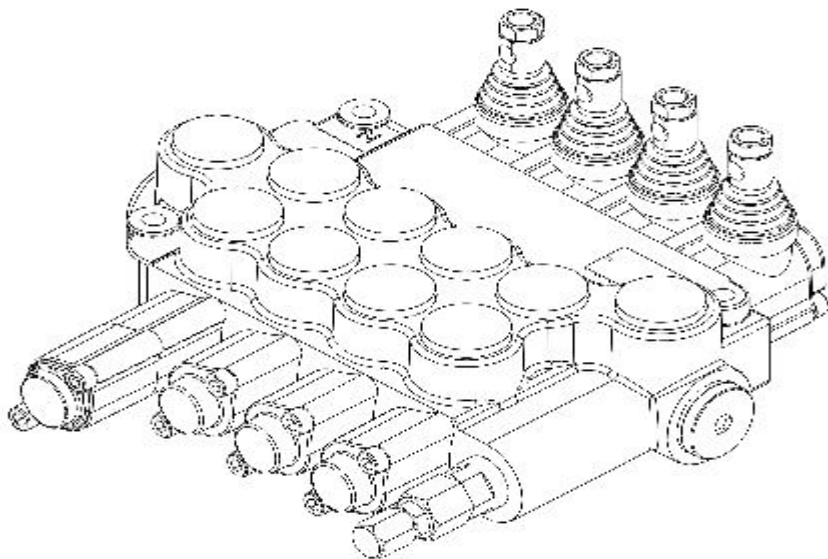


# HYDRAULIC DIRECTIONAL CONTROL VALVES

## РАСПРЕДЕЛИТЕЛИ ГИДРАВЛИЧЕСКИЕ



### Description

Назначение и область применения

For starting, controlling and stopping the working fluid between the generator of pressured flow and consumers at the Tank. Предназначен для изменения направления потока, ограничения давления рабочей жидкостью в гидротрассах, разгрузки насоса в нейтральной позиции золотников.

### Specifications

Основные показатели:

#### 1. Valve monoblock

Конструктивное исполнение

моноблок

#### 2. Mounting

Крепление

3 bolts M8

#### 3. Pressure connections

Присоединительные отверстия

internal thread

#### 4. Ambient temperature

Температура воздуха

внутренние резьбы

#### 5. Pressure medium

Рабочая жидкость

-40C...+60C

#### 6. Viskosity

Кинематическая вязкость

mineral oil based hydraulic oil

#### 7. Fluid temperature

Фильтрация

12...800 mm<sup>2</sup>/s permissible range

#### 9. Max. operating pressure

Давление max. bar

20...100 mm<sup>2</sup>/s recommended range

- 15C...+80C

Oil contamination 10 to NAS1638

P = 250 bar

T = 50 bar

A, B = 300 bar

18 cm<sup>3</sup>/min at 120 bar

#### 10. Leakage

Внутренние потери (A, B – T)

80 l/min (see "operating" diagram)

