



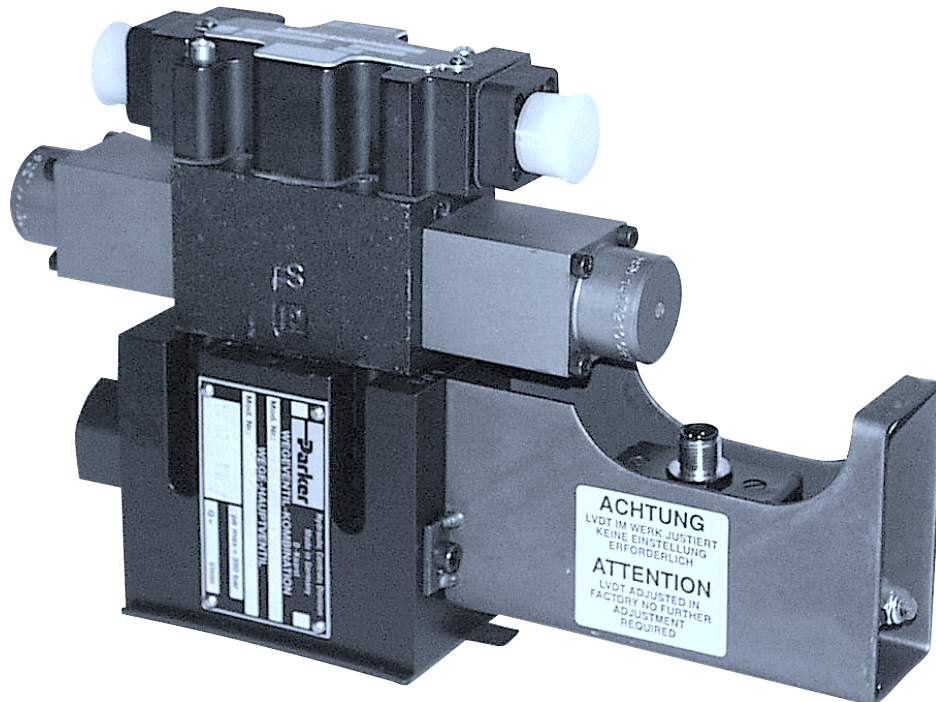
Bulletin 2562-M1/USA

# Series D31FS 30 Design Proportional Directional Control Valves

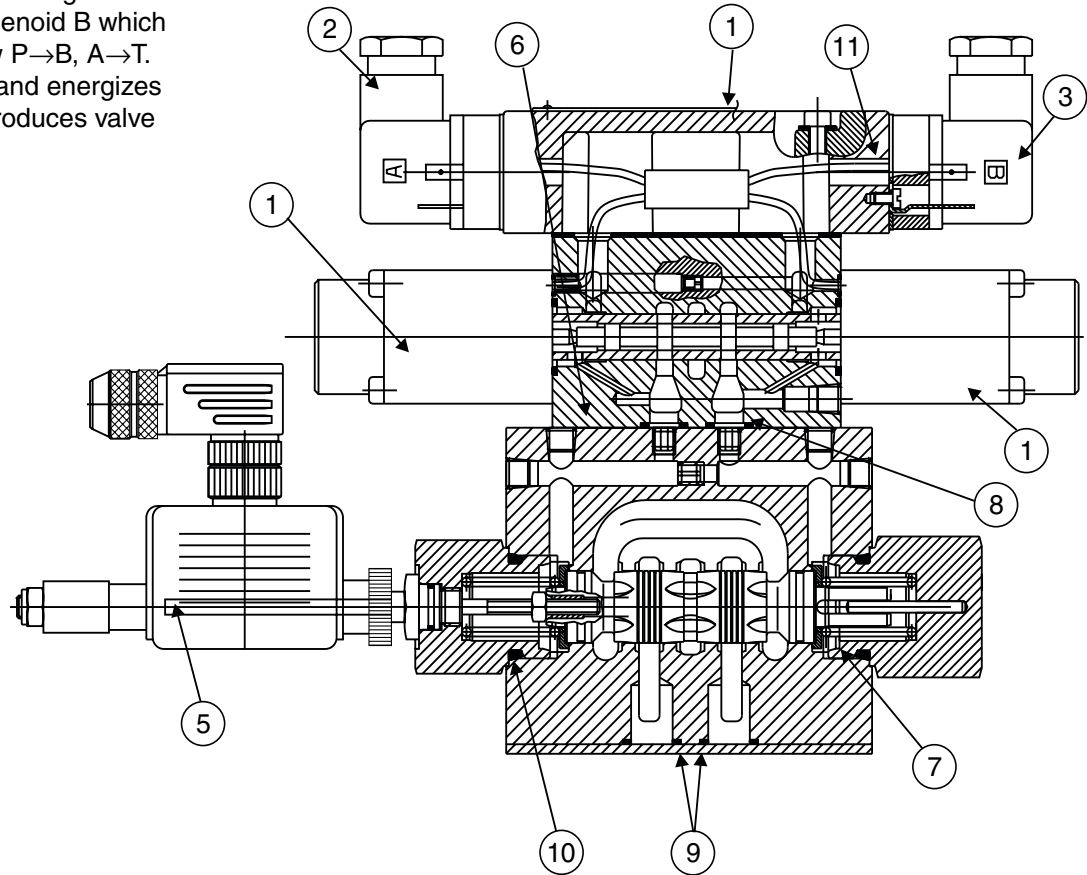
Effective: September 1, 2000

Supersedes: May 5, 1995

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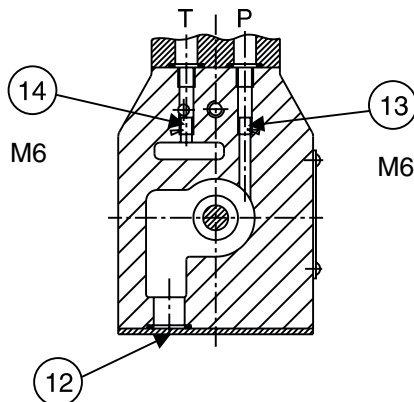


NOTE: Positive (+) voltage command energizes solenoid B which produces valve flow P→B, A→T. Negative (-) command energizes solenoid A which produces valve flow P→A, B→T.



