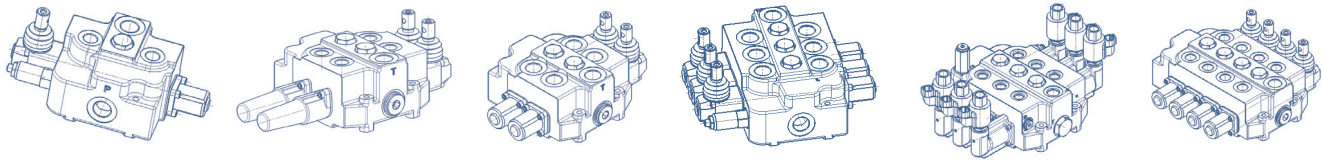


GDV80 Series Monoblock Valves



Main Features

- Cast iron monoblock body.
- Spring cap, mechanical detent cap, as well as electric or hydraulic pilot controlled module body are made by cast aluminum or die cast aluminum.
- Parallel circuit. Each spool has its own load check valve.
- Provides different drive modules (electrical drive, hydraulic remote, manually control, wire driving).
- Provides power beyond port.
- Can be modified to a close circuit.
- Provides different spool functions to be used for controlling double acting cylinder , single acting cylinders, hydraulic motors.
- Provides machanical detent with adjustable detent force.
- Provides excellent flow characteristics and small operating force.
- Can be proportionally controlled (without pressure compensation);
- Can be made with 1-6 spools.

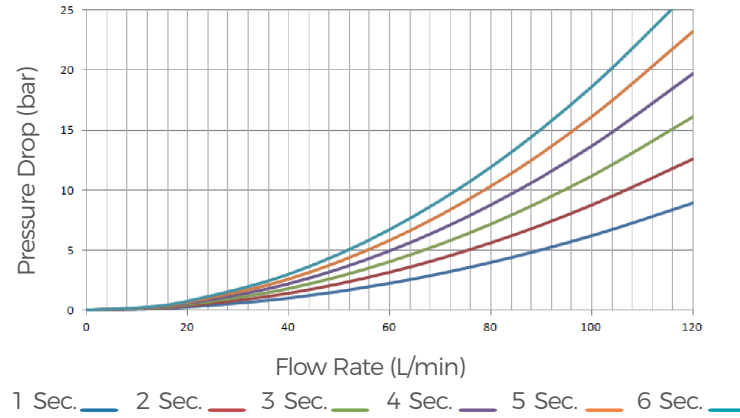
Technical Data

Rated flow rate	80 L/min	With NBR seals	-20°C - 80°C
Maximum flow rate	100 L/min	With FKM seals	-20°C - 100°C
Maximum pressure at P port	310 bar	Spool stroke(1, 2 position)	+7/-7mm
Maximum pressure at A/B port	310 bar	With floating function(1, 2 , F position)	+7/-7 -9mm
Maximum pressure at T port	25 bar	Recommend hydraulic oil viscosity range	15-75mm ² /s
Internal leakage(@70 bar)	A/B to T 30-35 cc/min	Recommend temperature range	-40°C - 60°C

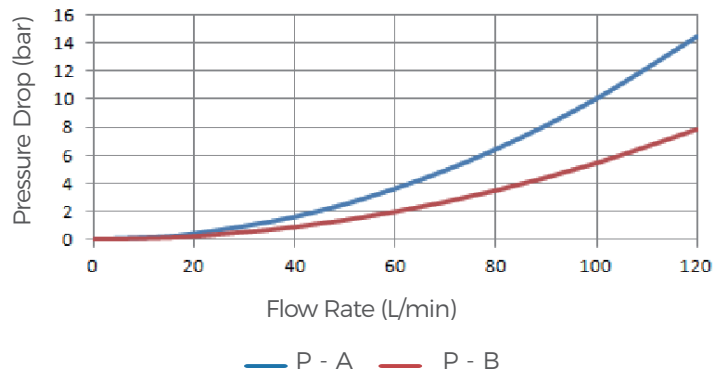
Solenoid can be either 12 VDC or 24 VDC , corresponding current is 0 - 1.5 or 0 - 0.75 Amp.