#### 11. Nominal flow

Разход рабочей жидкости

#### 12. Spool stroke

Ход золотника

± 7 mm

#### 13. Actuating force

< 220 N in spool axis direction

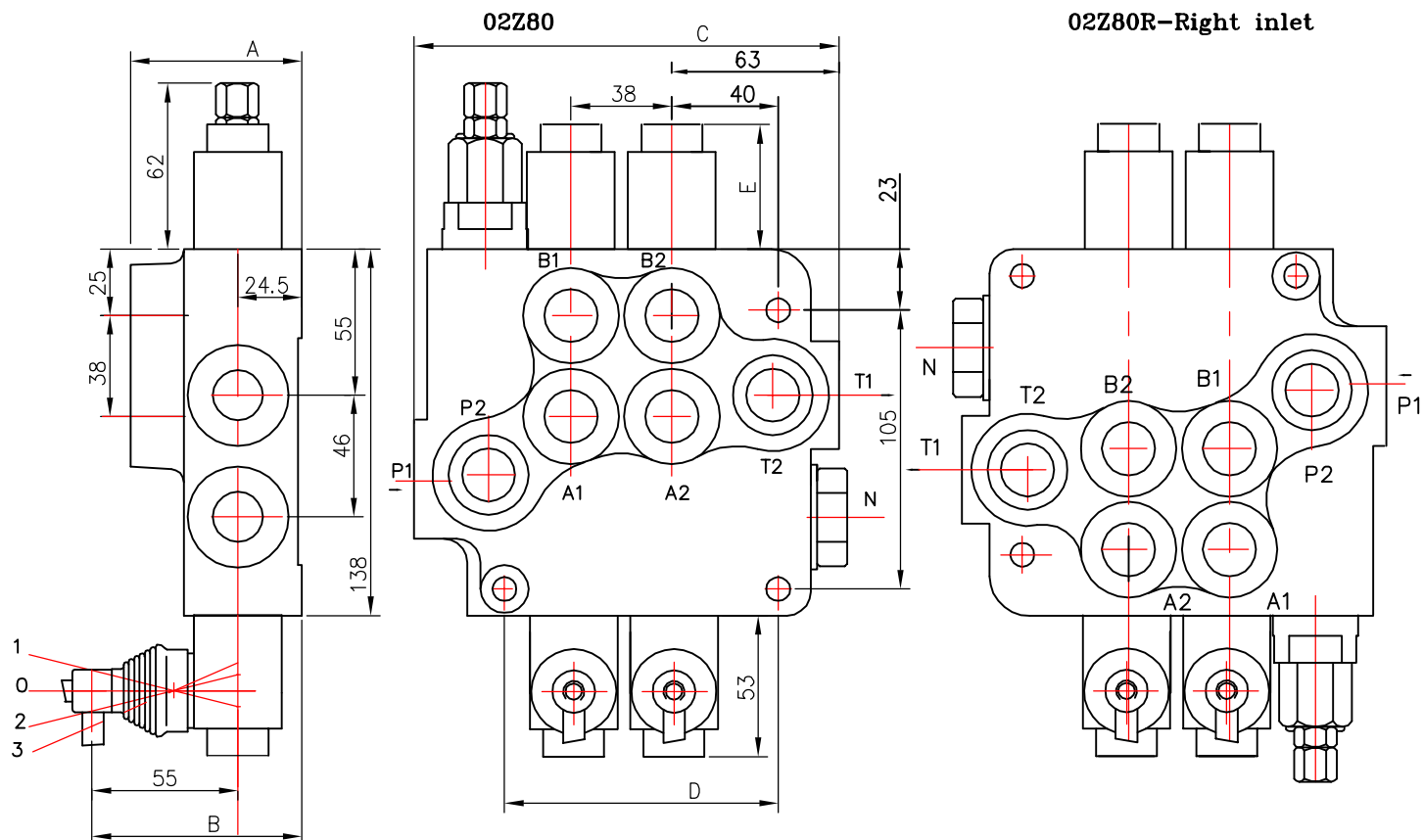


Table 1

|       | A  | B  | C   | D   | P1 | P2 | T1 | T2 |
|-------|----|----|-----|-----|----|----|----|----|
| 01Z80 | 67 | 80 | 122 | 65  | *  | *  | —  | —  |
| 02Z80 | 67 | 80 | 160 | 103 | *  | *  | *  | *  |
| 03Z80 | 67 | 80 | 198 | 141 | *  | *  | *  | *  |
| 04Z80 | 67 | 80 | 236 | 179 | *  | *  | *  | *  |
| 05Z80 | 67 | 80 | 274 | 217 | *  | *  | *  | *  |
| 06Z80 | 67 | 80 | 312 | 255 | *  | *  | *  | *  |

Table 2

| Spool control                | E  |
|------------------------------|----|
| 1, 4, 5, 6, 7, 8, 9, 10, 11, | 40 |
| 2, 3, 12, 14                 | 72 |
| 13                           | 44 |

**0** block with common check valve  
 распределитель с общим клапаном  
**2** number of spools  
 количество золотников  
**Z80** directional control valve type ...  
 распределитель типа ...  
**R** inlet high pressure — right  
 вход давления с правой стороны  
**A** first spool distribution type  
 характеристика первого золотника  
**1** spool control/detend and est./  
 контрол золотника/фиксация и другие/  
**A** second spool distribution type  
 вид второго золотника  
**1** spool control/detend and est./  
 контрол золотника/фиксация и другие/  
**G** ports/treads/  
 резьбовые отверстия  
**KZ1** general operation feature  
 вид ручного управления  
**T** with "teton"  
 исполнение ручного управления с "тетон"  
**P** operation feature /pneumatic, .../  
 грузое управление  
**E** with electric switch  
 с электрическим выключателем  
**C2** high pressure carry over  
 продолжител потока высокого давления  
**11** connection ports in use  
 присоединительные отверстия

way of distribution – parallel; распределение – параллельное

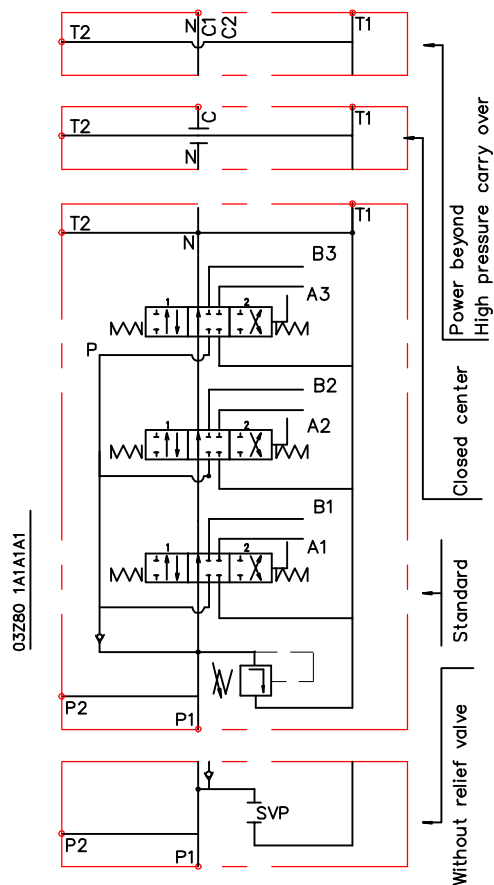


Table 3

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

Table 4

| code | spool control |
|------|---------------|
| 1    |               |
| 2    |               |
| 3    |               |
| 4    |               |
| 5    |               |
| 6    |               |
| 7    |               |
| 8    |               |
| 9    |               |
| 10   |               |
| 11   |               |
| 12   |               |
| 13   |               |

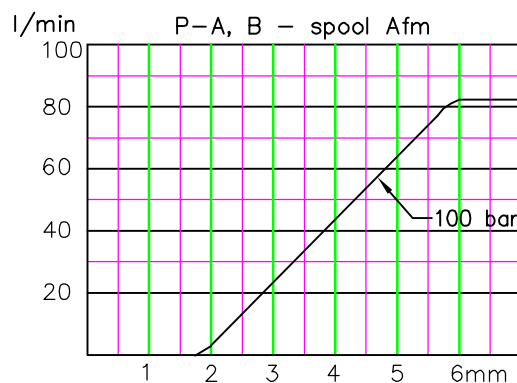
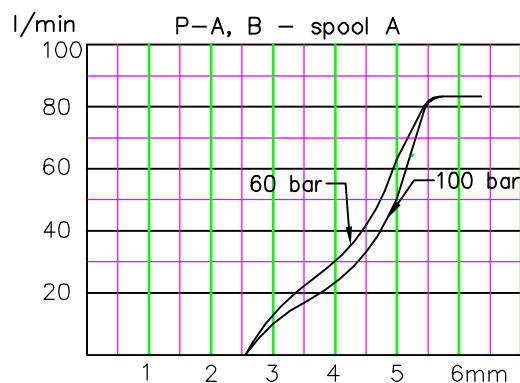
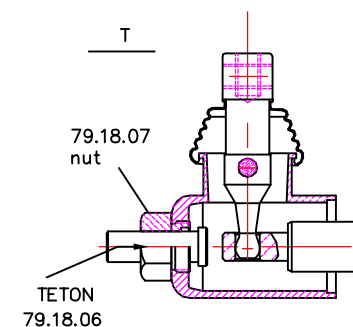


