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Reference: 520-P-030000-EN-00/09.2015
RVPD-08

RELIฟ VALVE DIRECT ACTING,
LOW FLOW, PILOT CONTROL

TORQUE:
Steel = 35/40 Ft-Lb. [47/54 Nm]
Aluminum = 25/30 Ft-Lb. [34/41 Nm]

PRESSURE DROP (P)
PSI

L/M (28,5 cSt)

BAR

Reference: 520-P-030110-EN-00/09.2015

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-011.1
RELIEF VALVE DIRECT ACTING,
LOW FLOW, PILOT CONTROL.

DESCRIPTION
This unit is a DIRECT ACTING, REMOTE CONTROL FOR VALVES WITH LOW
PILOT FLOW, cartridge type, steel ball, low leakage, screw in type,
adjustable, pressure control valve.

OPERATIONS
This valve (RVPD) blocks flow from port #1 to port #2 until
sufficient pressure is present at port #1 to force the steel ball
from its seat thus opening the valve.
This cartridge relief valve offers a smooth transition in
response to a load change in a hydraulic circuit.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Pressure in tank port (2) will add to the bias spring setting,
and is limited to 2000 PSI.
Adjustment screw can not be backed out of valve.
Overset protection - spring can not go solid.
Hardened precision steel ball & seat provides reliable, long life.
A unique self aligning (floating) cage provides very low hysteresis
and reliable operation.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob
adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 2.0 GPM [7.6 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 drops/min [.25 cc/m] @ 85% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel - Unplated.
OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as
MIL-H-5606, SAE-#10, SAE-#20, etc.

INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-0822 for Buna "N".
SKV-0822 for Viton.
WEIGHT: 0.30 lb [.14 kg] cartridge only.
VALVE CAVITY: #C0820, See Page 0-011.0.

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The information does not relieve users from the duty of conducting their own evaluations and tests. Because the products are subject to
continual improvement, we reserve the right to amend the product specifications contained in this catalogue.

Reference: 520-P-030110-EN-00/09.2015
Relief Valve Direct Acting, Low Flow, Pilot Control

Pat. #5,546,980

For aluminum or steel valve housing configurations see page 0-012.1

RVPD-10-X-X-X-XX

Basic

Size

10 = 7/8"-14 UNF

Seals

N = BUNA "N"
V = VITON

Adjustment

S = Adjusting Screw
C = Capped
T = Tamperproof
K = Handknob
M = Metal Handknob

Pressure Range

15 = 0 to 1500 PSI
30 = 0 to 3000 PSI
50 = 0 to 5000 PSI

Ports

0 = Cartridge Only
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
08TX = SAE - #6
08TX = SAE - #8

"A" = Alum. Housing
"S" = Steel Housing

For Adjustment Control
Options see page 0-050.0

Pressure Drop (ΔP)

L/M (28.5 cSt)

Pressure (PSI)

GPM (135 SUS)

Bar

Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

Reference: 520-P-030120-EN-00/09.2015
RELIEF VALVE DIRECT ACTING,  
LOW FLOW, PILOT CONTROL.

DESCRIPTION
This unit is a DIRECT ACTING, REMOTE CONTROL FOR VALVES WITH LOW PILOT FLOW, cartridge type, steel ball, low leakage, screw in type, adjustable, pressure control valve.

OPERATIONS
This valve (RVPD) blocks flow from port #1 to port #2 until sufficient pressure is present at port #1 to force the steel ball from its seat thus opening the valve.
This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI.
Adjustment screw can not be backed out of valve.
Overset protection — spring can not go solid.
Hardened precision steel ball & seat provides reliable, long life.
A unique self aligning (floating) cage provides very low hysteresis and reliable operation.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 2.0 GPM [7.6 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 drops/min [.25 cc/m] @ 85% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel - Unplated.
OPERATING TEMPERATURE: -40° to +250° F. [-40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.

INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-1022 for Buna "N".
SKY-1022 for Viton.
WEIGHT: 0.38 lb [.17 kg] cartridge only.
VALVE CAVITY: #C1020, See Page 0-012.0.
RVDI-10

RELIEF VALVE DIRECT ACTING, POPPET TYPE

TORQUE:
Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-012.1

RVDI-10-X-X-X-XX

SEALS
N = BUNA "N"
V = VITON

ADJUSTMENT
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 300 TO 3000 PSI
50 = 500 TO 5000 PSI

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
06TX = SAE = #6
08TX = SAE = #8

L/M (28.5 cSt)

PRESSURE DROP (ΔP)

Reference: 520-P-030620-EN-00/09.2015
# RELIEF VALVE DIRECT ACTING, POPPET TYPE

## DESCRIPTION

This unit is a DIRECT ACTING RELIEF VALVE, cartridge type, poppet type, low leakage, screw in type, adjustable, pressure control valve.

