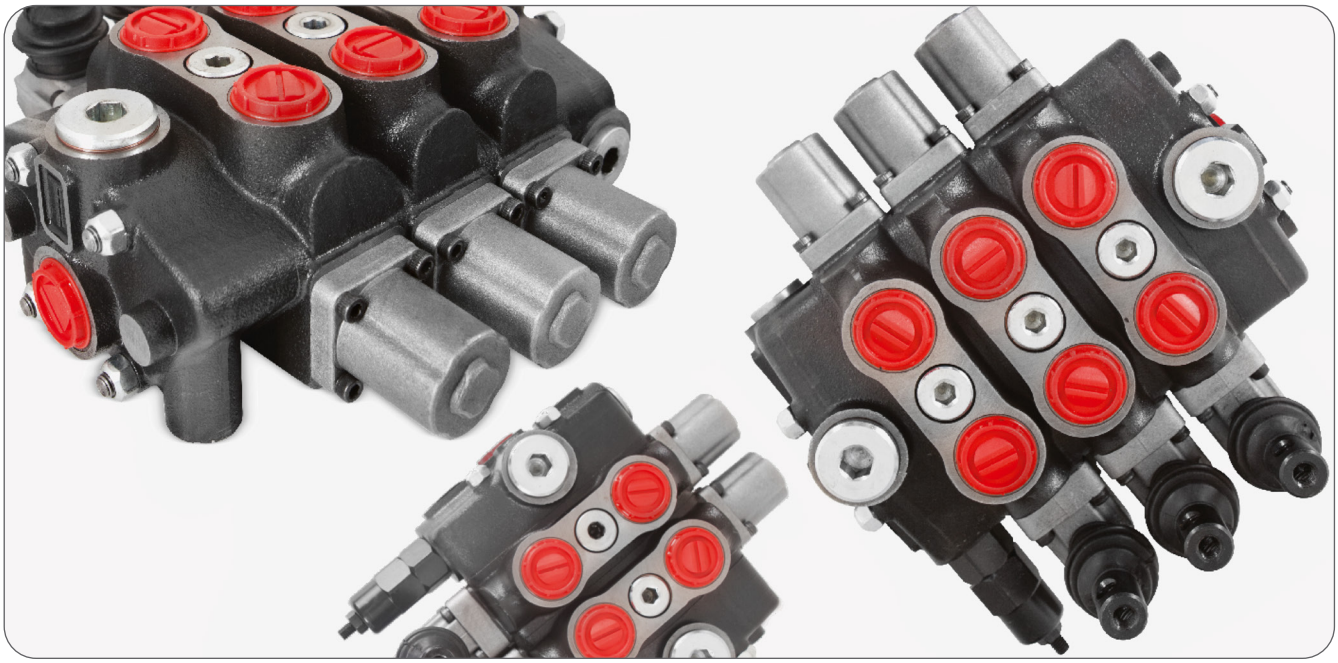
ORVAL HYDRAULIC

SECTIONAL
VALVES

# ORV-PD80





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## Additional Informations

**Note:** This catalog shows the product in the most standard configurations. For Other Configurations, more detailed information or special request, Please contact Customer Service Dpt.

**Warning!:** All specifications of this catalog refer to the standard product at this date (01/2020). ORVAL, oriented to a continuous improvement, reserves the right to discontinue, modify or revise the specifications, without notice.

ORVAL IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY AN INCORRECT USE OF THE PRODUCT.

## WORKING CONDITIONS

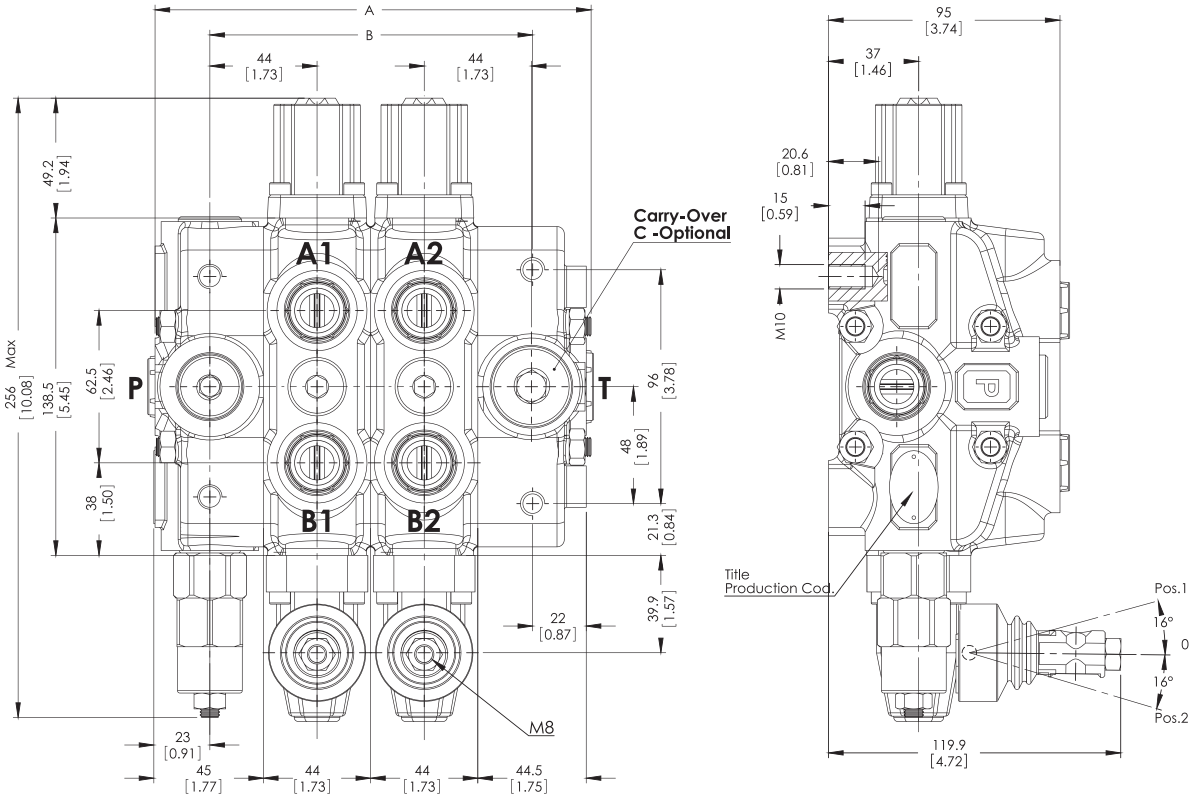
| | | |
|---|---|---|
| Nominal Flow Rating / Displacement | 80 l/min | 21 U.S.G.P.M |
| Maximum Working Pressure (Series Circuit) | 210 Bar | 3050 PSI |
| Maximum Working Pressure (Parallel Circuit) | 315 Bar | 4600 PSI |
| Max. Back Pressure | 25 Bar | 360 PSI |
| Oil Temperature with NBR Seals | -20 to 80 C° | -4 to 176 F ° |
| with FPM (Viton) Seals | -20 to 100 C° | -4 to 212 F ° |
| Oil Viscosity – Operating Range | From 10 to 75 mm2/s | From 10 to 75 cSt |
| Minumum / Maximum | 10 / 400 mm2/s | 10 / 400 cSt |
| Oil Filtration | ≤30 µ | |
| Ambiant Temperature Range | -35 to 60 C° | -31 to 140 F ° |
| Number Of Spools | 1 to 12 | |
| Internal Leakage (at 100 bar (1450 PSI), 40C° (110 F°), 46 cSt – A(B)–T) | 3 cm3/min | 0,18 in3/min |
| Max. Level Of Contamination | 19/16 - ISO 4406 | |
| Tie rod tightening torque | 30 Nm | 22 lbft |

**Not:** This catalogue shows technical specifications measured with mineral oil of 46 mm2/s-46 cSt viscosity at 40 C° temparture.

## Features

• Simple, compact and heavy duty designed sectional valves from 1 to 12 sections for open and closed center hydraulic systems.
• Optionaly Carry-Over port only tandem circuit.
• Fitted with a main pressure relief valve.
• Interchangeable spool diametre is 18 mm – 0,71 in.
• Available manual, pneumatic, hydraulic and electro-pneumatic spool control kits.

## DIMENSIONAL DATA



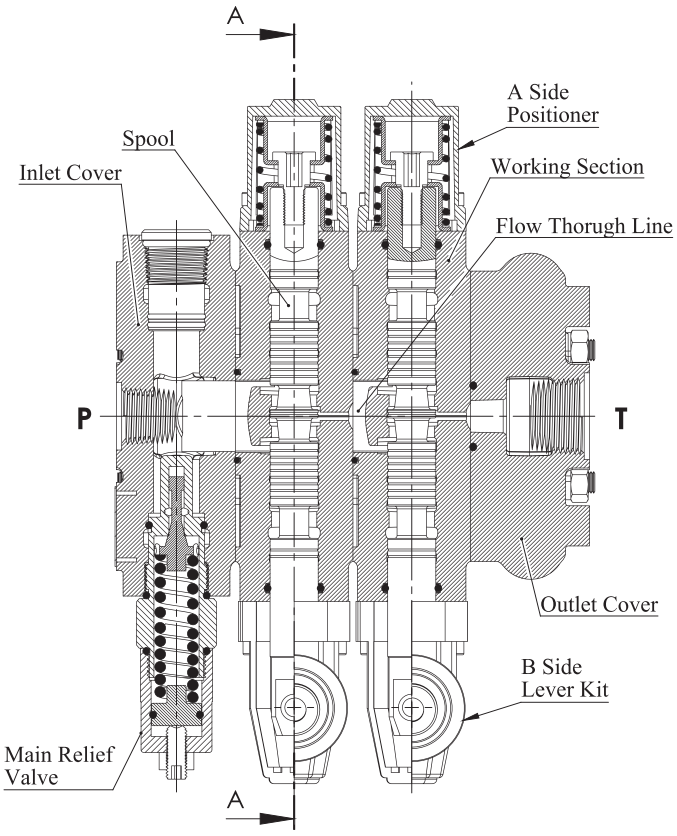

| TYPE | A | | B | | Weight | |
|---|---|---|---|---|---|---|
| | mm | in | mm | in | Kg | lb |
| ORV- PD80-1P | 133 | 5.23 | 88 | 3.46 | 7.58 | 16.71 |
| ORV- PD80-2P | 177 | 6.97 | 132 | 5.19 | 10.96 | 24.16 |
| ORV- PD80-3P | 221 | 8.70 | 176 | 9.93 | 14.34 | 31.61 |
| ORV- PD80-4P | 265 | 10.43 | 220 | 8.66 | 17.37 | 39.06 |
| ORV- PD80-5P | 309 | 12.16 | 264 | 10.39 | 21.10 | 46.51 |
| ORV- PD80-6P | 353 | 13.89 | 308 | 12.12 | 24.48 | 53.96 |
| ORV- PD80-7P | 397 | 16.63 | 352 | 13.85 | 27.86 | 61.41 |
| ORV- PD80-8P | 441 | 17.36 | 396 | 15.19 | 31.24 | 68.86 |
| ORV- PD80-9P | 485 | 19.09 | 440 | 17.32 | 34.62 | 76.31 |
| ORV- PD80-10P | 529 | 20.82 | 484 | 19.06 | 38.00 | 83.76 |
| ORV- PD80-11P | 573 | 22.56 | 528 | 20.79 | 41.38 | 91.21 |
| ORV- PD80-12P | 617 | 24.29 | 572 | 22.52 | 44.76 | 98.66 |

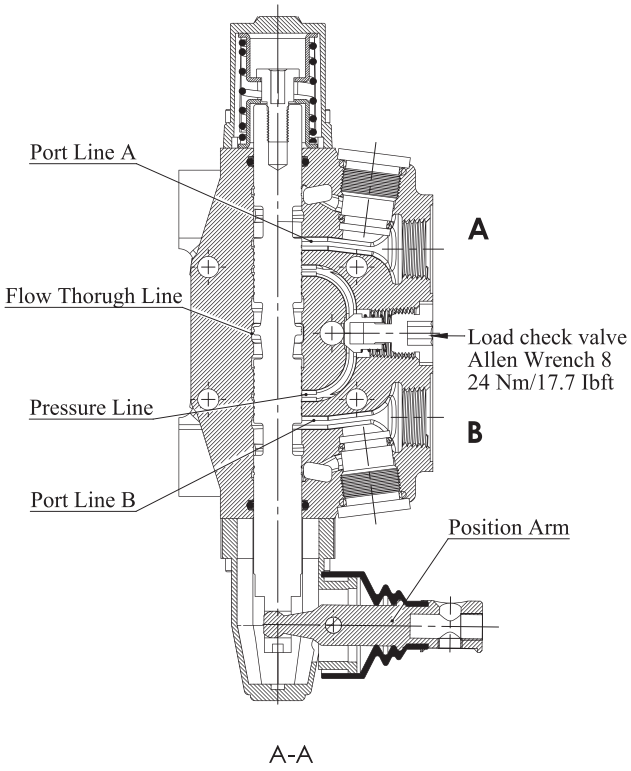
## STANDARD THREADS

| PORT | BSP (Iso 228) 1/2" Series | BSP (Iso 228) 3/4"Series | UN-UNF (Iso 11926-1) | Metric (Iso 262) |
|---|---|---|---|---|
| **P** Inlet | G 1/2 | G 3/4 | 7/8-14 UNF | M27x2 |
| **A-B** Ports | G 1/2 | G 3/4 | 3/4 - 16 UNF | M22x1.5 |
| **T** Outlet | G 3/4 | G 3/4 | 7/8-14 UNF | M27x2 |
| Pneumatic | G 1/4 | G 1/4 | NPTF 1/8 - 27 | NPTF 1/8 - 27 |
| Carry-Over | G 3/8 | G 3/8 | G 3/8 | G 3/8 |

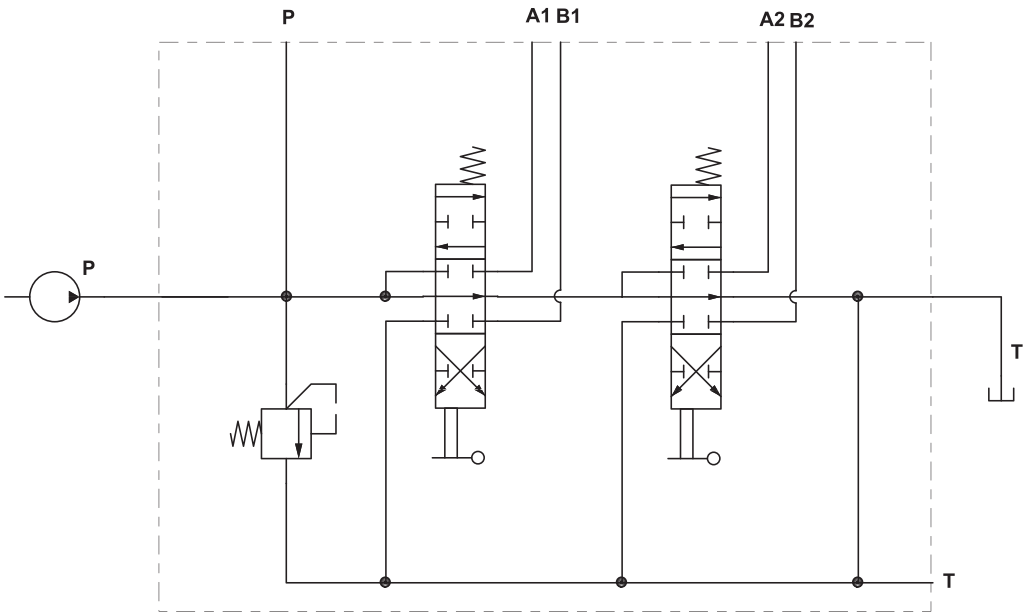
## HYDRAULIC CIRCUIT

### Parallel




A-A

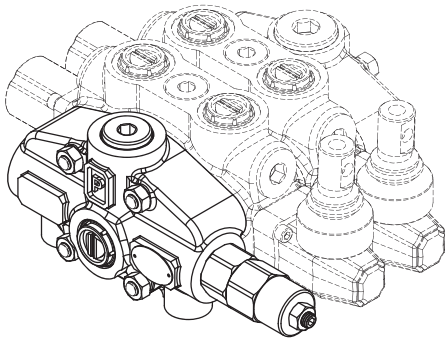



**Code:** ORV PD80-2P (SD(LA)-SMR2-125-PP )/P-1A-STL-SR/ P-1A-STL-SR/ SO-PT1 / SGT

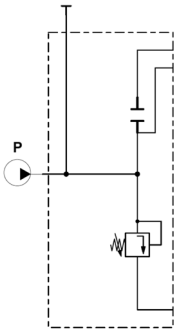
## HYDRAULIC CIRCUIT

### Inlet Cover – Pump Side

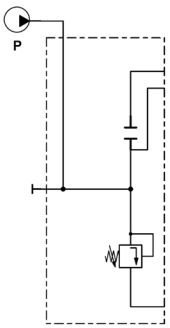
SD - Side inlet with direct pressure relief valve
TD - Top inlet with direct pressure relief valve
SP - Side inlet with relief valve blanking plug