Table 5

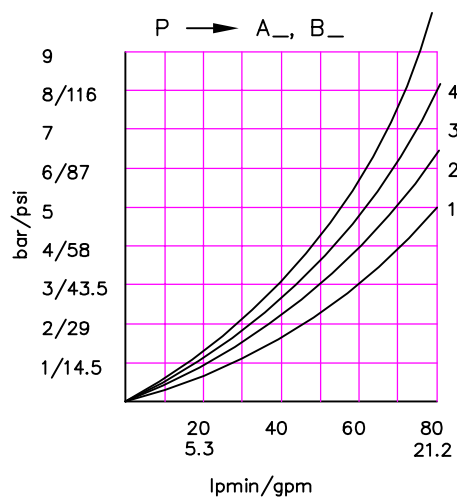
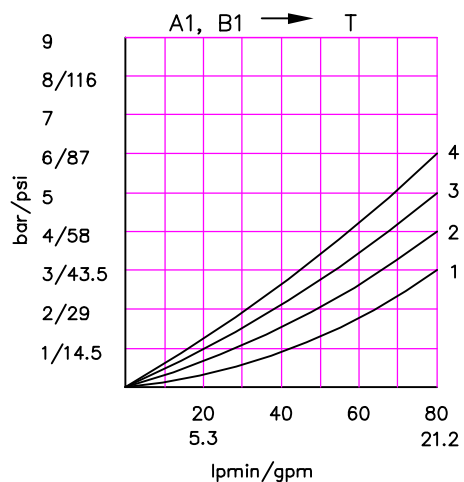
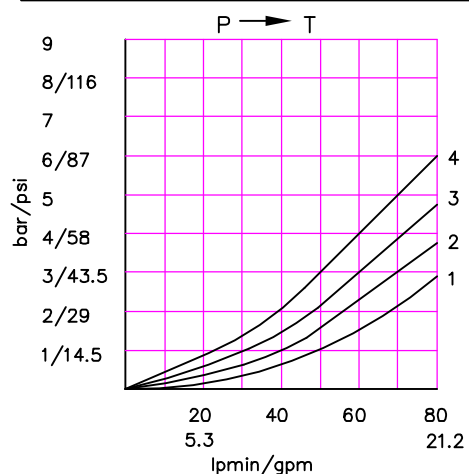
| code | с микро шалтер ; incorporated microswitch |                                              |
|------|-------------------------------------------|----------------------------------------------|
| E    |                                           | <p>mikroswitch type<br/>Omron-V 165 I C5</p> |

Table 6

| code | грузовое управление ; operation feature |                                                                                   |
|------|-----------------------------------------|-----------------------------------------------------------------------------------|
| P    |                                         | <p>пневматическое<br/>on-off pneumatic control; 5–10 bar ; ports NPTF 1/8–27</p>  |
| H    |                                         | <p>гидравлическое<br/>on-off hydraulic control ; pn = 5 – 20 bar ; ports G1/4</p> |



..Z80 directional control valve – A



Z80

Table 7

| code | ports (threads) ; присоединительные отверстия |           |              |              |              |
|------|-----------------------------------------------|-----------|--------------|--------------|--------------|
|      | P                                             | A ; B     | T            | N            | C2           |
| M    | M22x1.5                                       | M22x1.5   | M26x1.5      | M26x1.5      | M26x1.5      |
| G    | G1/2                                          | G1/2      | G3/4         | G3/4         | G3/4         |
| S    | 7/8-14UNF                                     | 7/8-14UNF | 1 1/16-14UNF | 1 1/16-14UNF | 1 1/16-14UNF |

kind of hand control ; вид ручного управления

Table 10

| code | ескиз feature                                          | code | ескиз feature | code | ескиз feature |
|------|--------------------------------------------------------|------|---------------|------|---------------|
| KZ   |                                                        | KY   |               | KI   |               |
| KZ1  |                                                        | KY1  |               | KI1  |               |
| KZ0  |                                                        | KY0  |               | KI0  |               |
| KZ01 |                                                        | KY01 |               | KI01 |               |
| —    | without hand control ; без ричажная система управления |      |               |      |               |

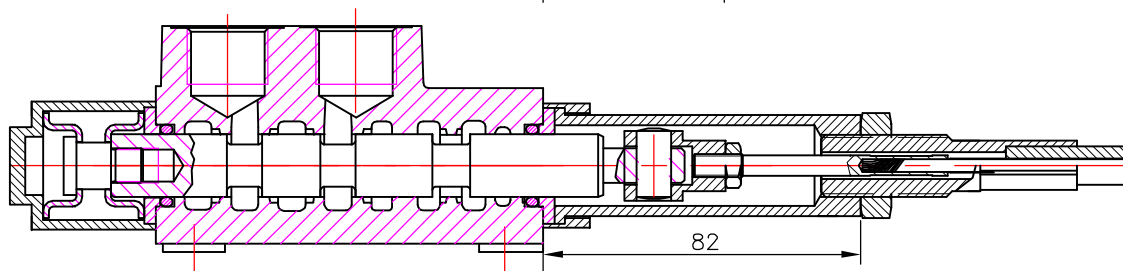
Table 11

| code | вид продолжение на дебита                                                              |  |
|------|----------------------------------------------------------------------------------------|--|
| C    | отвор "N" затворен<br>closed center                                                    |  |
| C2   | отвор "N" продължава за следващ консуматор<br>part for power beyond sleeve(carry over) |  |
| —    | отвор "N" е свързан с "T"<br>without part for pressure carry over                      |  |
| X    | отвор "N" е винаги свързан с "T"<br>power beyond ever to tank                          |  |

