

# Hydraulic Directional Control Valves

**Nordvalves**  
hydraulic components



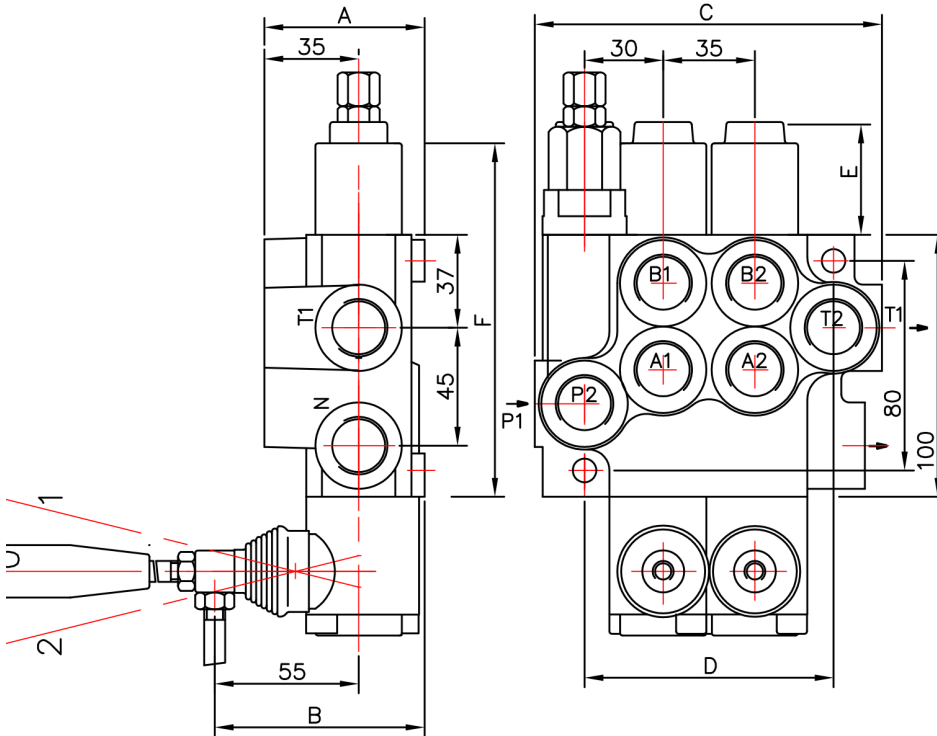
## Description

For starting, controlling and stopping the working fluid between the generator of pressured flow, the consumers at the Tank.

## Specifications

|  |  |
|--|--|
| 1. Valve monoblock                     |  |
| 2. Mounting                            | 2 bolts M8   |
| 3. Pressure connections                | internal thread  |
| 4. Ambient temperature                 | -40C...+60C  |
| 5. Pressure medium                     | mineral oil based hydraulic oil  |
| 6. Viskosity                           | 12...800 mm <sup>2</sup> /s permissible range<br>20...100 mm <sup>2</sup> /s recommended range |
| 7. Fluid temperature                   | - 15C...+80C   |
| 8. Filtration                          | Oil contamination 10 to NAS1638  |
| 9. Max. operating pressure<br>max. bar | P = 250 bar<br>T = 50 bar<br>A, B = 300 bar  |
| 10. Leakage                            | 15 cm <sup>3</sup> /min at 120 bar   |
| 11. Nominal flow                       | 40 l/min (see "operating" diagram)   |
| 12. Spool stroke                       | ± 6 mm   |
| 13. Actuating force                    | < 200 N in spool axis direction  |

