

## D08 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.*



## Valves Control Flow to 90 U.S. gpm (341 L/min)

### SPECIFICATIONS

#### General:

For a description of spools, operator functions, electrical options and operating recommendations refer to *dynexdcvoperating.pdf*.

#### Mounting

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

#### Rated Flow

Nominal: 40 U.S. gpm (151 L/min);  
Maximum: 90 U.S. gpm (341 L/min)

#### Rated Pressure

5000 psi (350 bar)

#### Tank Port Pressure (Maximum)

Standard External Drain:

5000 psi (350 bar)

Internal Drain:

500 psi (35 bar), Mechanical;

1500 psi (105 bar), Solenoid

Internal Drain with "HPT" Option:

2300 psi (160 bar), A.C.;

3000 psi (210 bar), D.C.

Hydraulic Piloted:

5000 psi (350 bar)

Air Piloted:

3000 psi (210 bar)

#### Solenoid Piloted Models

Pilot Pressure:

Minimum, 65 psi (5 bar);

Maximum, 5000 psi (350 bar)

Solenoids:

These models use a Dynex D03 valve as a pilot.

#### Hydraulic Piloted Models

Pilot Pressure:

Minimum, 65 psi (5 bar);

Maximum, 5000 psi (350 bar)

Volume:

Maximum required to shift spool full stroke, 1.352 in<sup>3</sup> (22,2 cm<sup>3</sup>)

#### Air Piloted Models

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

Oil Pilot Pressure:

Minimum, 65 psi (5 bar);

Maximum, 5000 psi (350 bar)

Air Pilot Pressure:

Minimum, 40 psi (3 bar);

Maximum, 200 psi (14 bar)

Volume:

Maximum required to shift spool full-stroke, 0.220 in<sup>3</sup> (3,61 cm<sup>3</sup>)



### TYPICAL PERFORMANCE

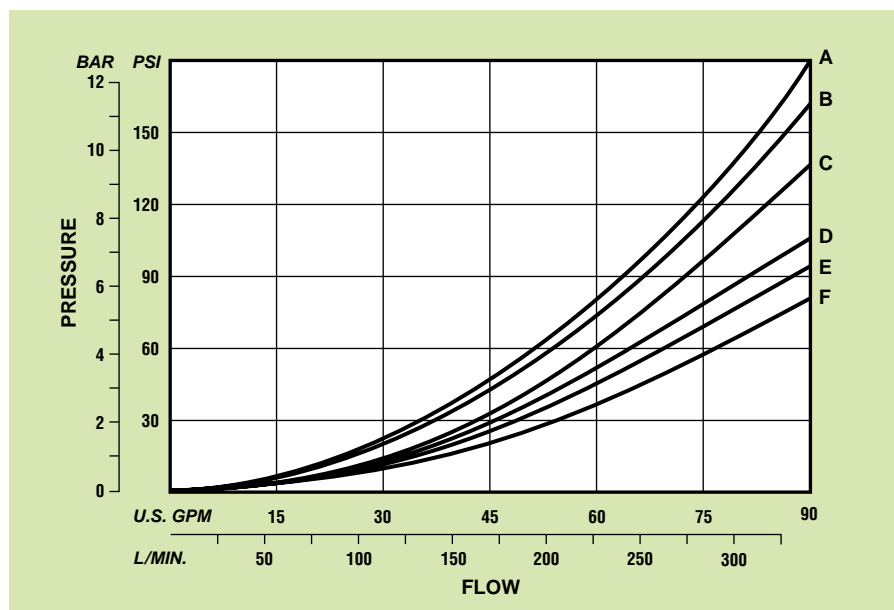
The curves show resistance to flow for various spool types. The table identifies the appropriate pressure drop curve for each spool and flow path.

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

### 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

### PRESSURE DROP (ΔP)



## Installation and Dimensions

### GENERAL VALVE MOUNTING

The mounting surface drawing shows the minimum surface required for the N.F.P.A. D08 pattern. Face must be flat within 0.0004 inch/4.0 inches (0,010 mm/102 mm) with a surface finish of 32 microinch (0,80 μm) AA.

Port o-rings are included with all valves. Mounting bolts must be ordered separately, .500-13 U.N.C. Threaded x 1.25 inches (32 mm), Grade 8 or better; six required. Recommended mounting torque is 55 lb·ft (75 N·m) maximum.

