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Eaton®
Directional Control Valves

Revised April, 1996



**Model 30540, 15 GPM
Directional Control Valves**

We Manufacture

Solutions

Hydraulics

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Features and Specifications

Eaton 15 GPM Directional Control Valves

Model 30540 with Relief Valve

Standard Features

- Cast Iron Bodies
- Cored Internal Passages
- Adjustable Pin Type Relief Valve, Factory Set at 2000 PSI [138 bar]
- Open Center Circuit Design
- Precision Ground Induction Hardened Spools with Chrome Plating on Exposed Ends
- 4-Way, 3 Position Spools, Spring Centered to Neutral
- 7/8-14 SAE Inlet and Return Ports
- 3/4-16 SAE Work Ports– (Accept 16097 and 16166 orifice plates–see Cat. 11-502)
- Body Bored for Pressure Beyond and Plugged

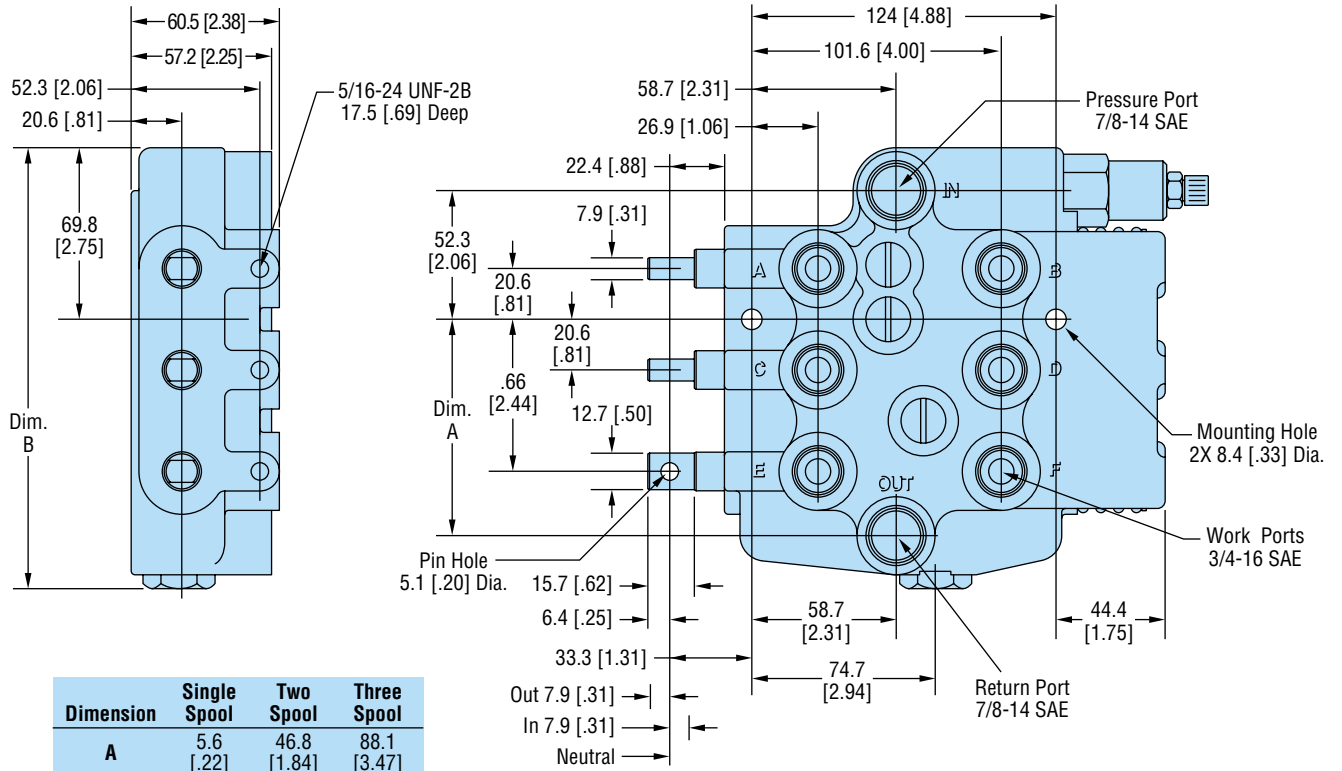
Specifications

- Inlet Flow Rate ----- 15 GPM [56.8 L/min.]
- Rated Inlet Pressure ----- 2500 PSI [172 bar]
- Rated Workport Pressure ----- 3000 PSI [207 bar]
- Standard Relief Valve Pressure Setting ----- 2000 PSI [138 bar]
- Maximum Work Port Leakage at 1100 PSI [76 bar] ----- 2.5 in³/min. [41 ml/min.]
- Maximum System Temperature ----- 225° F [107° C]

