

D08H Pattern Directional Control Valves

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

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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.



D08H SIZE



VALVE DESCRIPTION

D08H valves provide high flow capability, 80 percent greater than D08 valves.

These valves operate efficiently, with large internal flow passages and uniform flow areas throughout the body coring. Low pressure drop is enhanced with the use of the special Dynex mounting pattern with larger ports.

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

Mounting

Subplate, N.F.P.A. D08 (CETOP 8) pattern, with auxiliary "X" and "Y" ports for external pilot and drain.

Rated Flow

80 U.S. gpm (303 L/min) nominal;
165 U.S. gpm (625 L/min) maximum.

Rated Pressure

5000 psi (350 bar).

Tank Port Pressure (Maximum)

Standard External Drain:
5000 psi (350 bar).

Internal Drain ("ID" Option):

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).

Response Time (Full Stroke)

Spring Centered Models:

Solenoid Energized, 40-45 ms.

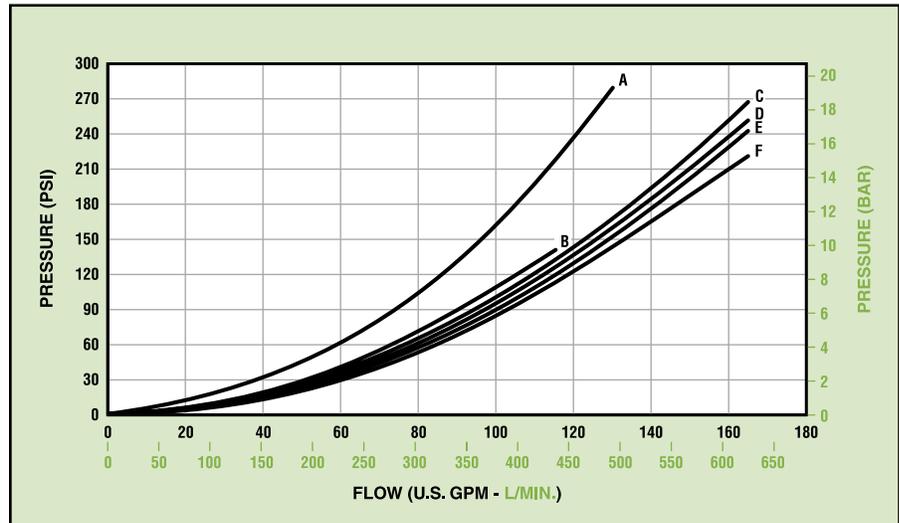
Spring Returned, 40 ms.

Spring Offset Models:

Solenoid Energized, 50 ms.

Spring Returned, 75 ms.

Pressure Drop (ΔP)



Flow Curve Reference

Flow Path	Spool Type				
	5	6	8	56	58
P→A	E	F	F	F	F
P→B	E	F	F	F	F
A→T	D	E	E	E	E
B→T	C	D	E	C	C
P→T	-	B	-	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, 110 psi (8 bar), except models with Code 3 internal operator, 65 psi (5 bar);
Maximum, 5000 psi (350 bar).

Required Volume (to shift spool full stroke):
1.71 in³ (28,0 cm³).

6900 Series Air Piloted Models

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

Air Pilot Pressure:

Minimum, 40 psi (3 bar);

Maximum, 200 psi (14 bar).

Required Volume (to shift spool full stroke):
0.22 in³ (3,6 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 "E" is called out to determine the pressure drop for P→A. Looking at the curves, "E" indicates a drop of about 55 psi at 80 U.S. gpm (3,8 bar at 303 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.

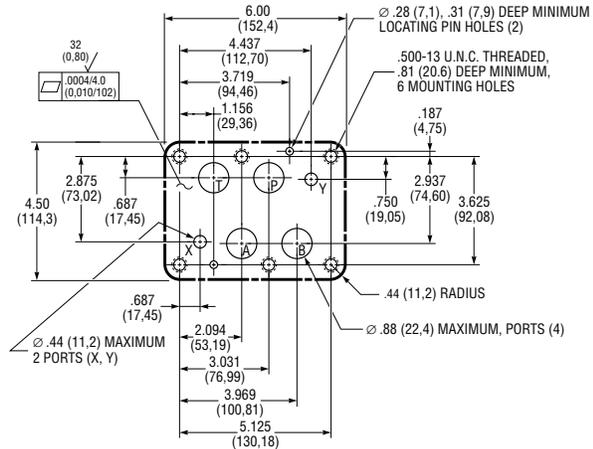
INSTALLATION AND DIMENSIONS

Valve Mounting

The top drawing shows the standard N.F.P.A. D08 (CETOP 8) mounting surface. The drawing below shows the recommended mounting surface with larger ports providing lower pressure drop. Dynex D08H valves will mount on either pattern.

Port o-rings are included with valves.

Mounting bolts must be ordered separately: .500-13 U.N.C. Threaded x 1.50 inch (38,1 mm), Grade 8 or better, six required. Recommended mounting torque is 55 lb-ft (75 N-m).

