## Directional Control Valves

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Reference: 520-P-090000-EN-00/09.2015
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Reference: 520-P-090000-EN-00/09.2015
DCPS-10-A

3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "A".

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

DCPS-10-X-A-X-X-XXX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"A" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDBNOB
M = METAL HANDBNOB

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PRESSURE BIAS SPRING
075 = 75 PSI (FIXED)
100 = 100 PSI (FIXED)
200 = 75-200 PSI (ADJ.)

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-090120-EN-00/09.2015
### DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

### OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. Spring is vented to port 4. This valve shifts in an open center position.

### FEATURES AND BENEFITS
- Leakproof screw adjustment.
- This valve has a fixed or an adjustable bias spring.
- Adjustment screw can not be backed out of the valve.
- Overset protection - spring can not go solid.
- Hardened precision fitted spool & 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.
- Valve is available with fixed, 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:** 12.0 GPM [46 L/M] nominal. See performance chart.
- **INTERNAL LEAKAGE:** 5 cu.in./min. [85 cc/m].
- **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−1042 for buna "N".
  SKV−1042 for viton.
- **WEIGHT:** 0.46 lb [.21 kg] cartridge only.
- **VALVE CAVITY:** #C1040, See Page 0−042.0.
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "A".

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

DCPS-16-X-A-F-0-XXX

BASIC
SIZE
16 = 1.312"-12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"A" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)

PRESSURE BIAS SPRING
060 = 60 PSI (FIXED)
120 = 120 PSI (FIXED)
160 = 160 PSI (FIXED)

PORTS
0 = CARTRIDGE ONLY
06BX = G 3/4" BSPP
08BX = G 1" BSPP
12TX = SAE - #12
16TX = SAE - #16

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

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-044.1

Reference: 520-P-090140-EN-00/09.2015
## SPECIFICATIONS

### DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

### OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. Spring is vented to port 4. This valve shifts in an open center position.

### FEATURES AND BENEFITS
Leakproof fixed type.
This valve has a fixed bias spring.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available in fixed type.
All cartridge valves are 100% functionally tested.
Industry common cavity.

### SPECIFICATIONS

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<tr>
<th>SPECIFICATION</th>
<th>VALUE</th>
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<tr>
<td>OPERATING PRESSURE</td>
<td>5,000 PSI [350 Bar]</td>
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<tr>
<td>PROOF PRESSURE</td>
<td>10,000 PSI [700 Bar]</td>
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<tr>
<td>FLOW</td>
<td>36.0 GPM [136.0 L/M] nominal. See performance chart.</td>
</tr>
<tr>
<td>INTERNAL LEAKAGE</td>
<td>5 cu.in./min. [85 cc/m].</td>
</tr>
<tr>
<td>DEFINITION OF CRACK</td>
<td>evident at 0.06 GPM [0.25 LPM]</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE</td>
<td>-40° to +250° F. [−40° to +120° C.]</td>
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<tr>
<td>OPERATING MEDIA</td>
<td>All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.</td>
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<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-1642 for buna “N”. SKV-1642 for viton.</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>1.5 lb [0.68 kg] cartridge only.</td>
</tr>
<tr>
<td>VALVE CAVITY</td>
<td>#C1640, See Page 0-044.0.</td>
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Reference: 520-P-090140-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "B".

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

"S" SCREW
"F" FIXED

SEALS
N = BUNA "N"
V = VITON

BASIC SIZE
10 = 7/8"-14 UNF

SEALS
N = BUNA "N"
V = VITON

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

L/M (28.5 cSt)

PRESSURE DROP (ΔP)

G.P.M. (135 SUS)

PUBLISHING
BUCHER hydraulics

Reference: 520-P-090220-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "B".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. Spring is vented to port 4. This valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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: 12.0 GPM [46 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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−1042 for buna "N".
SKV−1042 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0−042.0.
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "B".

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-044.1

DCPS-16-X-B-F-X-XXX

BASIC
SIZE
16 = 1.312"-12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"B" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)

PRESSURE BIAS SPRING
060 = 60 PSI (FIXED)
120 = 120 PSI (FIXED)
160 = 160 PSI (FIXED)

PORTS
0 = CARTRIDGE ONLY
06BX = G 3/4" BSPP
08BX = G 1" BSPP
12TX = SAE - #12
16TX = SAE - #16

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

L/M (28,5 cSt)

PRESSURE DROP (\( \Delta P \))

PSI
0 6 12 18 24 30 36

G.P.M. (135 SUS)

Reference: 520-P-09024  0-EN-00/09.2015
### 3-WAY DIRECTIONAL CONTROL VALVE
**SPOOL TYPE, PILOT OPERATED, SPOOL "B".**

#### DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

#### OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. Spring is vented to port 4. This valve shifts in a closed center position.

#### FEATURES AND BENEFITS
- Leakproof fixed type.
- This valve has a fixed bias spring.
- Overset protection — spring can not go solid.
- Hardened precision fitted spool & 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.
- Valve is available in fixed type.
- 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: | 36.0 GPM [136.0 L/M] nominal. See performance chart. |
| INTERNAL LEAKAGE: | 5 cu.in./min. [85 cc/m]. |
| 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-1642 for buna "N". SKV-1642 for viton. |
| WEIGHT: | 1.5 lb [0,68 kg] cartridge only. |
| VALVE CAVITY: | #C1640, See Page 0-044.0. |

info.el@bucherhydraulics.com  www.bucherhydraulics.com/commoncavity

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3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "C".

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

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

DCPS-10-X-C-X-X-XXX

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

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PRESSURE BIAS SPRING
075 = 75 PSI (FIXED)
100 = 100 PSI (FIXED)
200 = 75-200 PSI (ADJ.)

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

Reference: 520-P-090320-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "C".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased spool. Port 2 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 2. Spring is vented to port 4. This valve shifts in an open center position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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: 12.0 GPM [60 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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.
FILTERATION: 25 microns or better.
SEAL KIT NUMBER: SKN−1042 for buna "N".
SKV−1042 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0−042.0.
DCPS-16-C

3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "C".

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

DCPS-16-X-C-F-X-XXX

BASIC
SIZE
16 =1.312" - 12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"C" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)

PRESSURE BIAS SPRING
060 = 60 PSI (FIXED)
120 = 120 PSI (FIXED)
160 = 160 PSI (FIXED)

PORTS
0 = CARTRIDGE ONLY
06BX = G 3/4" BSPP
08BX = G 1.0" BSPP
12TX = SAE - #12
16TX = SAE - #16

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

REFERENCE: 520-P-090340-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "C".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased spool. Port 2 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 2. Spring is vented to port 4. This valve shifts in an open center position.

