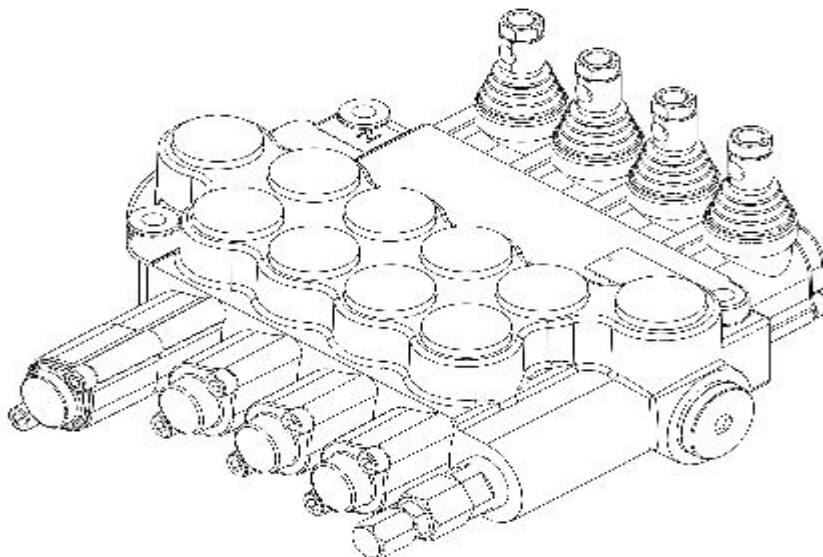


HYDRAULIC DIRECTIONAL CONTROL VALVES

РАСПРЕДЕЛИТЕЛИ ГИДРАВЛИЧЕСКИЕ



Description

Назначение и область применения

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

Specifications

Основные показатели:

1. Valve monoblock

Конструктивное выполнение

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 mm²/s permissible range

9. Max. operating pressure

Давление max. bar

20...100 mm²/s recommended range

- 15C...+80C

Oil contamination 10 to NAS1638

P = 250 bar

T = 50 bar

A, B = 300 bar

18 cm³/min at 120 bar

10. Leakage

Внутренние потери (A, B – T)

11. Nominal flow

Разход рабочей жидкости

80 l/min (see “operating” diagram)

12. Spool stroke

Ход золотника

± 7 mm

13. Actuating force

< 220 N in spool axis direction

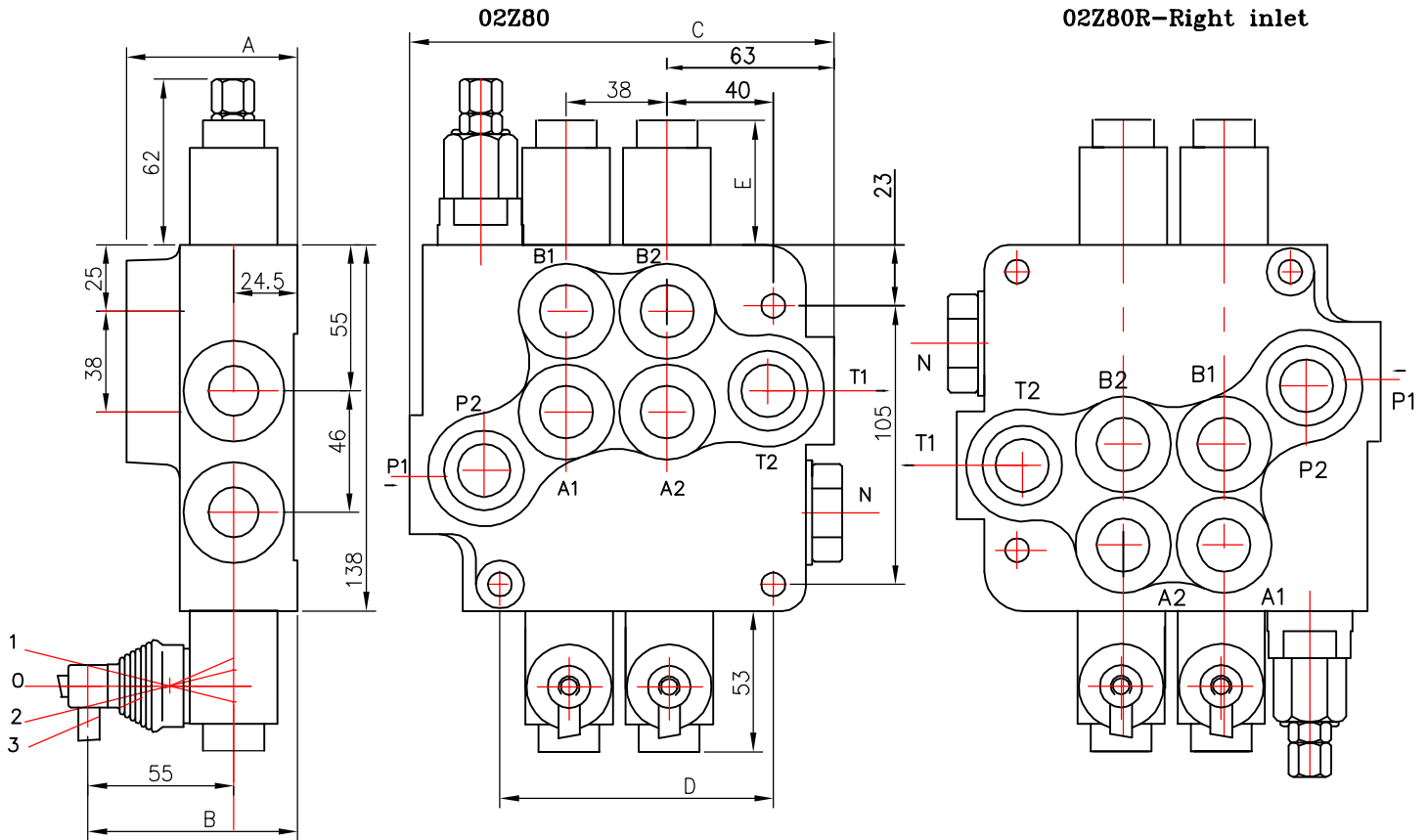


Table 1

	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 estr./
 контрол золотника/фиксаций и другие/
A second spool distribution type
 вид второго золотника
1 spool control/detend and estr./
 контрол золотника/фиксаций 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

