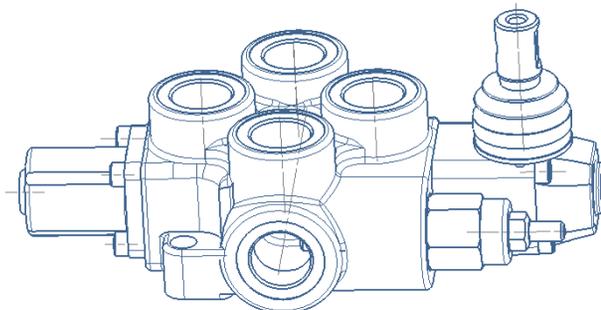


GDV120 Series Monoblock Valves



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.
- Provides mechanical detent.
- Provides power beyond port.
- Provides different spool functions to be used for controlling double acting cylinders, single acting cylinders, hydraulic motors.
- Provides excellent flow characteristics and small operating force.
- Can be made with 1-4 spools (now we can offer 1 spool).

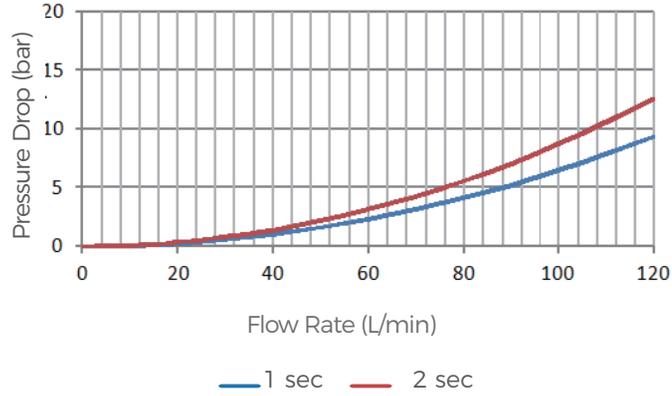
Technical Data

Rated flow rate	120 L/min	With NBR seals	-20°C- 80°C
Maximum flow rate	130 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 30-35cc/min	Recommend temperature range	-40°C- 60°C

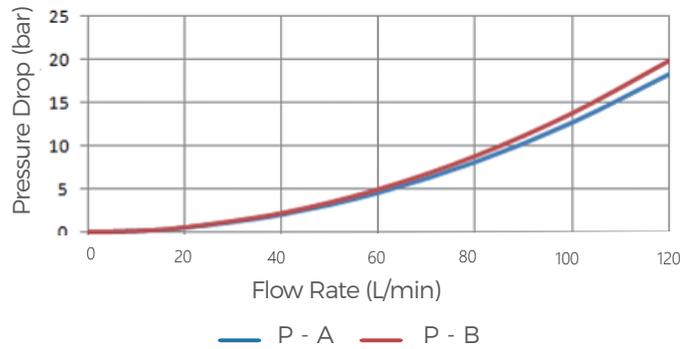
Solenoid can be either 12 VDC or 24 VDC , corresponding current is 0 - 1.5 or 0 - 0.75 Amp.

Performance Data

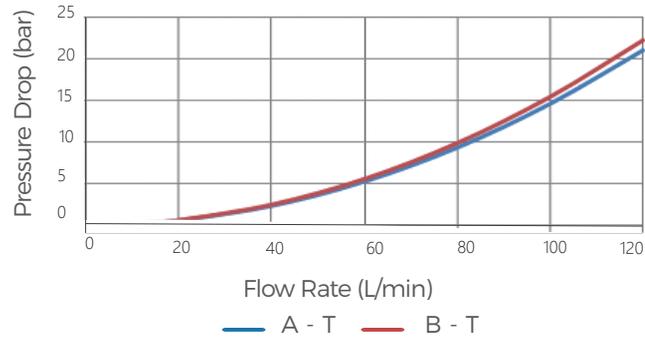
At Neutral, Pressure Drop (P to T)