Standard Catalog Assemblies

Single Spool	Two Spool	Three Spool
30541-DSA	30542-DSA	30543-DSA

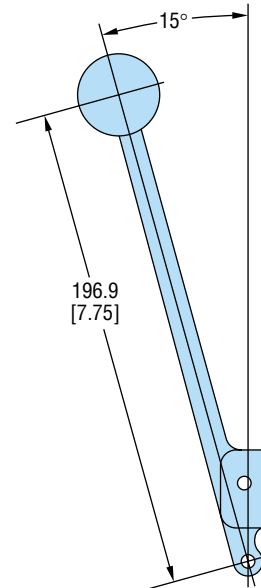
Dimensions



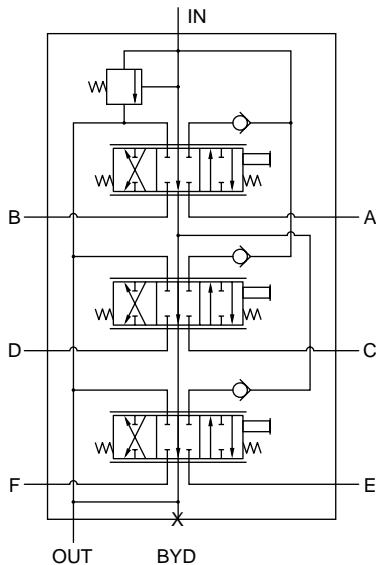
Dimension	Single Spool	Two Spool	Three Spool
A	5.6 [.22]	46.8 [1.84]	88.1 [3.47]
B	96.8 [3.81]	138.2 [5.44]	179.3 [7.06]

All dimensions in mm [in.]

Optional Handle



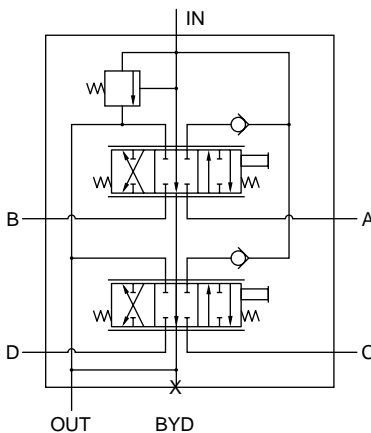
Schematics



Unit Weights

30541	3.2 [7.0]
30542	5.4 [12.0]
30543	7.7 [17.0]

Weights in kilograms [pounds]



Note: Spool 3 is in tandem with spools 1 and 2; this allows metering to spools 1 and 2 with all excess flow to spool 3.

Options and Performance

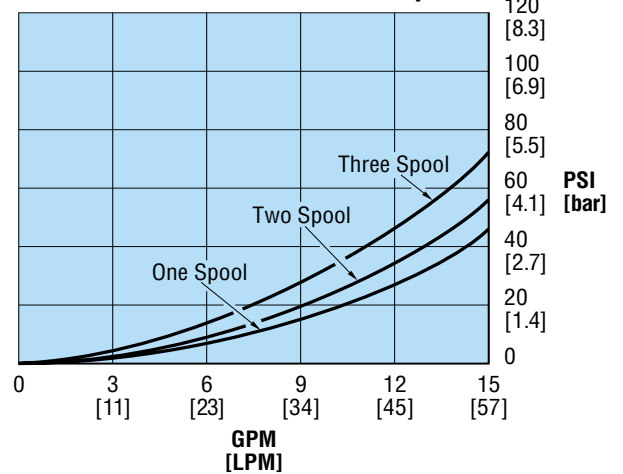
Kit	Order Number
Handle Kit	30540-904
(order one kit for each spool)	
Pressure Beyond Plug 3/4-16 SAE	30501-74
Closed Center Plug	30501-96
Detent Kits	
Detent Out	30540-911
Detent In	30540-912
Detent In and Out	30540-913
Relief Valve Springs (Adjustment Ranges)	
1000 - 1500 PSI [69 - 103 bar]	17060-37
1450 - 2000 PSI [100 - 138 bar]	17060-38
1950 - 2300 PSI [134 - 159 bar] (Std)	17060-39
2250 - 2500 PSI [155 - 172 bar]	17060-40
If no relief valve is required, order plug	15655-10
Seal Repair Kits	
One Spool	30501-918
Two Spool	30502-934
Three Spool	30540-902

Optional Spool Configurations

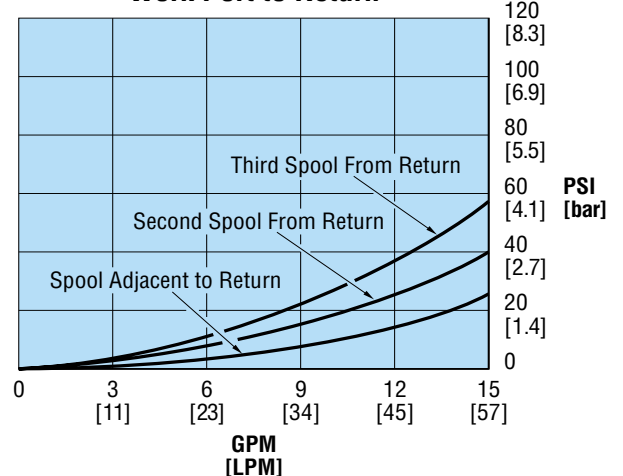
(all spools spring centered to neutral)