## OPERATIONS

This valve (RVDI) blocks flow from port #1 to port #2 until sufficient pressure is present at port #1 to force the poppet from its seat thus opening the valve.

This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit.

## FEATURES AND BENEFITS

- Leakproof screw adjustment.
- Adjustment screw can not be backed out of valve.
- Overset protection — spring can not go solid.
- Hardened precision fitted poppet & cage provides reliable, long life.
- All external carbon steel parts are plated for longer life against the elements.
- Valve is available with screw, tamperproof, capped and handknob adjustments.
- All cartridge valves are 100% functionally tested.
- Industry common cavity.

## SPECIFICATIONS

- **OPERATING PRESSURE:** 5,000 PSI [350 Bar]
- **PROOF PRESSURE:** 10,000 PSI [700 Bar]
- **FLOW:** 10.0 GPM [38 L/M] nominal. See performance chart.
- **INTERNAL LEAKAGE:** 5 drops/min [.25 cc/m] @ 85% of crack pressure.
- **DEFINITION OF CRACK:** evident at 0.06 GPM [0.25 LPM]
- **VALVE HOUSINGS:**
  - 5000 PSI [350 Bar] = Steel — Unplated.
- **OPERATING TEMPERATURE:** -40° to +250° F. [-40° to +120° C.]
- **OPERATING MEDIA:** All general purpose hydraulic fluids such as MIL-H-5606, SAE—#10, SAE—#20, etc.
- **INSTALLATION:** No restriction.
- **FILTRATION:** 25 microns or better.
- **SEAL KIT NUMBER:** SKN—1021 for Buna "N".
  - SKV—1021 for Viton.
- **WEIGHT:** 0.38 lb [.17 kg] cartridge only.
- **VALVE CAVITY:** #C1020, See Page 0—012.0.
**RVDA-08**

**RELIEF VALVE**
**DIFFERENTIAL AREA, POPPET TYPE**

For aluminum or steel valve housing configurations see page 0-011.1

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**TORQUE:**
- Steel = 35/40 Ft-Lb. [47/54 Nm]
- Aluminum = 25/30 Ft-Lb. [34/41 Nm]

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**RVDA-08-X-X-X-XX**

- **Basic**
  - Size: 08 = 3/4"-16 UNF
- **Seals**
  - N = BUNA "N"
  - V = VITON
- **Adjustment**
  - S = Adjusting Screw
  - C = Capped
  - T = Tamperproof
  - K = HandKnob
  - M = Metal HandKnob

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

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**Pressure Range**
- 15 = 100 to 1500 PSI
- 30 = 750 to 3000 PSI
- 50 = 1500 to 5000 PSI

**Ports**
- 0 = Cartridge Only
- 02BX = G 1/4" BSPP
- 06TX = SAE - #6

"A" = Alum. Housing
"S" = Steel Housing

---

**Pressure Drop (ΔP)**

- L/M (28,5 cSt)
- 7,6
- 15,1
- 22,7
- 30,3
- 38
- 345
- 276
- 207
- 138
- 70
- 38
- 345

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**Reference:** 520-P-030210-EN-00/09.2015
DIFFERENTIAL AREA, POPPET TYPE

DESCRIPTION
This unit is a DIFFERENTIAL AREA RELIEF VALVE, cartridge type, direct acting, poppet type, low leakage, screw in type, adjustable, pressure control valve.

OPERATIONS
This valve (RVDA) blocks flow from port #2 to port #1 until sufficient pressure is present at port #2 to force the poppet from its seat thus opening the valve. This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Adjustment screw can not be backed out of valve.
Overset protection — spring can not go solid.
Hardened precision fitted poppet & cage provides reliable, long life.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 10.0 GPM [38 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 drops/min [.25 cc/m] @ 85% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel — Unplated.
OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-0822 for Buna "N".
SKV-0822 for Viton.
WEIGHT: 0.26 lb [.12 kg] cartridge only.
VALVE CAVITY: #C0820, See Page 0-011.0.
RELIEF VALVE DIFFERENTIAL AREA, POPPET TYPE

Pat.#5,546,980

TORQUE:
Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 300 TO 3000 PSI
50 = 500 TO 5000 PSI

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
06TX = SAE - #6
08TX = SAE - #8

"A" = ALUM. HOUSING
"S" = STEEL HOUSING

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

Reference: 520-P-030220-EN-00/09.2015
**DESCRIPTION**
This unit is a DIFFERENTIAL AREA RELIEF VALVE, cartridge type, direct acting, poppet type, low leakage, screw in type, adjustable, pressure control valve.

**OPERATIONS**
This valve (RVDA) blocks flow from port #2 to port #1 until sufficient pressure is present at port #2 to force the poppet from its seat thus opening the valve. This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit.

**FEATURES AND BENEFITS**
- Leakproof screw adjustment.
- Adjustment screw can not be backed out of valve.
- Overset protection – spring can not go solid.
- Hardened precision fitted poppet & cage provides reliable, long life.
- All external carbon steel parts are plated for longer life against the elements.
- Valve is available with screw, tamperproof, capped and handknob adjustments.
- All cartridge valves are 100% functionally tested.
- Industry common cavity.

