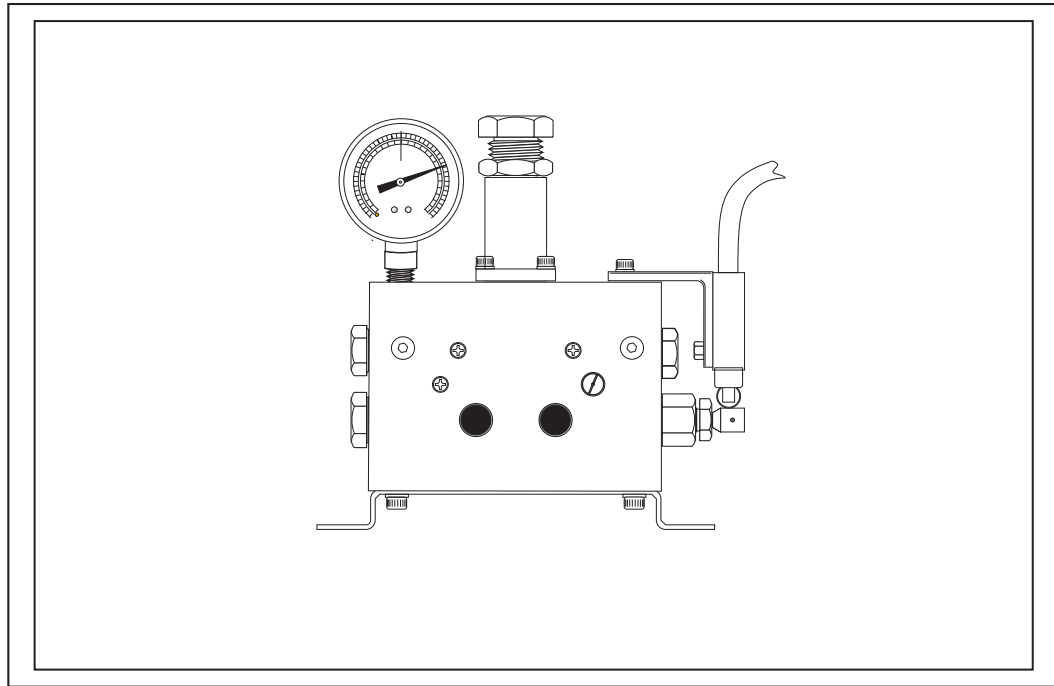


# *DYNA-POWER LUBRICATION*

## TECHNICAL BULLETIN D-01-01-2

---

---



### **REVERSING VALVE**

Model No.: DRV32

---



A division of  
Dyna-Power Engineers, Inc.  
PO Box 89 / 12809 S.Homan Ave.  
Blue Island, IL 60406

JULY 2004

**TABLE OF CONTENTS:**

General \_ \_ \_ \_ \_ 1  
Ordering Information \_ \_ \_ \_ \_ 1  
Installation \_ \_ \_ \_ \_ 2  
Principles of Operation \_ \_ \_ \_ \_ .3  
Dimensional Data \_ \_ \_ \_ \_ .4  
Parts Breakdown \_ \_ \_ \_ \_ .5  
Mounting Brackets\_ \_ \_ \_ \_ 6

**FOR CUSTOMER SERVICE & APPLICATION HELP:**

Dyna-Power Engineers  
12809 South Homan Ave.  
Blue Island, IL 60406

ph: (708) 389-7200 fax: (708) 389-9619

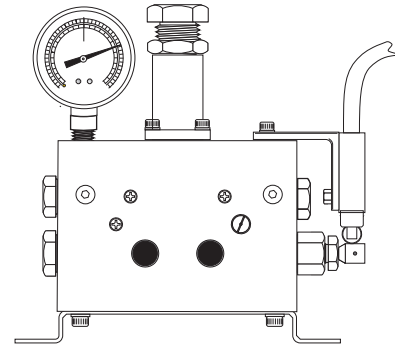
## General

Dyna-Power's DRV32 is a hydraulically actuated reversing valve that is used to alternate between two lubrication supply lines in a dual line lubrication system. Reversal of pressure and relief lines is driven by lubricant pressure acting directly on the valve. The pressure is adjustable by means of a top mounted screw. We recommend the use of a pressure gauge for accurate adjustment.

