



SPECIAL TRACTOR
VALVES

GMM-TV50

CE





CONTENTS

Working Conditions	363
Dimensional Data	364
Hydraulic Circuit	365
Performance Data And Curve	366
Inlet Relief Options	367
Ordering Codes	368
Spool Options	370
Spool Positioners – Side of Return	372
Spool Positioners – Side of Lever Control	374
Spool Positioners – Side of Lever Control	375
Spool Positioners – Side of Lever Control	376
Outlet Port Options	377
Installation and Maintenance	378
Technical Data	379

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 (01/2017) .

GEMMA, oriented to a continuous improvement, reserves the right to discontinue, modify or revise the specifications, without notice.

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

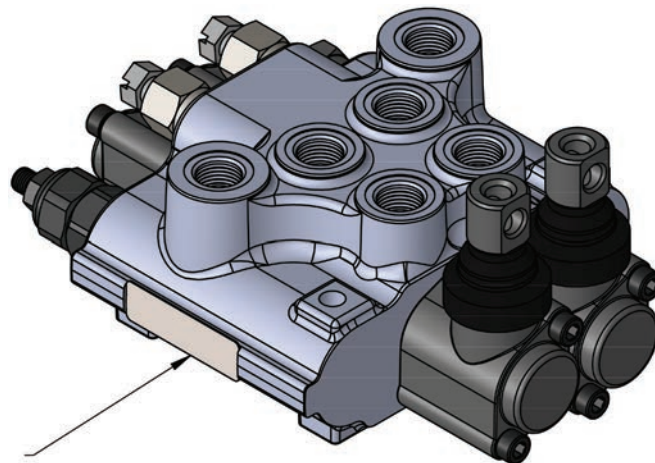
WORKING CONDITIONS

Nominal Flow Rating / Displacement	50 l/min	13,5 U.S.G.P.M
Maximum Working Pressure (Parallel Circuit)	315 Bar	4600 PSI
(Series Circuit)	250 Bar	3600 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
Minimum / 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 7	
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	


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

Features

- Simple, compact and heavy duty designed monoblock valves from 1 to 3 sections for open and closed center hydraulic systems.
- Fitted with a main pressure relief valve and a load check valve.
- Optional Carry-Over port only parallel circuit.
- Interchangeable spool diameter is 16 mm – 0,63 in.
- Available manual, pneumatic, hydraulic and electro-pneumatic spool control kits.



Valve Type

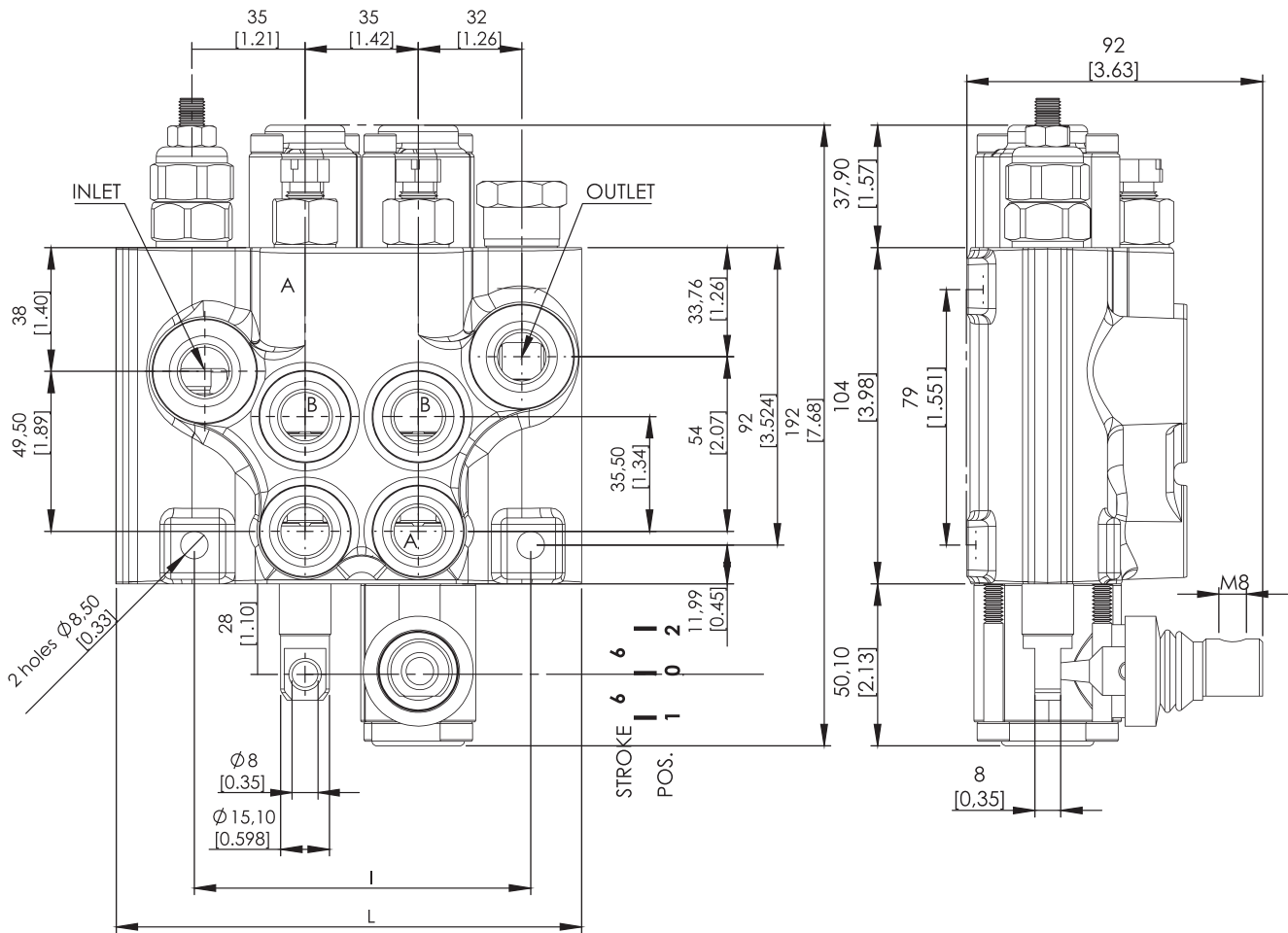


GMM-MS45-1P-3/8

101149.39.14

MADE IN TÜRKİYE

Production Batch
39.14 = Production Year - Week (2014/39)
101149 = Progressive Party Number

DIMENSIONAL DATA


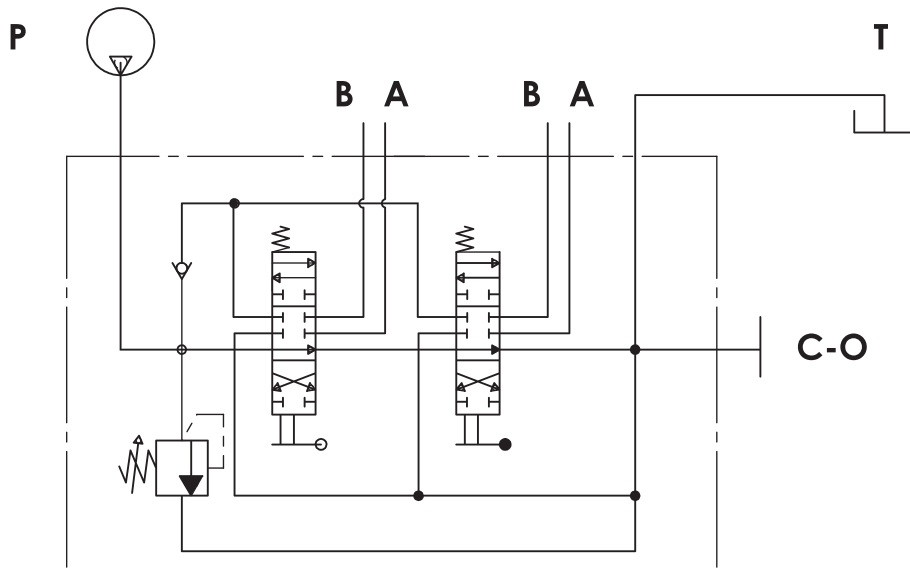
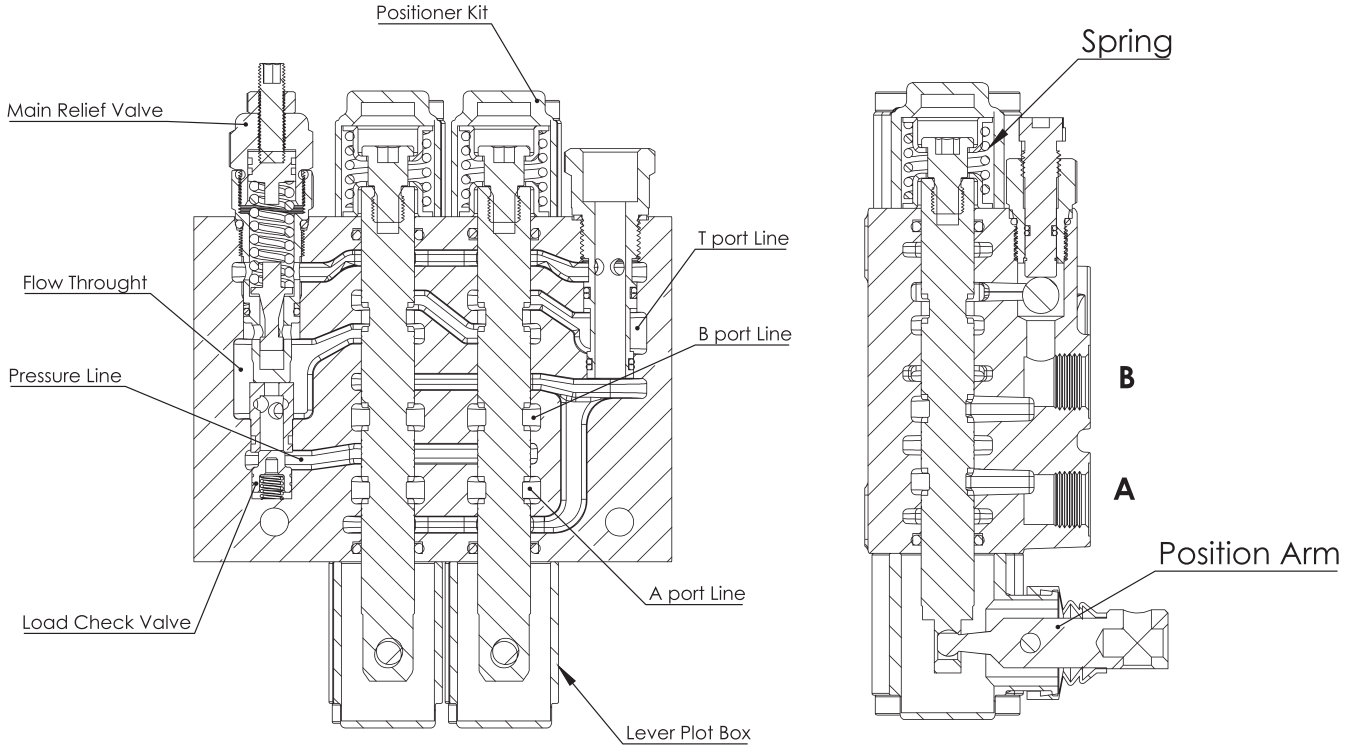
TYPE	A		B		Weight	
	mm	in	mm	in	Kg	lb
GMM- TV50-1P	68	2,67	105	4,12	2,80	6,16
GMM- TV50-2P	104	4,09	140	5,49	4,50	9,90
GMM- TV50-3P	140	5,51	175	6,86	6,30	13,86