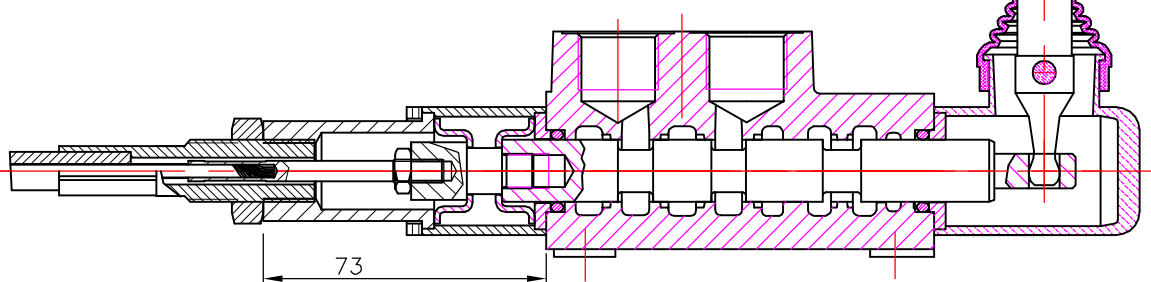
Table 12

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

# REMOTE CONTROL Управление тросом



Z80 A1G      V1(l= . . .)+      3047  
spool valve      cable      control body

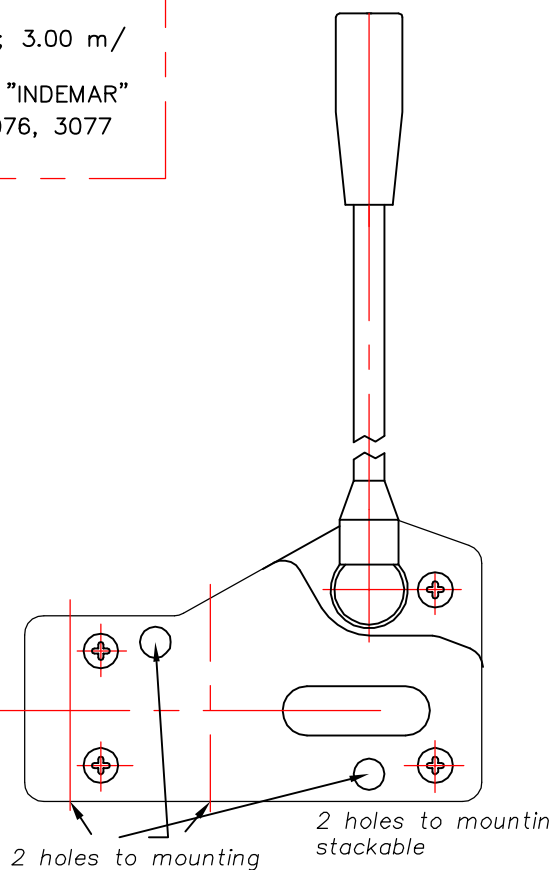


Z80 A1G      V2KZ1(l= . . .)+      3047  
spool valve      cable      control body

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

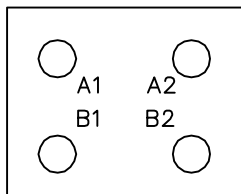
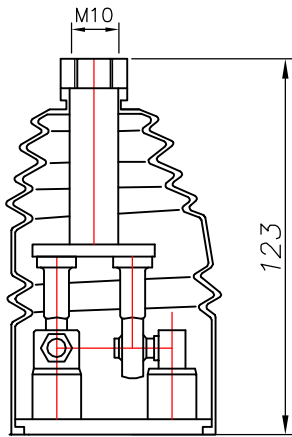
| Technical specifications |            |            |            |
|--------------------------|------------|------------|------------|
|                          | 3047       | 3076       | 3077       |
| Stroke                   | 13+13 mm   | 13+13 mm   | 13+13 mm   |
| Max. load                | 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 a three different models to meet different needs of Clients.

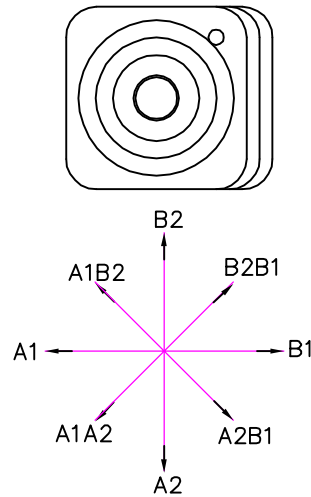


## JOYSTICK "+"

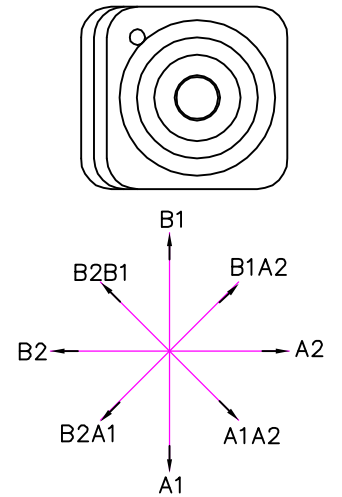
This control gives the possibility to operate, at the same time two spools with a "+" movement.