NOTE: This valve is intended to be used in end of line systems and is **NOT** intended for short loop systems.

### Specifications:

Material: Steel (Body)  
 Seal: Adjustable packing for indicator stem  
 Pressure: 500-3500 psi.  
 Lubricant: Oil-NLGI#2

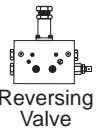







DRV32-SLS3 shown

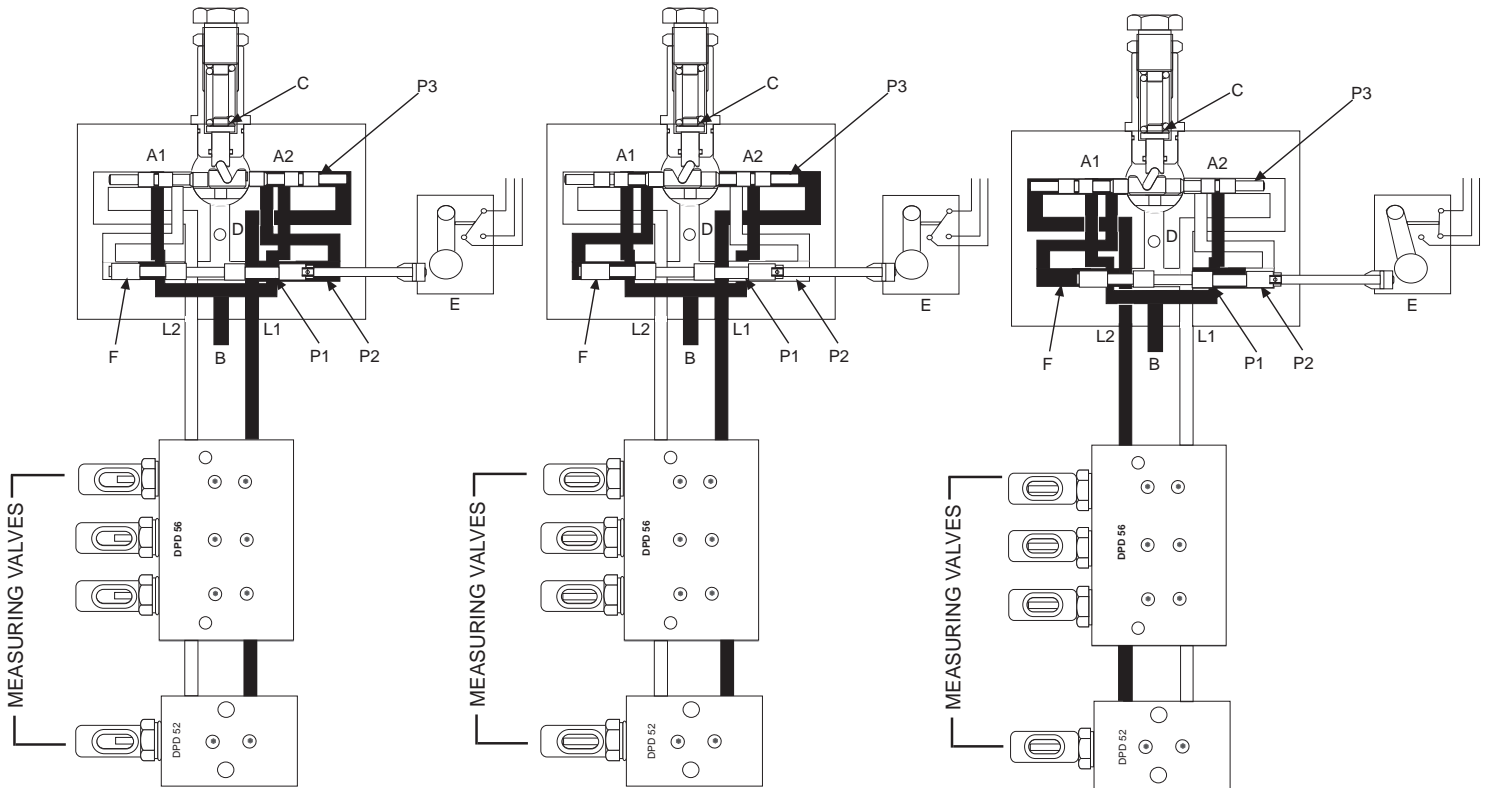
## Ordering Information

The DRV32 comes in many configurations. Listed below are the standard configurations we offer. Please refer to the table below to locate the appropriate model number for the desired configuration. Other, non-standard configurations are available, contact Dyna-Power for more information.

