

Individual mounting

inline
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Manifold mounting

stacking
----------

Series

35

100

200

55

56

57

58

59

45

**700**

900

82

6300

6500

6600

1300

800

ISO 1

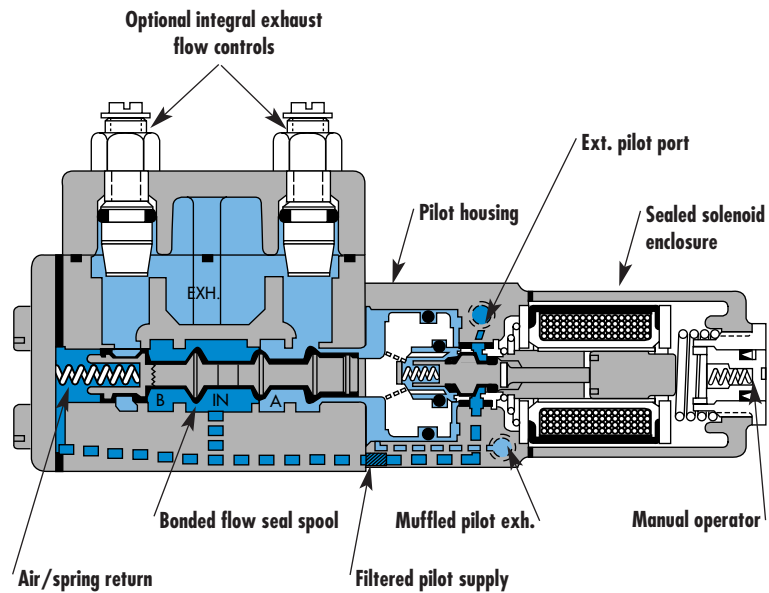
ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A



**SERIES FEATURES**

- The patented MACSOLENOID® with its non-burn out feature on AC service.
- Air/spring return for consistent shifting on single solenoid internal pilot valves.
- Use on lube or non-lube service.
- Optional integral adjustable exhaust flow controls with a single common exhaust port.
- Optional low wattage DC solenoids down to 1 watt.
- Various types of manual operators and solenoid enclosures.



### VALVE CONFIGURATIONS AVAILABLE

The 700Series is a compact 4-way valve with a Cv of up to .8. This series provides fast response, long life and high flow not commonly found in this size valve.

- 2-Pos., single or double operator (solenoid or remote air).
- Individual body or stacking body (2 common ports).
- Integral adjustable exhaust flow control models.
- Internal pilot or external pilot for vacuum to 20 psi main valve pressures.
- Manual and mechanical operators available.

### SERIES FEATURES-REMOTE AIR PILOT OPERATED VALVES

The remote air versions feature:

- Air/spring return for consistent shifting on single remote air valves for main valve pressures of 20 psi or more.
- Optional integral adjustable exhaust flow controls.

### SERIES FEATURES-REMOTE AIR PILOT, PILOT OPERATED VALVES

These special air versions have the same features as the remote air pilot operated models, but additionally feature:

- Ability to use a pilot signal pressure different from the main valve pressure. Pilot signal can be from 20-150 PSI, regardless of main valve pressure.
- A manual operator/position indicator.

### SPECIAL APPLICATIONS:

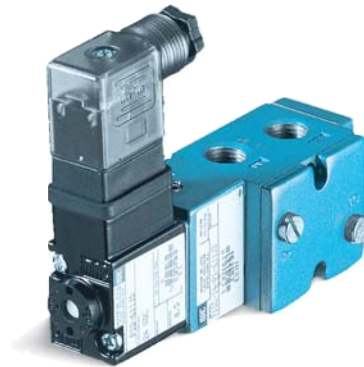
On all models, energizing the operator nearest the "A" port supplies pressure to cylinder port "A" and energizing the operator nearest the "B" port supplies pressure to cylinder port "B". For the following special applications additional considerations are required.

