



BRAND
HYDRAULICS Co.

Made in the Heartland of America
Serving the World

Engineering & Manufacturing Solutions

DS

Electric, Pilot or Manual
Double Selector Valve

PDS10BE1SN



PDS12BK



PDS12BPS



PDS12BLS



Specifications:

- Coils: - 12 VDC, 3.5 ohms, 40 watts, and 3.5 amps
- 24 VDC, 14 ohms, 40 watts, and 1.75 amps
- 120 VAC, 300 ohms, 40 watts, and 0.40 amps
- Port Sizes: - #8 SAE (3/4-16) all ports
- #10 SAE (7/8-14) all ports
- #12 SAE (1-1/16-12) all ports
- #4 SAE (7/16-20) drain port
- Weight: 10.0 lbs (4.55 kg)
- 10 Micron Filtration Recommended.
- Flow and pressure ratings for Pilot, Lever and Knob actuated valves
 - #8 SAE – 10 gpm (38 lpm) and 4500 psi (310 bar)
 - #10 SAE – 18 gpm (68 lpm) and 4500 psi (310 bar)
 - #12 SAE – 30 gpm (114 lpm) and 4500 psi (310 bar)
- Pressure and flow specifications for electric actuated found on page B-89



ISO 9001:2008 WITH DESIGN
Certificate #02.002.1





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FEATURES:

- O-RING PORTS to eliminate leakage.
- PRECISION GROUND heat treated spool assures long life.
- IP69 COIL RATING provides protection against dust and long periods of immersion.
- SELECTOR SPOOL allows flow to two separate hydraulic circuits.
- SERIES/PARALLEL SPOOL allows for selection of either series or parallel motor operation.
- DIAMOND HONED spool bore provides consistent spool fit with low leakage.
- OIL GROOVES on spool (electric valve only) provide smooth spool motion.
- OPTIONAL DRAIN PORT for increased pressure rating.

MATERIALS:

- Ductile cast iron body
- Heat treated steel spool
- Buna N O-rings (standard)

DS – GENERAL INFORMATION:

The Brand DS Series is a 6-way two position double selector valve. We offer this valve with four different operators: electric, pilot, manual lever and manual knob. This valve is typically used to divert flow between two separate circuits. The standard selector spool (open cross-over) allows operation of two double acting cylinders or two reversible motors with one 4-way directional control valve. It also allows operation of four single acting cylinders with one 4-way directional control valve. When the coil is de-energized top ports C and D are connected to B and F respectively. When the coil is energized top ports C and D are connected to A and E respectively. We also have a series/parallel spool available that is used to operate two motors in series when the coil is energized and in parallel when the coil is de-energized.

SPOOL TYPE –

The spool types offered are series/parallel (**A**, in model code), selector (**B**, in model code) open cross-over, selector (**C**, in model code) closed cross-over, selector (**F**, in model code) open cross-over with unused ports open, and selector (**G**, in model code) closed cross-over with unused ports open. A closed cross-over spool should be used when isolating the work ports (**E** and **A** from **B** and **F**) is required in the transient position. This would be advantageous if the work ports are connected to cylinders holding a load. Unused ports open allows the non active ports to be common, this would allow a motor to free spin when it is connected to the non active ports. Please note that spool types (**A**, **B**, and **C** in model code) can be used with all four spool operators and spool types, (**F** and **G** in model code) can only be used with spool operators (**E**, in model code).

HANDLE OPTIONS –

- **Electric operator** (**E**, in model code) shifts spool using electromagnetic force and does not require any extra pilot or tank lines.
- **Enclosed lever handle** (**L**, in model code) provides smooth shifting of spool while protecting spool from contaminants.
- **Pilot** (**P**, in model code) allows the spool to be shifted from a remote location, 150 psi pilot pressure (air or hydraulic) required to shift spool.
- **Knob** (**K**, in model code) is an inexpensive way to easily push and pull the spool to each position.

SPOOL ACTION –

- **Spring offset** (**S**, in model code) can be used with all spool operators.
- **Two position detent** (**D**, in model code) can only be used with spool operator (**L** and **K**, in model code).

COIL VOLTAGE -

We offer 12 volt DC (1, in model code), 24 volt DC (2, in model code) or 120 volt AC (3, in model code) for spool operator (E, in model code).

DRAIN-

Drain type is only specified when spool operator (E, in model code) is used. Internal drain (N, in model code) drains any spool leakage to the lower pressure port via spool leakage. External drain (X, in model code) drains spool leakage externally to tank from a #4SAE port. An externally drained valve is rated to a higher pressure than the internally drained valve.