To use the table, cross-reference all the desired features to the column on the left titled "Part Number". Boxes that contain an **X** indicate that the feature is present and boxes marked with a **-** indicate that it is not.

Part Number	 Reversing Valve	 Pressure Gauge	 Limit Switch	p/n:RV0482  Std. Bottom Mount Bracket	p/n:RV32101  Panel Mount Bracket	p/n:RV32102  Bottom Mount Adapt. Bracket
DRV32-SL	<b>X</b>	-	-	-	-	-
DRV32-SLG1	<b>X</b>	<b>X</b>	-	<b>X</b>	-	-
DRV32-SLG2	<b>X</b>	<b>X</b>	-	-	<b>X</b>	-
DRV32-SLG3	<b>X</b>	<b>X</b>	-	-	-	<b>X</b>
DRV32-SLS1	<b>X</b>	<b>X</b>	<b>X</b>	-	-	<b>X</b>
DRV32-SLS2	<b>X</b>	<b>X</b>	<b>X</b>	-	<b>X</b>	-
DRV32-SLS3	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	-	-

## Operation



POSITION 1

After activation, the pump discharges lubricant. Lube enters at Port **B**. Main piston **F** at **P1** directs lubricant flow from Port **B** to discharge line **L1**. Line pressure at **P2** holds main piston **F** in position.

Line **L2** is relieved via port **D** back to the reservoir.

Increasing line pressure causes the acuation of the pistons in the measuring valves which results in the metered discharge of lubricant to the bearings.

POSITION 2

Increasing pressure in line **L1** at point **P3** applies force to pilot piston **A2**, until it overcomes the spring force applied at point **D**. Note the new position of pilot piston **A2**.

Lube flow is re-directed to the left end of main piston **F** by pilot piston **A1**.

The pressure created by the movement of pilot piston **A1** at its left end is relieved back to the reservoir via port **D**.

POSITION 3

Increasing pressure moves main piston **F** (extreme right), causing the tripping of switch **E**. This, in turn, stops the pump and relieves line **L1**. When the pump starts next half-cycle, line **L2** will be pressurized and line **L1** relieved.

### LEGEND

- LUBRICANT UNDER PRESSURE FROM PUMP
- RELIEF AND RETURN TO RESERVOIR

## Installation / Set-up

### Installation:

- 1 First mount the valve in the desired location on a clean, even surface.

- 2 Pre-fill header and supply lines. Connect from pump discharge to the pump input port (A) using high pressure hose (minimum 3500 psi working pressure) or tubing (steel or copper with a minimum working pressure of 3000 psi). Tubing connections to the reversing valve should be made using a 3/8" npt compression fitting.

