

# Valves

## High Pressure OEM Manipulator Valves

**Series 6900, 6940**

Patent# 3,014,499

### Features

- ▶ Original Shear-Seal® technology
- ▶ Low pressure drop
- ▶ Tolerates contaminants
- ▶ Spring return option
- ▶ Special flow pattern for OEM designs

### Applications

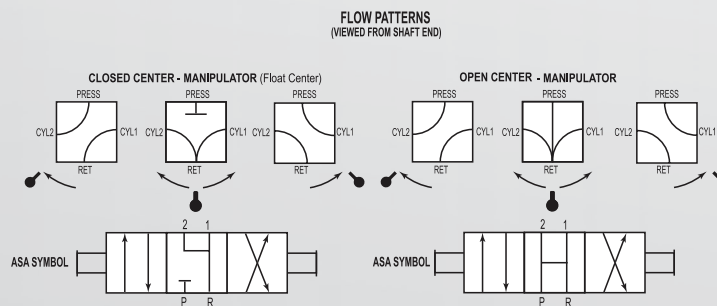
- ▶ Hydraulic presses
- ▶ Military equipment
- ▶ Paper mill controls
- ▶ Pipe forming
- ▶ Railroad maintenance equipment



### General Specifications\*

<b>Working Pressure:</b>	Hydraulic fluid up to 3000 psi (206 bar)	<b>Media Temperature Range:</b>	-40° to +250°F (-40° to +121°C)
<b>Flow Capacity, Cv:</b>	See table	<b>Wetted Material:</b>	
<b>Back Pressure:</b>	Must not exceed 250 psi (17.2 Bar) at return port for satisfactory operation	Rotor:	Hard anodized aluminum
<b>Pressure Drop:</b>	14 psi (0.96 bar) at 20 ft/sec See Supplemental Guide for more detailed information	Pressure Seals:	Brass
<b>Proof Pressure:</b>	1-1/2 times working pressure except at return port	Shaft:	Stainless steel
<b>Burst Pressure:</b>	2-1/2 times working pressure except at return port (3000 psi [206 bar])	Body Housing:	Anodized aluminum
		Bearings:	Carbon steel
		Standard O-rings:	Buna N, others available
		Back-up Rings:	Teflon®

\* See product configurator for additional options.



Main Valve Port Size	Flow Capacity (Approx.) Service: Oil			Min. Flow Passage Dia.	Cv Factor	Approx. Shipping Weight lbs (kgs)
	20 ft/sec gpm (l/min)	40 ft/sec gpm (l/min)	60 ft/sec gpm (l/min)			
1/4" & 3/8"	5 (19)	10 (38)	Use Heavy Duty Valve	5/16"	1.56	1 1/2 (0.7)
1/2" & 3/4"	14 (53)	28 (106)		17/32"	4.80	3 (1.4)

**Barksdale**  
CONTROL PRODUCTS

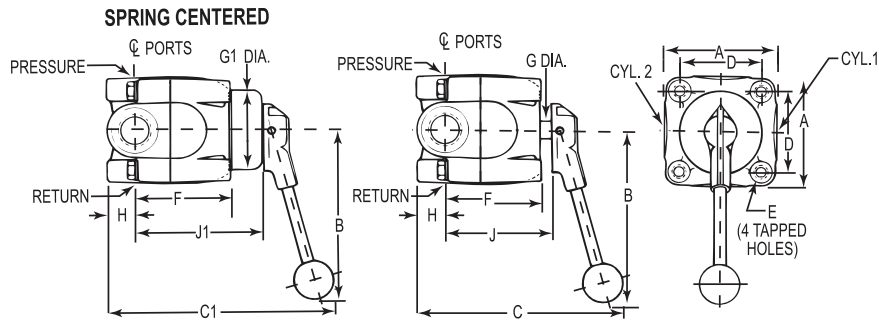
Barksdale, Inc./Barksdale GmbH  
A Subsidiary of Crane Co.

# High Pressure OEM Manipulator Valves

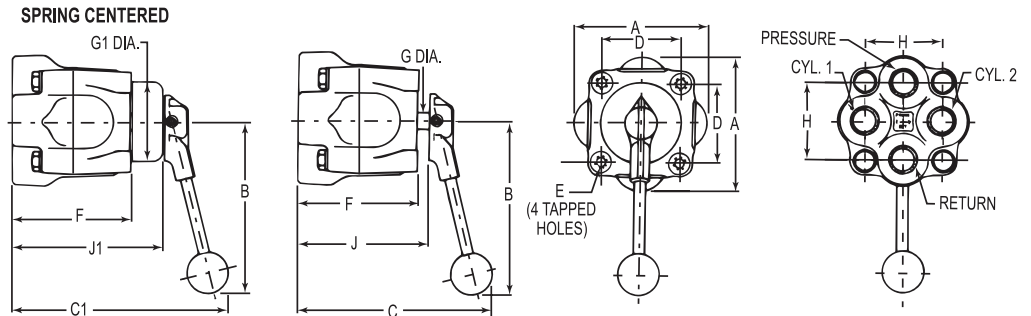
## Series 6900, 6940

### Technical Drawings

6900 Series



6940 Series



6900 Series In-Line (side) Porting

Port Size NPT	A	B	C	C1	D	E	F	G Dia.	G1 Dia.	H	J	J1
1/4" & 3/8"	2.63 (66.8)	5.44 (138)	6.38 (161.9)	6.718 (170.6)	1.81(46.0)	5/16 - 18 NC	2.31(58.7)	0.44 (11.2)	1.91(48.5)	0.56 (14.2)	2.66 (67.6)	3.03 (77.0)
1/2" & 3/4"	3.5 (88.9)	5.44 (138)	7.37 (187)	7.93 (201)	2.56 (65.0)	3/8 - 16 NC	3.03 (77.0)	0.56 (14.2)	2.56 (65.0)	0.88 (22.4)	3.38 (85.9)	3.94 (100)

6940 Series Straight (bottom) Porting

Port Size NPT	A	B	C	C1	D	E	F	G Dia.	G1 Dia.	H	J	J1
1/4" & 3/8"	2.63 (66.8)	5.44 (138)	6.13 (156)	6.50 (165)	1.81(46.0)	5/16 - 18 NC	2.66 (67.6)	0.44 (11.2)	1.91(48.5)	1.50 (38.1)	3.00 (76.2)	3.38 (85.9)
1/2" & 3/4"	4.19 (106)	5.44 (138)	7.34 (186)	7.91 (201)	2.56 (65.0)	3/8 - 16 NC	3.88 (98.6)	0.56 (14.2)	2.56 (65.0)	2.50 (63.5)	4.22 (107)	4.78 (121)

Dimensions in inches (mm)

### Product Configurator

Example: 690 2 R 3 H C 3

#### Series

- 690 Regular (side) porting, manipulator flow pattern
- 694 Straight (bottom) porting, manipulator flow pattern

#### Port Size

- 1 1/4" NPT ports
- 2 3/8" NPT ports
- 3 1/2" NPT ports
- 4 3/4" NPT ports

#### Style

- R Regular (side) porting (series 690)
- S Straight (bottom) porting (series 694)

#### Pressure

- 3 3,000 psi

#### Working Media

- H Hydraulic oil

#### Flow Pattern

- C Closed center manipulator (float center)
- O Open center (tandem center)

#### Position

- 3 3-position

#### Options

See Supplemental Guide for complete list

#### Options

- A SAE Porting
- MC Spring centering
- NF Non-interflow (port size 1/4" and 3/8" NPT only)