Performance Data

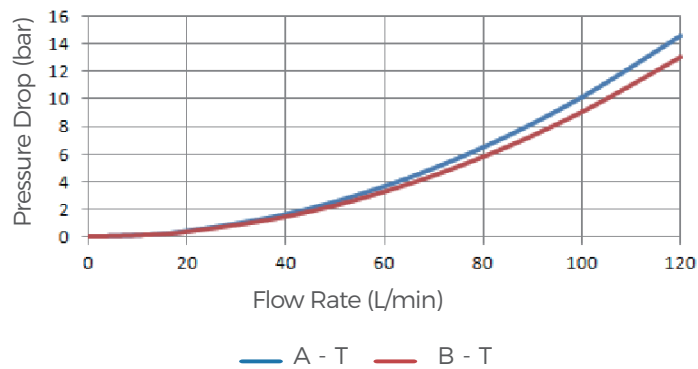
At Neutral, Pressure Drop (P to T)



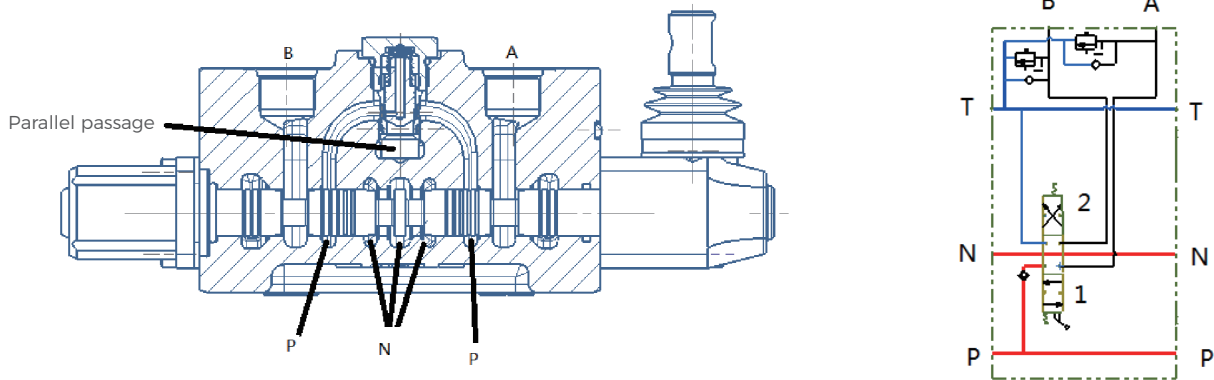
Pressure Drop (P to A/B)



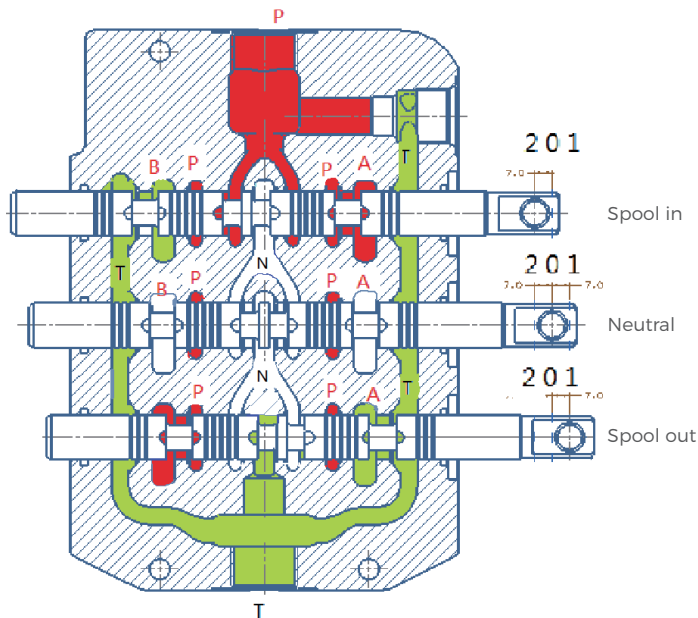
Pressure Drop (A/B to T)



Basic Operating Principle

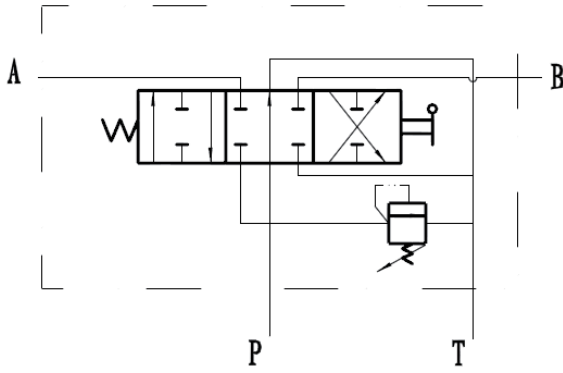


GDV80 series monoblock valve is an open centered 3-position 4-way valve. When spool is in its neutral position, the flow from pump passes through the neutral passage to tank, with very low pressure drop. When one of the spool is moved to 1 or 2 position, the neutral passage is blocked. The flow from pump can only pass through parallel passage to load check valve, then, through the spool port and enter into spool controlled working port A or B.