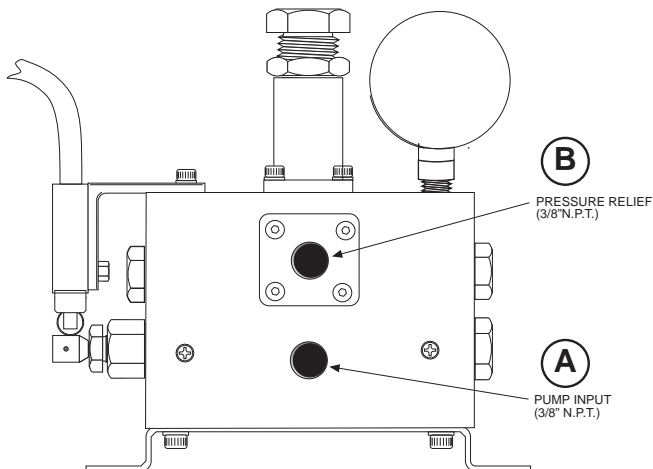
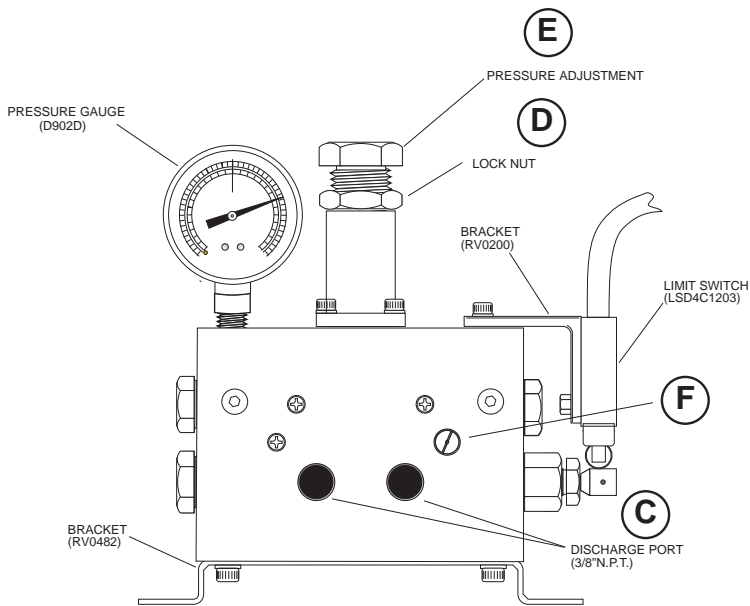
- 3 Connect from pressure relief port (B) back to reservoir or pump, using the same type hose or tubing as specified above.

- 4 Connect from the discharge ports (C) to both of the supply lines, using the same type of hose or tubing as specified above.

- 5 Using an appropriately sized screw driver, turn the air bleed screw (F) 1/4 turn counter clockwise. After all the trapped air has escaped, tighten the air bleed screw.

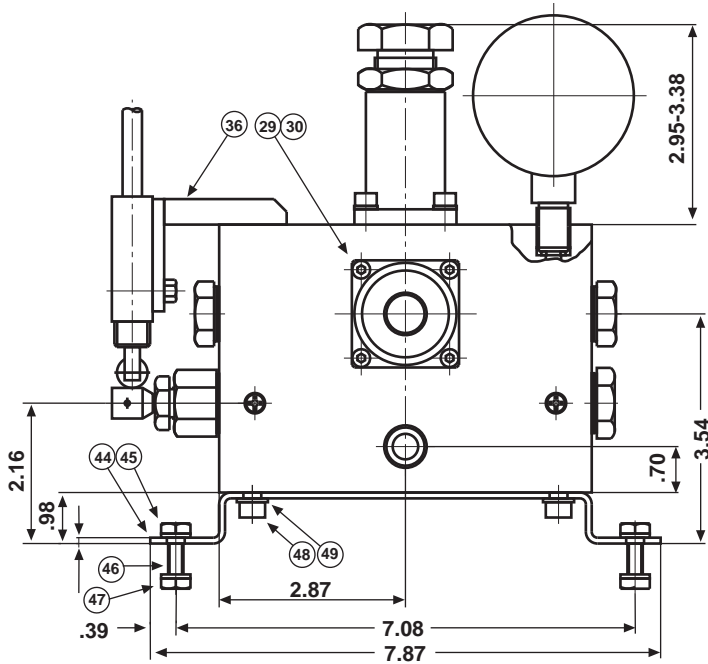
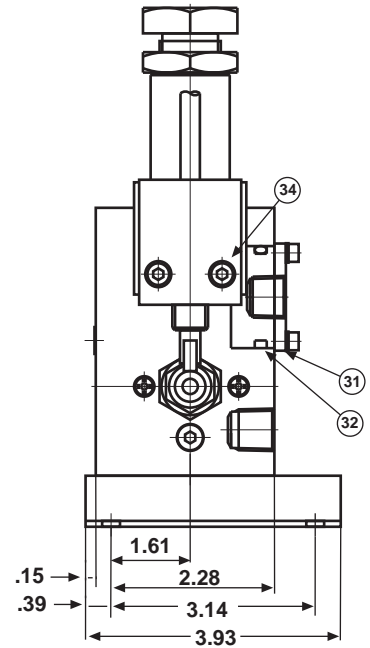
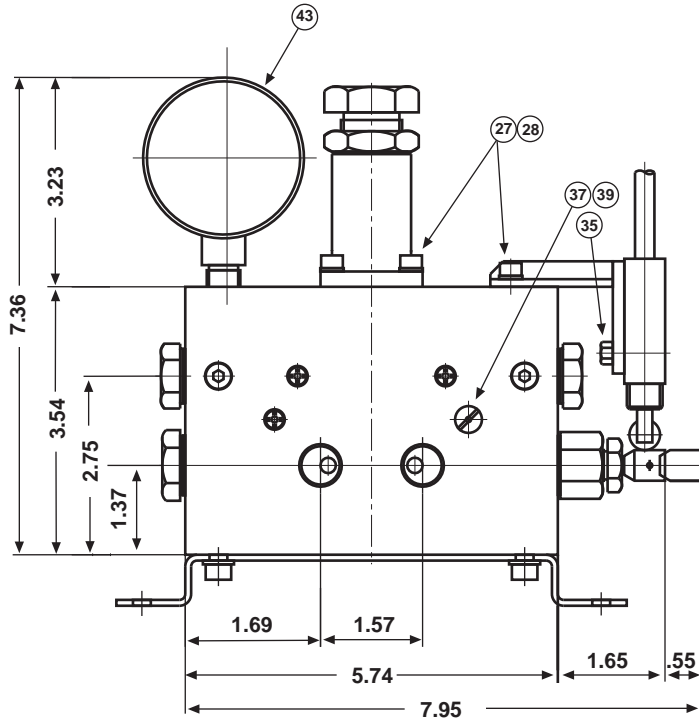
- 6 Wire the limit switch to the designated control system (eg. timer, PLC).

