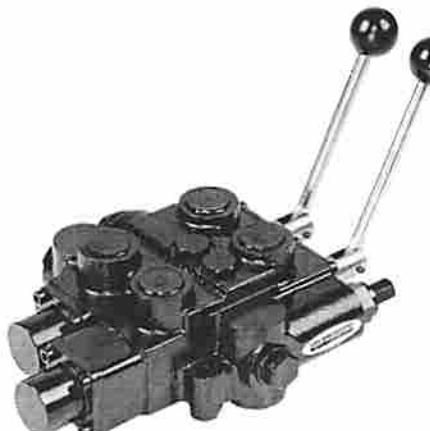


## MONO-BLOCK DIRECTIONAL CONTROL VALVE

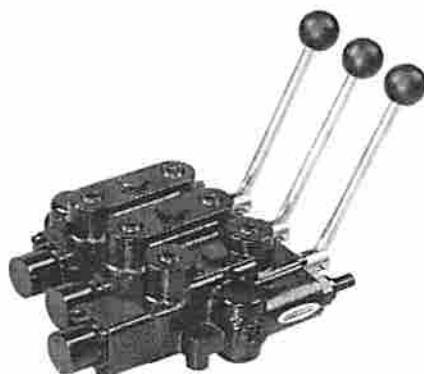
## INSTRUCTION MANUAL



082586



082587



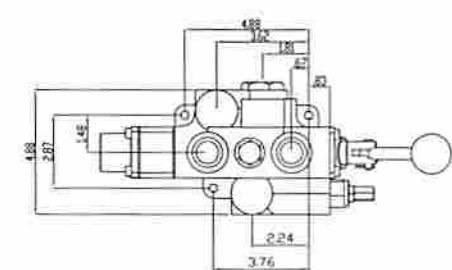
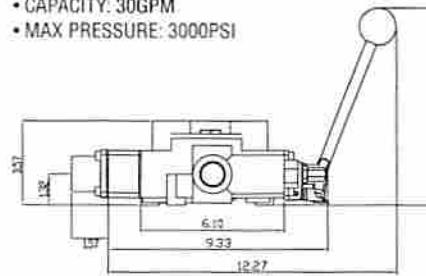
MD30A64SA3-1

## MONO-BLOCK DIRECTIONAL CONTROL VALVE

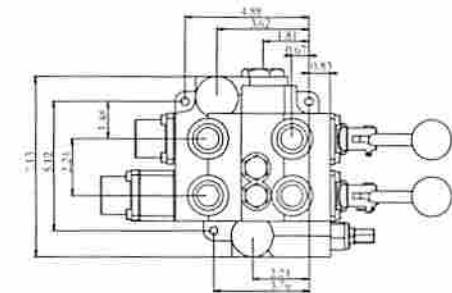
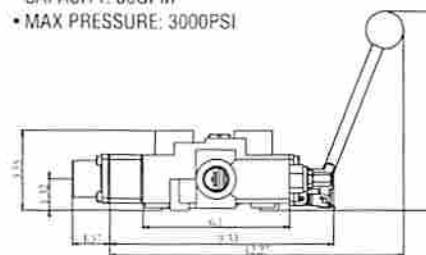
INSTRUCTION MANUAL

**INSTALLATION DIMENSION:**

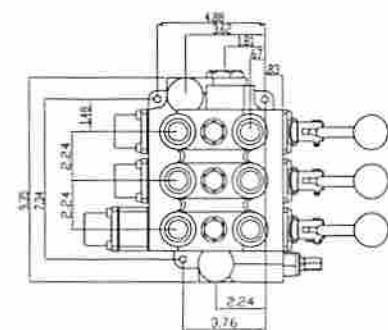
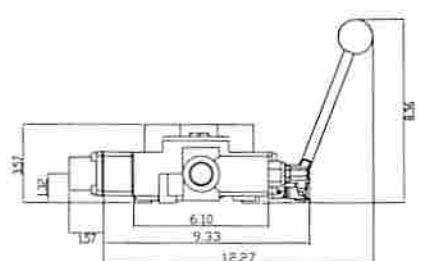
- MODEL 082586
- CAPACITY: 30GPM
- MAX PRESSURE: 3000PSI



