

**Technical Information**

- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities
- TD** Technical Data

**General Description**

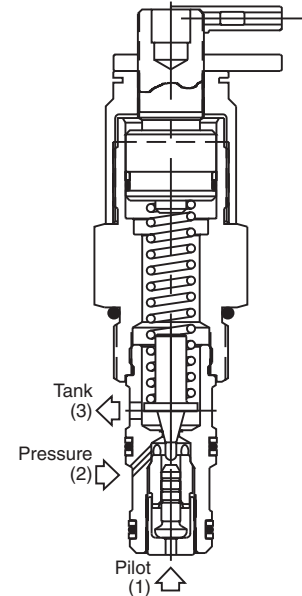
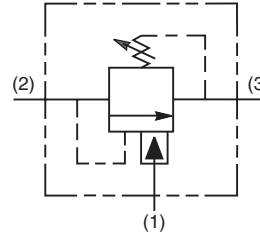
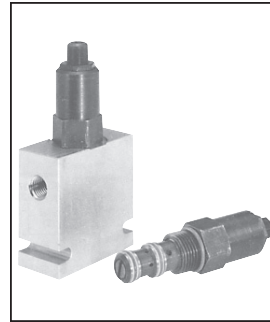
Differential Area Unloading Relief Valve. This valve is best suited for low flow accumulator unloading circuits or can be used as remote pilot valves. They provide a fixed percentage between load and unload pressures. For additional information see Technical Tips on pages PC1-PC6.

**Features**

- Low hysteresis
- Cartridge design
- All external parts zinc plated

**Specifications**

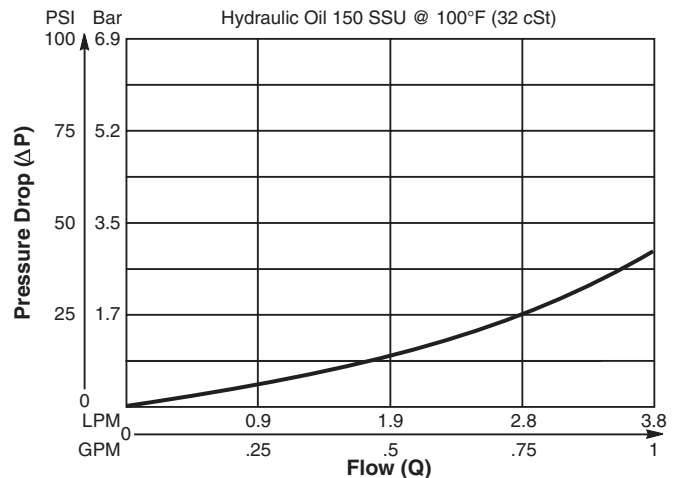
|                                      |  |
|--------------------------------------|--|
| <b>Rated Flow</b>                    | 3.75 LPM (1 GPM)   |
| <b>Maximum Pilot Flow</b>            | .94 LPM (.25 GPM)  |
| <b>Maximum Inlet Pressure</b>        | 245 Bar (3500 PSI)   |
| <b>Maximum Pressure Setting</b>      | 210 Bar (3000 PSI)   |
| <b>Maximum Tank Pressure</b>         | 210 Bar (3000 PSI)   |
| <b>Leakage at 150 SSU (32 cSt)</b>   | Port 2 to 3<br>10 drops/min. (0.66 cc/min.)<br>Port 1 to 2<br>60 drops/min. (3 cc/min.)                |
| <b>Cartridge Material</b>            | All parts steel. All operating parts hardened steel.   |
| <b>Operating Temp. Range/Seals</b>   | -40°C to +93.3°C (Nitrile) (-40°F to +200°F)<br>-31.7°C to +121.1°C (Fluorocarbon) (-25°F to +250°F)   |
| <b>Fluid Compatibility/Viscosity</b> | Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt) |
| <b>Filtration</b>                    | ISO Code 16/13, SAE Class 4 or better  |
| <b>Approx. Weight</b>                | .23 kg (.50 lbs.)  |
| <b>Cavity</b>                        | C10-3 (See BC Section for more details)  |
| <b>Form Tool</b>                     | Rougher NFT10-3R<br>Finisher NFT10-3F  |