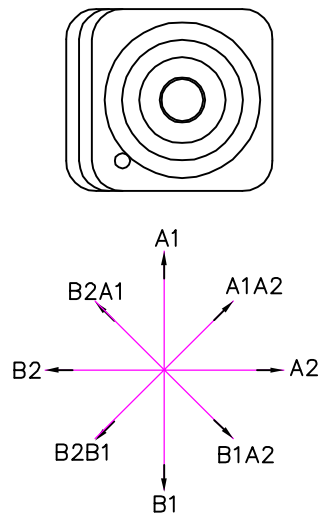
standard version 1



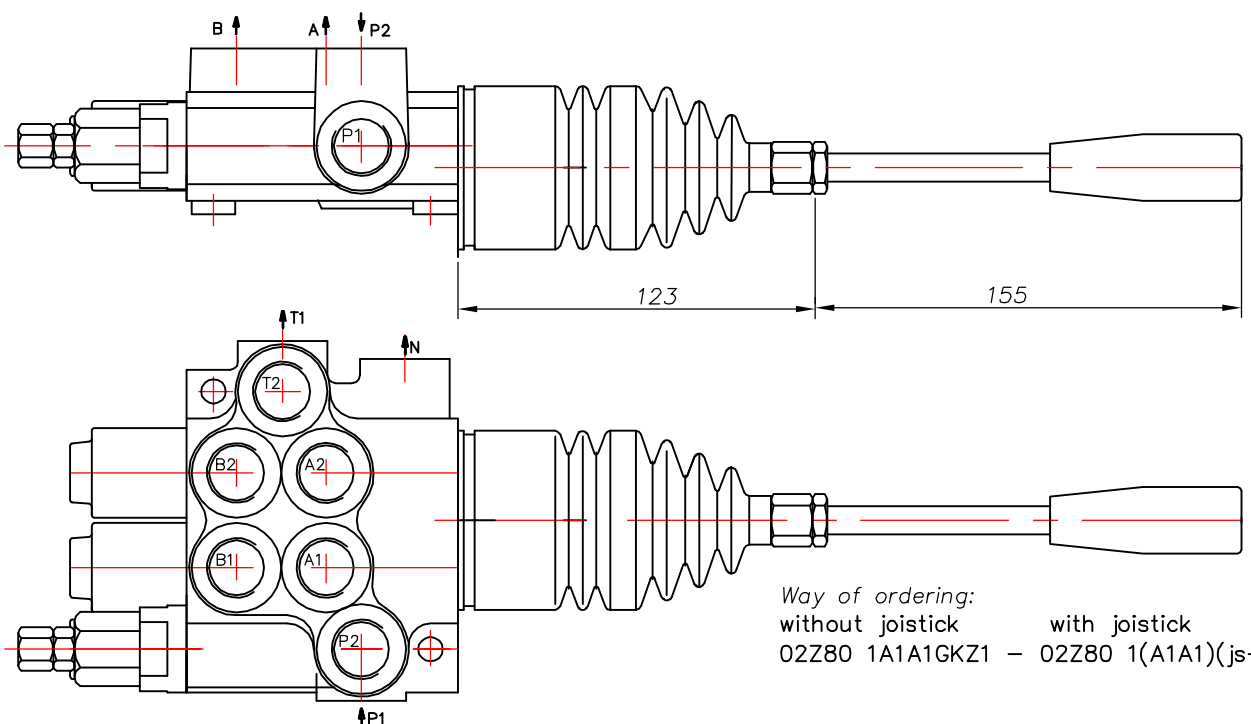
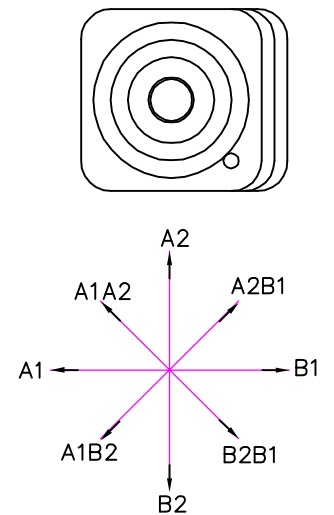
standard version 2



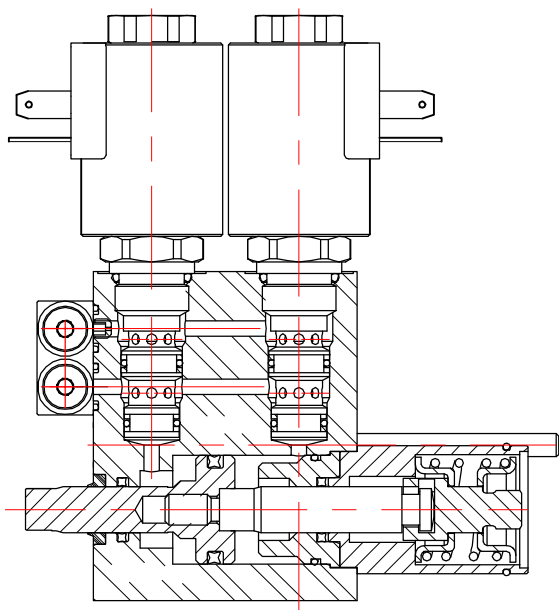
standard version 3



standard version 4

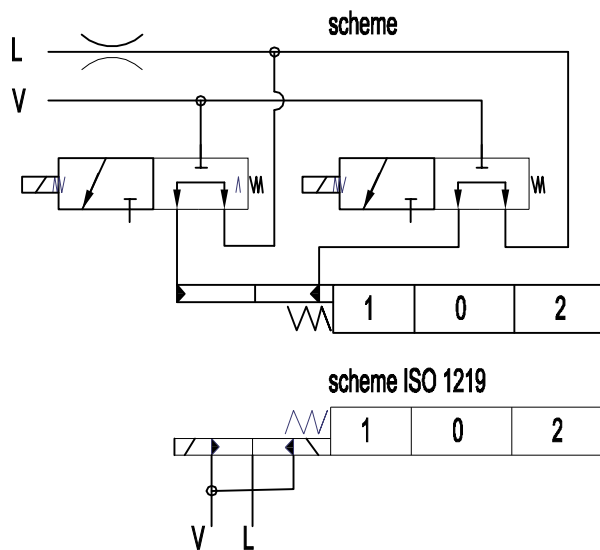


Way of ordering:  
without joystick 02Z80 1A1A1GKZ1 - with joystick 02Z80 1(A1A1)(js+3)G



Ordering codes  
 3-way solenoid valve-SV08-33  
 coil P40ED3-G-12VDC  
 coil P40ED3-G-24VDC

