

D08 Pattern Directional Control Valves

Also refer to "Directional Valve Features, Selection and Operating Recommendations" ([dynexdcvoperating.pdf](#))

CONTACT INFORMATION

USA Headquarters

Dynex/Rivett Inc.
770 Capitol Drive
Pewaukee, WI 53072 U.S.A.
Tel: 262-691-2222
FAX: 262-691-0312
E-mail: sales@dynexhydraulics.com

Power Units & Systems

Dynex/Rivett Inc.
54 Nickerson Road
Ashland, MA 01721 U.S.A.
Tel: 508-881-5110
FAX: 508-881-6849
E-mail: ashland@dynexhydraulics.com

European Sales

Dynex/Rivett Inc.
Unit C5 Steel Close, Little End Road, Eaton Socon,
Huntingdon, Cambs. PE19 8TT United Kingdom
Tel: +44 (0) 1480 213980
FAX: +44 (0) 1480 405662
E-mail: sales@dynexhydraulics.co.uk

**For more information
visit our web site:
www.dynexhydraulics.com**

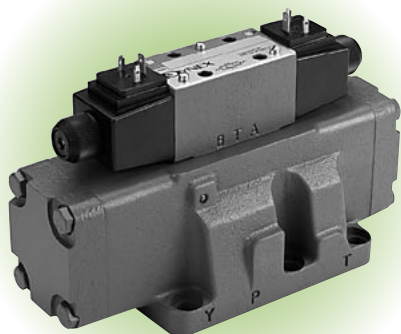
BROCHURE NOTES:

Consult the Dynex sales department for a review of any application which requires operating above the rated flows or pressures, or higher than normal operating temperatures.

Specifications shown were in effect when published. Since errors or omissions are possible, contact your sales representative for the most current specifications before ordering. Dynex reserves the right to discontinue or change designs at any time without incurring any obligation.



D08 PATTERN



VALVE DESCRIPTION

D08 valves are available with a full range of actuators, spools and electrical options, including lever actuated models.

An optional spool stroke adjustment controls the limit of spool travel. This provides manual control of the valve's metering characteristics. See page 4.

For a description of spools, operators and application information, see [dynexdcvoperating.pdf](#).

Mounting

Subplate, N.F.P.A. D08 (CETOP 8) pattern.

Rated Flow

40 U.S. gpm (151 L/min) nominal;
90 U.S. gpm (341 L/min) maximum.

Rated Pressure

5000 psi (350 bar).

Tank Port Pressure (Maximum)

Standard External Drain:
5000 psi (350 bar).

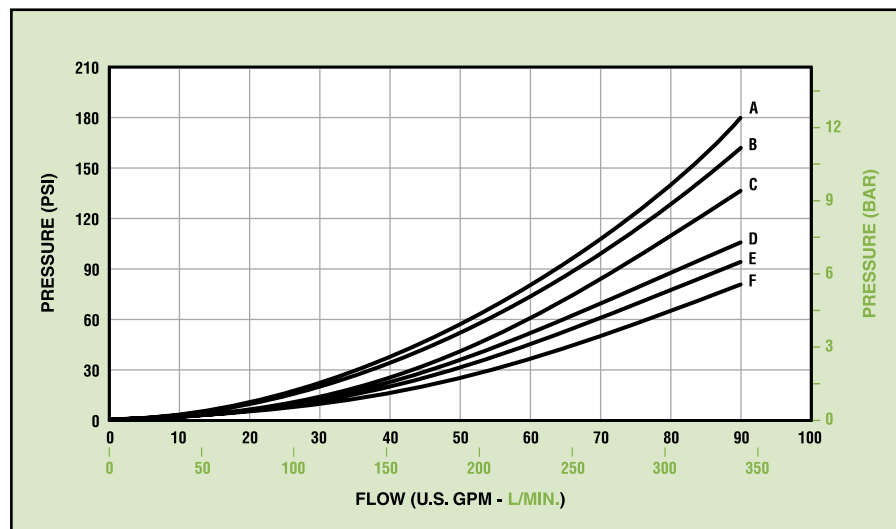
Internal Drain ("ID" Option):
Manual models, 500 psi (35 bar);
Solenoid models, 1500 psi (105 bar);
Solenoid models with "HT" Option,
AC models, 2300 psi (160 bar),
DC models, 3000 psi (210 bar);
Air piloted models,
3000 psi (210 bar) 500 psi (35 bar).

