

GDV25 Series Monoblock Valves

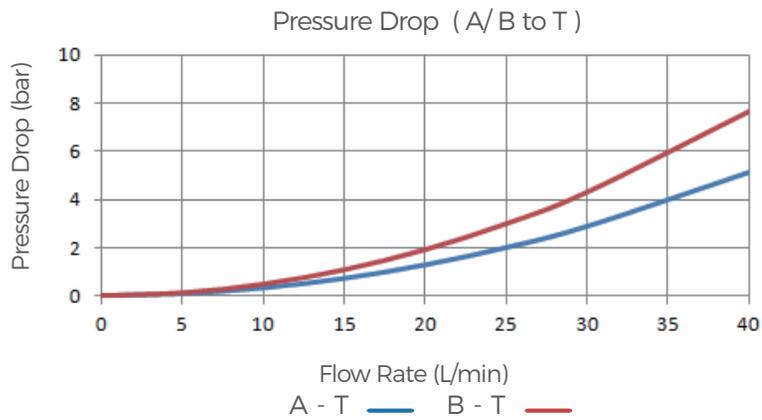
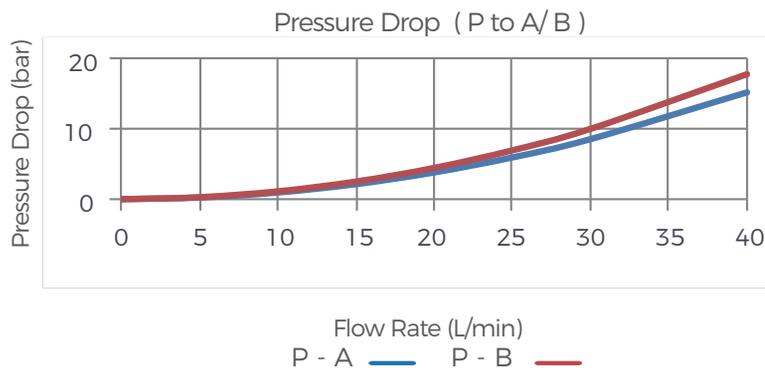
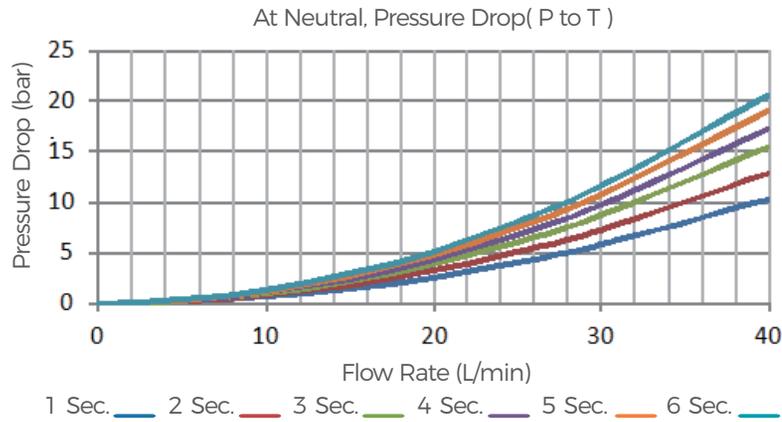
Main Features