STANDARD THREADS

PORT	BSP (Iso 228) 3/8" Series	UN-UNF (Iso 11926-1)	Metric (Iso 262)
P Inlet	G 3/8	3/4-16 UNF	M18x1.5
A-B Ports	G 3/8	9/16-18 UNF	M18x1.5
T Outlet	G 1/2	3/4-16 UNF	M18x1.5
Pneumatic	G 1/4	NPTF 1/8 - 27	NPTF 1/8 - 27
Carry-Over	G 3/8	3/4-16 UNF	G 3/8

HYDRAULIC CIRCUIT

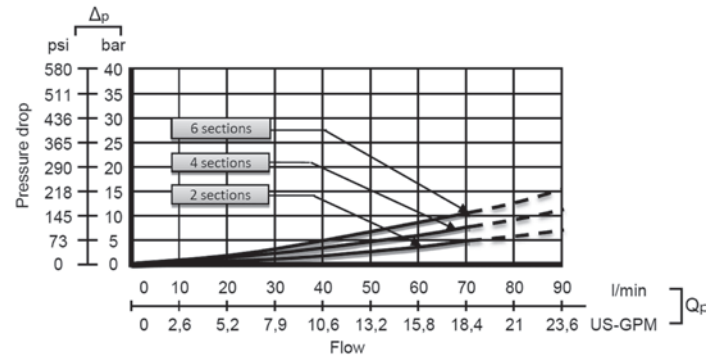
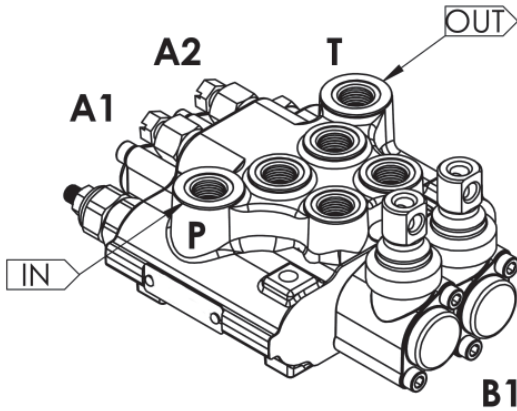
Parallel - Standard Configurations With Side Inlet And Outlet Open Center



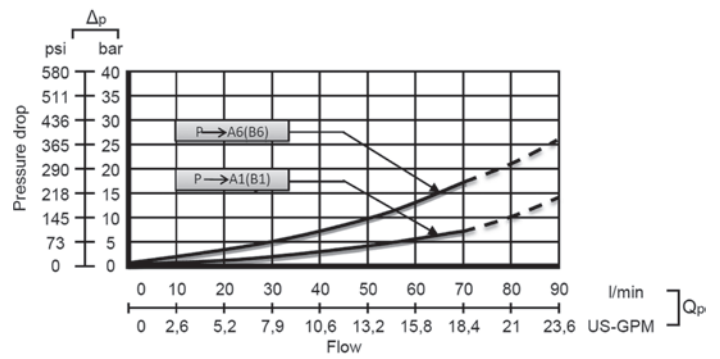
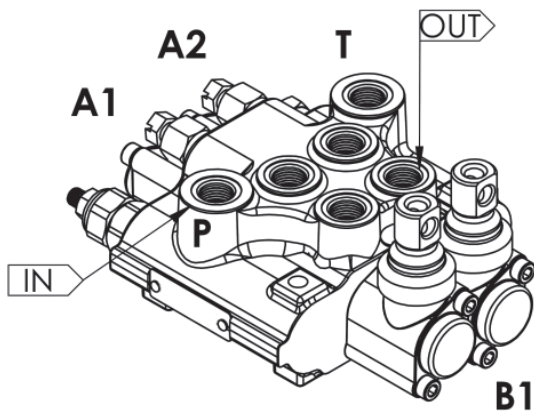
Code: GMM TV50-2P / SMR2-120 / 1A-SR-STL/1A-SR-STL/PA1/SGT

PERFORMANCE DATA AND CURVE

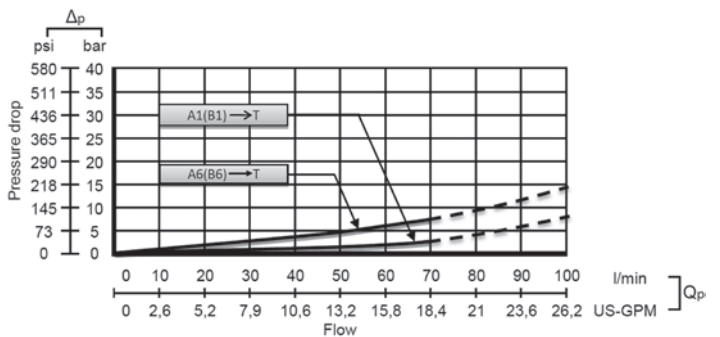
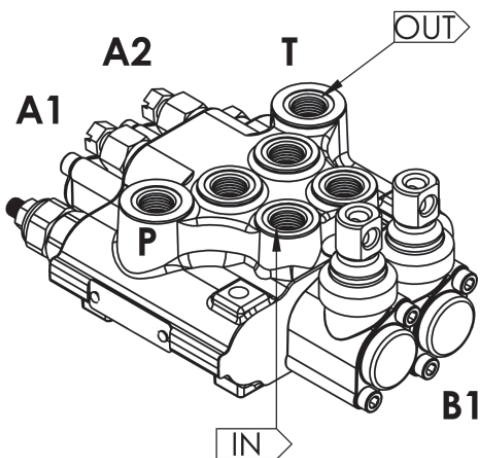
Open Center - Pressure Drop (P-T)



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



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



Note: Measured and chart value with spool type 1A.

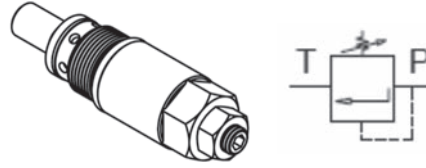
INLET RELIEF OPTIONS

Direct Pressure Relief Valve

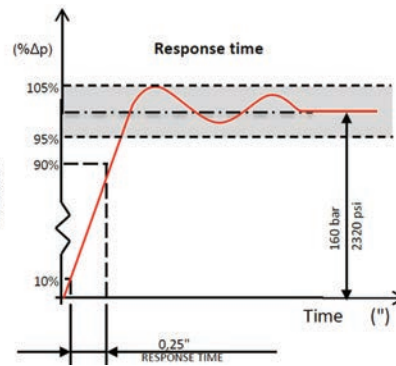
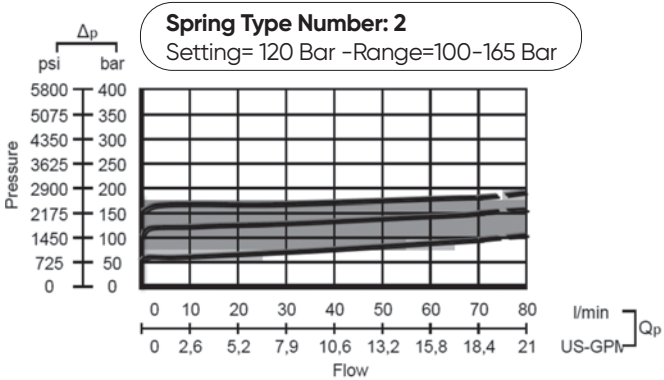
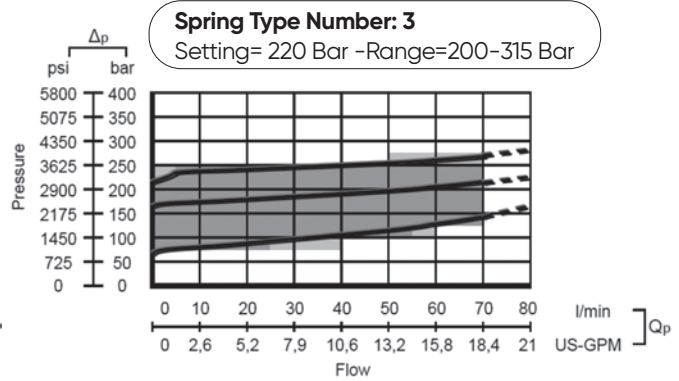
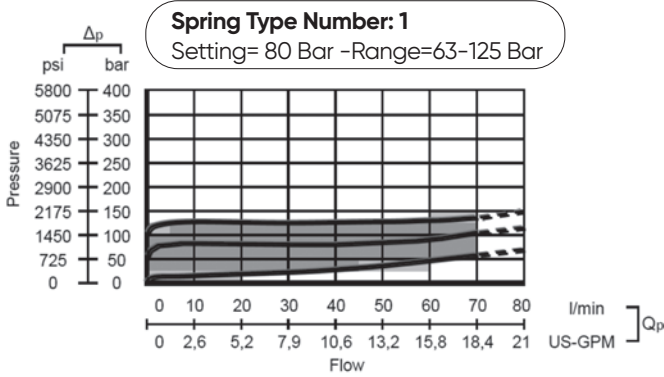
Code:

