

6. Directional Valves

Type	Series	Cetop	Maximum Flow (GPM)	Maximum Pressure (PSI)	Electrical	Cam	Manual	Hydraulic	Pneumatic	Page
Direct Operated	A4D01	03	21	5000	●	○	○	○	○	6 - 4
	A4D02	05	37	4500	●	○	○		○	
Pilot Operated	A4D03	07	79	5000	●		○	○		6 - 8
	A4D06	08	185	5000	●		○	○		
	A3D10	10	210	5000	●		○	○		Consult Denison

● : Standard

○ : Option. Consult Denison Hydraulics.

Spool Types & Symbols (additional spool available : consult Denison Hydraulics)			A4D01	A4D02	A4D03	A4D06	
01				●	●	●	●
02				○	○	●	●
03				●	●	●	●
07				●	●	●	●
08				●	●	●	●
09				○	○	●	●
10				○	○	●	●
46				●	●	○	○
64				●			
11				●	●	●	●
12				●	●		
51				●	●	●	●
55				○	○	●	●
56				○	○	●	●

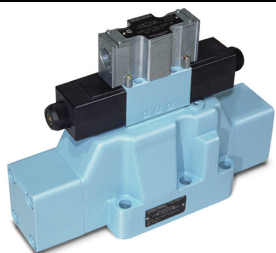
● : Standard
○ : Option. Consult technical literature.

Directional Valves - Standard Spools & Functional Limits (GPM)

Spool	Coil Type	A4D01						A4D02						A4D03 ^{1,2)}						A4D06 ^{1,2)}					
		0 PSI	1000 PSI	2000 PSI	3000 PSI	4000 PSI	5000 PSI	0 PSI	1000 PSI	2000 PSI	3000 PSI	4000 PSI	4500 PSI	0 PSI	1000 PSI	2000 PSI	3000 PSI	4000 PSI	5000 PSI	0 PSI	1000 PSI	2000 PSI	3000 PSI	4000 PSI	5000 PSI
01	AC	16	16	16	16	16	16	37	37	29	21	13	11	79	79	79	79	79	79	185	185	185	185	180	159
	DC	13	13	13	13	13	13	37	37	37	36	28	26	79	79	79	79	79	79	185	185	185	185	180	159
02	AC	18	18	18	18	16	13	37	37	37	37	22	21	79	79	79	79	79	79	185	185	185	185	185	185
	DC	21	21	21	21	16	15	37	37	37	37	28	26	79	79	79	79	79	79	185	185	185	185	185	185
03	AC	16	16	16	16	16	16	32	32	32	29	18	16	79	79	79	79	79	79	185	185	177	156	135	114
	DC	21	21	21	21	21	21	37	37	37	37	22	21	79	79	79	79	79	79	185	185	177	156	135	114
07	AC	11	11	11	11	11	11	32	32	21	16	12	11	79	79	79	74	61	48	185	185	185	74	61	48
	DC	8	8	8	8	8	8	32	32	32	21	17	16	79	79	79	74	61	48	185	185	185	74	61	48
08	AC	16	16	16	16	16	16	37	37	37	24	15	13	79	79	79	79	79	79	185	185	185	185	185	185
	DC	21	21	21	21	13	9	37	37	37	37	22	21	79	79	79	79	79	79	185	185	185	185	185	185
09	AC	18	18	18	18	18	18	37	37	37	18	12	11	79	79	79	79	79	79	185	185	185	185	185	185
	DC	21	21	21	18	8	5	37	37	37	37	28	26	79	79	79	79	79	79	185	185	185	185	185	185
10	AC	18	18	18	18	18	18	37	37	37	18	12	11	79	79	79	79	79	79	185	185	185	185	185	185
	DC	21	21	21	18	8	5	37	37	37	37	28	26	79	79	79	79	79	79	185	185	185	185	185	185
46	AC	21	21	17	16	16	16	37	37	37	37	37	37	79	79	79	79	79	79	185	185	185	185	185	185
	DC	16	16	16	16	16	16	37	37	37	37	37	37	79	79	79	79	79	79	185	185	185	185	185	185
64	AC	11	11	11	11	11	11																		
	DC	8	8	8	8	8	8																		
11 ²⁾	AC	21	21	21	21	21	21	37	37	29	21	13	11	79	79	79	79	53	50	185	185	185	166	136	106
	DC	18	18	18	18	18	18	37	37	32	28	26	26	79	79	79	79	53	50	185	185	185	166	136	106
12	AC	21	21	21	3	2	2	32	32	16	9	7	5												
	DC	21	21	5	3	2	2	37	37	37	16	9	8												
51 ²⁾	AC	16	16	16	16	16	16	37	37	37	37	37	37	79	79	53	45	42	26	185	185	164	127	90	53
	DC	18	18	18	18	18	18	26	26	26	26	26	26	79	79	53	45	42	26	185	185	164	127	90	53
55	AC	21	21	21	21	18	16	37	37	37	12	11	11	79	79	79	79	79	79	185	185	185	185	185	185
	DC	21	21	21	21	16	15	37	37	37	26	17	16	79	79	79	79	79	79	185	185	185	185	185	185
56	AC	21	21	21	21	18	16	37	37	37	12	11	11	79	79	79	79	79	79	185	185	185	185	185	185
	DC	21	21	21	21	16	15	37	37	37	26	17	16	79	79	79	79	79	79	185	185	185	185	185	185