Response Time (Full Stroke)

Spring Centered Models:
Solenoid Energized, 40-45 ms.
Spring Returned, 40 ms.

Spring Offset Models:
Solenoid Energized, 50 ms.
Spring Returned, 75 ms.

Pressure Drop (ΔP)



Flow Curve Reference

Flow Path	Spool Type					
	5	6	8	9	56	58
P→A	D	E	D	D	D	D
P→B	D	E	D	D	D	D
A→T	F	F	F	F	D	D
B→T	C	C	C	C	B	B
P→T	-	E	-	-	A	A

6600 Series Solenoid Piloted Models

Pilot Pressure:
Minimum, 65 psi (5 bar);
Maximum, 5000 psi (350 bar).

Solenoids:
These models use a D03 valve as a pilot.
Models are available with standard AC or DC solenoids. Optional Plug-In-Terminal Solenoids fit DIN Connector, Standard 43650 Form A ("Hirschmann" type).

See [dynexdcvoperating.pdf](#) for "Electrical Connections" and "Explosion Proof Option".

6800 Series Hydraulic Piloted Models

Pilot Pressure:
Minimum, 65 psi (5 bar);
Maximum, 5000 psi (350 bar).

Required Volume (to shift spool full stroke):
1.352 in³ (22,2 cm³).

6900 Series Air Piloted Models

These models use an air piloted D03 valve as a pilot.

Air Pilot Pressure:
Minimum, 40 psi (3 bar);
Maximum, 200 psi (14 bar).

Required Volume (to shift spool full stroke):
0.220 in³ (3,61 cm³).

VALVE EFFICIENCY

Efficiency for all models is shown by the typical performance curves, above. The table identifies the appropriate pressure drop curve for each spool and flow path.

For example, in the table under spool Type 5, curve "B" is called out to determine the pressure drop for P→A. Looking at the curves, "B" indicates a drop of about 165 psi at 30 U.S. gpm (11,4 bar at 114 L/min).

To determine total "loop" drop, the individual pressure drops for P→A and B→T (or P→B and A→T) must be added.

D08 PATTERN

INSTALLATION AND DIMENSIONS

Valve Mounting

The mounting surface drawing shows the minimum flush or raised surface required for the standard N.F.P.A. D08 pattern.

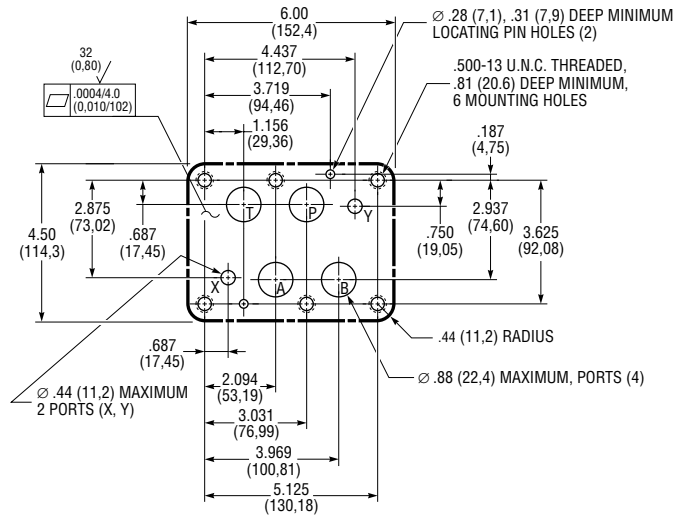
Port o-rings are included with valves.

Mounting bolts must be ordered separately: .500-13 U.N.C. Threaded x 1.25 inch (32 mm), Grade 8 or better, six required. Recommended mounting torque is 55 lb·ft (75 N·m).

