

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 (GPM)	Ports Maximum Pressure			Without Position Feedback		With Position Feedback		Page
				P A, B (PSI)	T Ext. drain Int. drain (PSI)	Drain Ext. drain Int. drain	Response ³ 0→100% 100%→0 (ms)	Hysteresis Repeatability	Response ² 0→100% 100%→0 (ms)	Hysteresis Repeatability	
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 (PSI)	Other ports (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			

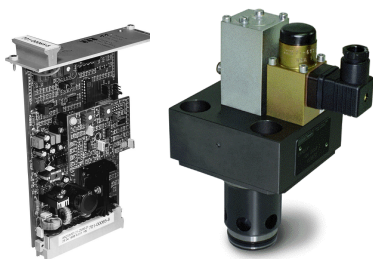
¹ See R4V/R4V...P2 and R5V/R5P...P2 : section 5.

² At 75 psi Δp per edge.

³ With 12 VDC coils.

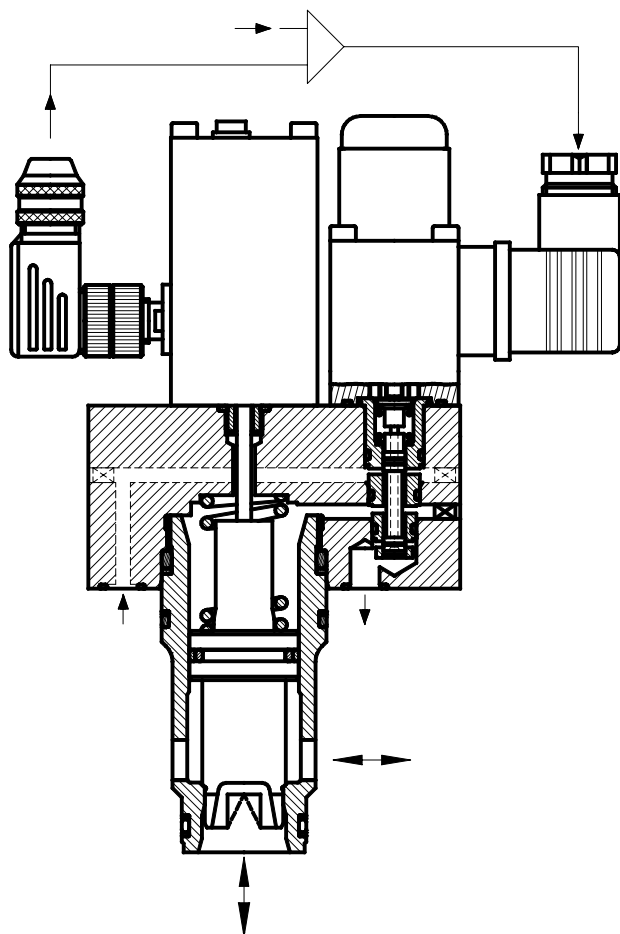
⁴ Contact Denison Hydraulics for availability.

⁵ At 150 psi Δp.



Proportional Throttling Valve

**C1FP Series, 232 GPM - 5000 PSI
12 VDC**



Key sheet Example : **C1FP08-LCA1**

1. C1FP08-LCA1 Series

Size	NG16	NG25	NG32	NG40
Max flow (GPM)	A → B, 145 PSI ΔP			
Linear (L)	53	106	169	232
Progressive (Q)	32	55	79	100
Code	C1FP05	C1FP08	C1FP10	C1FP12

2. C1FP08-LCA1 Flow Characteristic

Linear	L
Progressive	Q

3. C1FP08-LCA1 Control cover

Size	NG16	NG25	NG32	NG40
Standard	C	C	C	C
Shuttle valve in X and Z2	-	D	D	D

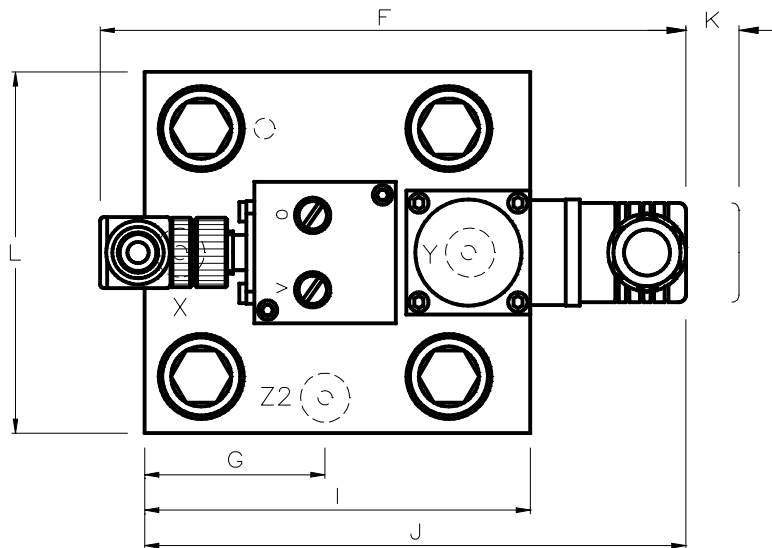
4. C1FP08-LCA1 Design

5. C1FP08-LCA1 Seal Class

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

Proportional Amplifier	Accessories
EC01-A1C - 12 VDC : 701-00065-8	Power supply (115/230 VAC)..... 762-40015-0 Card holder..... 701-00066-8 Potentiometer (360°)..... 701-00012-8 Potentiometer (3600°)..... 701-00013-8 Adjustment knob..... 701-00014-8

Pilot Pressure (X or Z2)			
C1FP**-*C		C1FP**-*D	
A → B	B → A	A → B & B → A	A → B & B → A



	C1FP05	C1FP08
A	5.04	5.04
B	2.87	2.87
C	1.97	1.97
D	4.69	4.69
d1	Ø0.98 ^{f7}	Ø1.34 ^{f7}
d2	Ø1.26 ^{f7}	Ø1.77 ^{f7}
E	5.08	5.08
F	6.73	6.50
G	1.28	1.65
h1	0.55	0.71
h2	2.20	2.83
I	3.76	3.94
J	5.47	5.67
K	0.43	0.43
L	2.56	3.35
Weight (lbs)		
	6.6	8.2
Bolts (x4) & torque		
	M8x2.17	M12x2.17
	310 in-lb	1150 in-lb
	C1FP10	C1FP12
A	5.04	5.04
B	2.87	2.87
C	1.97	1.97
D	4.69	4.69
d1	Ø1.77 ^{f7}	Ø2.17 ^{f7}
d2	Ø2.36 ^{f7}	Ø2.95 ^{f7}
E	5.08	5.08
F	6.50	6.73
G	2.01	2.42
h1	1.06	1.22
h2	3.35	4.13
I	4.29	4.92
J	6.02	6.65
K	0.43	0.43
L	4.02	4.92
Weight (lbs.)		
	11.9	16.5
Bolts (x4) & torque		
	M16 x 2.36	M20 x 2.36
	2900 in-lbs.	5700 in-lbs.