¹⁾ Flow P-A, B-T or P-B, A-T.

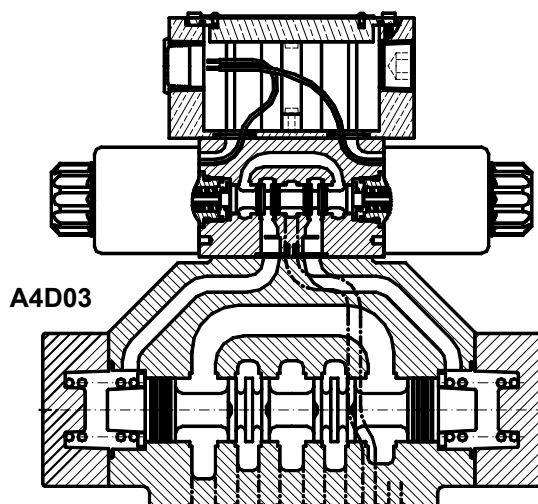
²⁾ Maximum flow indicated for A4D03 and A4D06 are for fail-safe limits. Maximum flow without this limitation is respectively 79 and 185 GPM.



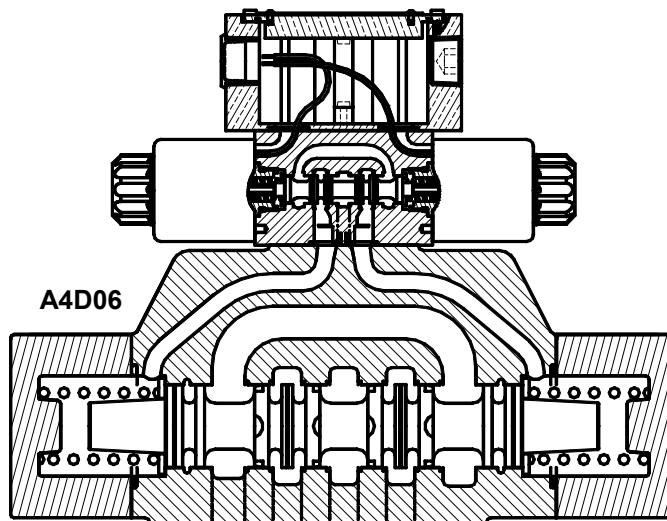
(A4D06)

Pilot Operated Directional Valves

A4D03 Series (CETOP 7) - 79 GPM - 5000 PSI
A4D06 Series (CETOP 8) - 185 GPM - 5000 PSI



A4D03



A4D06

Key sheet Example : **A4D03-3B01-0303-10A1-G0R-***

1. **A4D03-3B01-0303-10A1-G0R-*** Series

Pilot operated, CETOP 07	A4D03
Pilot operated, CETOP 08	A4D06

2. **A4D03-3B01-0303-10A1-G0R-*** Body

3. **A4D03-3B01-0303-10A1-G0R-*** Control

A4D01 pilot : 1 solenoid	Standard	A
A4D01 pilot : 2 solenoids	Standard	B
	2 position detent	C
Others (hydraulic, lever,...)	Consult Denison Hydraulics	