Left hand configuration - standart



Right hand configuration

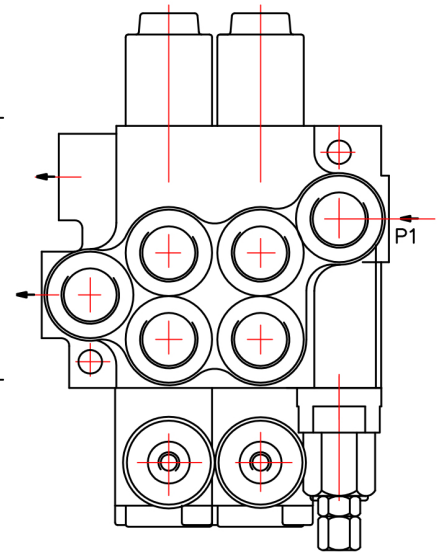


Table 1

|       | A  | B  | C   | D   | P1 | P2 | T1 | T2 |
|-------|----|----|-----|-----|----|----|----|----|
| P40   | 60 | 80 | 85  | 60  | +  | -  | +  | -  |
| 02P40 | 60 | 80 | 129 | 97  | +  | +  | +  | +  |
| 03P40 | 60 | 80 | 164 | 132 | +  | +  | +  | +  |
| 04P40 | 60 | 80 | 199 | 167 | +  | +  | +  | +  |
| 05P40 | 60 | 80 | 234 | 202 | +  | +  | +  | +  |
| 06P40 | 60 | 80 | 269 | 237 | +  | +  | +  | +  |
| 07P40 | 60 | 80 | 304 | 272 | +  | +  | +  | +  |
| 2P40  | 60 | 80 | 129 | 97  | +  | +  | +  | +  |
| 3P40  | 60 | 80 | 164 | 132 | +  | +  | +  | +  |
| 4P40  | 60 | 80 | 199 | 167 | +  | +  | +  | +  |

Table 2

| spool control                | E  | F   |
|------------------------------|----|-----|
| 1; 4; 5; 6; 7; 8; 9; 10; 11; | 40 | 193 |
| 2; 3;                        | 72 | 225 |
| 16                           | +  | +   |

0 2 P40 R 1 A 1 A 1 G KZ1 T H E C2 11  
 block with common check valve \_\_\_\_\_  
 number of spools \_\_\_\_\_  
 directional control valve type ... \_\_\_\_\_  
 inlet high pressure – right \_\_\_\_\_  
 way of distribution/parallel or .../ \_\_\_\_\_  
 first spool distribution type \_\_\_\_\_  
 spool control/detend and estr./ \_\_\_\_\_  
 second spool distribution type \_\_\_\_\_  
 spool control/detend and estr./ \_\_\_\_\_  
 ports /treads/ \_\_\_\_\_  
 general operation feature \_\_\_\_\_  
 with "teton" \_\_\_\_\_  
 operation feature /pneumatic, .../ \_\_\_\_\_  
 with electric switch \_\_\_\_\_  
 high pressure carry over \_\_\_\_\_  
 connection ports in use \_\_\_\_\_

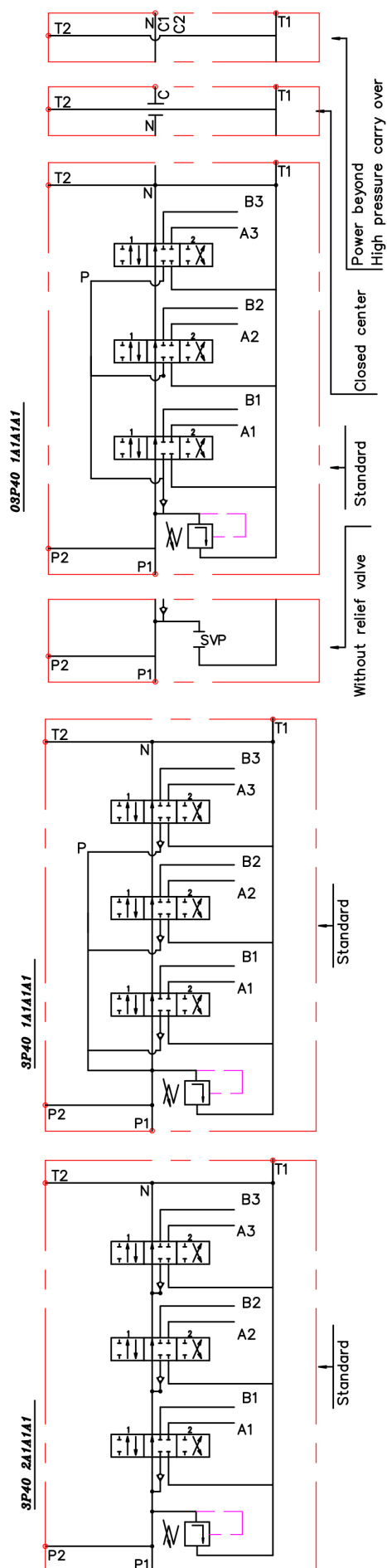


Table 3

| code  | Number of spools |
|-------|------------------|
|       | 1                |
| 02, 2 | 2                |
| 03, 3 | 3                |

ets.

