

# Directional valve 3-way/2-position

$Q_{\max} = 12 \text{ gpm}$ ,  $p_{\max} = 5000 \text{ psi}$

direct acting, spool type, hydraulic operation

Type series: DCPS-10-\_-B-...



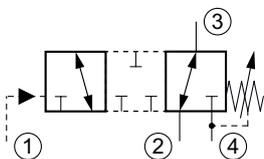
- Screw-in cartridge valve
- For cavity C1040
- All external parts zinc plated, chromited (CrVI-free)
- Installation in threaded port body type B1040
- Hardened precision fitted spool and sleeve provides reliable, long life
- Closed center transition
- This valve has a fixed or an adjustable bias spring
- A unibody cage construction provides very low hysteresis, dependable and reliable operation
- Adjustment screw can not be backed out of the valve

## Description

This unit is a direct acting, screw-in cartridge style, spool type, hydraulic 3-way directional control element, requiring remote pilot actuation. This valve allows flow from port 3 to port 2 with a spring biased spool. Port 4 is blocked. The spool will shift when pi-

lotted 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.

## Symbol



## Technical data

| General Characteristics                     | Description, value, unit                              |
|---|---|
| Function group                              | Directional valve                                     |
| Function                                    | 3-way/2-position                                      |
| Design                                      | Screw-in cartridge valve                              |
| Controls                                    | hydraulic operation                                   |
| Characteristic                              | direct acting, spool type                             |
| Transition/central position of spool/piston | zero or positive overlap (closed)                     |
| Construction size                           | SAE 10 / nominal size 8                               |
| Thread size                                 | 7/8-14 UNF-2A   |
| Mounting attitude                           | unrestricted  |
| Weight                                      | 0.46 lb   |
| Cavity acc. factory standard                | For cavity C1040                                      |
| Tightening torque steel                     | 57.5 ft·lb  |
| Tightening torque aluminium                 | 37.5 ft·lb  |
| Tightening torque tolerance                 | ± 5 %   |
| Minimum ambient temperature                 | - 40 °F   |
| Maximum ambient temperature                 | + 248 °F  |
| Surface protection                          | All external parts zinc plated, chromited (CrVI-free) |
| Available seal types                        | several seal types available, see ordering code       |
| Seal kit order number                       | NBR: SKN-1042 / FKM: SKV-1042                         |

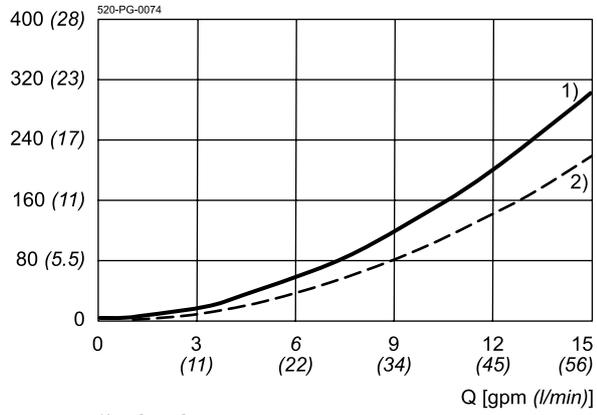
| Hydraulic Characteristics  | Description, value, unit  |
|--|---|
| Maximum operating pressure   | 5000 psi  |
| Maximum flow rate  | 12 gpm  |
| Flow direction   | see symbol  |
| Hydraulic fluid  | All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc. |
| Minimum fluid temperature  | - 13 °F   |
| Maximum fluid temperature  | + 176 °F  |
| Viscosity range  | 10 ... 500 mm <sup>2</sup> /s (cSt)   |
| Recommended viscosity range  | 20 ... 130 mm <sup>2</sup> /s (cSt)   |
| Minimum fluid cleanliness (cleanliness class according to ISO 4406:1999) | class 18/16/13  |
| Minimum set pressure   | 75 psi  |
| Maximum set pressure   | 200 psi   |
| Internal leakage flow rate   | 5 cu.in/min at 5000 psi   |

## Performance graphs

measured with oil viscosity 28.5 mm<sup>2</sup>/s (cSt)

$\Delta p = f(Q)$  Pressure drop-flow rate characteristic

$\Delta p$  [psi (bar)]