TERMINAL -

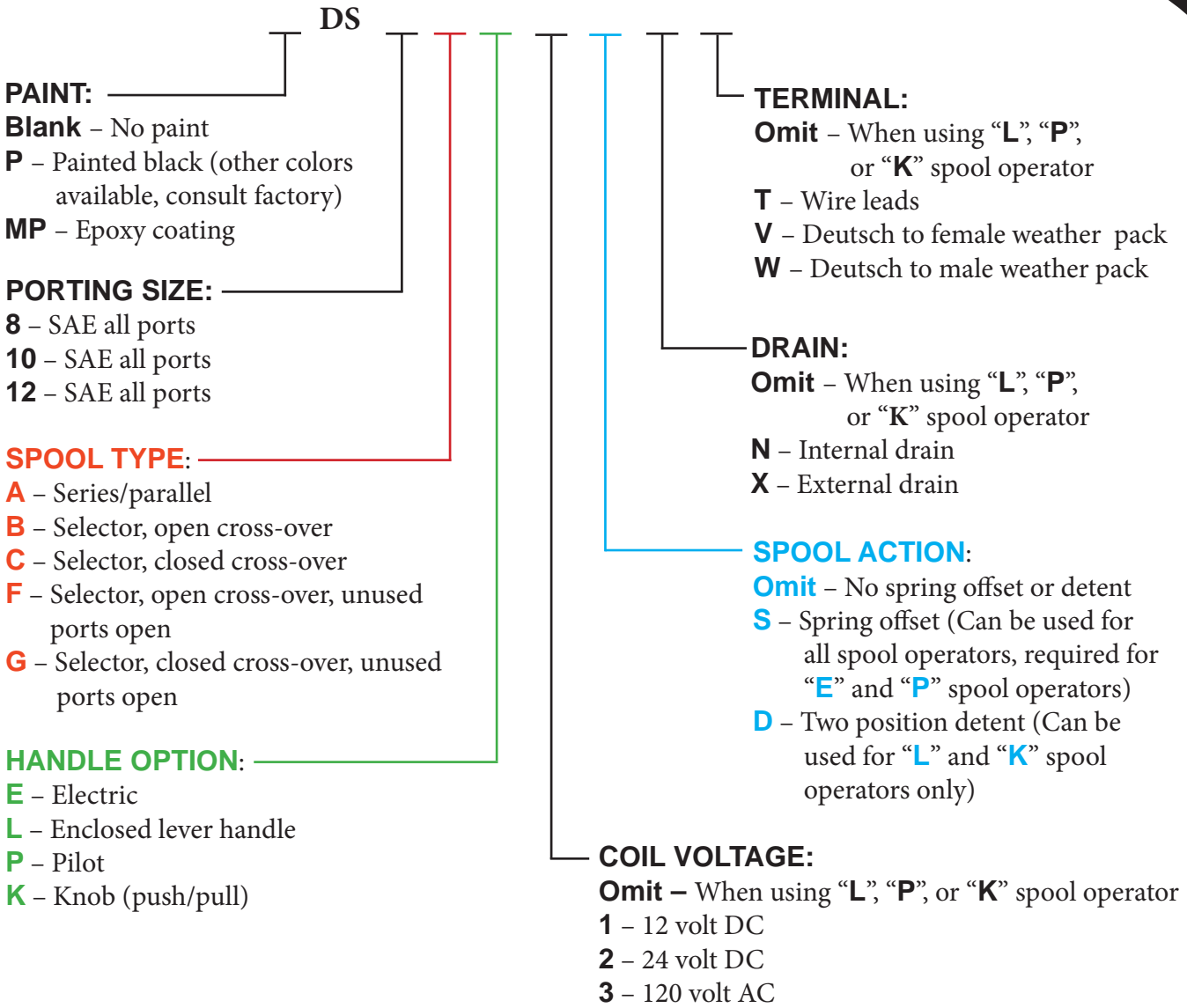
Terminal is only specified when spool operator (E, in model code) is used. Both coils come standard with a Deutsch connector (DT04-2P). Wire leads (T, in model code) is a mating Deutsch connector with flying leads. Deutsch to female weather pack (V, in model code) is a mating Deutsch connector to female shroud with male pin. Deutsch to male weather pack (W, in model code) is a mating Deutsch connector to male tower with female pin. Do not specify terminal when using spool operator (L, P and K, in model code).

DS ELECTRIC PRESSURE AND FLOW RATINGS FOR INTERNAL DRAIN:

	A series/parallel	B Selector open cross-over	C Selector closed cross-over	F Selector open cross-over unused ports open	G Selector closed cross-over unused ports open
8 SAE Ports	3600 PSI (248 bar)	3600 PSI (248 bar)	See Chart Page B-94	3600 PSI (248 bar)	See Chart Page B-94
	10 gpm (38 lpm)	10 gpm (38 lpm)	10 gpm (38 lpm)	10 gpm (38 lpm)	10 gpm (38 lpm)
10 SAE Ports	3600 PSI (248 bar)	3600 PSI (248 bar)	See Chart Page B-94	3600 PSI (248 bar)	See Chart Page B-94
	18 gpm (68 lpm)	18 gpm (68 lpm)	18 gpm (68 lpm)	18 gpm (68 lpm)	18 gpm (68 lpm)
12 SAE Ports	3600 PSI (248 bar)	3600 PSI (248 bar)	See Chart Page B-94	3600 PSI (248 bar)	See Chart Page B-94
	26 gpm (98 lpm)	26 gpm (98 lpm)	20 gpm (76 lpm)	26 gpm (98 lpm)	20 gpm (76 lpm)