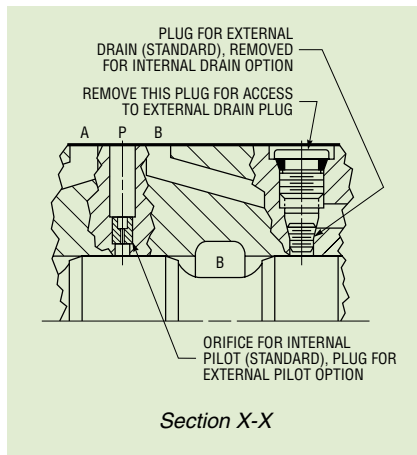
Pilot and Drain Options

The "Section X-X" drawing shows the location of the orifice for the standard internal pilot configuration, and the plug for standard external drain on solenoid and air piloted models.

For conversion to external pilot, replace with setscrew, 10-2 U.N.C. Threaded x 0.25 inch (6.4) long, part number 10590270.



Minimum Mounting Surface, N.F.P.A. D08 (CETOP 8) Pattern



Solenoid Model Dimensions

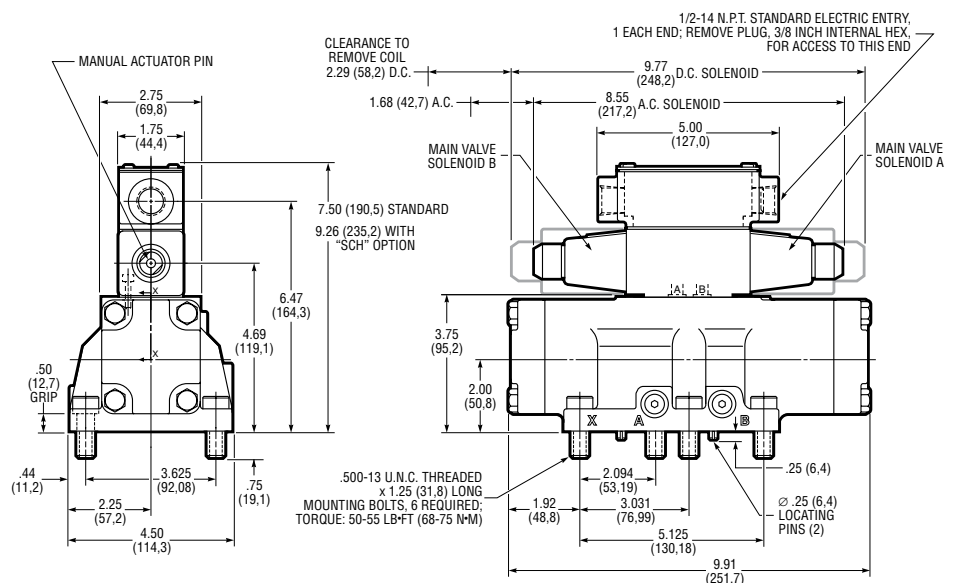
Dimensions are shown for both AC and DC solenoids. DC configuration is shown printed in gray.

The overall length of a single solenoid model (not shown) is 9.91 inches (251.7 mm), the same as a double solenoid model (determined by the length of the main valve).

Weight (Mass):

Single Solenoid, AC, 26.0 lb (11,8 kg); DC, 26.5 lb (12,0 kg).

Double Solenoid, AC, 27.0 lb (12,2 kg); DC, 28.3 lb (12,8 kg).