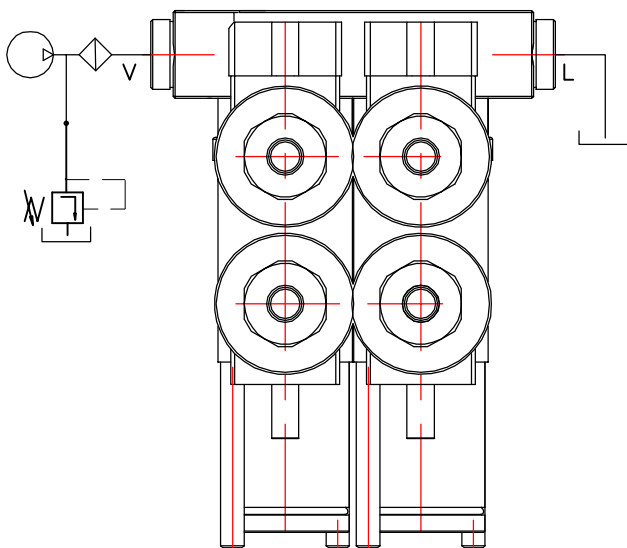
ED3 – electro-hydraulic control ON-OFF  
 Электрогидравлический контрол ON-OFF



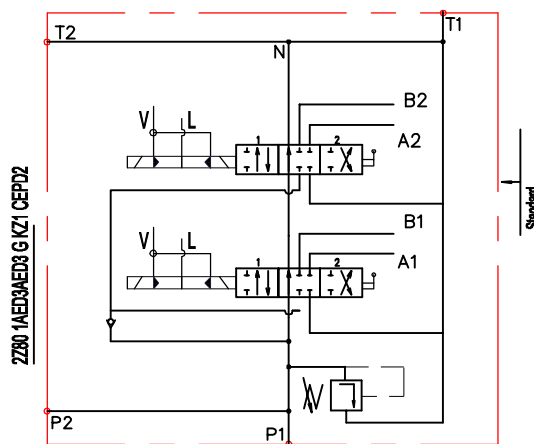
Operating pressure min 10 bar(145 psi)  
 max 50 bar(725 psi)  
 Max operating pressure in L (T line) 25 bar(360 psi)

Solenoid operating features  
 Nominal voltage tolerance  $\pm 10\%$   
 Power rating 24W  
 Duty cycle 100 %

Collector kit for external pilot and drain – CEED...(1,2,3 ...)  
 Коллектор для внешнего питания управления и слив



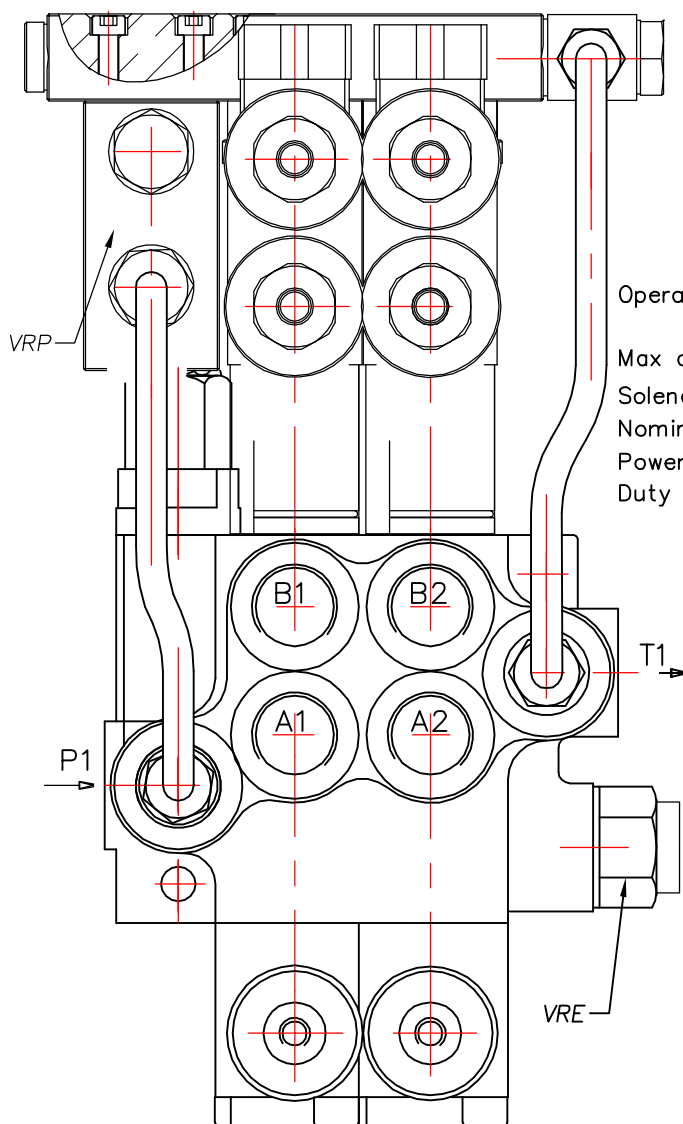
Ordering example  
 02Z80 1A1ED3A1ED3 G KZ1-CEED2-12VDC



Ordering codes (BSP threads)

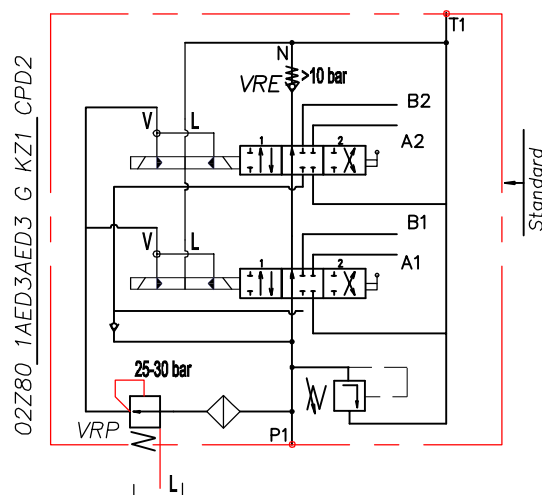
|          |                   |
|----------|-------------------|
| CEED1P80 | Kit for 1 section |
| CEED2P80 | Kit for 2 section |
| CEED3P80 | Kit for 3 section |
| CEED480  | Kit for 4 sektion |
| ...      |                   |

ED3 – electro-hydraulic control ON–OFF  
 Электрогидравлический контрол ON–OFF



Order codes  
 3–way solenoid valve–LSV2–08–3C–NNN  
 coil P40ED3–G–12VDC  
 coil P40ED3–G–24VDC