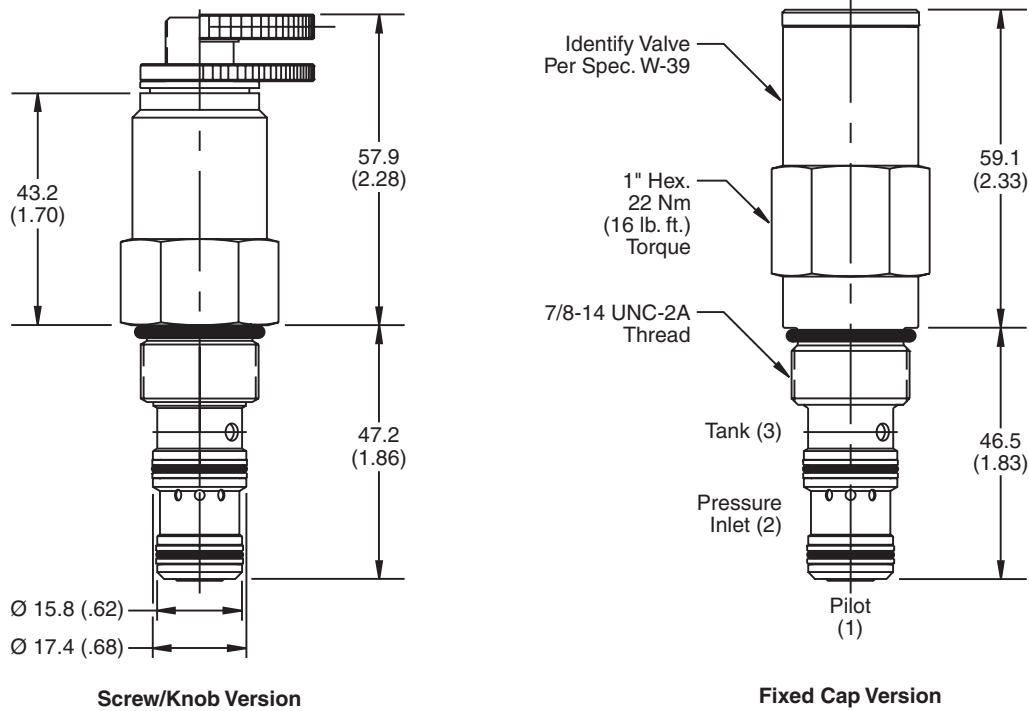
**Performance Curve**

**Inlet Flow vs. Pressure Drop**

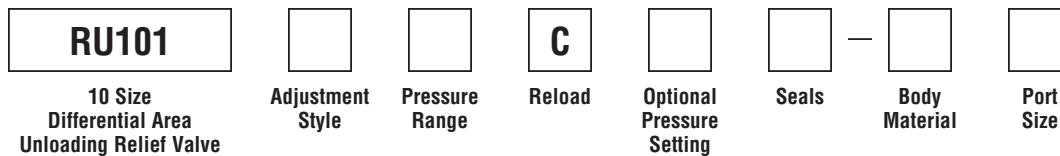
Without pilot assist (Through cartridge only)



**Dimensions** Millimeters (Inches)



**Ordering Information**



| Code | Adjustment Style / Kit No.      |
|------|---------------------------------|
| F    | Fixed style, preset at factory. |
| K    | Knob Adjust (840208K)           |
| S    | Screw Adjust                    |

| Code | Reload                      |
|------|-----------------------------|
| C    | 80% ±5% of Pressure Setting |

| Code | Body Material |
|------|---------------|
| Omit | Steel         |
| A    | Aluminum      |

| Code | Pressure Range   |
|------|--|
| 10   | 6.9 - 69 Bar (100 - 1000 PSI)<br>Standard Setting:<br>34.5 Bar (500 PSI)<br>@ 1.1 LPM (.3 GPM)     |
| 20   | 10.3 - 138 Bar (150 - 2000 PSI)<br>Standard Setting:<br>69 Bar (1000 PSI)<br>@ 1.1 LPM (.3 GPM)    |
| 30   | 13.8 - 207 Bar (200 - 3000 PSI)<br>Standard Setting:<br>103.5 Bar (1500 PSI)<br>@ 1.1 LPM (.3 GPM) |

| Optional Pressure Setting  |
|--|
| Pressure ± 10<br>i.e. 235 = 2350 PSI<br>(Omit if standard setting is used)<br>Setting Range:<br>100 to 3000 PSI<br>All settings at 1.1 LPM (0.3 GPM) |