- Cast iron body.
- Spring cap, mechanical detent cap are made by die cast aluminum.
Parallel circuit. Inlet passage has a load check valve.
- Provides manual control and wire pulling control modules.
- Provides power beyond options.
- Provides mechanical detent.
- Provides different spool functions to satisfy the needs for customers to control double and single cylinders, as well as to control hydraulic motors.
Provide excellent flow characteristics and small operating force.
- Provides 6 different assemblies from 1 spool to 6 spools.
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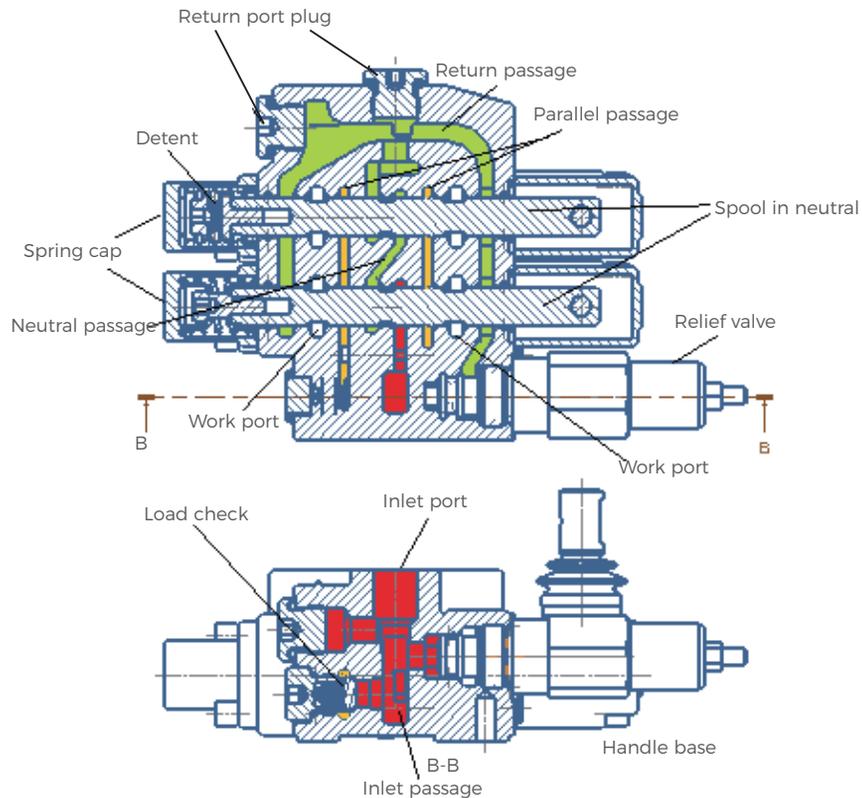
Technical Data

Rated flow rate	25 L/min	With NBR seals	-20°C- 80°C
Maximum flow rate	30 L/min	With FKM seals	-20°C- 100°C
Maximum pressure at P port	250 bar	Spool stroke (1/2 position)	+5.5/-5.5mm
Maximum pressure at A/ B port	250 bar	With floating function (1/2 / F position)	+5.5/-5.5 -8mm
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

