

## DIFFERENTIAL POPPET STYLE RELIEF VALVES - RV AND DRV SERIES

### MODEL RV DIFFERENTIAL POPPET INLINE RELIEF



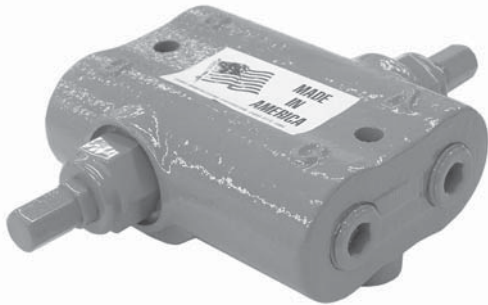
The PRINCE valve model RV is a differential poppet type inline relief. The valve is made up of a relief cartridge and a cast iron valve body. The differential poppet type relief provides smooth quiet performance with a minimum variation between cracking and full flow pressures. This type relief is also less sensitive to system contamination. The model RV is well suited as a system relief up to 30 GPM and 3000 psi. It is available in two pressure ranges and both an externally adjustable and shim adjustable version.

#### VALVE SPECIFICATIONS:

Capacity: 30 gpm max inlet flow  
Pressure: 3000 psi max

Weight: 3 lbs.

### MODEL DRV DIFFERENTIAL POPPET DOUBLE RELIEF



The PRINCE valve model DRV is a differential poppet type double relief. This valve uses the same relief cartridge as the model RV. The double relief is used in systems that require cross over relief protection such as a reversible hydraulic motor, or systems that require a cushion valve such as double acting cylinders.

#### VALVE SPECIFICATIONS:

Capacity: 30 gpm max inlet flow  
Pressure: 3000 psi max

Weight: 5.5 lbs.

### MODEL RV-O DIFFERENTIAL POPPET RELIEF CARTRIDGE



The PRINCE valve model RV-O is the differential poppet relief cartridge used in many valve models. It is available preset to install into RV valves in the field or into a custom application. This relief cartridge can also be used in the RD5100, RD5200, RD5300 and SV stack valve inlet section.

#### VALVE SPECIFICATIONS:

Capacity: 30 gpm max inlet flow  
Pressure: 3000 psi max

#### STANDARD MODELS AVAILABLE

MODEL NUMBER	MODEL NUMBER	VALVE TYPE	RELIEF SETTING	PORT SIZE
RV-1H	DRV-1HH	ADJUSTABLE 1500-3000 PSI	2000 PSI @ 10 GPM	#12 SAE
RV-2H	DRV-2HH	ADJUSTABLE 1500-3000 PSI	2000 PSI @ 10 GPM	3/4" NPTF
RV-4H	DRV-4HH	ADJUSTABLE 1500-3000 PSI	2000 PSI @ 10 GPM	1/2" NPTF
RV-2L	DRV-2LL	ADJUSTABLE 500-1500 PSI	1000 PSI @ 10 GPM	3/4" NPTF

# MODEL RV AND DRV SPECIAL MODELS AND MOUNTING DIMENSIONS

## SPECIAL MODEL RV RELIEF VALVES

Other relief valve models not listed on previous page are available in OEM quantities. To select a model number use the order code matrix shown at right. Consult a sales representative if options other than those listed are required.

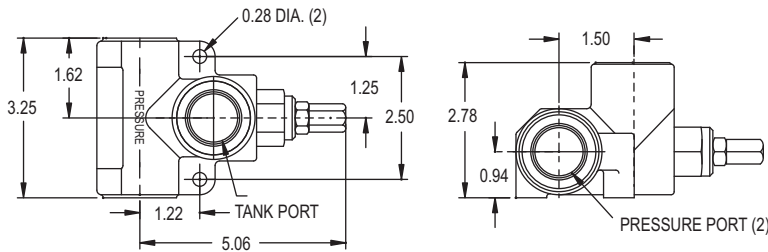
RV			
MODEL NUMBER	PORT SIZE	RELIEF TYPE	PRESSURE SETTING
RV	1 - #12 SAE 2 - 3/4 NPTF 3 - #10 SAE 4 - 1/2 NPTF 5 - #8 SAE  O - Cartridge Only. No Body.	H- Adjustable 1500-3000 PSI L- Adjustable 500-1500 PSI NH- Non-Adjustable 1500-3000 PSI NL- Non-Adjustable 500-1500 PSI	Specify Relief Pressure in PSI. Leave Blank for Standard Setting  <u>STANDARD SETTING</u> 2000 PSI for H and NH 1000 PSI for L and NL

## SPECIAL MODEL DRV RELIEF VALVES

Other relief valve models not listed on previous page are available in OEM quantities. To select a model number using the order code matrix at right. Consult a sales representative if options other than those listed are required.