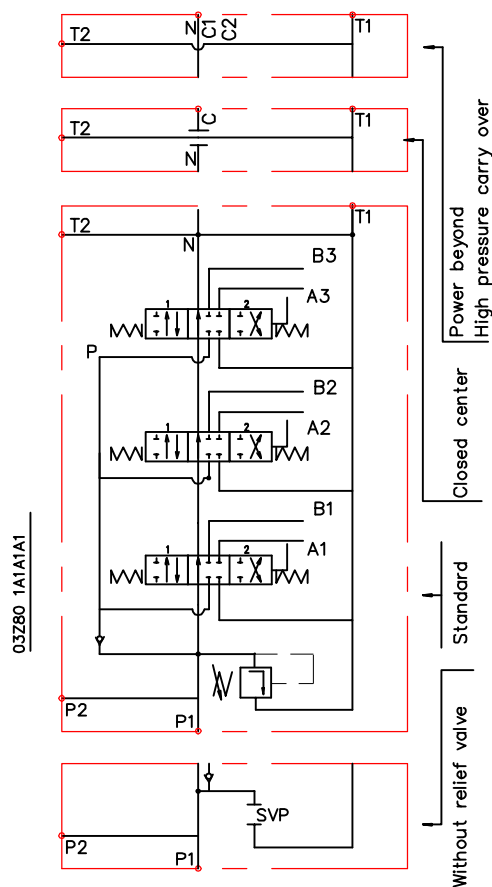


Table 3

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	$\overset{1}{\text{W}}\overset{0}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
2	$\underset{\vee}{\text{W}}\overset{1}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
3	$\overset{1}{\text{W}}\overset{0}{\text{W}}\underset{\vee}{\text{W}}$ <table><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
4	$\overset{0}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>0</td><td>2</td></tr></table>	0	2		
0	2				
5	$\overset{1}{\text{W}}\overset{0}{\text{W}}$ <table><tr><td>1</td><td>0</td></tr></table>	1	0		
1	0				
6	$\overset{1}{\text{W}}\overset{1}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>1</td><td></td><td>2</td></tr></table>	1		2	
1		2			
7	$\overset{1}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>1</td><td></td><td>2</td></tr></table>	1		2	
1		2			
8	$\overset{1}{\text{W}}\overset{0}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
9	$\underset{\vee}{\text{W}}\overset{1}{\text{W}}$ <table><tr><td>1</td><td>0</td></tr></table>	1	0		
1	0				
10	$\overset{0}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>0</td><td>2</td></tr></table>	0	2		
0	2				
11	$\overset{1}{\text{W}}\overset{2}{\text{W}}$ <table><tr><td>1</td><td></td><td>2</td></tr></table>	1		2	
1		2			
12	$\overset{1}{\text{W}}\overset{0}{\text{W}}\overset{2}{\text{W}}\overset{3}{\text{W}}$ <table><tr><td>1</td><td>0</td><td>2</td><td>3</td></tr></table>	1	0	2	3
1	0	2	3		
13	$\underset{\vee}{\text{W}}\overset{1}{\text{W}}\overset{0}{\text{W}}\overset{2}{\text{W}}\overset{3}{\text{W}}$ <table><tr><td>1</td><td>0</td><td>2</td><td>3</td></tr></table>	1	0	2	3
1	0	2	3		

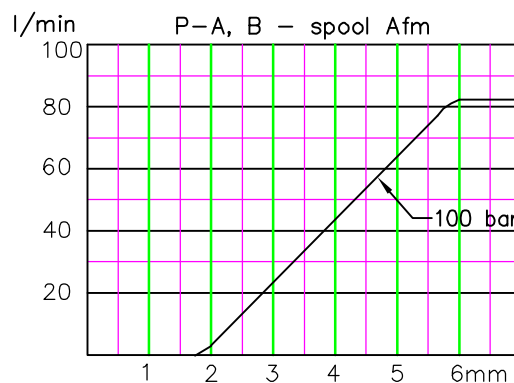
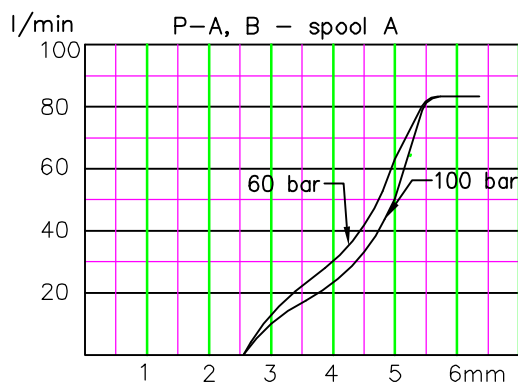


Table 5

code	с микро шалтер ; incorporated microswitch		
E		mikroswitch type Omron-V 165 I C5	