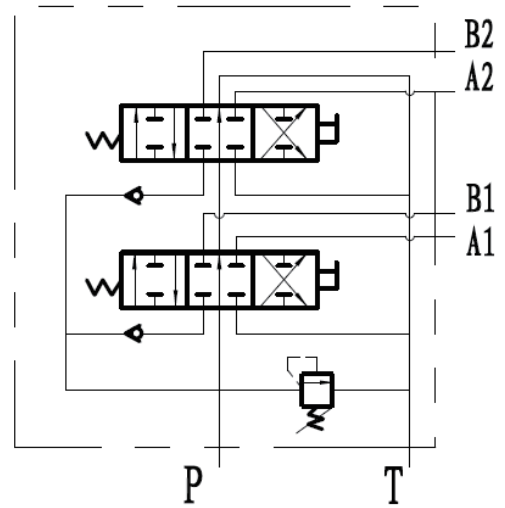


For multi-spool monoblock valves, if one of the spools is in 1 or 2 position, then there is no flow in its downstream spool's neutral passage. The main throttle occurs on the valve opening between bridge passage and spool. The operator can control more than one spool, but the flow rate for each controlled spool is dependent on the load.

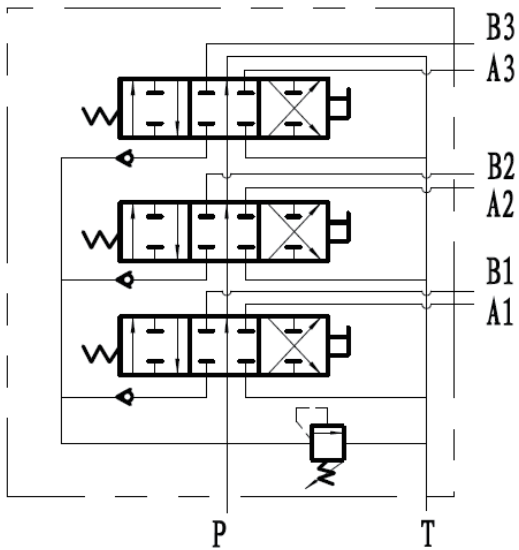
Hydraulic Schematics



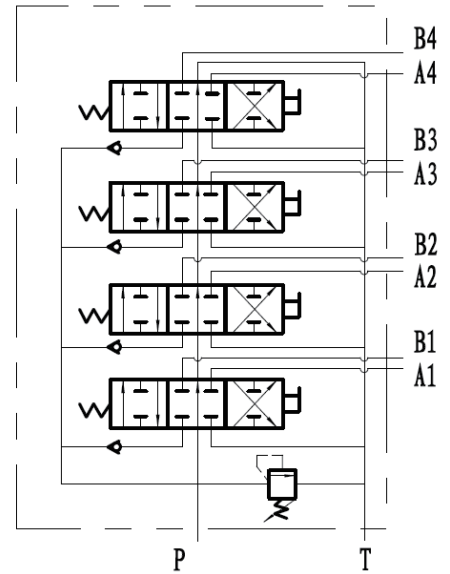
GDV80-1



GDV80-2



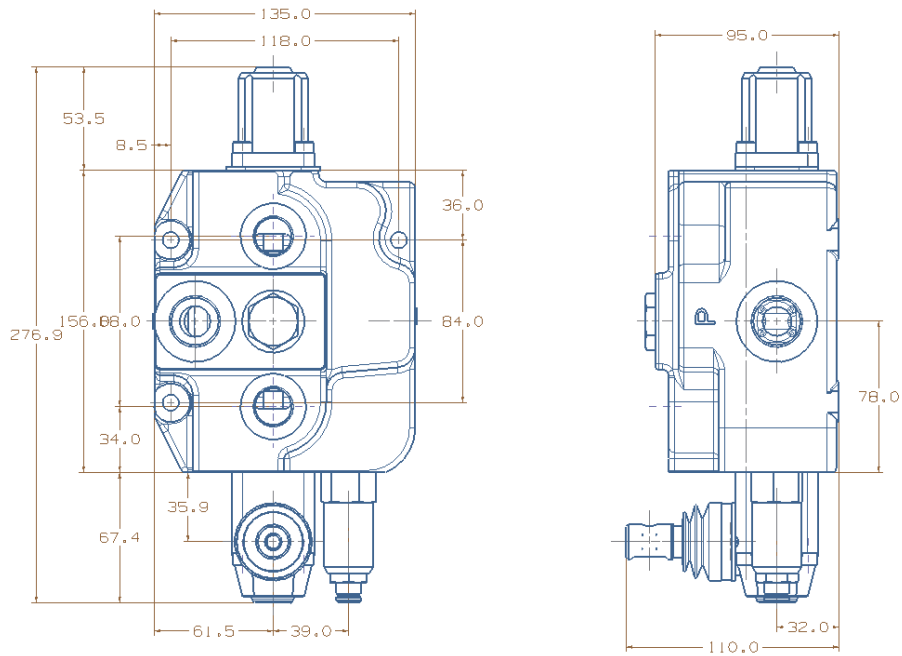
GDV80-3



