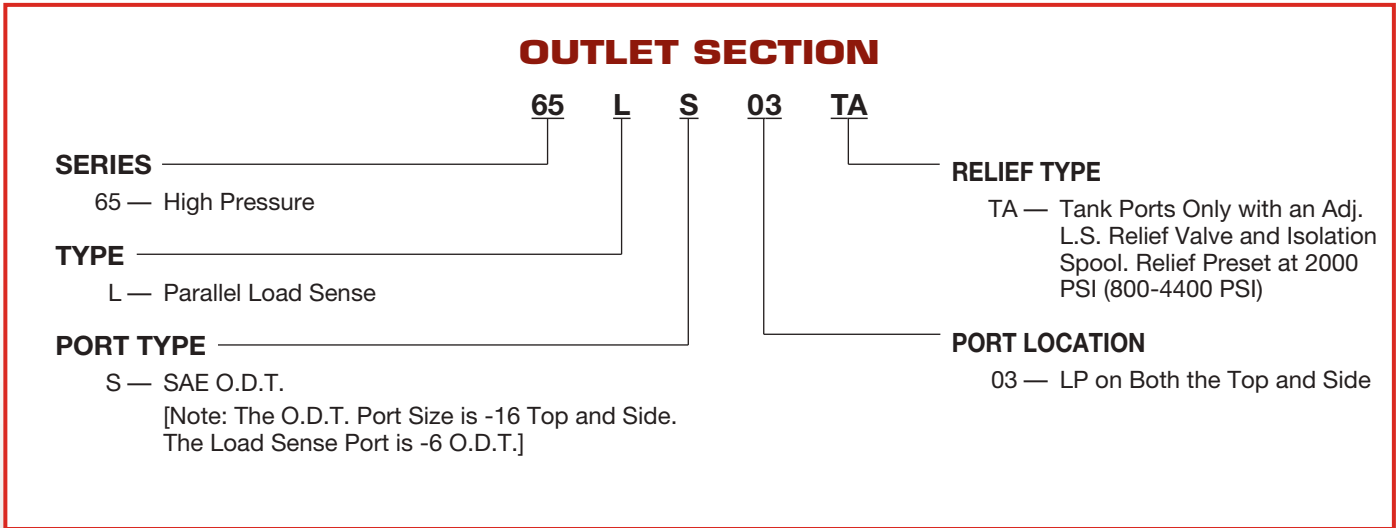
Note: Proportional Shift and Solenoid Shift require work section with internal pilot and drain passages. Also requires inlet (LR) with pilot generation and pressure reducing valve. Proportional sections should be assembled closest to the inlet.

\* This section of part number used only when accessory valves or port options required. If any option is required in this part number section, a code in each field must be used.

\*\* Minimum 200psi Pilot Pressure required.



# MODEL NUMBER CONSTRUCTION



**STUD KITS**

NUMBER SECTIONS	PART NUMBER	LENGTH [IN (MM)]
ONE SECTION	65V-STD-1	6.75 (171)
TWO SECTIONS	65V-STD-2	8.50 (216)
THREE SECTIONS	65V-STD-3	10.25 (260)
FOUR SECTIONS	65V-STD-4	12.00 (305)
FIVE SECTIONS	65V-STD-5	13.75 (349)
SIX SECTIONS	65V-STD-6	15.50 (394)

**Note:** Torque to 20 in.lbs. initial, 500 in.lbs. final.

**MODEL NUMBER EXAMPLE**

**SECTION PART NUMBERS**

---

65LS03A .....	Inlet
65LS5D1EED10G .....	24 GPM Work Section
65LS5C1AAGG.....	8 GPM Work Section
65LS5P1AAGG.....	8 GPM Work Section
65LS03TA.....	Outlet (Tank Ports)
65V-STD-3 (Required for Assembly).....	Studs
60V-HVK-10.....	Handle Kit

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- When ordering sections separately, all designator codes must be used to identify part required.
  - Assembly of valve sections as requested only.



# VALVE WARRANTY

The Muncie 65LS Series Valve is warranted against any defect in material and workmanship which existed at the time of sale by Muncie, according to the following provisions, subject to the requirements that the Valve must be used only in accordance with catalogue and package instructions.

The Valve is warranted for a period of one year from date of installation. If during the warranty period the Valve fails to operate to Muncie's specifications due to a defect in any part in material or workmanship that existed at the time of sale by Muncie, the defective part will be repaired or replaced, at Muncie's election, at no charge, if the defective part is returned to Muncie with transportation prepaid.

**Warning.** The above warranty shall terminate if any alterations or repairs are made to the Valve other than at a Service Center owned by Muncie, or if the Valve is used upon any equipment other than the equipment upon which it is first installed.

**THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES, INCLUDING NEGLIGENCE AND ALL WARRANTIES OF MERCHANTABILITY AND SUITABILITY, EXPRESSED OR IMPLIED AND STATE MUNCIE'S ENTIRE AND EXCLUSIVE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR ANY CLAIM OF DAMAGES IN CONNECTION WITH THE SALE, REPAIR OR REPLACEMENT OF THE ABOVE GOODS, THEIR DESIGN, INSTALLATION OR OPERATION. MUNCIE WILL IN NO EVENT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, AND OUR LIABILITY UNDER NO CIRCUMSTANCES WILL EXCEED THE CONTRACT PRICE FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.**

# OTHER PRODUCTS

**CALL TODAY FOR ADDITIONAL INFORMATION FOR ALL YOUR MOBILE POWER EQUIPMENT NEEDS**

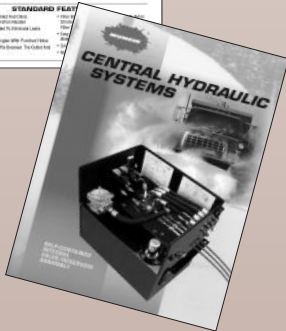
**V Series Variable Displacement Piston Pumps** Offers a high pressure continuous duty design in a compact package. All cast iron case and port plate with optional side or rear split flange ports. Nine pistons for reduced pressure pulsations. Rocker cam type pressure lubricated cradle bearings result in quick response, reduced wear, and fine metering control. *Brochure MP98-03*



**Steel Side Mount Hydraulic Oil Reservoirs** Features a filler/breather assembly with a nylon strainer and 40 micron 1/4 turn cap, a fluid level sight gauge with thermometer, internal baffle between outlet and return ports. *Brochure MP98-08*



**Central Hydraulic Systems** A self-contained integral valve/reservoir assembly. Modular design permits custom arrangement of valves, open or closed center load sense systems, manual operation or a combination of manual and state-of-the-art electronic proportional control with ground speed orientation. *Brochure MP95-03*



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