SMR2 – 120

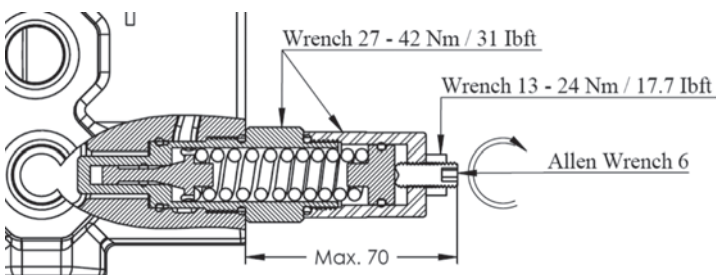
- Pressure Setting Bar in (Standard 120 bar)
- Standard Main Relief Spring Type -2



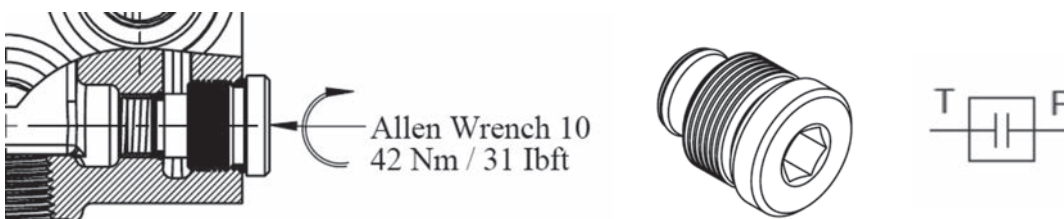
Performance Data



Adjustment Type on Valve

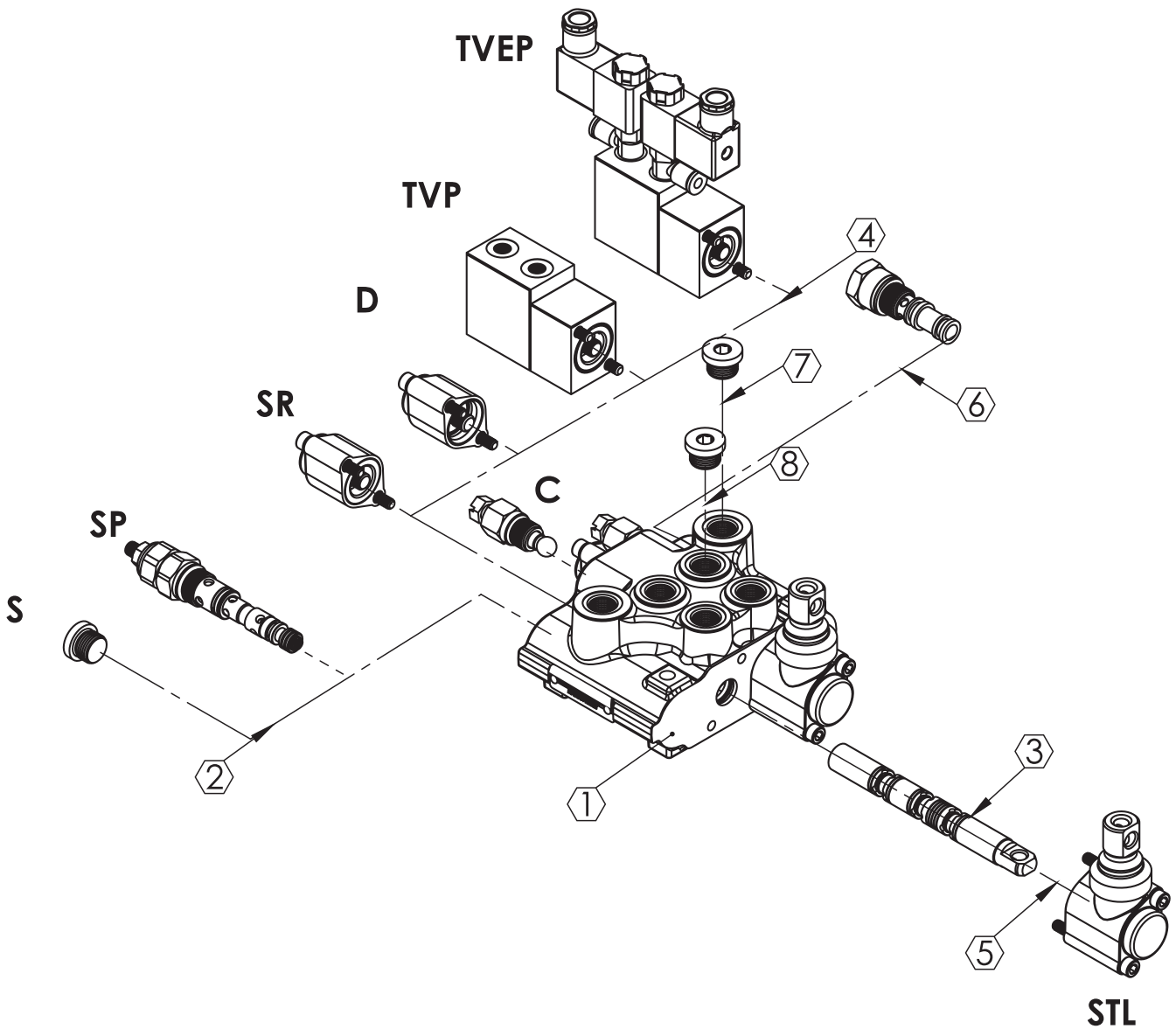
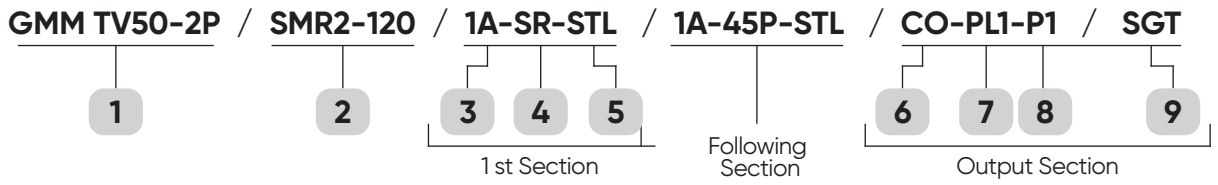


Relief Blanking Plug - WM



ORDERING CODES

Order Example



ORDERING CODES

1- Valve Type and Body

TV50 =Valve Type - (TV) - Monoblok
(50) - Max. Flow Rate

- 1P** = Body for 1 Section - (1TV150100)
- 2P** = Body for 2 Sections - (1TV250100)
- 3P** = Body for 3 Sections - (1TV350100)

2- Pressure Relief Options

SMR = Standard direct pressure relief valve

- SMR1-080** - (2SMR145080)-Range 0-80 bar
Setting 80 bar
- SMR2-120** - (2SMR245120)-Range 60-200 bar
Setting 120 bar
- SMR3-220** - (2SMR345220)-Range 160-315 bar
Setting 220 bar
- SP** = Standard relief plug - (2SP045100)

3- Spool Options

- 1A -(3STV150110) - 3 Positions ,Double acting
- 2A -(3STV150120) - 3 Positions ,Double acting
A to tank B Blocked
- 3A -(3STV150130) - 3 Positions ,Double acting
B to tank A blocked
- 4A -(3STV150140) - 3 Positions ,Double acting
A and B tank
- 5A -(3STV150150) - 3 Positions ,Single acting on
A (A to tank)
- 6A -(3STV150160) - 3 Positions ,Single acting on
B (B to tank)

4- Spool Positioners

- SR** = Spring Return in neutral position - (4SR045100)
- D** = Detent in position 1, neutral and 2 - (4D045100)
- TVP** = ON/OFF Pneumatic - (445P045100)
- TVEP** = 12 VDC ON/OFF electro-pneumatic -
(4TVEP045112)
- 24 VDC ON/OFF electro-pneumatic -
(4TVEP045124)

5- Lever Options

- STL** = Standard Lever -(5STL045100)
- JL** = Joystick lever for two sections operation
- (5JL 080100)

6- Output Options

- CO** = G3/8" Carry-Over Connector - (6CO050100)

7- Ports Plug Options "If Required"

- PL2(5A)** = Plug for single action spool for 5A
G3/8- (7PL2045138)
- PL2(6A)** = Plug for single action spool for 6A
G3/8- (7PL2045138)

*Page 13 for detail spool options.