| Code | Seals / Kit No.          |
|------|--------------------------|
| Omit | Nitrile / (SK10-3N)      |
| V    | Fluorocarbon / (SK10-3V) |

| Code | Port Size      | Body Part No. |
|------|----------------|---------------|
| Omit | Cartridge Only |               |
| 4P   | 1/4" NPTF      | (B10-3-*4P)   |
| 6P   | 3/8" NPTF      | (B10-3-*6P)   |
| 8P   | 1/2" NPTF      | (B10-3-*8P)   |
| 6T   | SAE-6          | (B10-3-*6T)   |
| 8T   | SAE-8          | (B10-3-*8T)   |
| 6B   | 3/8" BSPG      | (B10-3-6B)†   |
| 8B   | 1/2" BSPG      | (B10-3-*8B)   |

\* Add "A" for aluminum, omit for steel.  
 † Steel body only.

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**General Description**

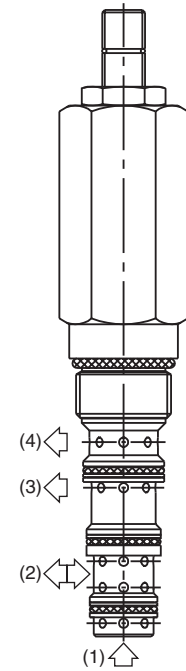
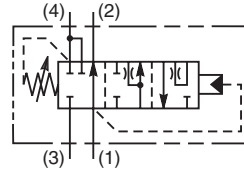
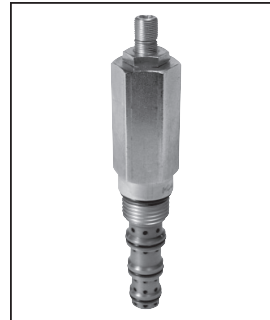
Direct Acting, Spool-Type, Unloading Relief Valve with Internal Pilot. For additional information see Technical Tips on pages PC1-PC6.

**Features**

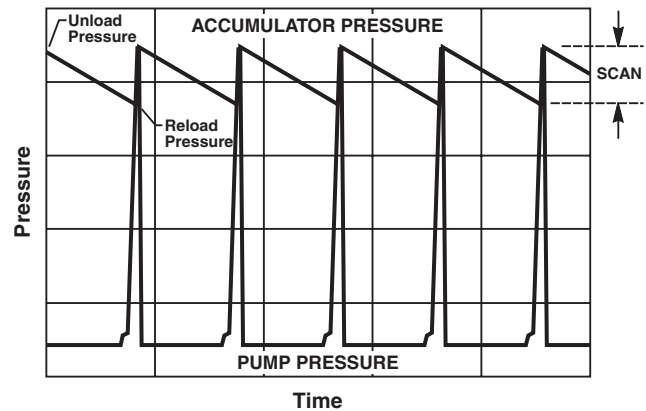
- Use to unload a load sense pump in an accumulator circuit
- One size unloading valve for all flow size applications
- Hardened working parts for maximum durability
- Adjustable and tamperproof versions available
- All external parts zinc plated

