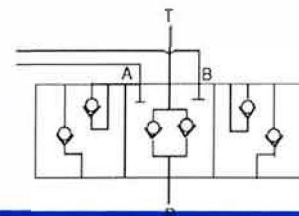




HYDRAULIC VALVES

DIRECTIONAL CONTROL SS SERIES Specification Sheet



The CROSS series SS directional control valve offers extremely low leakage with exceptional load holding ability in a small, yet rugged, sectional valve. A single section may be utilized by itself or stacked in series to perform multiple functions giving this valve a unique versatility. Solenoid as well as manual actuators are available. It is compact, yet large enough to accommodate quick disconnect fittings.

GENERAL SPECIFICATIONS

Number of spools	one or multiple
Rated working pressure	3500 psi (241 bar)
Maximum shock and surge pressure	4500 psi (309 bar)
Rated flow capacity	7 gpm (26.5 l/m)
Maximum spool leakage (at 1000 psi w/120 SUS oil at 120°F)	5 cc/min
Spool forces: Full Travel: 30 lb.; Into float position: 80-90 lb.; Out of float: 75-85 lb.	
Mounting, any position	1/4"-20 mtg. holes - 2 per section
Weight, 1 spool	7 lbs.

MATERIAL SPECIFICATIONS

Body	Ductile iron
Inlet relief plate	Aluminum
Spools	Ground, plated and polished steel alloy
Seals	Buna N

STANDARD FEATURES

- Series operation
- Excellent spool metering characteristics
- Open center, 4 way 3 position or 4 way, 4 position (float)
- Integral load holding check valves to prevent reverse flow through valve when shifting
- Balanced, select-fit spools to provide minimum leakage, smooth operation
- 9/16-18 (SAE #6) inlet and outlet ports, 9/16-18 (SAE #6) work ports
- May stand alone or be stacked in series
- Built-in power beyond capability
- Complete handle assembly

OPTIONAL FEATURES

- Optional add-on inlet section with differential poppet type relief valve
- High flow spool available for up to 10 gpm
- Single handle actuator with rubber boot
- 3/4-16 (SAE #8) inlet and outlet ports, 3/4-16 (SAE #8) work ports
- Solenoid actuators (12 and 24 volt DC, 120 and 240 volt AC) - complete internal plumbing - no external drains required