*For External Drain, pressure rating increases to 4500 psi (310 bar) and flow ratings are same as above

DS – CREATING A MODEL CODE FOR DS’S:



DS – EXAMPLES OF COMMON MODEL CODES:

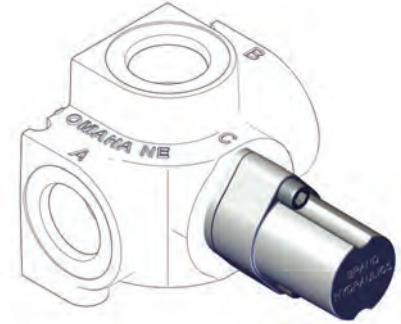
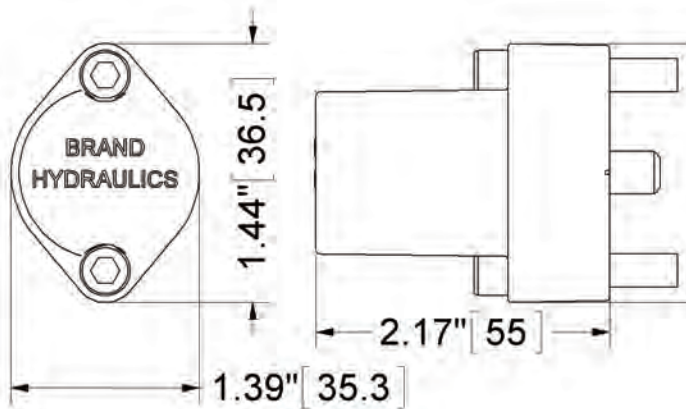
- DS10BE1SN.....**#10 SAE all ports, standard selector spool, electric operator, 12 VDC, spring offset and internal drain.
- DS12BPS.....**#12 SAE all ports, standard selector spool, pilot operator, and spring offset.
- DS08BK.....**#8 SAE all ports, standard selector spool, and manual knob.
- DS12ALD.....**#12 SAE all ports, series/parallel spool, manual lever handle, and two position detent.



DS - COMPLETE LIST OF OPTIONS AND ACCESSORIES:

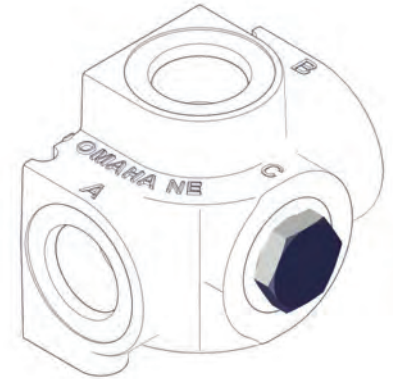
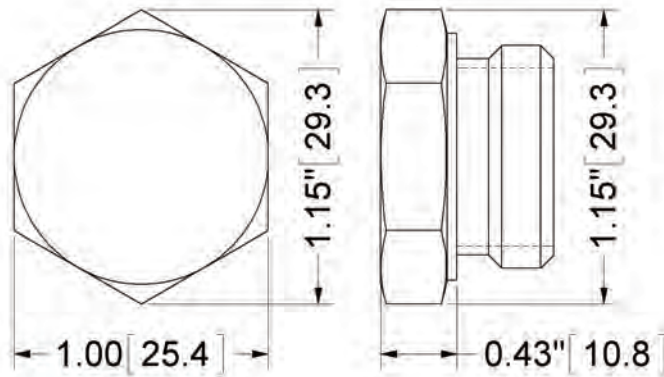
DS-S.....Spring offset kit for “L”, “P” and “K” spool operator.

DS-D.....Two position detent kit for “L” and “K” spool operator.

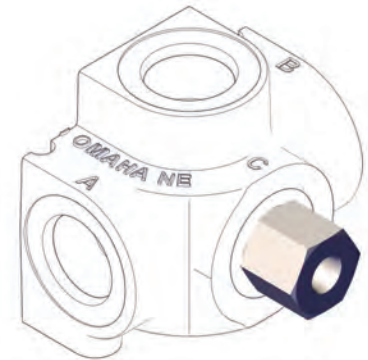
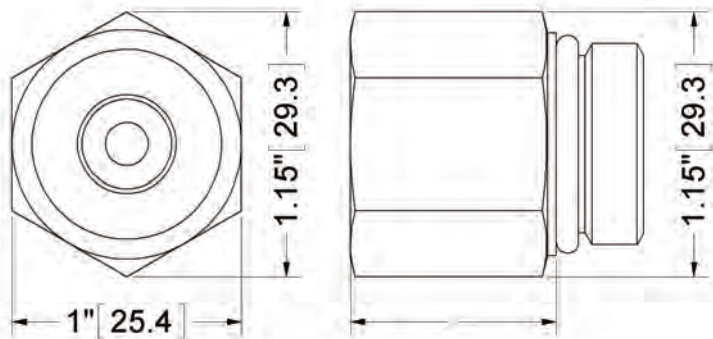


External dimensions are the same for all kits listed above.