8- Ports Input Plug Options

- PI2(T)** = G3/8 Top input - (7PL2045138)
- PI2(S)** = G3/8 Side input - (7PL2045138)

9- Ports Thread Options

- SGT2** = 3/8" Series Port Options - (9P045138)
- UNF** = UNF Series Port Options - (9U045138)
- M** = Metric Series Port Options - (9M045138)

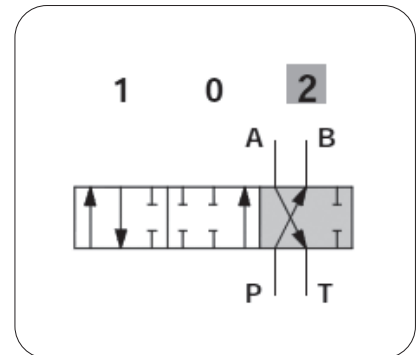
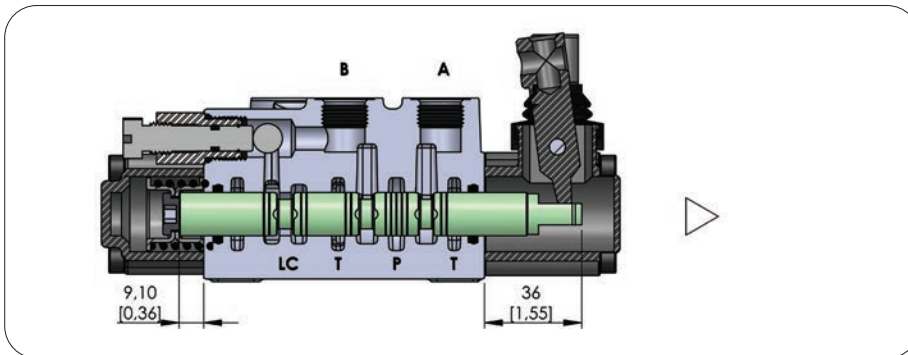
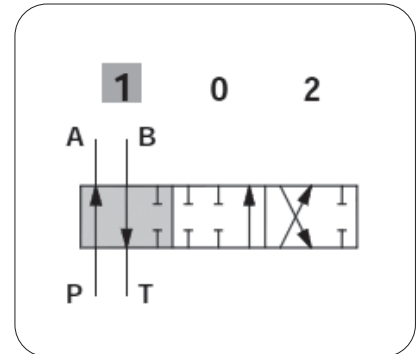
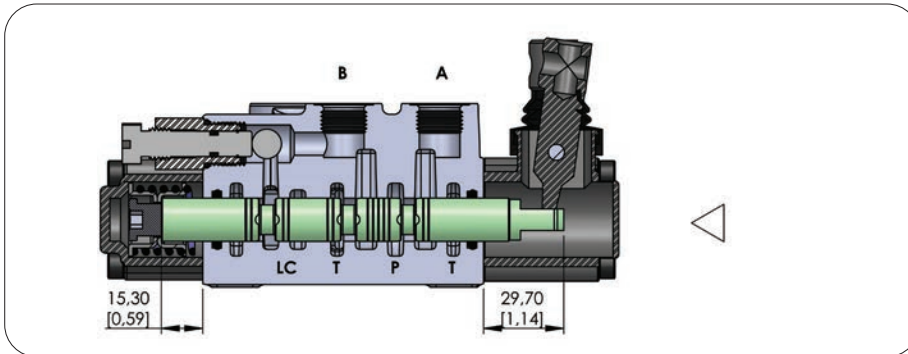
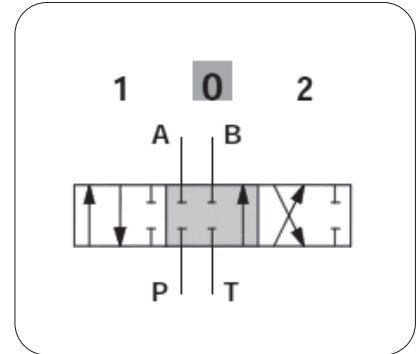
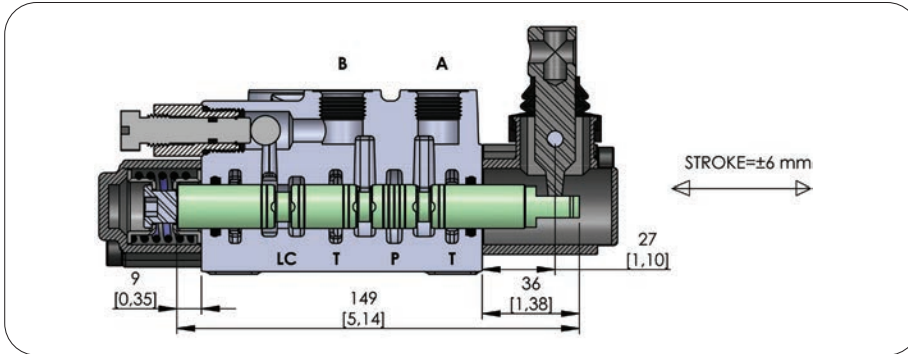
*Page 4 for detail port information.

HandLever

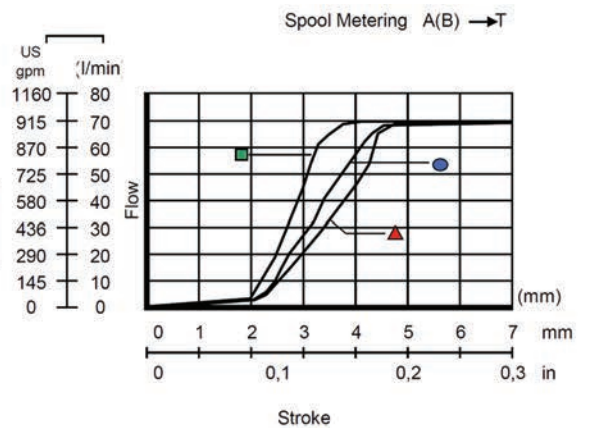
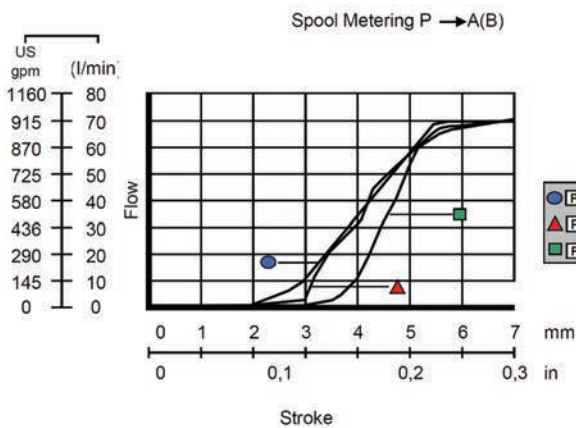
- L** = Standard HandLever (L=120mmxM10) -
(7L040100)

SPOOL OPTIONS

Spool Type - 1A

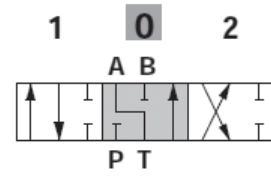
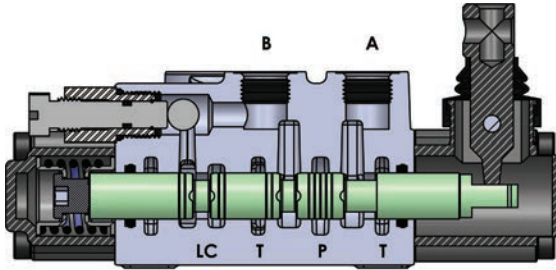


Performance Curve And Data

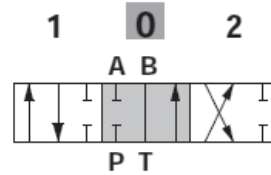
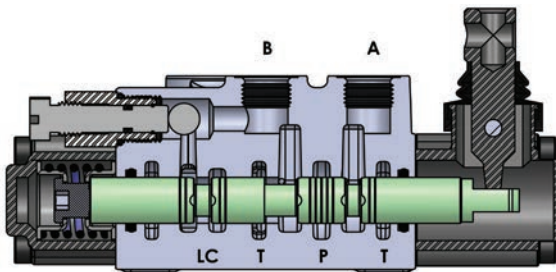


SPOOL OPTIONS

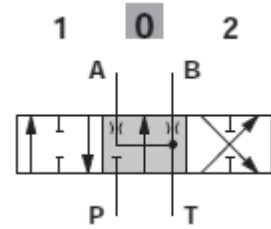
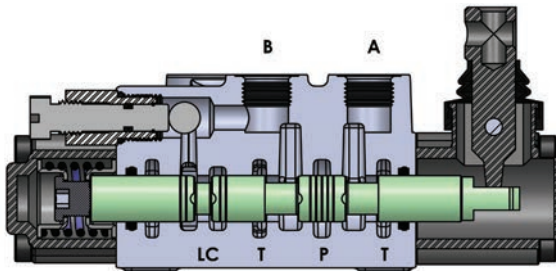
Spool Type - 2A



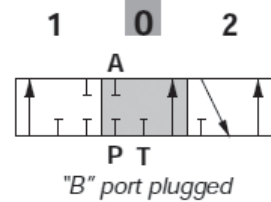
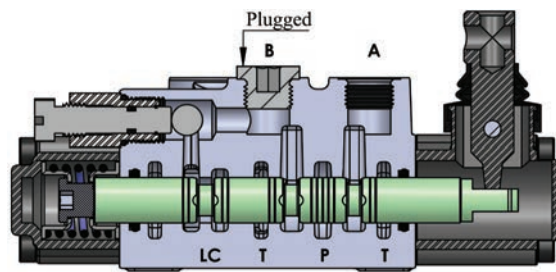
Spool Type - 3A