**SPECIFICATIONS**

**OPERATING PRESSURE:** 5,000 PSI [350 Bar]
**PROOF PRESSURE:** 10,000 PSI [700 Bar]
**FLOW:** 20.0 GPM [76 L/M] nominal. See performance chart.
**INTERNAL LEAKAGE:** 5 drops/min [.25 cc/m] @ 85% of crack pressure.
**DEFINITION OF CRACK:** evident at 0.06 GPM [0.25 LPM]
**VALVE HOUSINGS:** 2500 PSI [175 Bar] = Aluminum – Anodized.
  5000 PSI [350 Bar] = Steel – Unplated.
**OPERATING TEMPERATURE:** -40° to +250° F. [-40° to +120° C.]
**OPERATING MEDIA:** All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
**INSTALLATION:** No restriction.
**FILTRATION:** 25 microns or better.
**SEAL KIT NUMBER:** SKN-1021 for Buna “N”.
  SKV-1021 for Viton.
**WEIGHT:** 0.38 lb [.17 kg] cartridge only.
**VALVE CAVITY:** #C1020, See Page 0-012.0.
RELIEF VALVE
PILOT OPERATED, SLIDING SPOOL

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-011.1

RVPS-08

BASIC
SIZE 08 = 3/4"-16 UNF
SEALS N = BUNA "N"
V = VITON
ADJUSTMENT S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB
FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PRESSURE RANGE
15 = 50 TO 1500 PSI
30 = 50 TO 3000 PSI
50 = 50 TO 5000 PSI
PORTS 0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
06TX = SAE - #6
"A" = ALUM. HOUSING
"S" = STEEL HOUSING

TORQUE:
Steel = 35/40 Ft-Lb. [47/54 Nm]
Aluminum = 25/30 Ft-Lb. [34/41 Nm]

L/M (28,5 cSt)

Reference: 520-P-030310-EN-00/09.2015
# RELIEF VALVE
## PILOT OPERATED, SLIDING SPOOL

## DESCRIPTION
This unit is a PILOT OPERATED, BALANCED SLIDING SPOOL, PRESSURE RELIEF, cartridge valve for accurate and smooth pressure regulation.

## OPERATIONS
This valve (RVPS) blocks flow from port #1 to port #2 until sufficient pressure is present at port #1 to force the pilot poppet from its seat thus opening the valve. This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit.

## FEATURES AND BENEFITS
Leakproof screw adjustment.
Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI.
Adjustment screw can not be backed out of the valve.
Overset protection – pilot spring can not go solid.
Hardened precision fitted spool & cage provides reliable, long life.
A unique self aligning (floating) cage provides very low hysteresis and reliable operation.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

## SPECIFICATIONS
| OPERATING PRESSURE: 5,000 PSI [350 Bar] |
|---|---|
| PROOF PRESSURE: 10,000 PSI [700 Bar] |
| FLOW: 15.0 GPM [57 L/M] nominal. See performance chart. |
| INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 95% of crack pressure. |
| DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM] |
| OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.] |
| OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc. |

INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-0822 for Buna "N". SKV-0822 for Viton.
WEIGHT: 0.26 lb [.12 kg] cartridge only.
VALVE CAVITY: #C0820, See Page 0-011.0.
RVPS-10

RELIEF VALVE PILOT OPERATED, SLIDING SPOOL

Pat.#5,546,980

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-012.1

TORQUE:
Steel = 55/60 Ft–Lb. [74/81 Nm]
Aluminum = 35/40 Ft–Lb. [47/54 Nm]

-for adjustment control options see page 0-050.0

<table>
<thead>
<tr>
<th>L/M (28,5 cSt)</th>
<th>4000</th>
<th>3000</th>
<th>2000</th>
<th>1000</th>
<th>0</th>
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<tr>
<td>PSI</td>
<td>23</td>
<td>46</td>
<td>68</td>
<td>91</td>
<td>0</td>
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<tr>
<td>G.P.M.(135 SUS)</td>
<td>276</td>
<td>207</td>
<td>138</td>
<td>69</td>
<td>BAR</td>
</tr>
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</table>

Reference: 520-P-030320-EN-00/09.2015
RELIEF VALVE PILOT OPERATED, 
SLIDING SPOOL

DESCRIPTION
This unit is a PILOT OPERATED, BALANCED SLIDING SPOOL, PRESSURE RELIEF, cartridge valve for accurate and smooth pressure regulation.

