

10. Proportional Valves

Proportional Pressure Control Valve

Type	Series	Cetop	Max. Flow (GPM)	Ports Max. Pressure		Linearity	Hysteresis	Repeatability	Page
				P, A, B (PSI)	T (PSI)				
Pressure Control	4VP01 / VP01 ¹	03	1.3	5000	3000	≤ 2.8%	≤ 3.0%	-	10 - 2
Pressure Reducing	4RP01	03	3.4	1500	-	-	≤ 3.0%	≤ 1.0%	10 - 3
Pressure Relief	R1EP01	03	2.6	5000	Tank	≤ 1.5%	≤ 1.0%	≤ 0.5%	10 - 4
Pressure Relief	R4VP	05/08/10	24...160	5000	Tank	≤ 1.5%	≤ 1.0%	≤ 0.5%	10 - 5

Proportional Directional Valve

Type	Series	Cetop	Max. Flow ²	Ports Maximum Pressure			Without Position Feedback		With Position Feedback		Page
				P A,B	T Ext. drain Int. drain	Drain Ext. drain Int. drain	Response ³ 0→100% 100%→0	Hysteresis Repeatability	Response ² 0→100% 100%→0	Hysteresis Repeatability	
			(GPM)	(PSI)	(PSI)	(ms)	(ms)				
Direct	4DP01	03	7.9	5000	3000 / 2300	145 / 2300	40 / 25	≤5.0% / ≤3.0%	30 / 20	≤1.0% / ≤0.5%	10 - 6
Operated	4DP02 ⁴	05	21.1	4600	3500 / 2300	145 / 2300	60 / 40	≤5.0% / ≤2.0%	50 / 35	≤1.0% / ≤0.5%	
Pilot	4DP03	07	53	5000	3500 / 3000	3000 / -	50 / 50	≤5.0% / ≤3.0%	50 / 25	≤1.0% / ≤0.5%	10-10
Operated	4DP06	08	106	5000	3500 / 3000	3000 / -	60 / 70	≤5.0% / ≤3.0%	50 / 50	≤1.0% / ≤0.5%	

Proportional Flow Control Valve

Type	Series	Size	Max. Flow ⁵ (GPM)	Max. Pressure		Page
				A, B Ports	Other ports	
				(PSI)	(PSI)	
Throttle Valve	C1FP	16	53	5000	1500 (Y port)	10 - 14
		25	106			
		32	169			
		40	240			
Flange Mounted Flow Control	F5C	¾"	25	4000	500 (drain)	10 - 16
		1"	50			
		1 ¼"	100			

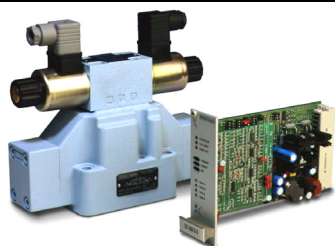
¹ See R4V/R4V...P2 and R5V/R5P...P2 : section 5.

² At 75 psi Δp per edge.

³ With 12 VDC coils.

⁴ Contact Denison Hydraulics for availability.