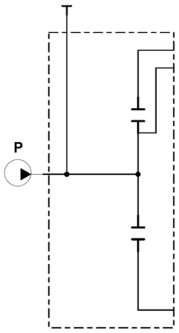
Type = SD




Type = TD

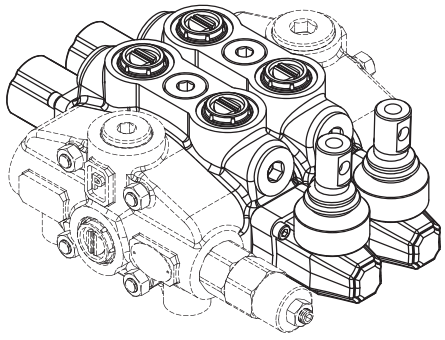



Type = SP

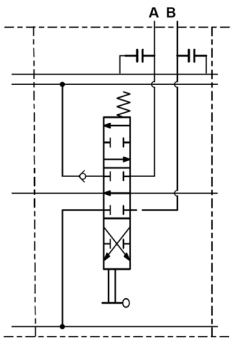



### Working Sections

P – Parallel



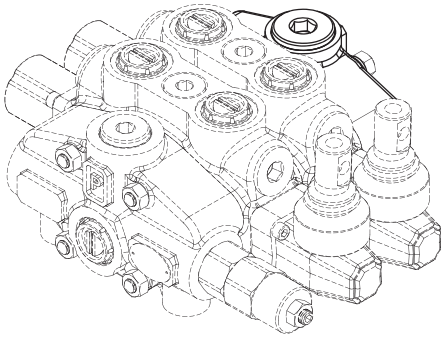
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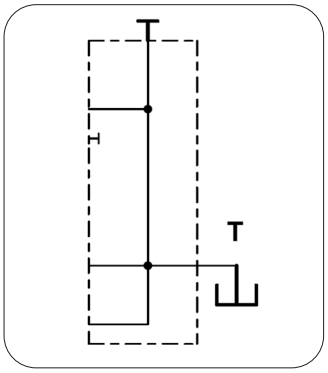
## HYDRAULIC CIRCUIT

### Outlet Cover (Tank Side)

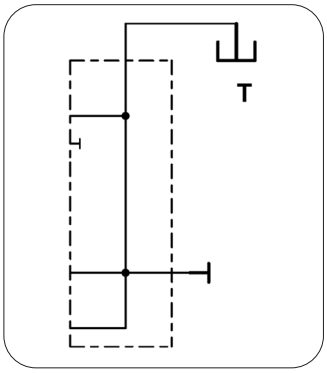
SO - Side outlet
TO - Top outlet
TCO - Top outlet with carry-over
TC - Top outlet with closed centre



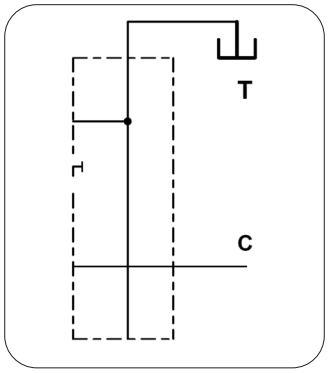
Type = SO



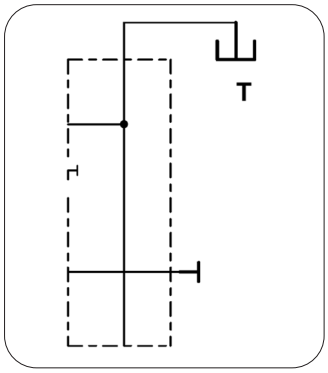

Type = TO

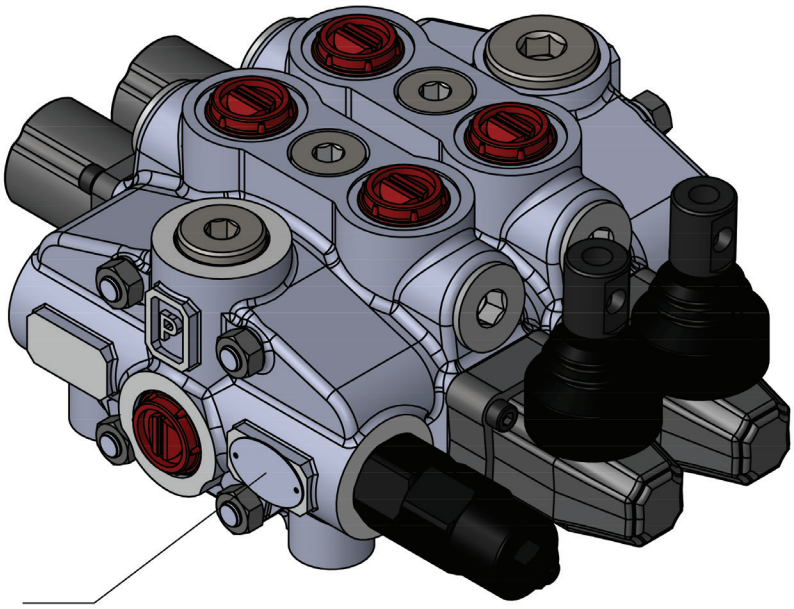



Type = TCO




Type = TC

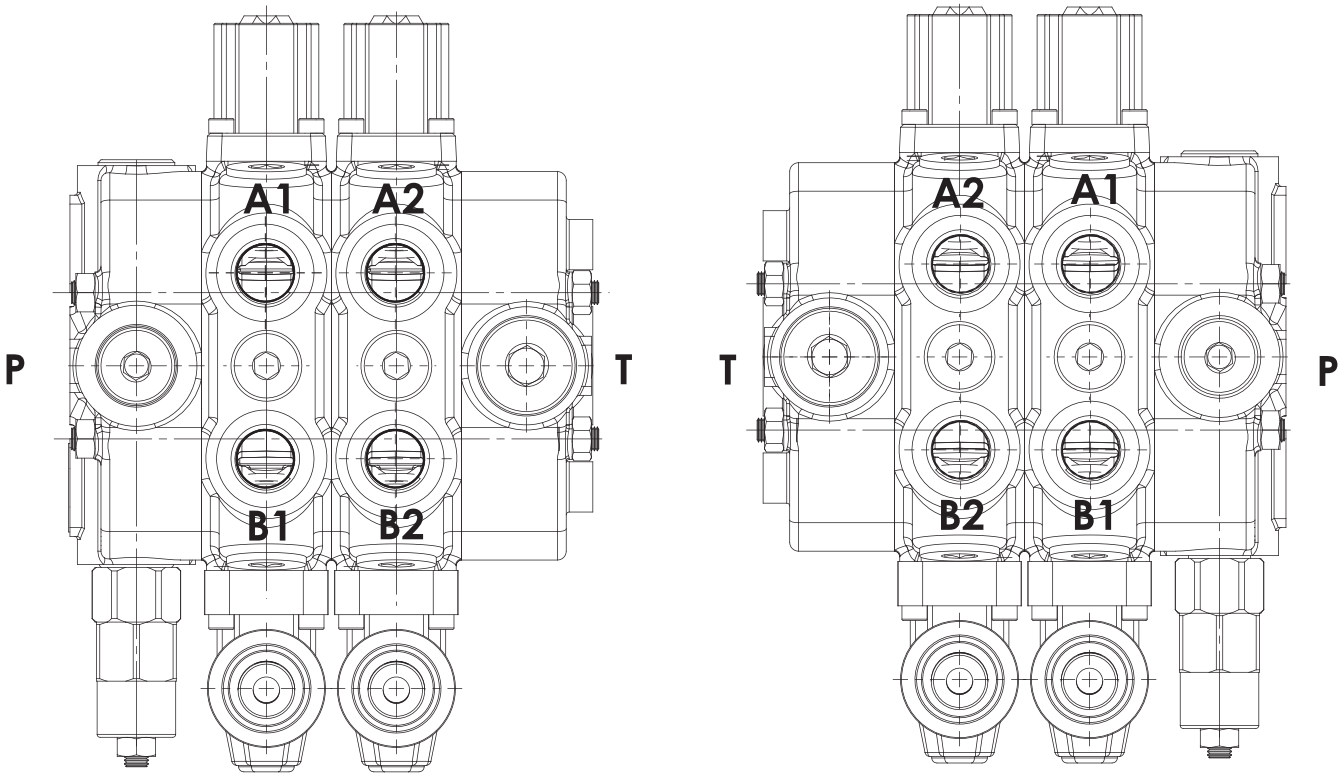


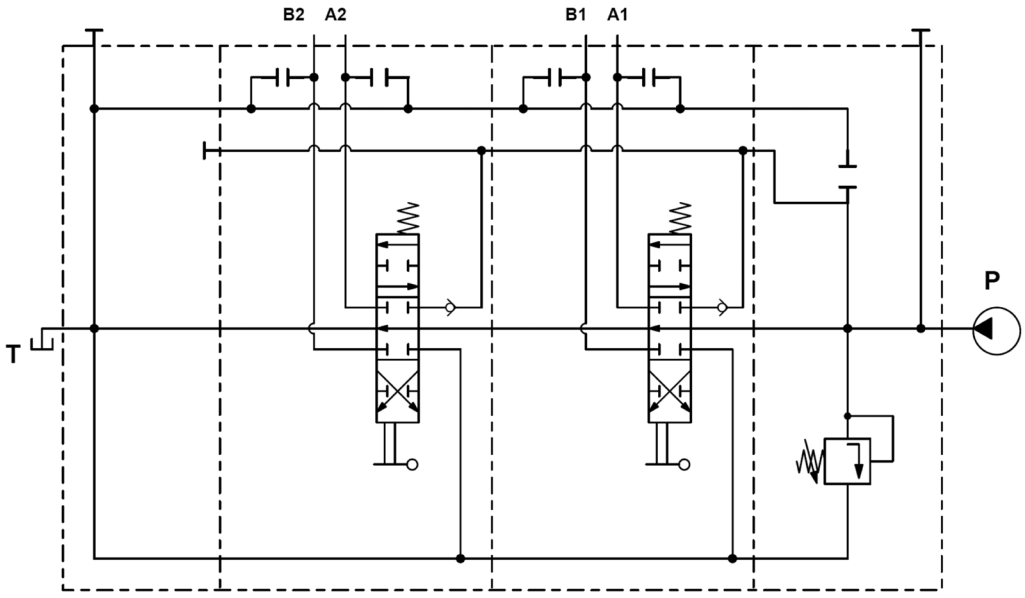



## HYDRAULIC CIRCUIT

### Standard Configurations With Top Inlet And Outlet Ports - RH (Right Inlet)

A symetrical body allows the reverse assembly of spool.

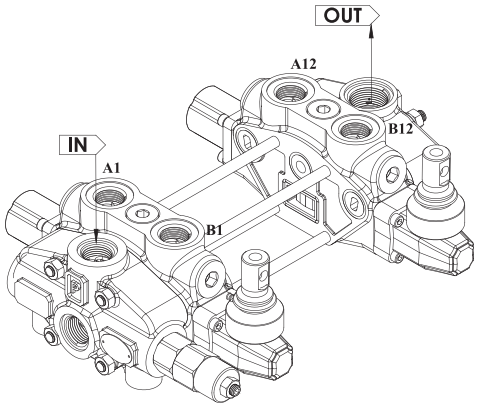


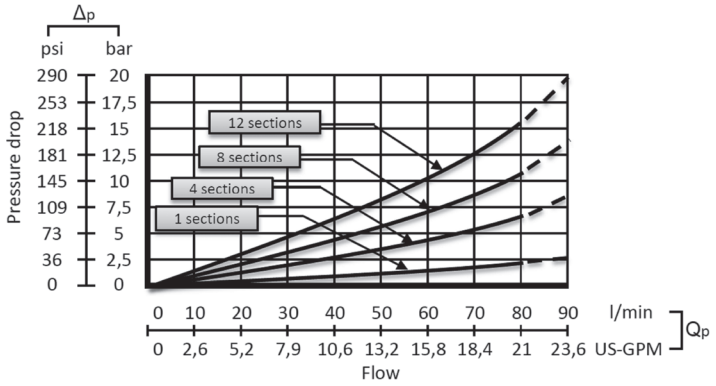




**Code:** ORV PD80-2P (SD(RA)-SMR2-125-PP )/P-1A-STL-SR/ P-1A-STL-SR/ SO-PT1 / SGT

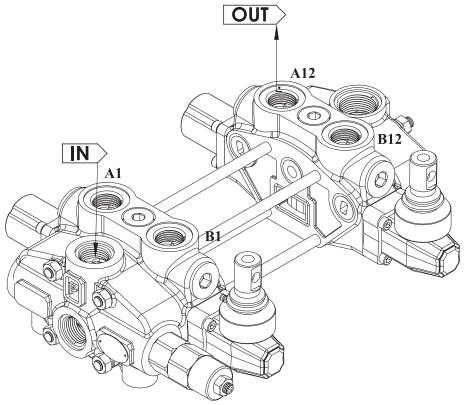
## PERFORMANCE DATA AND CURVE

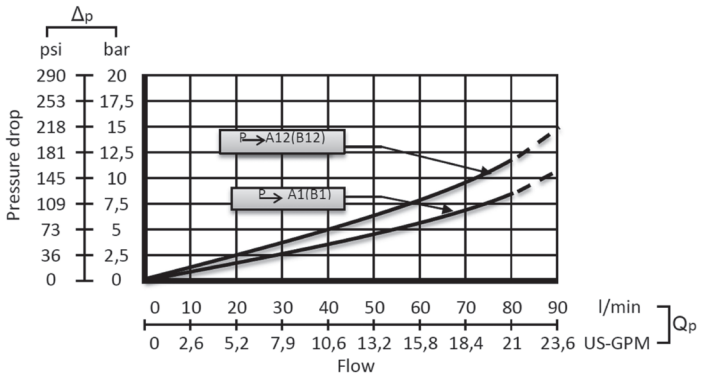
### Open Center - Pressure Drop (P-T)



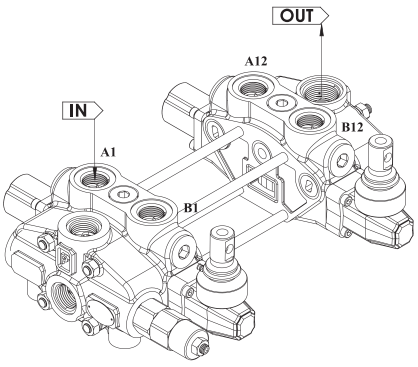



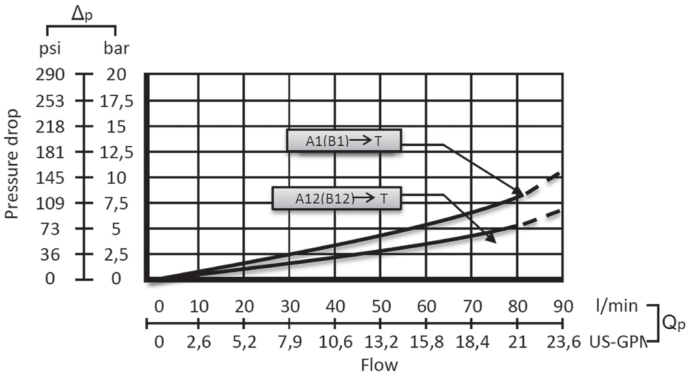

### Inlet to Work Port - Pressure Drop (P-A/B)




### Work Port to Outlet - Pressure Drop (A/B-T)



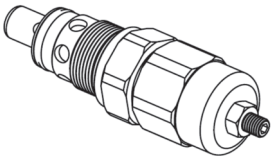
# INLET RELIEF OPTIONS

## Direct Pressure Relief Valve

**Code:**

**SMR2 – 125**

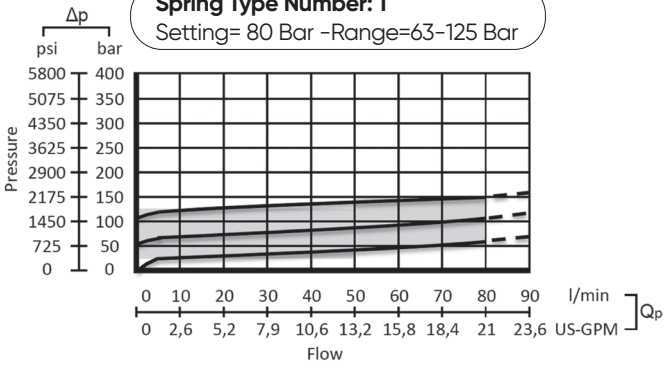
- Pressure Setting Bar in (Standard 125 bar)
- Standard Main Relief Spring Type -2



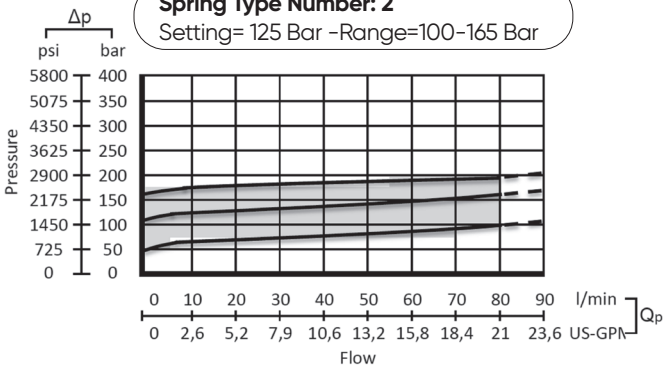



## Performance Data

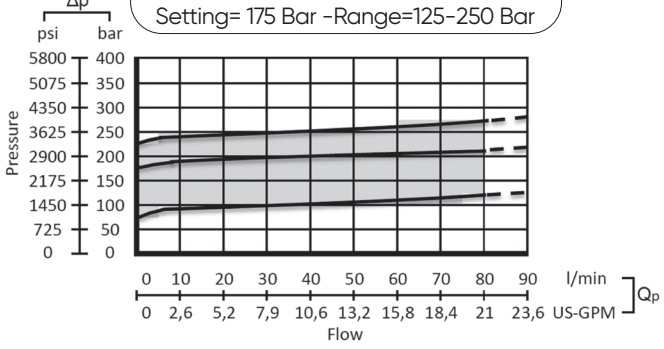
**Spring Type Number: 1**
Setting= 80 Bar -Range=63-125 Bar