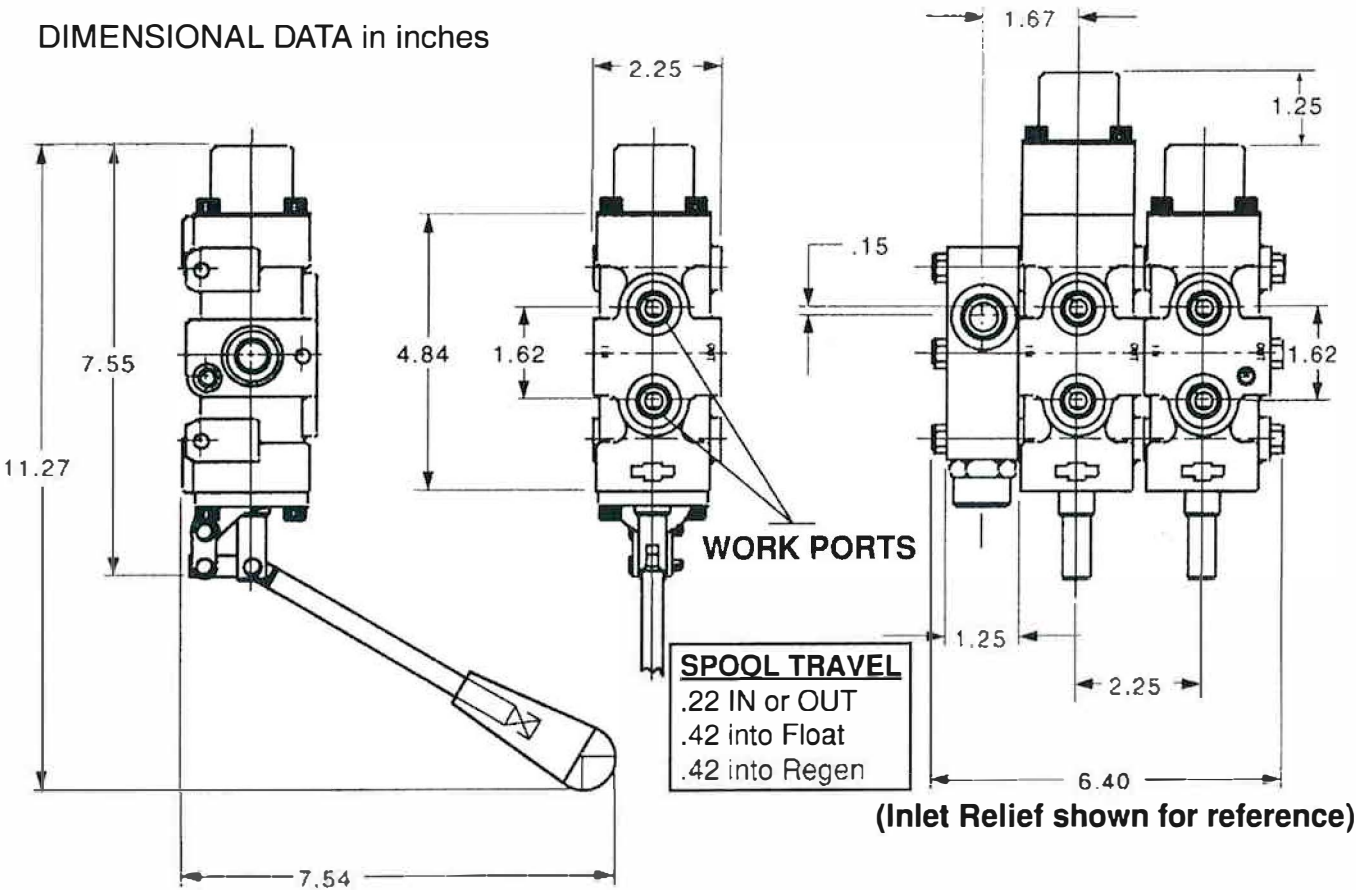
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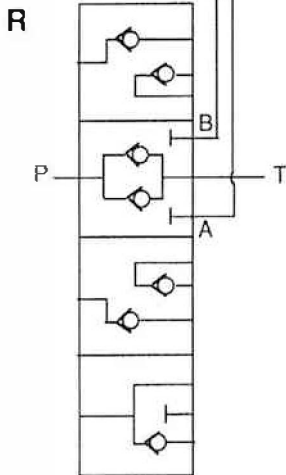
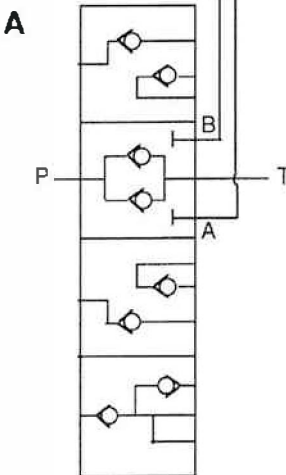
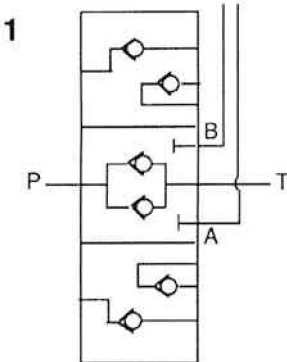
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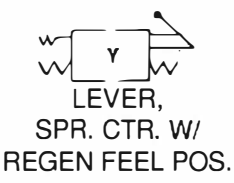
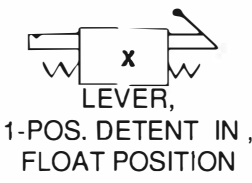
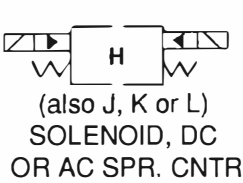
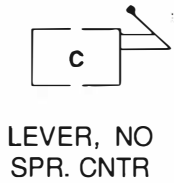
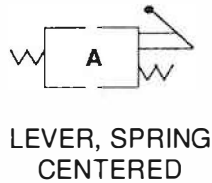
DIMENSIONAL DATA in inches



SPOOL OPTIONS



ACTUATOR OPTIONS:





HYDRAULIC VALVES

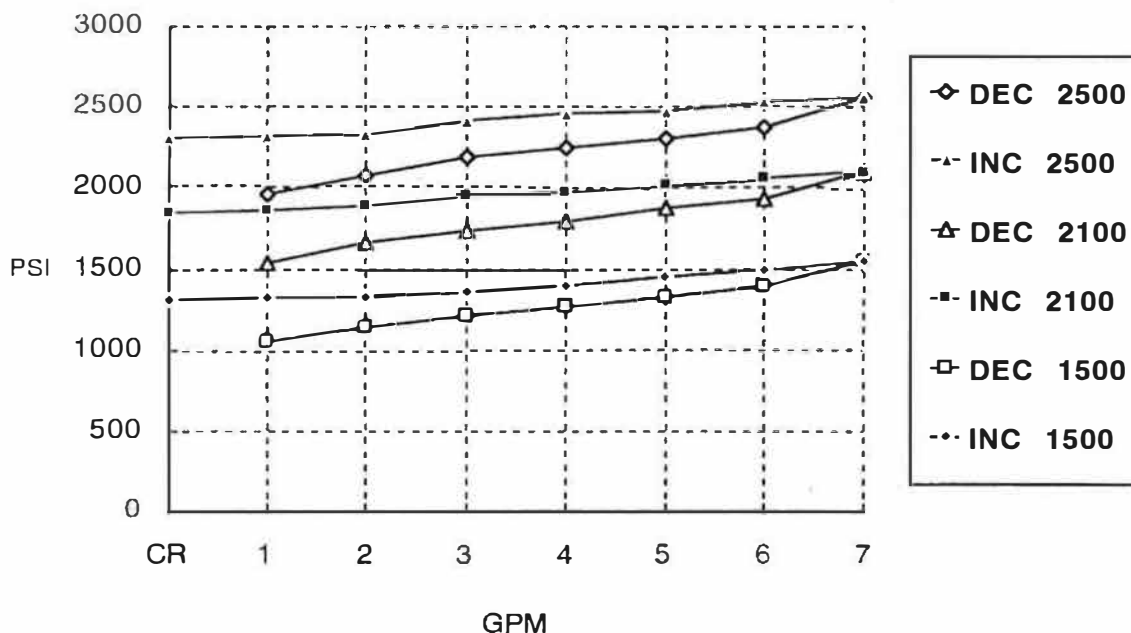
DIRECTIONAL CONTROL SS SERIES Specification Sheet

TYPICAL PERFORMANCE DATA

PRESSURE DROP (with 120 SUS oil at 120°F, 9/16-18 ports)

FLOW RATE in GPM	1	2	3	4	5	6	7	8
SINGLE SPOOL VALVE								
P to A or B	9	14	24	36	50	66	90	113
A or B to T	10	18	28	45	66	87	116	146
P to T	8	10	14	24	31	40	51	64
TWO SPOOL VALVE								
P to T	14	17	24	40	55	72	93	116
A1 or B1 to T	16	24	37	61	90	119	158	199
P to A2 or B2	14	20	32	52	74	98	132	166
P to A1 or B1 same as single spool data; A2 or B2 to tank same as A1 or B1 to tank data of single spool.								
THREE SPOOL VALVE								
P to T	19	24	32	56	79	104	135	170
A1 or B1 to T	22	30	46	77	114	151	200	252
P to A3 or B3	20	27	42	68	98	130	174	219
P to A1 or B1 same as single spool data; P to A2 or B2 same as 2 spool data; A2 or B2 to tank same as A1 or B1 to tank data of two spool; A3 or B3 to tank same as A1 or B1 to tank data of single spool.								
Adder per spool	6	6	9	16	24	32	42	53
(Use adder figure for all ports except last ports to tank or first ports from pump)								

RELIEF VALVE CHARACTERISTICS (120 SUS OIL AT 120°F.)





ORDERING INFORMATION

MODEL NO.	SPOOL TYPE	SPOOL ACTION	PORT SIZE & TYPE	HANDLE	HIGH FLOW SPOOL
SS	1 4 way, 3 pos. open center	A 3-position, spring centered	A 9/16-18, SAE #6, all ports	0 Complete handle ass'y. "A" port end.	High flow spool (above 7 gpm)
SSC * (use with optional inlet relief plate)	3 3 way, 3 pos. open center	H Solenoid, 12 volt DC	B 3/4-16, SAE #8, all ports	1 Complete handle ass'y. "B" port end.	
	5 4 way, 3 pos. open center w. motoring spool	J Solenoid, 24 volt DC	C 3/4-16 SAE #8, In & Out. 9/16-18 SAE #6 work ports.	2 Less handle ass'y. "A" port.	
	A 4 way, 4 pos. open center, detented float position	K Solenoid, 120 volt DC		3 Less handle ass'y. "B" port.	
	R 4 way, 4 pos. open center, with regen feel position	L Solenoid, 240 volt DC		4 Less handle w/brackets. "A" port end.	
		Y 4-position, spring centered with regen feel position			
		X 4 pos. spring ctr. to neutral. Detent in float position			

EXAMPLE: SS1AA0 is a manually operated single section with 4 way, 3 position, spring centered open center spool, with 9/16-18 SAE ports and handle assembly "A" port end.

* Must be last section in stack.

Optional inlet plate may be ordered by specifying port size and pressure relief setting. Single handle actuator with rubber boot is available on multi-stack units.

Contact CROSS ENGINEERING for specifications.



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