

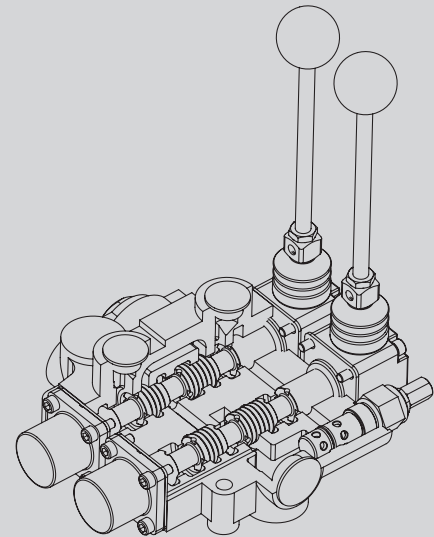
MONO-BLOCK DIRECTIONAL CONTROL VALVE



DESIGNATION SAMPLE

MD - 30 1 5N B A 4 A 1 B A

MD	MONO-BLOCK DIRECTIONAL
30	FLOW RATE
1	SPOOL NUMBER
5N	PORT SIZE
B	SPOOL TYPE
A	SPOOL ATTACHMENT
4	RELIEF VALVE
A	INLET
1	OUTLET
B	POWER BEYOND
A	HANDLE



FLOW RATE	30 30GPM
SPOOL NUMBER	1 Single 2 Two 3 Three
PORT SIZE	5N 3/4"NPT In/Out 1/2"NPT Work 5B 3/4 BSP In/Out 1/2"BSP Work 6S #10SAE In/Out #8SAE Work 6N 3/4"NPT In/Out 3/4"NPT Work
SPOOL TYPE	A 4 way 3 position / Close center B 4 way 3 position / Tandem center C 4 way 3 position / Open center D 4 way 3 position / Motor Spool E 4 way 4 position / Tandem center / Float spool F 3 way 3 position G 4 way 4 position / Close center
SPOOL ATTACHMENT	A 3 position Spring center to neutral B 3 position detent (No centering spring) C 4 position spring center to neutral detent spool "IN" for float position D Pressure release detent spool "OUT" only. Spring center to neutral E Pressure release detent, detent spool "IN" and "OUT" Spring center to neutral F Pressure release detent 1 position detent spool "OUT" only. Spring center to neutral
RELIEF VALVE	1 No relief 2 Differential poppet Non-adjustable set at 1000psi 3 Differential poppet Non-adjustable set at 2000psi 4 Differential poppet adjustable 500-3000psi set at 2500psi
INLET	A End B Top
OUTLET	1 End(With power beyond option A) 2 Top 3 End(with power beyond option B,C,D,F standard)
POWER BEYOND	A Not provided (only available with outlet location 1) B Conversion plug installed C Power beyond plug installed with 3/4" NPT D Closed center conversion plug installed F Power beyond plug installed with #12SAE
HANDLE	A Open B Close

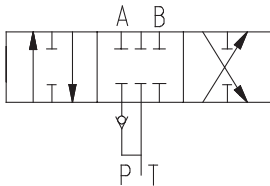
Notes: For other spool type, spool attachment and relief settings, please specify.

MONO-BLOCK DIRECTIONAL CONTROL VALVE



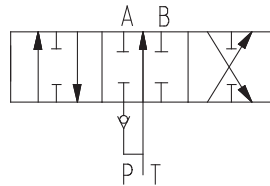
SPOOL TYPE:

A



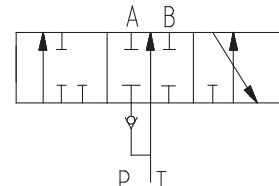
Closed center. All ports are blocked in neutral. Blocks cylinder or motor in neutral. Required for use with pressure compensated pump

B



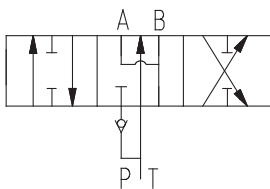
Tandem center. Powers cylinder or motor in both directions (metering capability is very limited). Pump unloads to tank when spool is in neutral. Cylinder or motor blocked when spool in neutral.