FEATURES AND BENEFITS
Leakproof fixed type.
This valve has a fixed bias spring.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available in fixed type.
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: 36.0 GPM [136.0 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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-1642 for buna "N".
SKV-1642 for viton.
WEIGHT: 1.5 lb [0.68 kg] cartridge only.
VALVE CAVITY: #C1640, See Page 0-044.0.

Reference: 520-P-090340-EN-00/09.2015

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3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "D".

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

DCPS-10-X-D-X-X-XXX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"0" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

PRESSURE BIAS SPRING
075 = 75 PSI (FIXED)
100 = 100 PSI (FIXED)
200 = 75-200 PSI (ADJ.)

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-090420-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL “D”.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased spool. Port 2 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 2. Spring is vented to port 4. This valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened protection fitted spool & cage provides reliable, long life.
A unibody precision fitted spool & 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 fixed, screw, tamperproof, capped and handknob adjustments.
Industry common cavity.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 12.0 GPM [46 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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-1042 for buna “N”.
SKV-1042 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0-042.0.
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "D".

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

DCPS-16-X-D-F-X-XXX

REFERENCE: 520-P-090440-EN-00/09.2015

PSI

L/M (28.5 cSt)

G.P.M. (135 SUS)
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "D".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased spool. Port 2 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 2. Spring is vented to port 4. This valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof fixed type.
This valve has a fixed bias spring.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available in fixed type.
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: 36.0 GPM [136,0 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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−1642 for buna "N".

SKV−1642 for viton.
WEIGHT: 1.5 lb [0.68 kg] cartridge only.
VALVE CAVITY: #C1640, See Page 0−044.0.
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "E".

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

DCPS-10-X-E-X-X-XXX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"E" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)
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 = 35/40 Ft-Lb. [47/54 Nm]

PRESSEUR DROP (PA)

L/M (28.5 cSt)

G.P.M. (135 SUS)

Reference: 520-P-091120-EN-00/09.2015
3–WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL ”E”.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3–WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. "V" spring chamber is vented to atmosphere. This valve shifts in an open center position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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: 12.0 GPM [46 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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–10452 for buna "N".
SKV–10452 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0–042.0.

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3-WAY DIRECTIONAL CONTROL VALVE
SPool TYPE, PILOT OPERATED, SPOOL “E”.

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

DCPS-16-X-E-F-X-XXX

BASIC
SIZE
16 = 1.312”-12 UNF
SEALS
N = BUNA “N”
V = VITON
SPool
"E" = SPool
ADJUSTMENT
F = FIXED (FACTORY SET)

PRESSURE BIAS SPRING
G60 = 60 PSI (FIXED)
120 = 120 PSI (FIXED)
160 = 160 PSI (FIXED)

PORTS
0 = CARTRIDGE ONLY
G6BX = G 3/4” BSPP
G8BX = G 1” BSPP
12TX = SAE – #12
16TX = SAE – #16

“S” – ALUM. HOUSING
“E” – STEEL HOUSING

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-044.1

Reference: 520-P-091140-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "E".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. "V" spring chamber is vented to atmosphere. This valve shifts in an open center position.

FEATURES AND BENEFITS
Leakproof fixed type.
This valve has a fixed bias spring.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available in fixed type.
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: 36.0 GPM [136,0 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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−1640 for buna "N".
SKV−1640 for viton.
WEIGHT: 1.5 lb [0,68 kg] cartridge only.
VALVE CAVITY: #C1640, See Page 0−044.0.

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Reference: 520-P-091140-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "F".

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

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

DCPS-10-X-F-X-X-XXX

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

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PRESSURE BIAS SPRING
075 = 75 PSI (FIXED)
100 = 100 PSI (FIXED)
200 = 75-200 PSI (ADJ.)

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

PRESSURE DROP (ΔP)

L/M (28.5 cSt)

G.P.M.(135 SUS)

Reference: 520-P-091220-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL “F”.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE,
SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT,
requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased
spool. Port 4 is blocked. The spool will shift when piloted at port 1
with sufficient pressure to overcome the spring bias and allow flow
from port 3 to port 4. “V” spring chamber is vented to atmosphere.
This valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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: 12.0 GPM [46 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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-10452 for buna ”N”.
SKV-10452 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0-042.0.
DCPS-12-F

3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "F".

"S" SCREW
"F" FIXED

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

.315" [8.0] HEX.
1.31" [33.3] HEX
1.96" [49.8] MAX.
1.25" [31.8] MAX.
4.75" [120.7]
3.50" [88.9]
3.50" [88.9]

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0–043.1

DCPS-12-X-F-X-X-XXX

BASIC
SIZE
12 = 1.062–12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"F" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0–050.0

PRESSURE BIAS SPRING
070 = 70 PSI (FIXED)
100 = 100 PSI (FIXED)
160 = 40–160 PSI (ADJ)

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

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

L/M (28.5 cSl)

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Reference:S20-P-091230-EN-00/09.2015
3–WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL “F”.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3–WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. "V" spring chamber is vented to atmosphere. This valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof screw adjustment. This valve has a fixed or an adjustable bias spring. Adjustment screw can not be backed out of the valve. Overset protection — spring can not go solid. Hardened precision fitted spool & 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. Valve is available with fixed, 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: 24.0 GPM [91 L/M] nominal. See performance chart.  
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].  
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–12462 for buna "N".  
SKV–12462 for viton.  
WEIGHT: 0.85 lb [.39 kg] cartridge only.  
VALVE CAVITY: #C1240, See Page 0–043.0.
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "F".

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

DCPS-16-X-F-F-X-XXX
BASIC
SIZE
16 = 1.312"-12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"F" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)

PRESSURE BIAS SPRING
060 = 60 PSI (FIXED)
120 = 120 PSI (FIXED)
160 = 160 PSI (FIXED)

PORTS
0 = CARTRIDGE ONLY
G6BX = G 3/4" BSPP
G8BX = G 1.0" BSPP
12TX = SAE - #12
16TX = SAE - #16

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

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-044.1

Reference: 520-P-091240-EN-00/09.2015
### 3–WAY DIRECTIONAL CONTROL VALVE

**SPOOL TYPE, PILOT OPERATED, SPOOL "F".**

### DESCRIPTION

This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3–WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

### OPERATIONS

This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 4. "V" spring chamber is vented to atmosphere. This valve shifts in a closed center position.