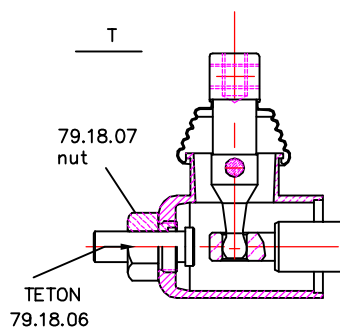
Table 6

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

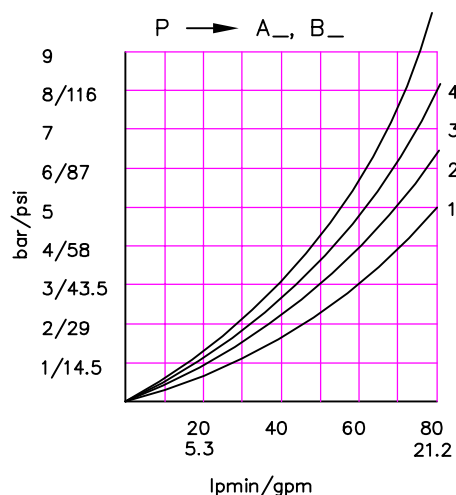
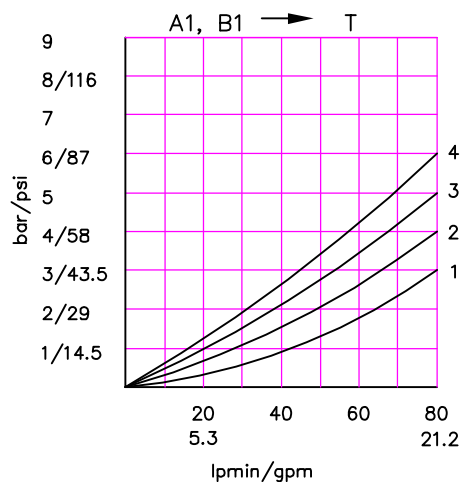
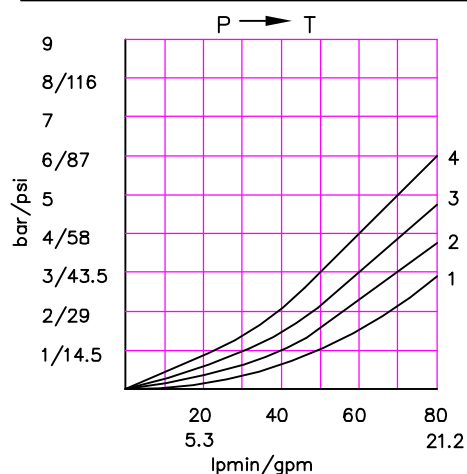
Z80

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



..Z80 directional control valve – A



kind of hand control ; вид ручного управления

Table 10

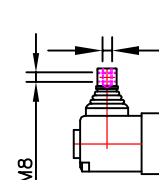
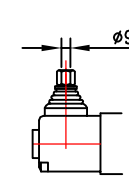
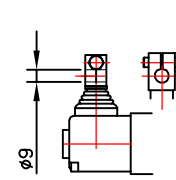
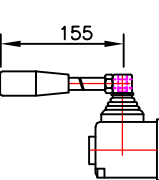
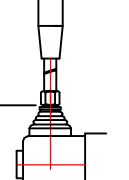
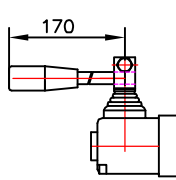
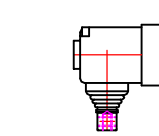
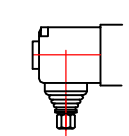
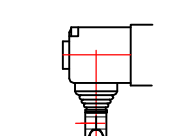
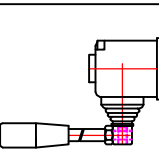
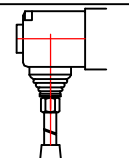
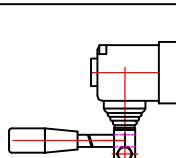
code	ескиз feature	code	ескиз feature	code	ескиз feature
KZ		KY		KI	
KZ1		KY1		KI1	
KZ0		KY0		KI0	
KZ01		KY01		KI01	
—	without hand control ; без рычажная система управления				