C



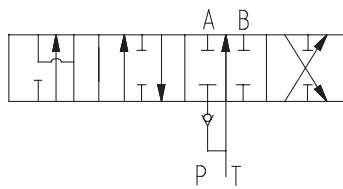
Open center. All of the ports are connected to tank when the spool is in neutral. Allows cylinder to move or motor to rotate when spool is in neutral.

D

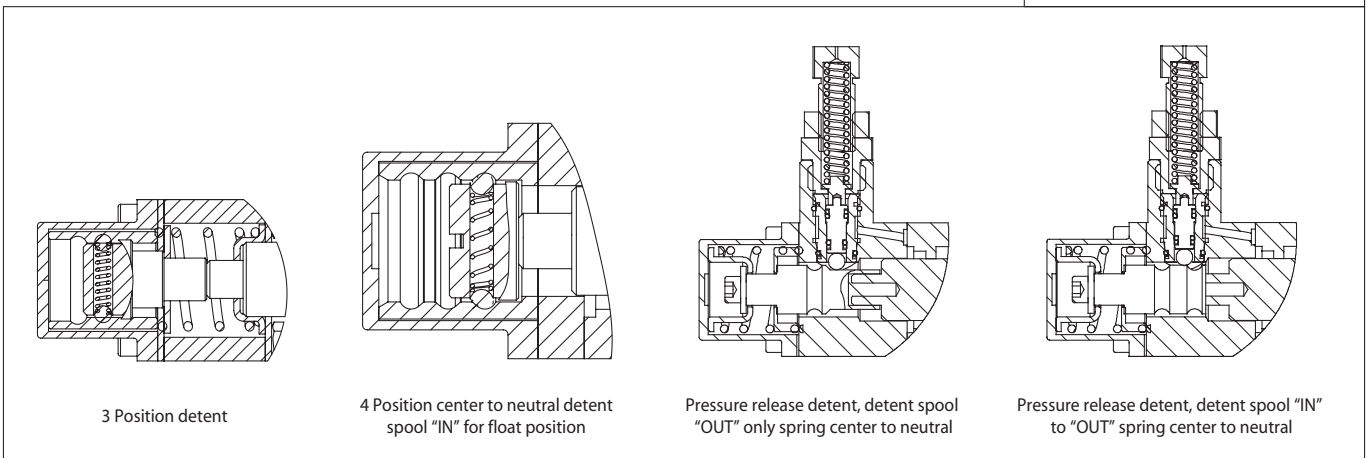
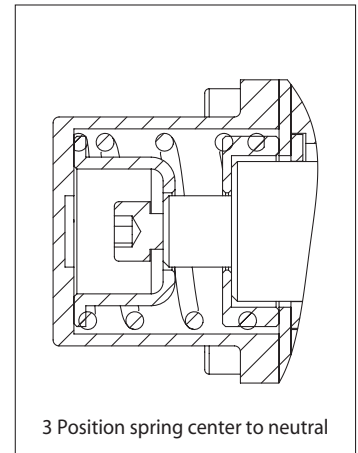


The spool option can be used to control a bi-rotational motor or a double acting cylinder. In neutral the work ports are open to the return. This allows a cylinder to drift or a motor to coast to a stop. In neutral the oil goes through the open center passage to the next spool of multi-spool valve or the power beyond of a single spool valve.

E



The option is added fourth "float" position. In neutral the work ports are blocked, and oil goes through the open center passage to the next spool or power beyond.



BSP Series		NPT Series		SAE Series	
1B	1/2" BSP In/Out 3/8" BSP Work	1N	1/2" NPT In/Out 3/8" NPT Work	3S	#6SAE In/Out #6SAE Work
2B	3/8" BSP In/Out 3/8" BSP Work	2N	3/8" NPT In/Out 3/8" NPT Work	4S	#8SAE In/Out #6SAE Work
3B	1/2" BSP In/Out 1/2" BSP Work	3N	1/2" NPT In/Out 1/2" NPT Work	5S	#8SAE In/Out #8SAE Work
4B	1/2" BSP In/Out 1/4" BSP Work	4N	1/2" NPT In/Out 3/4" NPT Work	6S	#10SAE In/Out #8SAE Work
5B	3/4" BSP In/Out 1/2" BSP Work	5N	3/4" NPT In/Out 1/2" NPT Work	7S	#10SAE In/Out #10SAE Work
6B	3/4" BSP In/Out 1/2" BSP Work	6N	3/4" NPT In/Out 1/2" NPT Work	8S	#12SAE In/Out #10SAE Work
				9S	#12SAE In/Out #12SAE Work