Table 4

| code | way of distribution     |
|------|-------------------------|
| 1    | parallel                |
| 2    | tandem(series parallel) |

Table 5

| code | spool type |
|------|------------|
| A    |            |
| B    |            |
| C    |            |
| D    |            |
| E    |            |
| F    |            |
| G    |            |
| H    |            |
| M    |            |
| N    |            |
| O    |            |
| P    |            |
| Q    |            |
| R    |            |
| S    |            |
| T    |            |
| K    |            |

Table 6

| code | spool  | control                         |
|------|--|---------------------------------|
| 1    | $\overset{1}{\text{WWW}} \overset{2}{\text{WWW}}$                  | $\boxed{1} \boxed{0} \boxed{2}$ |
| 2    | $\overset{1}{\text{v}} \overset{2}{\text{WWW}}$                    | $\boxed{1} \boxed{0} \boxed{2}$ |
| 3    | $\overset{1}{\text{WWW}} \overset{2}{\text{v}}$                    | $\boxed{1} \boxed{0} \boxed{2}$ |
| 4    | $\overset{0}{\text{WWW}}$  | $\boxed{0} \boxed{2}$           |
| 5    | $\overset{1}{\text{WWW}} \overset{0}{\text{ }}$                    | $\boxed{1} \boxed{0}$           |
| 6    | $ \overset{1}{\text{WWW}}\overset{2}{\text{WWW}}$                  | $\boxed{1} \boxed{ } \boxed{2}$ |
| 7    | $\overset{1}{\text{WWW}}\overset{2}{\text{WWW}} $                  | $\boxed{1} \boxed{ } \boxed{2}$ |
| 8    | $\overset{1}{\text{v}} \overset{0}{\text{v}}\overset{2}{\text{v}}$ | $\boxed{1} \boxed{0} \boxed{2}$ |
| 9    | $\overset{1}{\text{v}} \overset{0}{\text{v}}$                      | $\boxed{1} \boxed{0}$           |
| 10   | $\overset{0}{\text{v}} \overset{2}{\text{v}}$                      | $\boxed{0} \boxed{2}$           |
| 11   | $\overset{1}{\text{v}}-\overset{2}{\text{v}}$                      | $\boxed{1} \boxed{ } \boxed{2}$ |

|      |         |         |
|------|---------|---------|
| * 15 | 3 1 0 2 | 3 1 0 2 |
| * 16 | 3 1 0 2 | 3 1 0 2 |

\* only for left hand configuration

|       |  |   |
|-------|--|---|
| ** 12 | $\begin{array}{cccc} 1 & 0 & 2 & 3 \\ \text{v} & \text{v} & \text{v} & \text{v} \end{array}$ | $\begin{array}{ c c c c } \hline 1 & 0 & 2 & 3 \\ \hline \end{array}$ |
| ** 13 | $\begin{array}{cccc} 1 & 0 & 2 & 3 \\ \text{v} & \text{v} & \text{v} & \text{v} \end{array}$ | $\begin{array}{ c c c c } \hline 1 & 0 & 2 & 3 \\ \hline \end{array}$ |