Performance Data



Basic Operating Principle

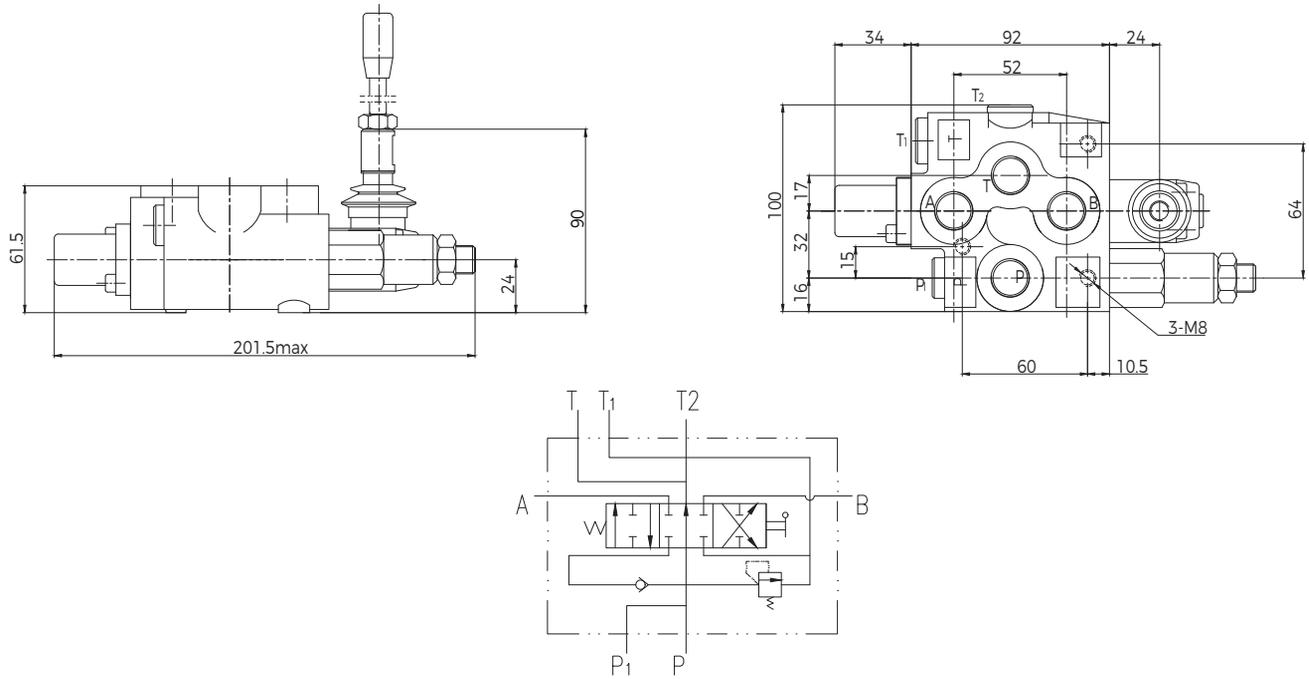


GDV25 series monoblock valve is an open center, 3-position 4-way valve. Flow from pump passes through inlet port and enters to inlet passage. The inlet passage connects two passages: one is through the load check into the parallel passage to supply flow to the working spool, another is to neutral passage. When spool is in neutral position, the parallel passage of spool is blocked. The oil from pump has to pass through neutral passage. When all spools are in neutral position, parallel passage for each spool is blocked, and neutral passage is wide open. Therefore, oil from pump is directly passing through the neutral passage to return passage to tank. It produces small pressure drop from P to T. When one of the spools is moved to 1 or 2 position, the spool blocked the neutral passage. The flow from pump has to pass load check valve and enter parallel passage, then through valve ports between parallel passage and spool to work port A or B.

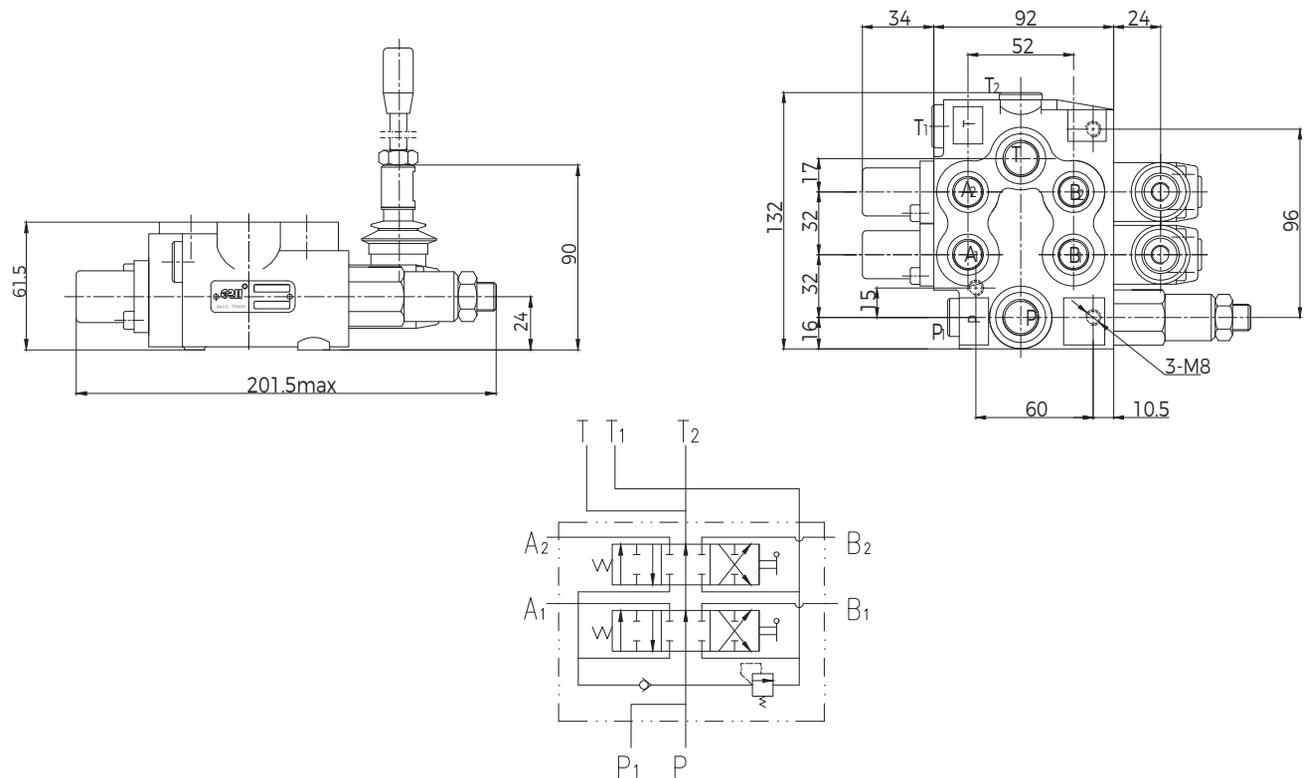
For multi-spool monoblock valve, when one of its spools is in 1 or 2 position, the neutral passage of its downstream has no flow. The operator can operate more than one spool at a time, but the speed of the controlled device will be dependent on the load of the device.