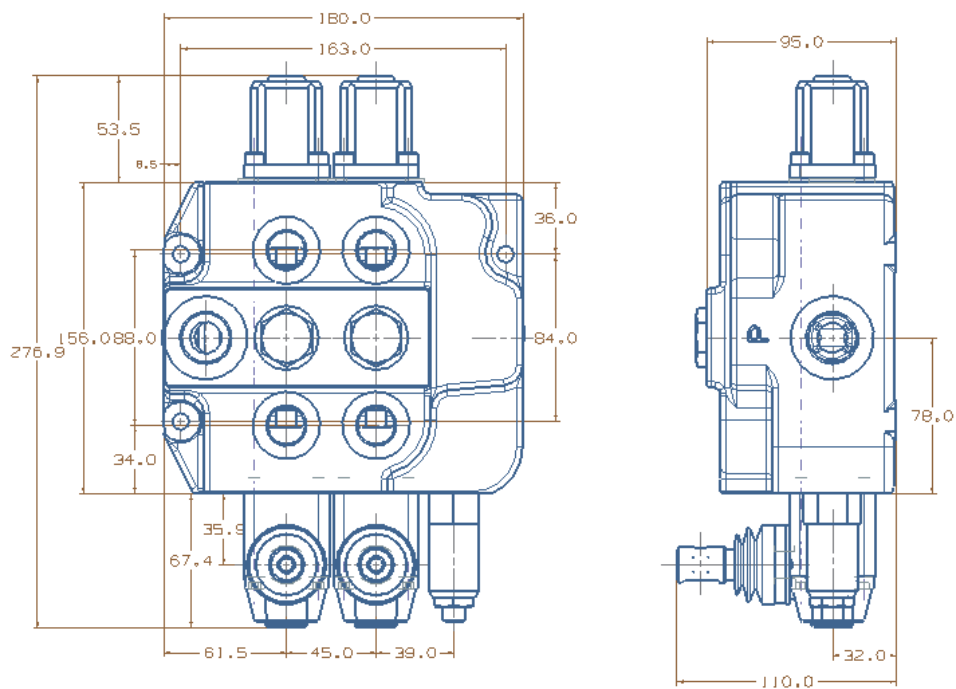
GDV80-4

Dimensions

GDV80-1: 1 Spool Monoblock Valve

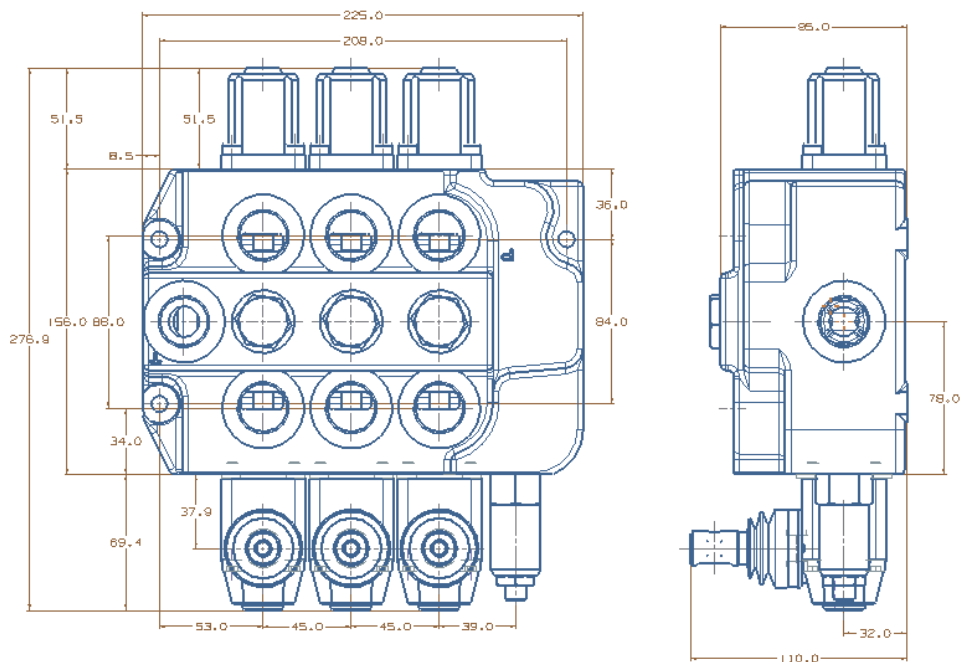


GDV80-2: 2 Spools Monoblock Valve

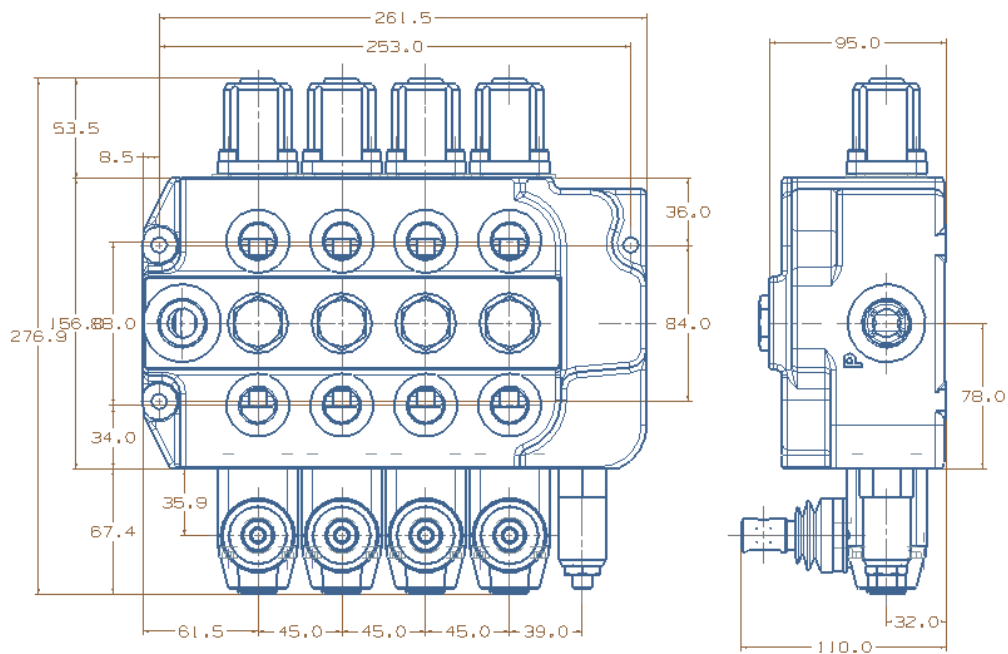


Dimensions

GDV80-3: 3 Spools Monoblock Valve

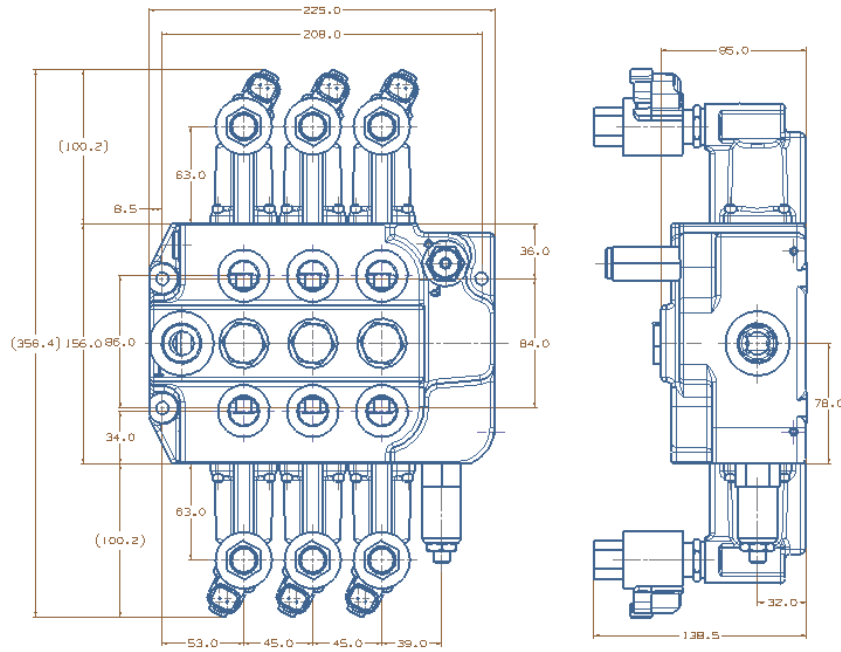