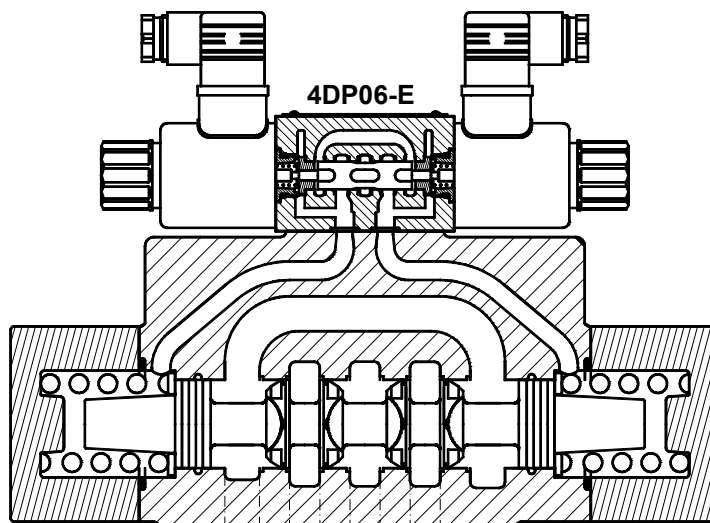
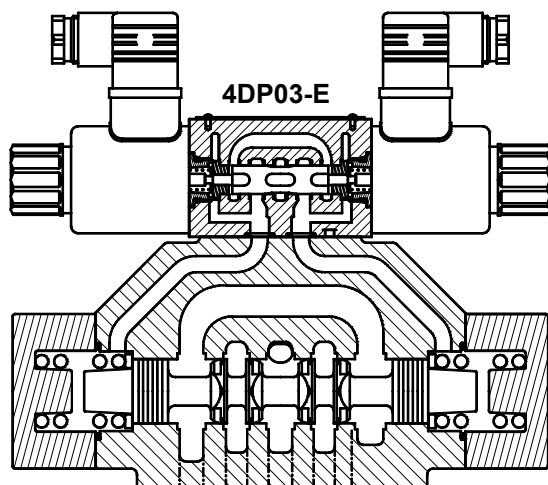
⁵ At 150 psi Δp.



(4DP03-E)

Pilot Operated Proportional Directional Valves

4DP03 Series (CETOP 07) – 53 GPM – 5000 PSI
4DP06 Series (CETOP 08) – 106 GPM – 5000 PSI



Key sheet

Example : 4DP03-3E02F200-03A1-G12C1X-R1

1. **4DP03**-3E02F200-03A1-G12C1X-R1..... Series

Pilot operated, CETOP 07	4DP03
Pilot operated, CETOP 08	4DP06

2. **4DP03**-**3**E02F200-03A1-G12C1X-R1..... Body

3. **4DP03**-3**E**02F200-03A1-G12C1X-R1..... Control

Electro-hydraulic	E
Electro-hydraulic + spool position feedback	T
Hydraulic	H

4. **4DP03**-3E**02**F200-03A1-G12C1X-R1..... Spool

P→A= Q;B→T=Q or P→B=Q;A→T= Q	02	43
P→A=½Q;B→T=Q or P→B=Q;A→T=½Q	A2	A3
P→A=Q;B→T=½Q or P→B=½Q;B→T=Q	B2	B3

5. **4DP03**-3E02**F200**-03A1-G12C1X-R1..... Flow

GPM	4DP03		4DP06	
P→A;B→T	26	F100	53	F200
Or	34	F130	66	F250
P→B;A→T	53	F200	106	F400

6. **4DP03**-3E02F200-**03**A1-G12C1X-R1 Spool Position

7. **4DP03**-3E02F200-03**A**1-G12C1X-R1.....Design

8. **4DP03**-3E02F200-03A**1**-G12C1X-R1 ..Seal Class

Buna N : Mineral oil	1
Viton : Mineral oil & Fire resistant fluids	5

9. **4DP03**-3E02F200-03A1-G**12**C1X-R1.....Voltage

12 VDC (recommended) ¹	G12
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10. **4DP03**-3E02F200-03A1-G12**C**1X-R1Connectors

Connectors PG9 & PG11 included	C1
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11. **4DP03**-3E02F200-03A1-G12C1**X**-R1 .. X, Y Pilots