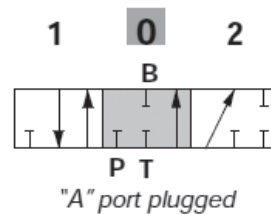
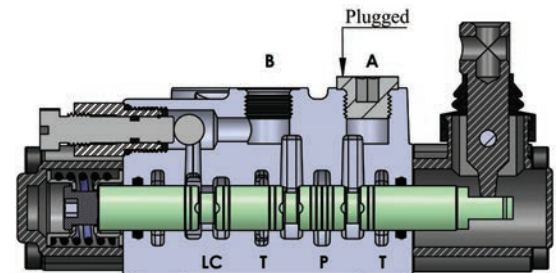
Spool Type - 4A



Spool Type - 5A



Spool Type - 6A



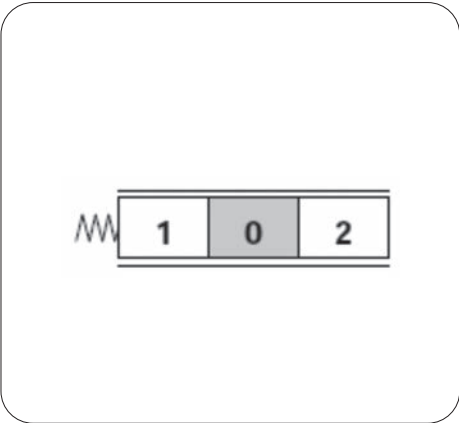
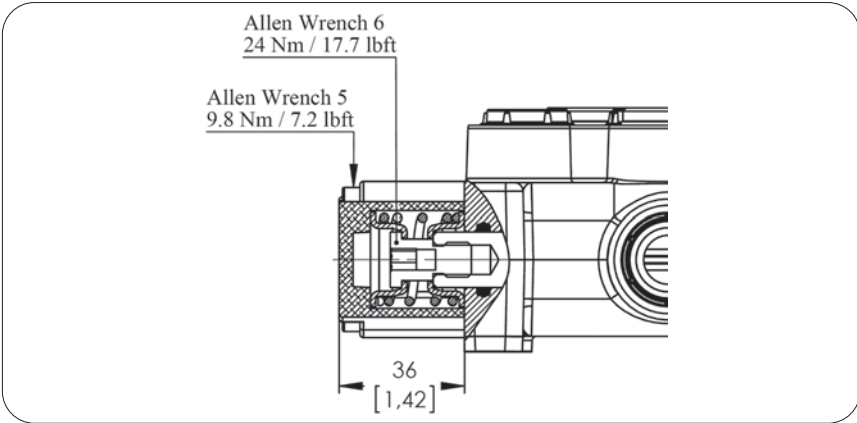
SPOOL POSITIONERS – SIDE OF RETURN

With Spring Return in Neutral Position

Kit No: **SR**

Sectional Appearance

Diagram

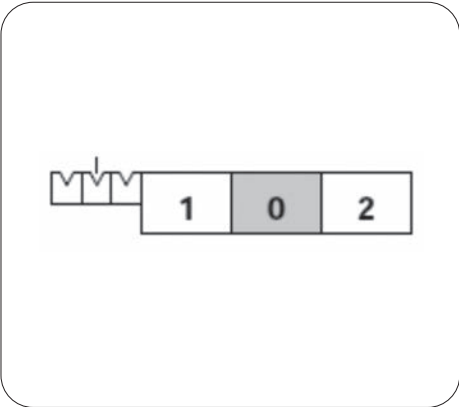
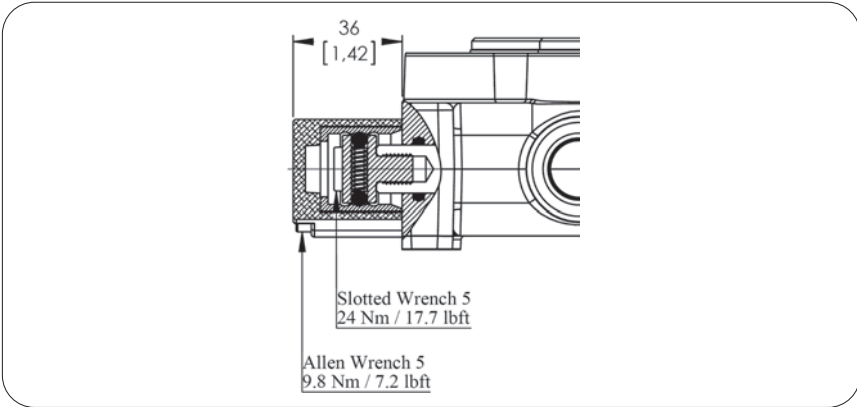


With Detent

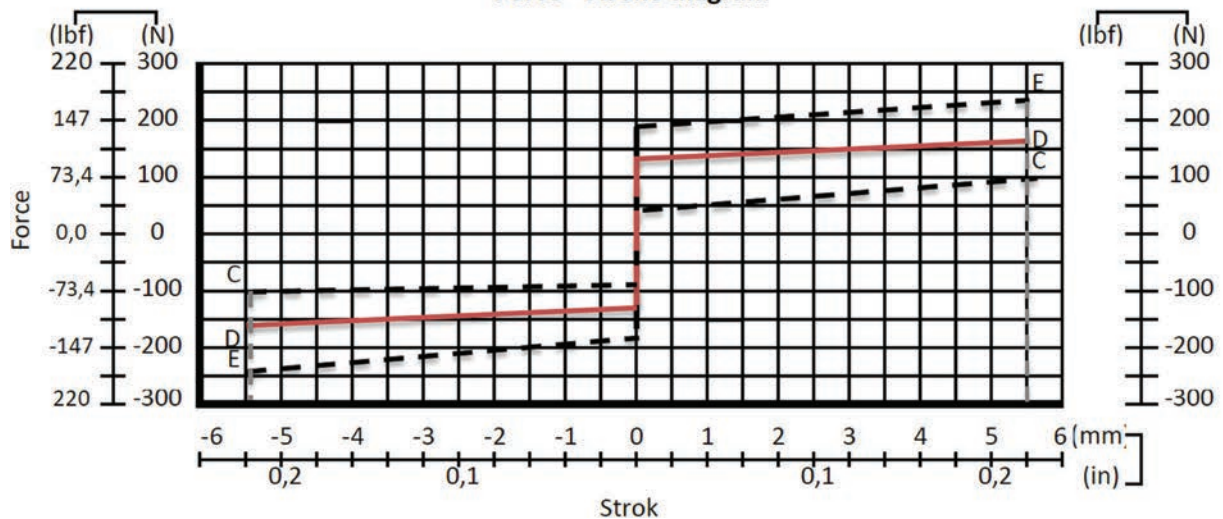
Kit No: **D**

Sectional Appearance

Diagram



Force - stroke diagram



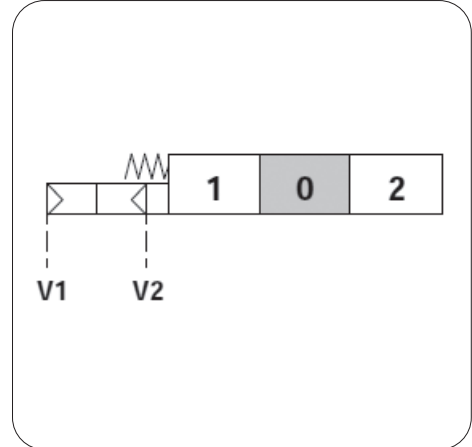
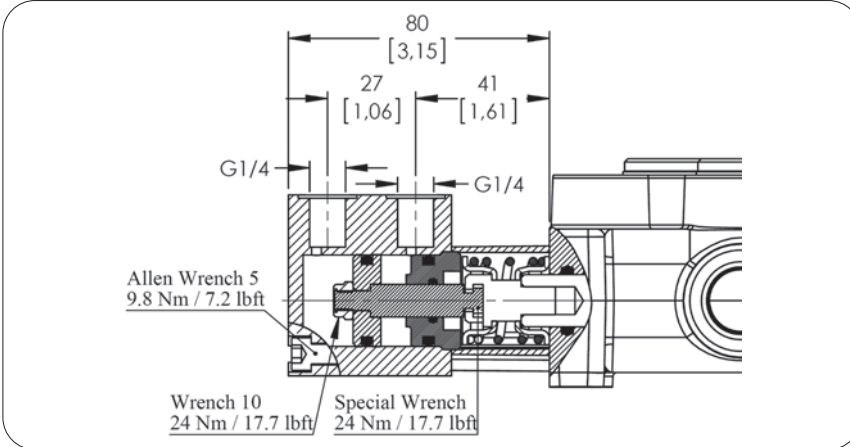
SPOOL POSITIONERS – SIDE OF RETURN