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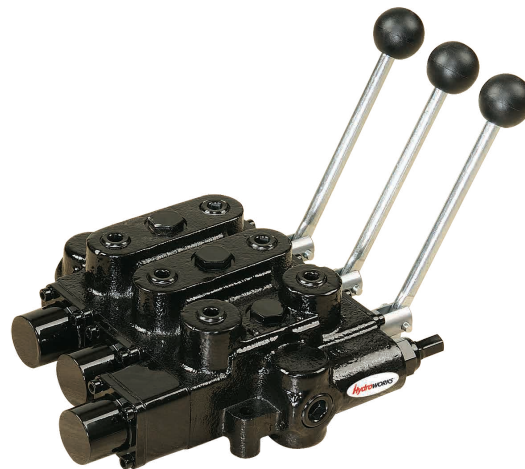
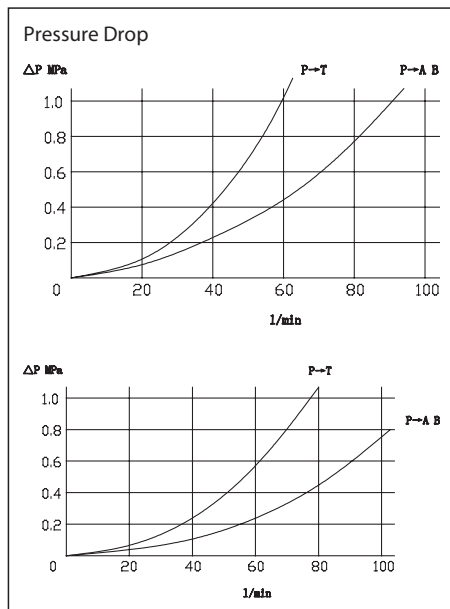
- Economical mono-block construction of high tensile strength gray cast iron
- Load check on each spool to prevent the fall of a cylinder as the spool is shifted
- Hard chrome plated spool
- Built-in relief valve , adjustable from 500 to 3,000 PSI, preset at 2,500 PSI
- Power beyond and closed center option available
- Optional 4 position float on 1st spool