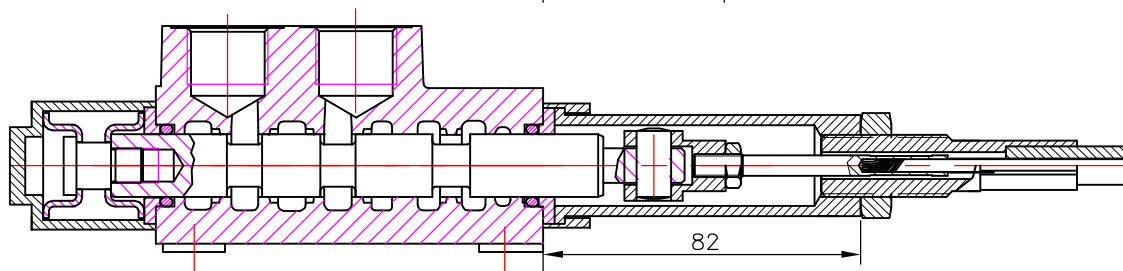
Table 11

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

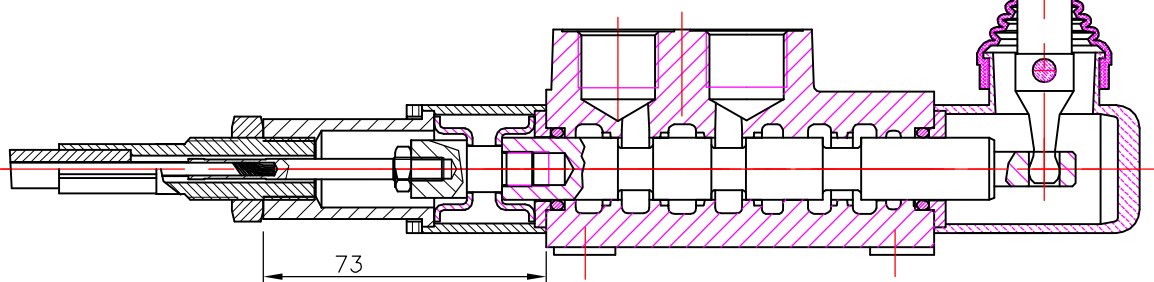
Table 12

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

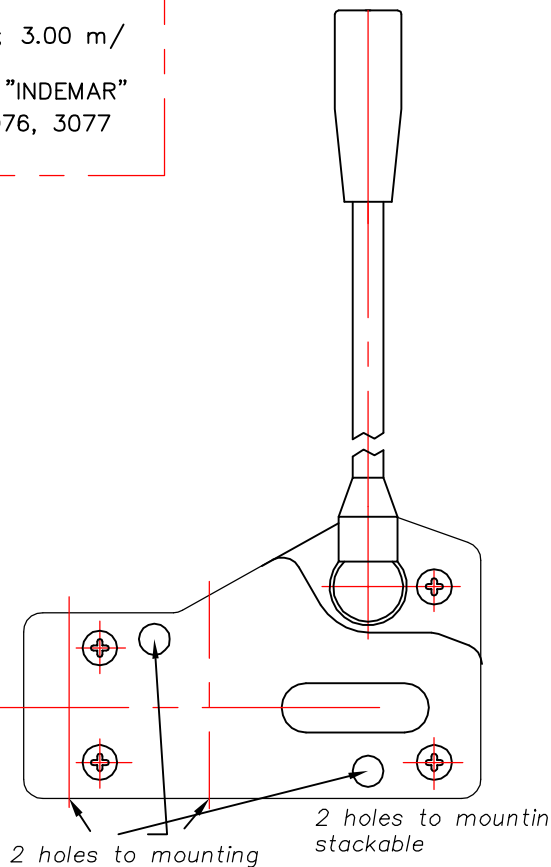


Z80 A1G V2KZ1(l=...)+ 3047
 spool valve cable control body

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

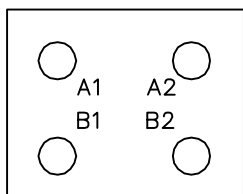
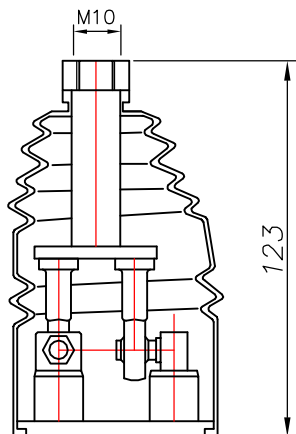
Technical specifications			
	3047	3076	3077
Stroke	13+13 mm	13+13 mm	13+13 mm
Max. load	45 kg	45 kg	45 kg
Level ratio	10:1	10:1	10:1
Lock in neutral	No	No	Yes
Antireverse lock	No	Yes	No
Body colour	Black	Black	Black
Cables type	Heavy Duty	Heavy Duty	Heavy Duty
Operating temperature	-40/+80C	-40/+80C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

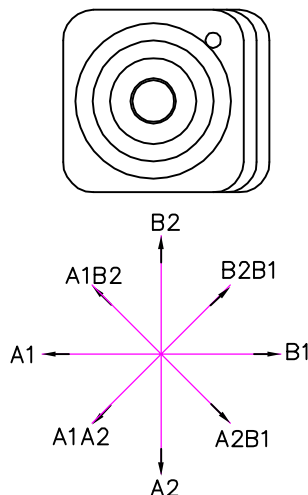


JOYSTICK "+"

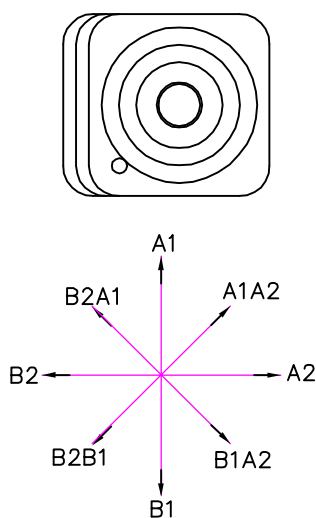
This control gives the possibility to operate, at the same time two spools with a "+" movement.