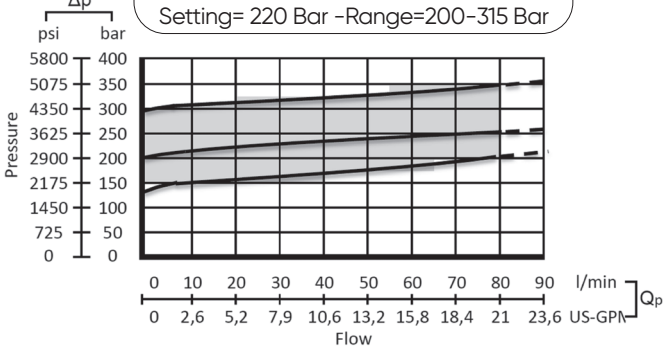

**Spring Type Number: 2**
Setting= 125 Bar -Range=100-165 Bar



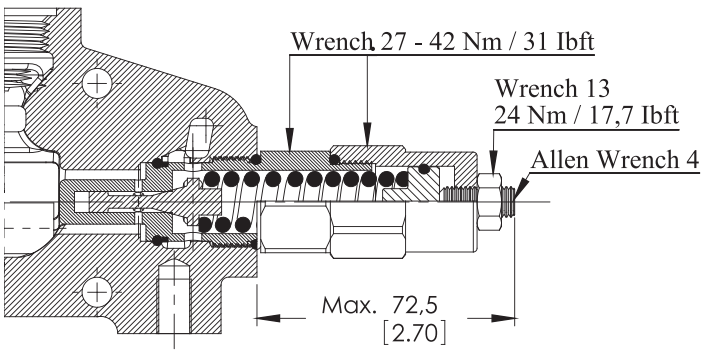

**Spring Type Number: 3**
Setting= 175 Bar -Range=125-250 Bar

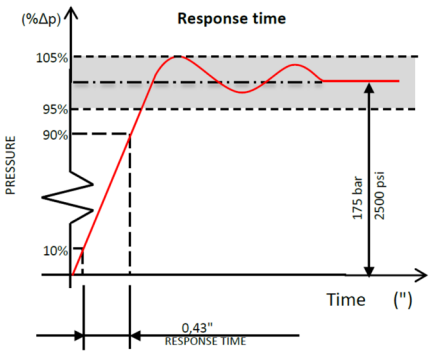



**Spring Type Number: 4**
Setting= 220 Bar -Range=200-315 Bar




## Adjustment Type on Valve



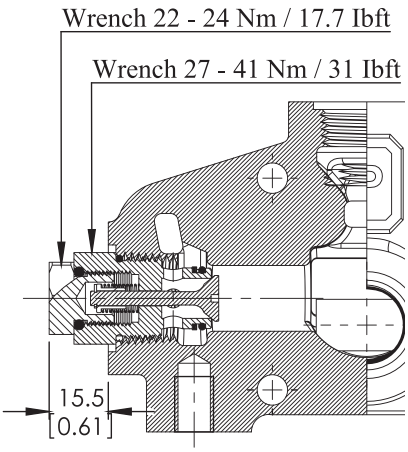



## INLET RELIEF OPTIONS

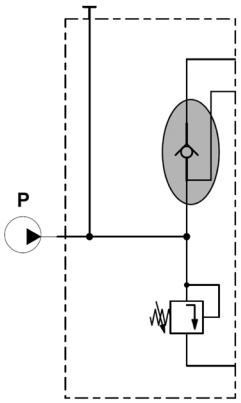
### Direct Pressure Relief Valve

Kit No: **PAC**

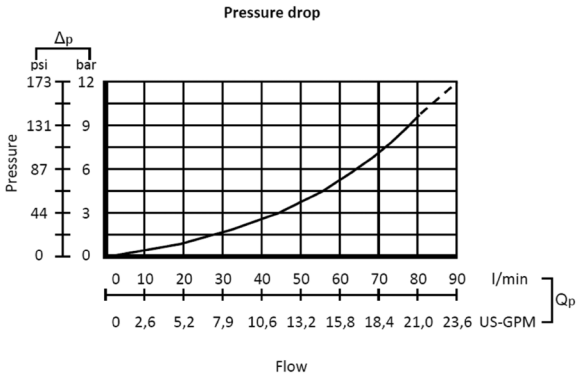
Sectional Appearance



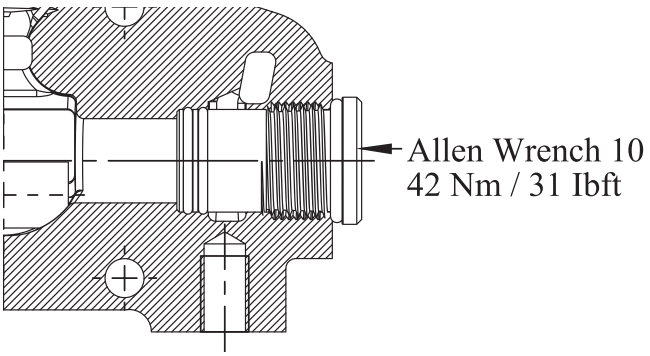

Diagram

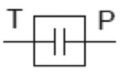



Performance Data




### Relief Blanking Plug - SP

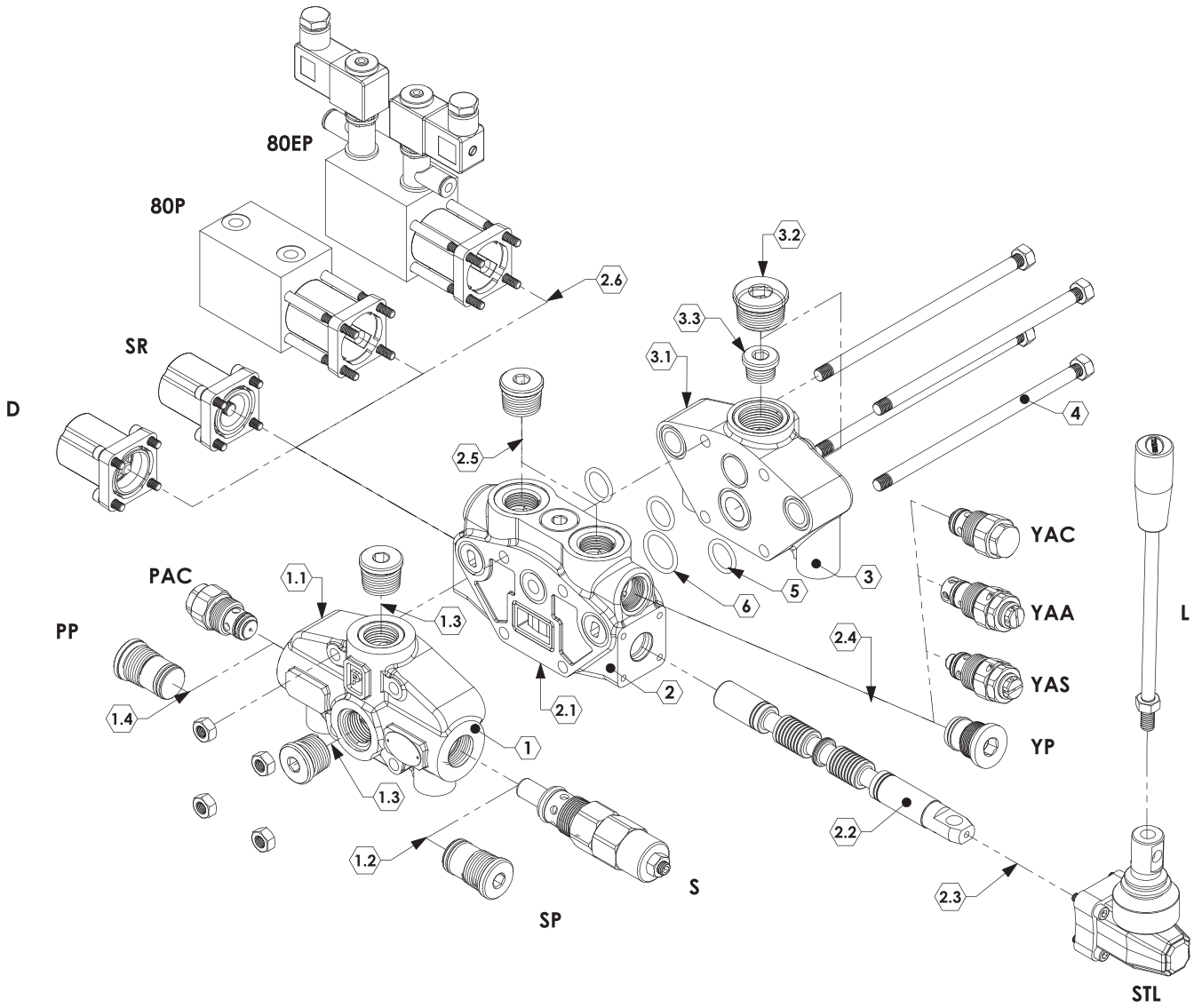


## ORDERING CODES

### Order Example

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2.2 | | 2.4 | | | | | | 3.2 | |
| ORV PD80-2P | ( | SD-SMR2-125-PP | ) | / | P-1A- | STL- | YAC-SR | / | P-1A-STL-80P | / | SO-PT1-CO | / | SGT | |
| | | 1 | 1.2 | 1.4 | 2.1 | 2.3 | 2.6 | | | | 3.1 | | 3.3 | |
| Base Code "0" | | | | | 1 st Section | | | | Following Section | | Output Section | | | |



# ORDERING CODES

## 1- Inlet Section

ORV PD80-2P PD80 = Valve Type-(PD)- Sectional
(80) - Max. Flow Rate
2P =Sections Quantity
SD = Side inlet with direct pressure relief valve (1SD80100)
TD = Top inlet with direct pressure relief valve (1TD80100)
SP = Side inlet with relief valve blanking plug (1SP80100)

## 2- Working Section

**P** = Parallel (2P80100)

## 3- Output Section

**SO** = Side outlet (3SO80100)
**TO** = Top outlet (3TO80100)
**TCO** = Top outlet with carry-over (3TCO80100)
**TC** = Top outlet with closed centre (3TC80100)

## 4- Assembling Kit

Tie rod kit for 1 section valve - (4TRK180100)
Tie rod kit for 2 section valve - (4TRK280100)
Tie rod kit for 3 section valve - (4TRK380100)
Tie rod kit for 4 section valve - (4TRK480100)
Tie rod kit for 5 section valve - (4TRK580100)
Tie rod kit for 6 section valve - (4TRK680100)
Tie rod kit for 7 section valve - (4TRK780100)
Tie rod kit for 8 section valve - (4TRK880100)
Tie rod kit for 9 section valve - (4TRK980100)
Tie rod kit for 10 section valve - (4TRK1080100)
Tie rod kit for 11 section valve - (4TRK1180100)
Tie rod kit for 12 section valve - (4TRK1280100)

## 5-6- O_Ring Kit

**5.** -17.00x2.65 NBR 70 SH O-Ring seal (3 Qty.) (5MK80100)
**6.** -22.40x2.65 NBR 70 SH O-Ring seal (1 Qty.) (6MK80100)

## 1.*-Inlet Options

**1.1 Inlet Cover**
**Body** = Standard (11BS80100)
**1.2 Inlet Relief**
**SMR1**-080 – (12SMR180080)–Range 63-125 bar
Setting 80 bar
**SMR2**-125 – (12SMR280125)– Range 100-160 bar
Setting 125 bar
**SMR3**-175 – (12SMR380175)– Range 125-250 bar
Setting 175 bar
**SMR4**-220 – (12SMR480220)–Range 200-315 bar
Setting 220 bar
**1.3 Ports Plug**
**PA1** =G1/2 Top and side input - (13PA080100)
**PA2**= G3/4 Top and side input –(13PA280100)
**1.4 Inlet Valve**
**PAC** =Inlet anti-cavitation valve –(14PAC80100)
**PP(SP)** = Relief valve blanking plug –(14PSP80100)

## 2.*- Working Options

**2.1 Working Section**
**PA** = Without ports valve prearrangement, with parallel circuit - Body (21BSPA80100)
**2.2 Spool Options**
1A -(22SS80110) – 3 Positions ,Double acting
2A -(22SS80120) – 3 Positions ,Double acting
A to tank B Blocked
3A -(22SS80130) – 3 Positions ,Double acting
B to tank A blocked
4A -(22SS80140) – 3 Positions ,Double acting
A and B tank
5A -(22SS80150) – 3 Positions ,Single acting on
A (A to tank)
6A -(22SS80160) – 3 Positions ,Single acting on
B (B to tank)
**2.3 Lever Options**
**L** = Standard HandLever (L=120mmxM8) - (7L040100)
**JL** =Joystick lever for two sections operation (5JL 080100)
**STL** = Standard Lever –(23STL80100)
**HL** = Remote Cable Kit – (80HL80100)
**2.4 Port Relief Valves**
**Anti-Shock Valve**
**YAS (T1-50)** – (24YAC80050)–Range 35-70 bar
Setting 50 bar
**YAS (T1-100)** – (24YAC80100)–Range 63-220 bar
Setting 100 bar
**YAS (T1-200)** – (24YAC80200)–Range 180-350 bar
Setting 200 bar
**Anti-Shock and Anti-Cavitation Valve**
**YAA (T1-63) – (24YAA80063)**–Range 35-70 bar
Setting 50 bar
**YAA (T1-100) – (24YAA80063)**–Range 63-220 bar
Setting 100 bar
**YAA (T1-200) – (24YAA80063)**–Range 180-350 bar
Setting 200 bar
**YAC** - Anti Cavitation– (24YAS80100)
**YP**- A and B ports valve blanking plug (24YP80100)
**DST**-A and B ports valve blanking plugs with
connection to tank–(24DST80100)
**2.5 Ports Plug Options**
**PL1** =Plug for single action spool for 2A-3A, G1/2
(25PL180100)
**PL2** =Plug for single action spool for 2A-3A, G3/4
(25PL280100)
**2.6 Spool Positioners**
**SR**=Spring Return in neutral position – (26SR80100 )
**D** =Detent in position 1, neutral and 2 -(26D80100)
**80P**=ON/OFF Pneumatic – (2645P150100)
**80EP**=12 VDC ON/OFF electro-pneumatic
(2680EP150112)
**80EH=** 12 VDC/24 VDC ON/OFF electro-hydraulic
(3680EH100112)

## 3.*- Working Options

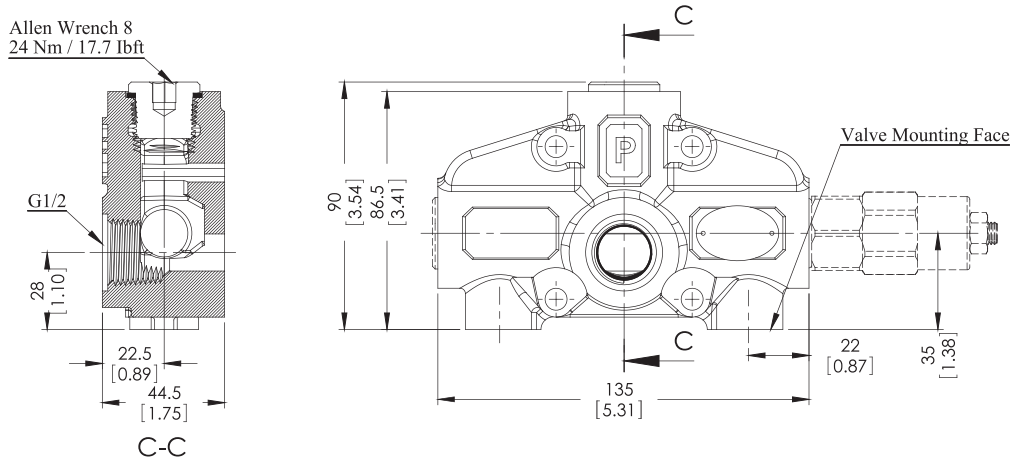
**3.1 Working Section**
**Body** = Standard (31BS80100)
**3.2 Output Plug**
**PT1** =G3/4 Top and Side output (32PT180100)
**3.3 Circuits Options**
**CO** =G3/8 Carry–Over Connector (33CO80100)