MD3015NCA4A3B



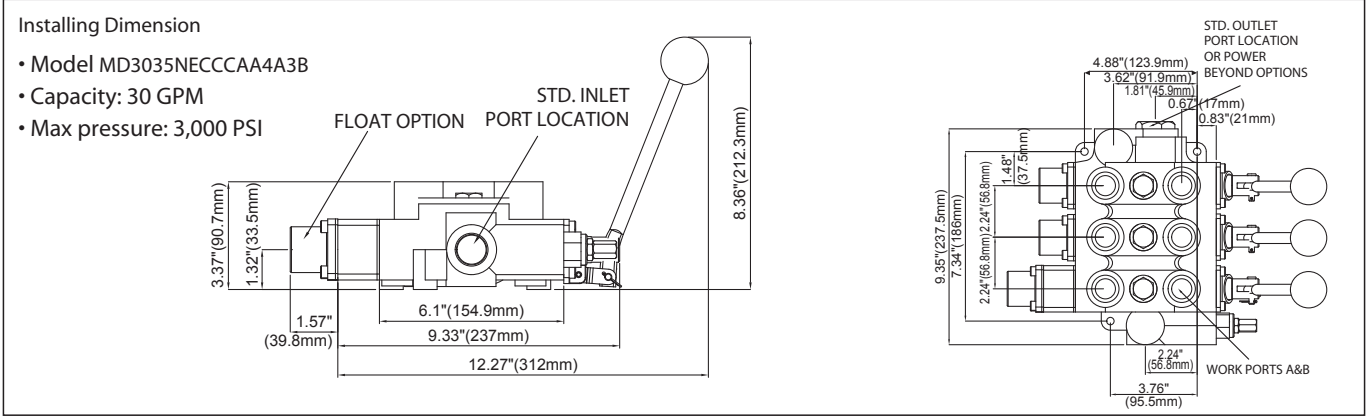
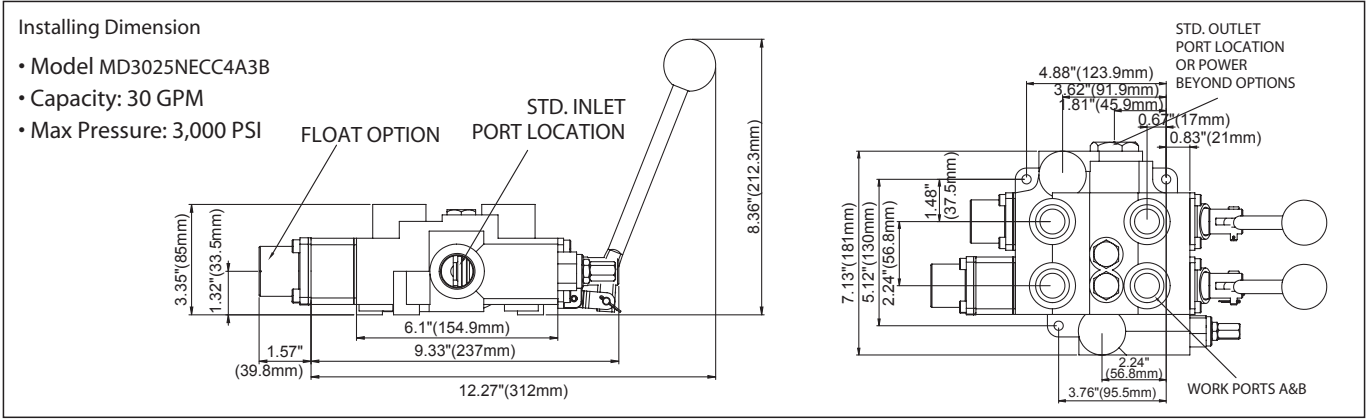
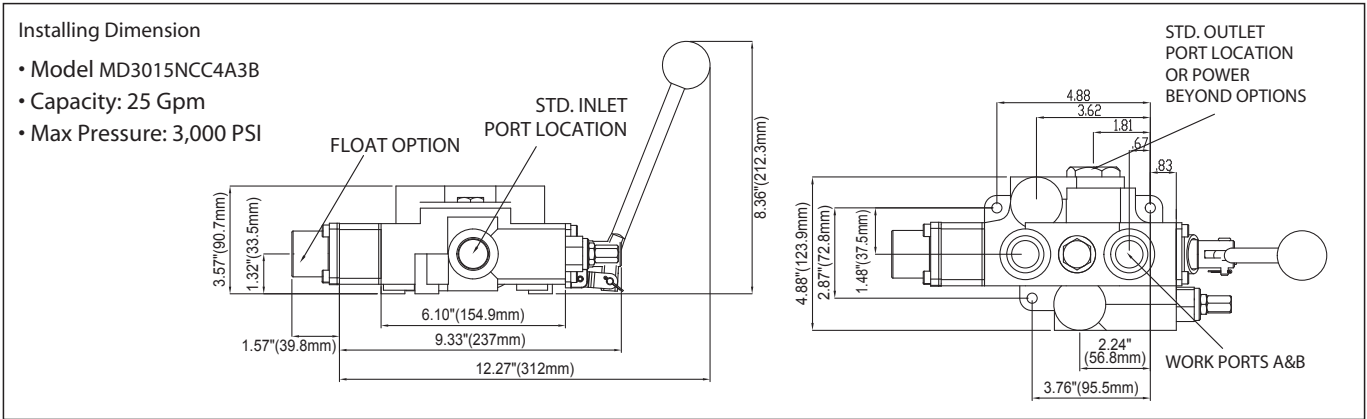
MD3025NCACA4A3B



