

General Description

Series D3W directional control valves are high-performance, 4-chamber, direct operated, wet armature, solenoid controlled, 3 or 4-way valves. They are available in 2 or 3-position and conform to NFPA's D05, CETOP 5 mounting patterns.

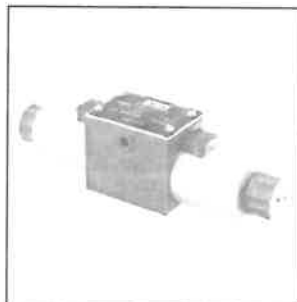
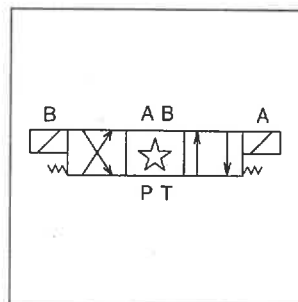
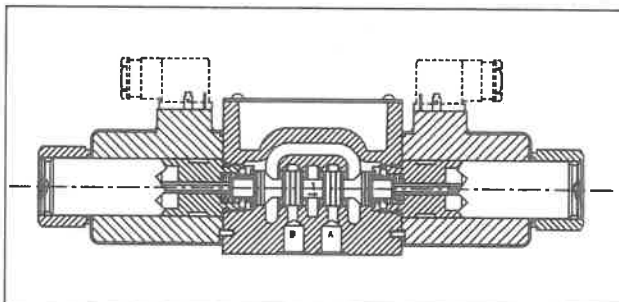
Features

- Worldwide, high flow, low pressure drop design.
- Soft shift available.
- 16 spools available including proportional.
- DC surge suppression available to protect electrical equipment.
- Three electrical connection options.
- AC & DC lights available.
- Easy access mounting bolts.
- Explosion proof availability.
- CSA approved.
- No tools required for coil removal.
- Rectified coils available for high flow AC applications.

Response Time (ms)

Signal to 95% spool stroke measured at 172 Bar (2500 PSI) and 75 LPM (20 GPM)

Solenoid Type	m sec
AC Energize	21
AC De-energize	35
DC Energize	110
DC De-energize	85



Specifications

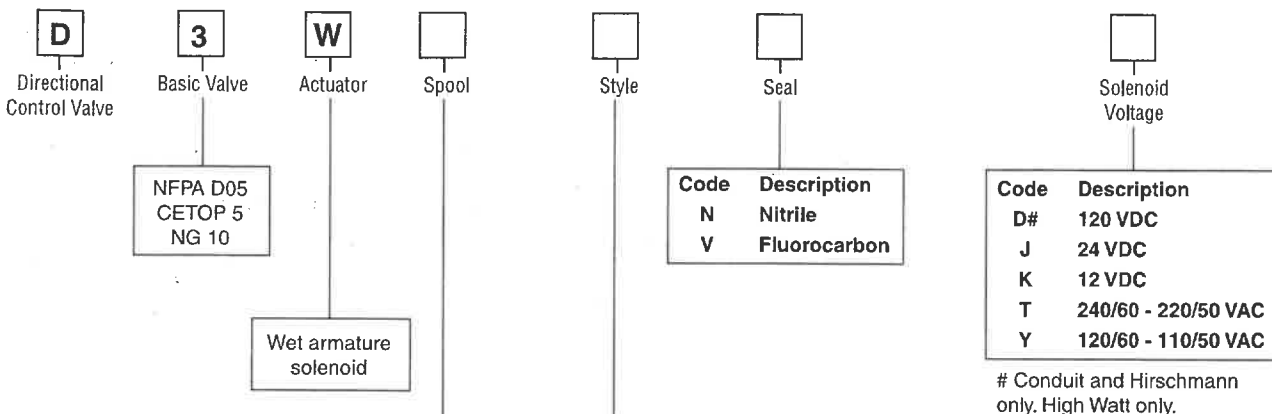
Interface	NFPA D05, CETOP 5, NG 10
Max. Operating Pressure	P, A, B: 345 Bar (5000 PSI) Standard CSA 207 Bar (3000 PSI) Tank: 103 Bar (1500 PSI) AC Standard 207 Bar (3000 PSI) AC Optional DC/AC Rectified Standard CSA 103 Bar (1500 PSI)
CSA File Number	LR060407
Leakage Rates 100 SSU @ 49°C (120°F)	Maximum Allowable: 19.6 cc (0.38 Cu. in.) per Minute/ Land @ 69 Bar (1000 PSI)* 35 cc (2.19 Cu. in.) per Minute/ Land @ 207 Bar (3000 PSI)*

* #008 and #009 Spools may exceed these rates, consult factory

A

WARNING: This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

D3W without Position Control



Code	Symbol	Code	Symbol
001		015	
002		016	
003		020*	
004		026†	
005		030**	
006		081†	
008*, 009**		082†	
011			

- * 008, 020, & 026 spools have closed crossover.
 ** 009 & 030 spool have open crossover.
 † Available only with high-watt rectified AC coils or high-watt DC coils.
 †† Styles C, E, F, K & M only. Not available with explosion proof coils.