## INLET COVER- PUMP SIDE

### LH Inlet Valve Options

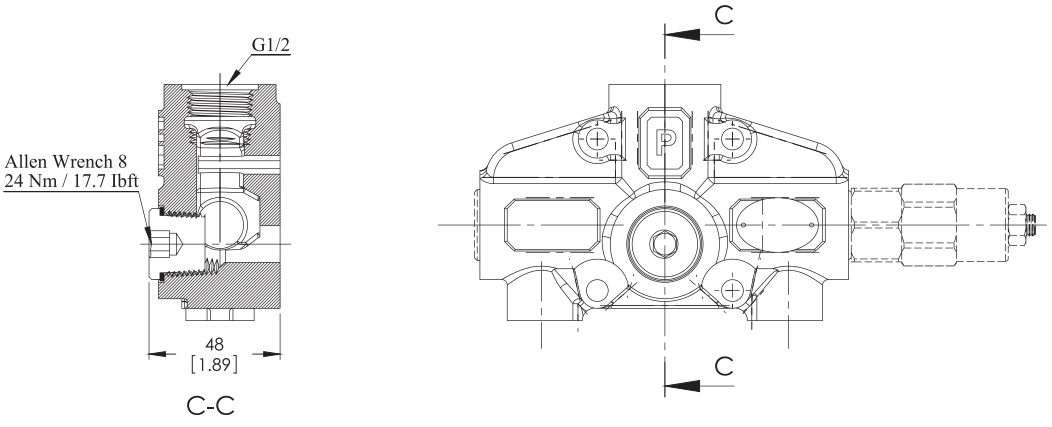
#### Type No: **SD**

Sectional Appearance



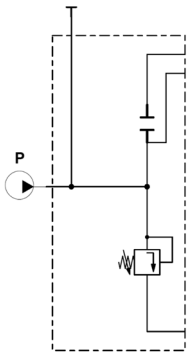

#### Type No: **TD**

Sectional Appearance

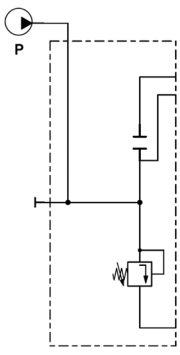



### Hydraulic Diagram

#### Type No: **SD**




#### Type No: **TD**

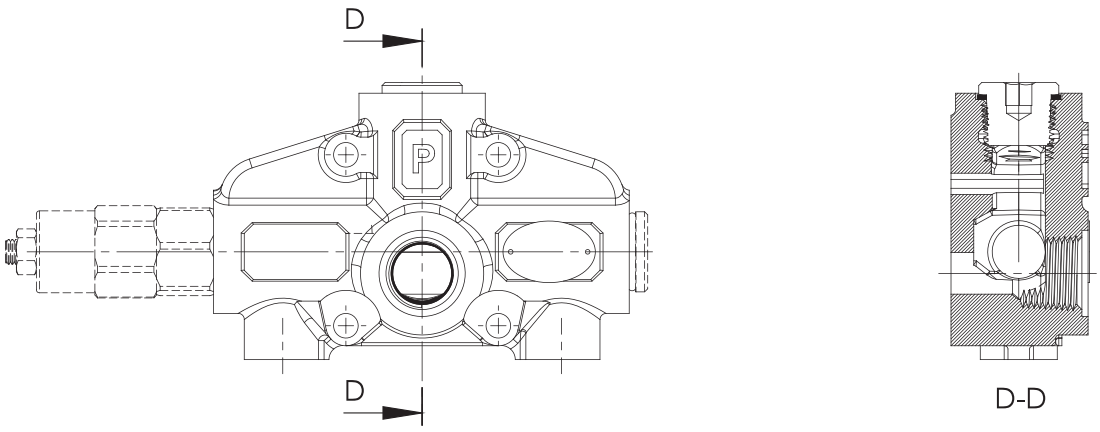


## INLET COVER- PUMP SIDE

### RH Inlet Valve Options

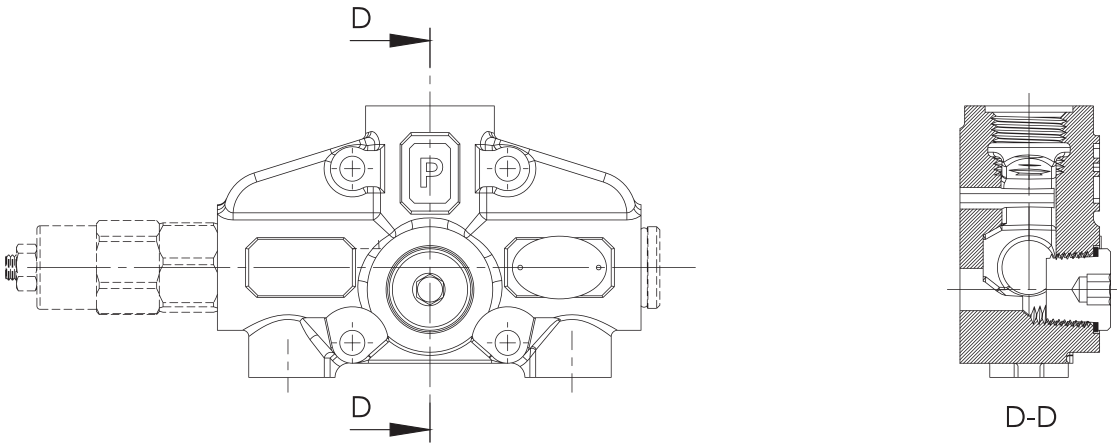
Type No: **RA**

Sectional Appearance



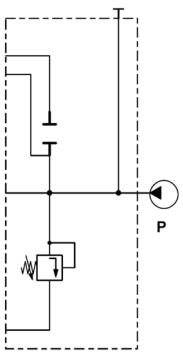

Type No: **RB**

Sectional Appearance

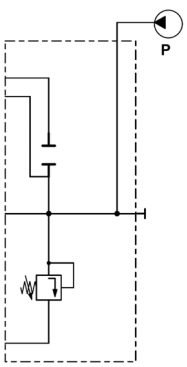



### Hydraulic Diagram

Type No: **RA**

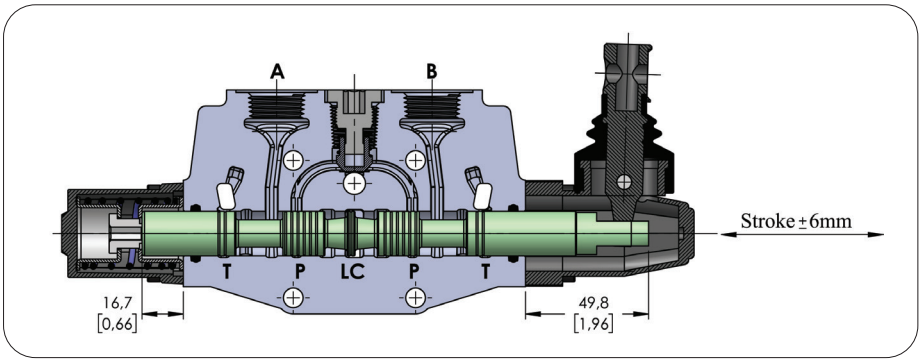


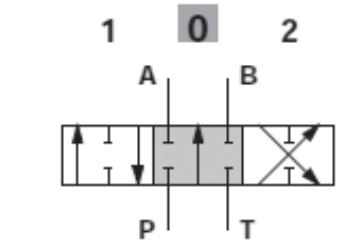

Type No: **RB**

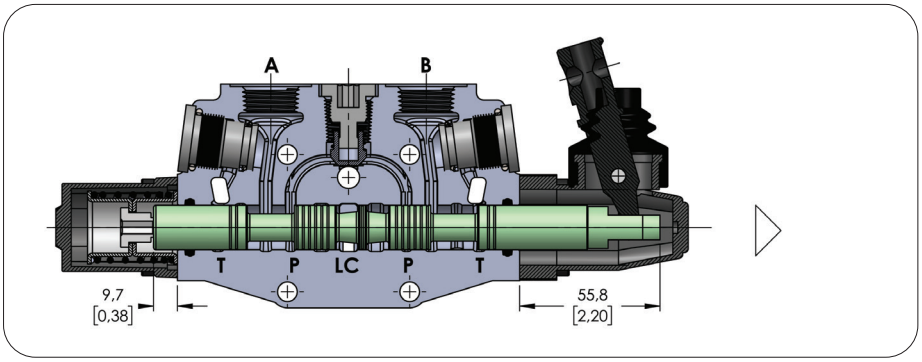


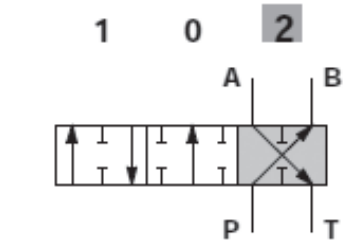
## SPOOL OPTIONS

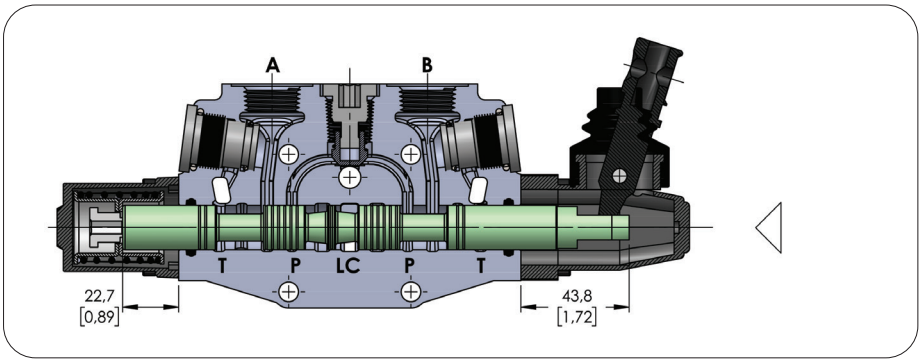
### Spool Type - 1A

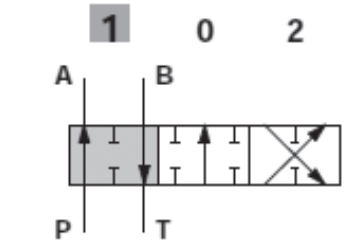


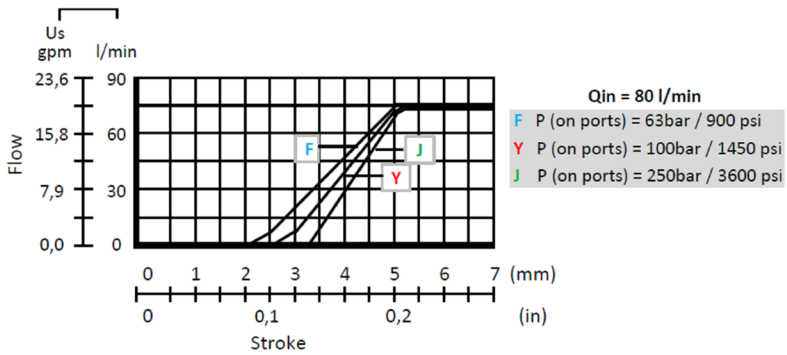



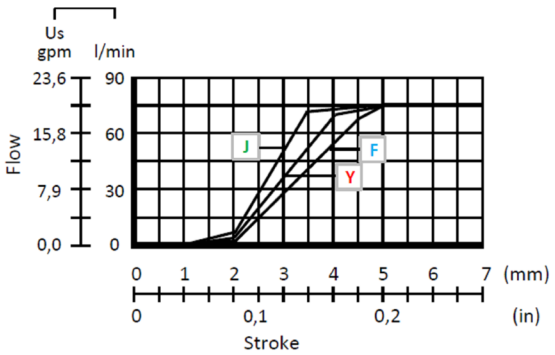



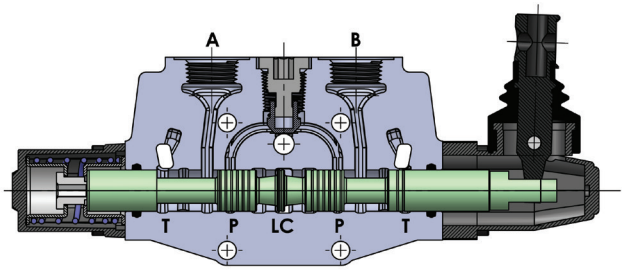

## Performance Curve And Data

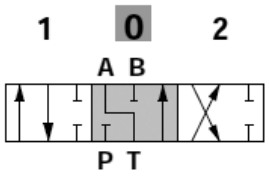


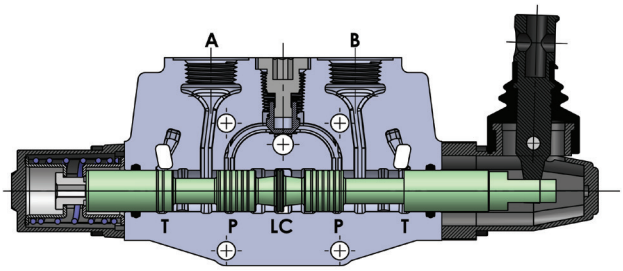
## SPOOL OPTIONS

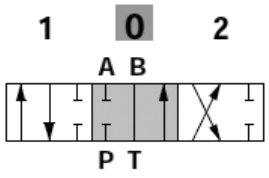
### Spool Type - 2A



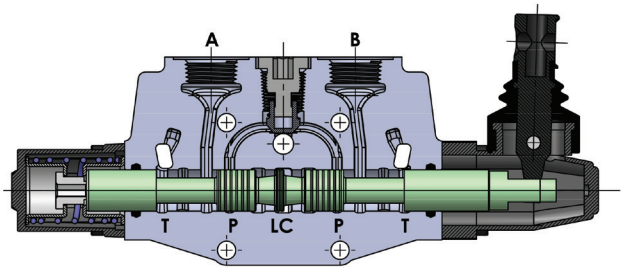



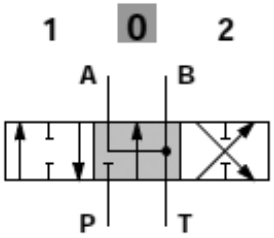

### Spool Type - 3A



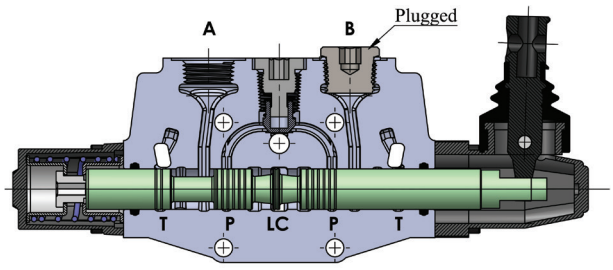



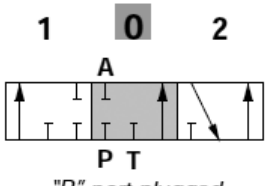

### Spool Type - 4A



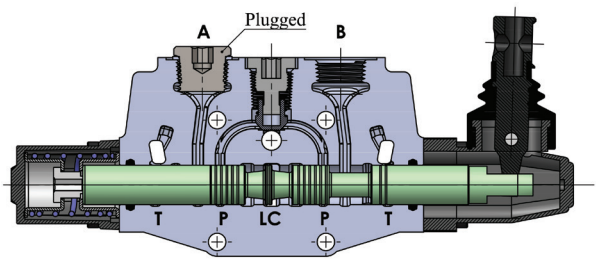

### Spool Type - 5A

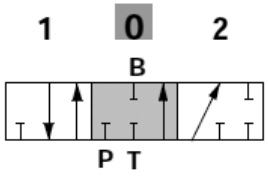



*"B" port plugged*

### Spool Type - 6A



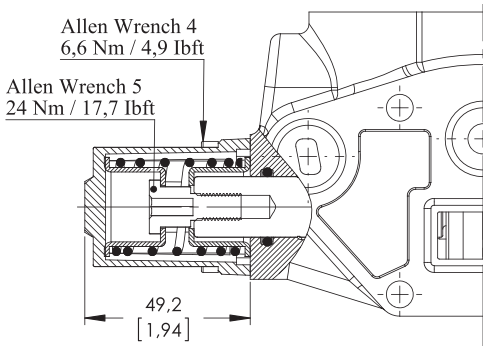

*"A" port plugged*

## SPOOL POSITIONERS – SIDE OF RETURN

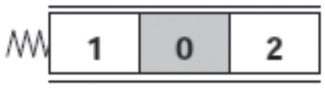
### With Spring Return in Neutral Position

