MODEL
**RDDA**

Direct-acting relief valve
**SERIES 1 / CAPACITY: 25 gpm / CAVITY: T-10A**

sunhydraulics.com/model/RDDA

## CONFIGURATION

| | | |
|---|---|---|
| **C** | Control | Tamper Resistant - Factory Set |
| **D** | Adjustment Range | 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting |
| **N** | Seal Material | Buna-N |
| **(none)** | Material/Coating | |

Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves are smooth and quiet, essentially zero leak, dirt tolerant, immune to silting and are very fast.

## TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

| | |
|---|---|
| Cavity | T-10A |
| Series | 1 |
| Capacity | 25 gpm |
| Factory Pressure Settings Established at | 4 gpm |
| Maximum Operating Pressure | 5000 psi |
| Maximum Valve Leakage at Reseat | 10 drops/min. |
| Response Time - Typical | 2 ms |
| Reseat | >90% of setting |
| Adjustment - No. of CW Turns from Min. to Max. setting | 6 |
| Valve Hex Size | 7/8 in. |
| Valve Installation Torque | 30 - 35 lbf ft |
| Adjustment Screw Internal Hex Size | 5/32 in. |
| Locknut Hex Size | 9/16 in. |
| Locknut Torque | 80 - 90 lbf in. |
| Seal kit - Cartridge | Buna: 990310007 |
| Seal kit - Cartridge | EPDM: 990310014 |
| Seal kit - Cartridge | Viton: 990310006 |
| Model Weight | 0.42 lb. |

## CONFIGURATION OPTIONS

**Model Code Example: RDDACDN**

### CONTROL (C)

- **C** Tamper Resistant - Factory Set
- **L** Standard Screw Adjustment
- **Y** Tri-Grip Handknob

### ADJUSTMENT RANGE (D)

- **D** 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting
- **A** 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting
- **W** 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting
- **B** 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting
- **C** 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting
- **E** 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting
- **S** 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting

### SEAL MATERIAL (N)

- **N** Buna-N
- **E** EPDM
- **V** Viton

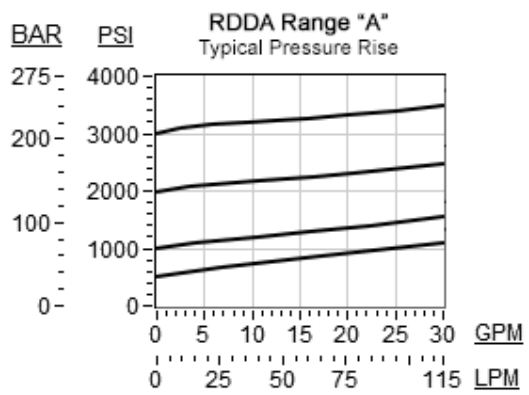
### MATERIAL/COATING

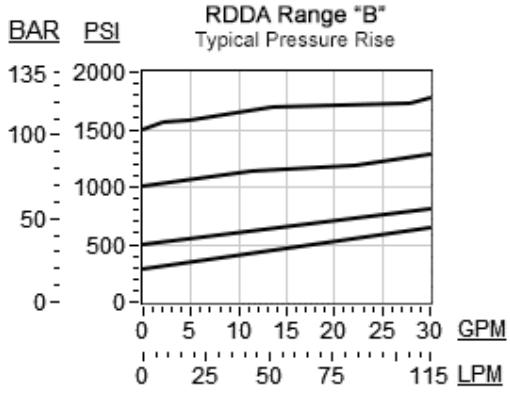
- Standard Material/Coating
- **/AP** Stainless Steel, Passivated
- **/LH** Mild Steel, Zinc-Nickel