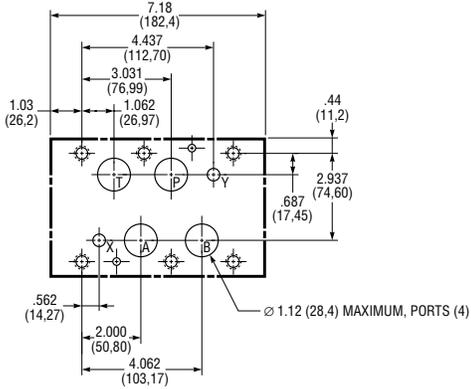


Minimum Mounting Surface, N.F.P.A. D08 (CETOP 8) Pattern

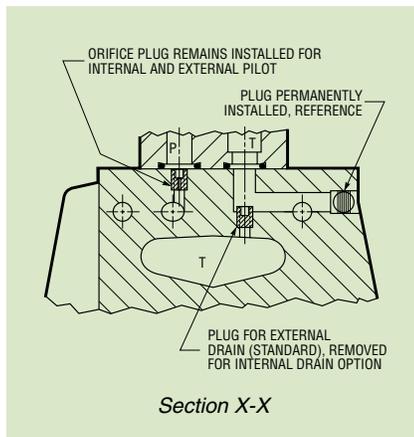
Pilot and Drain Options

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

To convert to external pilot, remove the "access plug" (see main drawings) to install plug, 1/16-27 N.P.T.F., part number 10062450.



Recommended Mounting Surface for Best Flow Performance (Special Dynex Pattern)



Solenoid Model Dimensions

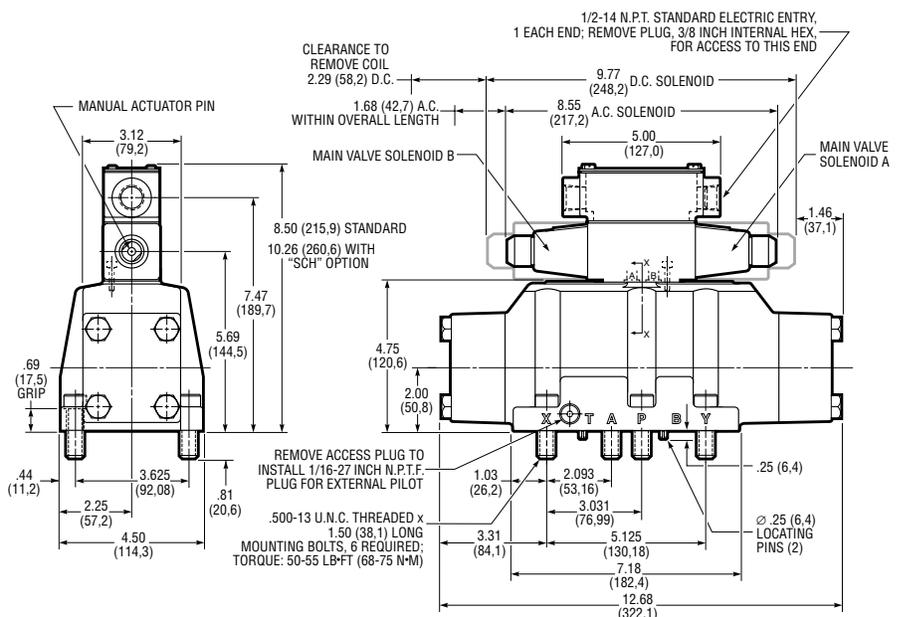
Dimensions are shown for both AC and DC solenoids. DC configuration is shown printed in gray.

The overall length of a single solenoid model (not shown) is 12.68 inches (322,1 mm), the same as a double solenoid model (determined by the length of the main valve).

Weight (Mass):

Single Solenoid,
AC, 9.3 lb (4,2 kg); DC, 9.8 lb (4,4 kg).

Double Solenoid,
AC, 10.0 lb (4,5 kg); DC, 11.3 lb (5,1 kg).



6600 Series, Double Solenoid Piloted Models

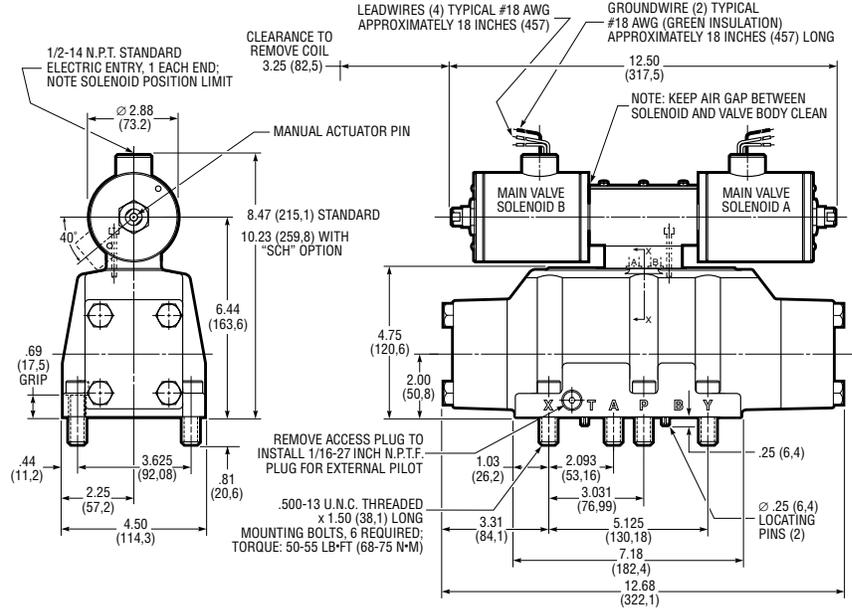
Explosion Proof Solenoids

"EP" solenoids with special enclosures are approved by UL and CSA for use in hazardous locations.