DS-SN..... Spring offset kit for “E” spool operator (includes internal drain plug, o-ring and spring).

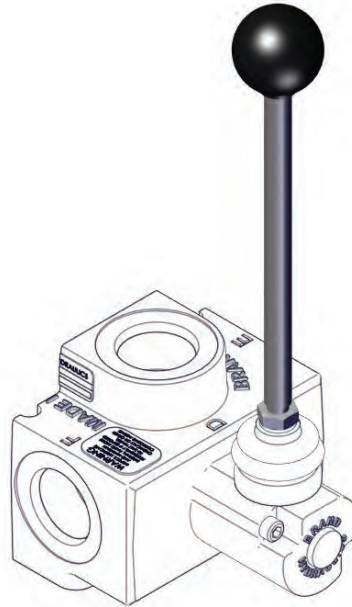
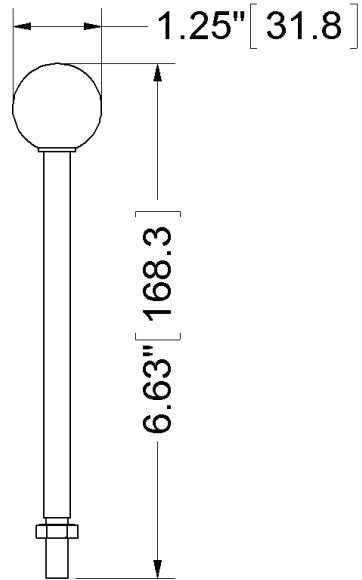


DS-SX.....Spring offset kit for “E” spool operator (includes external drain plug, o-ring and spring).



DS - COMPLETE LIST OF OPTIONS AND ACCESSORIES:

DS-HL.....Manual lever handle kit.



DS-EK.....Seal kit for electric double selector valve.

DS-PK.....Seal kit for pilot double selector valve.