Kit No: **SR**

Sectional Appearance



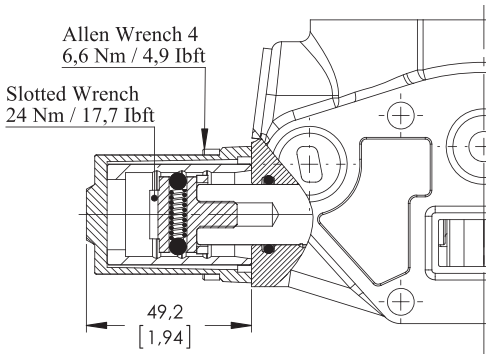

Diagram



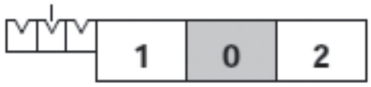

### With Detent

Kit No: **D**

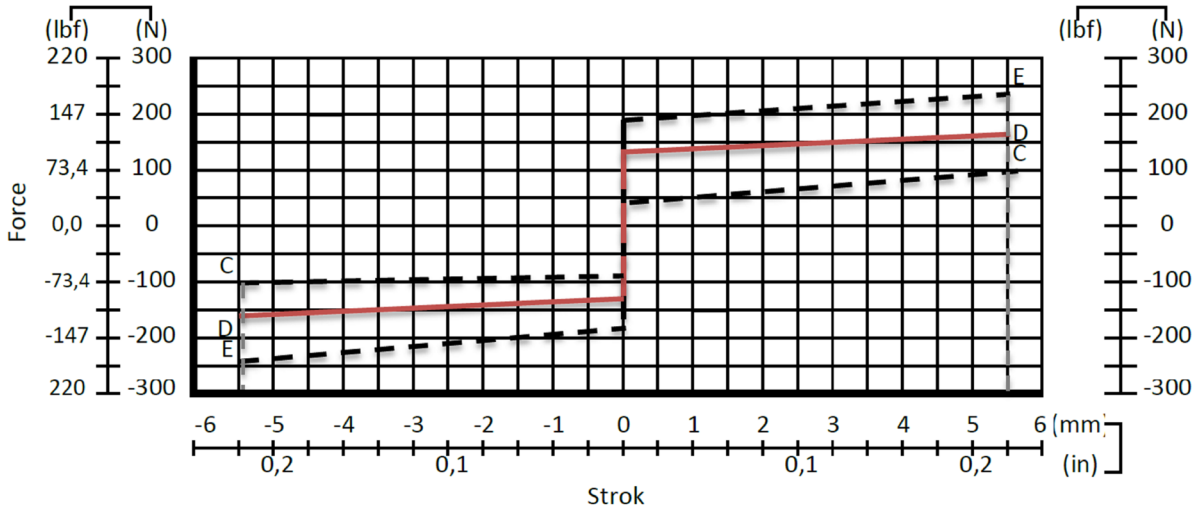
Sectional Appearance




Diagram




**Force - stroke diagram**

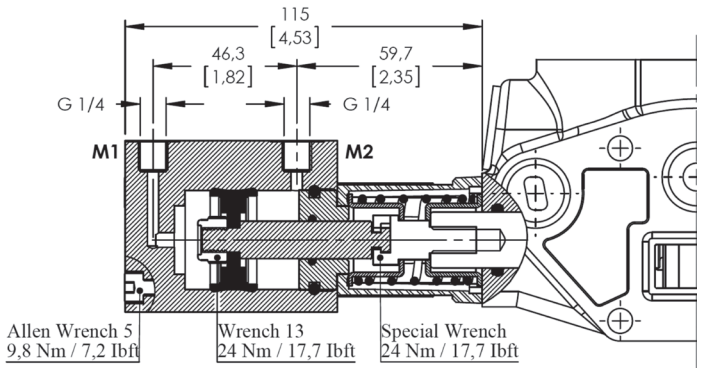


## SPOOL POSITIONERS – SIDE OF RETURN

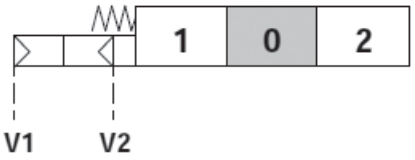
### ON/OFF Pneumatic Control

Kit No: **80P**

Sectional Appearance




Diagram

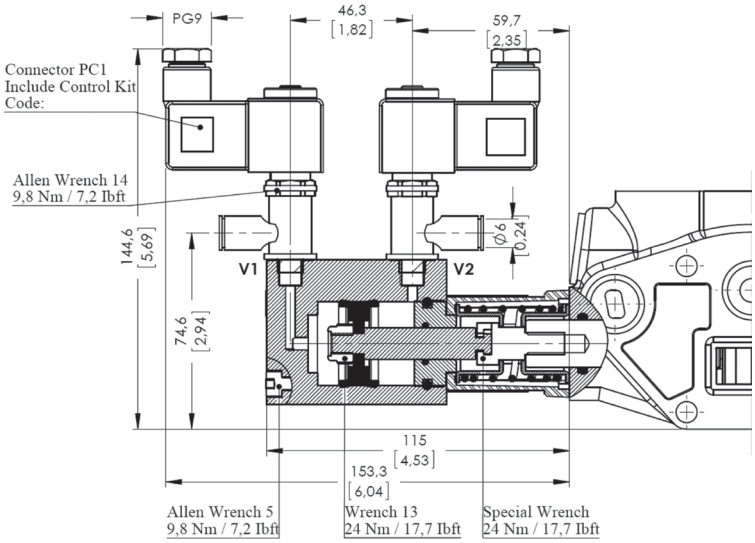



**Operating Features**
Pilot Pressure .....: 6 Bar (Max. 10) / 87 Psi (Max. 145)

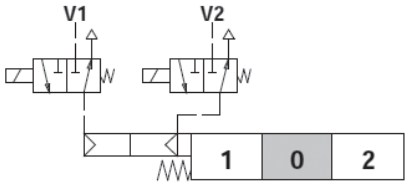
### ON/OFF Electro-Pneumatic Control

Kit No: **80EP**

Sectional Appearance




Diagram



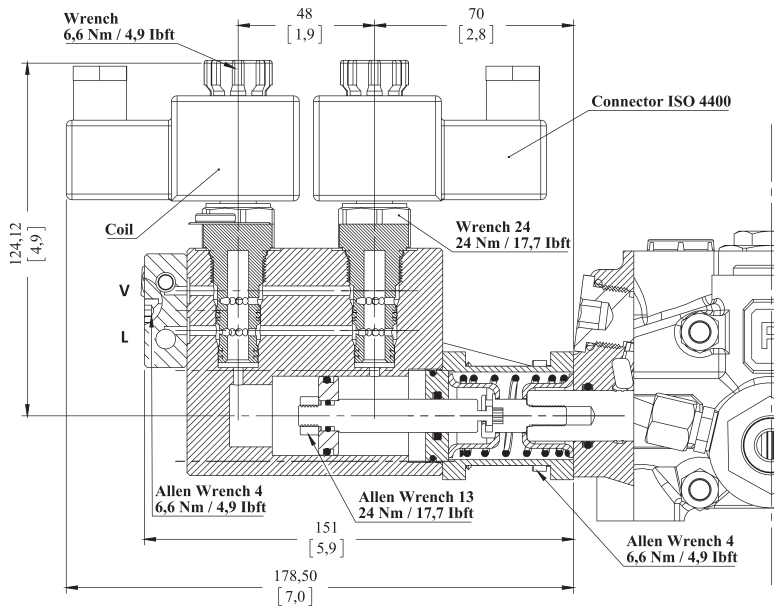

**Operating Features**
Pilot Pressure .....: 6 Bar (Max. 10) / 87 Psi (Max. 145)
**Selenoid Operating Features**
Nominal Voltage.....: 12VDC / 24 VDC
Power Rating.....: 6 W

# SPOOL POSITIONERS – SIDE OF RETURN

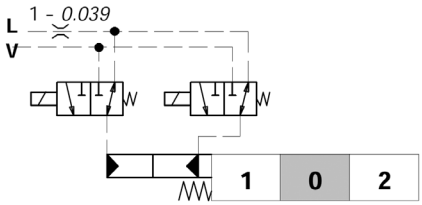
## ON/OFF Electro - Hydraulic Control

Kit No: **80EH**

### Sectional Appearance




### Diagram




**Operating Features**

Pilot Pressure .....: 10 Bar / 145 Psi
: 50 Bar / 725 Psi
Max back pressure on drain L....:25 Bar / 360 Psi

**Selenoid Operating Features**

Coil Connection.....: ISO 4400
Nominal voltage.....: 12 VDC / 24 VDC
Power rating.....: 21 W
Duty cycle.....: %100
Protection type.....: IP 65
Nominal voltage tolerance.....: ±10
Max temperatures.....: 100 C°
Stroke.....: ±5,5 mm

## ORDER CODE

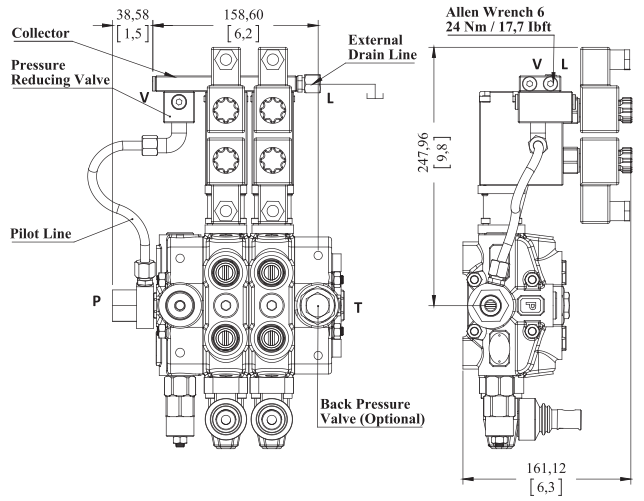
| External Pilot Collector | Standard Pilot Collector |
|---|---|
| COL 11 - 10COL1001 – Kit For Section 1 | COL 21 - 10COL2001 – Kit For Section 1 |
| COL 12 - 10COL1001 – Kit For Section 2 | COL 22 - 10COL2001 – Kit For Section 2 |
| COL 13 - 10COL1001 – Kit For Section 3 | COL 23 - 10COL2001 – Kit For Section 3 |
| COL 14 - 10COL1001 – Kit For Section 4 | COL 24 - 10COL2001 – Kit For Section 4 |
| COL 15 - 10COL1001 – Kit For Section 5 | COL 25 - 10COL2001 – Kit For Section 5 |
| COL 16 - 10COL1001 – Kit For Section 6 | COL 26 - 10COL2001 – Kit For Section 6 |
| COL 17 - 10COL1001 – Kit For Section 7 | COL 27 - 10COL2001 – Kit For Section 7 |
| COL 18 - 10COL1001 – Kit For Section 8 | COL 28 - 10COL2001 – Kit For Section 8 |

# SPOOL POSITIONERS – SIDE OF RETURN

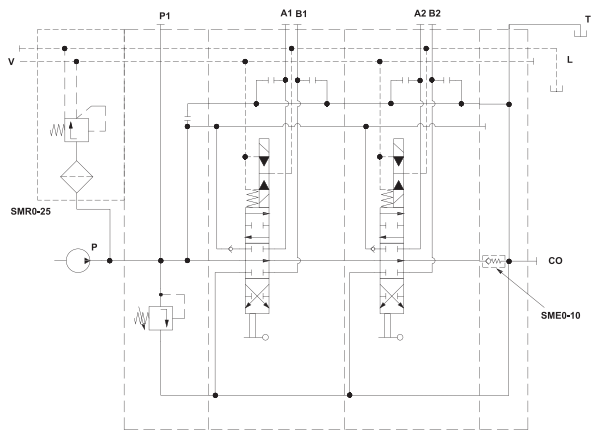
## ON/OFF Electro - Hydraulic Control Connections

### Connection Type 1: **Collector kit for external pilot and drain**

Sectional Appearance



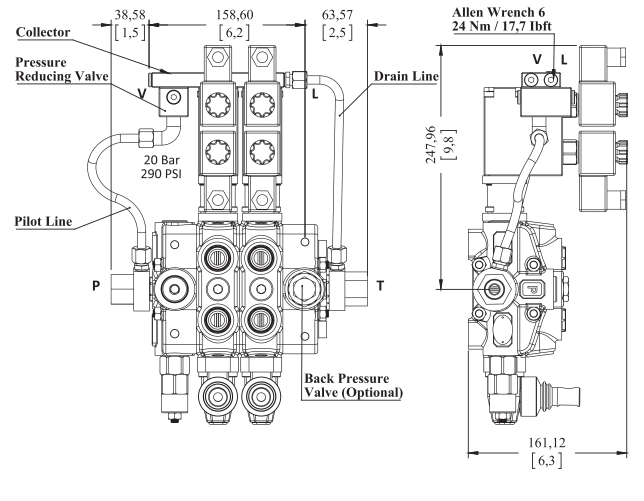

Diagram



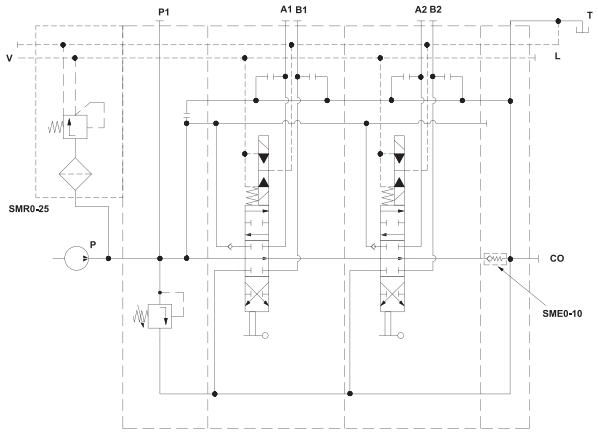

**Operating Features**
External Pressure Reducing Valve .....: 20 Bar / 290 Psi (For V line)
Code= ORV PD80-2P (SD(LA)-SMR2-125-PP )/P-1A-STL-80EH/ P-1A-STL-80EH (SMR0 -COL12-12V)/ SO-PT1 / SGT

### Connection Type 2: **Collector kit with pilot and drain lines**

Sectional Appearance




Diagram



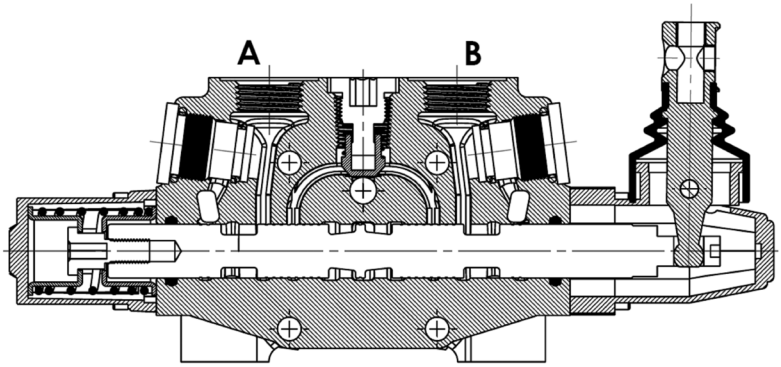

**SMR 0-25 Valve Operating Features (Pressure reducing valve)**
Outlet Pressure .....: 20 Bar / 290 Psi
Max. Flow.....: 8 l/min
Filtering .....:80 µ
Code= ORV PD80-2P (SD(LA)-SMR2-125-PP )/P-1A-STL-80EH/ P-1A-STL-80EH (SMR0 –COL22-12V)/ SO-PT1 / SGT