**REPAIR PARTS**

Item	Qty	Part Number	Description	Item	Qty	Part Number	Description
1	1	D1FVE02BCVXP20	Pilot Valve	7	2	45051416	Spool Centering Spring
2	1	692915	Hirschmann Plug (gray)	8	4	2012*-9	O-Ring 2-012N552-90
3	1	692914	Hirschmann Plug (black)	9	5	2014*-9	O-Ring 2-014N552-90
5	1	1210503	LVDT Assembly w/ plug	10	2	2119*-9	O-Ring 2-119N552-90
6	4	M5 x 30	Pilot Valve Mtg. Bolt	12	2	2013*-9	O-Ring 2-013N552-90 (below)



**PILOT AND DRAIN CONFIGURATIONS**

Pilot (13)				Drain (14)		
Code	Qty	Part Number	Pilot	Qty	Part Number	Drain
1		—	Internal	1	5000471 (M6 x 6)	External
2	1	5000471 (M6 x 6)	External	1	5000471 (M6 x 6)	External
4		—	Internal	—	—	Internal
5	1	5000471 (M6 x 6)	External	—	—	Internal

<b>D</b>	<b>31</b>	<b>F</b>	<b>S</b>			<b>B</b>			<b>X</b>	<b>P</b>	<b>0</b>	
Directional Control Valve	Size and Interface	Proportional Flow Regulation	With Position Transducer	Flow Ratio	Spool Symbol	Flow Code	Pilot Connections	Seals	Solenoid Voltage	Solenoid Connections	Valve Accessory	Design Series
												Not required for ordering

Code	Description
31	DIN NG10 Cetop 5 NFPA D05HE-3/8"

Code	Ratio
E	QA = QB
A	QB > QA
B	QA > QB

Code	Flow Code
B	V-Notch

Code	Description
N	Nitrile
V	Fluorocarbon

Code	Solenoid Voltage
X	16VDC proportional solenoid

Code	Description
0	Standard, no accessories
2	Pressure Reducer**

Code	Description
P	Hirschmann DIN 43650 with female plug

Code	Supply	Drain
1	Internal	External
2	External	External
4	Internal	Internal
5	External	Internal

Code	Symbol
01	
02	
03	
04	
06	

Code	Symbol*	Ratio Q
31		2 : 1
32		2 : 1

\*Symbols show spools to flow ratio Code "B"

\*\* Pressure Reducer is recommended when using internal pilot pressure and supply pressure is 3000 PSI or greater.

Flow Ratio:  
 E = throttling area (P→A=A→T)=(P→B=B→T)  
 A = throttling area (P→B/B→T) > (P→A/A→T)  
 B = throttling area (P→A/A→T) > (P→B/B→T)

**Use one Power Supply for each valve/driver. #PS24**  
Valve Weight: 7.3 kg (16 lbs.)

**D31FS Accessories**

Valve Size	Subplate	Port Size	Location	Max. Pressure	Bolt Kit
D31	◆ SPD34NS35	1/2" NPTF	Bottom	345 Bar (5,000 PSI)	BK02
D31	◆ SPD34SS35	3/4-16 SAE	Bottom	345 Bar (5,000 PSI)	
D31	◆ SPD34SA35	3/4-16 SAE	Side	345 Bar (5,000 PSI)	

◆To be used with internally piloted, internally drained valves only, Pilot Code "4"

NOTE: On all models, the 'X' and 'Y' ports must be fully covered when installing this valve on a subplate.

When using the D31FS on a multi-station bar manifold, be sure that the manifold is sufficiently wide to cover the 'X' and 'Y' ports.

**Accessories for Boards**

Model	Description
K	Card Holder (31 Pin)
PS24	24 VDC, 4.5 amp, power supply

**D31FS Amplifier Boards**

<div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;"><b>EW</b></div> <p style="text-align: center;">Driver Board used with D31FS Series 4-Way Proportional Valves</p>	<div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;"><b>10</b></div> <p style="text-align: center;">Size</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Code</th> <th style="width: 50%;">Size</th> </tr> <tr> <td>10</td> <td>D31</td> </tr> </table>	Code	Size	10	D31	<div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;"></div> <p style="text-align: center;">Functions</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">Code</th> <th style="width: 90%;">Board Type</th> </tr> <tr> <td>101</td> <td>4 setpoints and Accel/Decel Ramps</td> </tr> <tr> <td>102</td> <td>± 10 VDC Input</td> </tr> <tr> <td>104</td> <td>± 10 VDC Input Min./Max. Adjust with Accel/Decel Ramps</td> </tr> </table>	Code	Board Type	101	4 setpoints and Accel/Decel Ramps	102	± 10 VDC Input	104	± 10 VDC Input Min./Max. Adjust with Accel/Decel Ramps	<div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;"><b>-10</b></div> <p style="text-align: center;">Current Design Series</p>
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 **WARNING**

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