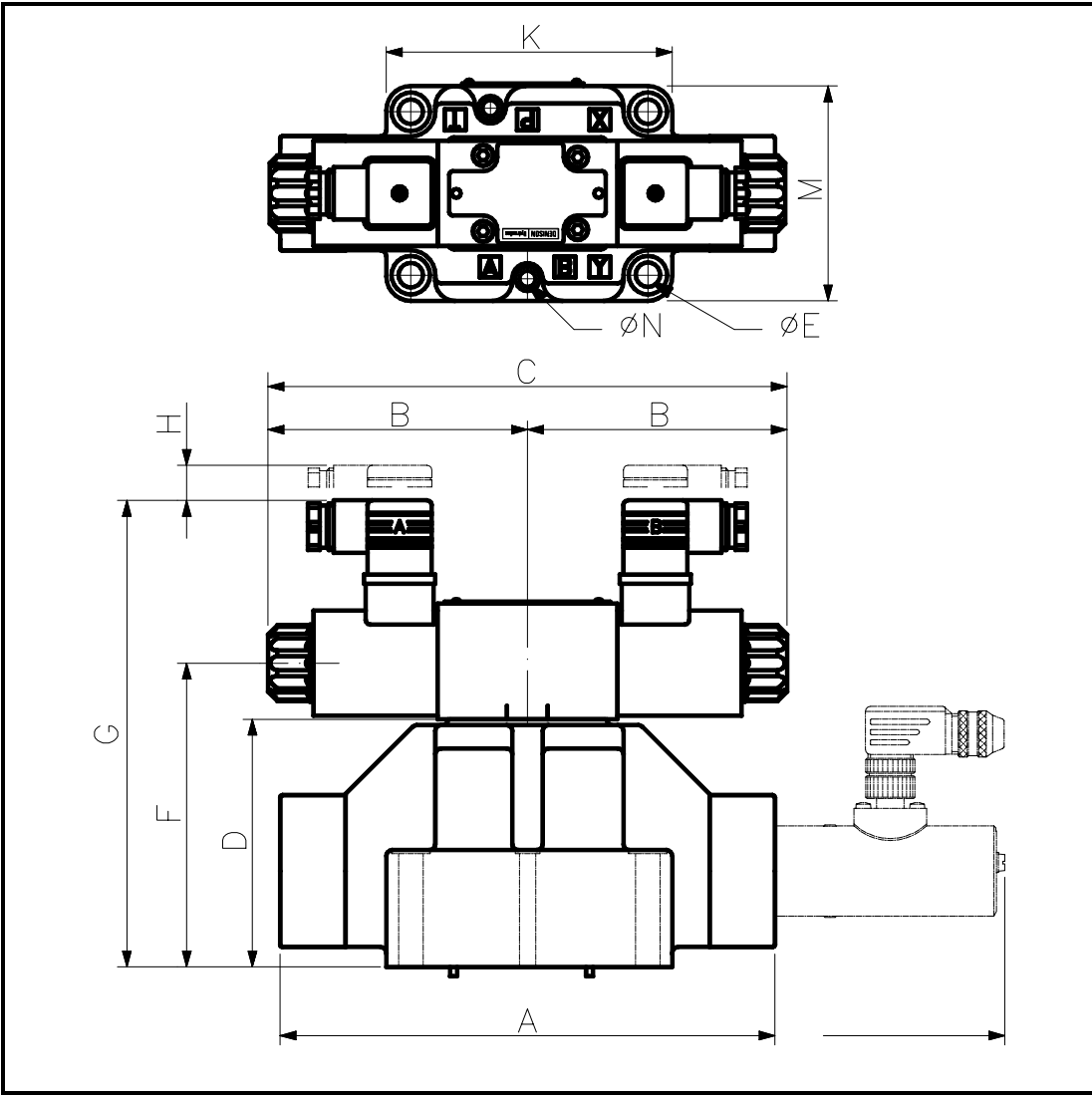
		X	
		Internal	External
Y	Internal	XY	Y
	External	X	Omit