- MODEL 082587
- CAPACITY: 30GPM
- MAX PRESSURE: 3000PSI



- MODEL MD30A64SA3-1
- CAPACITY: 30GPM
- MAX PRESSURE: 3000PSI



## MONO-BLOCK DIRECTIONAL CONTROL VALVE

### INSTRUCTION MANUAL

#### FEATURES:

- Economical mono-block construction of high tensile strength gray cast iron..
- Load check on each spool.
- Hard chrome plated spool.
- Optional 4 Position Float on 1st
- Differential poppet style relief, adjustable from 1500 to 3000psi, relief preset at 2000PSI
- Power beyond and closed center capability
- I/O port 3/4" NPT; working port 1/2" NPT

#### RECOMMENDED SYSTEM:

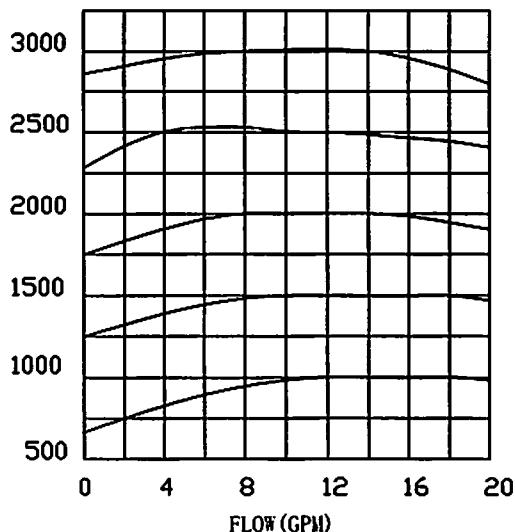
##### PARALLEL CIRCUIT

|                                     |                   |
|-------------------------------------|-------------------|
| MAXIMUM OPERATING PRESSURE .....    | 3,000 PSI         |
| MAXIMUM OPERATING TEMPERATURE ..... | 180°F             |
| MAXIMUM TANK PORT PRESSURE .....    | 500 PSI           |
| RECOMMEND SYSTEM FILTRATION .....   | ISO 4406 19/17/14 |

#### RELIEF VALVE 110 SUS OIL AT 115°F

##### CURVES AT VARIOUS SET POINTS 110 SUS OIL AT 115°F

PRESSURE (PSI)



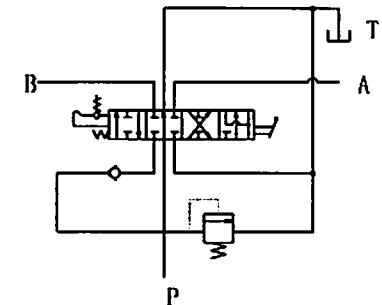
## MONO-BLOCK DIRECTIONAL CONTROL VALVE

### INSTRUCTION MANUAL

#### #082586 SINGLE SPOUL VALVE PRESSURE DROP VALUES

##### 1-Spool Pressure Drop Values 110 SUS OIL AT 115°F △P-PSI

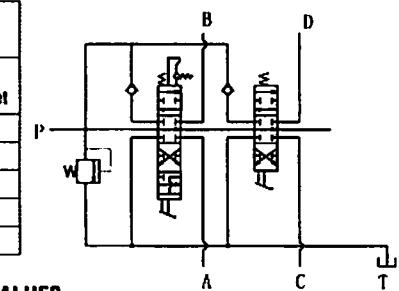
| Flow (GPM) | Inlet to outlet | Inlet to A or B | A or B to outlet |
|------------|-----------------|-----------------|------------------|
| 5          | 2               | 8               | 3                |
| 10         | 5               | 17              | 6                |
| 15         | 9               | 35              | 12               |
| 20         | 21              | 58              | 21               |
| 25         | 26              | 86              | 34               |