- 7 Using an appropriately sized wrench, loosen the lock nut (D). Again, using an appropriately sized wrench, turn the pressure adjustment screw to either raise or lower the pressure. Turning the adjustment screw clockwise **increases** the pressure needed to reverse, and turning the screw (E) counter-clockwise **decreases** the pressure needed to reverse. After the pressure has been adjusted, tighten the lock nut.

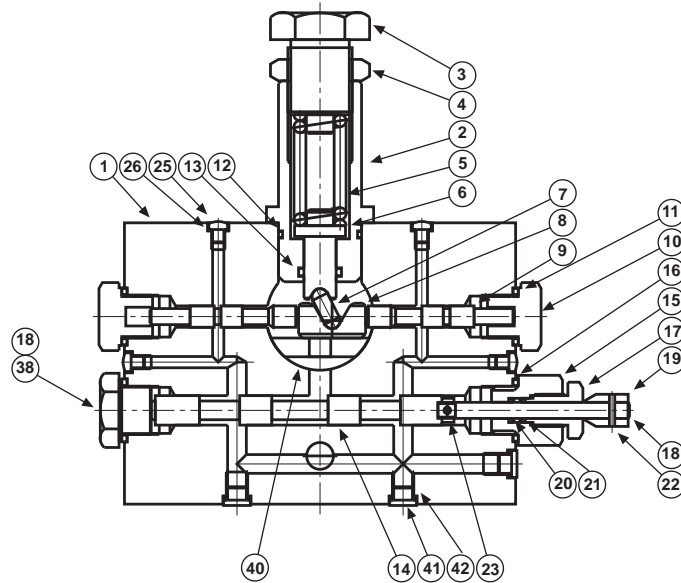


**Warning: Do not adjust the pressure setting when the valve is under pressure!**

Dimensional Data / Parts



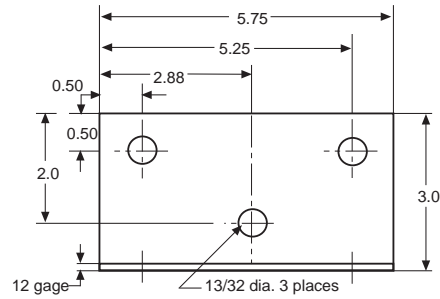
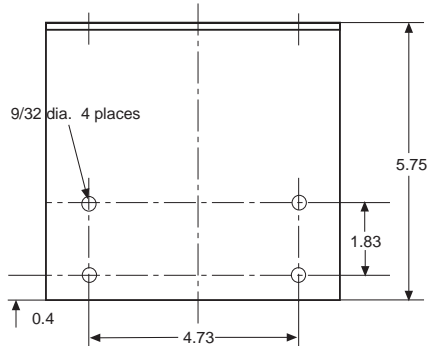
## Parts Breakdown



