

## General Description

**A**

Series D3A directional control valves are high performance, 4-chamber, direct operated, air pilot 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

- Low pilot pressure required – 4.1 Bar (60 PSI) minimum.
- Manual overrides standard.
- High flow, low pressure drop design.

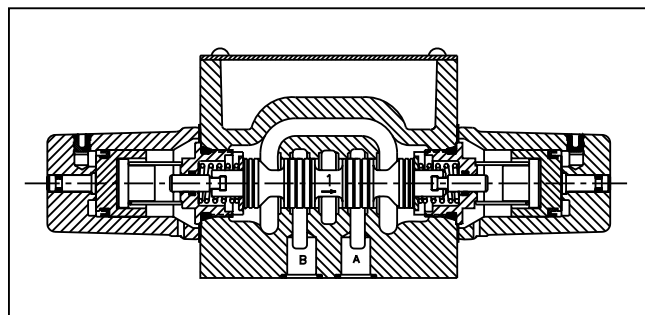
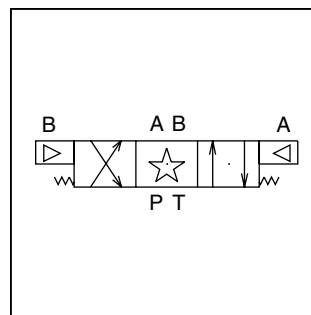
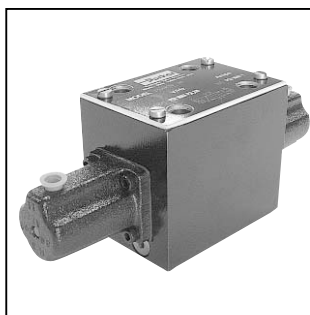
## Specifications

<b>Mounting Pattern</b>	NFPA D05, CETOP 5, NG 10	
<b>Maximum Pressure</b>	Operating:	345 Bar (5000 PSI)
	Tank Line:	34 Bar (500 PSI)
<b>Maximum Flow</b>	See Spool Reference Chart	
<b>Pilot Pressure</b>	Air Minimum	4.1 Bar (60 PSI)
	Air Maximum	6.9 Bar (100 PSI)

## Air Operated

**Shift Volume.** The air pilot chamber requires a volume of 1.8 cc (.106 in.<sup>3</sup>) for complete shift from center to end.

**Pilot Piston.** The pilot piston area is 506 mm<sup>2</sup> (.785 in.<sup>2</sup>). Pilot piston stroke is 3.4 mm (.135 in.).

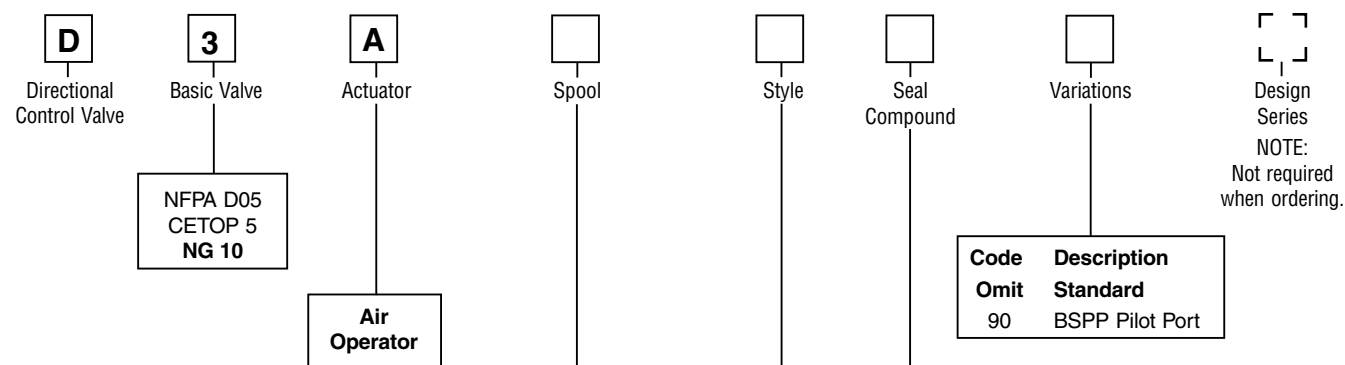


## Response Time\* (ms)

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

Pilot Pressure	Pull-In	Drop-Out
60 PSI	23.0 ms	23.0 ms
100 PSI	19.0 ms	38.0 ms

\* Chart is for reference only. Response time will vary with pilot line size, length, air pressure and air valve flow capacity (Cv).