## WORKING SECTION KIT

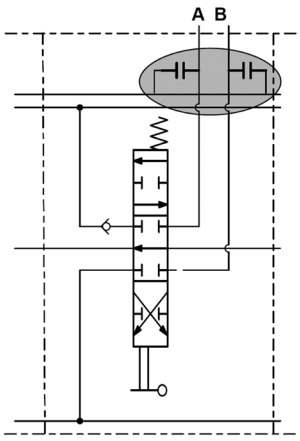
### With Port Valves Type

Kit No: **P**

Sectional Appearance



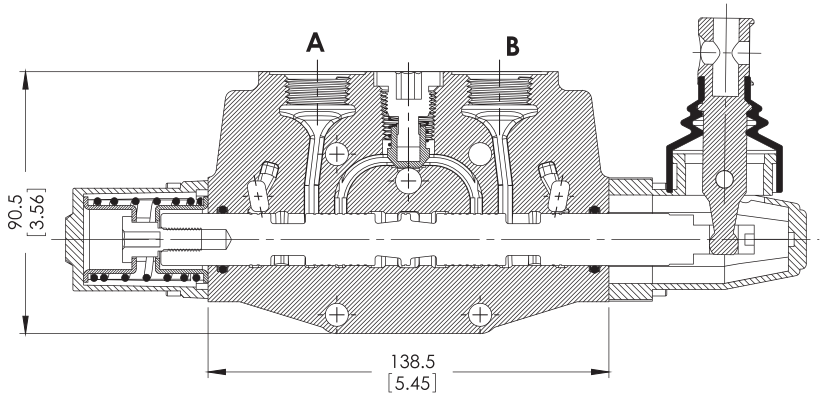

Diagram



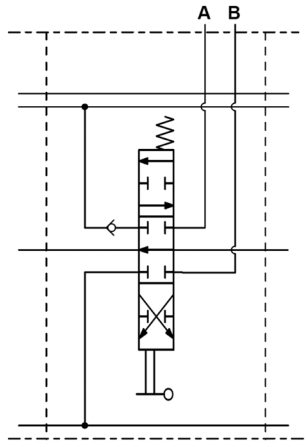

### Without Port Valves Type

Kit No: **PA**

Sectional Appearance




Diagram

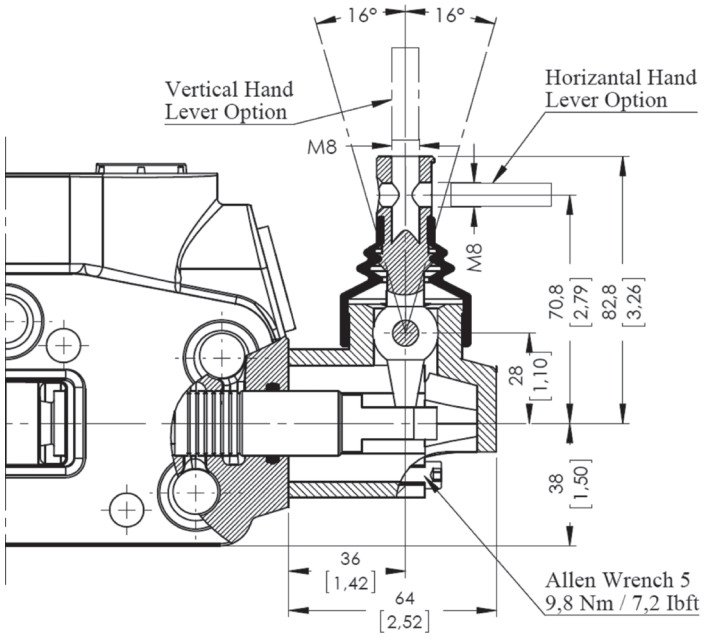


## SPOOL POSITIONERS – SIDE OF LEVER CONTROL

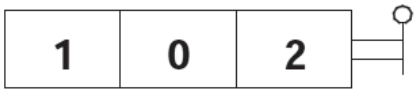
### Lever Controls

Kit No: **STL - L0**

Sectional Appearance

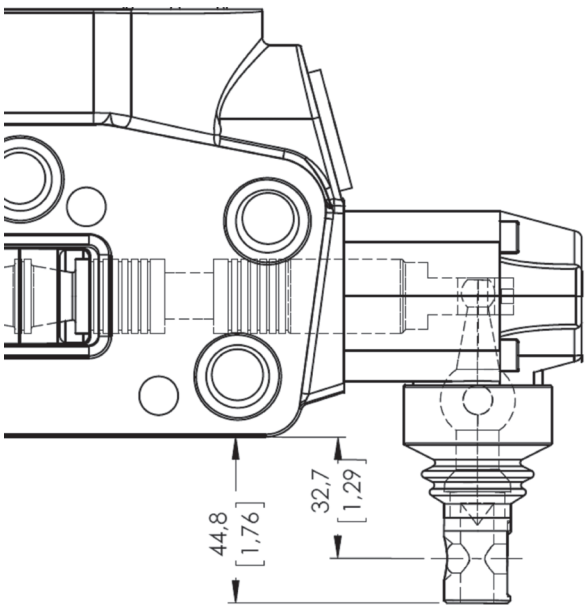



Diagram




Kit No: **STL - L180**

Sectional Appearance




Diagram



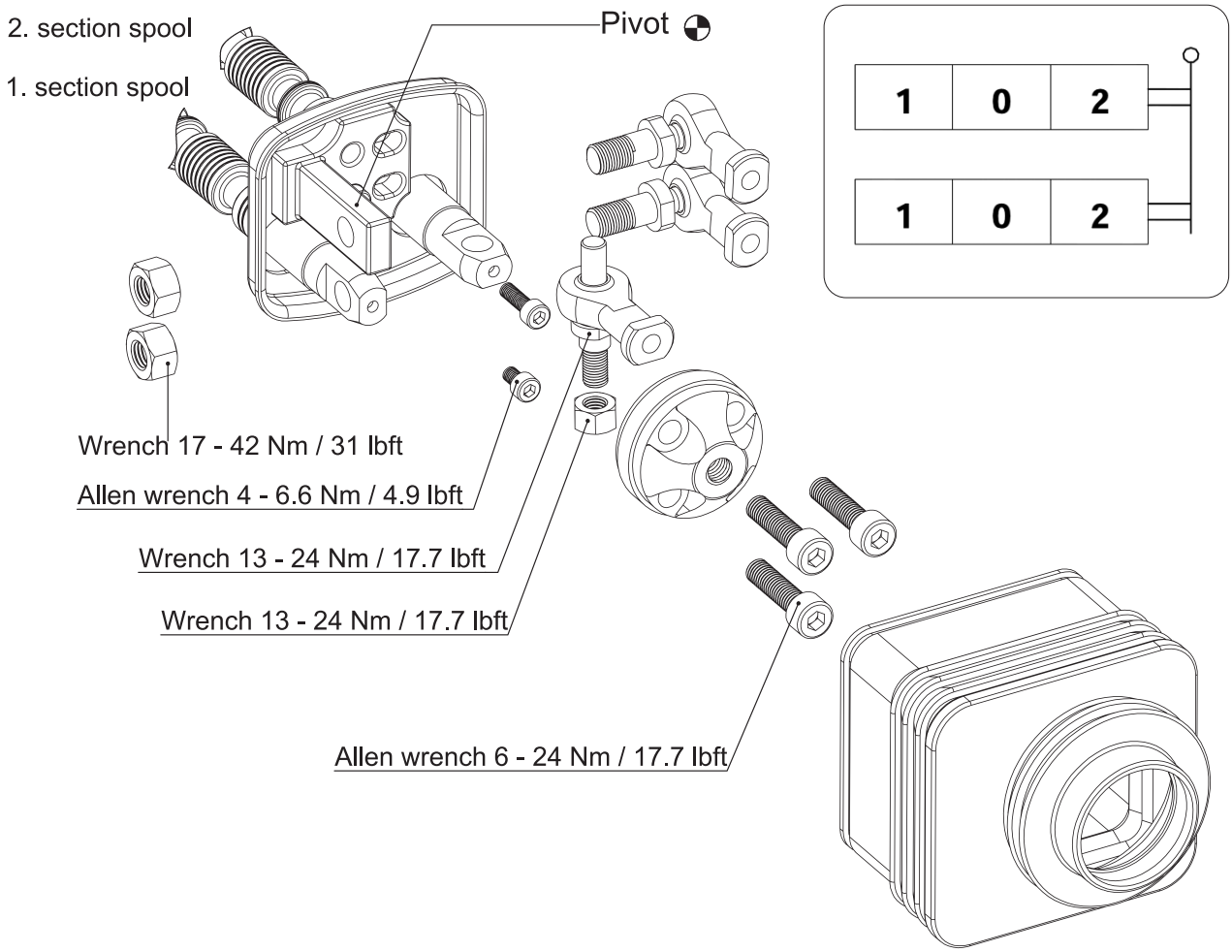

**Note:** Arm lever pivot box is aluminium cap protected. And it can be rotated 180º.

## SPOOL POSITIONERS – SIDE OF LEVER CONTROL

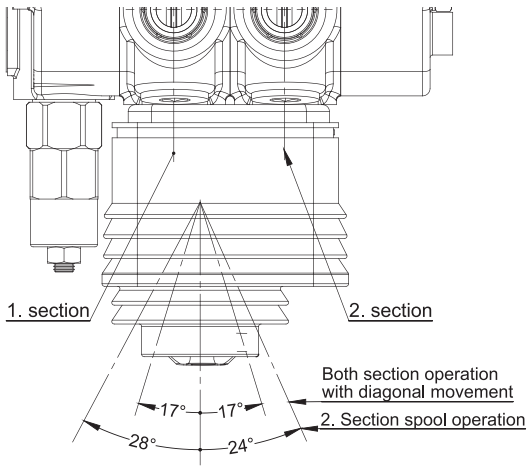
### Lever Controls - Joystick

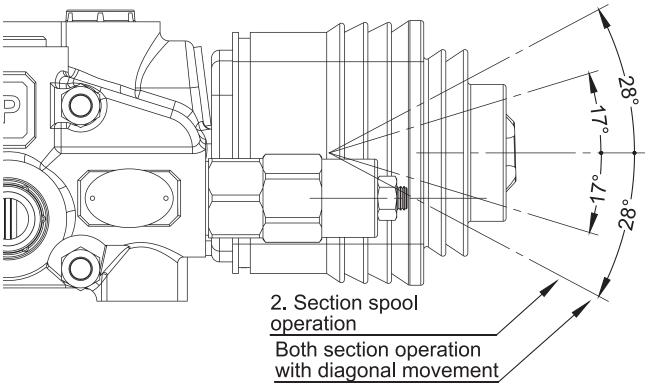
Kit No: **JL**

Exploded View | Diagram




### Operation Angle:



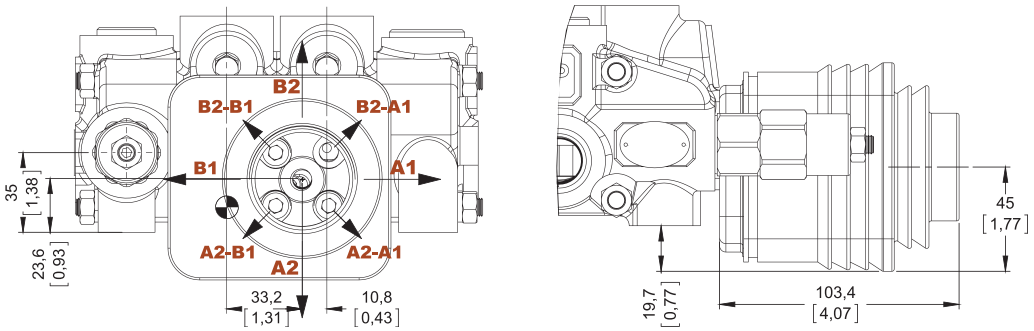



## SPOOL POSITIONERS – SIDE OF LEVER CONTROL

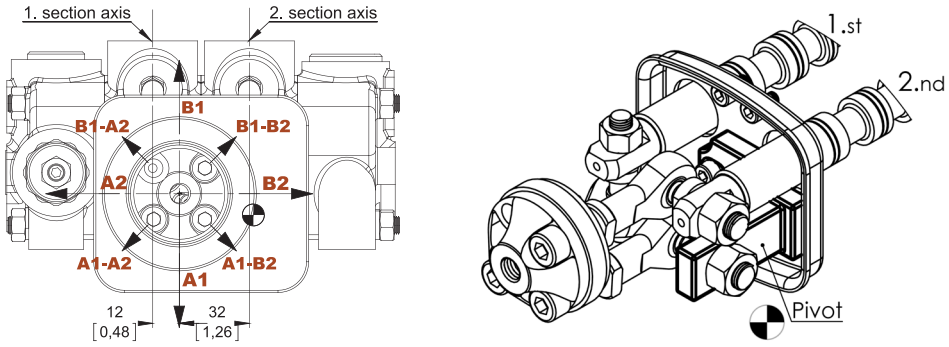
### Lever Controls - Joystick

**Dimensions and movement sceme**

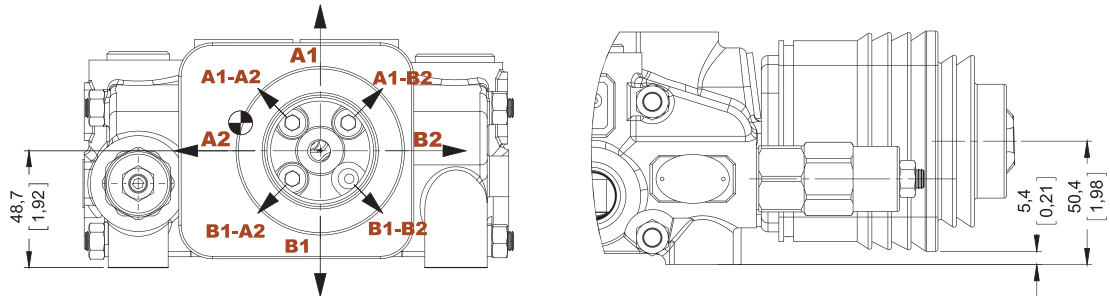
Type No: **JL1** — **Application:** Pivot placed down on the Left



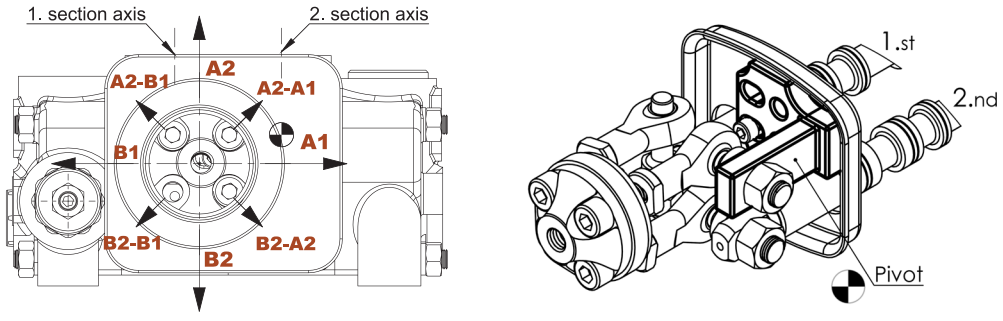

Type No: **JL2** — **Application:** Pivot placed down on the right




Type No: **JL3** — **Application:** Pivot placed above on the Left




Type No: **JL4** — **Application:** Pivot placed above on the right



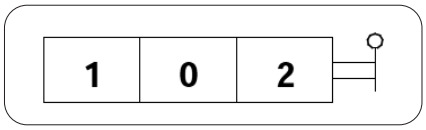
## SPOOL POSITIONERS – SIDE OF LEVER CONTROL

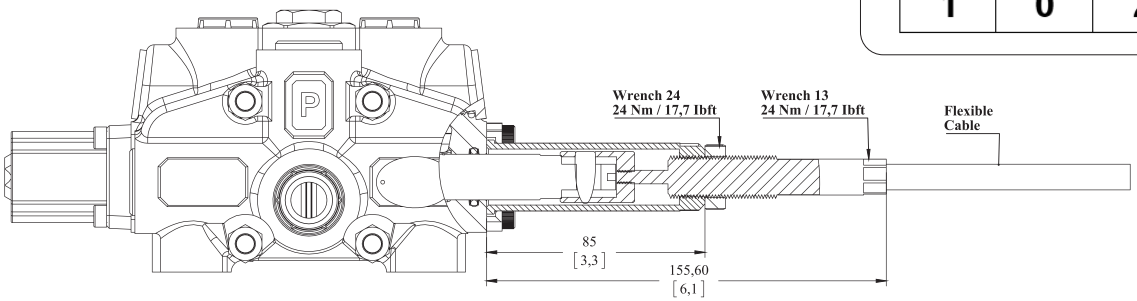
### Lever Controls - Cable Control

Kit No: **HL**

Sectional Appearance | Diagram

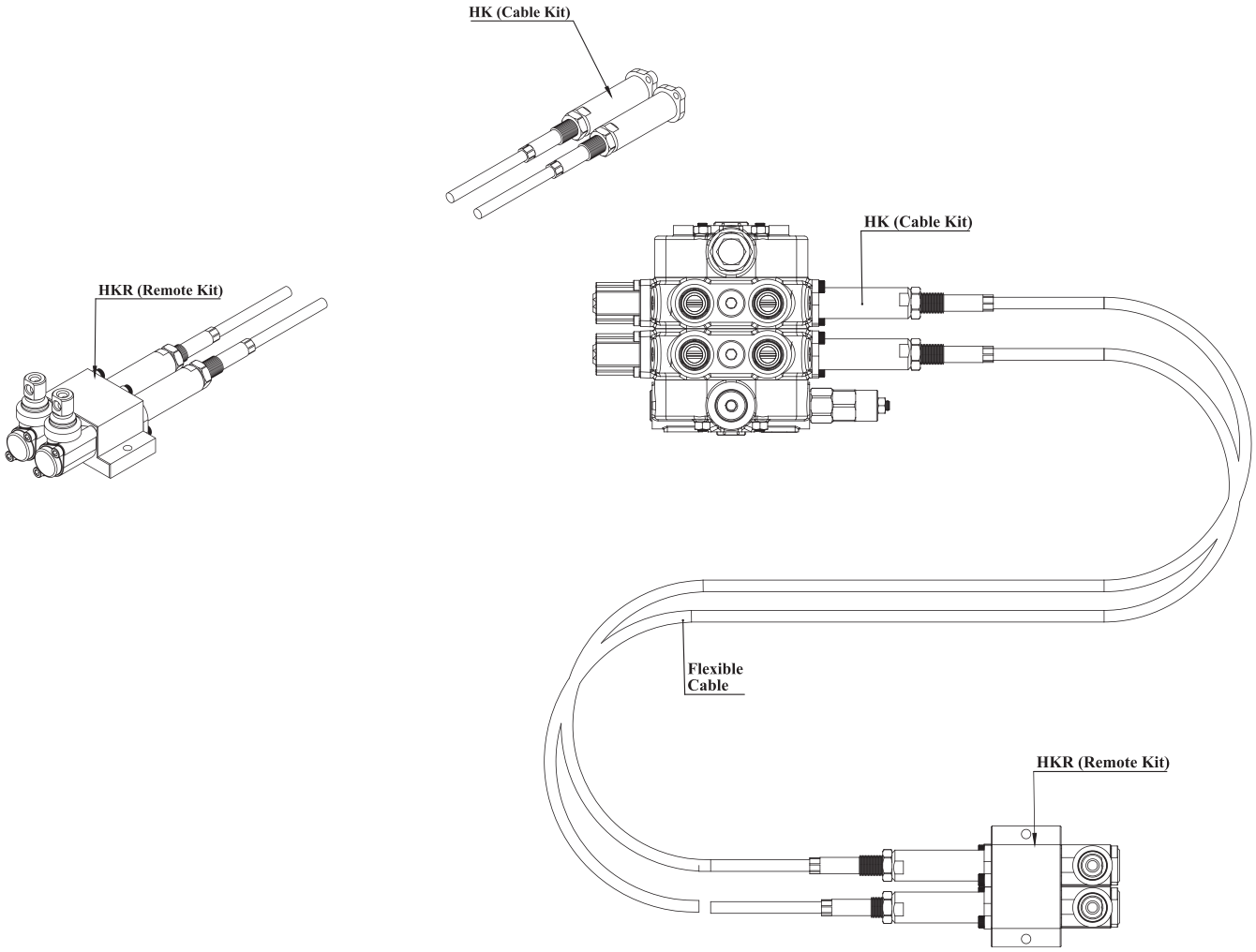
Waterproof cap prearranged for remote control with flexible cable.




**Note:** Remote cable control is several options. Please indicte the cable length demanded and contact our sales department.