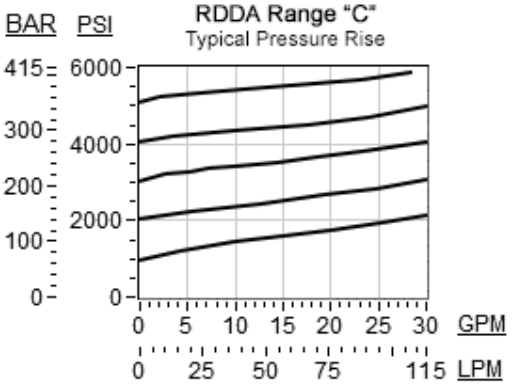
## TECHNICAL FEATURES

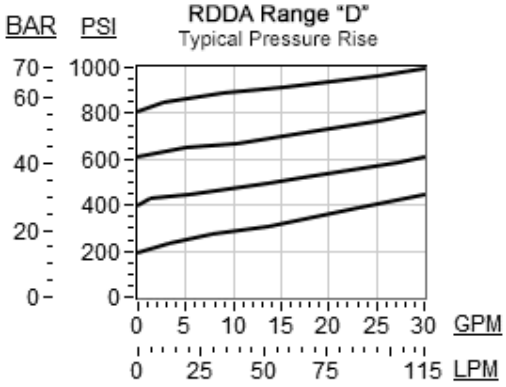
- All 2-port relief cartridges (except pilot reliefs) are physically and functionally interchangeable (same flow path, same cavity for a given frame size).
- Will accept maximum pressure at port 2; suitable for use in cross port relief circuits.
- The seals on the adjust screw are exposed to system pressure which means this valve can only be adjusted when the pressure is removed. The setting procedure is; check the setting, remove the pressure, adjust the valve, check the new setting.
- Valve is relatively insensitive to varying oil temperatures and oil borne contamination.
- Select a spring range where the desired relief setting is approximately mid-range to high between the minimum and maximum pressure to ensure maximum valve repeatability.
- Suitable for use in load holding applications.
- Back pressure on the tank port (port 2) is directly additive to the valve setting at a 1:1 ratio.
- Cartridges configured with EPDM seals are for use in systems with phosphate ester fluids. Exposure to petroleum based fluids, greases and lubricants will damage the seals.
- Test pressure for each range is as follows: A range - 2000 psi (138 bar), B range - 1000 psi (69 bar), C range - 4000 psi (276 bar), D range - 800 psi (55 bar), E range - 400 psi (28 bar), S range - 150 psi (10 bar), W range - 3000 psi (207 bar).
- Reseat meets or exceeds 90% of crack pressure at test setting. Settings lower than the test pressure may result in lower reseat percentages.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

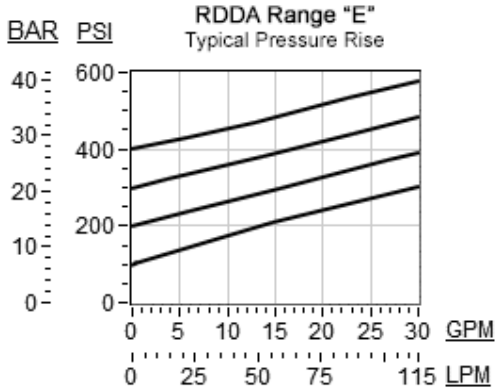
## PERFORMANCE CURVES

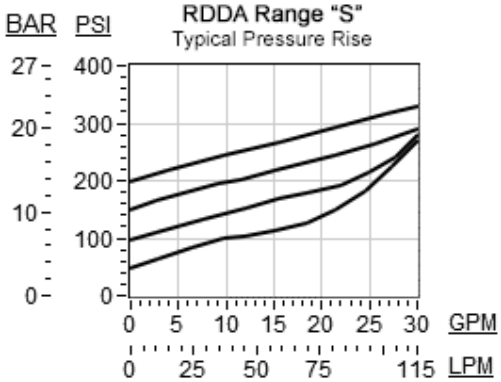


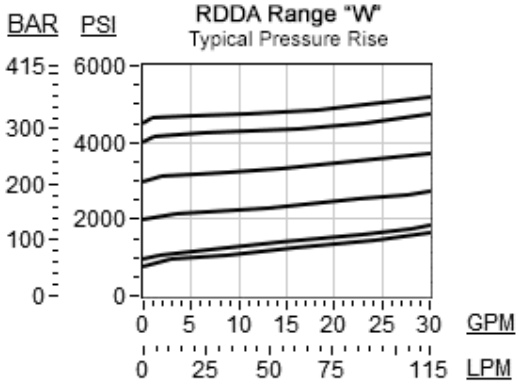






## RELATED MODELS

- RDDA3 Non-adjustable direct-acting relief valve