6600 Series, Double Solenoid Piloted Models

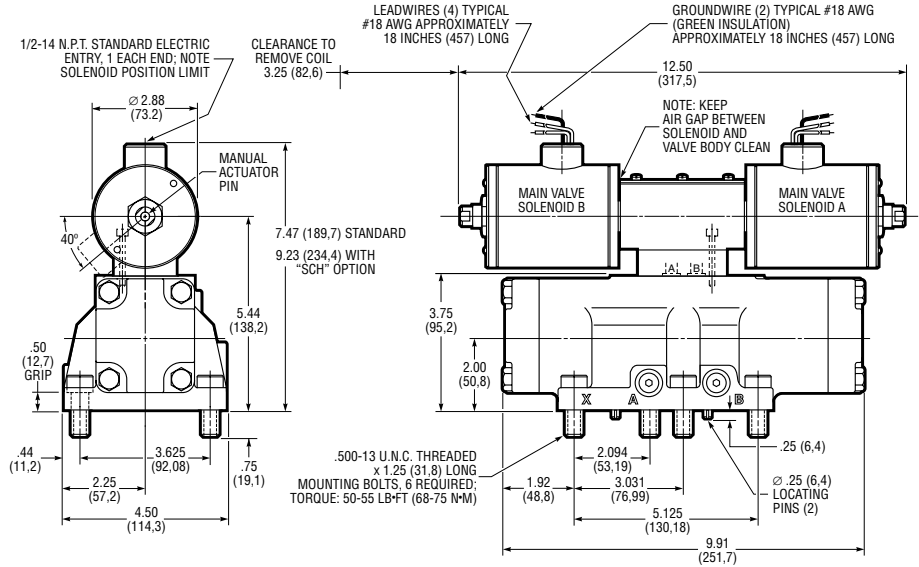
D08 PATTERN

Explosion Proof Solenoids

"EP" solenoids with special enclosures are approved by UL and CSA for use in hazardous locations. Overall length of single solenoid models (not shown) is 11.18 inches (284,0 mm).

Weight (Mass):

Single Solenoid, 31 lb (14,1 kg);
Double Solenoid, 37 lb (16,8 kg).



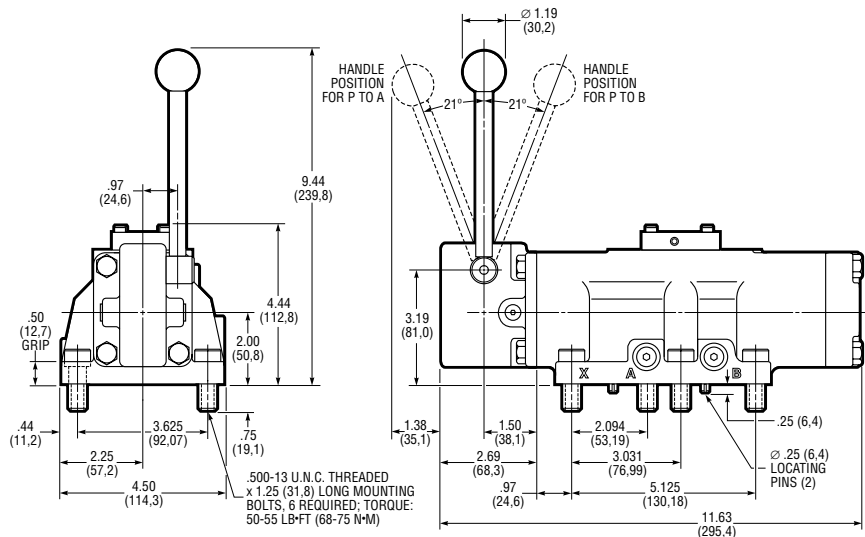
660 Series, Double "EP" Solenoid Models

Manual Operated Models

Lever actuated valves are available in two or three position models. Models with Code 3 internal operators provide three position, detented operation. Refer to "Typical Model Code" on page 38.

Weight (Mass):

27 lb (12,2 kg).



610 Series, Mechanical Lever Models

Direct Hydraulic Pilot Operated

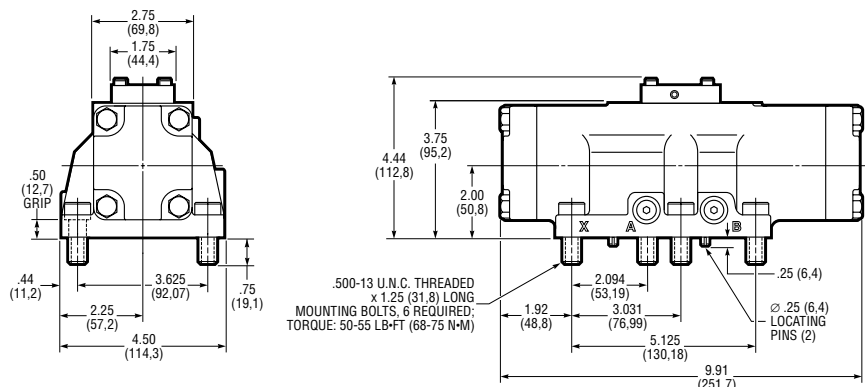
As shown, these models use a cross-over block to direct pilot pressure from auxiliary ports "X" and "Y".