### Example Operation



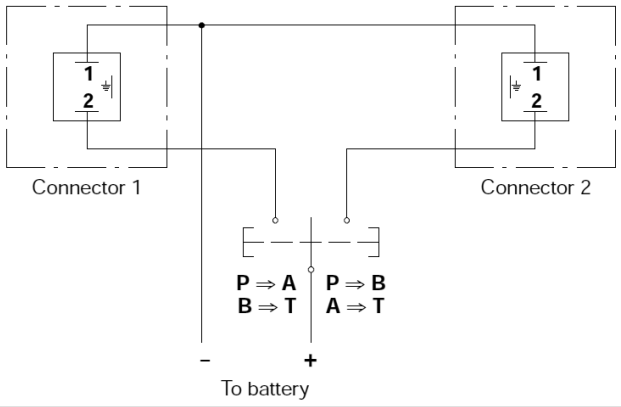
## COMPLETE CONTROL – ON / OFF SELENOID CONTROL

## ON/OFF Selenoid Control

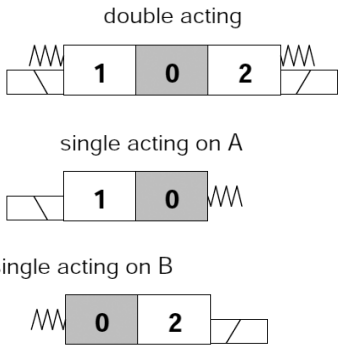
Kit No: **SEC**

### Sectional Appearance

**Electric wiring example**




### Diagram

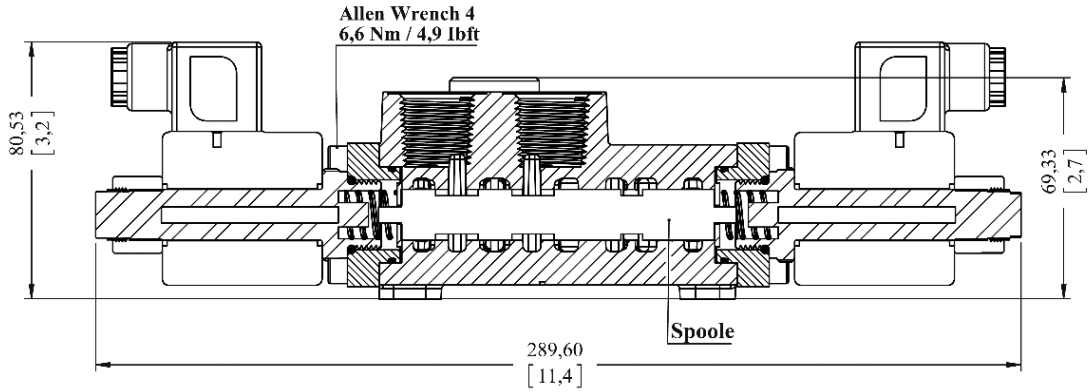


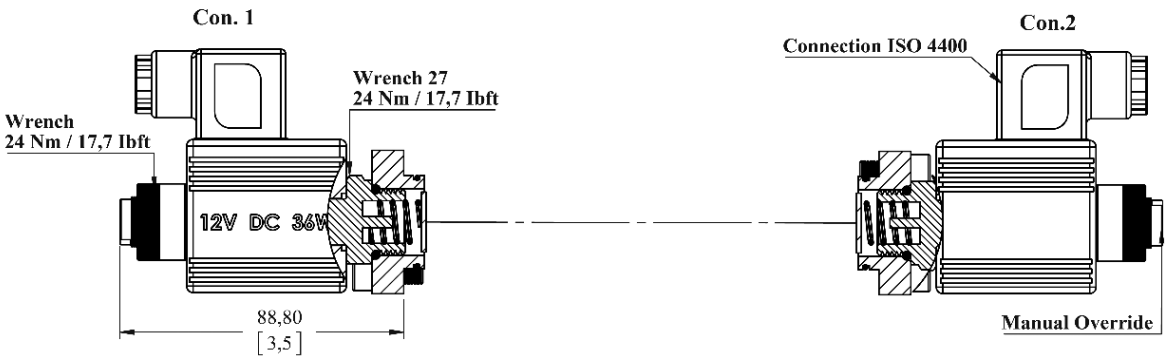

**Operating Features**

Max Working Pressure.....: 230 Bar / 3300 Psi
Max back pressure .....: 5 Bar / 80 Psi
Internal Lekage.....: 10 cm3 / min

**Selenoid Operating Features**

Nominal voltage.....: 12 VDC / 24 VDC
Power rating.....: 36 W
Duty cycle.....: %100
Nominal voltage tolerance.....: ±10
Coil insulation .....: Class H
Stroke.....: ±3



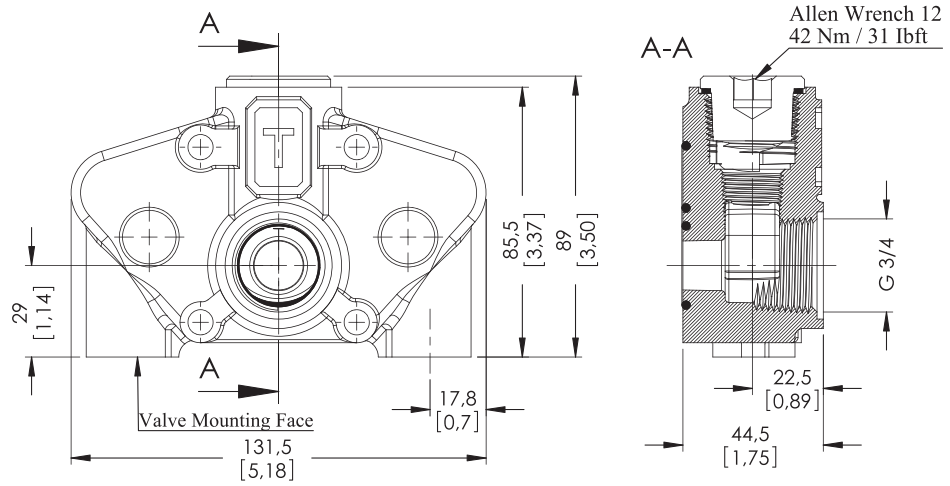



## OUTLET COVER - TANK SIDE

### Output Cover Options

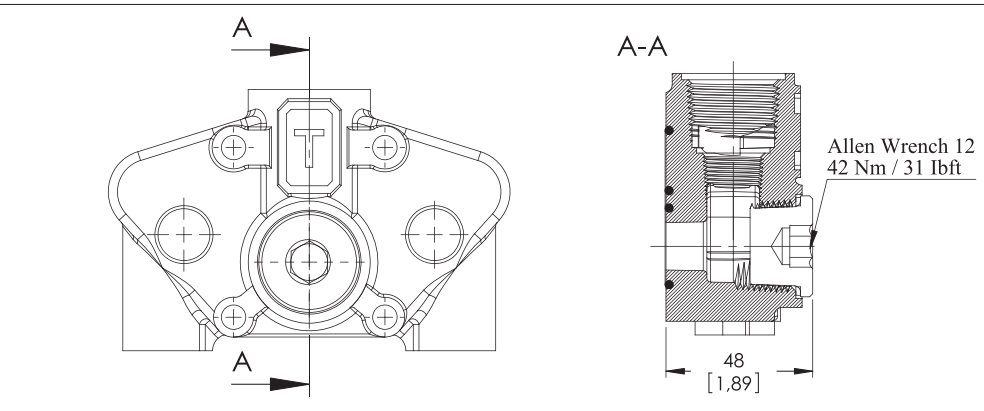
#### Kit No: **SO**

Sectional Appearance



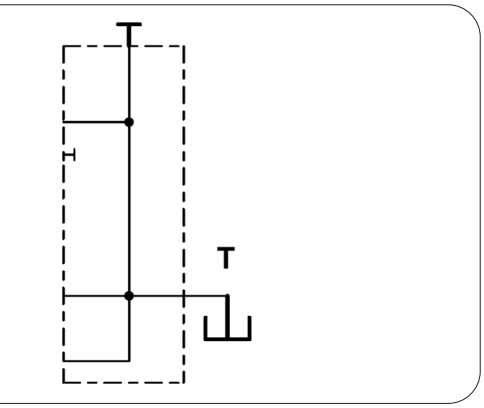

#### Kit No: **TO**

Sectional Appearance

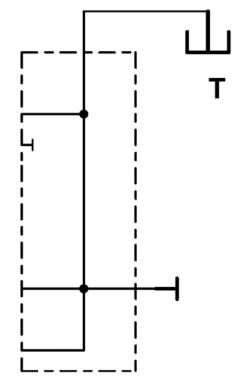



### Hydraulic Diagram

#### Type No: **SO**




#### Type No: **TO**

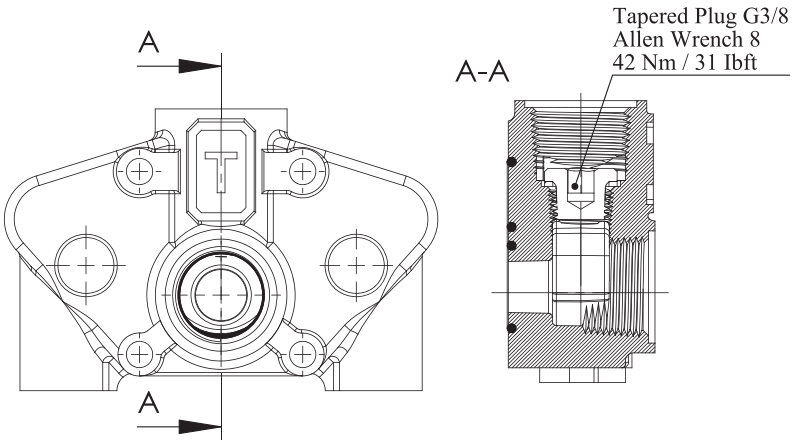


## OUTLET COVER - TANK SIDE

### Output Cover Options

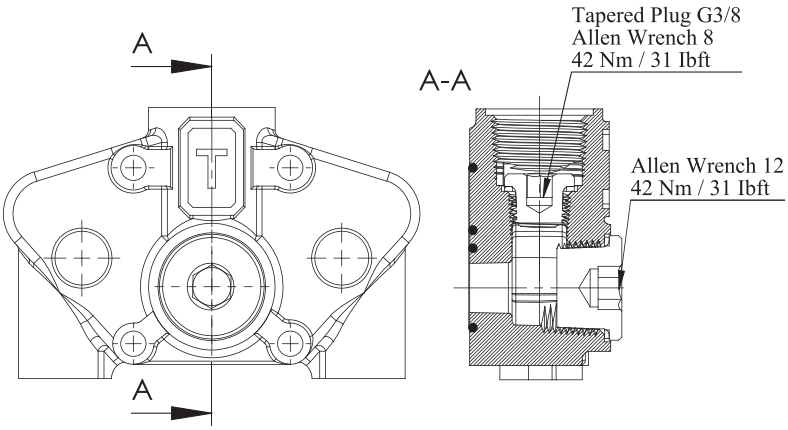
Kit No: **TCO**

Sectional Appearance



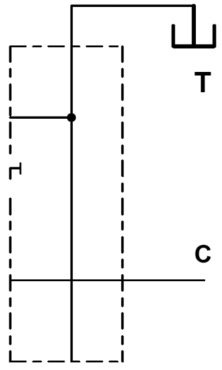

Kit No: **TC**

Sectional Appearance

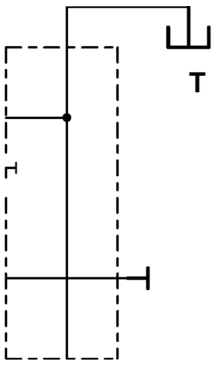



### Hydraulic Diagram

Type No: **TCO**




Type No: **TC**



# PORT VALVES OPTIONS

## Anti Shock Valves

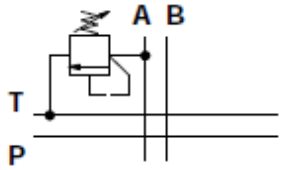
**Code:**

**YAS-1 (T1-100)**

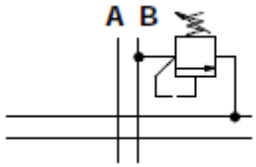
- **Pressure Setting in Bar**
- **Adjusting type T=With screw , L=Valve Set / Spring Type (1,2,3)**
- **1 = Mounted Port A , 2 = Mounted Port B , 3 = Mounted Port A and B**

## Hydraulic Diagram

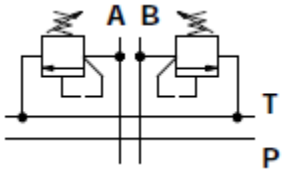
Kit No: **YAS1**



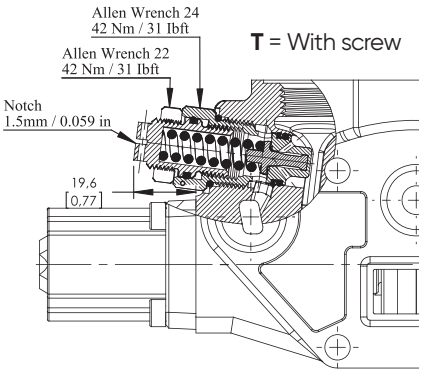

Kit No: **YAS2**




Kit No: **YAS3**

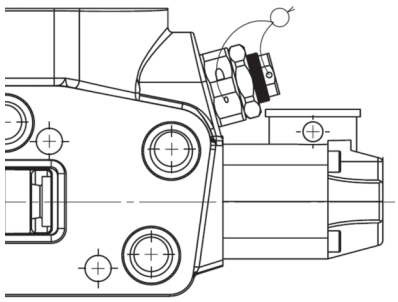



## Adjustment Type on Valve:



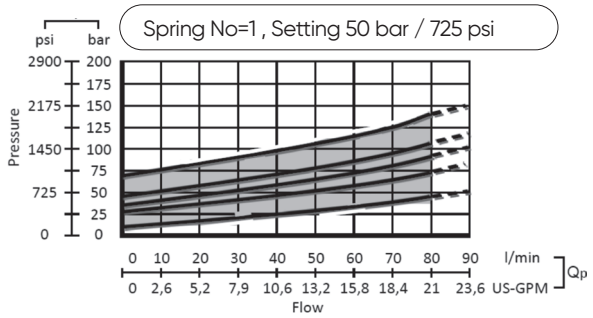

**T** = With screw

**L** = Valve set

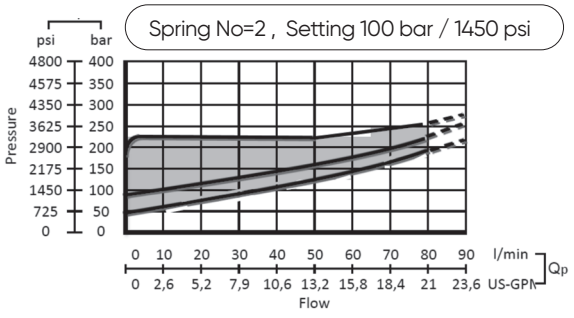


## Performance Data:

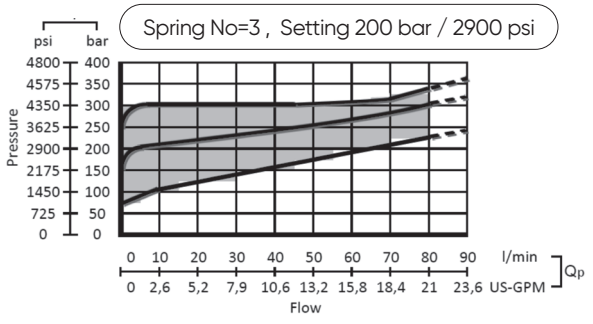
Spring No=1 , Setting 50 bar / 725 psi

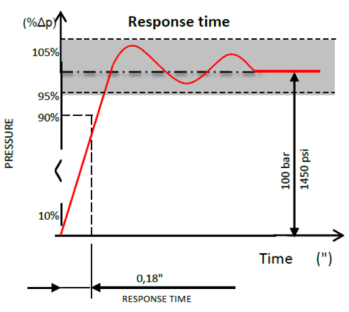



Spring No=2 , Setting 100 bar / 1450 psi




Spring No=3 , Setting 200 bar / 2900 psi



## PORT VALVES OPTIONS

## Anti shock And Anti Cavitation Valves

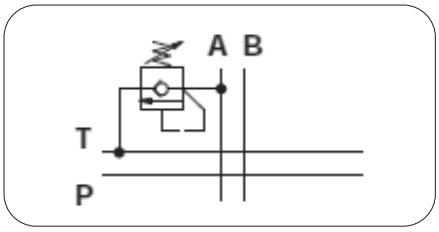
**Code:**

**YAA-1 (T1-100)**

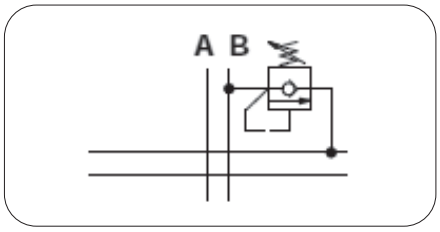
- **Pressure Setting in Bar**
- **Adjusting type T=With screw , L=Valve Set / Spring Type (1,2,3)**
- **1 = Mounted Port A , 2 = Mounted Port B , 3 = Mounted Port A and B**