ON/OFF Pneumatic Control

Kit No: **TV80P**

Sectional Appearance

Diagram



Operating Features

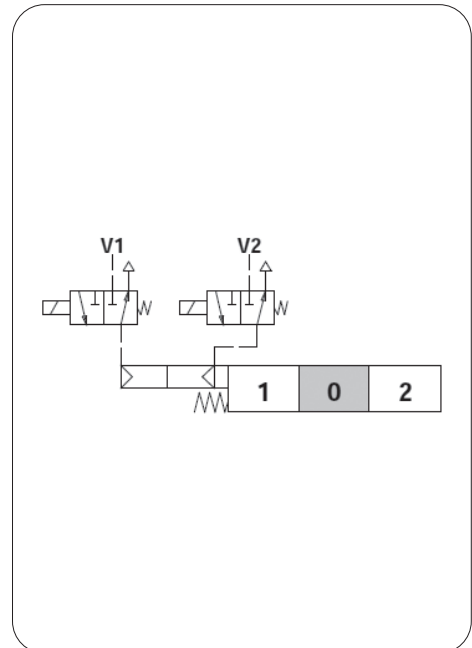
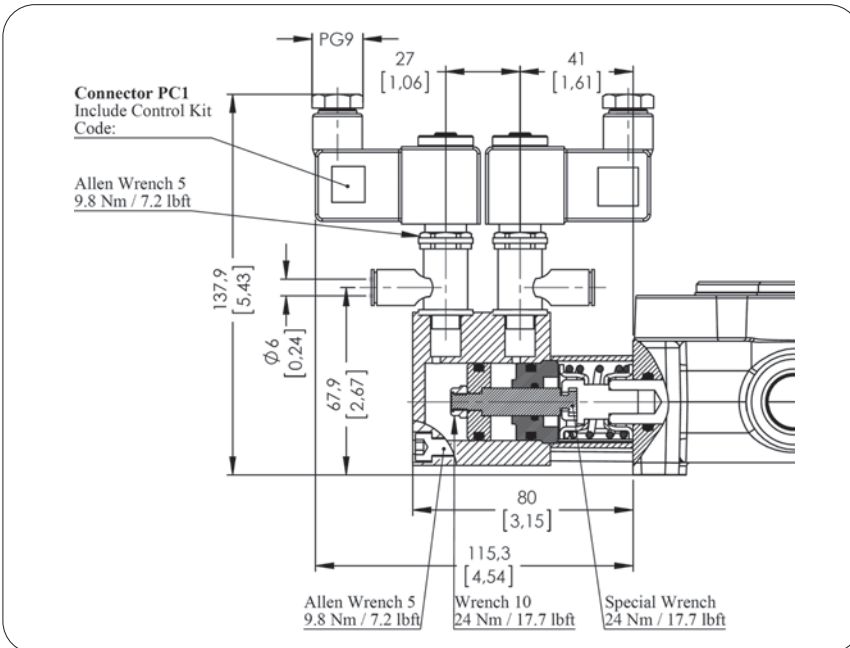
Pilot Pressure: 6 Bar (Max. 10) / 87 Psi (Max. 145)