OPERATIONS
This valve (RVPS) blocks flow from port #1 to port #2 until sufficient pressure is present at port #1 to force the pilot poppet from its seat thus opening the valve.
This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI.
Adjustment screw can not be backed out of the valve.
Overset protection – pilot spring can not go solid.
Hardened precision fitted spool & cage provides reliable, long life.
A unique self aligning (floating) cage provides very low hysteresis and reliable operation.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 26.0 GPM [100 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 95% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: -40° to +250° F. [-40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-1022 for Buna "N".
SKV-1022 for Viton.
WEIGHT: 0.38 lb [.17 kg] cartridge only.
VALVE CAVITY: #C1020, See Page 0-012.0.
RELIEF VALVE
PILOT OPERATED, SLIDING SPOOL

Pat, # 5,546,980

PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 300 TO 3000 PSI
50 = 500 TO 5000 PSI

PORTS
0 = CARTRIDGE ONLY
04BX = G 1/2" BSPP
06BX = G 3/4" BSPP
10TX = SAE - #10
12TX = SAE - #12

TORQUE:
Steel = 70/75 Ft-Lb. [95/102 Nm]
Aluminum = 55/60 Ft-Lb. [74/81 Nm]

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

Reference: S20-P-030330-EN-00/09.2015

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-013.1
RELIEF VALVE
PILOT OPERATED, SLIDING SPOOL

DESCRIPTION
This unit is a PILOT OPERATED, BALANCED SLIDING SPOOL, PRESSURE RELIEF, cartridge valve for accurate and smooth pressure regulation.

OPERATIONS
This valve blocks flow from port 1 to port 2 until sufficient pressure is present at port 1 to force the pilot poppet from its seat thus opening the valve. This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI.
Adjustment screw can not be backed out of the valve.
Overset protection - pilot spring can not go solid.
Hardened precision fitted spool & cage provides reliable, long life.
A unique self aligning (floating) cage provides very low hysteresis and reliable operation.
All external carbon steel parts are plated for longer life against the elements. Valve is available with screw, tamperproof, capped and handknob adjustments. All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 60.0 GPM [227 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 95% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel - Unplated.
OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-1222 for Buna "N".
SKV-1222 for Viton.
WEIGHT: 0.63 lb [.25 kg] cartridge only.
VALVE CAVITY: #C1220, See Page 0-013.0.

Reference: 520-P-030330-EN-00/09.2015
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RVPP-10

RELIEF VALVE PILOT OPERATED,
POPPET TYPE, FREE REVERSE FLOW

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-012.1

RVPP-10-X-X-X-XX

BASIC

SIZE
10 = 7/8"-14 UNF

SEALS
N = BUNA "N"
V = VITON

ADJUSTMENT
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PRESSURE RANGE
15 = 50 TO 1500 PSI
30 = 50 TO 3000 PSI
50 = 50 TO 5000 PSI

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
06TX = SAE - #6
08TX = SAE - #8

"A" = ALUM. HOUSING
"S" = STEEL HOUSING

TORQUE:
Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

REFERENCE: 520-P-030420-EN-00/09.2015
**RELIEF VALVE PILOT OPERATED, POPPET TYPE, FREE REVERSE FLOW**

### DESCRIPTION
This unit is a PILOT OPERATED, POPPET TYPE, ADJUSTABLE, HYDRAULIC PRESSURE RELIEF WITH FREE REVERSE FLOW, screw in cartridge valve.

### OPERATIONS
This valve (RVPP) blocks flow from port #1 to port #2 until sufficient pressure is present at port #1 to force the pilot poppet from its seat thus opening the valve.
This cartridge relief valve offers a free reverse flow suitable for anti-cavitation and it has a very fast response and low hysteresis.

### FEATURES AND BENEFITS
- Leakproof screw adjustment.
- Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI.
- Adjustment screw can not be backed out of the valve.
- Overset protection—pilot spring can not go solid.
- Hardened precision fitted poppet & cage provides reliable, long life.
- A unique self aligning (floating) cage provides very low hysteresis and reliable operation.
- All external carbon steel parts are plated for longer life against the elements.
- Valve is available with screw, tamperproof, capped and handknob adjustments.
- All cartridge valves are 100% functionally tested.
- Industry common cavity.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>OPERATING PRESSURE:</th>
<th>5,000 PSI [350 Bar]</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROOF PRESSURE:</td>
<td>10,000 PSI [700 Bar]</td>
</tr>
<tr>
<td>FLOW:</td>
<td>26.0 GPM [100 L/M] nominal. See performance chart.</td>
</tr>
<tr>
<td>INTERNAL LEAKAGE:</td>
<td>5 drops/min (.25 cc/m) @ 90% of crack pressure.</td>
</tr>
<tr>
<td>DEFINITION OF CRACK:</td>
<td>evident at 0.06 GPM (0.25 LPM)</td>
</tr>
<tr>
<td></td>
<td>5000 PSI [350 Bar] = Steel – Unplated.</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-40° to +250° F. [-40° to +120° C.]</td>
</tr>
<tr>
<td>OPERATING MEDIA:</td>
<td>All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.</td>
</tr>
<tr>
<td>INSTALLATION:</td>
<td>No restriction.</td>
</tr>
<tr>
<td>FILTRATION:</td>
<td>25 microns or better.</td>
</tr>
<tr>
<td>SEAL KIT NUMBER:</td>
<td>SKN-1021 for Buna &quot;N&quot;. SKV-1021 for Viton.</td>
</tr>
<tr>
<td>WEIGHT:</td>
<td>0.38 lb [.17 kg] cartridge only.</td>
</tr>
<tr>
<td>VALVE CAVITY:</td>
<td>#C1020, See Page 0-012.0.</td>
</tr>
</tbody>
</table>