Weight (Mass):

6.0 lb (2,7 kg).

X" and "Y" Port Function

Model	Port "X"	Port "Y"
681*	Actuator A	External Drain
682*	External Drain	Actuator B
685*	Actuator A	Actuator B



680 Series, Direct Hydraulic Piloted

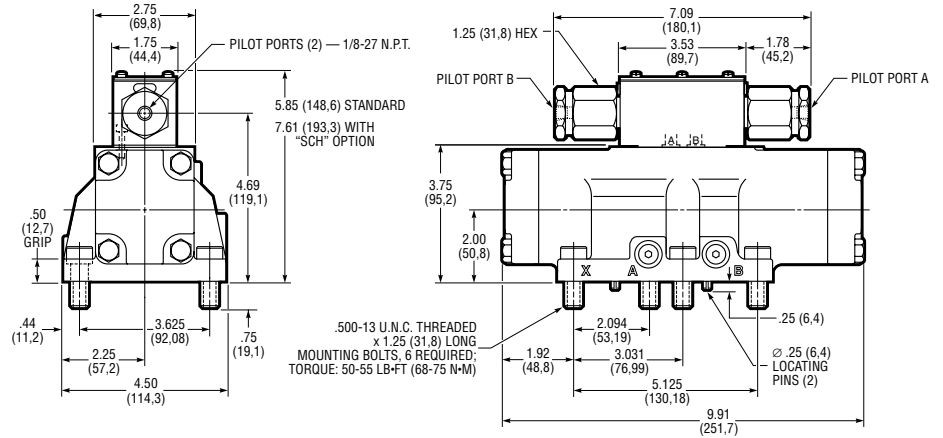
D08 PATTERN

Air Piloted Models

Overall length of single actuator configuration (not shown) is 9.91 inches (257,7 mm), the same as a double actuator model (determined by the length of the main valve).

Weight (Mass):

Single Actuator, 24 lb (10,9 kg);
Double Actuator, 25 lb (11,3 kg).



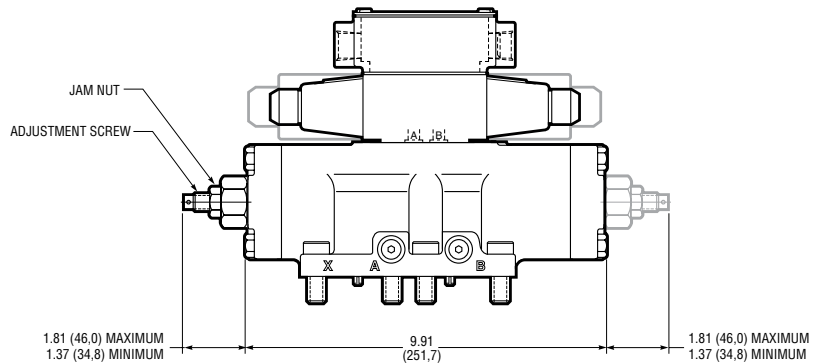
6900 Series, Direct Air Piloted

Spool Stroke Adjustment (SSA Option)

The limit of spool travel can be controlled with a spool stroke adjustment. This provides manual control of the valve's metering characteristics.

The drawing shows an end cover with "1SSA" option on the standard port "A" end of valve. The "2SSA" configuration, with adjustments on both ends, is shown printed in gray.

For single adjustment on port "B" end, contact the Dynex sales department.