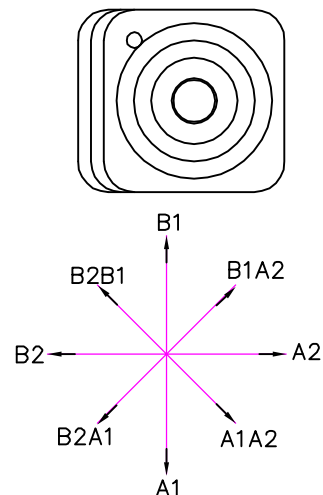
standard version 1



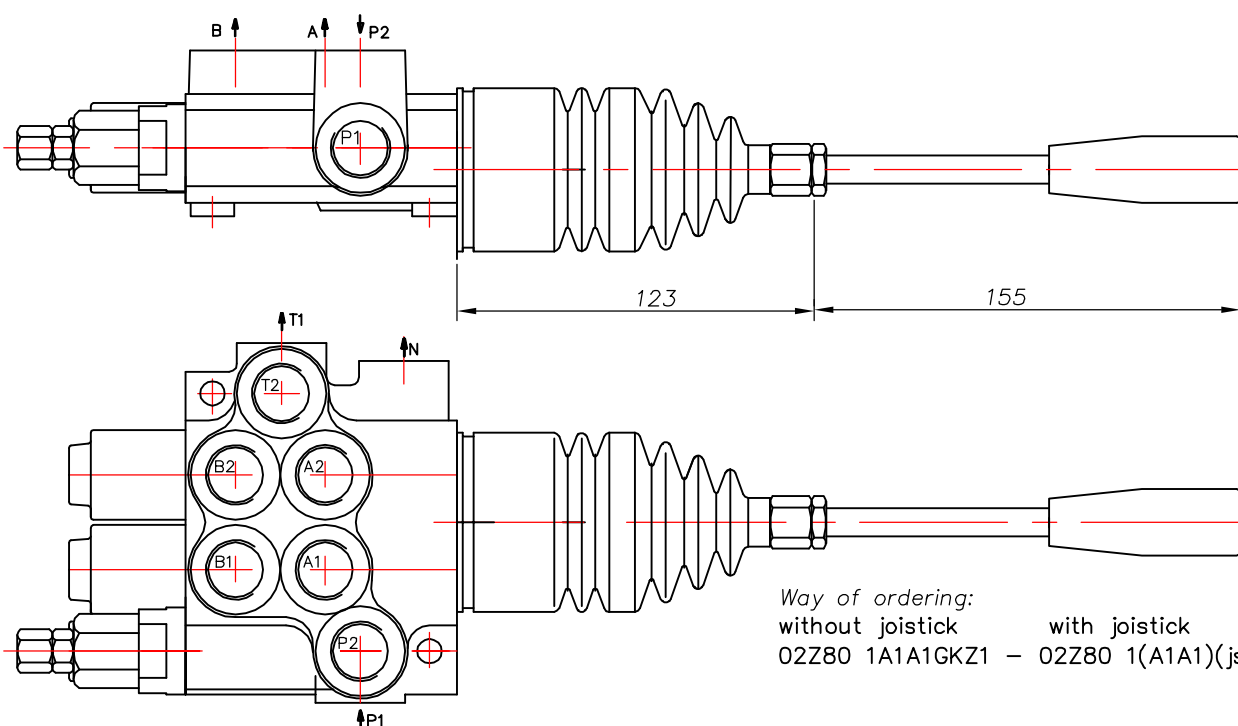
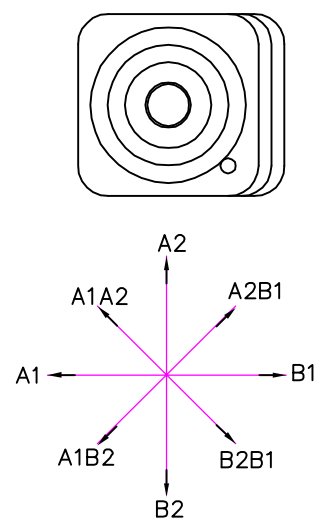
standard version 3



standard version 2



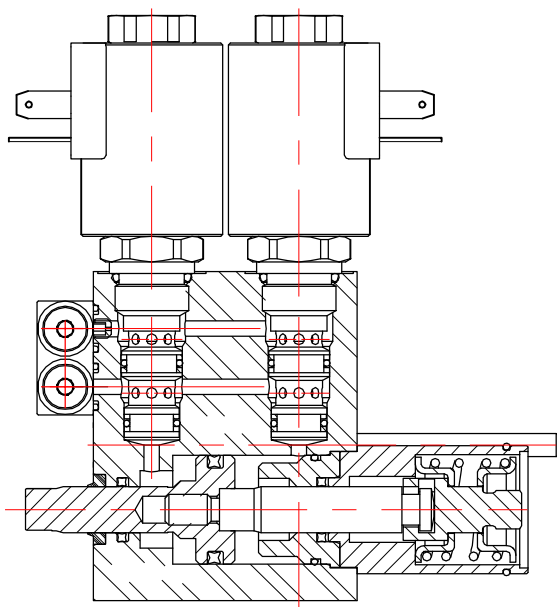
standard version 4



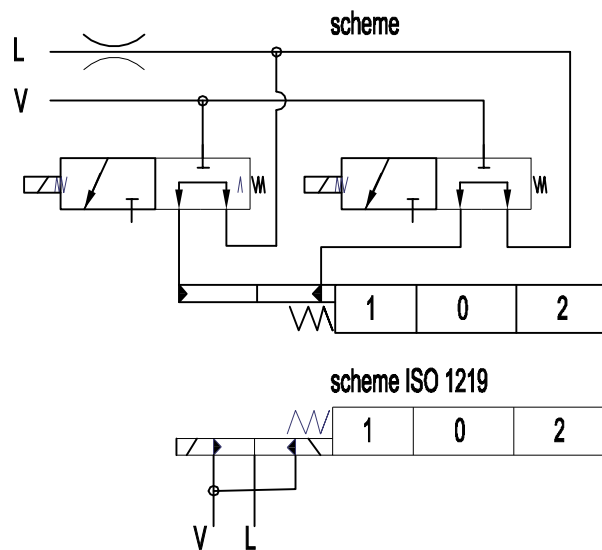
Way of ordering:
 without joystick 02Z80 1A1A1GKZ1 – with joystick 02Z80 1(A1A1)(js+3)G