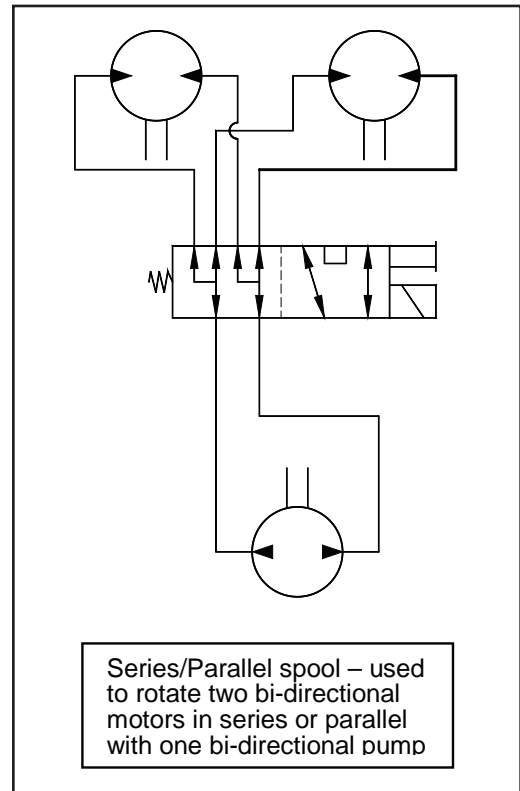
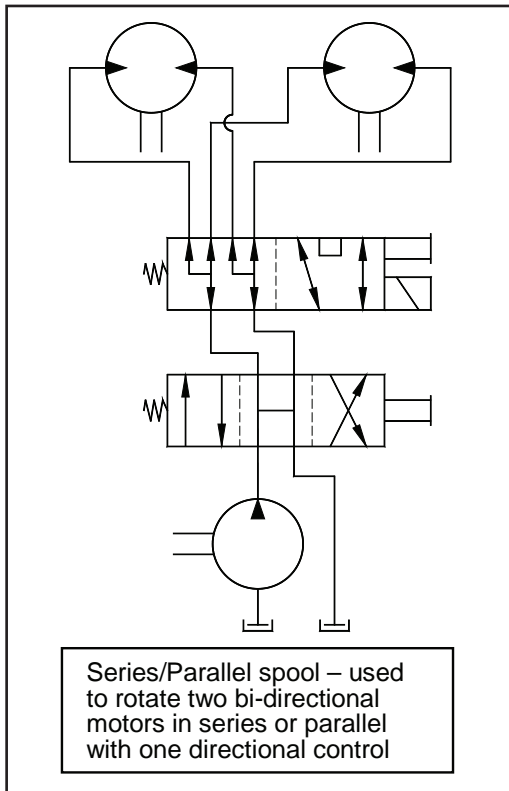
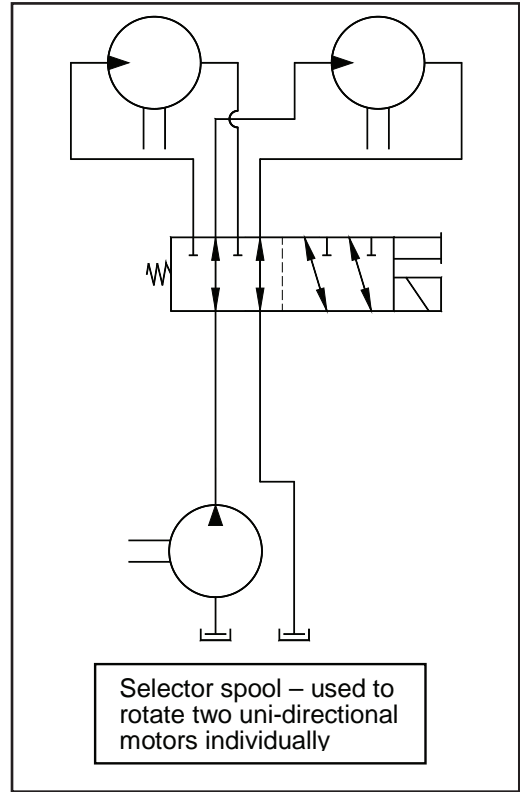
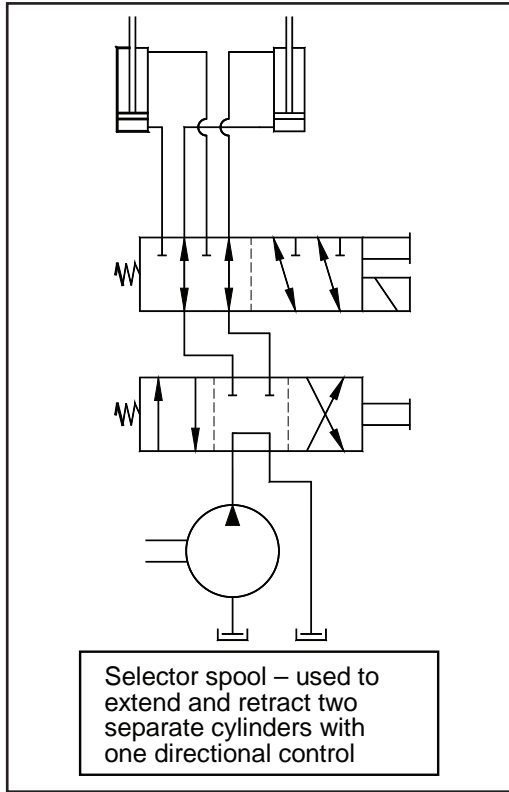
DS-K.....Seal kit for all manually operated double selector valves ("L" and "K" spool operator).

E1767.....Deutsch D.T. series with 12" (305 mm) flying leads.

E1767PF.....Deutsch to female weather pack (female shroud with male pin).

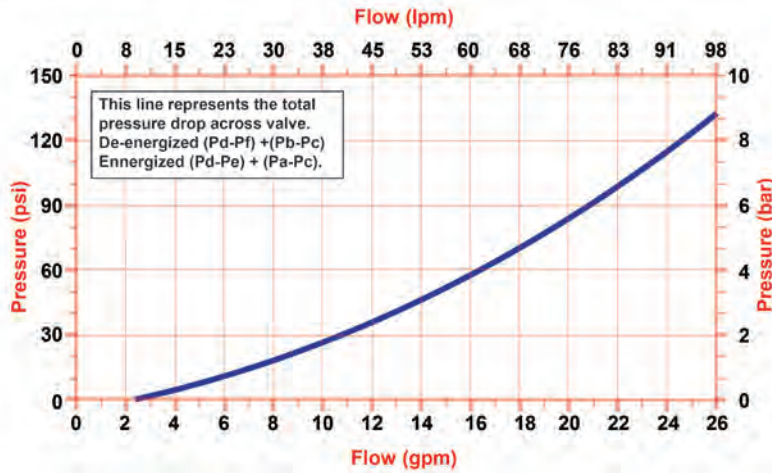
E1767MF.....Deutsch to male weather pack (male tower with female pin).