#### #082587 2-SPOOL VALVE PRESSURE DROP VALUES

##### 2-Spool Pressure Drop Values 110 SUS OIL AT 115°F △P-PSI

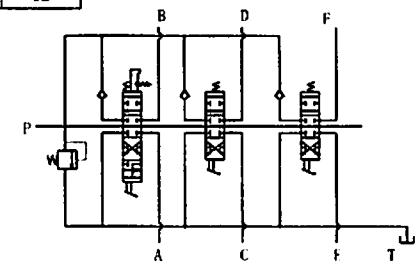
| Flow (GPM) | Inlet to outlet | Inlet to A or B | Inlet to C or D | A or B to outlet | C or D to outlet |
|------------|-----------------|-----------------|-----------------|------------------|------------------|
| 5          | 3               | 11              | 11              | 2                | 2                |
| 10         | 8               | 22              | 24              | 8                | 5                |
| 15         | 16              | 38              | 42              | 15               | 11               |
| 20         | 28              | 57              | 68              | 27               | 19               |
| 25         | 44              | 83              | 101             | 43               | 29               |



#### #MD30A64SA3-1 3-SPOOL VALVE PRESSURE DROP VALUES

##### 3-Spool Pressure Drop Values 110 SUS OIL AT 115°F △P-PSI

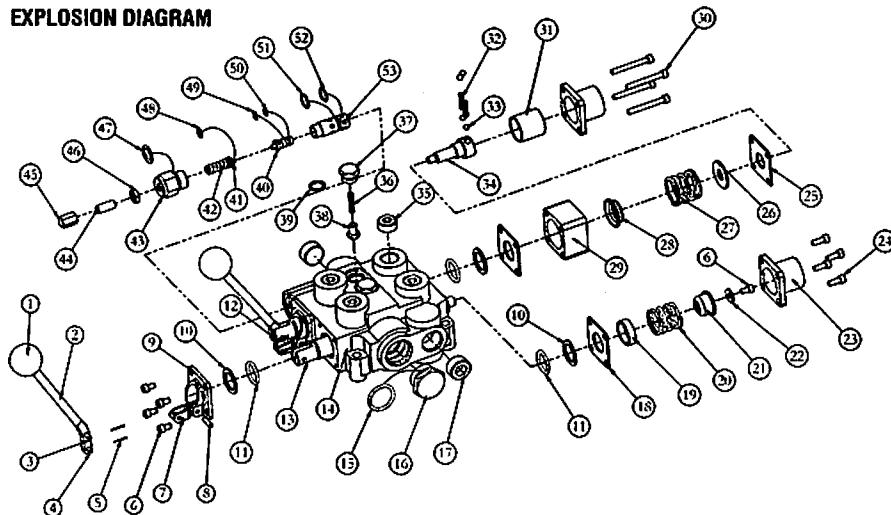
| Flow (GPM) | Inlet to outlet | Inlet to A or B | Inlet to C or D | Inlet to E or F | A or B to outlet | C or D to outlet | E or F to outlet |
|------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| 5          | 2               | 9               | 9               | 11              | 4                | 3                | 2                |
| 10         | 10              | 18              | 20              | 25              | 14               | 9                | 6                |
| 15         | 22              | 33              | 41              | 49              | 32               | 22               | 13               |
| 20         | 37              | 56              | 68              | 78              | 51               | 36               | 21               |
| 25         | 58              | 83              | 101             | 118             | 76               | 55               | 32               |