directional control valve ..Z80

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



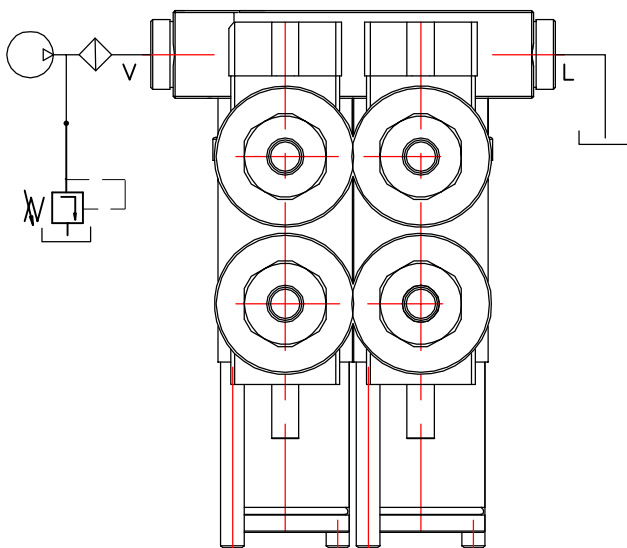
Ordering codes
3-way solenoid valve-SV08-33
coil P40ED3-G-12VDC
coil P40ED3-G-24VDC



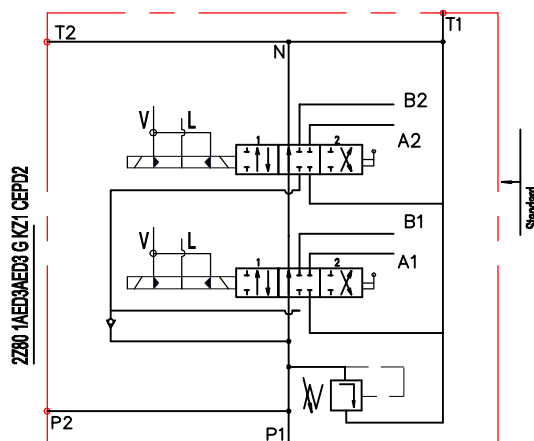
Operating pressure min 10 bar(145 psi)
max 50 bar(725 psi)
Max operating pressure in L (T line) 25 bar(360 psi)

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

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



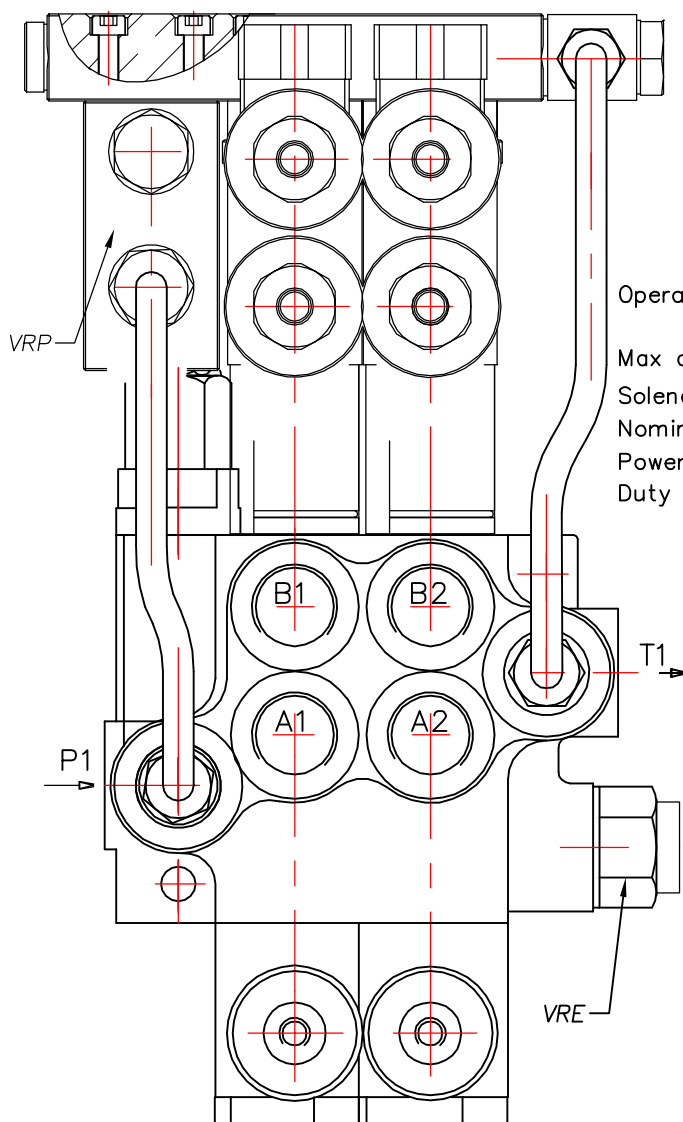
Ordering example
02Z80 1A1ED3A1ED3 G KZ1-CEED2-12VDC



Ordering codes (BSP threads)

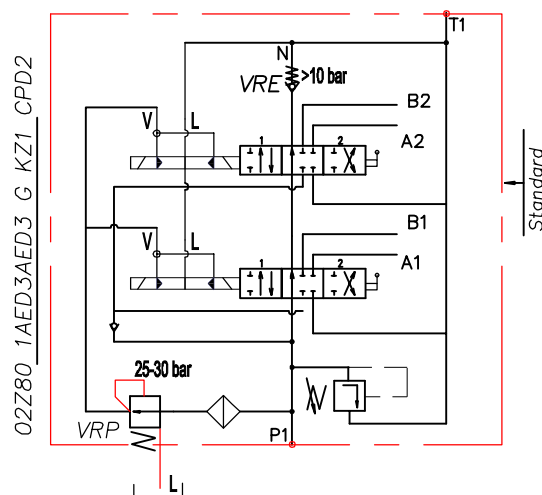
CEED1P80	Kit for 1 section
CEED2P80	Kit for 2 section
CEED3P80	Kit for 3 section
CEED480	Kit for 4 sektion
...	