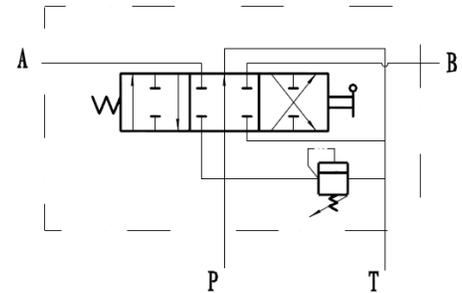
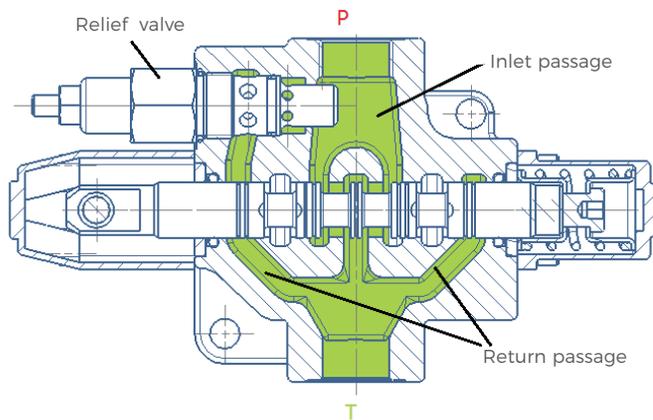
Pressure Drop (P to A/B)



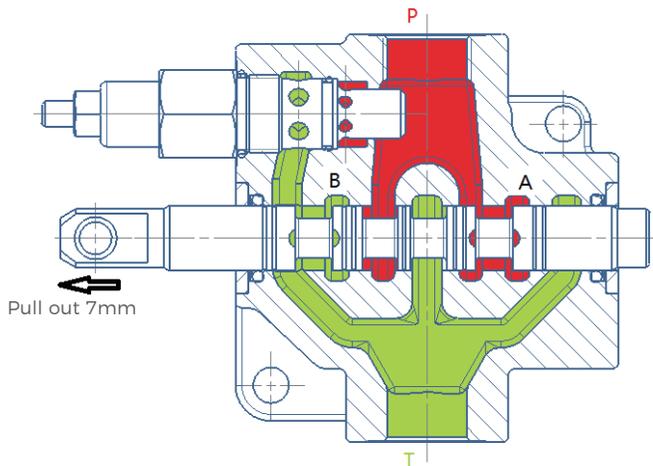
Pressure Drop (A/B to T)



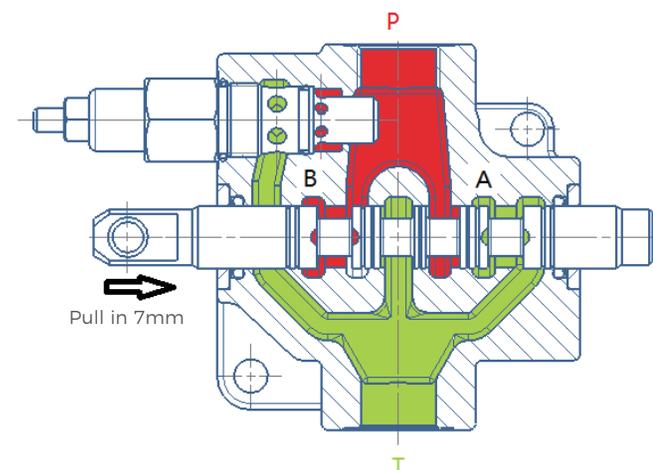
Basic Operating Principle



GDV120 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.



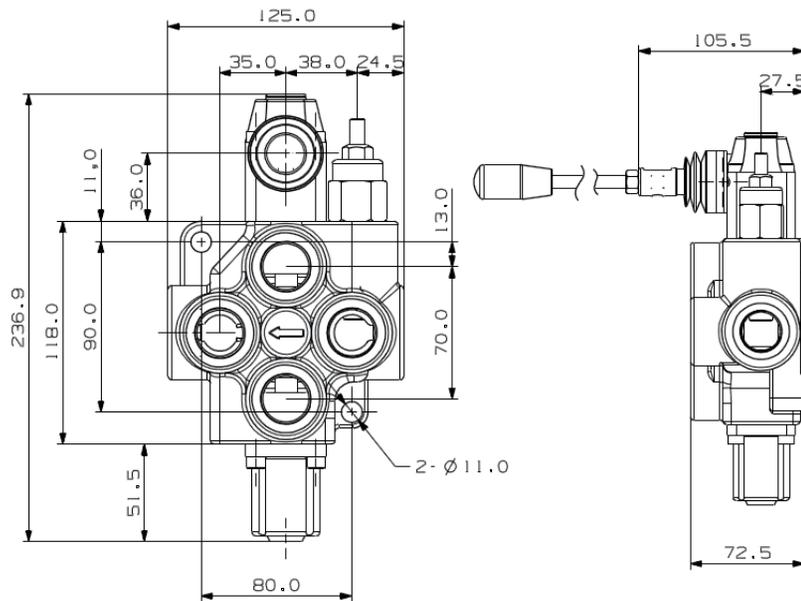
When spool is pulled out 7 mm, the neutral passage is blocked. Flow from pump passes through the spool opening on the right side to work port A. At the same time, the flow from port B passes to return passage, then to tank, through the spool opening on the left side of the spool.