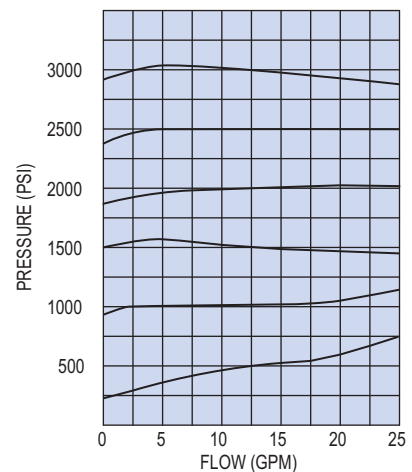
DRV				XX	XX
MODEL NUMBER	PORT SIZE	RELIEF TYPE		RELIEF SETTINGS (PSI)	
		Port A/B #1	Port C/D #2	Port A/B	Port C/D
DRV	1 - #12 SAE 2 - 3/4 NPTF 3 - #10 SAE 4 - 1/2 NPTF 5 - #8 SAE	H- Adjustable 1500-3000 PSI L- Adjustable 500-1500 PSI NH- Non-Adjustable 1500-3000 PSI NL- Non-Adjustable 500-1500 PSI	H- Adjustable 1500-3000 PSI L- Adjustable 500-1500 PSI NH- Non-Adjustable 1500-3000 PSI NL- Non-Adjustable 500-1500 PSI	Relief Settings: The two digits represent the relief settings in 100s to the nearest 100 PSI for the respective ports.  EXAMPLE: 08 = 800 PSI 17 = 1700 PSI	

## RV-SERIES MOUNTING DIMENSIONS

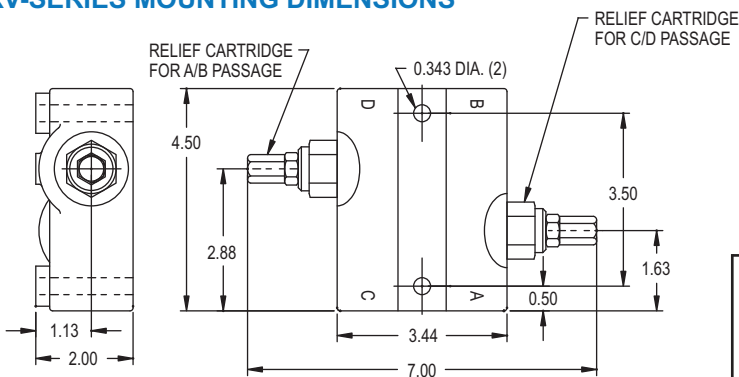


## RV-SERIES RELIEF CURVES

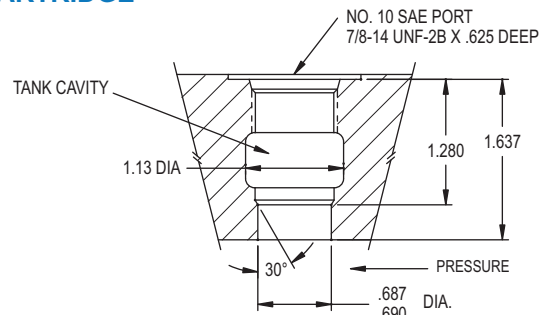
AT VARIOUS SET POINTS.  
110 SUS OIL AT 115°F.



## DRV-SERIES MOUNTING DIMENSIONS



## MACHINING DIMENSIONS FOR RELIEF VALVE CARTRIDGE



### FIELD CONVERSION KITS:

- 660250002 ADJ. RELIEF CARTRIDGE 1500-3000 PSI RV ONLY
- 660250003 ADJ. RELIEF CARTRIDGE 500-1500 PSI\*
- 660250004 NON-ADJUSTABLE RELIEF CARTRIDGE 1500-3000 PSI RV ONLY
- 660250005 NON-ADJUSTABLE RELIEF CARTRIDGE 500-1500 PSI\*
- 660250011 ADJ. RELIEF CARTRIDGE 1500-3000 PSI DRV ONLY
- 660250012 NON-ADJUSTABLE RELIEF CARTRIDGE 1500-3000 DRV ONLY
- 660590001 RV SEAL KIT
- 660590004 DRV SEAL KIT
- 670300005 1500-3000 PSI RELIEF SPRING
- 670300006 500-1500 PSI RELIEF SPRING

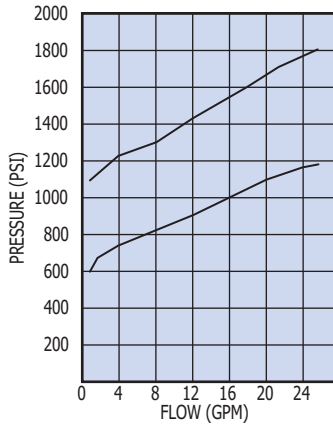
\* NOTE: THESE CARTRIDGES ARE THE SAME ON BOTH RV AND DRV VALVES

# MODEL RD-1800 PRESSURE RELIEF MODEL RD-900 SELECTOR VALVE

## MODEL RD-1800 BALL/SRING TYPE DIRECT ACTING RELIEF



RELIEF VALVE CURVE  
AT VARIOUS SET POINTS  
110 SUS OIL AT 115°F.