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 %



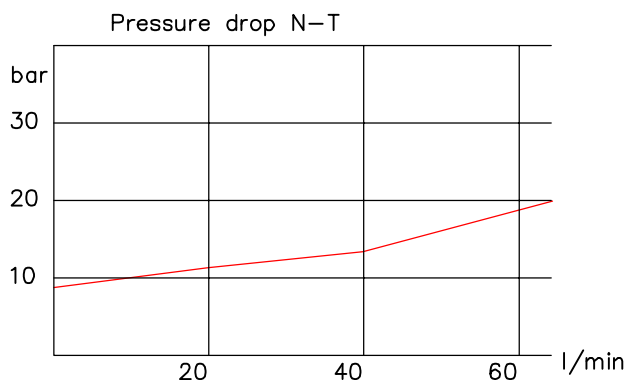
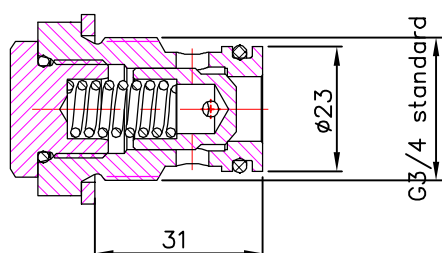
Ordering example

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

Collector kit – BSP threads
Ordering codes

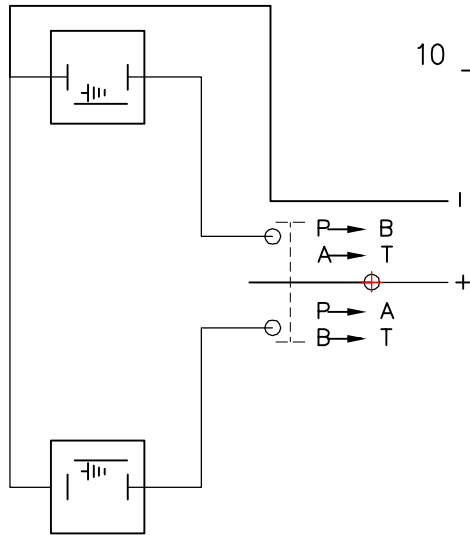
CED1P80 Kit for 1 section
CED2P80 Kit for 2 section
CED3P80 Kit for 3 section
CED480 Kit for 4 sektion
.....

Back pressure valve VRE-P80
Клапан подпора

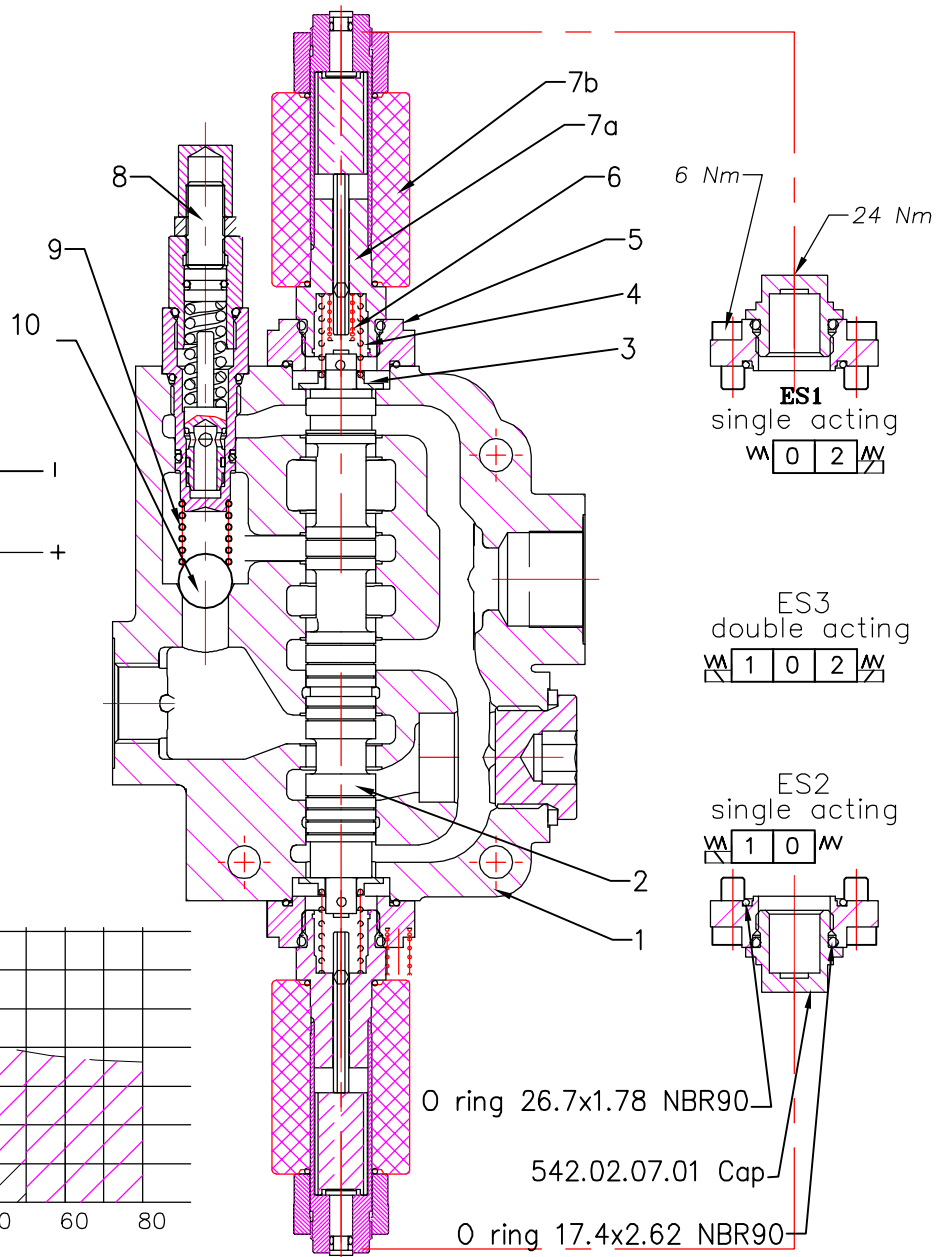
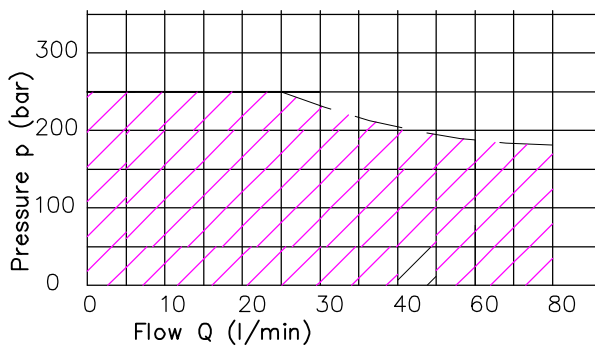