GDV80-4: 4 Spools Monoblock Valve

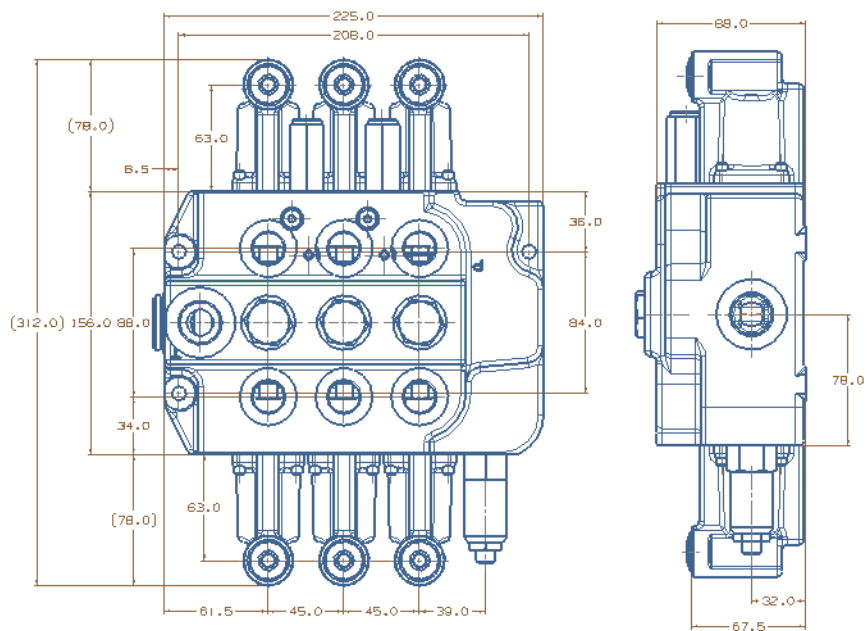


Dimensions

Electrical Drive

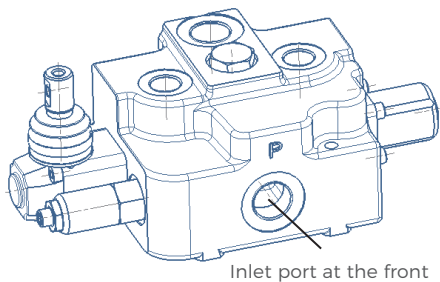


Hydraulic Remote

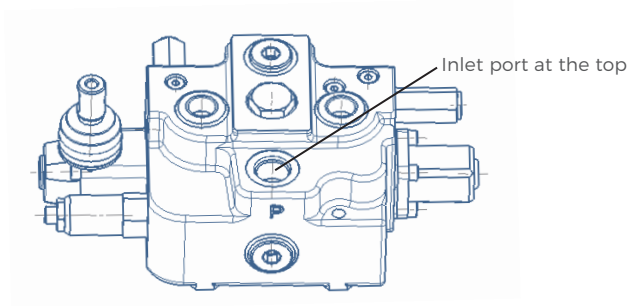


Inlet Port Options

Inlet Option Code: P1 (Inlet port at the front)