- INTERNAL PILOT-Utilized for main valve pressures equal to or greater than minimum pilot pressures. Pilot supply is fed to both the pilot valves and the air/spring return from the inlet.
- EXTERNAL PILOT-Required for all solenoid pilot operated models when main valve pressures are below 20 PSI on single operator or 10 PSI on double operator models. Single operators require MOD 158-heavy duty spring. Pipe using either an M5x0.8 or a #10-32 UNF fitting to the external pilot port. To convert from internal to external pilot, simply rotate pilot housing 180° and install heavy duty spring.
- VACUUM APPLICATIONS-Use external pilot models only, without flow controls and connect vacuum source to the exhaust port and leave the inlet open to atmosphere.
- SELECTOR APPLICATIONS-Use models without flow controls, connect the higher pressure to the inlet port and lower pressure to the exhaust port.

Function	Port size	Flow (Max)	Individual mounting	Series
<b>4/2</b>	<b>1/8" - 1/4"</b>	<b>0.7 C<sub>v</sub></b>	inline	

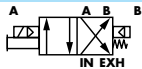
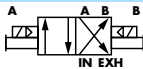
### OPERATIONAL BENEFITS

1. Balanced spool, immune to variations of pressure.
2. Short stroke with high flow.
3. The piston (booster) provides maximum shifting forces.
4. Powerful return force thanks to the combination of mechanical and air springs.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Wiping effect eliminates sticking.
7. Pilot valve with balanced poppet, high flow, short and consistent response times.
8. Long service life.



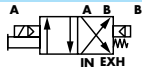
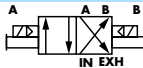
35  
100  
200  
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56  
57  
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59

### HOW TO ORDER

Port size	Pilot air	Single operator	Double operator
			
<b>1/8" NPTF</b>	Internal	711C-11-PI- <b>XXYZZ</b>	721C-11-PI- <b>XXYZZ</b>
<b>1/4" NPTF</b>	Internal	711C-12-PI- <b>XXYZZ</b>	721C-12-PI- <b>XXYZZ</b>
<b>1/8" NPTF</b>	External	711C-11-PE- <b>XXYZZ</b>	721C-11-PE- <b>XXYZZ</b>
<b>1/4" NPTF</b>	External	711C-12-PE- <b>XXYZZ</b>	721C-12-PE- <b>XXYZZ</b>

45

### HOW TO ORDER VALVE WITH FLOW CONTROLS

Port size	Pilot air	Single operator	Double operator
			
<b>1/8" NPTF</b>	Internal	712C-11-PI- <b>XXYZZ</b>	722C-11-PI- <b>XXYZZ</b>
<b>1/4" NPTF</b>	Internal	712C-12-PI- <b>XXYZZ</b>	722C-12-PI- <b>XXYZZ</b>
<b>1/8" NPTF</b>	External	712C-11-PE- <b>XXYZZ</b>	722C-11-PE- <b>XXYZZ</b>
<b>1/4" NPTF</b>	External	712C-12-PE- <b>XXYZZ</b>	722C-12-PE- <b>XXYZZ</b>

700

900

82

6300

6500

6600

1300

800

ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

### SOLENOID OPERATOR >

**XX Y ZZ\***

XX Voltage	Y Manual operator	ZZ Electrical connection
<b>11</b> 120/60, 110/50	<b>1</b> Non-locking	<b>JB</b> Rectangular connector
<b>12</b> 240/60, 220/50	<b>2</b> Locking	<b>JD</b> Rectangular connector with light
<b>22</b> 24/50, 24/60		<b>JA</b> Square connector
<b>59</b> 24 VDC (2.5 W)		<b>JC</b> Square connector with light
<b>87</b> 24 VDC (17.1 W)		<b>BA</b> Flying leads (18")
<b>61</b> 24 VDC (8.5 W)		<b>CA</b> Conduit 1/2" NPS

\* Other options available, see page 349.

### OPTIONS

7XXC-XX-PX-**XXYZZ**

- For bottom ports (1/8" only) replace by 2.