### FEATURES AND BENEFITS

- Leakproof fixed type.
- This valve has a fixed bias spring.
- Overset protection – spring can not go solid.
- Hardened precision fitted spool & 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.
- Valve is available in fixed type.
- 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>36.0 GPM [136.0 L/M] nominal. See performance chart.</td>
</tr>
<tr>
<td>INTERNAL LEAKAGE:</td>
<td>5 cu.in./min. [85 cc/m].</td>
</tr>
<tr>
<td>DEFINITION OF CRACK:</td>
<td>evident at 0.06 GPM [0.25 LPM]</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-40° to +250° F. [−40° to +120° C.]</td>
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<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−1640 for buna &quot;N&quot;. SKV−1640 for viton.</td>
</tr>
<tr>
<td>WEIGHT:</td>
<td>1.5 lb [0.68 kg] cartridge only.</td>
</tr>
<tr>
<td>VALVE CAVITY:</td>
<td>#C1640, See Page 0–044.0.</td>
</tr>
</tbody>
</table>
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "G".

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

DCPS-10-X-G-X-X-XXX

| SIZE | 10 = 7/8"-14 UNF |
| SEALS | N = BUNA "N" |
| V = VITON |
| SPOOL | "G" = SPOOL |

ADJUSTMENT:
F = FIXED (FACTORY SET)
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

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

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

DCPS-10-G

PRESSURE DROP (P):
0 25 50 75 100 150 200
0 1.7 3.5 5.2 6.9 8.6 12.1
0 1.06" [27,0] HEX
0 1.89" [48,0] MAX
0 3.50" [88,9]
0 2.50" [63,5]

PRESSURE BIAS SPRING:
075 = 75 PSI (FIXED)
100 = 100 PSI (FIXED)
200 = 75-200 PSI (ADJ.)

REFERENCES:
520-P-091320-EN-00/09.2015

BUCHEER hydraulics

Reference: S20-P-091320-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPool TYPE, PILOT OPERATED, SPOOL "G".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPool TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased spool. Port 2 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 2. "V" spring chamber is vented to atmosphere. This valve shifts in an open center position.

FEATURES AND BENEFITS
Leakproof screw adjustment. This valve has a fixed or an adjustable bias spring. Adjustment screw can not be backed out of the valve. Overset protection – spring can not go solid. Hardened precision fitted spool & 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. Valve is available with fixed, 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: 12.0 GPM [46 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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-10452 for buna "N".
                  SKV-10452 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0-042.0.
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "G".

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0–044.1

DCPS-16-X-G-F-X-XXX

BASIC
SIZE
16 = 1.312"–12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"G" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)

PRESSURE BIAS SPRING
060 = 60 PSI (FIXED)
120 = 120 PSI (FIXED)
160 = 160 PSI (FIXED)

PORTS
0 = CARTRIDGE ONLY
06BX = G 3/4" BSPP
08BX = G 1" BSPP
12TX = SAE – #12
16TX = SAE – #16

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

L/M (28.5 cSt)

G.P.M. (135 SUS)

Reference: 520-P-091340-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "G".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased spool. Port 2 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 2. "V" spring chamber is vented to atmosphere. This valve shifts in an open center position.

FEATURES AND BENEFITS
Leakproof fixed type.
This valve has a fixed bias spring.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available in fixed type.
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: 36.0 GPM [136.0 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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-1640 for buna "N".
SKV-1640 for viton.
WEIGHT: 1.5 lb [0.68 kg] cartridge only.
VALVE CAVITY: #C1640, See Page 0-044.0.
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "H".

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

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

DCPS-10-X-H-X-X-XXX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"H" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

PRESSURE BIAS SPRING
075 = 75 PSI (FIXED)
100 = 100 PSI (FIXED)
200 = 75-200 PSI (ADJ.)

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

Reference: 520-P-091420-EN-00/09.2015
3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "H".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 3-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased spool. Port 2 is blocked. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow from port 3 to port 2. "V" spring chamber is vented to atmosphere. This valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection - spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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: 12.0 GPM [46 L/m] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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-10452 for buna "N".
SKV-10452 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0-042.0.
DCPS-16-H

3-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "H".

TORQUE:
Steel = 95/100 Ft-Lb. [129/136 Nm]
Aluminum = 70/75 Ft-Lb. [95/102 Nm]

DCPS-16-X-H-X-X-XXX

BASIC
SIZE
16 = 1.312"-12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"H" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)

PRESSURE BIAS SPRING
080 = 60 PSI (FIXED)
120 = 120 PSI (FIXED)
160 = 160 PSI (FIXED)

PORTS
0 = CARTRIDGE ONLY
06BX = G 3/4" BSPP
08BX = G 1" BSPP
12TX = SAE - #12
16TX = SAE - #16

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

Reference: 520-P-091440-EN-00/09.2015
3–WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, SPOOL "H".

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE,
SPOOL TYPE, HYDRAULIC 3–WAY DIRECTIONAL CONTROL ELEMENT,
requiring remote pilot actuation.

OPERATIONS
This valve allows flow from port 3 to port 4 with a spring biased
spool. Port 2 is blocked. The spool will shift when piloted at port 1
with sufficient pressure to overcome the spring bias and allow flow
from port 3 to port 2. "V" spring chamber is vented to atmosphere.
This valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof fixed type.
This valve has a fixed bias spring.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available in fixed type.
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: 36.0 GPM [136.0 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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–1640 for buna "N".
SKV–1640 for viton.
WEIGHT: 1.5 lb [0.68 kg] cartridge only.
VALVE CAVITY: #C1640, See Page 0–044.0.
2-WAY DIRECTIONAL CONTROL VALVE
SPool TYPE, PILOT OPERATED, CLOSED.

For aluminum or steel valve housing configurations see page 0-043.1

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

DCPD-12-X-C-X-X-XXX

BASIC
SIZE
12 = 1.062-12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
"C" = SPOOL
ADJUSTMENT
F = FIXED (FACTORY SET)
S = ADJUSTING SCREW
C = CAPPED
T = TAMPERPROOF
K = HANDKNOB
M = METAL HANDKNOB

PRESSURE BIAS SPRING
070 = 70 PSI (FIXED)
100 = 100 PSI (FIXED)
160 = 40-160 PSI (ADJ.)

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

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

FOR ADJUSTMENT CONTROL OPTIONS SEE PAGE 0-050.0

Reference: 520-P-091630-EN-00/09.2015
2—WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, CLOSED.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE TYPE,
SPOOL TYPE, NORMALLY CLOSED, HYDRAULIC 2—WAY BIDIRECTIONAL,
CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
When the pilot is not actuated, ports 2 and 3 are blocked.
The spool will shift when piloted at port 1 with sufficient pressure
to overcome the spring bias and allow flow from port 2 to 3 and
port 3 to 2. Port 4 is an external vent for the spring cavity with back
pressure directly opposing the pilot with a 1:1 ratio. Unpiloted, the
spool is spring biased and will return to its closed position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw cannot be backed out of the valve.
Overset protection — spring cannot go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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: 24.0 GPM [91 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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—12462 for buna "N".
SKV—12462 for viton.
WEIGHT: 0.82 lb [.38 kg] cartridge only.
VALVE CAVITY: #C1240, See Page 0—043.0.
2-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, OPEN.