**\*\* only for right hand configuration**

Table 7





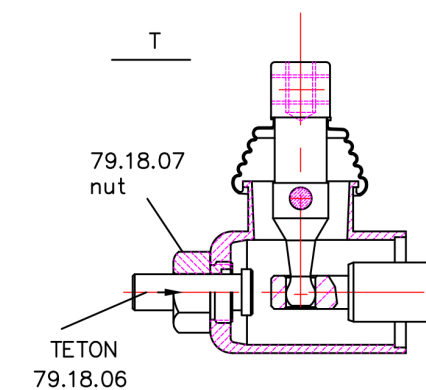
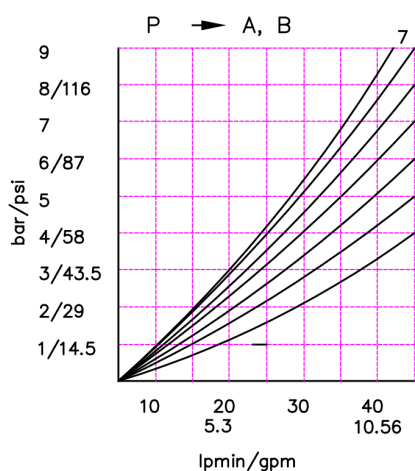
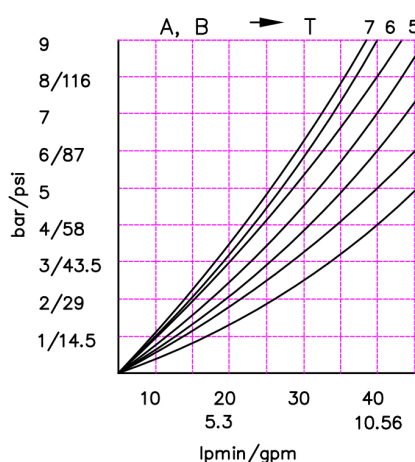
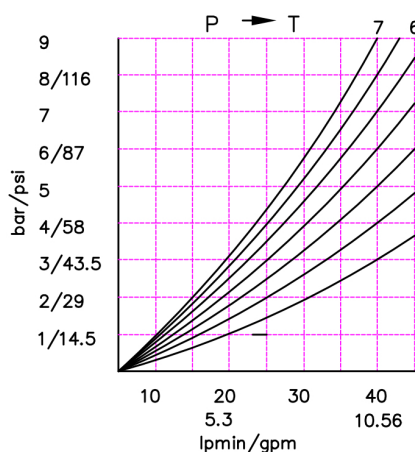
|      |   |   |
|------|---|---|
| code | incorporated microswitch  |   |
| E    |  | <p>mikroswitch type</p> <p>Omron-V 165 I C5</p>  |

Table 8

| code | operation feature   |   |
|------|---|---|
| P    |  | on-off pneumatic control; 5-10 bar ; ports NPTF 1/8-27  |
| H    |  | on-off hydraulic control ; pn = 5 - 20 bar ; ports G1/4 |



P40 directional control valve



P40

Table 9

| code | ports (treads) |           |           |           |
|------|----------------|-----------|-----------|-----------|
|      | P              | A ; B     | T         | N         |
| M    | M22x1.5        | M18x1.5   | M22x1.5   | M22x1.5   |
| G    | G1/2           | G3/8      | G1/2      | G1/2      |
| S    | 7/8-14UNF      | 3/4-16UNF | 7/8-14UNF | 7/8-14UNF |

kind of hand control ; Bug

Table 10

| code | feature                | code | feature | code | feature |
|------|------------------------|------|---------|------|---------|
| KZ   |                        | KY   |         | KI   |         |
| KZ1  |                        | KY1  |         | KI1  |         |
| KZ0  |                        | KY0  |         | KI0  |         |
| KZ01 |                        | KY01 |         | KI01 |         |
| -    | without hand control ; |      |         |      |         |