**TECHNICAL DATA**

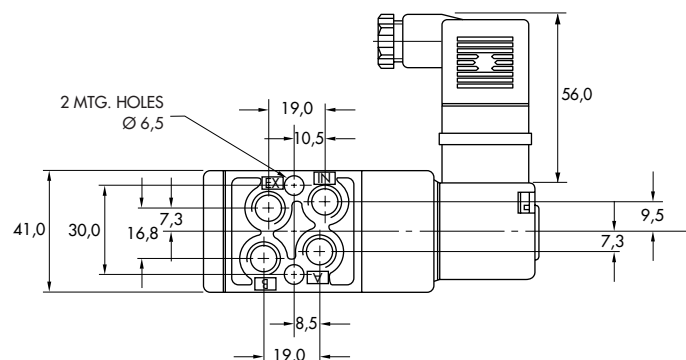
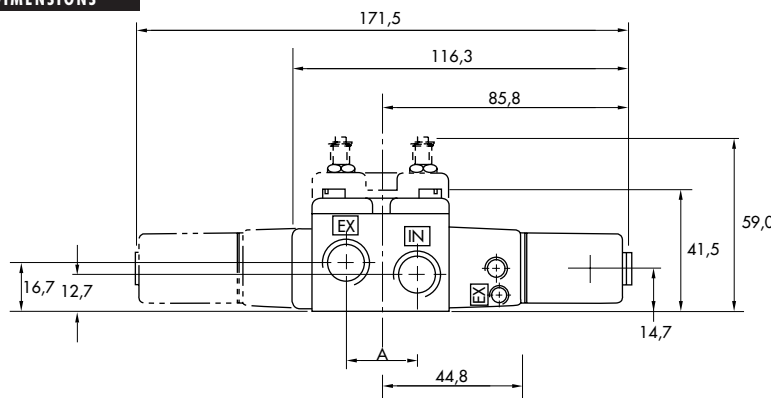
<b>Fluid :</b>	Compressed air, vacuum, inert gases
<b>Pressure range :</b>	Internal pilot : single operator : 20 to 150 PSI    double operator : 10 to 150 PSI External pilot : vacuum to 150 PSI
<b>Pilot pressure :</b>	Single operator : 20 to 150 PSI    Double operator : 10 to 150 PSI
<b>Lubrication :</b>	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
<b>Filtration :</b>	40 μ
<b>Temperature range :</b>	0°F to 120°F (-18°C to 50°C)
<b>Flow (at 6 bar, ΔP=1bar) :</b>	1/8" : (0.6 C <sub>v</sub> ), 1/4" : (0.7 C <sub>v</sub> )
<b>Coil :</b>	General purpose class A, continuous duty, encapsulated
<b>Voltage range :</b>	-15% to +10% of nominal voltage
<b>Protection :</b>	Consult factory
<b>Power :</b>	~ Inrush : 14.8 VA    Holding : 10.9 VA = 1 to 17.1 W
<b>Response times :</b>	24 VDC (8.5 W)    Energize : 6.4 ms    De-energize : 8.5ms 120/60    Energize : 4-10 ms    De-energize : 7-13 ms

- Spare parts :
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
  - Pilot valve : PID-XYZZ, including mounting screws 35214 and seal 16363.
  - Valve cover plate with integral flow controls : N-07002.

- Options :
- BSPP threads.

**DIMENSIONS**

Dimensions shown are metric (mm)



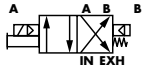
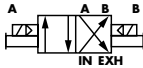
Port size	A
1/8" NPTF	21.0
1/4" NPTF	24.0

Function	Port size	Flow (Max)	Manifold mounting	Series
<b>4/2</b>	<b>1/8" - 1/4"</b>	<b>0.8 C<sub>v</sub></b>	stacking	

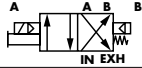
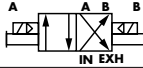
### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- The piston (booster) provides maximum shifting forces.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.
- Long service life.