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Reference: 520-P-030420-EN-00/09.2015
RVPP-12

RELIEF VALVE PILOT OPERATED, POPPET TYPE, FREE REVERSE FLOW

Pat. # 5,546,980

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 300 TO 3000 PSI
50 = 500 TO 5000 PSI

PRESSURE DROP (ΔP)

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

TORQUE:
Steel = 70/75 Ft-Lb. [95/102 Nm]
Aluminum = 55/60 Ft-Lb. [74/81 Nm]
RELIEF VALVE PILOT OPERATED, POPPET TYPE, FREE REVERSE FLOW

DESCRIPTION
This unit is a PILOT OPERATED, POPPET TYPE, ADJUSTABLE, HYDRAULIC PRESSURE RELIEF WITH FREE REVERSE FLOW, screw in cartridge valve.

OPERATIONS
This valve (RVPP) blocks flow from port #1 to port #2 until sufficient pressure is present at port #1 to force the pilot poppet from its seat thus opening the valve.

This cartridge relief valve offers a free reverse flow suitable for anti-cavitation and it has a very fast response and low hysteresis.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI.
Adjustment screw can not be backed out of the valve.
Overset protection—pilot spring can not go solid.
Hardened precision fitted poppet & cage provides reliable, long life.
A unique self aligning (floating) cage provides very low hysteresis and reliable operation.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 60.0 GPM [230 L/M] nominal. See performance chart.
DEFINITION OF CRACK: evident at 0.06 GPM (0.25 LPM) @ 90% of crack pressure.
INTERNAL LEAKAGE: 5 drops/min (.25 cc/m) @ 90% of crack pressure.
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL−H–5606, SAE−#10, SAE−#20, etc.
INSTALLATION: No restriction.
Filtration: 25 microns or better.
SEAL KIT NUMBER: SKN−1221 for Buna "N".
SKV−1221 for Viton.
WEIGHT: 0.63 lb [.25 kg] cartridge only.
VALVE CAVITY: #C1220, See Page 0−013.0.
RELIANCE VALVE Poppet TYPE, BI-DIRECTIONAL (CROSS-OVER)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-011.1

TORQUE:
- Steel = 35/40 Ft-Lb. [47/54 Nm]
- Aluminum = 25/30 Ft-Lb. [34/41 Nm]

FLOW PORT 1 TO PORT 2
FLOW PORT 2 TO PORT 1
PRESSURE DROP (P)
- 1000 PSI
- 3000 PSI

G.P.M. (135 SUS)
- 4 6
- 7,6
- 15,1
- 22,7
- 30,3
- 38

L/M (28,5 cSt)
- 5000
- 4000
- 3000
- 2000
- 1000
- 0

psi

C.P.M. (135 SUS)
- 0
- 2
- 4
- 6
- 8
- 10

RVBD-08-X-X-X-XX

BASIC
SIZE
08 = 3/4"-16 UNF
SEALS
N = BUNA "N"
V = VITON
ADJUSTMENT
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB
ADJUSTMENT OPTIONS SEE PAGE 0-050.0

PERFORMANCE
PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 750 TO 3000 PSI
50 = 1500 TO 5000 PSI

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
061X = SAC - #6

"A" = ALUM. HOUSING
"S" = STEEL HOUSING

TORQUE:
- Steel = 35/40 Ft-Lb. [47/54 Nm]
- Aluminum = 25/30 Ft-Lb. [34/41 Nm]

Reference: 520-P-030510-EN-00/09.2015
RELIEF VALVE POPPET TYPE, 
BI–DIRECTIONAL (CROSS–OVER)

DESCRIPTION
This unit is a DIFFERENTIAL AREA, POPPET TYPE, BI–DIRECTIONAL, ADJUSTABLE, HYDRAULIC PRESSURE RELIEF, cartridge valve.

OPERATIONS
This valve relieves from port 1 to port 2 and port 2 to port 1. This valve provides a fast response, rugged, dirt tolerant operation and has a good pressure vs. flow characteristics.

FEATURES AND BENEFITS
Leakproof screw adjustment is standard. Adjustment screw can not be backed out of the valve. Overset protection – spring can not go solid. Hardened precision fitted poppet & cage provides reliable, long life. A unibody cage construction provides very low hysteresis, dependable and reliable operation. All external carbon steel parts are plated for longer life against the elements. Valve is available with screw, tamperproof, capped and handknob adjustments. All cartridge valves are 100% functionally tested. Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 10.0 GPM [38 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 80% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL–H–5606, SAE–#10, SAE–#20, etc.

INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN–0822 for Buna ”N”.
SKV–0822 for Viton.
WEIGHT: 0.26 lb [.12 kg] cartridge only.
VALVE CAVITY: #C0820, See Page 0–011.0.
RELIEF VALVE
POPPET TYPE, BI-DIRECTIONAL (CROSS-OVER)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-012.1

RVBD-10-X-X-X-XX

PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 300 TO 3000 PSI
50 = 500 TO 5000 PSI

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
08TX = SAE - #6
08TX = SAE - #8

SEALS
N = BUNA "N"
V = VITON

ADJUSTMENT
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

TORQUE:
Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 28/32 Ft-Lb. [38/43 Nm]
RELIEF VALVE
POPPET TYPE, BI–DIRECTIONAL (CROSS–OVER)

DESCRIPTION
This unit is a DIFFERENTIAL AREA, POPPET TYPE, BI–DIRECTIONAL, ADJUSTABLE, HYDRAULIC PRESSURE RELIEF, cartridge valve.

OPERATIONS
This valve relieves from port 1 to port 2 and port 2 to port 1. This valve provides a fast response, rugged, dirt tolerant operation and has a good pressure vs. flow characteristics.

FEATURES AND BENEFITS
Leakproof screw adjustment is standard.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted poppet & cage provides reliable, long life.
A unibody cage construction provides very low hysteresis, dependable and reliable operation.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 20.0 GPM [76 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 85% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL–H–5606, SAE–#10, SAE–#20, etc.

INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN–1022 for Buna "N".
SKV–1022 for Viton.
WEIGHT: 0.38 lb [.17 kg] cartridge only.
VALVE CAVITY: #C1020, See Page 0–012.0.
RVBD-12

RELIEF VALVE
POPPET TYPE, BI-DIRECTIONAL (CROSS-OVER)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-013.1

TORQUE:
Steel = 70/75 Ft-Lb. [95/102 Nm]
Aluminum = 55/60 Ft-Lb. [74/81 Nm]

PRESSURE DROP (ΔP)

FLOW PORT 1 TO PORT 2
FLOW PORT 2 TO PORT 1

PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 300 TO 3000 PSI
50 = 500 TO 5000 PSI

PORTS
0 = CARTRIDGE ONLY
04BX = G 1/2" BSPP
06BX = G 3/4" BSPP
10TX = SAE - #10
12TX = SAE - #12

SEALS
N = BUNA "N"
V = VITON

ADJUSTMENT OPTIONS
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF

"A" = ALUM. HOUSING
"S" = STEEL HOUSING

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

Reference: 520-P-030530-EN-00/09.2015
All cartridge valves are 100% functionally tested.

VALVE CAVITY: #C1220, See Page 0-013.0.

WEIGHT: 0.68 lb [.34 kg] cartridge only.

SKV-1222 for viton.

SEAL KIT NUMBER: SKN-1222 for buna “N”.

FILTRATION: 25 microns or better.

INSTALLATION: No restriction.

Defining crack: evident at 0.06 GPM [0.25 LPM]

INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 85% of crack pressure.

OPERATING PRESSURE: 5,000 PSI [350 Bar]

PROOF PRESSURE: 10,000 PSI [700 Bar]

FLOW: 40.0 GPM [152 L/M] nominal. See performance chart.

DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]

OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]

OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.

INSTALLATION: No restriction.

FILTRATION: 25 microns or better.

SEAL KIT NUMBER: SKN-1222 for buna “N”.

SKV-1222 for viton.

WEIGHT: 0.68 lb [.34 kg] cartridge only.

VALVE CAVITY: #C1220, See Page 0-013.0.
RVBS-10

BREAKER RELIEF VALVE PILOT OPERATED, SLIDING SPOOL, KICK-DOWN VALVE.

Pat.#5,546,980

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

TORQUE:
Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

PRESSURE DROP (P)

G.P.M.(135 SUS)

PSI

BAR

PORT #1 TO PORT #2 UNLOADED

L/M (28,5 cSt)

Reference: 520-P-030720-EN-00/09.2015
BREAKER RELIEF VALVE
PILOT OPERATED, SLIDING SPOOL, KICK-DOWN VALVE.

DESCRIPTION
This unit is a PILOT OPERATED, SLIDING SPOOL, PRESSURE BREAKER RELIEF VALVE, cartridge style, screw in type valve.