## Hydraulic Diagram

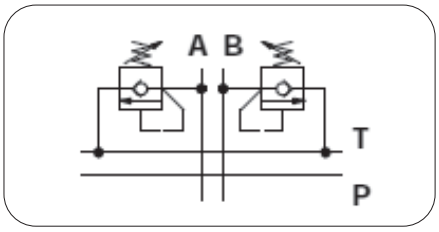
Kit No: **YAA1**



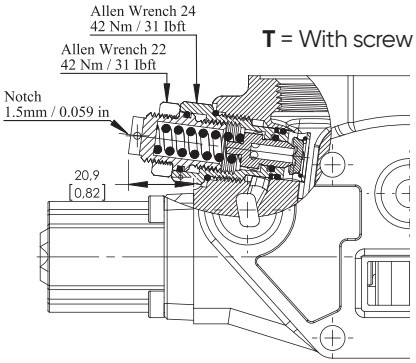

Kit No: **YAA2**




Kit No: **YAA3**

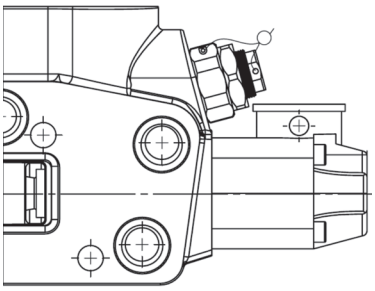



## Adjustment Type on Valve:



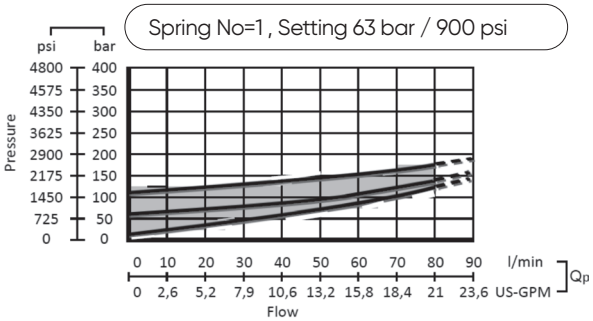

**T** = With screw

**L** = Valve set

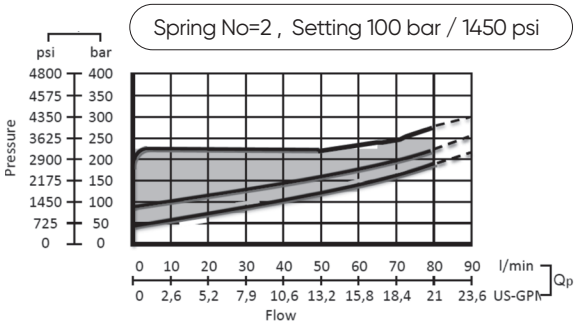


## Performance Data:

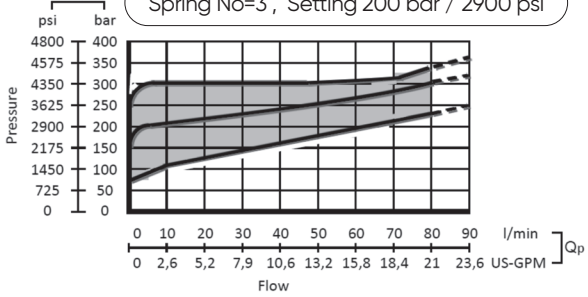
Spring No=1 , Setting 63 bar / 900 psi

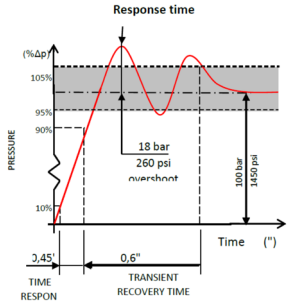



Spring No=2 , Setting 100 bar / 1450 psi




Spring No=3 , Setting 200 bar / 2900 psi



## PORT VALVES OPTIONS

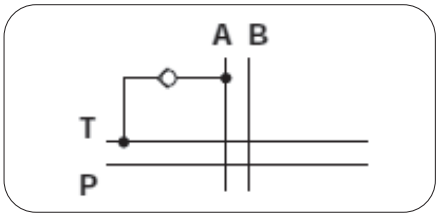
### Anti Cavitation Valves

**Code:**

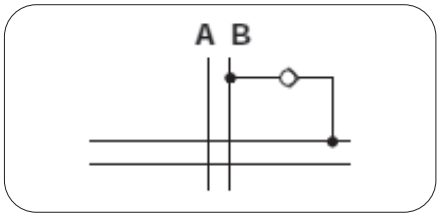
**YAC-1** → **1 =** Mounted Port A , 2=Mounted Port B , 3=Mounted Port A and B

### Hydraulic Diagram

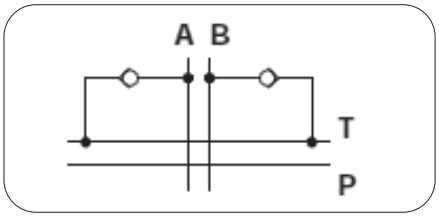
Kit No: **YAC1**



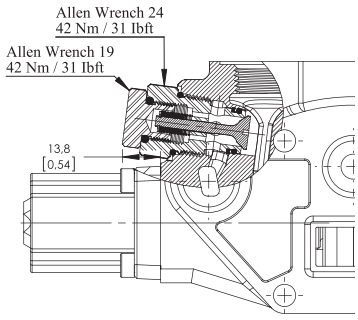

Kit No: **YAC2**

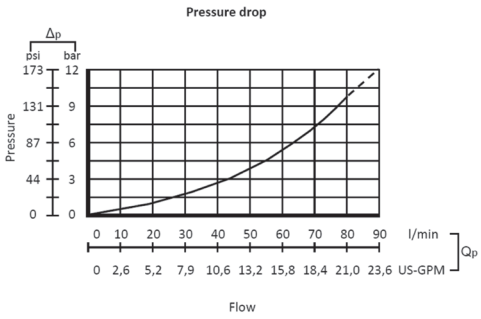



Kit No: **YAC3**




### Adjustment Type on Valve And Data:



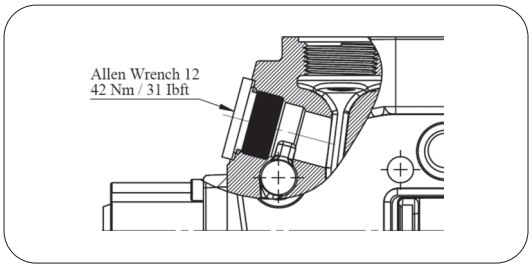




### Valve Blaking

**Plug with tank connection**

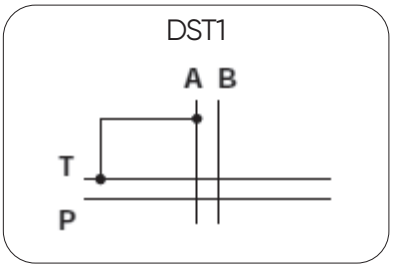
**DST-1** (1:Mounted port A – 2:Mounted port B)

Sectional Appearance

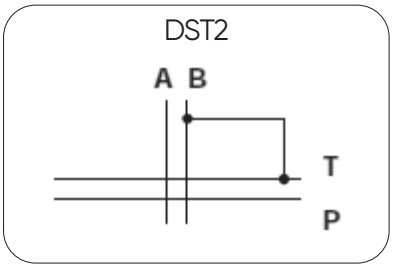



Hydraulic Diagram

DST1

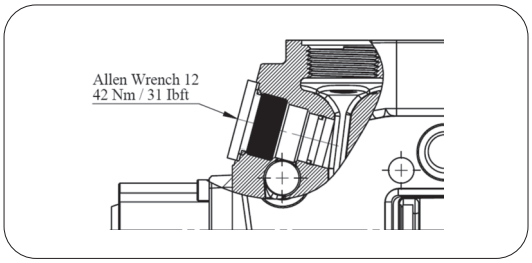



DST2

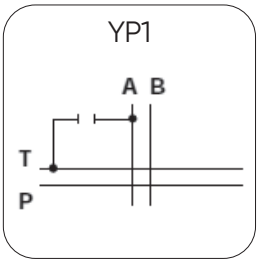



**Plug**

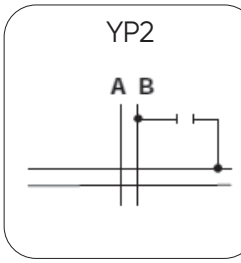
**YP-1** (1:Mounted port A – 2:Mounted port B – 3:Mounted port A and B)



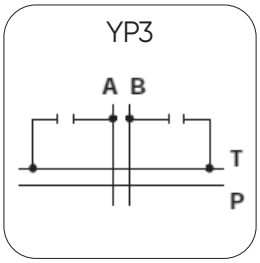

YP1




YP2




YP3



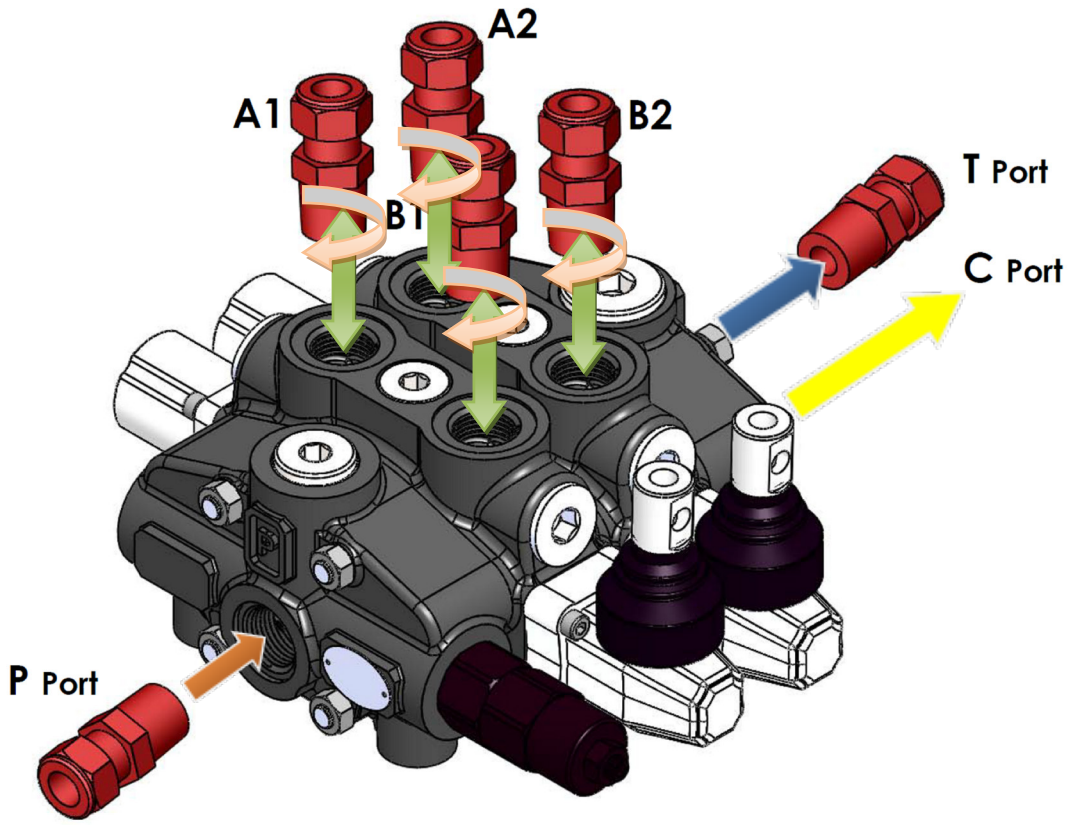
## INSTALLATION AND MAINTENANCE

The ORV-PD80 valve is assembled and tested as per the technical specification of this catalog. Before the final installation on your equipment, follow the below recommendation:

• The valve can be assembled in any position, in order to prevent body deformation and spool sticking mount the product on a flat surface;

• In order to prevent the possibility of water entering the lever box and spool control kit, do not use high pressure wash down directly on the valve;

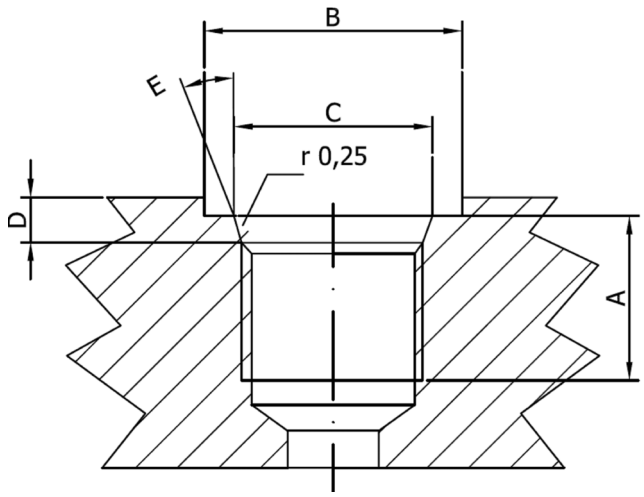
• Before painting, ensure plastic port plugs are tightly fitted.



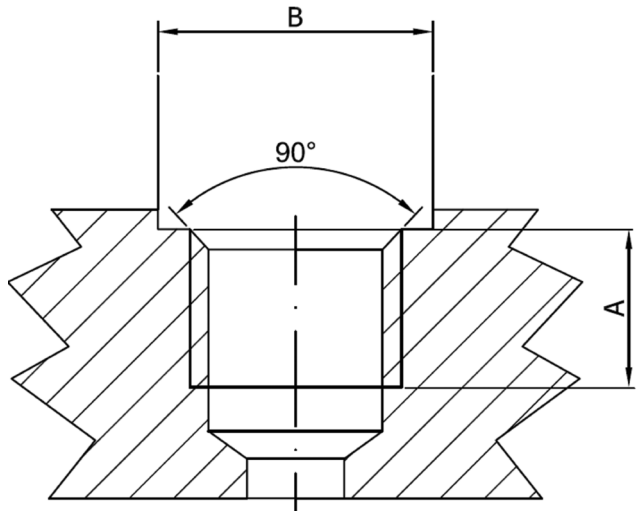

| Threads Type (Nm / lbft) | P Port | A and B Port | T Port |
|---|---|---|---|
| BSP (ISO 228/1) | G 1/2 | G 1/2 | G 3/4 |
| With O--Ring seal | 50 / 36.9 | 50 / 36.9 | 70 / 51.6 |
| With copper washer | 60 / 44.3 | 60 / 44.3 | 70 / 51.6 |
| With steel and rubber washer | 60 / 44.3 | 60 / 44.3 | 70 / 51.6 |
| | | | |
| BSP (ISO 228/1) | G 3/4 | G 3/4 | G 3/4 |
| With O--Ring seal | 70 / 51.6 | 70 / 51.6 | 70 / 51.6 |
| With copper washer | 70 / 51.6 | 70 / 51.6 | 70 / 51.6 |
| With steel and rubber washer | 70 / 51.6 | 70 / 51.6 | 70 / 51.6 |
| | | | |
| UN--UNF (ISO 11926--1) | 11/16--12 UNF--2B | 9/16--18 UNF--2B | 11/16--12 UNF--2B |
| With O--Ring seal | 95 / 70 | 30 / 22.1 | 95 / 70 |
| | | | |
| METRIC (ISO 262) | M27 x 2 | M22 x 1.5 | M27 x 2 |
| With O--Ring seal | 100 / 73.8 | 50 / 36.9 | 100 / 73.8 |
| With copper washer | 100 / 73.8 | 60 / 44.3 | 100 / 73.8 |
| With steel and rubber washer | 100 / 73.8 | 60 / 44.3 | 100 / 73.8 |

## TECHNICAL DATA

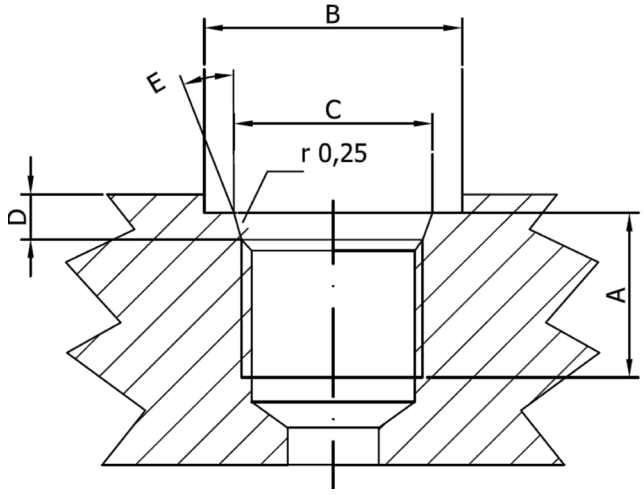
### Ports Dimensional Data




| SAE UN-UNF (ISO 725) | | | | | | |
|---|---|---|---|---|---|---|
| Dimensions | | 7/8-14 UNF SAE10 | | 1"1/16-12 UN SAE12 | | 1"5/16-12 UN SAE16 | |
| mm | in | | | | | | |
| A | | 17 | 0,67 | 20 | 0,79 | 20 | 0,79 |
| B | | 34 | 1,34 | 41 | 1,61 | 49 | 1,92 |
| C | | 23,9 | 0,94 | 29,2 | 1,15 | 35,5 | 1,40 |
| D | | 2,5 | 0,10 | 3,3 | 0,13 | 3,3 | 0,13 |
| E | | 15° | | 15° | | 15° | |




| BSP (ISO 228) | | | | | | |
|---|---|---|---|---|---|---|
| Dimensions | | G 1/2" | | G3/4 | | G1 | |
| mm | in | | | | | | |
| A | | 16 | 0,63 | 18 | 0,71 | 20 | 0,79 |
| B | | 27 | 1,06 | 33 | 1,30 | 40 | 1,57 |




| METRIC (ISO 262) | | | | | |
|---|---|---|---|---|---|
| Dimensions | | M18x1,5 ISO 262 | | M27x2 ISO 262 | |
| mm | in | | | | |
| A | | 16 | 0,63 | 18 | 0,71 |
| B | | 31,5 | 1,24 | 37,7 | 1,48 |

# ORIGINAL VALVE

ORVAL HYDRAULIC


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