12. **4DP03**-3E02F200-03A1-G12C1X-**R**1...Accessories

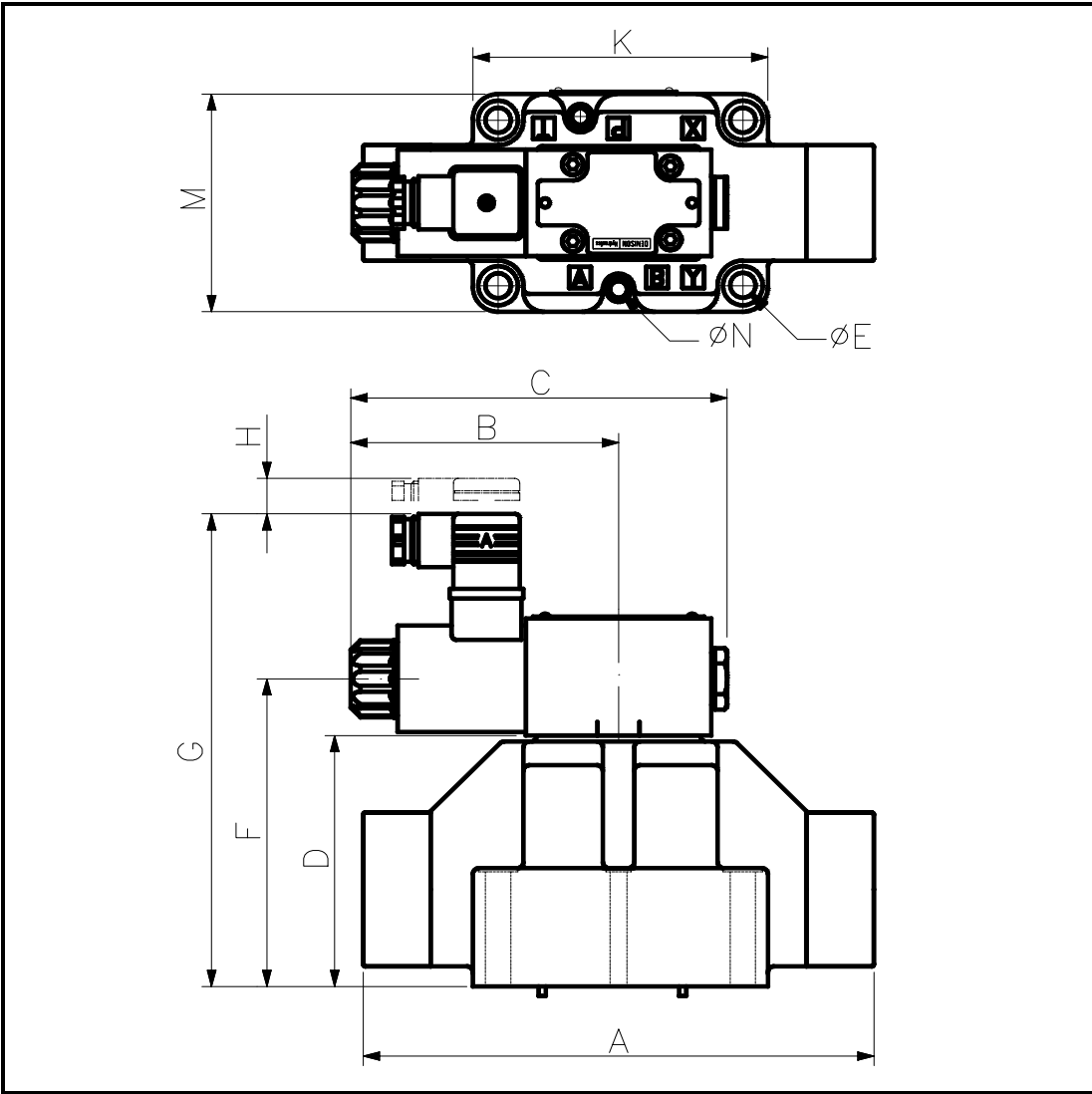
None	Omit
With pressure reducing valve (X>1500 PSI)	R1

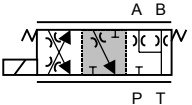
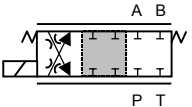
¹ 24 VDC available : consult Denison Hydraulics.