- 3 - way, 3 position
(ports "B," "D," and "F" used for 3 - way work ports)
- 3 - way, 3 position, detented "in" float
(available in spool A and C only)
(ports "B," "D," and "F" used for 3 - way work ports)
- 4 - way, 3 position
- 4 - way, 3 position, detented "in"
- 4 - way, 3 position, detented "out"
- 4 - way, 3 position, detented "in" and "out"
- 4 - way, 4 position, detented "in" float
(available in spool A and C only)
- 4 - way, 3 position, motor spool
(lift check removed)
- 4 - way, 3 position, motor spool, detented "in"
(lift check removed)
- 4 - way, 3 position, motor spool, detented "out"
(lift check removed)
- 4 - way, 3 position, motor spool, detented "in" and "out"
(lift check removed)

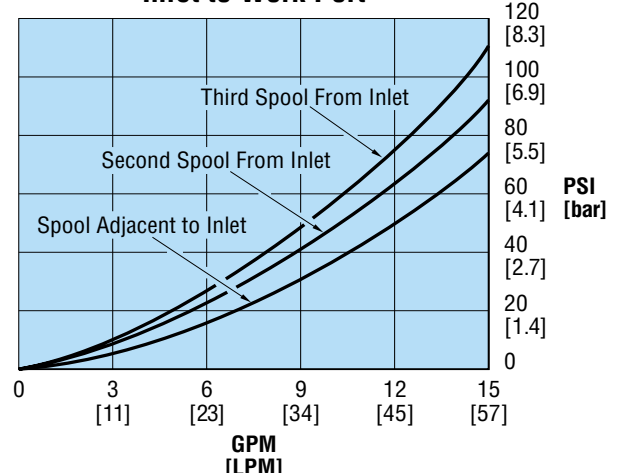
Neutral Flow Pressure Drop



Work Port Pressure Drop Flow: Work Port to Return

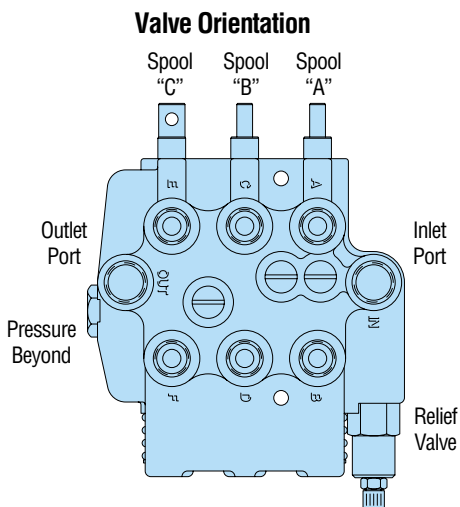


Work Port Pressure Drop Flow: Inlet to Work Port



Tests performed with oil viscosity 150 SUS at 100° F [37.7° C] – oil temperature 130° F [54.4° C].

30540 Directional Control Valve Special Order Form

Valve Outlet Port Side	Body Plugs	Spool Options	Spool "C"	Spool "B"	Spool "A"	System Relief Valve	Valve Inlet Port Side
Return Port 7/8-14 SAE (Standard)	<input type="checkbox"/> None	3 - way, 3 position (ports "B," "D" and "F" used for 3-way work ports)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> No Relief Valve Plug 15655-10 Inlet GPM _____ Pressure Setting _____ Adjustment Range _____ / _____	Pressure Port 7/8-14 SAE (Standard)
	<input type="checkbox"/> Solid Plug (Standard)	3 - way, 3 position, detented "in" float (ports "B," "D" and "F" used for 3-way work ports)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/> Pressure Beyond 3/4-16 SAE 30501-74	4 - way, 3 position	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/> Closed Center 30501-96	4 - way, 3 position, detented "in"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		4 - way, 3 position, detented "out"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		4 - way, 3 position, detented "in" and "out"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Valve Orientation 		4 - way, 4 position, detented "in" float	<input type="checkbox"/>	float N/A	<input type="checkbox"/>	Originator _____	Date _____
		4 - way, 3 position, motor spool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Application _____	
		4 - way, 3 position, motor spool, detented "in"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engineer Approval _____	
		4 - way, 3 position, motor spool, detented "out"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Customer _____	
		4 - way, 3 position, motor spool, detented "in" and "out"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Customer Part No. _____	
		Handles (handle kits, 30540-904, are shipped with valves but not assembled on valve)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Eaton Part No. _____	

Notes:

Notes:

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