Code	Symbol	Code	Symbol
1		20*	
2		30†	
4		81	
8*		82	
9†			

\* 8 and 20 spools have closed crossover.  
 † 9 and 30 are open crossover.

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

Code	Description
N	Nitrile
V	Fluorocarbon

Code	Description	Symbols
B #	Single operator, two position spring offset. P to A and B to T in offset position.	
C	Double operator, three position, spring centered.	
D #	Double operator, two position, detent.	
E	Two position, spring centered. P to B and A to T in shifted position.	
H #	Single operator, two position, spring offset. P to B and A to T in offset position.	
K	Two position, spring centered. P to A and B to T in shifted position.	

# B, D & H styles available with 20 and 30 spools only.



Indicates air pilot.



This condition varies with spool code.

## Mounting Bolt Kits

UNC Bolt Kits for use with D3A Directional Control Valves & Manapak/Cartpak					
		Number of Manapaks/Cartpaks @ 2.00" (50mm) thickness			
		0	1	2	3
D3A	Standard:	BK98 1.62"	BK141 3.50"	BK142 5.50"	BK143 7.50"
	Metric:	BKM98 40mm	BKM141 90mm	BKM142 140mm	BKM143 190mm

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

**Valve Weight:** 4.1 kg (9 lbs.)  
**Standard Bolt Kit:** BK98  
**Metric Bolt Kit:** BKM98

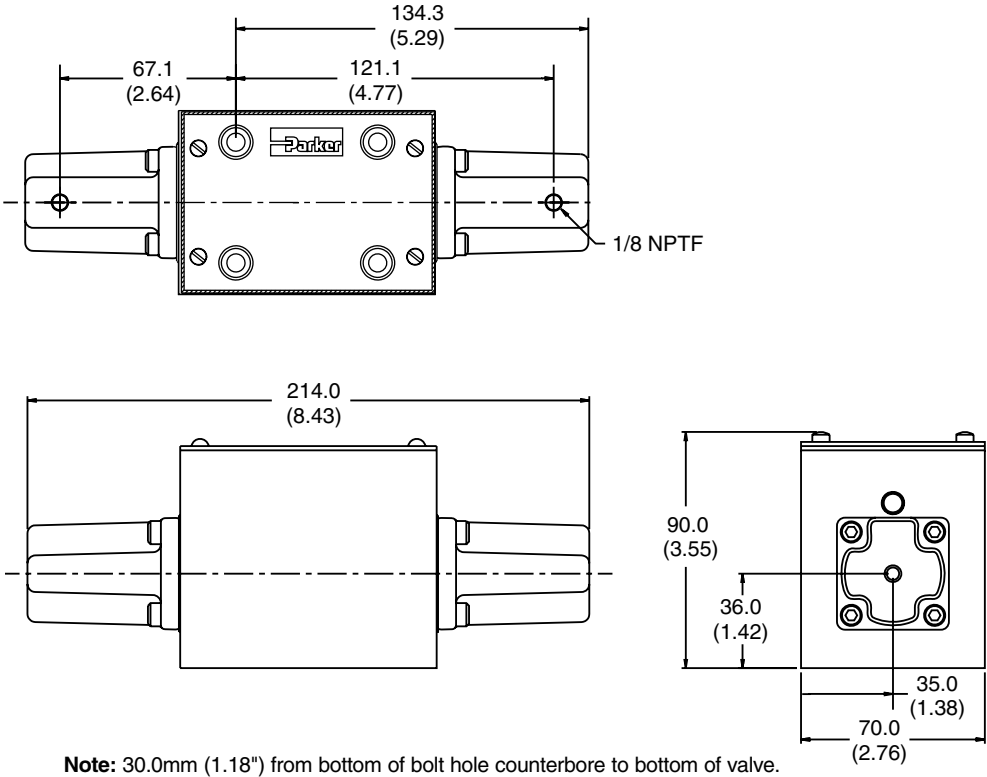
**Bold: Designates Tier I products and options.**

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

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

**A**

**Air Operated, Double Pilot**



**Air Operated, Single Pilot**