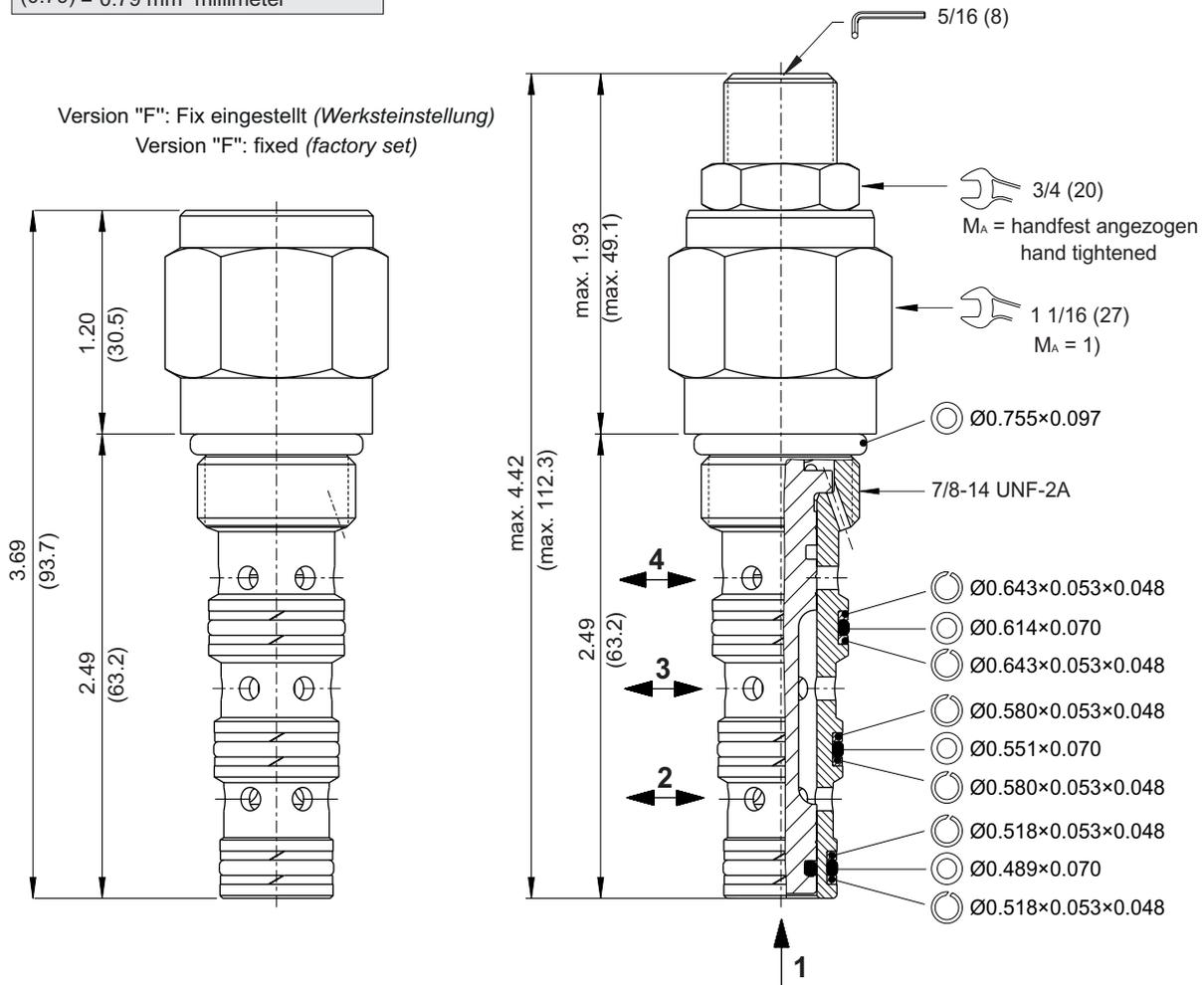


1) = 3 → 2  
2) = 3 → 4

Dimensions and sectional view

**Beispiel für die Masseinheit:**  
**Example for the dimensional units:**  
.031 = 0.031" inch  
(0.79) = 0.79 mm millimeter

Version "S": Einstellschraube (Standard)  
Version "S": adjustment screw (standard)



Installation information



**ATTENTION!**

Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.



**NOTE!**

1) When fitting the screw-in cartridge valve, use the specified tightening torque. The value can be found in the chapter "Technical data".



**NOTE!**

The seals are not available individually. The seal kit order number can be found in the chapter "Technical data".

Ordering code

e.g. DCPS - 10 - N - B - F - 0 - 075

DCPS = directional control valve, direct acting, cartridge design

10 = nominal size SAE 10 / NG 08

N = NBR (nitril-butadien-rubber / BUNA) seals (standard)

V = FKM (fluorocarbon rubber / VITON) seals  
(special seals - please consult BUCHER)

B = spool type "B"

F = fixed (factory set)

S = adjusting screw

C = capped

T = tamperproof

K = handknob

M = metal handknob

0 = screw-in cartridge only

06TA = line-mounting body aluminum SAE #06 ports

06TS = line-mounting body steel SAE #06 ports

08TA = line-mounting body aluminum SAE #08 ports

08TS = line-mounting body steel SAE #08 ports

075 = pressure range 75 psi (fixed)

100 = pressure range 100 psi (fixed)

200 = pressure range 75...200 psi (adjustable)

Related data sheets

| Reference    | Description                |
|--------------|----------------------------|
| 520-P-000050 | Form tools                 |
| 520-P-000420 | Cavity C1040               |
| 520-P-000421 | Threaded port body B1040   |
| 520-P-000500 | Adjustment Control Options |