Code	Description	Symbol
B*	Single solenoid, 2 position, spring offset. P to A and B to T in offset position.	
C	Double solenoid, 3 position, spring centered.	
D**†	Double solenoid, 2 position, detent.	
E	Single solenoid, 2 position, spring centered. P to B and A to T when energized.	
F**	Single solenoid, 2 position. Spring offset, energized to center. Position spool spacer on A side. P to A and B to T in spring offset position.	
H*	Single solenoid, 2 position, spring offset. P to B and A to T in offset position.	
K	Single solenoid, 2 position, spring centered. P to A and B to T when energized.	
M**	Single solenoid, 2 position, spring offset, energized to center position. Spool spacer on B side. P to B and A to T in spring offset position.	

- * Only spools 020 & 030.
 ** High Watt only.
 † Only spools 020 & 030.
- This condition varies with spool code.

Valve schematic symbols are per NFPA/ANSI standards, providing flow P to A when energizing solenoid A. Note operators reverse sides for #8 and #9 spools. See installation information for details.

Bold: Designates Tier I products and options.

Non-Bold: Designates Tier II products and options. These products will have longer lead times.



Solenoid Connection

Code	Description
C**	Conduit Cavity
K	Conduit Box
J†	Deutsch (DT06-2S)
P	Hirschmann w/Plug
W*	Hirschmann w/o Plug
E*	Explosion Proof

* Lights not available.
** No conduit cavity variations. See K conduit box option.
† 24 VDC voltage only. High Watt only.

Solenoid/Tube Options

Code	Description
Omit	Standard Tube
P*	Extended Manual Override

* Manual override options not available on explosion proof or soft shift. Not available with high pressure AC tube "H".

Manual Override Options

Electrical Options

Shift Response

Code	Description
Omit	Standard Valve
S3*	Soft Shift, 0.030" Orifice
S4*	Soft Shift, 0.040" Orifice

* High watt coil only. Not compatible with D Style.

Approvals

Code	Description
Omit	Standard
4*	CSA Approved

* Consult Factory for available options.

Variations

Code	Description
Omit	Standard Valve
4B	Monitor Switch and Protective Cover
5	Signal Lights
6	Manaplug, Brad Harrison Mini
56	Manaplug (Mini) with Lights
57	Manaplug (Micro) with Lights (M12x1)
1C	Manaplug (Mini) Single Sol. 5-Pin w/Lights
1M	Manaplug Opposite Normal
1P	Painted Body
2P	Complete Painted Valve, 1 mil thick, spec. (Check factory for availability)

Design Series

NOTE: Not required when ordering.

Options	Coil	Tube Rating	
		AC	DC/AC Rectified
Omit	High Watt	103.5 Bar (1500 PSI)	207 Bar (3000 PSI)
F*#	Low Watt	n/a	207 Bar (3000 PSI)
H	High Watt	207 Bar (3000 PSI)	n/a
D‡†	Explosion Proof, EExd ATEX		
U**X†	Explosion Proof, UL/CSA		

* Availability varies based on Solenoid Voltage: Available with J Hirschmann style only. Available with J and Y (Rectified) & T (Rectified) Leadwire style only.
Not available with soft shift or with F and M style valves.
‡ DED only DC available.
** YEU only AC available.
X DEU & JEU only DC available.
† Explosion proof coils are 60 Hz only.

Code	Description
Omit	No Option
V#	Varistor Surge Suppressor
ZX	AC Rectified with MOV Surge Suppressor

24 VDC voltage only with Leadwire C & K options. High and low watt available.
X 240 VAC Hirschmann only, high-watt only. Not available with Explosion Proof. Y voltage available with leadwire, High and Low watt. Y voltage, DIN and high watt only.

Mounting Bolt Kits

UNC Bolt Kits for use with D3W Directional Control Valves & Sandwich Valves					
		Number of Sandwich Valves @ 2.00" (50 mm) thickness			
		0	1	2	3
D3W	Standard:	BK98 1.62"	BK141 3.50"	BK142 5.50"	BK143 7.50"
	Metric:	BKM98 40 mm	BKM141 90 mm	BKM142 140 mm	BKM143 190 mm
D3W with explosion proof coils	Standard:	BK144 2.37"	BK61 4.25"	BK62 6.25"	BK63 8.25"
	Metric:	BKM144 60 mm	BKM61 110 mm	BKM62 160 mm	BKM63 210 mm

NOTE: All bolts are SAE grade 8, 1/4-20 UNC-2A thread, torque to 16 Nm (12 ft-lbs)

Valve Weight:

Single Solenoid:	
AC	4.3 kg (9.5 lbs.)
DC	5.3 kg (11.6 lbs.)
Double Solenoid:	
AC	5.0 kg (11.0 lbs.)
DC	7.3 kg (16.0 lbs.)