TORQUE:
Steel = 35/40 Ft-Lb. [47/54 Nm]
Aluminum = 25/30 Ft-Lb. [34/41 Nm]
2-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, OPEN.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW-IN CARTRIDGE TYPE, SPOOL TYPE, NORMALLY OPEN, HYDRAULIC 2-WAY BIDIRECTIONAL, CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
When the valve is unpiloted, there will be flow from 2 to 3 and 3 to 2. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and block flow from 2 to 3 and 3 to 2. The spring chamber is vented at port 4. The valve shifts in a closed center position.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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: 6.0 GPM [22.7 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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−0842 for buna "N".
SKV−0842 for viton.
WEIGHT: 0.32 lb [.15 kg] cartridge only.
VALVE CAVITY: #C0840, See Page 0−041.0
2-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, CLOSED.

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

DCPV-10-X-C-X-X-XXX

- BASIC
- SIZE 10 = 7/8"–14 UNF
- SEALS N = BUNA "N" V = VITON
- SPOOL CLOSED
- ADJUSTMENT
  - F = FIXED (FACTORY SET)
  - S = ADJUSTING SCREW
  - C = CAPPED
  - T = TAMPERPROOF
  - K = HANDKNOB
  - M = METAL HANDKNOB

PRESSURE DROP (ΔP)

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<th>PSI</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
<th>150</th>
<th>200</th>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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L/M (28.5 cSt)

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<thead>
<tr>
<th>7.6</th>
<th>15.1</th>
<th>22.7</th>
<th>30.3</th>
<th>37.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

TORQUE:

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

Reference: 520-P-091820-EN-00/09.2015
2-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, CLOSED.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 2-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve blocks flow between port 3 and port 2 with a spring biased spool. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and allow flow between port 3 and port 2. "V" spring chamber is vented to atmosphere.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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 [37.8 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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-10352 for buna "N".
SKV-10352 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1030, See Page 0-032.0.

info.el@bucherhydraulics.com
www.bucherhydraulics.com/commoncavity

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2-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, OPEN.

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0–042.1

DCPV-10-X-O-X-X-XXX

- BASIC
- SIZE 10 = 7/8"-14 UNF
- SEALS N = BUNA "N"
  V = VITON
- SPOOL OPEN
- ADJUSTMENT F = FIXED (FACTORY SET)
  S = ADJUSTING SCREW
  C = CAPPED
  T = TAMPERPROOF
  K = HANDKNOB
  M = METAL HANDKNOB

PRESSURE BIAS SPRING
- 075 = 75 PSI (FIXED)
- 100 = 100 PSI (FIXED)
- 150 = 150 PSI (FIXED)
- 200 = 120–200 PSI (ADJ.)

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-091920-EN-00/09.2015
2-WAY DIRECTIONAL CONTROL VALVE
SPOOL TYPE, PILOT OPERATED, OPEN.

DESCRIPTION
This unit is a DIRECT ACTING, SCREW IN CARTRIDGE STYLE, SPOOL TYPE, HYDRAULIC 2-WAY DIRECTIONAL CONTROL ELEMENT, requiring remote pilot actuation.

OPERATIONS
This valve allows flow between port 3 and port 2 with a spring biased spool. The spool will shift when piloted at port 1 with sufficient pressure to overcome the spring bias and blocks flow between port 3 and port 2. "V" spring chamber is vented to atmosphere.

FEATURES AND BENEFITS
Leakproof screw adjustment.
This valve has a fixed or an adjustable bias spring.
Adjustment screw can not be backed out of the valve.
Overset protection – spring can not go solid.
Hardened precision fitted spool & 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.
Valve is available with fixed, 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 [37.8 L/M] nominal. See performance chart.
INTERNAL LEAKAGE: 5 cu.in./min. [85 cc/m].
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–10352 for buna "N".
SKV–10352 for viton.
WEIGHT: 0.46 lb [.21 kg] cartridge only.
VALVE CAVITY: #C1030, See Page 0–032.0.
AODV-10-X-C1-X-XX

BASIC
SIZE 10 = 7/8"-14 UNF
SEALS N = BUNA "N" V = VITON
SPOOL C1 = NORMALLY CLOSED SPOOL 2-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
06TX = SAE - #6
081X = SAE - #8

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

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]

Pilot port pressurized

Pressure drop (ΔP) vs GPM (135 cSt)

Reference: 520-P-092120-EN-00/09.2015
## DESCRIPTION

This unit is a NORMALLY CLOSED, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

## OPERATIONS

When pilot piston is not actuated, this valve allows no flow between ports 2 to 1.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 2 to 1.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

## FEATURES AND BENEFITS

Hardened precision fitted spool & sleeve provides reliable, long life.
Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements.
All cartridge valves are 100% functionally tested.
Industry common cavity.

## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING PRESSURE: 5,000 PSI [350 Bar]</td>
<td>PROOF PRESSURE: 10,000 PSI [700 Bar]</td>
</tr>
<tr>
<td>FLOW: 8.0 GPM [30 l/m] See performance chart.</td>
<td></td>
</tr>
<tr>
<td>INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 Bar]</td>
<td></td>
</tr>
<tr>
<td>OPERATING TEMPERATURE: −40° to +250° F. [−40° to +120° C.]</td>
<td></td>
</tr>
<tr>
<td>OPERATING MEDIA: All general purpose hydraulic fluids such as MIL-H-5606, SAE−#10, SAE−#20, etc.</td>
<td></td>
</tr>
<tr>
<td>PILOT OPERATING MEDIA: Air or hydraulic fluid.</td>
<td></td>
</tr>
<tr>
<td>PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.</td>
<td></td>
</tr>
<tr>
<td>PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.</td>
<td>50 PSI to 1000 PSI hydraulic.</td>
</tr>
<tr>
<td>SEAL KIT: SKN−1022 Buna &quot;N&quot; SKV−1022 Viton</td>
<td></td>
</tr>
<tr>
<td>INSTALLATION: No restrictions.</td>
<td></td>
</tr>
<tr>
<td>WEIGHT: 0.54 lb [0.27 kg] cartridge only.</td>
<td></td>
</tr>
<tr>
<td>VALVE CAVITY: #C1020, See Page 0−012.0.</td>
<td></td>
</tr>
</tbody>
</table>
AODV-12-C1

AIR OPERATED DIRECTIONAL CONTROL VALVE
N,C, DIRECT ACTING, SPOOL TYPE (2/2)

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

AODV-12-X-C1-X-XX

BASIC
SIZE 12 = 1.062"-12 UNF
SEALS N = BUNA "N"
V = VITON
SPOOL C1 = NORMALLY CLOSED SPOOL
2-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

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

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

PRESSURE DROP (ΔP)

G.P.M. (135 SUS)

L/M (28,5 cSt)

Pilot port pressurized

TORQUE to 80/90 Ft-Lb.
[100/120 N-m]

Reference: 520-P-092130-EN-00/09.2015

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-013.1
AIR OPERATED, NORMALLY CLOSED, DIRECT ACTING, SPOOL TYPE (2/2)

DESCRIPTION
This unit is a NORMALLY CLOSED, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows no flow between ports 2 to 1.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 2 to 1.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life.
Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements.
All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1222 Buna "N"
SKV-1222 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.60 lb [0.30 kg] cartridge only.
VALVE CAVITY: #C1220, See Page 0–013.0.