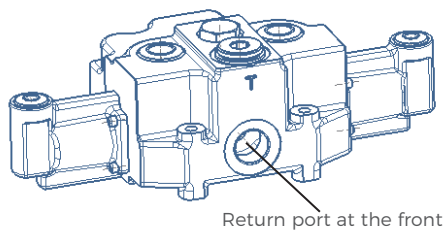


Inlet Port Option Code: P2 (Inlet port at the top)

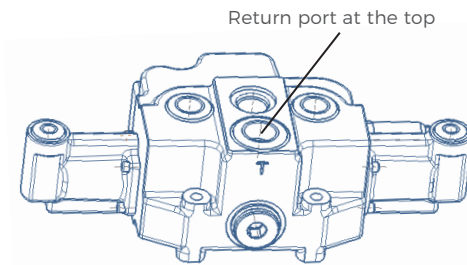


Return Port Options

Return Port Option Code: T1 (Return port at the front)



Return Port Option Code: T2 (Return port at the top)

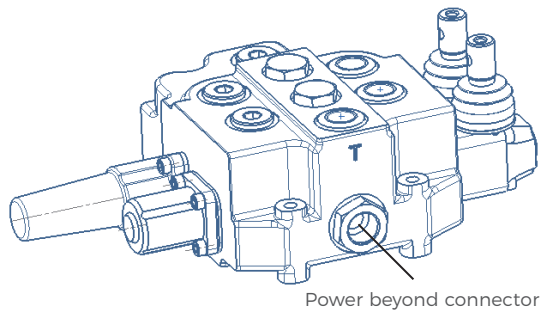


Power Beyond Options

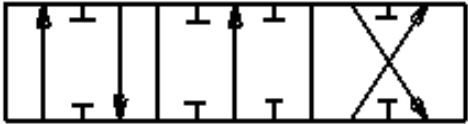
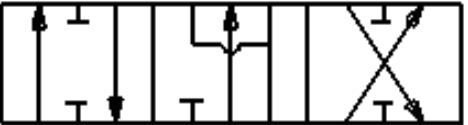
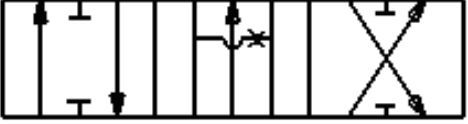
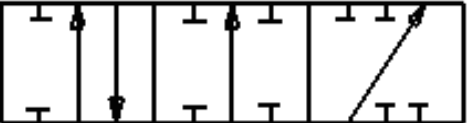
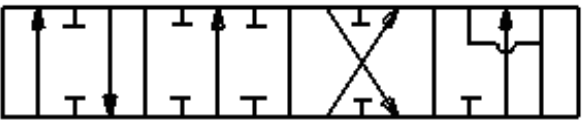

Power Beyond Port Option Code:

D1 (Pump flow output to a power beyond connector)

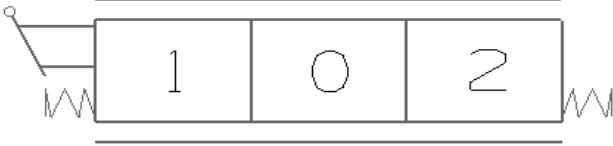
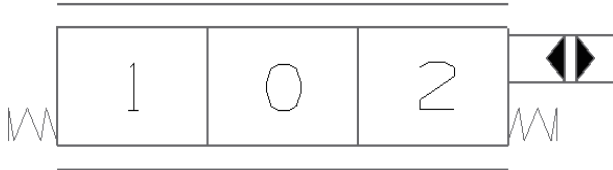
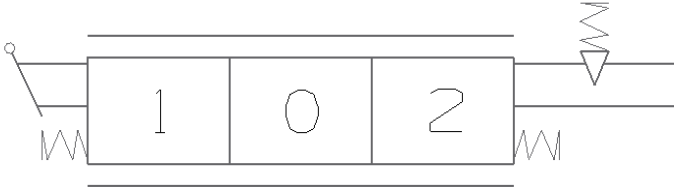
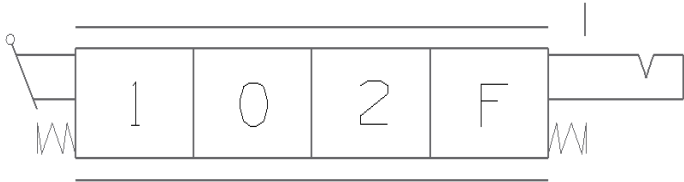
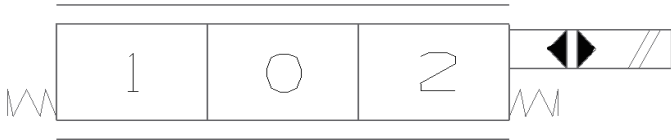
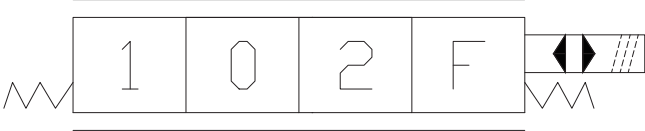
D0 (Without power beyond)