DS - COMMON DOUBLE SELECTOR APPLICATIONS:

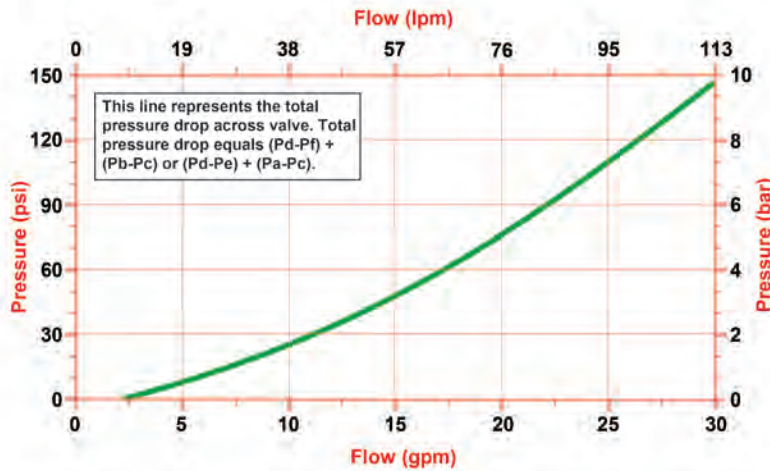


DS – FLOW AND PRESSURE INFO:

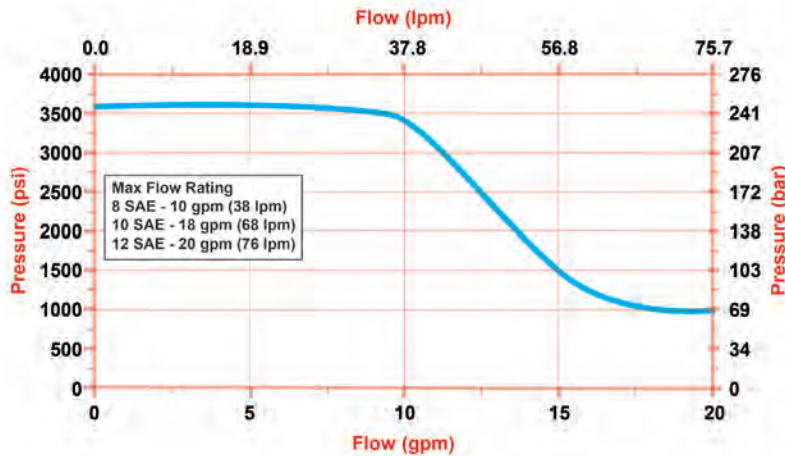
Pressure VS. Flow for Electric DS



Pressure VS. Flow for Manual/Pilot DS

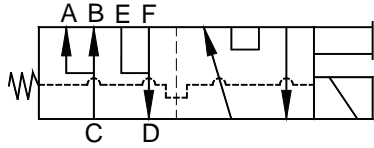


Closed Cross-over Maximum Performance for Electric DS

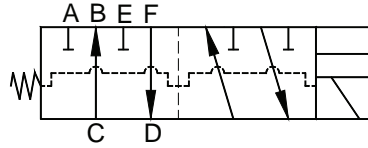


DS - SPOOL SCHEMATICS:

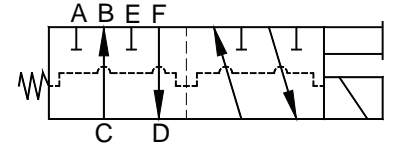
Spool schematics for "E" electric spool operator (transient position not shown)



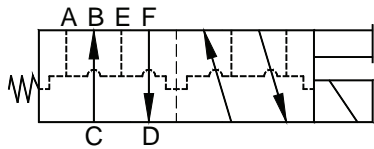
A - Series/Parallel



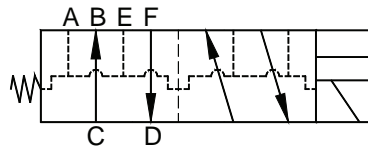
B - Selector spool with open cross-over transient position



C - Selector spool with closed cross-over transient position

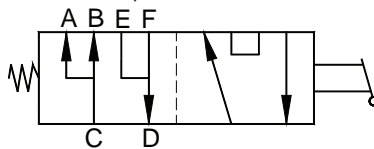


F - Selector spool with open cross-over transient position and unused ports open

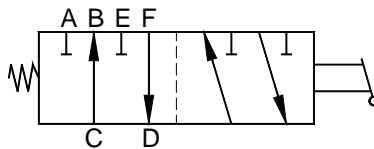


G - Selector spool with closed cross-over transient position and unused ports open

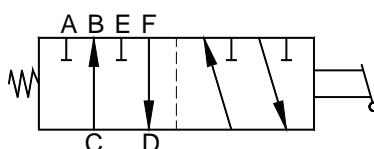
Spool schematics for "L" lever spool operator (transient position not shown)



A - Series/Parallel

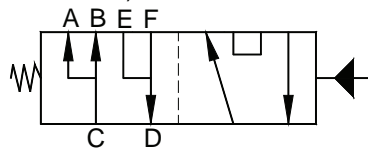


B - Selector spool with open cross-over transient position

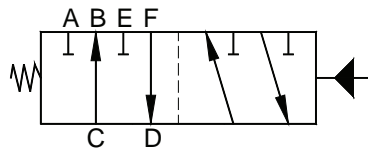


C - Selector spool with closed cross-over transient position

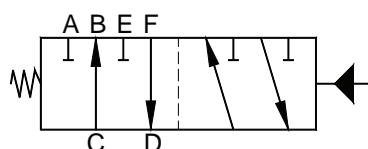
Spool schematics for "P" pilot spool operator (transient position not shown)