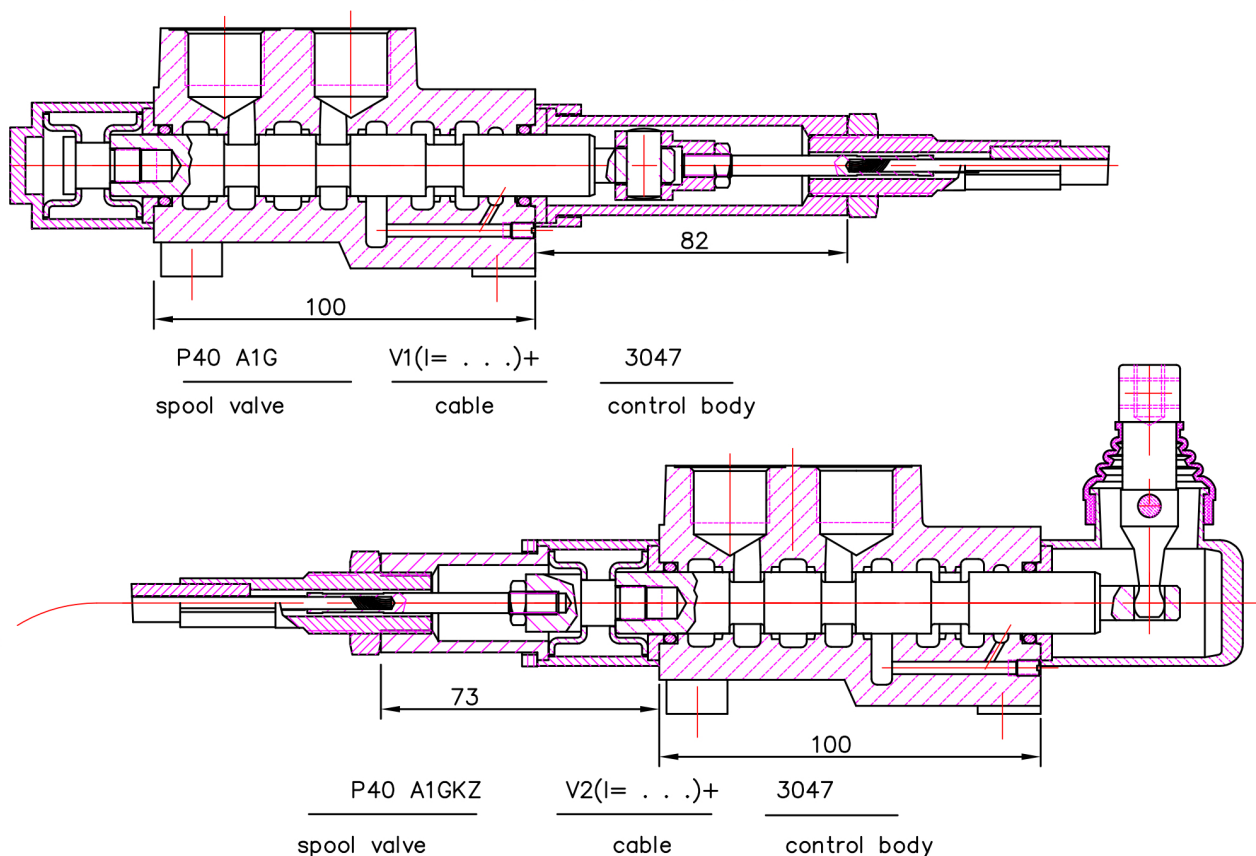
Table 11

| code | bug                                      |                   |
|------|--|-------------------|
| C    | closed center                            |                   |
| C1   | part for power beyond sleeve(carry over) | Ø14 mm<br>M22x1.5 |
| C2   | part for power beyond sleeve(carry over) | G 1/2<br>M22x1.5  |
| -    | without part for pressure carry over     |                   |
| X    | power beyond ever to tank                |                   |

Table 12

| code | used connection ports ; |
|------|-------------------------|
| 11   | P1 ; T1                 |
| 12   | P1 ; T2                 |
| 21   | P2 ; T1                 |
| 22   | P2 ; T2                 |