4. **A4D03-3B01-0303-10A1-G0R-*** Spool

5. **A4D03-3B01-0303-10A1-G0R-*** .. Spool Position

6. **A4D03-3B01-0303-10A1-G0R-*** End cap

Standard	03
With adjusting spool stop	09
Spool position control	Denison

7. **A4D03-3B01-0303-10A1-G0R-*** . Pilot Connection

		Pilot Pressure (X port)	
		Internal	External
Pilot Drain (Y port)	Internal	1	3
	External	2	4

8. **A4D03-3B01-0303-10A1-G0R-*** Accessories

		Standard	Check valve in P
Standard (no adjustment)		0	4
Shifting time adjustment	In	1	6
	Out	2	8

9. **A4D03-3B01-0303-10A1-G0R-***Design

10. **A4D03-3B01-0303-10A1-G0R-***Seal Class

Mineral oil (Bunan)	1
Mineral oil & Fire resistant fluids (Viton)	5

11. **A4D03-3B01-0303-10A1-G0R-***Voltage

DC		AC	
12 V	GOR	115 V	60 Hz (50 Hz) W01 (W02)
24 V	GOQ	230 V	60 Hz (50 Hz) W06 (W07)
Others	Denison	Others	Denison

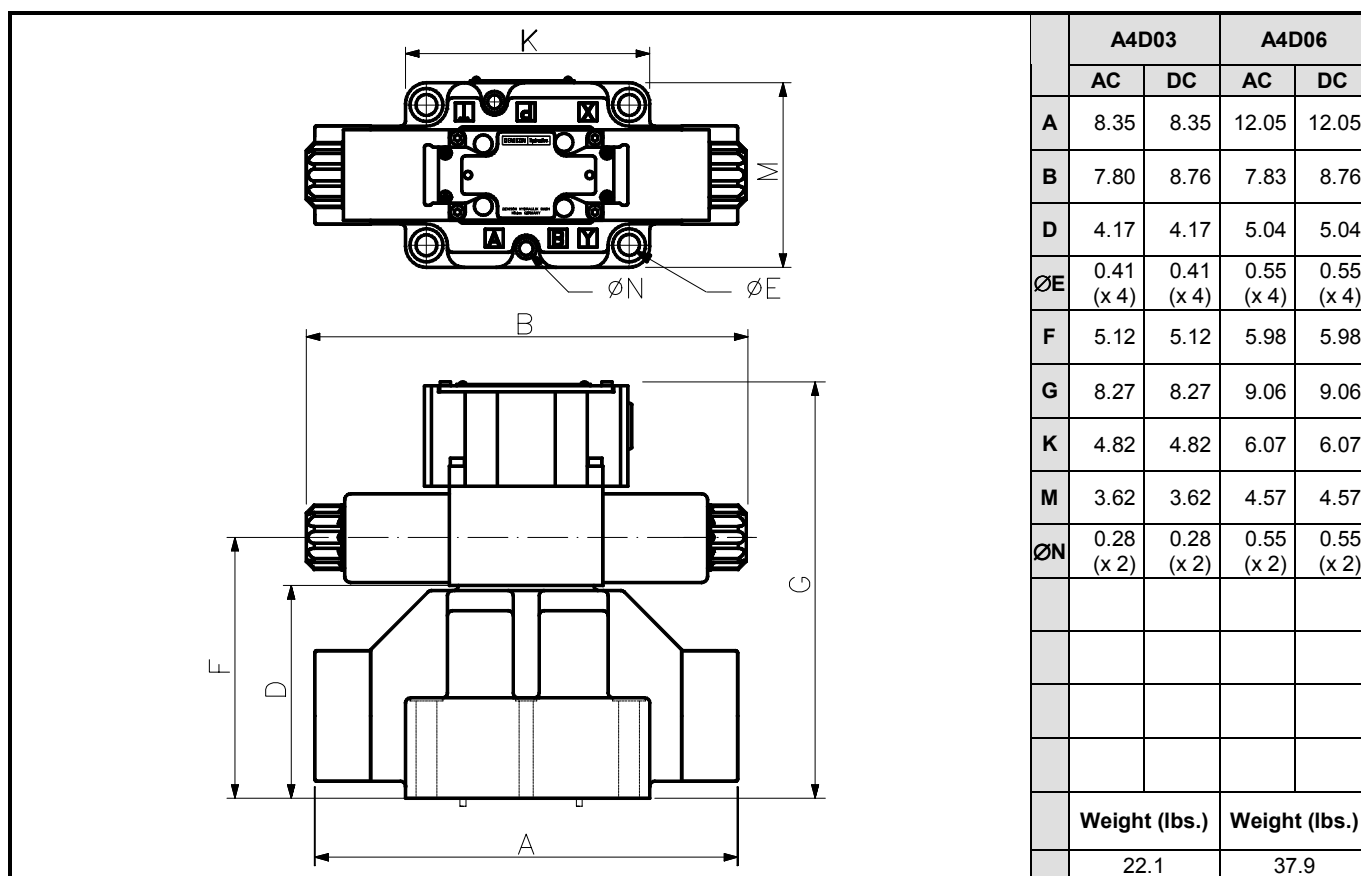
12. **A4D03-3B01-0303-10A1-G0R-*** Port Orifices