Dimensions

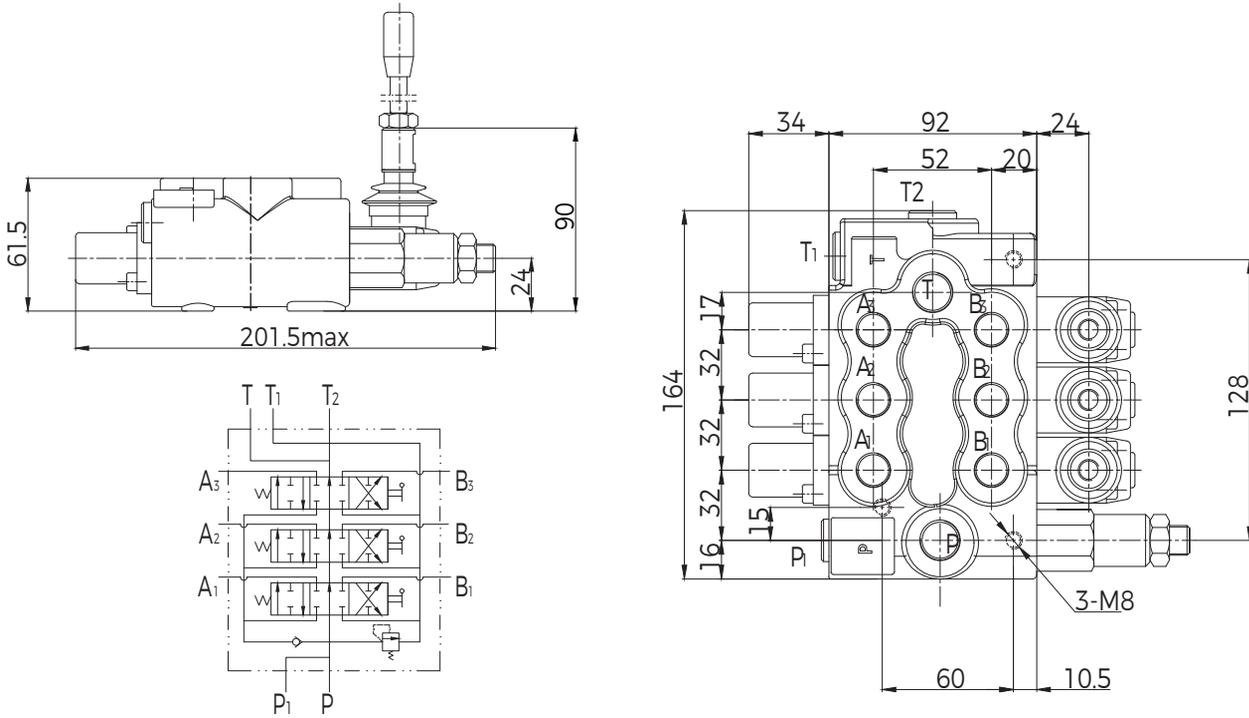
GDV25-1: 1 Spool Monoblock Valve



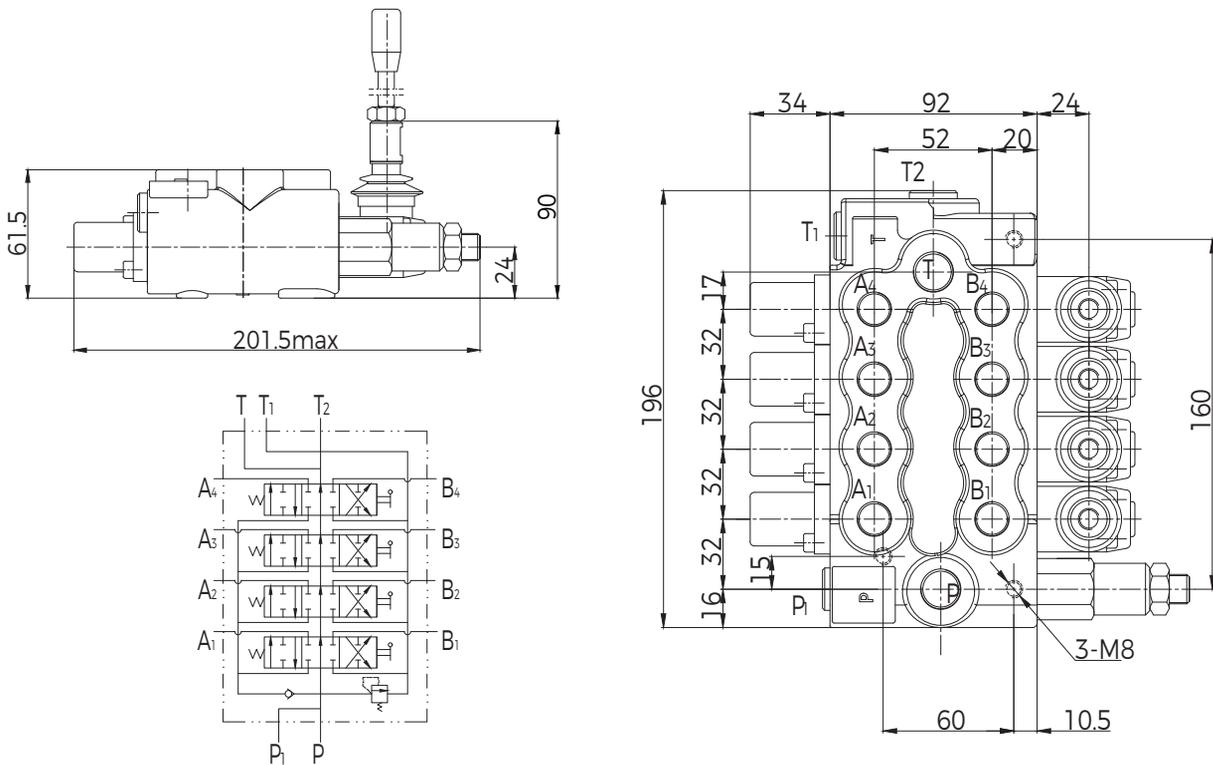
GDV25-2: 2 Spools Monoblock Valve



GDV25-3: 3 Spools Monoblock Valve