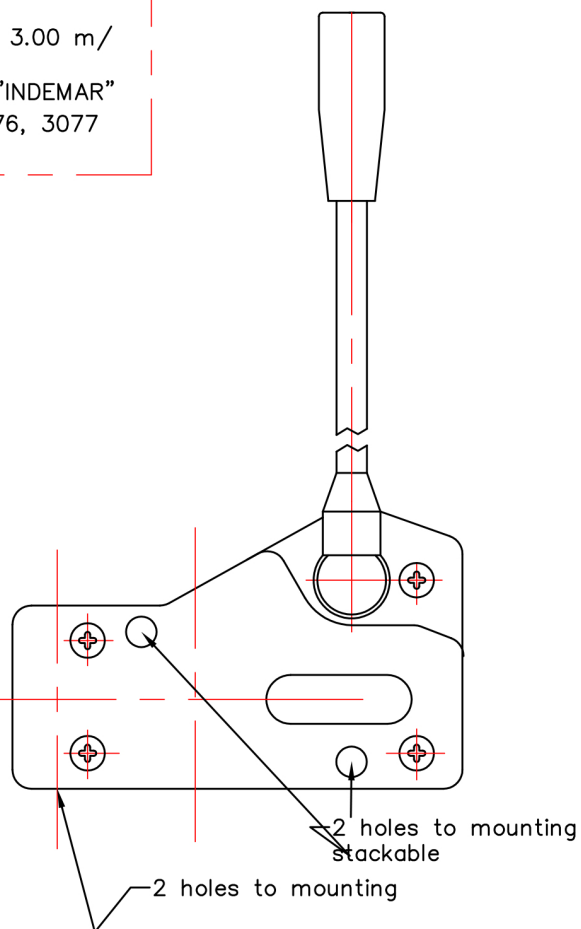
## REMOTE CONTROLS



Cable "INDEMAR" Cod. IT 3056 /l=1.00; 1.50; 2.00; 2.50; 3.00 m/  
+control body "INDEMAR"  
code 3047, 3076, 3077

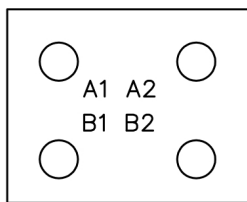
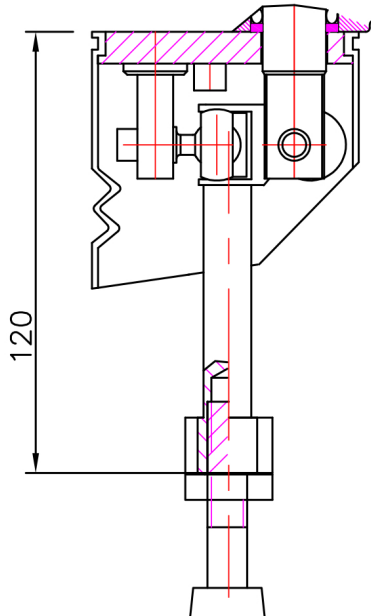
| Technical specifications |            |            |            |
|--------------------------|------------|------------|------------|
|                          | 3047       | 3076       | 3077       |
| Stroke                   | 13+13 mm   | 13+13 mm   | 13+13 mm   |
| Max. load                | 45 kg      | 45 kg      | 45 kg      |
| Level ratio              | 10:1       | 10:1       | 10:1       |
| Lock in neutral          | No         | No         | Yes        |
| Antireverse lock         | No         | Yes        | No         |
| Body colour              | Black      | Black      | Black      |
| Cables type              | Heavy Duty | Heavy Duty | Heavy Duty |
| Operating temperature    | -40/+80C   | -40/+80C   | -40/+80C   |

High solidity controls for easy mounting on every type of distributor. They can be mounted stand alone or packed together. They use push-pull heavy duty cables that provide a positive smooth operating lever and are manufactured in three different models to meet different needs of Clients.

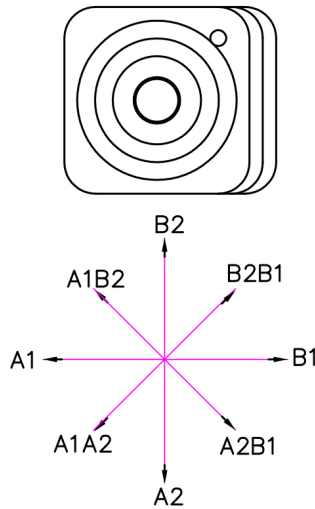


## JOYSTICK "+"

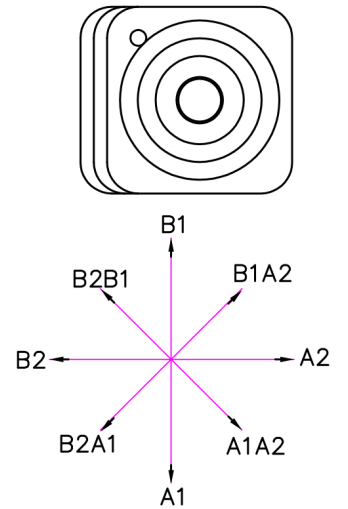
This control gives the possibility to operate, at the same time two spools with a "+" movement.