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AODV-10-C3

AIR OPERATED DIRECTIONAL CONTROL VALVE
N,C, DIRECT ACTING, BALANCED POPPET (2/2)

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

Pilot port pressurized

L/M (28,5 cSt)

PRESSURE DROP (ΔP)

PSI

G.P.M. (135 SUS)

BAR

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

AODV-10-X-C3-X-XX

BASIC
SIZE
10 = 7/8”-14 UNF
SEALS
N = BUNA “N”
V = VITON
SPOOL
C3=N.C. BALANCED POPPET
2-WAY, 2-POSITION

PILOT PORT
1P = 1/8” NPTF
1B = G 1/8” BSPP
4T = SAE - #4

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

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

Reference: 520-P-092320-EN-00/09.2015
DESCRIPTION
This unit is a NORMALLY CLOSED, TWO POSITION, screw-in cartridge style, direct acting balanced poppet, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows no flow between ports 2 to 1.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 2 to 1.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
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: 6.0 GPM [22 l/m] See performance chart.
INTERNAL LEAKAGE: 5 drops/min [0.25 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1022 Buna “N”
SKV-1022 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.54 lb [0.27 kg] cartridge only.
VALVE CAVITY: #C1020, See Page 0-012.0.

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Reference: 520-P-092320-EN-00/09.2015
AODV-10-O1

AIR OPERATED DIRECTIONAL CONTROL VALVE
N,0, DIRECT ACTING, SPOOL TYPE (2/2)

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

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

Reference: 520-P-092520-EN-00/09.2015
DESCRIPTION

This unit is a NORMALLY OPEN, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS

When pilot piston is not actuated, this valve allows flow between ports 2 to 1.

When pilot piston is pressurized, the spool in this valve is shifted and allows no flow between ports 2 to 1.

Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS

Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.

Pilot piston is isolated from hydraulic fluid with high pressure seals.

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: 8.0 GPM [30 l/m] See performance chart.

INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.

PILOT OPERATING MEDIA: Air or hydraulic fluid.

PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.

PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.

50 PSI to 1000 PSI hydraulic.

SEAL KIT: SKN–1022 Buna "N"

SKV–1022 Viton

INSTALLATION: No restrictions.

WEIGHT: 0.54 lb [0.27 kg] cartridge only.

VALVE CAVITY: #C1020, See Page 0–012.0.
AODV-12-O1

AIR OPERATED DIRECTIONAL CONTROL VALVE
N,0, DIRECT ACTING, SPOOL TYPE (2/2)

Pilot port

1.31" [33.3]

2.15" [54.6]

1.75" [44.4]

TORQUE to 80/90 Ft-Lb.
[100/120 N·m]

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

AODV-12-X-O1-X-XX

BASIC
SIZE
12 = 1.062"-12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
O1 = NORMALLY CLOSED SPOOL
2-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

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

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

PRESSURE DROP (ΔP)

G.P.M.(135 SUS)

L/M (28.5 cSt)

PSI

BAR

Reference: S520-P-092530-EN-00/09.2015
**DESCRIPTION**
This unit is a NORMALLY OPEN, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

**OPERATIONS**
When pilot piston is not actuated, this valve allows flow between ports 2 to 1.
When pilot piston is pressurized, the spool in this valve is shifted and allows no flow between ports 2 to 1.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

**FEATURES AND BENEFITS**
Hardened precision fitted spool & sleeve provides reliable, long life.
Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements.
All cartridge valves are 100% functionally tested.

**SPECIFICATIONS**
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] ≥ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.

SEAL KIT: SKN-1222 Buna "N"
SKV-1222 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.60 lb [0.30 kg] cartridge only.
VALVE CAVITY: #C1220, See Page 0-013.0.
AODV-10-3A

AIR OPERATED DIRECTIONAL CONTROL VALVE
THREE-WAY, DIRECT ACTING, SPOOL (3/2)

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

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

Reference: 520-P-093020-EN-00/09.2015
AIR OPERATED, THREE-WAY, DIRECT ACTING, SPOOL TYPE (3/2)

DESCRIPTION
This unit is a THREE-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked. When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 2 and port 1 is blocked. This valve shifts in a closed center position. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. 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: 8.0 GPM [30 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
                                   50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1032 Buna “N”
          SKV-1032 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.58 lb [0,29 kg] cartridge only.
VALVE CAVITY: #C1030, See Page 0-032.0.
AIR OPERATED DIRECTIONAL CONTROL VALVE
THREE-WAY, DIRECT ACTING, SPOOL (3/2)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-033.1

AODV-12-X-3A-X-XX

PILOT PORT

1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

PORTS

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

A - "A" HOUSING
S - "S" STEEL HOUSING

BASIC

SIZE
12 = 1.062" - 12 UNF

SEALS
N = BUNA "N"
V = VITON

SPOOL
3A = "A" SPOOL
3-WAY, 2-POSITION

TORQUE to 80/90 Ft-Lb.
[100/120 N-m]

PRESSURE DROP (\( \Delta P \))

G.P.M. (135 SUS)

L/M (28,5 cSt)

BAR

PSI

0 3 6 9 12 15 18

2 3 6 9 12 15 18

Reference: 520-P-093030-EN-00/09.2015
AIR OPERATED, THREE−WAY, DIRECT ACTING, SPOOL TYPE (3/2)

DESCRIPTION
This unit is a THREE−WAY, TWO POSITION, screw−in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 2 and port 1 is blocked. This valve shifts in a closed center position. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. All external carbon steel parts are plated for longer life against the elements. All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
SEAL KIT: SKN−1232 Buna "N"
SKV−1232 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.68 lb [0.34 kg] cartridge only.
VALVE CAVITY: #C1230, See Page 0−033.0.
AODV-10-3B

AIR OPERATED DIRECTIONAL CONTROL VALVE
THREE-WAY, DIRECT ACTING, SPOOL (3/2)

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

PRESSURE DROP (ΔP)

L/M (28.5 cSt)

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

AODV-10-X-3B-X-XX

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
41 = SAE - #4

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

SEALS
N = BUNA "N"
V = VITON

SPOOL
3B = "B" SPOOL
3-WAY, 2-POSITION

Reference: 520-P-093120-EN-00/09.2015
AIR OPERATED, THREE-WAY, DIRECT ACTING, SPOOL TYPE (3/2)

DESCRIPTION
This unit is a THREE-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 1 and port 2 is blocked. This valve shifts in a closed center position. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life.
Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
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: 8.0 GPM [30 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.