ON/OFF Electro-Pneumatic Control

Kit No: **TV80EP**

Sectional Appearance

Diagram



Operating Features

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

Solenoid Operating Features

Nominal Voltage.....: 12VDC / 24 VDC

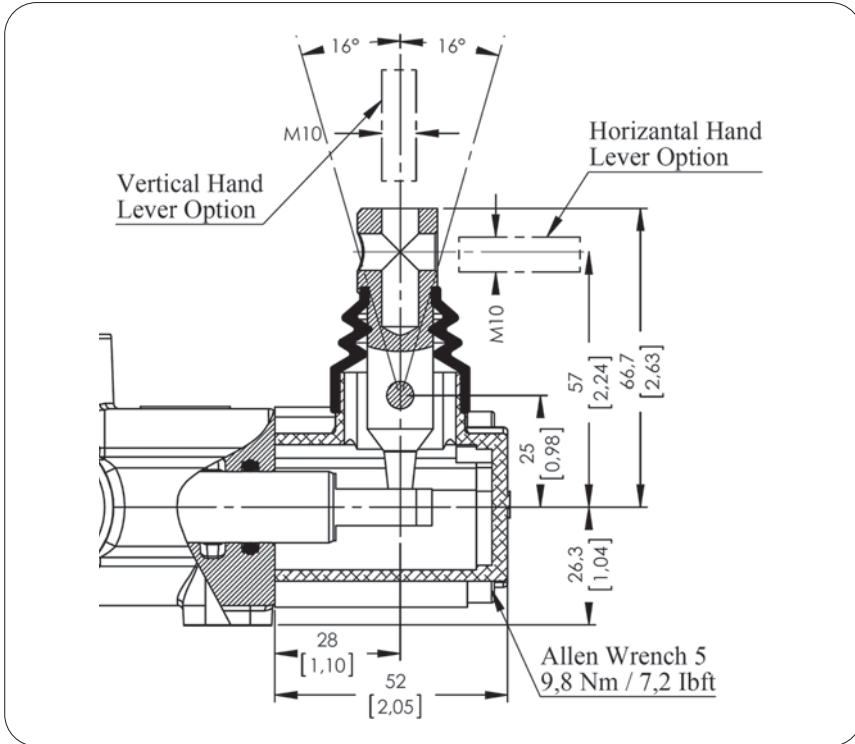
Power Rating.....: 6 W

SPOOL POSITIONERS – SIDE OF LEVER CONTROL

Lever Controls

Kit No: **STL - L0**

Sectional Appearance

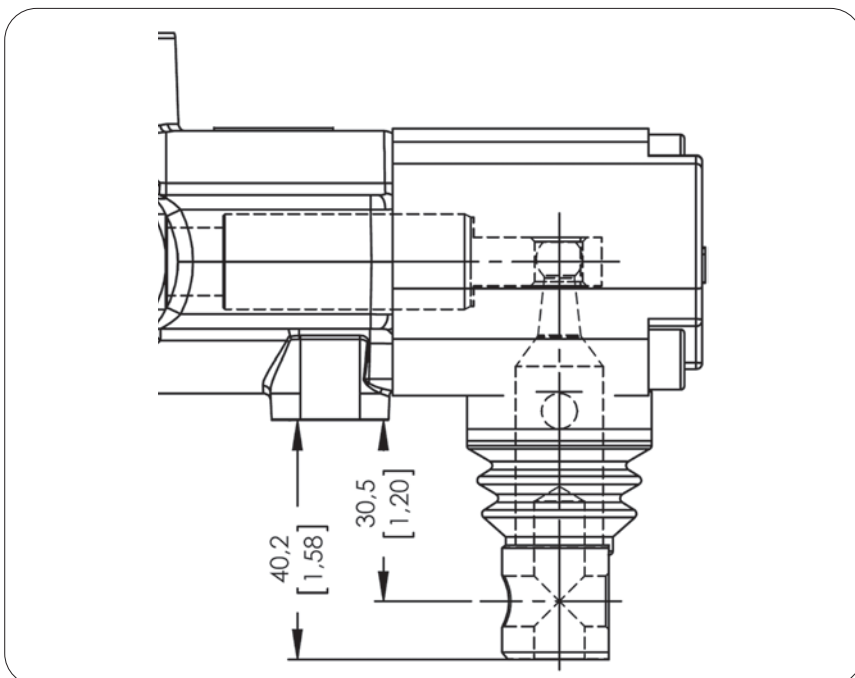


Diagram

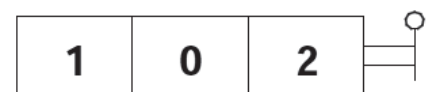


Kit No: **STL - L180**

Sectional Appearance



Diagram



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

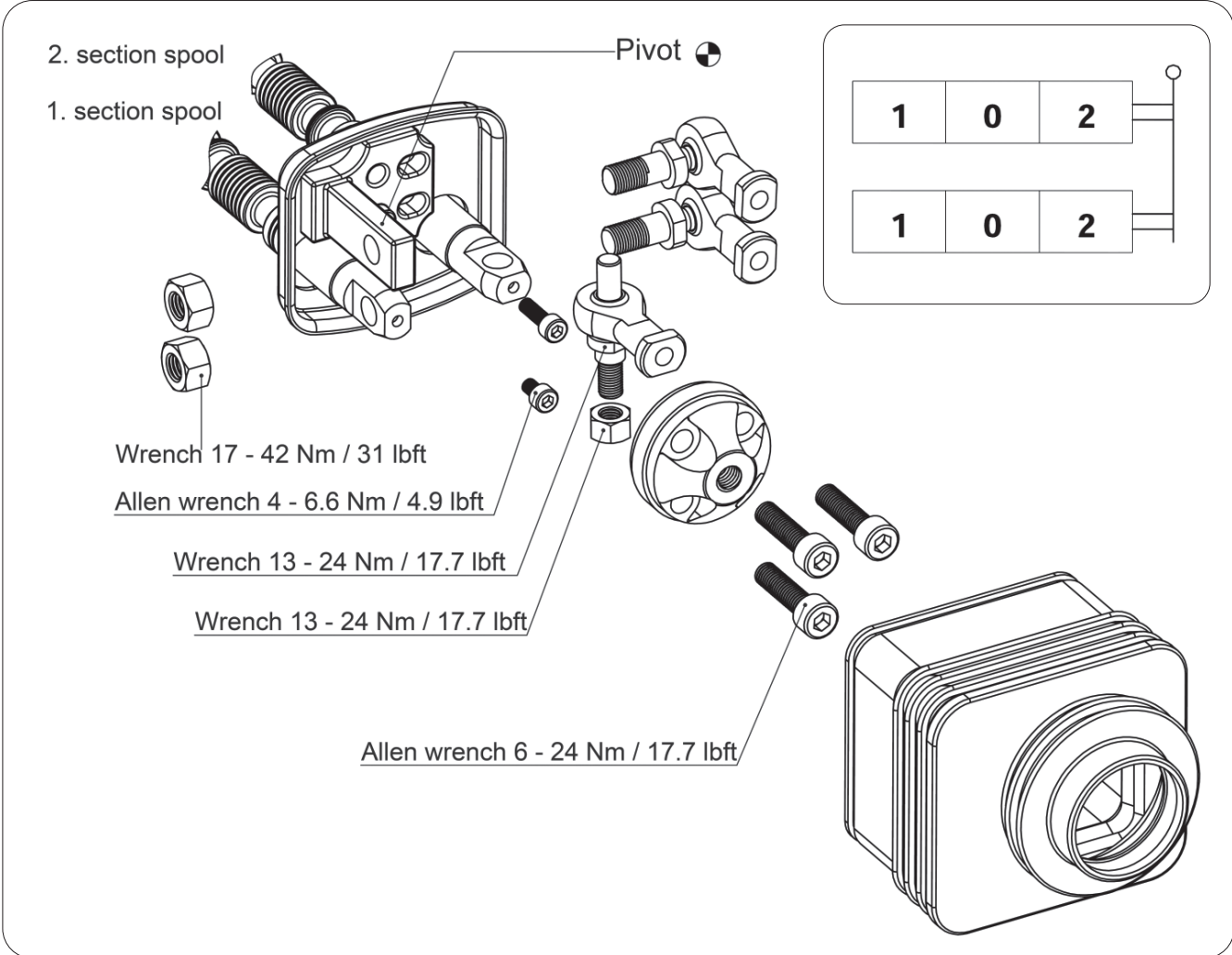
SPOOL POSITIONERS – SIDE OF LEVER CONTROL

Lever Controls – Joystick

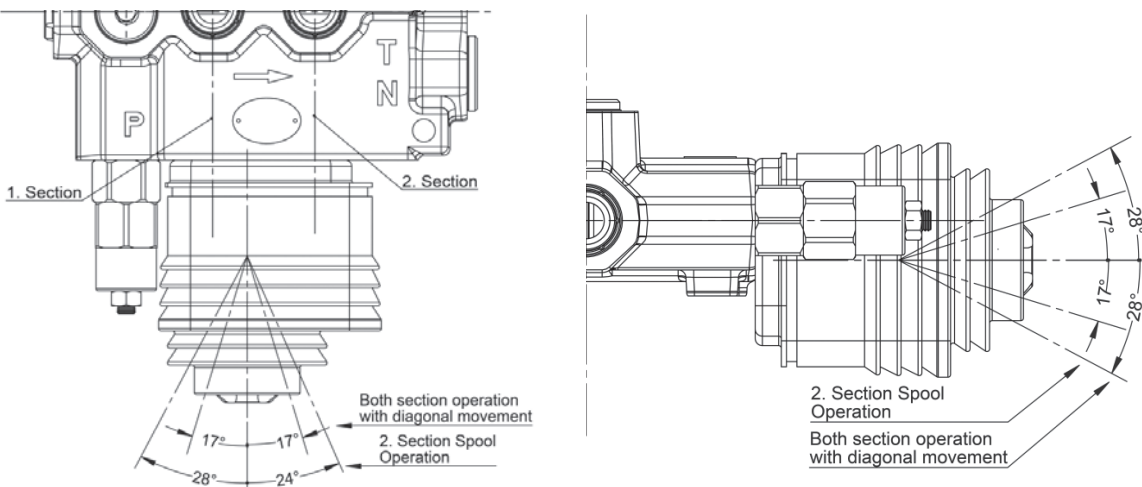
Kit No: **JL**

Exploded View

Diagram



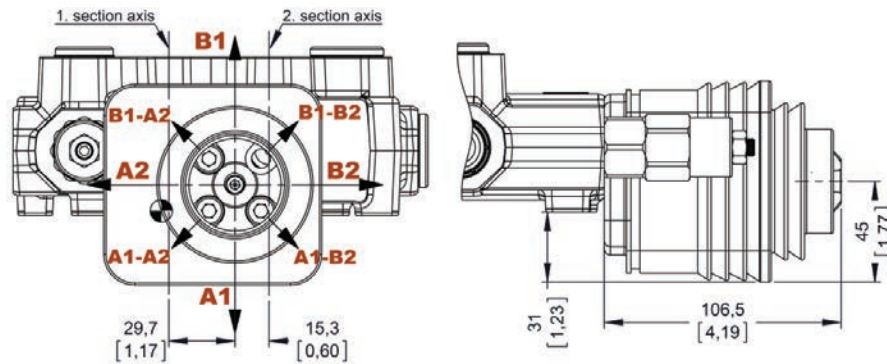
Operation Angle:



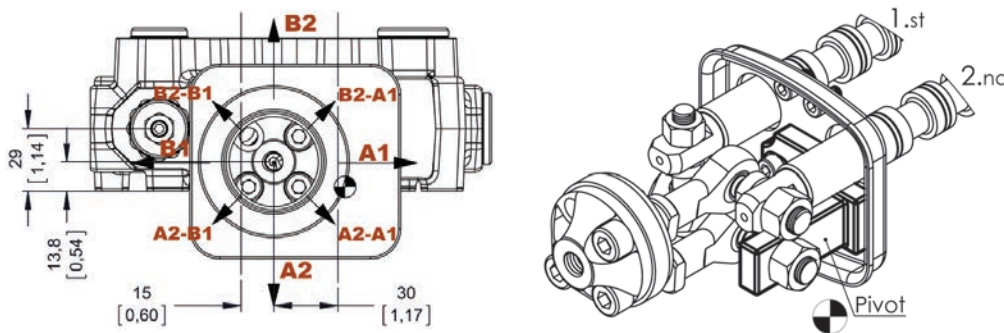
SPOOL POSITIONERS – SIDE OF LEVER CONTROL
Lever Controls - Joystick
Dimensions and movement scheme

 Type No: **JL1**

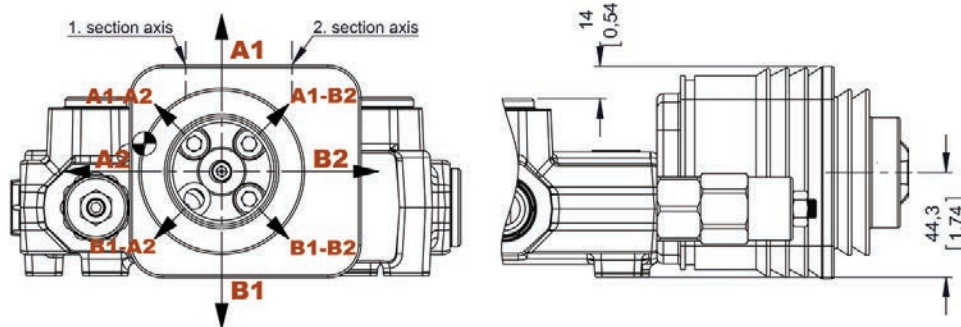
Application: Pivot placed down on the Left


 Type No: **JL2**

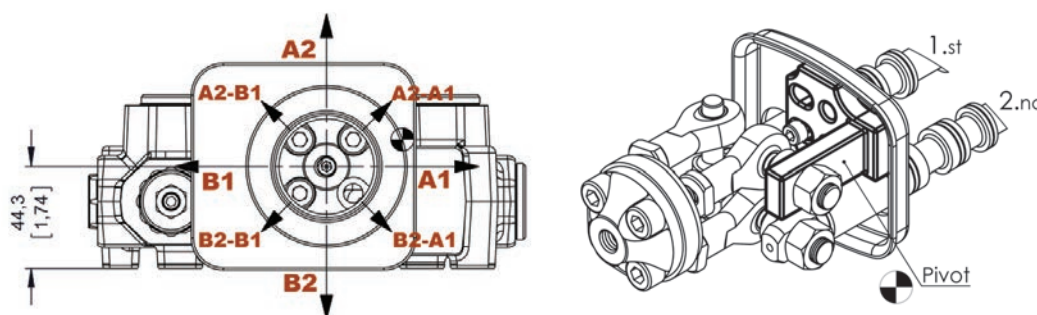
Application: Pivot placed down on the right


 Type No: **JL3**

Application: Pivot placed above on the Left


 Type No: **JL4**

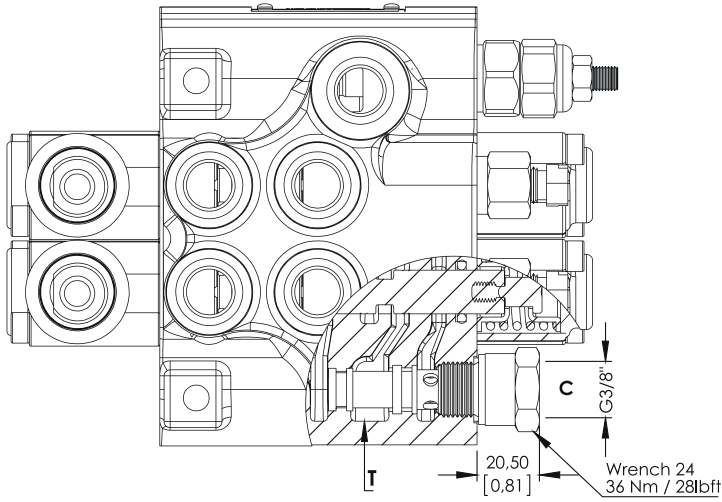
Application: Pivot placed above on the right