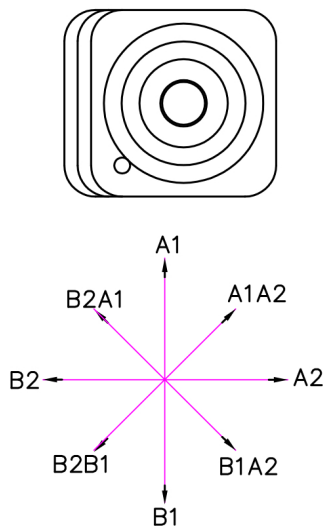
standard version 1



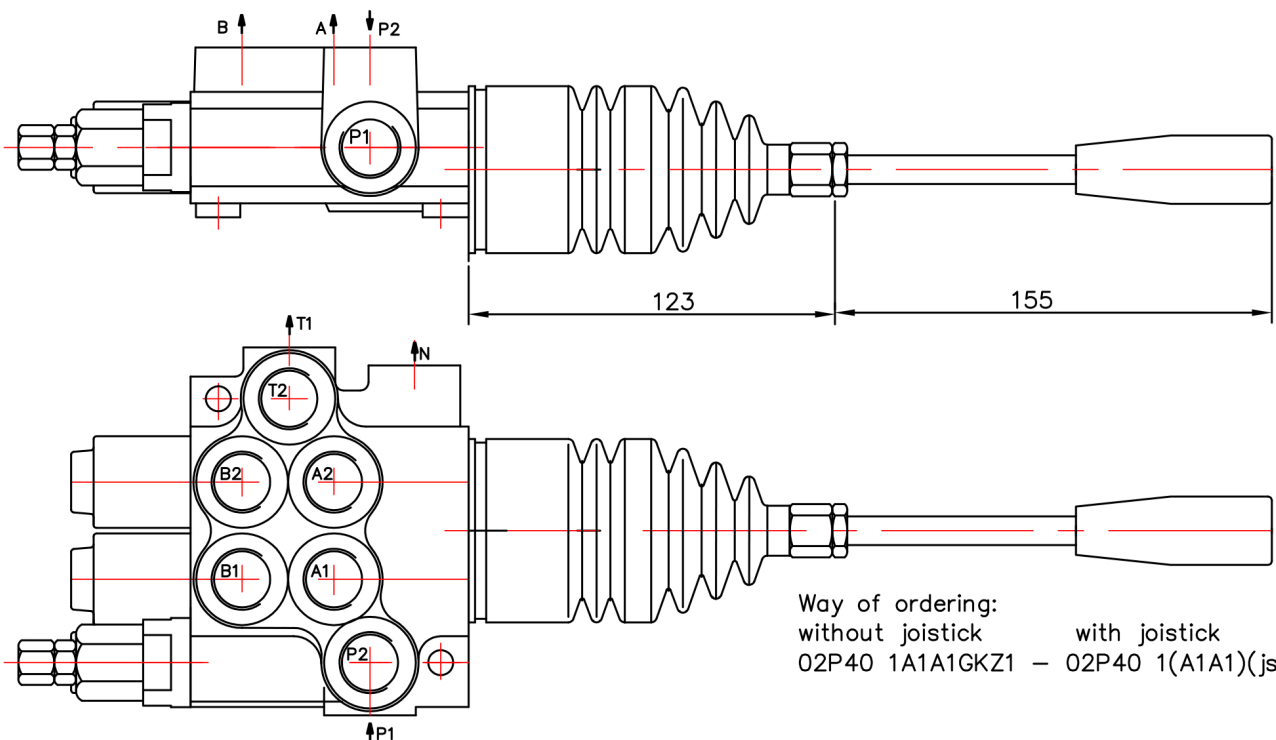
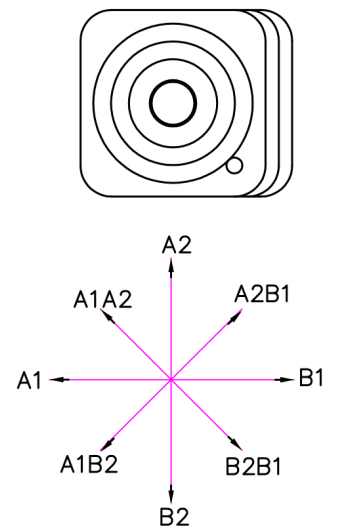
standard version 2



standard version 3



standard version 4



Way of ordering:  
without joystick      with joystick  
02P40 1A1A1GKZ1 - 02P40 1(A1A1)(js+3)G