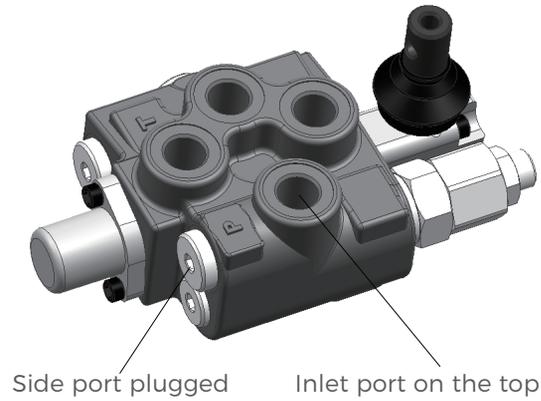


GDV25-4: 4 Spools Monoblock Valve

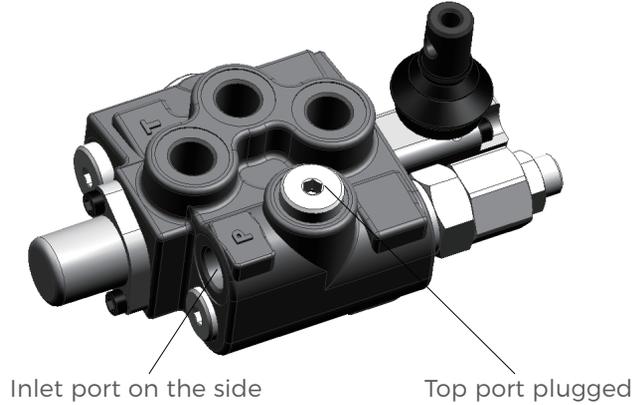


Inlet Port Options

Option Code: P1 (Port on the top)