**Specifications**

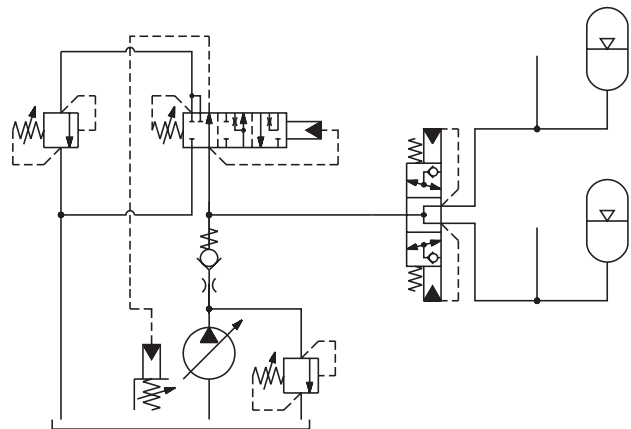
|                                      |  |
|--------------------------------------|--|
| <b>Rated Flow</b>                    | 2 LPM (0.53 GPM)   |
| <b>Maximum Inlet Pressure</b>        | 420 Bar (6000 PSI)   |
| <b>Maximum Pressure Setting</b>      | 200 Bar (2900 PSI)   |
| <b>Maximum Tank Pressure</b>         | 420 Bar (6000 PSI)   |
| <b>Leakage at 150 SSU (32 cSt)</b>   | 25 ml/min.<br>@ 100 Bar (1450 PSI)   |
| <b>Cartridge Material</b>            | All parts steel. All operating parts hardened steel.   |
| <b>Operating Temp. Range/Seals</b>   | -40°C to +93.3°C (Nitrile)<br>(-40°F to +200°F)<br>-31.7°C to +121.1°C (Fluorocarbon)<br>(-25°F to +250°F) |
| <b>Fluid Compatibility/Viscosity</b> | Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)     |
| <b>Filtration</b>                    | ISO Code 16/13,<br>SAE Class 4 or better   |
| <b>Approx. Weight</b>                | 0.33 kg (0.73 lbs.)  |
| <b>Cavity</b>                        | C10-4<br>(See BC Section for more details)   |
| <b>Form Tool</b>                     | Rougher None<br>Finisher   |



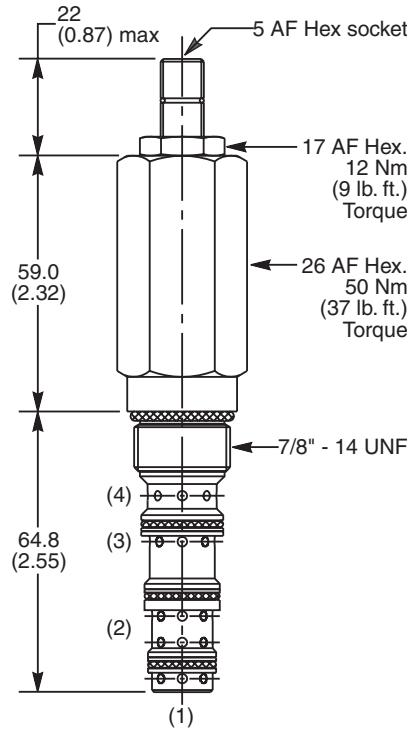
**Performance Curve  
Accumulator Circuit**



**Application**



**Dimensions** Millimeters (Inches)



**Ordering Information**

|  |                                  |                  |                         |       |               |           |
|--|----------------------------------|------------------|-------------------------|-------|---------------|-----------|
| <b>M04A4</b>                                 | <b>J</b>                         |                  |                         |       |               |           |
| 10 Size Direct Acting Unloading Relief Valve | Reload Pressure Adjustment Range | Adjustment Style | Reload Pressure Setting | Seals | Body Material | Port Size |

| Code | Reload Pressure Adjustment Range |
|------|----------------------------------|
| J    | 50 - 200 Bar (725 - 2900 PSI)    |

| Code | Adjustment Style / Kit No.    |
|------|-------------------------------|
| Z    | Screw Adjust (Std.)           |
| T    | Tamper Resistant Cap (TC1130) |

| Code | Reload Pressure Setting   |
|------|---|
| Omit | Omit for standard setting<br>Specify setting if required<br><b>M04A4J</b> Standard Setting:<br>125 Bar (1850 PSI) |

| Code | Seals / Kit No.                       |
|------|---------------------------------------|
| N    | Nitrile, Buna-N (Std.) / (SK30530N-1) |
| V    | Fluorocarbon / (SK30530V-1)           |

| Code | Body Material |
|------|---------------|
| Omit | Steel         |
| A    | Aluminum      |

| Code | Port Size      | Body Part No. |
|------|----------------|---------------|
| Omit | Cartridge Only |               |
| 4P   | 1/4" NPTF      | (B10-4-*4P)   |
| 6P   | 3/8" NPTF      | (B10-4-*6P)   |
| 8P   | 1/2" NPTF      | (B10-4-*8P)   |
| 6T   | SAE-6          | (B10-4-*6T)   |
| 8T   | SAE-8          | (B10-4-*8T)   |
| T8T  | SAE-8          | (B10-4-T8T)†  |
| 6B   | 3/8" BSPG      | (B10-4-6B)†   |

\* Add "A" for aluminum. omit for steel.  
 † Steel body only.

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