### SOLENOID MODEL DIMENSIONS

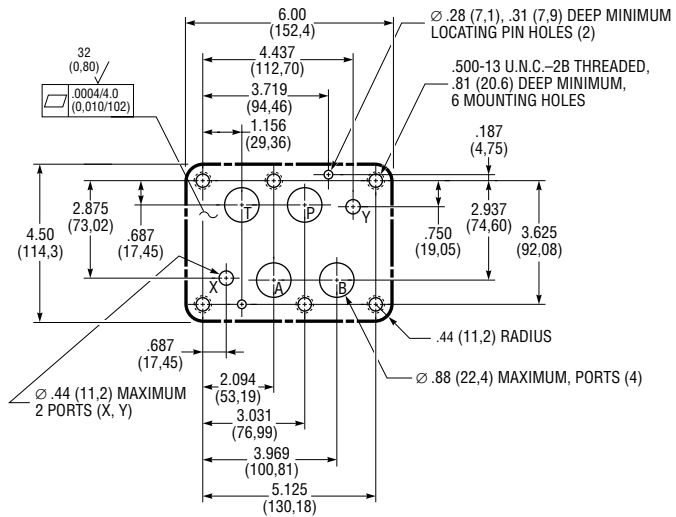
These models use a D03 valve as a pilot. Overall length of a single solenoid model (not shown) is 9.91 inches (251,7 mm), the same as a double solenoid model (length of main valve).

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

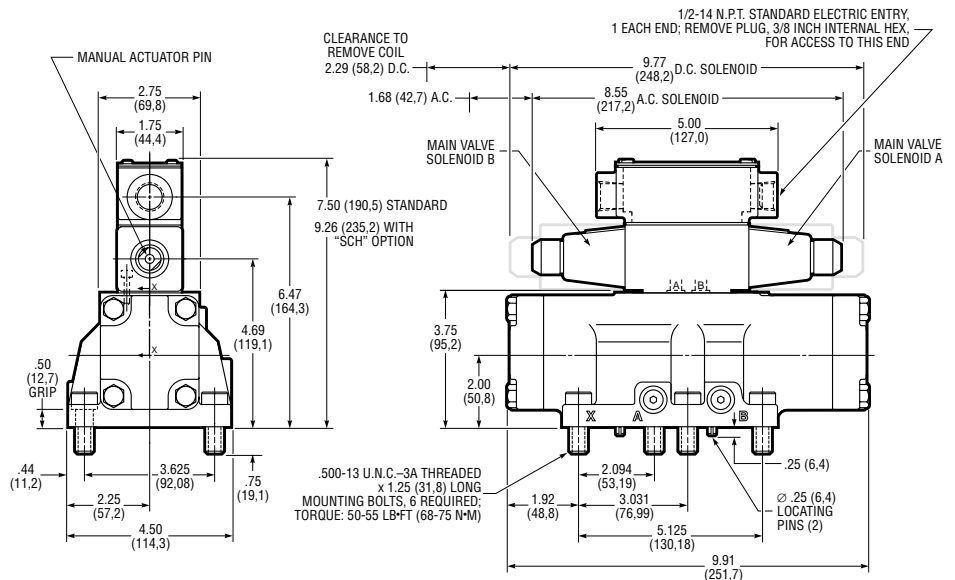
For conversion to external pilot, replace orifice with set-screw, 10-24 U.N.C. Threaded x .25 inch (6,4) long, part number 10590270.

### Weight (Mass)

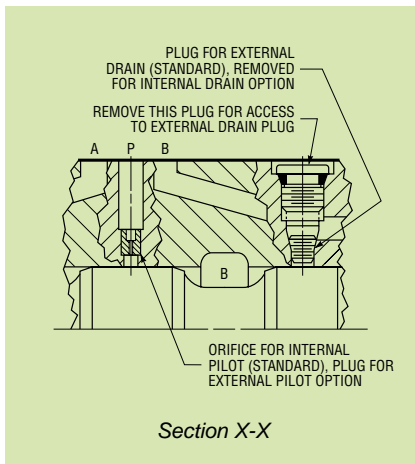
- Single Solenoid:  
 A.C., 26.0 lb (11,8 kg);  
 D.C., 26.5 lb (12,0 kg)
- Double Solenoid:  
 A.C., 27.0 lb (12,2 kg);  
 D.C., 28.3 lb (12,8 kg)



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



6600 Series, Double Solenoid Piloted Models



# D08 PATTERN

## EXPLOSION PROOF SOLENOIDS

These models use a D03 pilot valve with explosion proof solenoids ("EPW" option). The solenoids with special enclosures are approved by *UL* and *CSA* for use in hazardous locations.