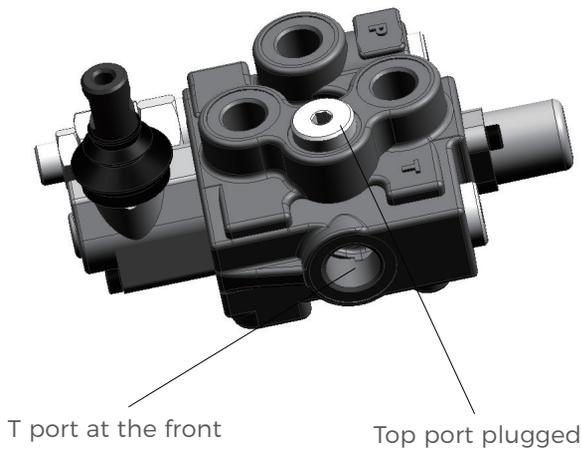


Option Code: P2 (Port on the side)

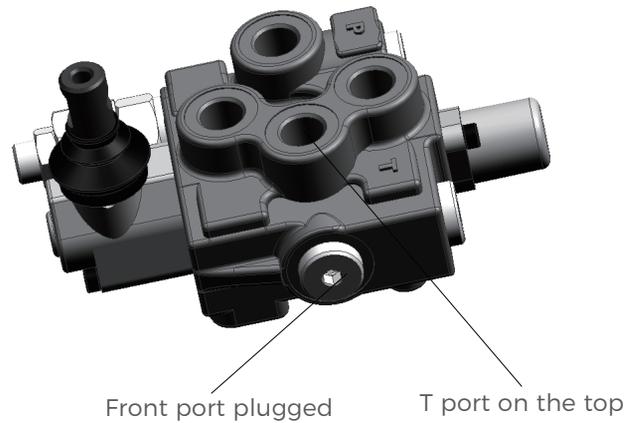


Return Port Options

Port T Option Code: T1 (T at the front)



Port T Option Code: T2 (T at the top)

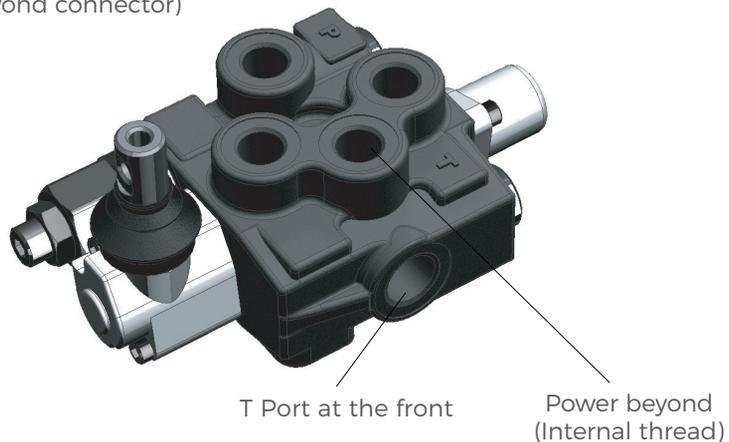


Power Beyond Options

Power Beyond Option Code:

D1(Pump flow output to a power beyond connector)