None	Omit
0.04" orifice in P	10

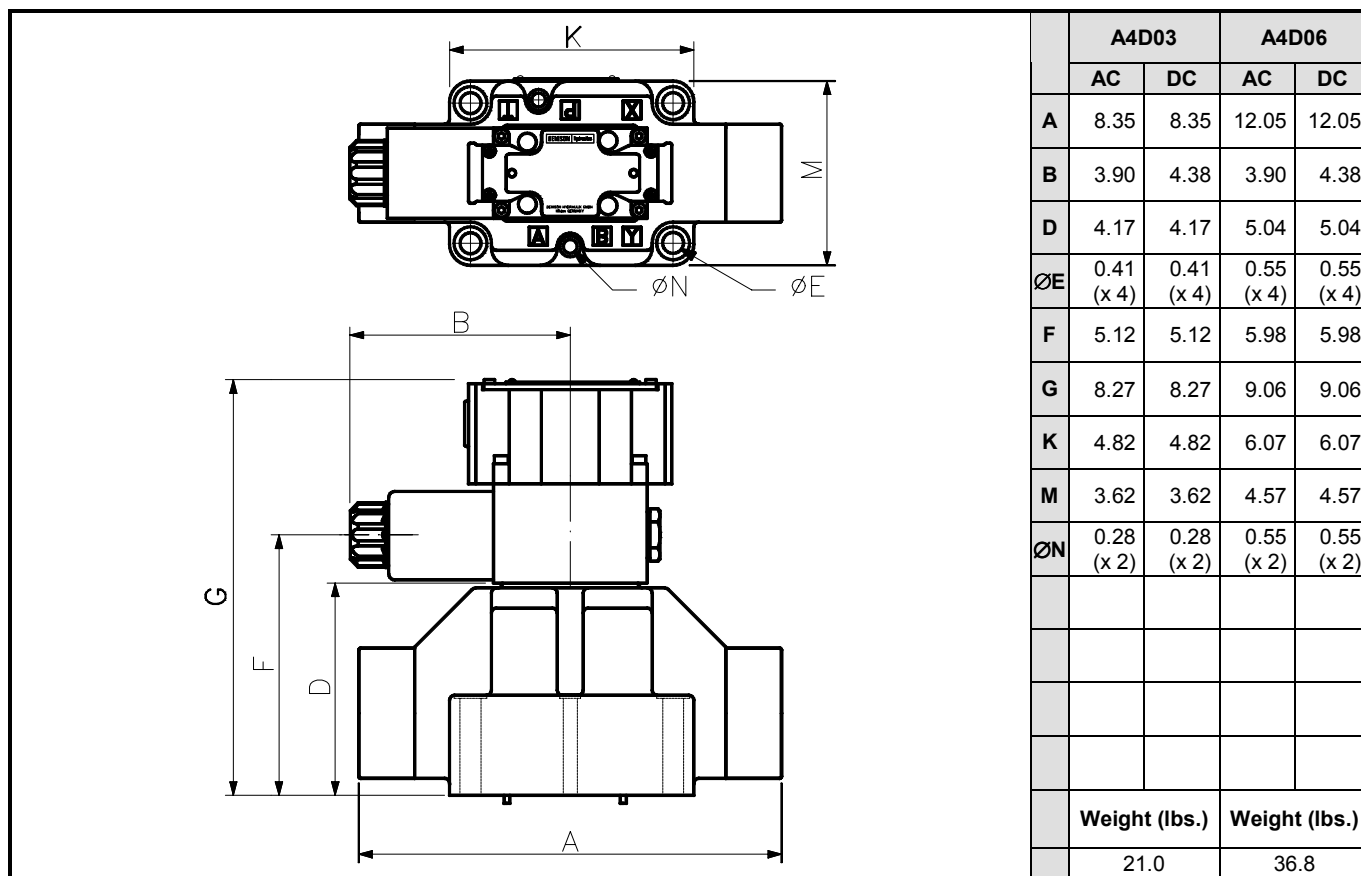
13. **A4D03-3B01-0303-10A1-G0R-*** .. Elect. connect.