Overall length of models with single "EPW" solenoid (not shown) is 11.18 inches (284,0 mm).

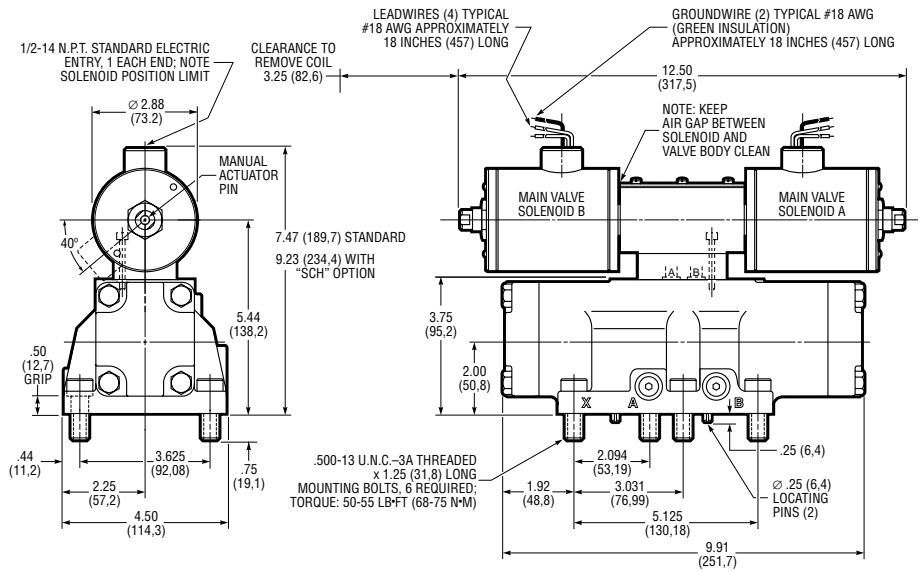
Note that a spacer plate provides mounting clearance for solenoids. A spacer kit, KV00301065, and bolt kit, P25-BK-24, are available for conversions.

### UL Classification

Class I, Group C,D;  
Class II, Group E,F,G

### Weight (Mass)

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



6600 Series, Double "EPW" Solenoid Models

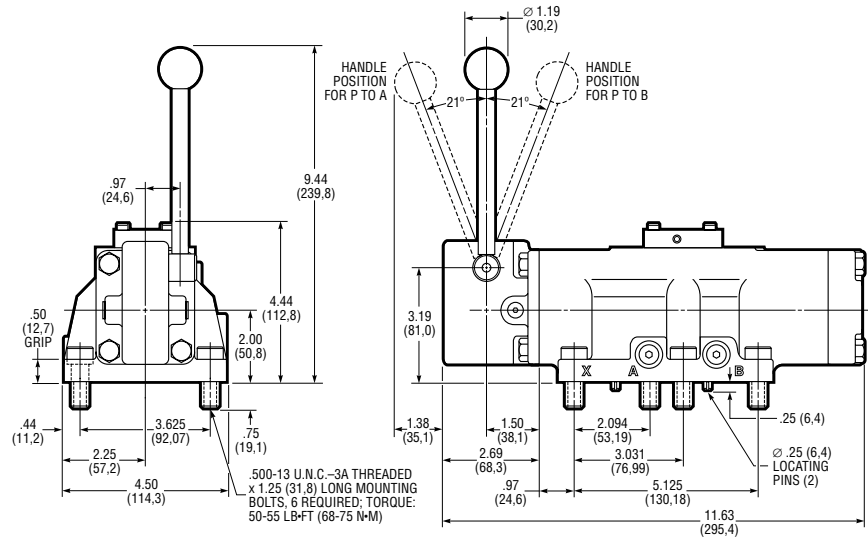
## MECHANICAL MODELS

The installation drawing shows the lever actuated valve, available in two or three position models.

Note that models with Code 3 internal operators provide three position, detented operation.