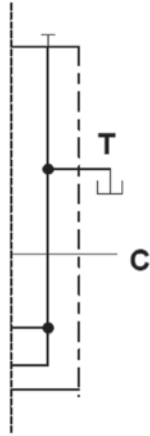
OUTLET PORT OPTIONS

Carry - Over Connection

Kit No: CO

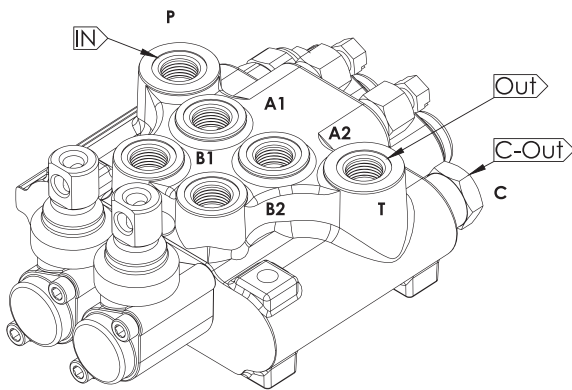


Sectional Appearance



Hydraulic Circuit

Code: GMM TV50-2P / SMR2-120 / 1A-SR-STL/1A-SR-STL/CO-PA1/SGT



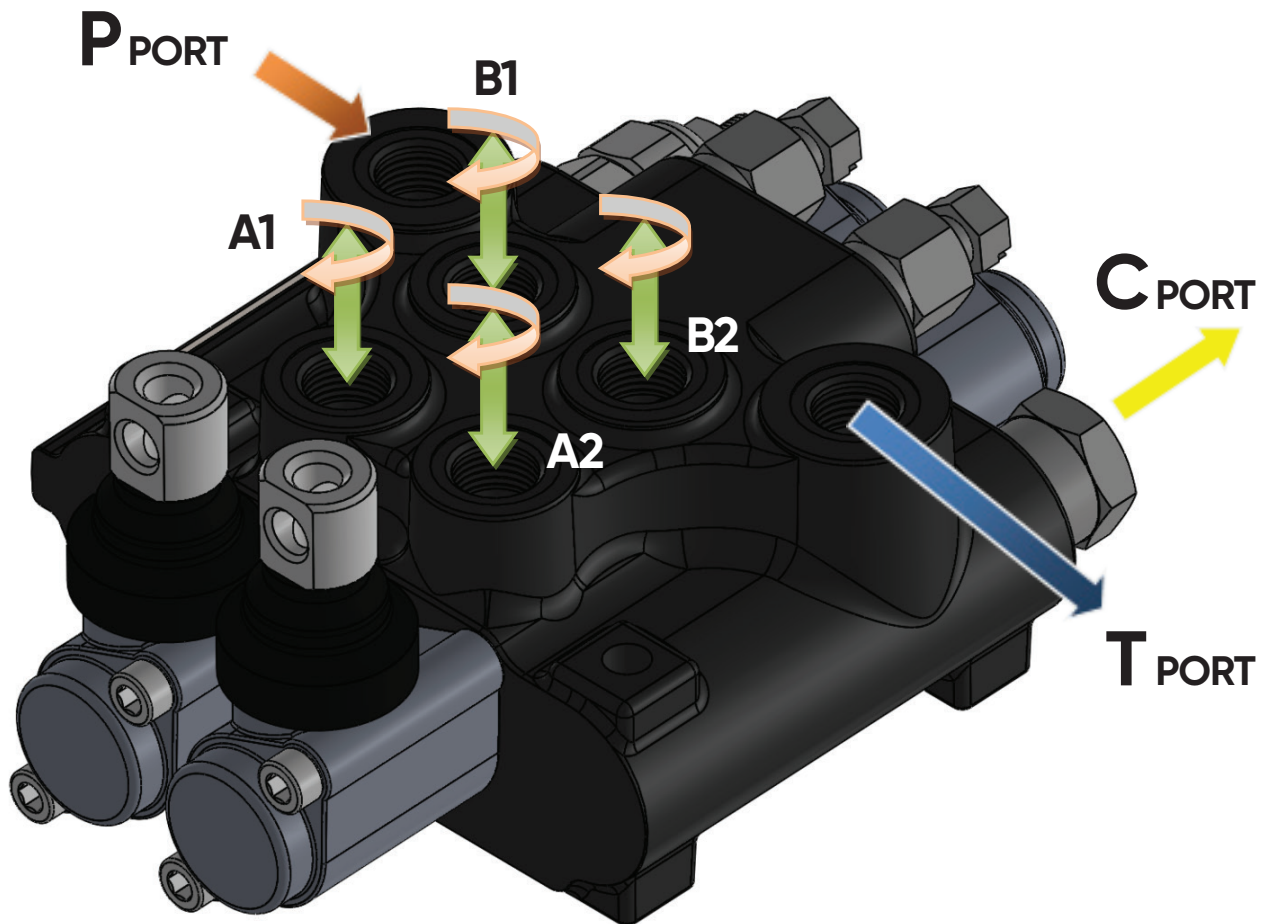
Direction of Port Connected

SGT : See page 5 for Standard center

INSTALLATION AND MAINTENANCE

The GMM TV50 valve is assembled and tested as per the technical specification of this catalog. Before the final installation on your equipment, follow the below recommendation:

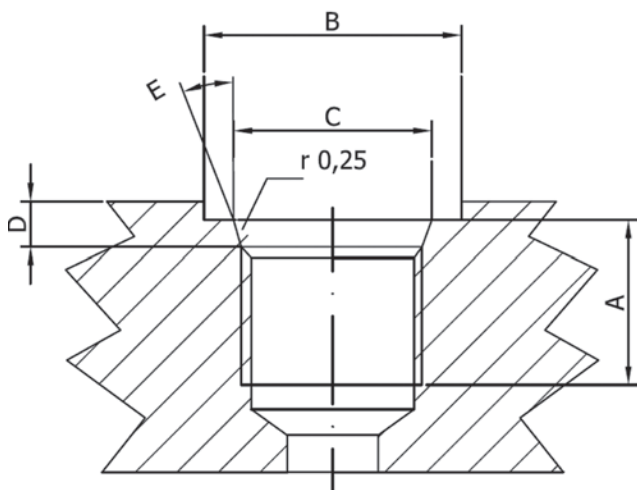
- The valve can be assembled in any position, in order to prevent body deformation and spool sticking mount the product on a flat surface;
- In order to prevent the possibility of water entering the lever box and spool control kit, do not use high pressure wash down directly on the valve;
- Before painting, ensure plastic port plugs are tightly in place.



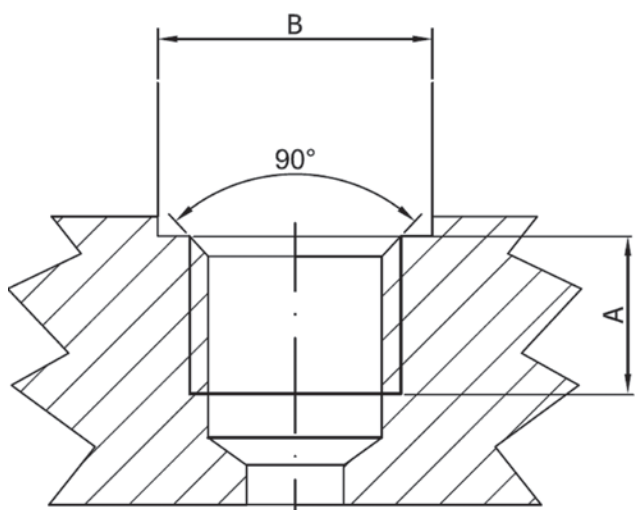
Threads Type (Nm / lbft)	P Port	A and B Port	T and C Port
BSP (ISO 228/1)	G 3/8	G 3/8	G 3/8
With O--Ring seal	35 / 25.8	35 / 25.8	35 / 25.8
With copper washer	40 / 29.5	40 / 29.5	40 / 29.5
With steel and rubber washer	30 / 22.1	30 / 22.1	30 / 22.1
UN--UNF (ISO 11926--1)	3/4--16 UNF--2B	9/16--18 UNF--2B	3/4--16 UNF--2B
With O--Ring seal	50 / 36.9	30 / 22.1	50 / 36.9
METRIC (ISO 262)	M18 x 1.5	M18 x 1.5	M18 x 1.5
With O--Ring seal	35 / 25.8	35 / 25.8	35 / 25.8
With copper washer	40 / 29.5	40 / 29.5	40 / 29.5
With steel and rubber washer	40 / 29.5	40 / 29.5	40 / 29.5

TECHNICAL DATA

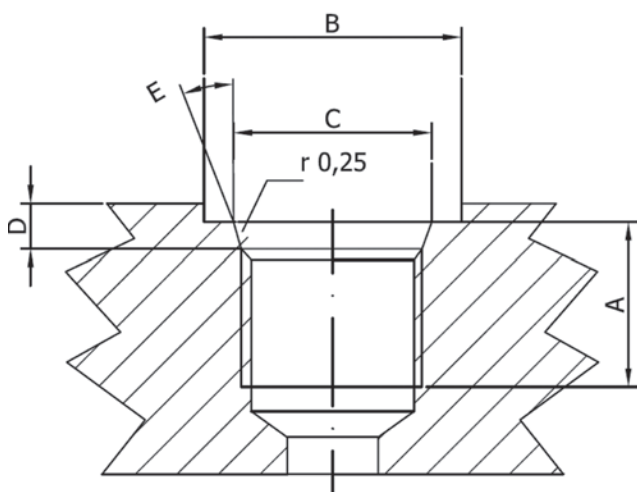
Ports Dimensional Data



SAE UN-UNF (ISO 725)							
Dimensions		9/16-18		3/4-16		7/8-14 UNF	
mm	in	UNF SAE6		UNF SAE8		UNF SAE10	
A		13	0,51	15	13	0,51	15
B		25	0,83	30	25	0,83	30
C		13,6	0,61	20,6	13,6	0,61	20,6
D		2,5	0,10	2,5	2,5	0,10	2,5
E		15°		15°		15°	



BSP (ISO 228)							
Dimensions		G 1/4		G 3/8		G1/2	
mm	in						
A		14	0,55	14	14	0,55	14
B		19	0,75	23	19	0,75	23



METRIC (ISO 262)							
Dimensions		M18x1,5		M22x1,5			
mm	in	ISO 262		ISO 262			
A		14	0,55	14	0,55		
B		27,5	1,08	27,5	1,08		



GMM
TV50