### HOW TO ORDER

Port size	Pilot air	Single operator	Double operator
			
<b>1/8" NPTF</b>	Internal	713C-11-PI- <b>XXYZZ</b>	723C-11-PI- <b>XXYZZ</b>
<b>1/4" NPTF</b>		713C-12-PI- <b>XXYZZ</b>	723C-12-PI- <b>XXYZZ</b>

### HOW TO ORDER VALVE WITH FLOW CONTROLS

Port size	Pilot air	Single operator	Double operator
			
<b>1/8" NPTF</b>	Internal	714C-11-PI- <b>XXYZZ</b>	724C-11-PI- <b>XXYZZ</b>
<b>1/4" NPTF</b>		714C-12-PI- <b>XXYZZ</b>	724C-12-PI- <b>XXYZZ</b>

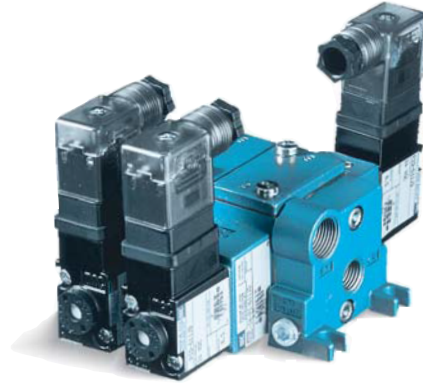
### SOLENOID OPERATOR >

**XX Y ZZ\***

XX	Voltage	Y	Manual operator	ZZ	Electrical connection
<b>11</b>	120/60, 110/50	<b>1</b>	Non-locking	<b>JB</b>	Rectangular connector
<b>12</b>	240/60, 220/50	<b>2</b>	Locking	<b>JD</b>	Rectangular connector with light
<b>22</b>	24/50, 24/60			<b>JA</b>	Square connector
<b>59</b>	24 VDC (2.5 W)			<b>JC</b>	Square connector with light
<b>87</b>	24 VDC (17.1 W)			<b>BA</b>	Flying leads (18")
<b>61</b>	24 VDC (8.5 W)			<b>CA</b>	Conduit 1/2" NPS
				<b>MB</b>	Common conduit 1" NPS

\* Other options available, see page 349.

End plate kit required (Port size 1/4") : M-07001-01-01 (internal pilot).  
M-07001-02-01 (external pilot).  
M-01002-01 (for MB option) required in addition to one of the above end plate kits.



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800  
ISO 1  
ISO 2  
ISO 3  
MAC 125A  
MAC 250A  
MAC 500A