Seal Kit:

Nitrile	SKD3W
Fluorocarbon	SKD3WV

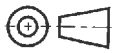
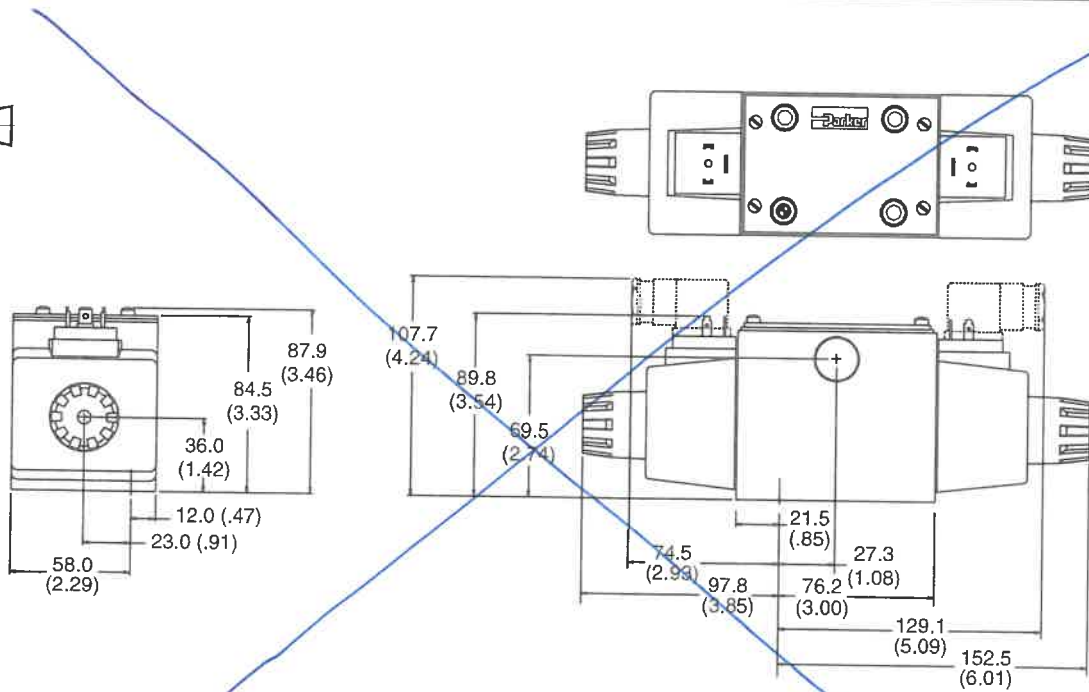
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Inch equivalents for millimeter dimensions are shown in (**)

Hirschmann, Double AC Solenoid

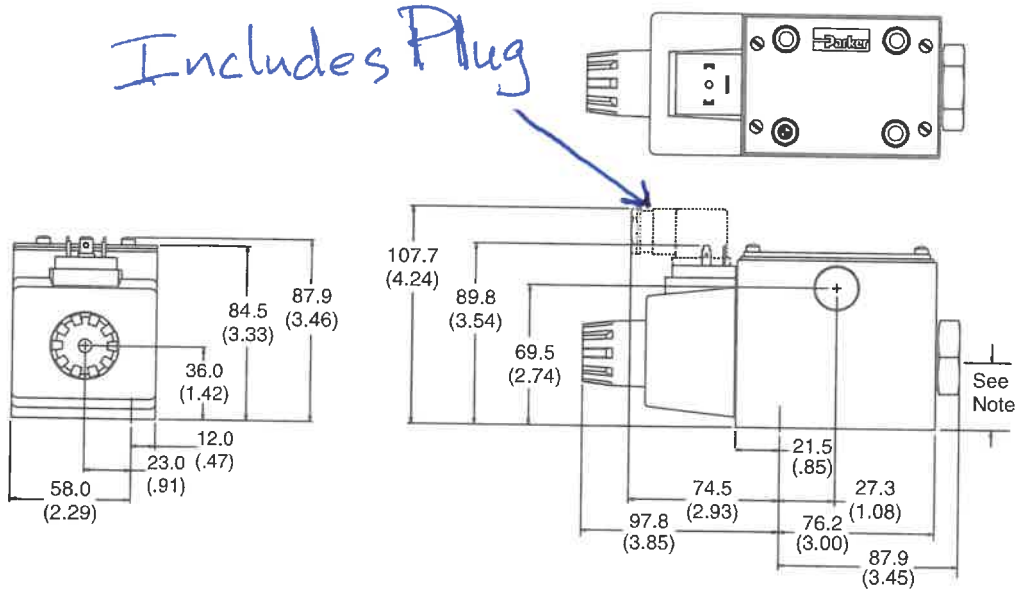
A



Note: 30.0 mm (1.18") from bottom of bolt hole counterbore to bottom of valve.

Hirschmann, Single AC Solenoid

Includes Plug



Note: 30.0 mm (1.18") from bottom of bolt hole counterbore to bottom of valve.