MD3035NCACACA4A3B

Item No.	Product Name	Spool Type 1st/2nd/3rd	Spool Action 1st/2nd/3rd	I/O Port	Working Port	Flow Rate	Working Pressure	Weight
MD3015NCA4A3B	1-Spool	4-Way/4-Pos	Float Detent at 4th position Spring Center to neutral from either work position	3/4" NPT	1/2" NPT	25 GPM	3,000 PSI	16.0 lbs (7.3kgs)
MD3025NCACA4A3B	2-Spool	4-Way/4-Pos 4-Way/3-Pos	Float Detent at 4th position on 1st Spool Spring Center to neutral from either work position	3/4" NPT	1/2" NPT	30 GPM	3,000 PSI	26.0 lbs (11.8kgs)
MD3035NCACACA4A3B	3-Spool	4-Way/4-Pos 4-Way/3-Pos 4-Way/3-Pos	Float Detent at 4th position on 1st Spool Spring Center to neutral from either work position Spring Center to neutral from either work position	3/4" NPT	1/2" NPT	30 GPM	3,000 PSI	37.0 lbs (16.7kgs)

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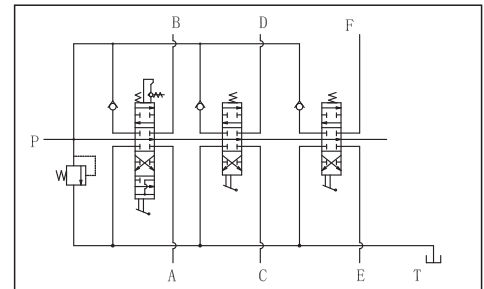
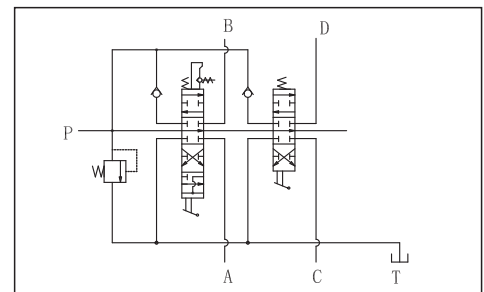
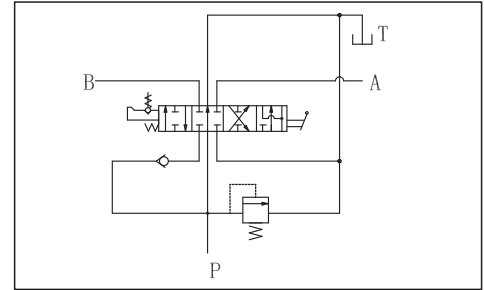
MONO-BLOCK DIRECTIONAL CONTROL VALVE

Specification

1-Spool Pressure Drop Values 110 SUS OIL AT 115°F			
ΔP-PSI			
Flow	Inlet to outlet	Inlet to A or B	A or B to Outlet
5 GPM	2	8	3
10 GPM	5	17	6
15 GPM	9	35	12
20 GPM	21	58	21
25 GPM	26	86	34

2-Spool Pressure Drop Values 110 SUS OIL AT 115°F					
ΔP-PSI					
Flow	Inlet to outlet	Inlet to A or B	Inlet to C or D	A or B to Outlet	C or D to Outlet
5 GPM	3	11	11	2	2
10 GPM	8	22	24	8	5
15 GPM	16	38	42	15	11
20 GPM	28	57	68	27	19
25 GPM	44	83	101	43	29

3-Spool Pressure Drop Values 110 SUS OIL AT 115°F							
ΔP-PSI							
Flow	Inlet to outlet	Inlet to A or B	Inlet to C or D	Inlet to E or F	A or B to Outlet	C or D to Outlet	E or F to Outlet
5 GPM	2	9	9	11	4	3	2
10 GPM	10	18	20	25	14	9	6
15 GPM	22	33	41	49	32	22	13
20 GPM	37	56	68	78	51	36	21
25 GPM	58	83	101	118	76	55	32



DIRECTIONAL CONTROL VALVE OPTIONS

CONVERSION PLUG

- To be used with the open center spool options
- Allow the valve to be converted to have power beyond function or be converted from open to closed center
- Standard option for all MD 30 series
- **Item No.: MD30-A01**



MD30-A01

POWER BEYOND ADAPTER

- To be used with the open center spool and outlet of valve must be connected to tank
- Allow the valve to be connected to another valve for downstream function
- Available by request
- **Item No.: MD30-A02**



MD30-A02

CLOSED CENTER PLUG

- Convert an open center valve to closed center operation
- Available by request
- **Item No.: MD30-A03**



MD30-A03