### Weight (Mass)

27.0 lb (12,2 kg)



6100 Series, Mechanical Lever Models

# D08 PATTERN

## HYDRAULIC PILOTED MODELS

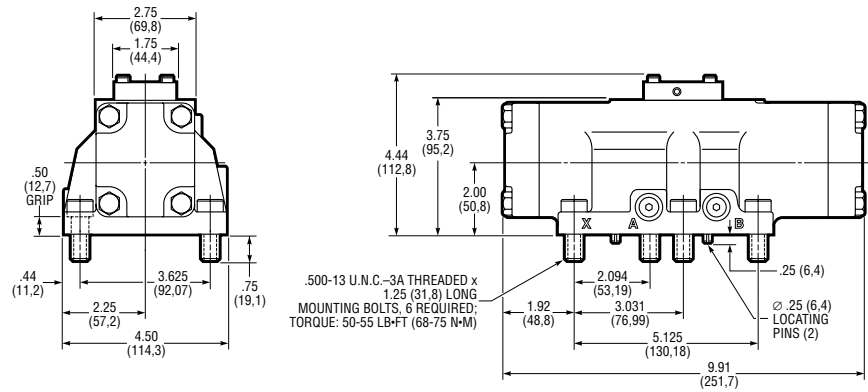
As shown, these models use a cross-over block to direct flow from auxiliary ports "X" and "Y".

### Weight (Mass)

22.0 lb (10,0 kg)

## "X" AND "Y" PORT FUNCTIONS

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

## AIR PILOTED MODELS

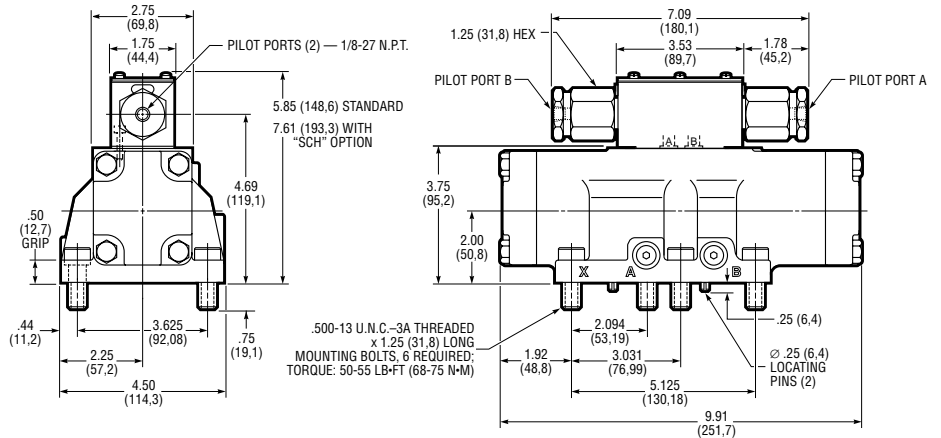
These models use an air piloted D03 valve as a pilot. Single and double actuator models are available.

The overall length of a single actuator model (not shown) is 9.91 inches (251,7 mm), the same as a double actuator model (length of the main valve). For reference, the length of the D03 single actuator pilot valve (not shown) is 5.56 inches (141,2 mm).

### Weight (Mass)

Single Actuator: 24.0 lb (10,9 kg);

Double Actuator: 25.0 lb (11,3 kg)



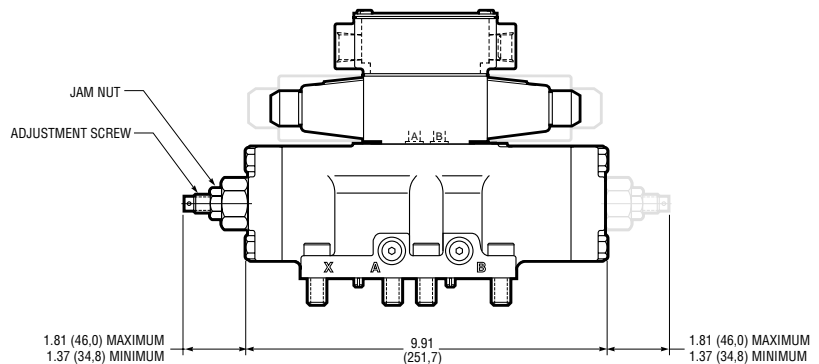
6900 Series, Direct Air Piloted

## SPOOL STROKE ADJUSTMENT

The limit of spool travel can be controlled on D08 models with a spool stroke adjustment ("SSA" option).

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

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



Optional Spool Stroke Adjustment