OPERATIONS
This valve (RVBS) blocks flow from port #1 to port #2 until sufficient pressure is present at port #1 to force the pilot poppet from its seat thus opening the valve and unloads the system to a low pressure. Acts as a circuit breaker in a hydraulic system.
After the flow and pressure is removed from the valve the valve will re-set itself to the original pressure setting.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI.
Adjustment screw can not be backed out of the valve.
Overset protection – pilot spring can not go solid.
Hardened precision fitted spool & cage provides reliable, long life.
A unique self aligning (floating) cage provides very low hysteresis and reliable operation.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 25.0 GPM [95 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 95% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: -40° to +250° F. [-40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.

INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-1022 for Buna "N".
SKV-1022 for Viton.
WEIGHT: 0.38 lb [.17 kg] cartridge only.
VALVE CAVITY: #C1020, See Page 0-012.0.
PUVA-10

DIFFERENTIAL AREA
UNLOADING RELIEF VALVE

P = PRESSURE DROP
5.2 G.P.M. (135 SUS)
25 0 .25 0 .75
75 .25
100 0 .95
PSI 50 1.9
L/M (28,5 cSt) 75 2.8
100 6.9
BAR 52 1.7
25 1.7
50 1.7
75 1.7
100 1.7

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PUVA-10-N-X-X-X-XX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
ADJUSTMENT
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

TORQUE:
Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

1.06" [27,0] HEX.
0.315" [8,0] HEX.

1.85" [47.0]

2.75" [69.9]

2.50" [63.5]

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-032.1

PRESSURE RANGE
20 = 50 TO 2000 PSI
40 = 50 TO 4000 PSI

RATIO
7 = 70%
8 = 80%
9 = 90%

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
06TX = SAE - #6
08TX = SAE - #8

L"A" – ALUM. HOUSING
"S" – STEEL HOUSING

Reference: 520-P-030820-EN-00/09.2015
Differential Area
Unloading Relief Valve

Description
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, HYDRAULIC 3-WAY, 2 POS. UNLOADING VALVE, which can be dumped or unloaded via a remote pilot signal. This valve is used as the pilot stage of a two-stage unloading valve.

Operations
This valve provides a fixed percentage between load and unload pressures. The fixed differential area is provided by the pilot spool which has a greater area than the pilot seat. When pressure at the pilot port 1 reaches the spring setting, the valve opens and unloads pressure port 2 to tank port 3. The greater area of the spool holds the pilot poppet off its seat until pressure at pilot port 1 drops to the RATIO percentage of the spring setting, at which point the valve closes. This valve to be used as a pilot valve in hydraulic unloading valve applications.

Features and Benefits
Hardened precision fitted spool and cage provides reliable, long life. A unibody cage construction provides very low hysteresis and reliable operation.
All external carbon steel parts are plated for longer life against the elements. All cartridge valves are 100% functionally tested. Industry common cavity.

Specifications
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 1.0 GPM [3.8 L/M] nominal. See performance chart.
DEFINITION OF LEAKAGE: 5 drops/min [.25 cc/m] @ PORT1.
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: -40° to +250° F. [-40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-1022 for Buna "N".
SKV-1022 for Viton.
WEIGHT: 0.42 lbs [0.19 kg] cartridge only.
VALVE CAVITY: #C1030, See Page 0-032.1.
ESRV-10

NORMALLY OPEN SOLENOID VENTED RELIEF VALVE, PILOT OPERATED, SPOOL TYPE (2/2)

NOTES:
1. FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-012.1
2. SOLENOIDS AVAILABLE WITH DIODES – CONSULT FACTORY.
3. ALL A.C. COILS ARE INTERNALLY A.C. TO D.C. RECTIFIED...
4. FOR CONTINUOUS ENERGIZED OR HIGH AMBIENT TEMPERATURE (>120°F) APPLICATION CONSULT FACTORY
FOR FURTHER DETAILS

TERMINALS
L = 18GA, 24" LEADS
T = SPADE TERM.
B = BOLT TERM.
G = DIN 43650
W = WEATHER-PACK
D = DEUTSCH-DT04-2P
M = METRI-PACK CONN.

REGULATED PRESSURE
10 = 1000 PSI
15 = 1500 PSI
20 = 2000 PSI
25 = 2500 PSI
30 = 3000 PSI
35 = 3500 PSI

PORTS
2 = CARTRIDGE ONLY
Q = 1/4" BSPP
G = 3/8" BSPP

VOLTAGE AMPS
120 = 12 VDC 3.00
240 = 24 VDC 1.50
360 = 36 VDC 1.00
480 = 48 VDC 0.75

PRESSURE DROP (ΔP)
0 = 00 PSID
100 = 100 PSID
200 = 200 PSID
300 = 300 PSID
400 = 400 PSID

AMPS
0.32
0.33
1.00
1.50
3.00

SETTING
S = SAE - #6
D = DEUTSCH-DT04-2P
M = METRI-PACK CONN.