SEAL KIT: SKN–1032 Buna "N"
SKV–1032 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.58 lb [0.29 kg] cartridge only.
VALVE CAVITY: #C1030, See Page 0–032.0.

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Reference: S20-P-093120-EN-00/09.2015
AIR OPERATED DIRECTIONAL CONTROL VALVE
THREE-WAY, DIRECT ACTING, SPOOL (3/2)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-033.1

AODV-12-X-3B-X-XX

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

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

N = BUNA "N"
V = VITON

SPOOL = "B" SPOOL
2-WAY, 2-POSITION

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-033.1

Reference: 520-P-093130-EN-00/09.2015

BUCHER hydraulics
AIR OPERATED, THREE-WAY, DIRECT ACTING, SPOOL TYPE (3/2)

DESCRIPTION
This unit is a THREE-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked. When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 1 and port 2 is blocked. This valve shifts in a closed center position. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluid. Pilot piston is isolated from hydraulic fluid with high pressure seals. All external carbon steel parts are plated for longer life against the elements. All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 Bar]
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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air. 50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1232 Buna "N" SKV-1232 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.68 lb [0.34 kg] cartridge only.
VALVE CAVITY: #C1230, See Page 0–033.0.
AIR OPERATED DIRECTIONAL CONTROL VALVE
THREE-WAY, DIRECT ACTING, SPOOL (3/2)

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

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

AODV-10-X-3C-X-XX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
3C = "C" SPOOL
3-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

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

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

PRESSURE DROP (ΔP)

L/M (28,5 cSt)

G.P.M. (135 SUS)

Reference: 520-P-093220-EN-00/09.2015
AIR OPERATED, THREE-WAY,
DIRECT ACTING, SPOOL TYPE (3/2)

DESCRIPTION
This unit is a THREE-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 2 and port 1 is blocked. This valve shifts in a open center position.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. 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: 8.0 GPM [30 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 Bar]
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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air. 50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1032 Buna “N” SKV-1032 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.58 lb [0.29 kg] cartridge only.
VALVE CAVITY: #C1030, See Page 0-032.0.

Reference: 520-P-093220-EN-00/09.2015
AIR OPERATED DIRECTIONAL CONTROL VALVE
THREE-WAY, DIRECT ACTING, SPOOL (3/2)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-033.1

AODV-12-X-3C-X-XX

BASIC
SIZE
12 = 1.062”-12 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
3C = “C” SPOOL
3-WAY, 2-POSITION

PILOT PORT
1P = 1/8” NPTF
1B = G 1/8” BSPP
4T = SAE - #4

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

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

TORQUE to 80/90 Ft–Lb. [100/120 N-m]

L/M (28,5 cSt)

PRESSURE DROP (△P)

G.P.M. (135 SUS)

Reference: 520-P-093230-EN-00/09.2015
DESCRIPTION
This unit is a THREE-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 2 and port 1 is blocked. This valve shifts in a open center position.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life.
Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements.
All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILLOT OPERATING MEDIA: Air or hydraulic fluid.
PILLOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILLOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
                             50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1232 Buna “N”
         SKV-1232 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.68 lb [0.34 kg] cartridge only.
VALVE CAVITY: #C1230, See Page 0-033.0.
AODV-10-X-3D-X-XX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
3D = "D" SPOOL
3-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
08TX = SAE - #6
081X = 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]

L/M (28.5 cSt)

PRESSURE DROP (Δ P)

G.P.M. (135 SUS)

PSI

BAR

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

Reference: 520-P-093320-EN-00/09.2015
### AIR OPERATED, THREE-WAY, DIRECT ACTING, SPOOL TYPE (3/2)

**DESCRIPTION**
This unit is a THREE-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

**OPERATIONS**
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 1 and port 2 is blocked. This valve shifts in a open center position. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

**FEATURES AND BENEFITS**
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. 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]
- INTERNAL LEAKAGE: 5 cu.in/min [82 cc/min] @ 5,000 PSI [350 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.
- PILOT OPERATING MEDIA: Air or hydraulic fluid.
- PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
- PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
- SEAL KIT: SKN-1032 Buna "N" SKV-1032 Viton
- INSTALLATION: No restrictions.
- WEIGHT: 0.58 lb [0.29 kg] cartridge only.
- VALVE CAVITY: #C1030, See Page 0-032.0.

Reference: 520-P-093320-EN-00/09.2015
# AODV-12-3D

**Air Operated Directional Control Valve**

**Three-Way, Direct Acting, SPOOL (3/2)**

<table>
<thead>
<tr>
<th>AODV-12-X-3D-X-XX</th>
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</thead>
<tbody>
<tr>
<td><strong>Basic</strong></td>
</tr>
<tr>
<td><strong>Size</strong></td>
</tr>
<tr>
<td>12 = 1.062&quot;-12 UNF</td>
</tr>
<tr>
<td><strong>Seals</strong></td>
</tr>
<tr>
<td>N = BUNA &quot;N&quot;</td>
</tr>
<tr>
<td>V = VITON</td>
</tr>
<tr>
<td><strong>SPOOL</strong></td>
</tr>
<tr>
<td>3D = &quot;3D&quot; SPOOL</td>
</tr>
<tr>
<td>3-WAY, 2-POSITION</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PILOT PORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1P = 1/8&quot; NPTF</td>
</tr>
<tr>
<td>1B = G 1/8&quot; BSPP</td>
</tr>
<tr>
<td>4T = SAE - #4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = CARTRIDGE ONLY</td>
</tr>
<tr>
<td>04BX = G 1/2&quot; BSPP</td>
</tr>
<tr>
<td>06BX = G 3/4&quot; BSPP</td>
</tr>
<tr>
<td>10TX = SAE - #10</td>
</tr>
<tr>
<td>12TX = SAE - #12</td>
</tr>
</tbody>
</table>

| "A" - ALUM. HOUSING |
| "S" - STEEL HOUSING |

**Pressure Drop (P)**

- 0 to 3 G.P.M. (135 SUS)
- 1 to 3 PSI

**Flow (L/M)**

- 11.3 L/M (28.5 cSt)
- 14.0 L/M (56.3 cSt)

**Torque**

- 80/90 Ft-Lb. (100/120 N-m)

**Reference:** S20-P-093330-EN-00/09.2015
AIR OPERATED, THREE-WAY, DIRECT ACTING, SPOOL TYPE (3/2)

DESCRIPTION
This unit is a THREE-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 1 and port 2 is blocked. This valve shifts in a open center position. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements. All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1232 Buna "N"
SKV-1232 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.68 lb [0.34 kg] cartridge only.
VALVE CAVITY: #C1230, See Page 0–033.0.

