

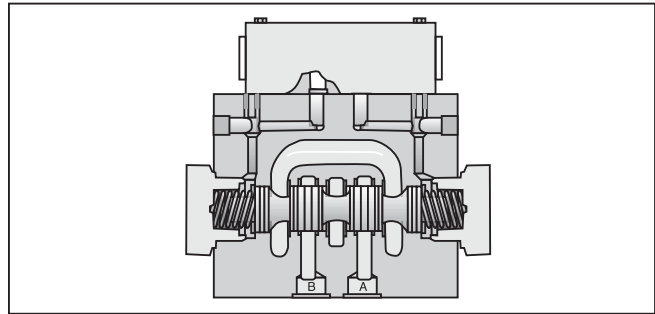
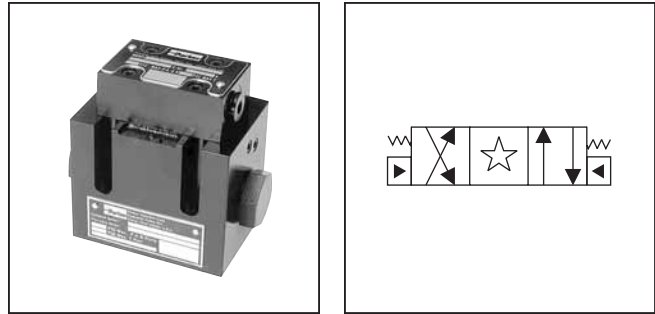
## General Description

**A**

Series D3\*P directional control valves are 5-chamber, oil pilot operated valves. The valves are suitable for manifold or subplate mounting.

## Features

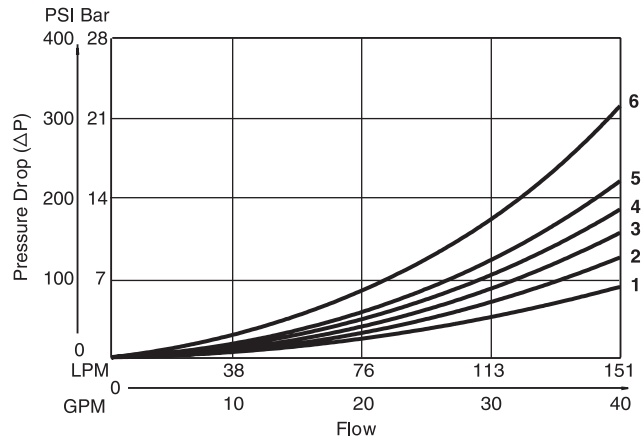
- **World design** – Available worldwide.
- **Mounting bolts below center line of spool** – Minimizes spool binding.
- **High pressure and flow ratings** – Increased performance options in a compact valve.



## Specifications

<b>Mounting Pattern</b>	NFPA D05H , CETOP 5 NFPA D05HE, CETOP 5H
<b>Max. Operating Pressure</b>	345 Bar (5000 PSI)
<b>Max. Tank Line Pressure</b>	207 Bar (3000 PSI)
<b>Pilot Pressure</b>	Oil Min: 6.9 Bar (100 PSI) Oil Max: 345 Bar (5000 PSI)
<b>Response Time</b>	Varies with pilot line size and length, pilot pressure, pilot valve shift time & flow capacity (GPM)

## Pressure Drop Chart



D3P Pressure Drop Reference Chart -- Curve Number											
Spool No.	Shifted				Center Condition						
	P-A	P-B	B-T	A-T	(P-T)	(B-A)	(A-B)	(P-A)	(P-B)	(A-T)	(B-T)
1	3	3	2	1	-	-	-	-	-	-	-
2	3	3	1	1	3	3	3	4	4	1	1
4	3	3	1	1	-	-	-	-	-	1	1
9	3	3	1	1	6	-	-	-	-	-	-
20	5	4	2	2	-	-	-	-	-	-	-
30	4	3	1	1	-	-	-	-	-	-	-

VISCOSITY CORRECTION FACTOR							
Viscosity (SSU)	75	150	200	250	300	350	400
% of ΔP (Approx.)	93	111	119	126	132	137	141

Curves were generated using 100 SSU hydraulic oil. For any other viscosity, pressure drop will change as per chart.

## D3P Pressure Drop vs. Flow

The chart to the left provides the flow vs. pressure drop curve reference for the D3P Series valves by spool type.

### Example:

Find the pressure drop at 76 LPM (20 GPM) for a D3P with a number 1 spool. To the right of spool number 1, locate the number 3 in the P-A column, and 2 in the B-T column.

Using the top graph, locate curves 2 and 3 and read the pressure drop values. Total pressure drop through the valve is the sum of the two values.