When spool is pushed in 7 mm, the neutral passage is blocked. Flow from pump passes through the spool opening on the left side to work port B. At the same time, the flow from port A passes to return passage, then to tank, through the spool opening on the right side of the spool.

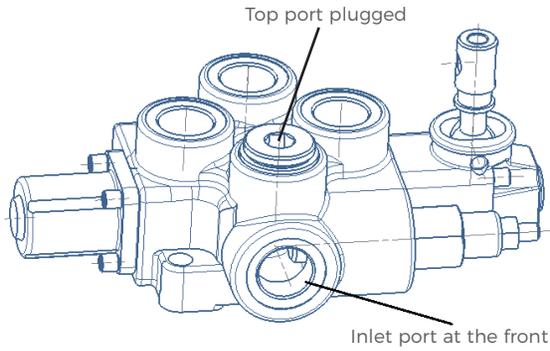
Dimensions

GDV120-1: 1 Spool Monoblock Valve

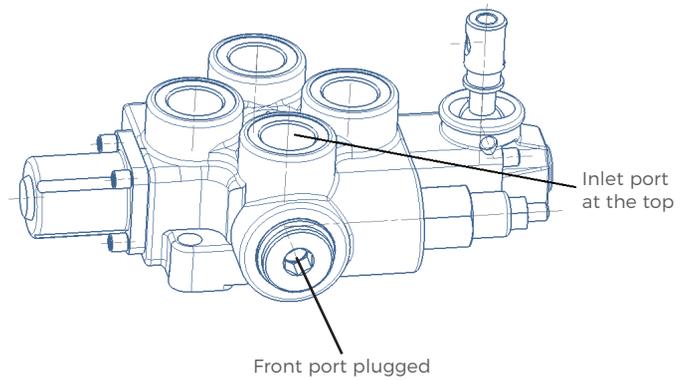


Inlet Port Options

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

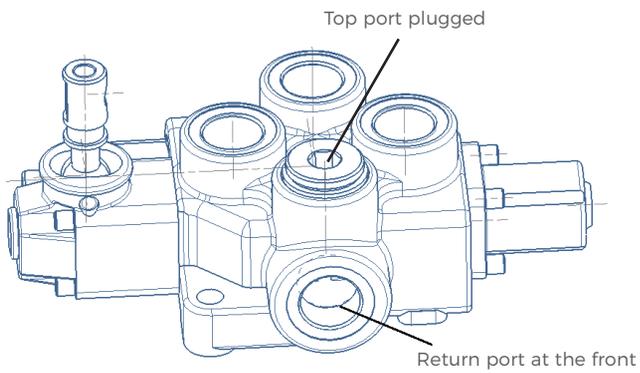


Inlet Port Option Code: P2(Inlet port at the top)