A - Series/Parallel

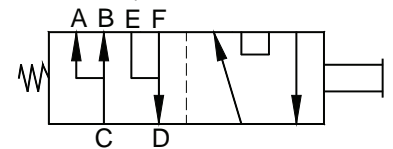


B - Selector spool with open cross-over transient position

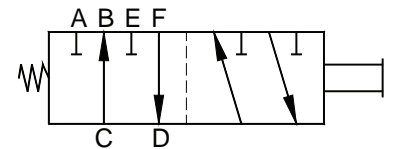


C - Selector spool with closed cross-over transient position

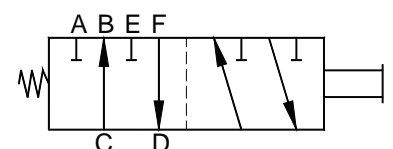
Spool schematics for "K" knob spool operator (transient position not shown)



A - Series/Parallel



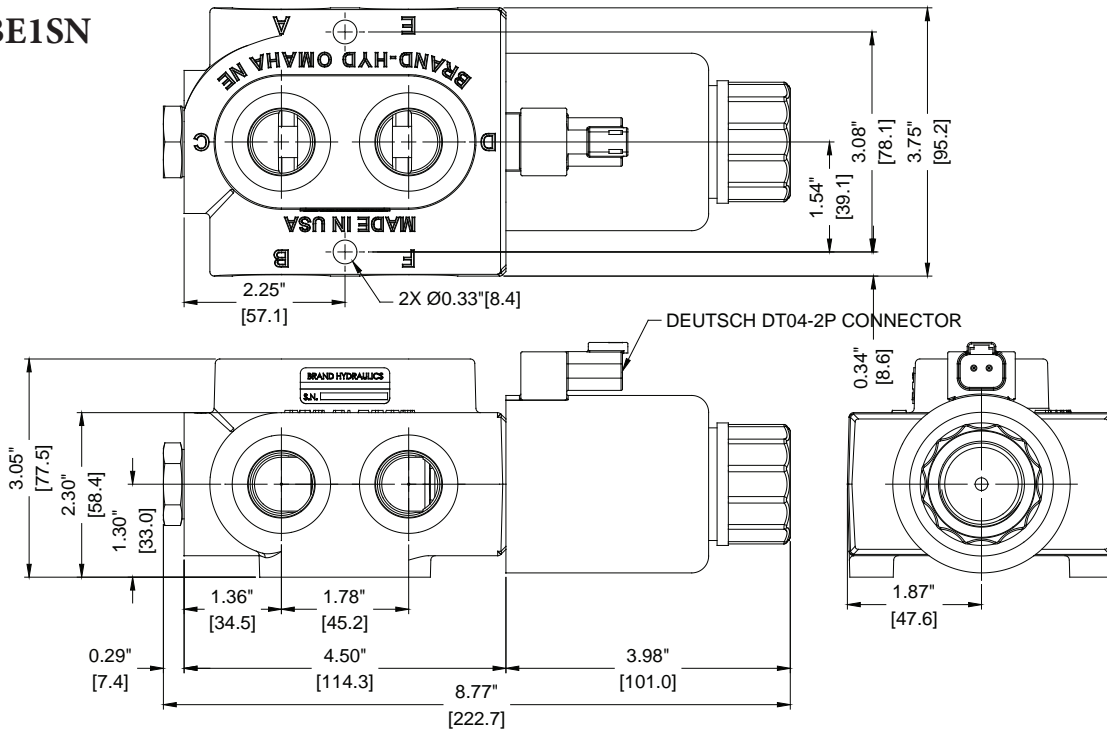
B - Selector spool with open cross-over transient position