CONSULT FACTORY

STEEL = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

Reference: S20-P-030920-EN-00/09.2015

MANUAL OVERRIDE

TYPE “L” COIL SEE PAGE 10-001.2

1.78" [45,2]

1.28" [32,5]

2.00" [50,8]

4.28" [108,7]

1.06" [27,0] HEX

NORMALLY OPEN SOLENOID VENTED RELIEF VALVE, PILOT OPERATED, SPOOL TYPE (2/2)

BASIC

SIZE
10 = 7/8"-14UNF

SEAL
N = BUNA "N"
V = VITON

BUNA "N"

VITON

Steel = 55/60 Ft-Lb. [74/81 Nm]
Aluminum = 35/40 Ft-Lb. [47/54 Nm]

TORQUE:

ESRV-10-X-XX-X-XXX X

L/M (28,5 cSt)

4000
3000
2000
1000
0

PSI
G.P.M.(135 SUS)

276
207
138
69
0

BAR

46
68
91
NORMALLY OPEN SOLENOID VENTED RELIEF VALVE, PILOT OPERATED, SPOOL TYPE (2/2)

DESCRIPTION
This unit is a NORMALLY OPEN, TWO POSITION, cartridge type, spool type, pilot operated, screw in type, solenoid operated, hydraulic relief valve.

OPERATIONS
When the solenoid coil is de-energized, this valve allows flow from port 1 to port 2 (tank). When the solenoid coil is energized this valve blocks flow from port 1 to port 2. When the solenoid coil is energized and the pressure at port 1 exceeds the relief pressure setting, this valve will open and allow flow from port 1 to port 2.
Manual Operator Standard: Push in and hold a small plunger on top of the valve with a screw driver or a similar plunger smaller then .188” dia.

FEATURES AND BENEFITS
Continuous-duty, very low heat rise & waterproof solenoid coil. Interchangeable solenoid coils & terminations options available. Pressure in tank port (2) will add to the bias spring setting, and is limited to 2000 PSI. Hardened precision fitted spool & sleeve provides reliable, long life. A unique self aligning (floating) cage provides very low hysteresis and reliable operation. Very efficient, wet-armature solenoid core tube construction. All external carbon steel parts are plated for longer life against the elements. All cartridge valves are 100% functionally tested. Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 26.0 GPM [100 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [85 cc/m] @ 95% of crack pressure.
INTERNAL PILOT FLOW: 60 cu.in/min [1,0 l/m] @ 3000 PSI [210 Bar]
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: -40° to +250° F. [-40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
SEAL KIT: SKN-1022 Buna “N”
SKV-1022 Viton
INSTALLATION: No restrictions.
WEIGHT: 1.90 lb [0.86 kg] cartridge with coil only.
VALVE CAVITY: #C1020, See Page 0–012.0.

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Reference: 520-P-030920-EN-00/09.2015
CROSS PORT RELIEF VALVE, DIRECT ACTING
DIFFERENTIAL AREA, POPPET TYPE

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
ADJUSTMENT
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB
FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

OPTIONAL PRESSURE SETTING
(PRESSURE/100)
Ex.: 42.5 = 4250 PSI

PRESSURE RANGE
15 = 100 TO 1500 PSI
30 = 300 TO 3000 PSI
50 = 500 TO 5000 PSI

PORTS
O8TX = SAE - #8
"A" - ALUM. HOUSING
"S" - STEEL HOUSING

CPRV-10-X-X-0-XX-XX/XXX/XXX

L/M (28,5 cSt)

PRESSURE DROP (ΔP)

G.P.M.(135 SUS)

PSI
0 5 10 15 20
BAR
0 69 138 207 276

Reference: 520-P-031020-EN-00/09.2015
CROSS PORT RELIEF VALVE, DIRECT ACTING, POPPET TYPE

DESCRIPTION
This unit consists of two RVDA cartridges in an inline housing. The cartridges are differential area, poppet type, bi-directional, adjustable, hydraulic pressure relief valves.

OPERATIONS
This manifold (CPRV) allows flow with minimal pressure drop through normally separated A and B thru ports. If pressure in either port exceeds its valve setting, flow will cross over to the other port.

FEATURES AND BENEFITS
Leakproof screw adjustment.
Adjustment screw can not be backed out of valve.
Overset protection – spring can not go solid.
Hardened precision fitted poppet & cage provides reliable, long life.
All external carbon steel parts are plated for longer life against the elements.
Valve is available with screw, tamperproof, capped and handknob adjustments.
All cartridge valves are 100% functionally tested.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 20.0 GPM [76 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 drops/min [.25 cc/m] @ 85% of crack pressure.
DEFINITION OF CRACK: evident at 0.06 GPM [0.25 LPM]
5000 PSI [350 Bar] = Steel – Unplated.
OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]
OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
INSTALLATION: No restriction.
FILTRATION: 25 microns or better.
SEAL KIT NUMBER: SKN-1021 for Buna "N".
SKV-1021 for Viton.
VALVE CAVITY: #C1020, See Page 0-12.0.

NOTE: A 100 PSI pressure differential must be present between the two relief valve settings. If same setting is needed, use RVBD-10 cartridge.