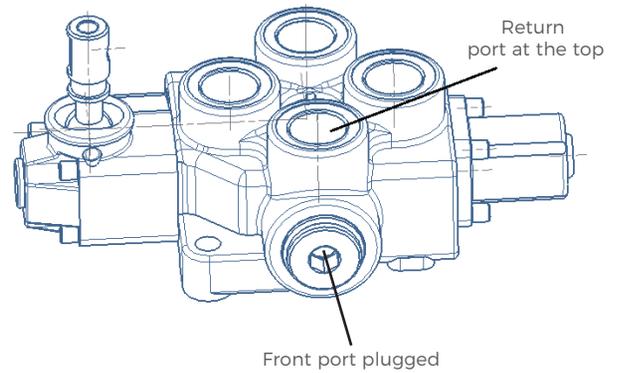


Return Port Options

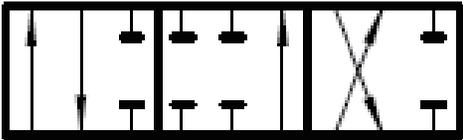
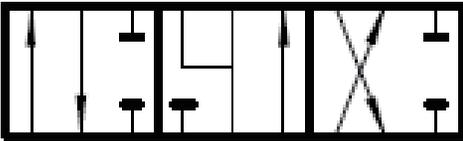
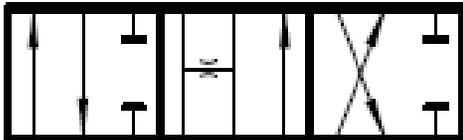
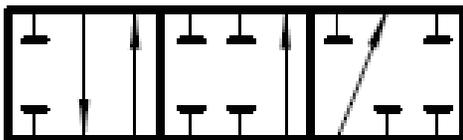
Return Port Option Code: T1(Return port at the front)



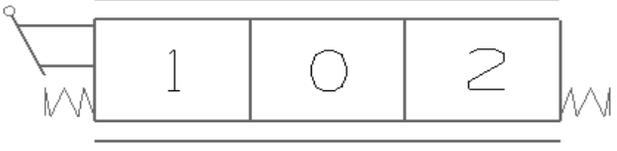
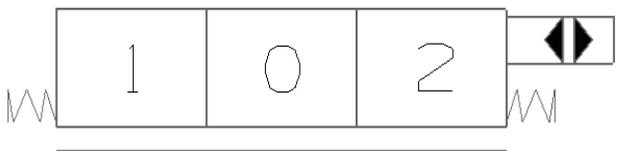
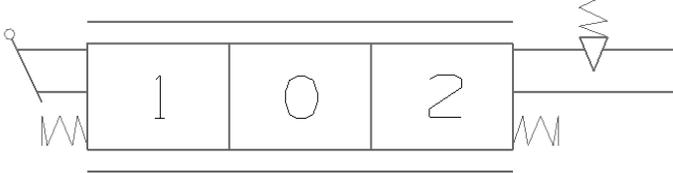
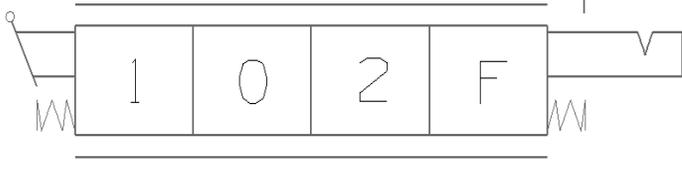
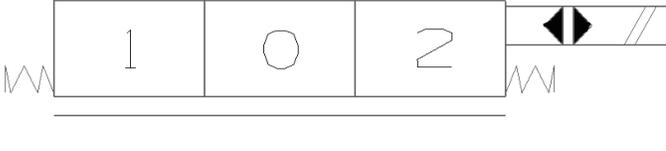
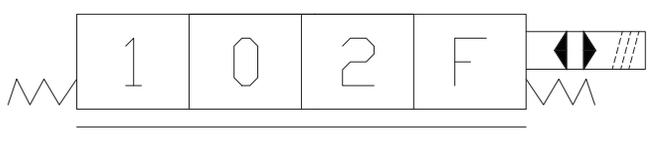
Return Port Option Code: T2(Return port at the top)



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 (not available)		4-position 4-way At neutral: P, T, A and B are all blocked 4th position floating	Double acting cylinder applications
FG6 (not available)		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 (not available)		Hydraulic remote
KQ3		Manual control with mechanical detent
KQ4		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

GDV120	-P*	/**	-T*	-FG*	KQ*
a	b	c	d	e	f

- Ⓐ Model
- Ⓑ Inlet port code
- Ⓒ Inlet relief setting(bar)
- Ⓓ Return port code
- Ⓔ Spool function
FG1, FG2, FG3, FG4, FG5, FG6
- Ⓕ Drive code
KQ1, KQ2, KQ3, KQ4, KQ5, KQ6

Ordering Example

GDV120	-P1	/210	-T1	-FG1	KQ1
a	b	c	d	e	f

- Ⓐ Model
- Ⓑ Inlet port at the front
- Ⓒ Inlet relief setting(210bar)
- Ⓓ Return port at the front
- Ⓔ Spool function: O-type
- Ⓕ Drive code: manual control