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Data is provided for the purpose of product description only, and must not be construed as warranted characteristics in the legal sense. 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-093330-EN-00/09.2015
AODV-10-4A
AIR OPERATED DIRECTIONAL CONTROL VALVE
FOUR-WAY, DIRECT ACTING, SPOOL (4/2)

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

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

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

SEALS
N = BUNA "N"
V = VITON

SPOOL
4A = "A" SPOOL
4-WAY, 2-POSITION

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

AODV-10-X-4A-X-XX
BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
4A = "A" SPOOL
4-WAY, 2-POSITION

PRESSURE DROP ($\Delta P$)

L/M (28,5 cSt)

G.P.M.(135 cSt)

PSI

BAR

Reference: S20-P-093520-EN-00/09.2015
AIR OPERATED, FOUR-WAY,
DIRECT ACTING, SPOOL TYPE (4/2)

DESCRIPTION
This unit is a FOUR-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 1 to 2 and ports 3 to 4.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 2 to 3 and ports 1 to 4. This valve shifts in a closed center position.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. 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: 8.0 GPM [30 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1042 Buna "N"
SKV-1042 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.60 lb [0,30 kg] cartridge only.
VALVE CAVITY: #C’1040, See Page 0-042.0.

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AIR OPERATED DIRECTIONAL CONTROL VALVE  
FOUR-WAY, DIRECT ACTING, SPOOL (4/2) 

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0–043.1

AODV-12-X-4A-X-XX

BASIC
SIZE
SEALS
SPOOLS

12 = 1.062”–12 UNF
N = BUNA “N”
V = VITON
4A = “A” SPOOL
4-WAY, 2-POSITION

PILOT PORT
1P = 1/8” NPTF
1B = G 1/8” BSPP
4T = SAE – #4

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

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

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0–043.1

PRESSURE DROP (Δ P)

L/M (28,5 cSt)

0 3 6 9 12 15 18
0 50 100 150 200

G.P.M.(135 SUS)
PSI
BAR

TORQUE to 80/90 Ft-Lb. 
[100/120 N-m]
**DESCRIPTION**
This unit is a FOUR-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

**OPERATIONS**
When pilot piston is not actuated, this valve allows flow between ports 1 to 2 and ports 3 to 4.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 2 to 3 and ports 1 to 4. This valve shifts in a closed center position.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

**FEATURES AND BENEFITS**
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements.
All cartridge valves are 100% functionally tested.

**SPECIFICATIONS**
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60.0 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1242 Buna "N"
SKV-1242 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.74 lb [0.38 kg] cartridge only.
VALVE CAVITY: #C’1240, See Page 0-043.0.
AODV-10-4B

AIR OPERATED DIRECTIONAL CONTROL VALVE
FOUR-WAY, DIRECT ACTING, SPOOL (4/2)

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

Pilot port

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

AODV-10-X-4B-X-XX

BASIC
SIZE
10 = 7/8”-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
4B = “B” SPOOL
2-WAY, 2-POSITION

PILOT PORT
1P = 1/8” NPTF
1B = G 1/8” BSPP
4T = SAE – #4

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

Pressure Drop (ΔP):

L/M (28,5 cSt)

G.P.M. (135 SUS)

PSI
BAR

Reference: 520-P-093620-EN-00/09.2015
AODV-10-4B

AIR OPERATED, FOUR—WAY,
DIRECT ACTING, SPOOL TYPE (4/2)

DESCRIPTION
This unit is a FOUR—WAY, TWO POSITION, screw—in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows no flow between ports 1 to 2 and ports 3 to 4.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 1 to 2 and ports 3 to 4. This is a normally closed four—way selector valve.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. 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: 8.0 GPM [30 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.

SEAL KIT: SKN—1042 Buna "N"
SKV—1042 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.60 lb [0.30 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0—042.0.
AODV-12-4B

AIR OPERATED DIRECTIONAL CONTROL VALVE
FOUR-WAY, DIRECT ACTING, SPOOL (4/2)

Pilot port

1.31" [33.4] HEX

TORQUE to 80/90 Ft-Lb. [100/120 N·m]

4.75" [120.6]

2.15" [54.6]

3.55" [90.2]

3.50" [88.9]

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-043.1

AODV-12-X-4B-X-XX

BASIC

SIZE
12 = 1.062"-12 UNF

SEALS
N = BUNA "N"
V = VITON

SPOOL
4B = "B" SPOOL
4-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

PORTS
0 = CARTRIDGE ONLY
04BX = G 1/2" BSPP
06BX = G 3/4" BSPP
10TX = SAE - #6
12TX = SAE - #8

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

PRESSURE DROP (Δ P)

L/M (28.5 cSt)

G.P.M.(135 SUS)

Reference: 520-P-093630-EN-00/09.2015
AIR OPERATED, FOUR—WAY, DIRECT ACTING, SPOOL TYPE (4/2)

DESCRIPTION
This unit is a FOUR—WAY, TWO POSITION, screw—in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows no flow between ports 1 to 2 and ports 3 to 4.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 1 to 2 and ports 3 to 4. This a normally closed four—way selector valve. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. All external carbon steel parts are plated for longer life against the elements. All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60.0 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN—1242 Buna "N"
SKV—1242 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.74 lb [0,38 kg] cartridge only.
VALVE CAVITY: #C1240, See Page 0—043.0.
AIR OPERATED DIRECTIONAL CONTROL VALVE
FOUR-WAY, DIRECT ACTING, SPOOL (4/2)

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

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

AODV-10-X-4C-X-XX
BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
4C = "C" SPOOL
4-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

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

L/M (28,5 cSt)
PSI
G.P.M. (135 SUS)

Reference: 520-P-093720-EN-00/09.2015
AODV-10-4C

AIR OPERATED, FOUR–WAY, DIRECT ACTING, SPOOL TYPE (4/2)

DESCRIPTION
This unit is a FOUR–WAY, TWO POSITION, screw–in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 1 to 2 and ports 3 to 4. When pilot piston is pressurized, the spool in this valve is shifted and allows no flow between ports 1 to 2 and ports 3 to 4. This is a normally open four–way selector valve. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. 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: 8.0 GPM [30 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 Bar]
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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air. 50 PSI to 1000 PSI hydraulic.