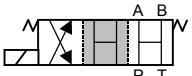
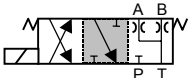
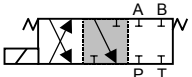
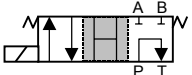
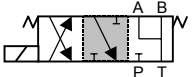
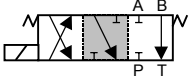
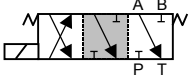
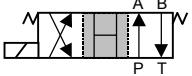
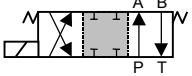
DIN connector		Omit
Wiring Box	6" flying leads	28
	+ terminal strip	81

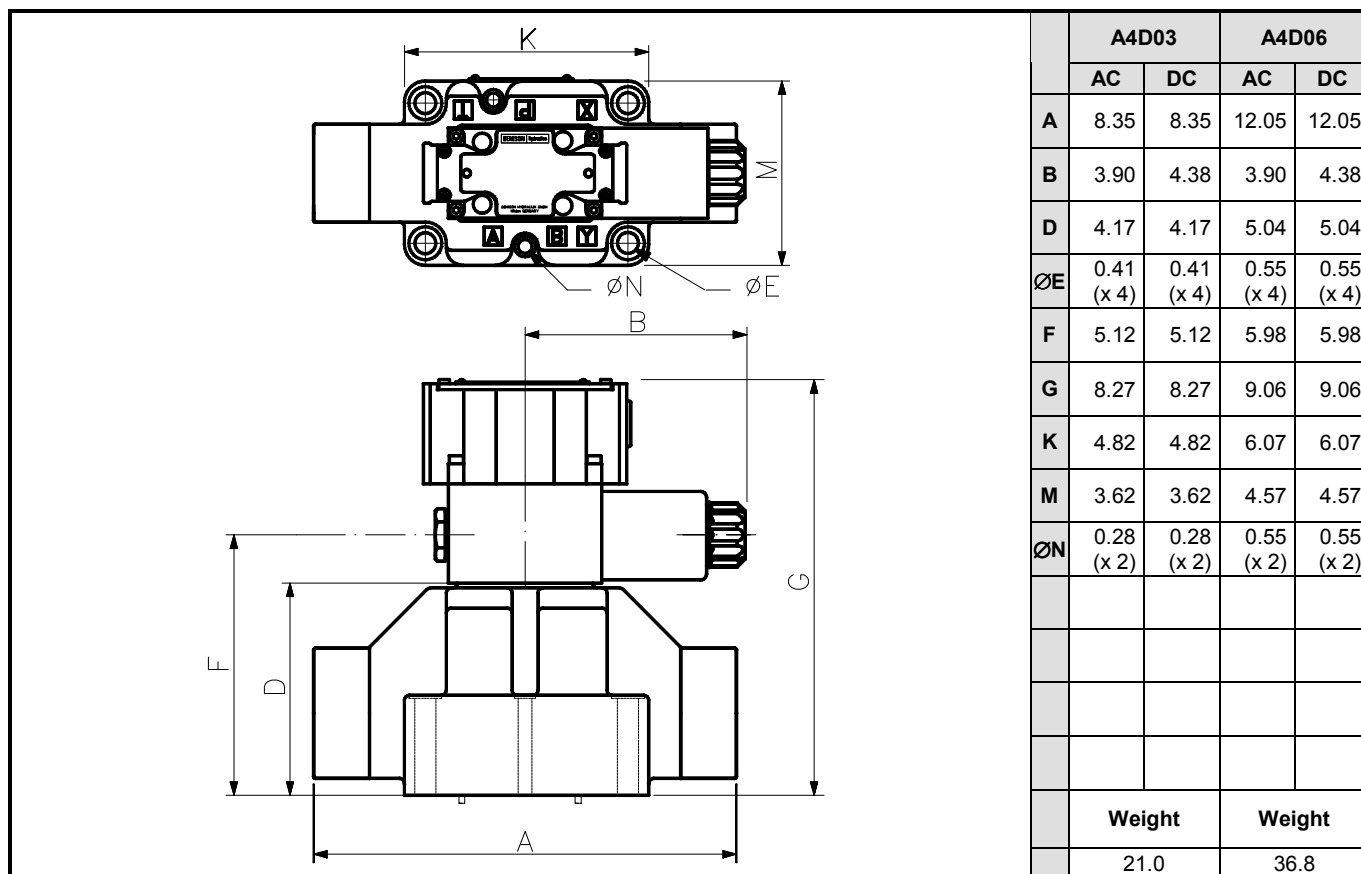
Type	Standard (<250 V)	Red LED (15-30 VDC)	With Rectifier (<250 V)
Gray / Black	167-01007-8 / 167-01008-8	167-01100-8 / 167-01101-8	167-01076-8 / 167-01014-8