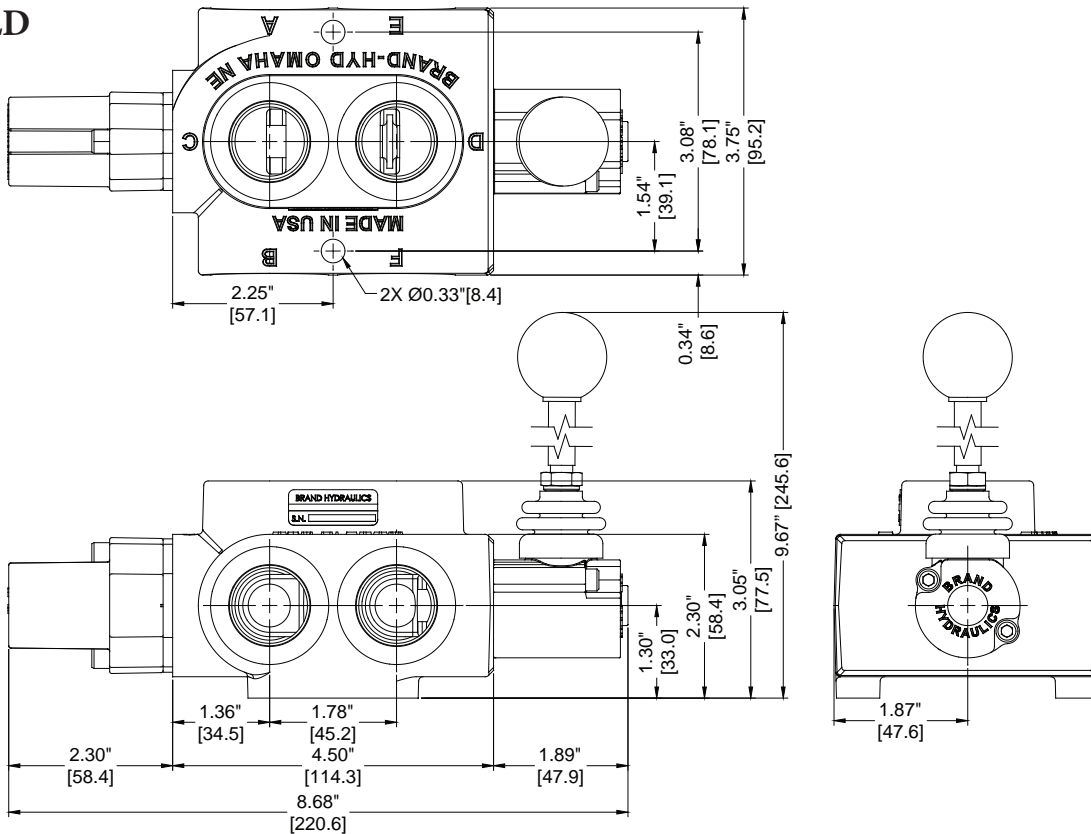
C - Selector spool with closed cross-over transient position

DS - DIMENSIONAL DATA (inches & [millimeters]):

DS10BE1SN

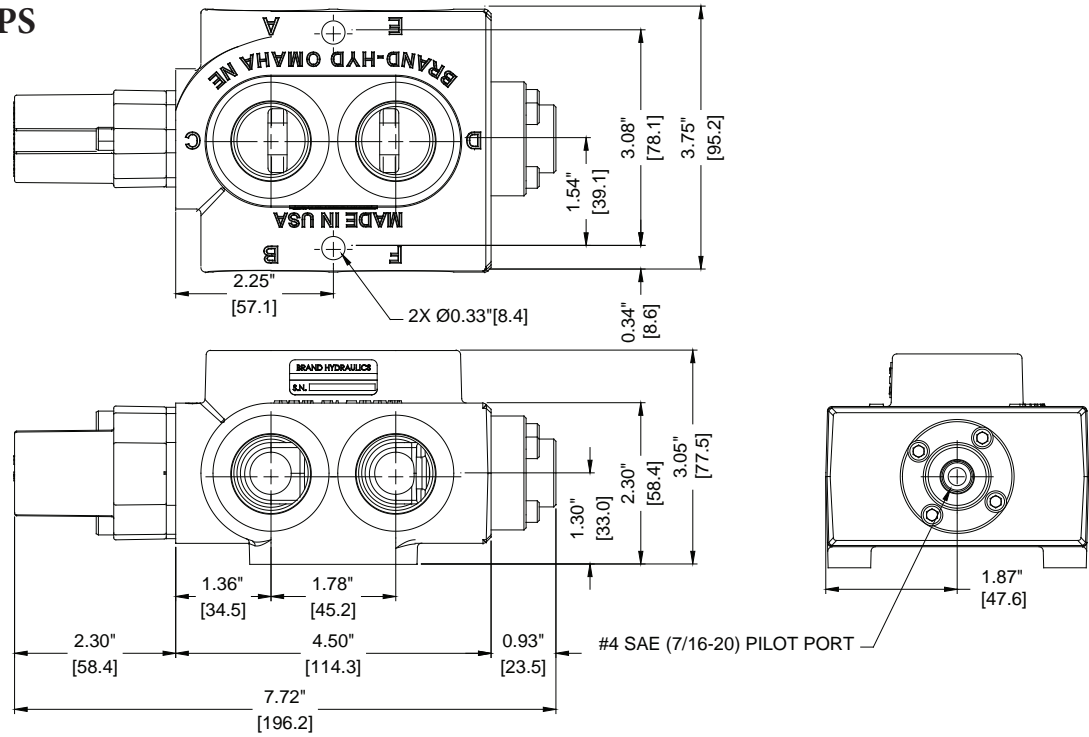


DS12BLD



DS - DIMENSIONAL DATA (inches & [millimeters]):

DS12BPS



DS08BK