Typical Spool Functions

Spool Code	Spool Type	Function	Notes
FG1		3-position 4-way At neutral: P, T, A, B are all blocked	Double acting cylinder applications
FG2		3-position 4-way At neutral: P blocked, T, A, B connected	Hydraulic motor applications
FG3		3-position 4-way At neutral: P, A, B and T all connected	Hydraulic motor applications
FG4		3-position 3-way At neutral: P, T, A, B all blocked	Single acting cylinder applications
FG5		4-position 4-way At neutral: P, T, A, and B are all blocked 4th position floating	Double acting cylinder applications
FG6		4-position 4-way At neutral: P blocked, T, A and B are connected 4th position floating	Double acting cylinder or hydraulic motor applications

Drive Options

Drive Style Code	Hydraulic Schematic	Functions
KQ1		Standard manual control
KQ2		Hydraulic remote
KQ3		Manual control with mechanical detent
KQ4		Manual control with 4th position floating and detent
KQ5		Electrical drive(on/off)
KQ6		Electrical actuated with floating function

Ordering Code

GDV80	-*	-P*	/***	-T*	-D*	-O1	-FG*	KQ*	-DC/**	-AR/***
a	b	c	d	e	f	g	h	i	j	k

- | | |
|--|--|
| <ul style="list-style-type: none"> Ⓐ Model Ⓑ Number of spools Ⓒ Inlet port code Ⓓ Inlet relief setting(bar) Ⓔ Return port code Ⓕ Power beyond Ⓖ First spool | <ul style="list-style-type: none"> Ⓗ Spool function
FG1, FG2, FG3, FG4, FG5, FG6 Ⓘ Drive code
KQ1, KQ2, KQ3, KQ4, KQ5, KQ6 ⓵ Electrical option
12VDC, 24VDC, 00=none electrical Ⓚ Relief settings of the over load relief at A port(bar)
If no relief, input for pressure: 000 |
|--|--|

-BR/***	-O2
l	m	n

- Ⓛ Relief settings of the over load relief at B port(bar)
If no relief, input for pressure: 000
- Ⓜ Second spool
- Ⓝ

Ordering Example

GDV80	-3	-P1	/210	-T1	-D1	-O1	-FG1	KQ1	-DC/00	-AR/250	-BR/190
a	b	c	d	e	f	g	h	i	j	k	l

- | | |
|--|--|
| <ul style="list-style-type: none"> Ⓐ Model Ⓑ Three spools monoblock valve Ⓒ Inlet port at the front Ⓓ Inlet relief setting(210bar) Ⓔ Return port at the front Ⓕ Power beyond | <ul style="list-style-type: none"> Ⓖ First spool Ⓗ Spool function: O-type Ⓘ Drive mode: standard manual control ⓷ Not electrical Ⓚ Port A overload setting pressure 250bar Ⓛ Port B overload setting pressure 190bar |
|--|--|

-O2	-FG2	-KQ5	-DC/24	-AR/000	-BR/000	-O3	-FG2	-KQ2	-DC/00	-AR/220	-BR/000
m	n	o	p	q	r	s	t	u	v	w	x

- | | |
|---|---|
| <ul style="list-style-type: none"> Ⓜ Second spool Ⓝ Spool function: Y-type Ⓞ Drive mode: electrical drive Ⓟ 24VDC Ⓠ Port A without overload valve Ⓡ Port B without overload valve | <ul style="list-style-type: none"> Ⓢ Third spool Ⓣ Spool function: Y-type Ⓤ Drive mode: hydraulic remote Ⓥ Not electrical Ⓦ Port A overload setting pressure 220bar Ⓧ Port B without overload valve |
|---|---|