Symbol b ← Solenoid → a	Voltage	Designation	
		A4D03	A4D06
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 01-03 03-40A1-G0R -G0Q -W01	A4D06-3B 01-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 02-03 03-40A1-G0R -G0Q -W01	A4D06-3B 02-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 03-03 03-40A1-G0R -G0Q -W01	A4D06-3B 03-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 07-03 03-40A1-G0R -G0Q -W01	A4D06-3B 07-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 08-03 03-40A1-G0R -G0Q -W01	A4D06-3B 08-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 09-03 03-40A1-G0R -G0Q -W01	A4D06-3B 09-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 10-03 03-40A1-G0R -G0Q -W01	A4D06-3B 10-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 55-03 03-40A1-G0R -G0Q -W01	A4D06-3B 55-03 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3B 56-03 03-40A1-G0R -G0Q -W01	A4D06-3B 56-03 03-40A1-G0R -G0Q -W01



Symbol		Designation	
b	← Solenoid	Voltage	
		A4D03	A4D06
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 01-06 03-40A1-G0R -G0Q -W01	A4D06-3A 01-06 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 02-06 03-40A1-G0R -G0Q -W01	A4D06-3A 02-06 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 03-06 03-40A1-G0R -G0Q -W01	A4D06-3A 03-06 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 07-06 03-40A1-G0R -G0Q -W01	A4D06-3A 07-06 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 08-06 03-40A1-G0R -G0Q -W01	A4D06-3A 08-06 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 09-06 03-40A1-G0R -G0Q -W01	A4D06-3A 09-06 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 10-06 03-40A1-G0R -G0Q -W01	A4D06-3A 10-06 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 11-01 03-40A1-G0R -G0Q -W01	A4D06-3A 11-01 03-40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 51-01 03-40A1-G0R -G0Q -W01	A4D06-3A 51-01 03-40A1-G0R -G0Q -W01



Symbol Solenoid → a	Voltage	Designation	
		A4D03	A4D06
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 01-0503 -40A1-G0R -G0Q -W01	A4D06-3A 01-0503 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 02-0503 -40A1-G0R -G0Q -W01	A4D06-3A 02-0503 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 03-0503 -40A1-G0R -G0Q -W01	A4D06-3A 03-0503 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 07-0503 -40A1-G0R -G0Q -W01	A4D06-3A 07-0503 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 08-0503 -40A1-G0R -G0Q -W01	A4D06-3A 08-0503 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 09-0503 -40A1-G0R -G0Q -W01	A4D06-3A 09-0503 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 10-0503 -40A1-G0R -G0Q -W01	A4D06-3A 10-0503 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 11-0203 -40A1-G0R -G0Q -W01	A4D06-3A 11-0203 -40A1-G0R -G0Q -W01
	12 VDC 24 VDC 115 VAC-60 Hz	A4D03-3A 51-0203 -40A1-G0R -G0Q -W01	A4D06-3A 51-0203 -40A1-G0R -G0Q -W01