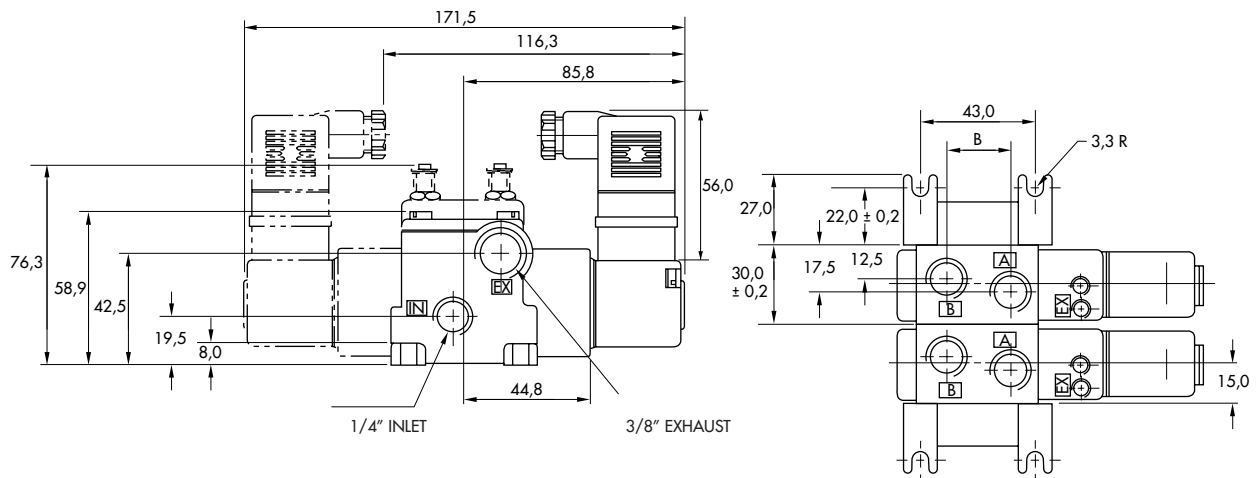
**TECHNICAL DATA**

<b>Fluid :</b>	Compressed air, vacuum, inert gases
<b>Pressure range :</b>	Internal pilot : single operator : 20 to 150 PSI    double operator : 10 to 150 PSI External pilot : vacuum to 150 PSI
<b>Pilot pressure :</b>	Single operator : 20 to 150 PSI    Double operator : 10 to 150 PSI
<b>Lubrication :</b>	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
<b>Filtration :</b>	40 μ
<b>Temperature range :</b>	0°F to 120°F (-18°C to 50°C)
<b>Flow (at 6 bar, ΔP=1bar) :</b>	1/8" : (0.7 C <sub>v</sub> ), 1/4" : (0.8 C <sub>v</sub> )
<b>Coil :</b>	General purpose class A, continuous duty, encapsulated
<b>Voltage range :</b>	-15% to +10% of nominal voltage
<b>Protection :</b>	Consult factory
<b>Power :</b>	~ Inrush : 14.8 VA    Holding : 10.9 VA = 1 to 17.1 W
<b>Response times :</b>	24 VDC (8.5 W)    Energize : 6.4 ms    De-energize : 8.5 ms 120/60    Energize : 4-10 ms    De-energize : 7-13 ms

- Spare parts :
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
  - Pilot valve : PID-XXYZZ, including mounting screws 35214 and seal 16363.
  - Valve cover plate with integral flow controls : N-07004. • Inlet & exhaust isolator : N-07005. • Inlet isolator : N-07006.
  - Exhaust isolator : N-07007.
- Options :
- BSPP threads.

**DIMENSIONS**

Dimensions shown are metric (mm)



Port size	B
1/8" NPTF	21.0
1/4" NPTF	24.0

**Codification table for voltages / Manual operator / Electrical connection / Wire length**

VALVE CODE > **-XX Y ZZ (-VV)**  
1 2 3 4

OPTIONS AVAILABLE FOR	OPTIONS AVAILABLE FOR
<ul style="list-style-type: none"> <li>- valves type 100 Series</li> <li>- pilot valves "CNOMO"</li> </ul>	<ul style="list-style-type: none"> <li>- valves type 200 Series</li> </ul>
<ul style="list-style-type: none"> <li>- Pilot operated valves with pilots type 100 Series</li> <li>Series : 55 - 56 - 700 - 800 - 900</li> <li style="padding-left: 20px;">- 6300 - 6500 - 6600 - 1300</li> <li style="padding-left: 20px;">- ISO 1 - ISO 2 - ISO 3.</li> <li style="padding-left: 20px;">- MAC 125 - MAC 250 - MAC 500</li> </ul>	<ul style="list-style-type: none"> <li>- pilot operated valves with pilots type 200 Series</li> <li>Series : 200 - 57 - 58 - 59.</li> </ul>
<ul style="list-style-type: none"> <li>- Pilot operated valves with pilots "CNOMO"</li> <li>Series : ISO1 - ISO2 - ISO3</li> </ul>	

Used on valve series: 100, 55, 56, 700, 800, 900, 6300, 6500, 6600, 1300, MVA1C, MVA2B, MVA3B, MAC125, MAC250, MAC500.

Used on valve series: 200, 57, 58, 59.