## MONO-BLOCK DIRECTIONAL CONTROL VALVE

### INSTRUCTION MANUAL

#### EXPLOSION DIAGRAM



#### PARTS LIST

| Part No. | Description      | Q'ty | Kits Description                     | Part No. | Description    | Q'ty | Kits Description                     |
|----------|------------------|------|--------------------------------------|----------|----------------|------|--------------------------------------|
| 14       | Valve Body       | 1    |                                      | 22       | Spring Adapter | 2    | Spool Action Kit (Spring Center Kit) |
| 15       | O-ring           | 1    |                                      | 20       | Spring         | 2    |                                      |
| 16       | Conversion Plug  | 1    |                                      | 18       | Gasket         | 2    | Load Check Set                       |
| 17       | 3/4" Plug        | 2    |                                      | 36       | Spring         | 2    |                                      |
| 35       | 1/2" Plug        | 4    |                                      | 37       | Plug           | 2    |                                      |
| 10       | Spool Backup     | 4    | Spool Kit                            | 39       | O-ring         | 2    |                                      |
| 11       | Spool O-ring     | 4    |                                      | 38       | Spring Adapter | 2    |                                      |
| 13       | Spool            | 2    |                                      | 45       | Acorn Nut      | 1    | Relief Cartridge                     |
| 1        | Knob             | 2    | Handle Kit                           | 44       | Set Screw      | 1    |                                      |
| 6        | Screw            | 9    |                                      | 43       | Nut            | 1    |                                      |
| 9        | Handle Bracket   | 2    |                                      | 41       | Spring Adapter | 1    |                                      |
| 2        | Handle           | 2    |                                      | 40       | Piston         | 1    |                                      |
| 3        | Clevis Pin       | 2    |                                      | 53       | Piston Sleeve  | 1    |                                      |
| 5        | Cotter Pin       | 4    |                                      | 46       | Nut            | 1    |                                      |
| 4        | Clevis Pin       | 2    |                                      | 47       | O-ring         | 1    |                                      |
| 7        | Connecting Board | 4    |                                      | 42       | Spring         | 1    |                                      |
| 8        | Pin              | 2    |                                      | 48       | O-ring         | 1    |                                      |
| 6        | Screw            | 1    | Spool Action Kit (Spring Center Kit) | 49       | Back-up Washer | 1    |                                      |
| 19       | Spring Sleeve    | 2    |                                      | 50       | O-ring         | 1    |                                      |
| 21       | Stop Cup         | 2    |                                      | 51       | Back-up Washer | 1    |                                      |
| 24       | Cap Screw        | 4    |                                      | 52       | O-ring         | 1    |                                      |
| 23       | Attachment Cover | 2    |                                      |          |                |      |                                      |

\*The diagram is for 2-spool. In this series, 1-spool, 2-spool and 3-spool mono block valve are similar.

## MONO-BLOCK DIRECTIONAL CONTROL VALVE

### INSTRUCTION MANUAL

#### PARTS LIST

| Part No. | Description         | Q'ty | Kits Description                                    |
|----------|---------------------|------|---|
| 12       | Spool               | 1    |   |
| 25       | Retainer Plate      | 1    |   |
| 26       | Washer              | 1    |   |
| 27       | Float Spring        | 1    |   |
| 28       | Stop Cup            | 1    |   |
| 29       | Float Spacer        | 1    |   |
| 30       | Cap Screw           | 4    |   |
| 31       | Float Detent Sleeve | 1    | Spool Action Kit (Spring Center W/Float Detent Kit) |
| 32       | Detent Spring       | 2    |   |
| 33       | Steel Ball          | 4    |   |
| 34       | Detent Retainer     | 1    |   |

**ADJUSTABLE RELIEFS** – An adjustable relief valve is standard on all mono-block directional valves. The standard factory setting is 2,000PSI. Other setting can be specified.

The relief pressure is adjusted by removing Acorn Nut (Part No.45), and turning the Adjusting Screw (Part No.44). Turning the Adjusting Screw clockwise will increase the pressure and counter-clockwise will decrease the pressure (a pressure gauge must be installed in the inlet line whenever the relief pressure is adjusted). Adjustable pressure range is 1500psi to 3000psi. Do not backout adjusting screw to the point it falls out.

#### WARNING

**!** All hydraulic valve must be properly installed into the hydraulic system to prevent personal injury and/or property damage. Further, the improper servicing of a valve may result in personal injury and/or property damage. Please read and understand all catalog and service information before starting, as with all mechanical work the proper tools, knowledge, and safety equipment are required, always wear safety glasses.

**!** Make sure all pressure has been relieved in the hydraulic lines before installing or servicing a hydraulic valve.

**!** Escaping hydraulic fluid under pressure can have sufficient force to penetrate skin, causing serious personal injury. Do not use your hand to check for hydraulic leaks.

**!** Before installing or servicing a hydraulic component make sure all weight has been removed from the cylinders or motors before disconnecting hydraulic lines.

**!** Disconnecting the hydraulic lines while the cylinder or motor is under load may result in the unexpected rapid movement of machine resulting in serious personal injury.

**!** Do not exceed the operating specifications for pressure, flow or temperature, all hydraulic systems require a means to limit the maximum pressure. This requires either a pressure relief valve in the system or a pump that has pressure compensation.

**!** Overpressure may cause sudden and unexpected failure of a component in the hydraulic system resulting in serious personal injury, always use a gauge when adjusting a relief valve.