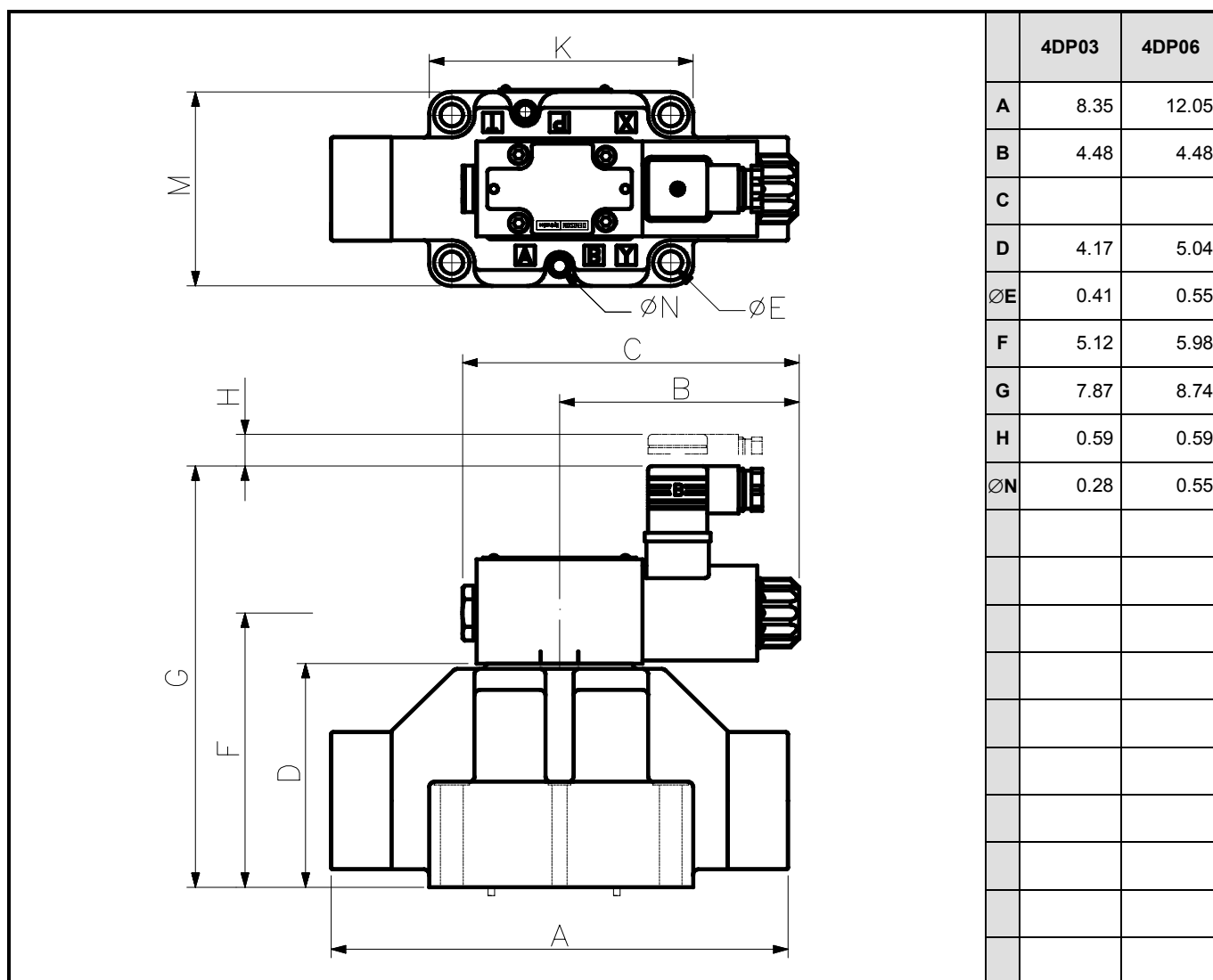
Proportional Amplifier			Accessories
solenoid	Open loop	Close loop	
1	EC01-A1O - 12 VDC : 701-00603-8	EC01-A1C - 12 VDC : 701-00622-8	Power supply (115/230 VAC)..... 701-00023-8 Card holder 701-00066-8 Potentiometer (360°) 701-00012-8
2	EC01-A2O - 12 VDC : 701-00610-8	EC01-A2C - 12 VDC : 701-00632-8	Potentiometer (3600°)..... 701-00013-8 Adjustment knob..... 701-00014-8