Operating pressure min 10 bar(145 psi)  
 max 50 bar(725 psi)  
 Max operating pressure in L (T line) 25 bar(360 psi)  
 Solenoid operating features  
 Nominal voltage tolerance  $\pm 10\%$   
 Power rating 24W  
 Duty cycle 100 %



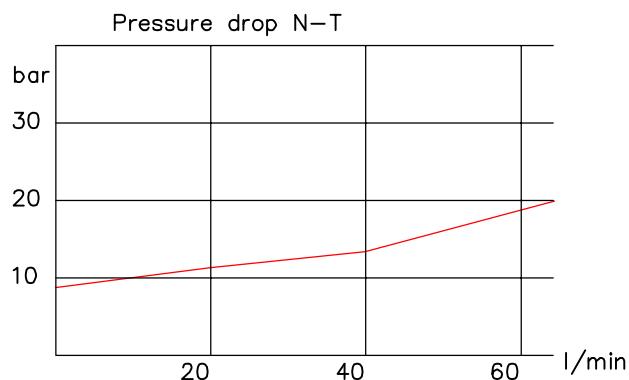
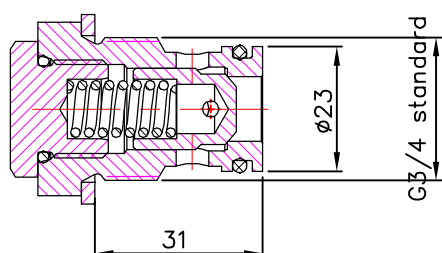
Ordering example

02Z80 VRP 1A1ED3A1ED3 G KZ1–CED2–VRE–12VDC

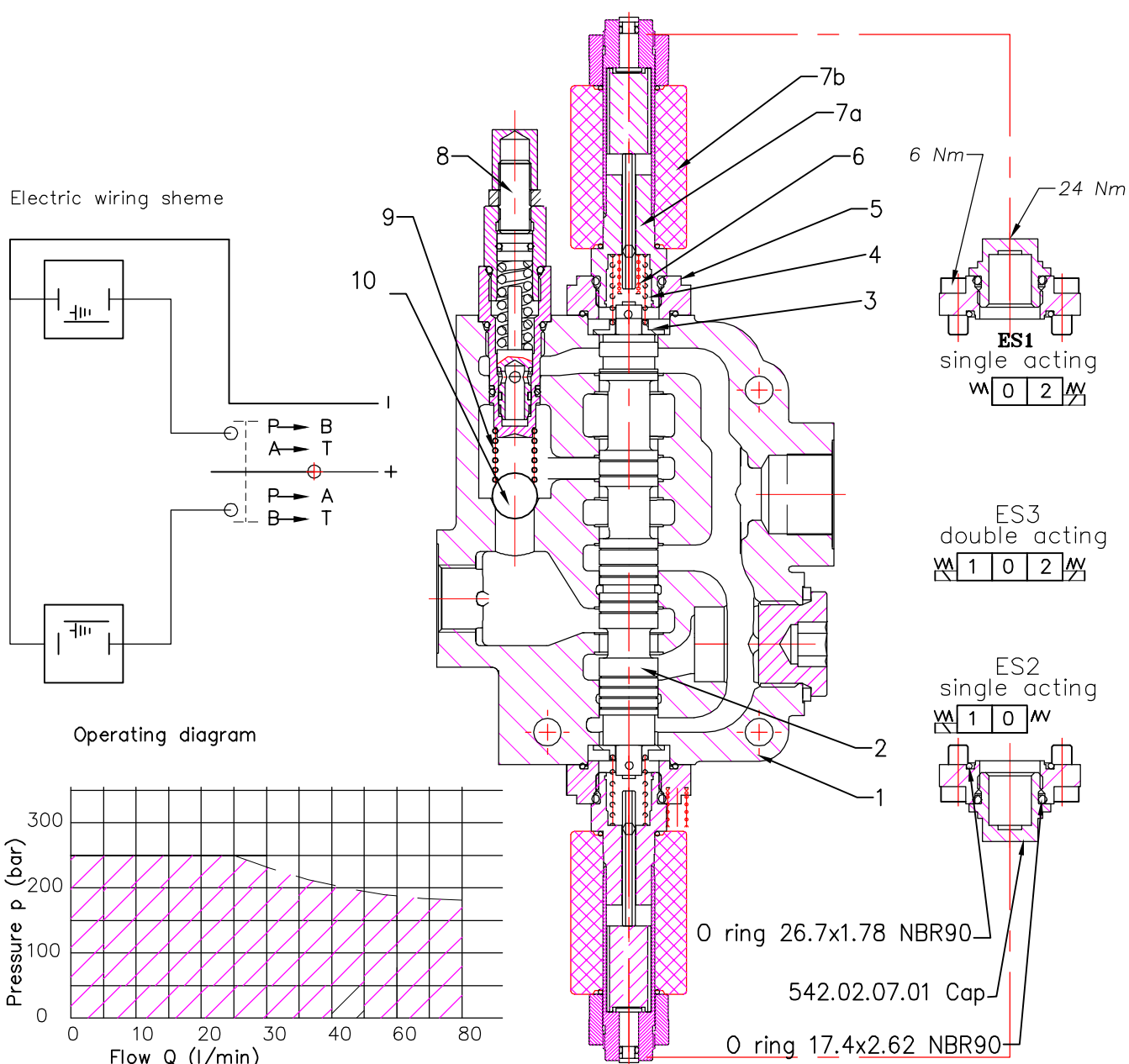
Collector kit – BSP threads  
 Ordering codes

CED1P80 Kit for 1 section  
 CED2P80 Kit for 2 section  
 CED3P80 Kit for 3 section  
 CED480 Kit for 4 sektion  
 . . . . .