Optional Spool Stroke Adjustment

D08 SUBPLATE AND BOLT KITS

Part Number	Description
<i>Subplates:</i>	
P16-D08-.75	Bottom Ports, 3/4-14 N.P.T.F.
P16-D08-1	Bottom Ports, 1-11-1/2 N.P.T.F.
PS016-D08-.75	Side Ports, 3/4-14 N.P.T.F.
PS016-D08-1	Side Ports, 1-11-1/2 N.P.T.F.
PS016-D08-SAE16	Side Ports, No. 16 S.A.E.
<i>Bolt Kit:</i>	
P16-BK-20	Six .500-13 U.N.C. Threaded x 1.25 inch (31,8 mm)

D08 PATTERN

TYPICAL MODEL CODE

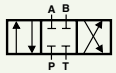
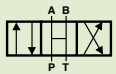
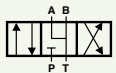
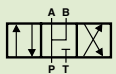
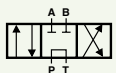
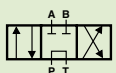
6 6 4 5 - D08 - 115DF - R - T - 1 0

Valve Type	
6	Subplate Mounted Directional Control

Actuator	
1	Manual Lever
6	Solenoid Operated
8	Hydraulic Piloted
9	Air Piloted

Internal Operator	
1	Two Position: Spring Offset (P→B), Actuator Offset (P→A)
2	Two Position: Spring Offset (P→A), Actuator Offset (P→B)
3	Two Position: Actuator Offset, Detented
4	Two Position: Spring Centered, Actuator Offset ^①
5	Three Position: Spring Centered, Actuator Offset

^① For most spools, normal flow is actuator offset P→A. For Spool Types 56 or 58, normal flow is actuator offset P→B.

Spools	
5	
6	
8	
9	
56 ^①	
58 ^②	

^① Closed Crossover
^② Open Crossover

Valve Size	
D08	N.F.P.A. D08 (CETOP 8) Mounting Pattern

Design Number
115DF

Modification Number
0

Reverse Flow Option	
R	Reverse Flow (Code 4 Operator Only)

Solenoid Options	
BH3A	3-pin Connector for single solenoid models on port "A" end ^{①②③}
BH3B	3-pin Connector for single solenoid models on port "B" end ^{①②③}
BH5A	5-pin Connector for single or double solenoid models on port "A" end ^{①②③}
BH5B	5-pin Connector for single or double solenoid models on port "B" end ^{①②③}
C	CSA and UL Recognized Coils (Etched with Symbol) ^④
CG	Cable Grip for .38 to .44 inch (9,5 to 11,1 mm) O.D. machine tool cable ^{①②}
HT	High Pressure Tank Port: 2300 psi (160 bar) maximum AC models; 3000 psi (210 bar) maximum DC models
M	Hand Actuated Manual Override ^①
SL	Solenoid Lights (available 115DF AC only) ^{①②}
T	Terminal Strip ^{①②}

^① Option not available with "EP" solenoid models.
^② Option not available with "Plug-In Terminal" solenoid models.
^③ N.F.P.A. standard T3.539-1980; A.N.S.I. standard B93.55M-1981.
^④ Available with 115DF solenoids only.

General Options	
1SSA	Spool Stroke Adjustment on port "A" end of valve
2SSA	Spool Stroke Adjustment on both ends of valve
CH	Flow Control (Pilot Choke) – 3000 psi (210 bar) maximum pressure ^①
ID	Internal Drain ^①
XP	External Pilot ^①

^① Not available with hydraulic piloted models.

Electrical Options			
<i>Standard AC Solenoids (Dual Frequency):</i>		<i>Standard DC Solenoids:</i>	
24DF	24V/60Hz, 24V/50Hz	12DC	12VDC
115DF	115V/60Hz, 110V/50Hz	24DC	24VDC
230DF	230V/60Hz, 220V/50Hz		
460DF	460V/60Hz, 440V/50Hz		
<i>Plug-In Terminal AC Solenoids:^①</i>		<i>Plug-In Terminal DC Solenoids:^①</i>	
115HA	115V/60Hz, 110V/50Hz	12HD	12VDC
230HA	230V/60Hz, 220V/50Hz	24HD	24VDC
<i>Explosion-Proof AC Solenoids:</i>		<i>Explosion-Proof DC Solenoids:</i>	
115EP	115V/60Hz	12EP	12VDC
110EP	110V/50Hz	24EP	24VDC
220EP	220V/50Hz		

^① Fits DIN Connector Standard 43650 Form A ("Hirschmann" type).