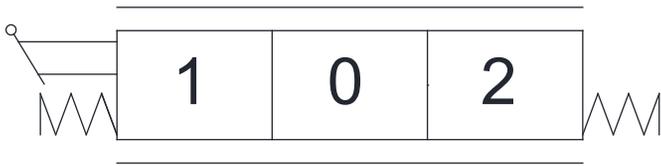
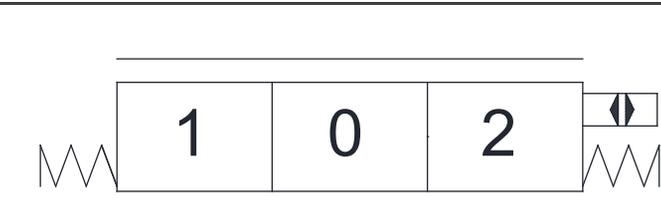
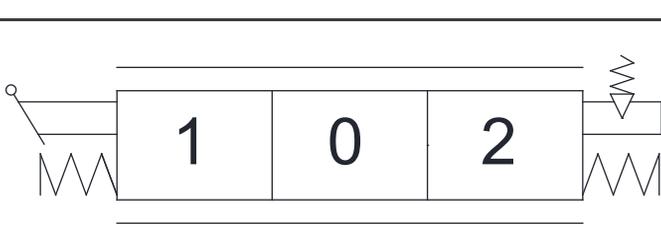
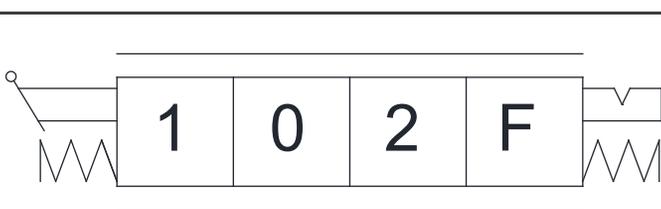
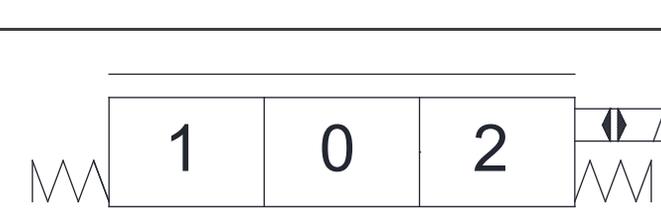
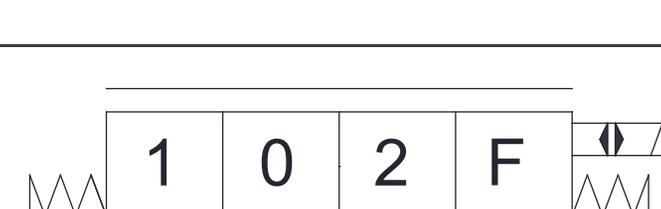
D0(Without power beyond)



Typical Spool Functions

Spool Code	Spool Type	Functions	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 (not available)		Manual control with 4th position floating and detent
KQ5 (not available)		Electrical drive(on/off)
KQ6 (not available)		Electrical actuated with floating function

Ordering Code

GDV25	-*	-P*	/***	-T*	-D*	-O1	-FG*	KQ*	-DC/**	-O2
a	b	c	d	e	f	g	h	i	j	k	l

- | | |
|-----------------------------|---|
| Ⓐ Model | ⓓ Spool function
FG1, FG2, FG3, FG4, FG5, FG6 |
| Ⓑ Number of spools | ⓔ Drive code
KQ1, KQ2, KQ3, KQ4, KQ5, KQ6 |
| Ⓒ Inlet port code | ⓕ Electrical option
12VDC, 24VDC, 00=none electrical |
| Ⓓ Inlet relief setting(bar) | ⓖ Second spool |
| Ⓔ Return port code | ⓗ |
| Ⓛ Power beyond | |
| Ⓜ First spool | |

Ordering Example

GDV25	-3	-P1	/210	-T1	-D1	-O1	-FG1	KQ1	-DC/00
a	b	c	d	e	f	g	h	i	j

- | | |
|--------------------------------|---------------------------------------|
| Ⓐ Model | ⓕ Power beyond |
| Ⓑ Three spools monoblock valve | ⓖ First spool |
| Ⓒ Inlet port on the top | ⓓ Spool function: O-type |
| Ⓓ Inlet relief setting(210bar) | ⓔ Drive mode: standard manual control |
| Ⓔ Return port at the front | ⓕ Not electrical |

-O2	-FG2	-KQ5	-DC/24	-O3	-FG2	-KQ2	-DC/00
k	l	m	n	o	p	q	r

- | | |
|--------------------------------|--------------------------------|
| ⓖ Second spool | ⓓ Third spool |
| ⓗ Spool function: Y-type | ⓔ Spool function: Y-type |
| ⓙ Drive mode: electrical drive | ⓕ Drive mode: hydraulic remote |
| Ⓩ 24VDC | ⓖ Not electrical |