[illegible]

Symbol		4DP03		4DP06	
a	← Solenoid → b	GPM	Designation	GPM	Designation
		26 34 63	4DP03-3E02F100-03B1-G12-C1 4DP03-3E02F130-03B1-G12-C1 4DP03-3E02F200-03B1-G12-C1	53 66 106	4DP06-3E02F200-03B1-G12-C1 4DP06-3E02F250-03B1-G12-C1 4DP06-3E02F400-03B1-G12-C1
		26 34 63	4DP03-3E43F100-03B1-G12-C1 4DP03-3E43F130-03B1-G12-C1 4DP03-3E43F200-03B1-G12-C1	53 66 106	4DP06-3E43F200-03B1-G12-C1 4DP06-3E43F250-03B1-G12-C1 4DP06-3E43F400-03B1-G12-C1
		26 34 63	4DP03-3T02F100-03B1-G12-C1 4DP03-3T02F130-03B1-G12-C1 4DP03-3T02F200-03B1-G12-C1	53 66 106	4DP06-3T02F200-03B1-G12-C1 4DP06-3T02F250-03B1-G12-C1 4DP06-3T02F400-03B1-G12-C1
		26 34 63	4DP03-3T43F100-03B1-G12-C1 4DP03-3T43F130-03B1-G12-C1 4DP03-3T43F200-03B1-G12-C1	53 66 106	4DP06-3T43F200-03B1-G12-C1 4DP06-3T43F250-03B1-G12-C1 4DP06-3T43F400-03B1-G12-C1

[illegible]

a ← Symbol Solenoid		4DP03		4DP06	
		GPM	Designation	GPM	Designation
		26	4DP03-3 E02F100 -05B1-G12-C1	53	4DP06-3 E02F200 -05B1-G12-C1
		34	4DP03-3 E02F130 -05B1-G12-C1	66	4DP06-3 E02F250 -05B1-G12-C1
		63	4DP03-3 E02F200 -05B1-G12-C1	106	4DP06-3 E02F400 -05B1-G12-C1
		26	4DP03-3 E43F100 -05B1-G12-C1	53	4DP06-3 E43F200 -05B1-G12-C1
		34	4DP03-3 E43F130 -05B1-G12-C1	66	4DP06-3 E43F250 -05B1-G12-C1
		63	4DP03-3 E43F200 -05B1-G12-C1	106	4DP06-3 E43F400 -05B1-G12-C1



Symbol Solenoid → b	4DP03		4DP06	
	Flow	Designation	Flow	Designation
	26	4DP03-3E02F100-06B1-G12-C1	53	4DP06-3E02F200-06B1-G12-C1
	34	4DP03-3E02F130-06B1-G12-C1	66	4DP06-3E02F250-06B1-G12-C1
	63	4DP03-3E02F200-06B1-G12-C1	106	4DP06-3E02F400-06B1-G12-C1
	26	4DP03-3E43F100-06B1-G12-C1	53	4DP06-3E43F200-06B1-G12-C1
	34	4DP03-3E43F130-06B1-G12-C1	66	4DP06-3E43F250-06B1-G12-C1
	63	4DP03-3E43F200-06B1-G12-C1	106	4DP06-3E43F400-06B1-G12-C1