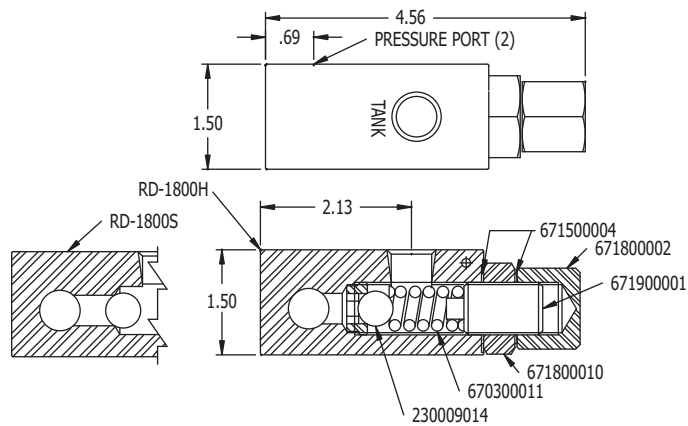
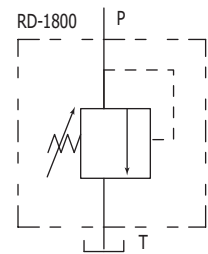


The PRINCE valve model RD-1800 is a direct acting ball/spring type pressure relief. The valve is compact and simple in design. This type relief is fast opening and is well suited for pressure spike protection. The performance curves below indicate the low cracking pressure typical to ball/spring reliefs. Please refer to the model RV relief for a system pressure relief. The valve is available with a standard steel seat, model RD-1800S, or with a hardened seat, model RD-1800H. Both models are externally adjustable.

### VALVE SPECIFICATIONS:

Capacity: 20 gpm max inlet flow  
Pressure: 2500 psi max  
Weight: 2 lb.  
Adjustment Range: 1000 PSI to 2500 PSI

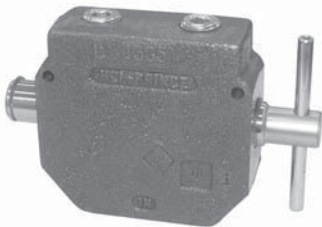
### SYMBOL



**NOTE:** Relief settings are 1500 PSI @ 12 GPM.  
For non-standard relief settings specify PSI in hundreds and GPM after model number.  
**EX:** RD-1850S-12-10 for 1200 PSI @ 10 GPM

STANDARD MODELS AVAILABLE		
MODEL #	PORT SIZES	MAX FLOW
RD-1837S	3/8 NPTF	8 GPM
RD-1850H	1/2 NPTF	16 GPM
RD-1850S	1/2 NPTF	16 GPM
RD-1875S	3/4 NPTF	20 GPM

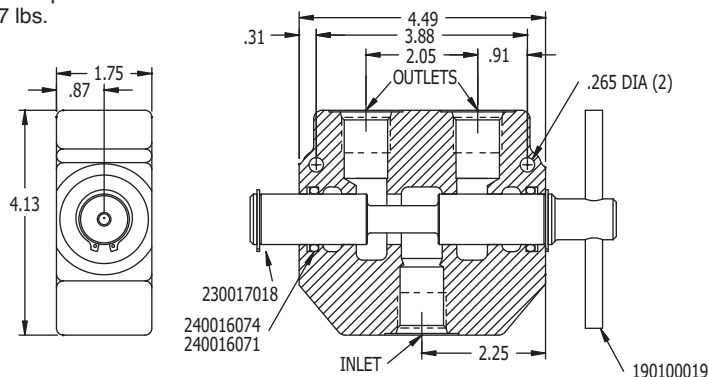
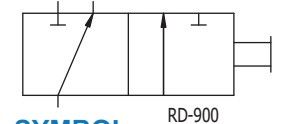
## MODEL RD-900 SELECTOR VALVE



The PRINCE valve model RD-900 is a manual 3-way 2-position selector valve. This valve will allow one pump source to supply two separate circuits. Pushing the handle in diverts oil flow to port away from handle. Pulling the handle out diverts oil flow to port nearest handle.

### VALVE SPECIFICATIONS

Capacity: 30 gpm max inlet flow  
Pressure: 3000 psi max  
Weight: 7 lbs.



STANDARD MODELS	
MODEL #	PORT SIZES
RD-950	1/2 NPTF
RD-975	3/4 NPTF

SEAL KIT 660590025

VALVES