The overall length of models with a single "EP" solenoid (not shown) is 12.68 inches (322,1 mm), the same as a double solenoid model (determined by the length of the main valve).

Weight (Mass):

Single Solenoid, 41 lb (18,6 kg);
Double Solenoid, 47 lb (21,3 kg).



6600 Series, Double "EP" Solenoid Models

Direct Hydraulic Pilot Operated

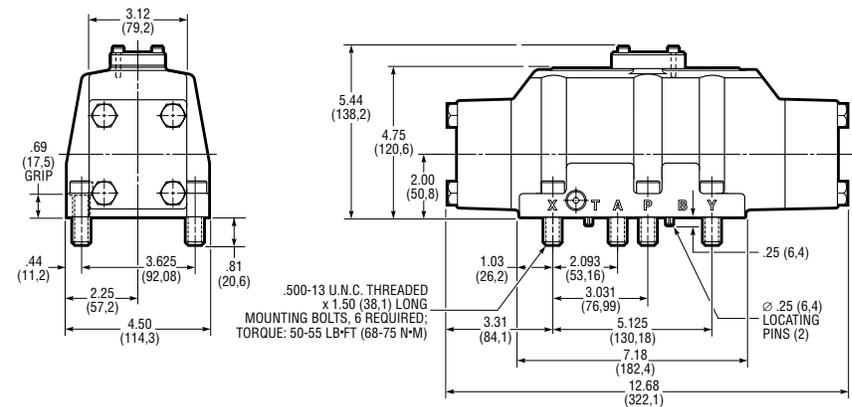
As shown, these models use a cross-over block to direct pilot pressure from auxiliary ports "X" and "Y".

Weight (Mass):

33 lb (15,0 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



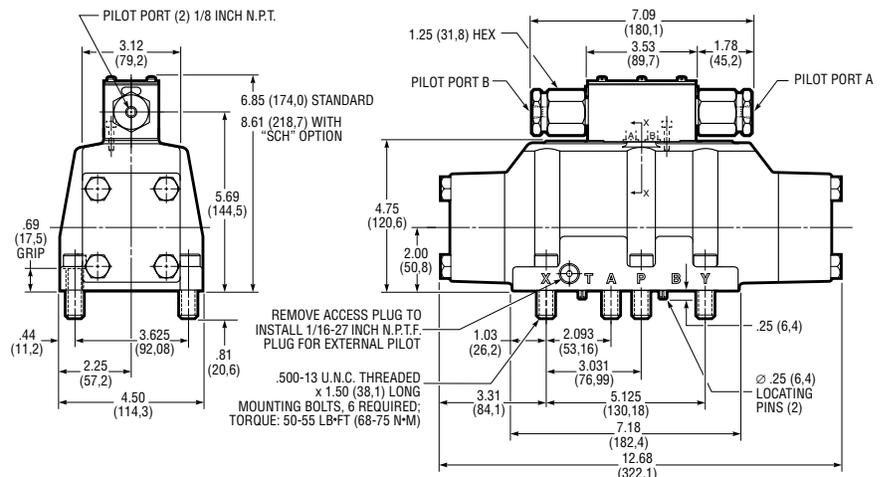
6800 Series, Direct Hydraulic Piloted Models

Air Piloted Models

The overall length of a single actuator model (not shown) is 12.68 inches (322,1 mm), the same as a double solenoid model (determined by the length of the main valve).

Weight (Mass):

Single Actuator, 35 lb (15,9 kg);
Double Actuator, 36 lb (16,3 kg).



6900 Series, Double Air Piloted Models

D08H SUBPLATE AND BOLT KITS

Part Number	Description
<i>Subplate:</i>	
PS024-F-D08H-1.50	Side Ports, Pattern for S.A.E. 1-1/2 inch Flange (Code 62)
<i>Mounting Bolt Kit:</i>	
P24-BK	Six .500-14 U.N.C. Threaded x 1.50 inch (38,1 mm)

TYPICAL MODEL CODE

6 6 4 5 - D08H - 115DF - R - T - CH - 1 0

Valve Type	
6	Subplate Mounted Directional Control

Actuator	
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	
D08H	N.F.P.A. D08 (CETOP 8) Mounting Pattern with auxiliary "X" port (external pilot) and "Y" port (external drain)

Design Number
115DF

Modification Number
10

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 ^①	
CH	Flow Control (Pilot Choke) – 3000 psi (210 bar) maximum pressure
ID	Internal Drain
XP	External Pilot

^① Not available with hydraulic piloted models.

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

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