SEAL KIT: SKN–1042 Buna ”N” SKV–1042 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.60 lb [0.30 kg] cartridge only.
VALVE CAVITY: #C1040, See Page 0–042.0.
AODV-12-4C

AIR OPERATED DIRECTIONAL CONTROL VALVE
FOUR-WAY, DIRECT ACTING, SPOOL (4/2)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-043.1

Pilot port

TORQUE to 80/90 Ft-Lb. [100/120 N·m]

PRESSURE DROP (ΔP)

L/M (28.5 cSt)

G.P.M. (135 SUS)

Reference: 520-P-093730-EN-00/09.2015
**DESCRIPTION**

This unit is a FOUR-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

**OPERATIONS**

When pilot piston is not actuated, this valve allows flow between ports 1 to 2 and ports 3 to 4.
When pilot piston is pressurized, the spool in this valve is shifted and allows no flow between ports 1 to 2 and ports 3 to 4. This a normally open four-way selector valve.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

**FEATURES AND BENEFITS**

Hardened precision fitted spool & sleeve provides reliable, long life.
Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements.
All cartridge valves are 100% functionally tested.

**SPECIFICATIONS**

**OPERATING PRESSURE:** 5,000 PSI [350 Bar]
**PROOF PRESSURE:** 10,000 PSI [700 Bar]
**FLOW:** 16.0 GPM [60.0 l/m] See performance chart.
**INTERNAL LEAKAGE:** 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 Bar]
**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.
**PILOT OPERATING MEDIA:** Air or hydraulic fluid.
**PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS:** 18.5 to 1.
**PILOT OPERATING PRESSURE IS:**
- 50 PSI to 250 PSI air.
- 50 PSI to 1000 PSI hydraulic.

**SEAL KIT:** SKN-1242 Buna "N"
- SKV-1242 Viton

**INSTALLATION:** No restrictions.
**WEIGHT:** 0.74 lb [0.38 kg] cartridge only.
**VALVE CAVITY:** #C1240, See Page 0-043.0.
AODV-10-4D

AIR OPERATED DIRECTIONAL CONTROL VALVE
FOUR-WAY, DIRECT ACTING, SPOOL (4/2)

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

Pilot port

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-042.1

AODV-10-X-4D-X-XX

BASIC
SIZE
10 = 7/8"-14 UNF
SEALS
N = BUNA "N"
V = VITON
SPOOL
4D = "D" SPOOL
4-WAY, 2-POSITION

PILOT PORT
1P = 1/8" NPTF
1B = G 1/8" BSPP
4T = SAE - #4

PORTS
0 = CARTRIDGE ONLY
02BX = G 1/4" BSPP
03BX = G 3/8" BSPP
06TX = SAE - #6
081X = SAE - #8

"A" - ALUM. HOUSING
"S" - STEEL HOUSING

Reference: 520-P-093820-EN-00/09.2015
AODV-10-4D

AIR OPERATED, FOUR-WAY, DIRECT ACTING, SPOOL TYPE (4/2)

DESCRIPTION
This unit is a FOUR-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 1 to 3 and ports 2 and 4 are blocked. When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 1 to 2 and ports 3 to 4. This is a tandem center four-way directional valve. Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life. Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids. Pilot piston is isolated from hydraulic fluid with high pressure seals. 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: 8.0 GPM [30 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
                      50 PSI to 1000 PSI hydraulic.
SEAL KIT: SKN-1042 Buna "N"
         SKV-1042 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.60 lb [0.30 kg] cartridge only.
VALVE CAVITY: #C10400, See Page 0-042.0.
AIR OPERATED DIRECTIONAL CONTROL VALVE
FOUR-WAY, DIRECT ACTING, SPOOL (4/2)

FOR ALUMINUM OR STEEL VALVE HOUSING CONFIGURATIONS SEE PAGE 0-043.1

**Pilot port**

TORQUE to 80/90 Ft-Lb.
[100/120 N·m]

**Reference:** 520-P-093830-EN-00/09.2015

**AODV-12-X-4D-X-XX**

- **BASIC**
  - **SIZE:** 12 = 1.062"-12 UNF

- **SEALS**
  - N = BUNA "N"
  - V = VITON

- **SPOOL**
  - 4D = "D" SPOOL
  - 4-WAY, 2-POSITION

**PILOT PORT**
- 1P = 1/8" NPTF
- 1B = G 1/8" BSPP
- 4T = SAE - #4

**PORTS**
- Q = CARTRIDGE ONLY
- 04BX = G 1/2" BSPP
- 06BX = G 3/4" BSPP
- 10TX = SAE - #6
- 12TX = SAE - #8

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

**PRESSURE DROP (Δ P)**

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Reference: 520-P-093830-EN-00/09.2015
AODV-12-4D

AIR OPERATED, FOUR-WAY,
DIRECT ACTING, SPOOL TYPE (4/2)

DESCRIPTION
This unit is a FOUR-WAY, TWO POSITION, screw-in cartridge style, direct acting spool type, air or hydraulic operated, spring return, hydraulic directional control valve.

OPERATIONS
When pilot piston is not actuated, this valve allows flow between ports 1 to 3 and ports 2 to 4 are blocked.
When pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 1 to 2 and ports 3 to 4. This is a tandem center four-way directional valve.
Port #1 can be pressurized to 18.5 x PILOT PORT pressure.

FEATURES AND BENEFITS
Hardened precision fitted spool & sleeve provides reliable, long life.
Corrosion free pilot piston assembly allows this valve to be operated by air or any type of hydraulic fluids.
Pilot piston is isolated from hydraulic fluid with high pressure seals.
All external carbon steel parts are plated for longer life against the elements.
All cartridge valves are 100% functionally tested.

SPECIFICATIONS
OPERATING PRESSURE: 5,000 PSI [350 Bar]
PROOF PRESSURE: 10,000 PSI [700 Bar]
FLOW: 16.0 GPM [60.0 l/m] See performance chart.
INTERNAL LEAKAGE: 5 cu.in/min [82 cc/m] @ 5,000 PSI [350 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.
PILOT OPERATING MEDIA: Air or hydraulic fluid.
PILOT PISTON AREA RATIO TO SYSTEM PRESSURE AREA IS: 18.5 to 1.
PILOT OPERATING PRESSURE IS: 50 PSI to 250 PSI air.
50 PSI to 1000 PSI hydraulic.

SEAL KIT: SKN-1242 Buna "N"
SKV-1242 Viton
INSTALLATION: No restrictions.
WEIGHT: 0.74 lb [0.38 kg] cartridge only.
VALVE CAVITY: #C1240, See Page 0-043.0.

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Reference: 520-P-093830-EN-00/09.2015