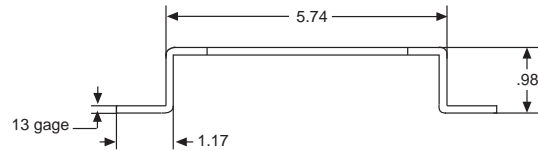
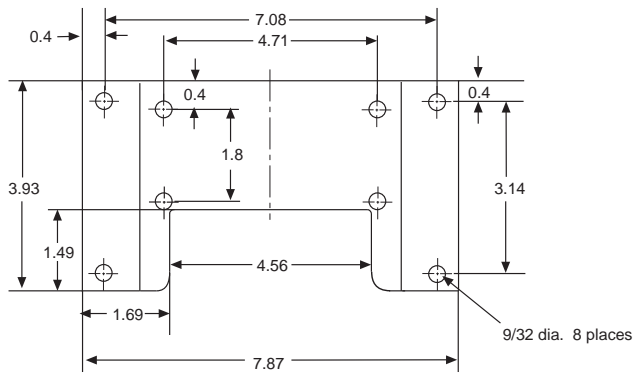
Item	Qty	Part No.	Description	Item	Qty.	Part No.	Description
1	1	RV0480	Body	26	9	DG3003	Washer
2	1	RV0467	Spring Holder	27	6	DG2001	Hex Screw
3	1	RV0474	Adj. Screw	28	6	DG3004	Lock Washer
4	1	RV0475	Lock Nut	29	4	DG2002	Hex Screw
5	1	RV0473	Spring	30	4	DG3005	Lock Washer
6	1	RV0476	Spring Shoe	31	1	RV0481	Cover Plate
7	1	RV0477	Link	32	1	DG4005	O-Ring
8	1	RV0478	Side Block	33	1	LSD4C 1203	Limit Switch
9	2	RV0472	Pilot Piston	34	2	DG2003	Screw
10	2	RV0471	Pilot Piston Plug	35	2	DG9004	Hex Nut
11	2	DG3001	Washer	36	1	RV0200	Bracket
12	1	DG4001	O-Ring	37	1	RV800124	Air Vent Screw
13	1	DG4002	O-Ring	38	1	RV800263	Hex Plug
14	1	RV0470	Main Piston	39	1	DG9005	Steel Ball
15	1	RV800264	Packing Gland	40	1	RV0479	Slipper Plate
16	2	DG3002	Washer	41	3	DG1002	Plug
17	1	RV800265	Screw	42	3	DG3006	Washer
18	1	RV800251	Switch Cam Rod	43	1	D902D	Pressure Gauge
19	1	DG9001	Switch Cam	44	1	<i>See following page for bracket detail</i>	
20	1	DG4003	O-Ring	45	4	DG2004	Bolt
21	1	DG4004	Back-up Ring	46	4	DG3006	Washer
22	1	DG9002	Spring Pin	47	4	DG9007	Hex Nut
23	1	DG9003	Roll Pin	48	4	DG2001	Hex Screw
24	----	-----	Not Used	49	4	DG3004	Lock Washer
25	9	DG1001	Plug				

**Mounting Brackets**

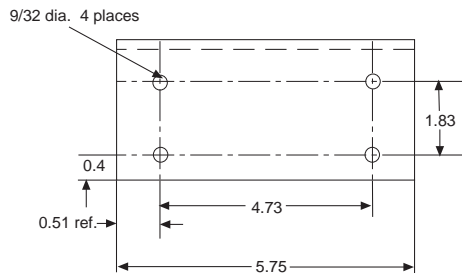
**RV32101 - Back Mount Bracket**



**RV0482 -Std.Bottom Mount Bracket**



**RV32102 - Bottom Mount Adapter Bracket**



The RV32102 bottom mount adapter bracket was designed to fit Farval's bottom mounting dimension's for ease of replacement.