**Ordering Information**

<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-weight: bold;">D</div> Directional Control Valve	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> </div> Basic Valve	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-weight: bold;">P</div> Hydraulic Pilot	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> </div> Spool	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> </div> Style	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> </div> Pilot Supply and Drain	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> </div> Seal	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> </div> Valve Variations	<div style="border: 1px dashed black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> </div> Design Series NOTE: Not required when ordering.
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Code	Description	Code	Symbol	Code	Description																
3D	NFPA D05HE, CETOP 5H	1		N	Nitrile																
3	NFPA D05H, CETOP 5	2		V	Fluorocarbon																
		4		2	Ext. pilot/Ext. drain																
		8**		5#	Ext. pilot/Int. drain																
		9*		# Available on "B" and "H" styles only.																	
		20**		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Code</th> <th style="width: 40%;">Description</th> <th style="width: 10%;">Code</th> <th style="width: 10%;">Symbol</th> </tr> </thead> <tbody> <tr> <td>B†</td> <td>Single operator, 2 position, spring offset. P to A and B to T in offset position.</td> <td>B†</td> <td></td> </tr> <tr> <td>C</td> <td>Double operator, 3 position, spring centered.</td> <td>C</td> <td></td> </tr> <tr> <td>H†</td> <td>Single operator, 2 position, spring offset. P to B and A to T in offset position.</td> <td>H†</td> <td></td> </tr> </tbody> </table>		Code	Description	Code	Symbol	B†	Single operator, 2 position, spring offset. P to A and B to T in offset position.	B†		C	Double operator, 3 position, spring centered.	C		H†	Single operator, 2 position, spring offset. P to B and A to T in offset position.	H†	
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		30*																			

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

**Valve Weight:**  
 Single Operator 1.4 kg (3.0 lbs.)  
 Double Operator 1.6 kg (3.5 lbs.)

**Standard Bolt Kit:** BK98

**Metric Bolt Kit:** BKM98

**Seal Kit:**  
 Nitrile SKD3P  
 Fluorocarbon SKD3PV

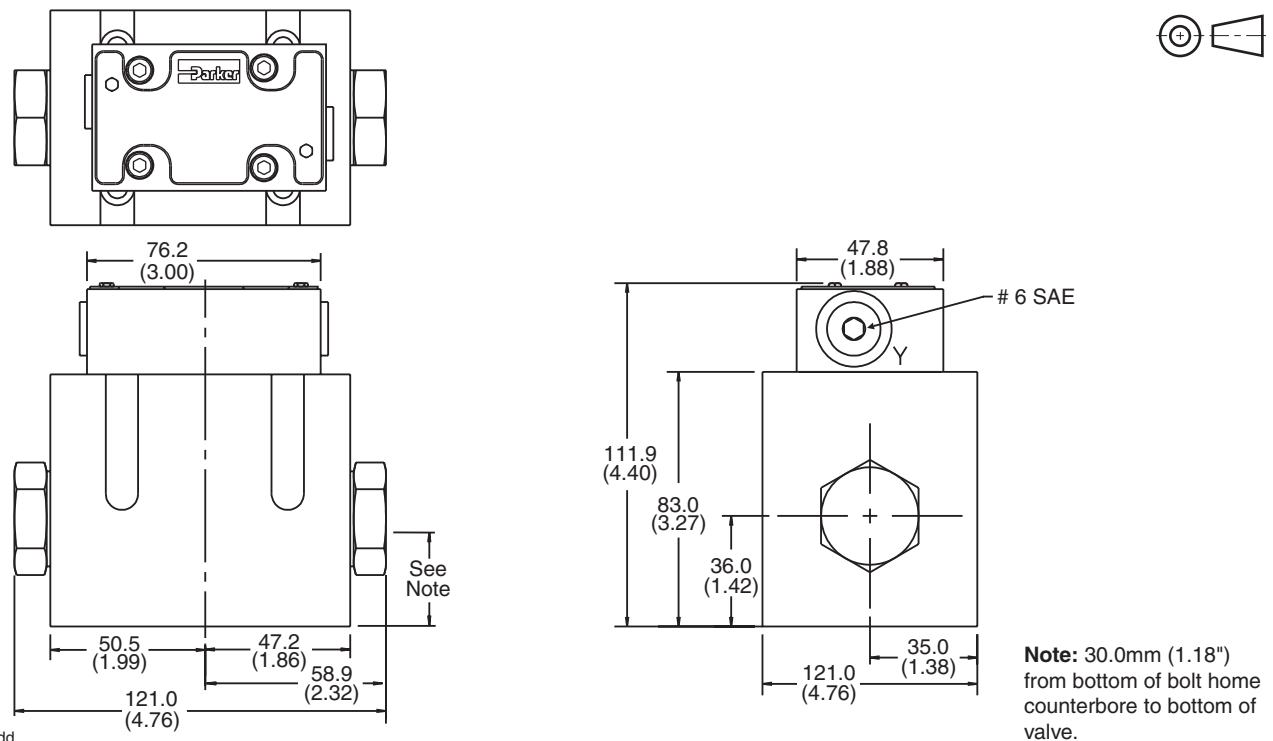
† Only spools 20 and 30. This condition varies with spool code.

Valve schematic symbols are per NFPA/ANSI standards, providing flow P to A when energizing operator X. Note operators reverse sides for #8 and #9 spool. 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.**

**Dimensions – Oil Operated** Inch equivalents for millimeter dimensions are shown in (\*\*)



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

D31.indd, dd