ES ... SOLENOID DIRECT CONTROL

Electric wiring scheme



Operating diagram



ES1
single acting
W 0 2 W

ES3
double acting
W 1 0 2 W

ES2
single acting
W 1 0 W

Operating features

Технические примечания

Control

Internal leakage A(B) → T
(p=120 bar, Viscosity=32 mm²/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

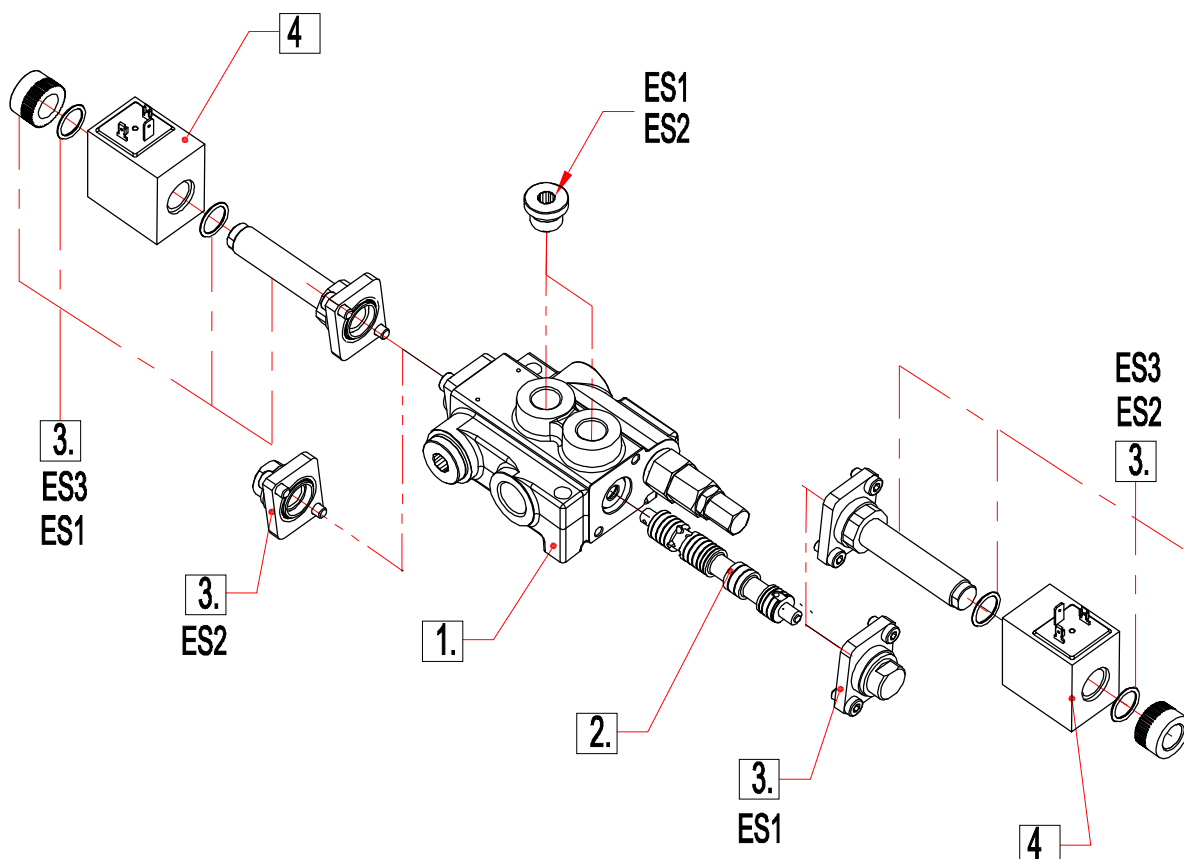
pos.	Part.No	Description	Quantity
10		Ball 14.28	1
9	123.00.47	Spring	1
8	79.04.00	Relief valve	1
7b	C35D012RC P01	Solenoid coil	2
7a	GM4060/BD	Solenoid Tube	2
6	542.02.00.07	Additional spring	2
5	511.02.02.00	Intermediate unit	2
4	542.02.00.04	Spring	2
3	511.02.00.02	Washer	2
2		Spool ...	1
1		Body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

ES ... SOLENOID DIRECT CONTROL

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
---	--------------------------