Back pressure valve VRE–P80  
 Клапан подпора







## Operating features

Технические примечания

## Control

Internal leakage A(B) → T  
 (p=120 bar, Viscosity=32 mm<sup>2</sup>/s : max 40 ccm/min)  
 Fluid temperature – –20°C(short time) ... 80°C  
 Max. back pressure on outlet port T – 25 bar (360psi)

## Coil

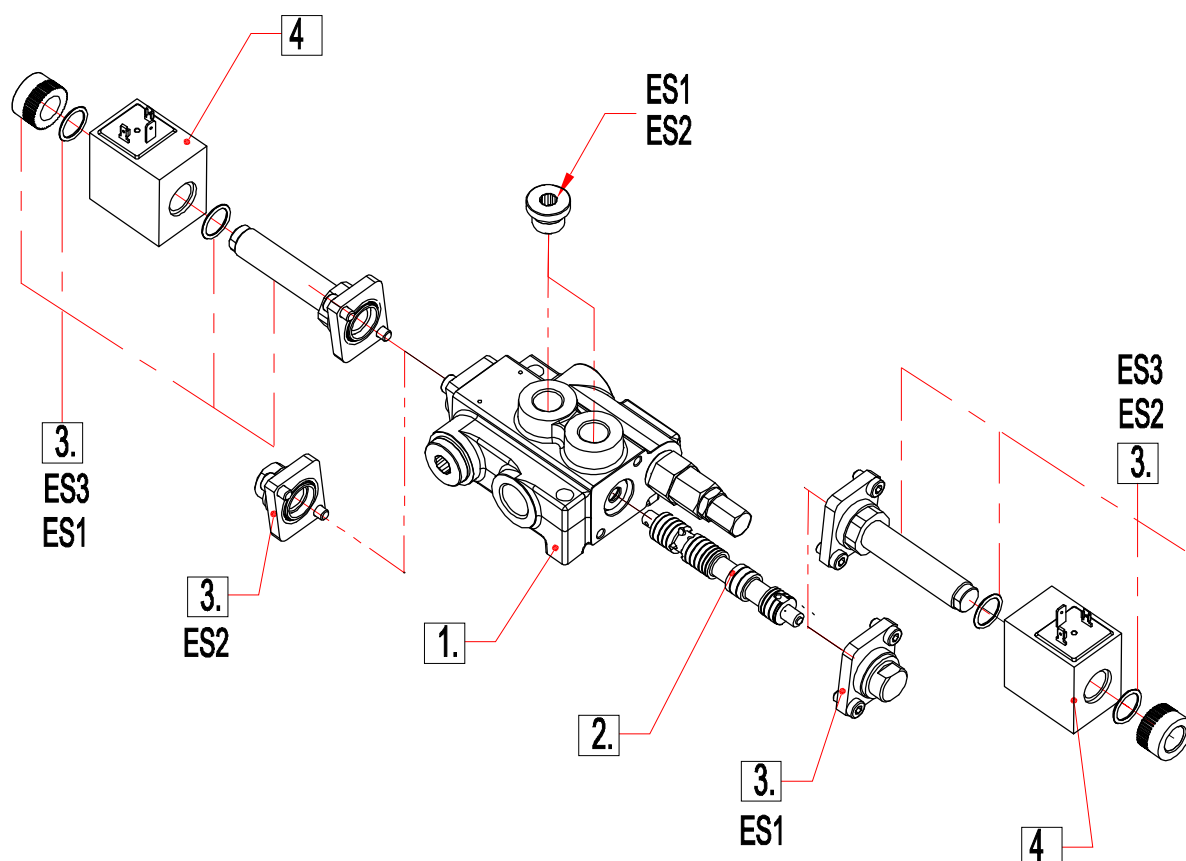
Nominal voltage tolerance . . . . . ±10%  
 Power rating . . . . . 37 W  
 Coil insulation . . . . . class H  
 Duty cycle . . . . . 100%  
 Connector ISO 4400  
 Emergency manual override

| pos. | Part.No       | Description       | Quantity |
|------|---------------|-------------------|----------|
| 10   |               | Ball 14.28        | 1        |
| 9    | 123.00.47     | Spring            | 1        |
| 8    | 79.04.00      | Relief valve      | 1        |
| 7b   | C35D012RC P01 | Solenoid coil     | 2        |
| 7a   | GM4060/BD     | Solenoid Tube     | 2        |
| 6    | 542.02.00.07  | Additional spring | 2        |
| 5    | 511.02.02.00  | Intermediate unit | 2        |
| 4    | 542.02.00.04  | Spring            | 2        |
| 3    | 511.02.00.02  | Washer            | 2        |
| 2    |               | Spool ...         | 1        |
| 1    |               | Body ...          | 1        |

Solenoid direct control with spring return to neutral position.  
Needs special spools and special body Z80.

# ORDERING EXAMPLE

|     |   |     |       |   |
|-----|---|-----|-------|---|
| Z80 | A | ES3 | 12VDC | G |
| 1   | 2 | 3   | 4     | 5 |



## 1.Body kit

| Type  | Description |
|-------|-------------|
| 01Z80 | 1 spool     |
| 02Z80 | 2 spool     |
| 03Z80 | 3 spool     |
| 04Z80 | 4 spool     |
| 05Z80 | 5 spool     |
| 06Z80 | 6 spool     |

## 2.Spool options

| Type | Description                                                              |
|------|--------------------------------------------------------------------------|
| A    | Double acting, 3 positions with A and B closed in neutral position       |
| D    | Double acting, 3 positions with A and B open to Tank in neutral position |

## 3.Control kit

| Type | Description                                                    |
|------|----------------------------------------------------------------|
| ES1  | Single acting P – A with spring return in neutral position     |
| ES2  | Single acting P – B with spring return in neutral position     |
| ES3  | Double acting P – A (B) with spring return in neutral position |

## 4.Coils

| Type                      | Description           |
|---------------------------|-----------------------|
| (with connector ISO 4400) |                       |
| 12VDC                     | Nominal voltage 12VDC |
| 24VDC                     | Nominal voltage 24VDC |

## 5.Threads

|   |                          |
|---|--------------------------|
| G | P, A, B – G1/2; T – G3/4 |
|---|--------------------------|