1. VOLTAGE (100 Serie type coil)		1. VOLTAGE (200 Serie type coil)	
- XX Y ZZ	VOLTAGE	- XX Y ZZ	VOLTAGE
11	120/60, 110/50	11	120/60, 110/50, 24 VDC (6 W)
12	240/60, 220/50	12	240/60, 220/50
13	100/60, 100/50	13	100/60, 100/50
15	200/60, 200 /50	14	200/60, 200/50
16	10/60	20	6/60
20	6/60	21	12/60
21	12/50, 12/60	22	24/60, 24/50
22	24/60, 24/50	23	32/60, 32/50
23	32/60, 32/50	24	48/60, 42/50
24	48/60, 42/50	25	240/50
26*	380/50, 440/50, 440/60, 480/60	26	480/60, 440/50
29	220/60	27	127/60
34	127/50, 120/50	28	415/50
35	48/50	29	220/60
36	16/60	30	380/50
B1	24/50	31	550/60, 550/50
50	24 VDC (6 W)	32	120/60, 110/50
51	24 VDC (4 W)	33	600/60
54	12 VDC (4 W)	34	127/50
55	12 VDC (6 W)	35	48/50
57	12 VDC (2.5 W)	50	24 VDC (6 W)
59	24 VDC (2.5 W)	51	24 VDC (4.5 W)
60	12 VDC (8.5 W)	52	24 VDC (2.5 W)
61	24 VDC (8.5 W)	53	24 VDC (1.0 W)
64	6 VDC (6 W)	55	12 VDC (6 W)
65	32 VDC (7 W)	57	12 VDC (2.5 W)
66	48 VDC (5.8 W)	58	48 VDC (2.5 W)
67	64 VDC (7.5 W)	60	12 VDC (9.5 W)
68	120 VDC (6.4 W)	61	24 VDC (8.5 W)
69*	220 VDC (8.7 W), 250 VDC (11.2 W)	64	6 VDC (8.5 W)
75	90 VDC (8.8 W)	65	32 VDC (10 W)
76*	100 VDC (6.9 W)	66	48 VDC (11.5 W)
84*	125 VDC (10.9 W)	67	64 VDC (10.5 W)
87*	24 VDC (17.1 W)	68	120 VDC (12.3 W)
88*	12 VDC (17.4 W)	69	250 VDC (9.2 W)
89*	36 VDC (18.8 W)	71	8 VDC (8.2 W)
90	28 VDC (8.2 W)	72	24 VDC (12 W)
91*	6 VDC (10.6 W)	73	198 VDC (10 W)
92	190 VDC (6.5 W)	74	72 VDC (11.3 W)
94	3 VDC (7 W)	75	90 VDC (11.3 W)
95	38 VDC (6.4 W)	76	100 VDC (9 W)
A1	24 VDC (1 W)	77	220 VDC (10 W), 230 VDC (11.6 W)
A2	12 VDC (1 W)	78*	24 VDC (24 W)
A3	9 VDC (1 W)	80	55 VDC (10.6 W)
		82	170 VDC (11.1 W)
		83	15 VDC (8.1 W)
		84	125 VDC (10 W)
		86	36 VDC (11 W)
		93*	12 VDC (24 W)

MOD. DD01 : Protection diode (DC) - MAX. 8.5W

MOD. MOV1 : Protection varistor (AC) - MAX. 8.5W

\* Voltages are CLSF only



**2. MANUAL OPERATOR (Common options for 100 & 200 Series type coils)**

- XX Y ZZ	MANUAL OPERATOR
<b>0</b>	No operator
<b>1</b>	Non-locking recessed
<b>2</b>	Locking recessed
<b>3</b>	Non-locking extended
<b>4</b>	Locking extended

<b>5*</b>	No Operator with Light
<b>6*</b>	Non-Locking Recessed with Light
<b>7*</b>	Locking Recessed with Light
<b>8*</b>	Non-Locking Extended with Light
<b>9*</b>	Locking Extended with Light

\* Lights used with "AA" electrical connection

**3. ELECTRICAL CONNECTION (100 Serie type coil)**

- XX Y ZZ	ELECTRICAL CONNECTION
<b>AA</b>	Wiring box with 1/2" NPS conduit
<b>BA</b>	Flying leads
<b>CA</b>	1/2" NPS conduit
<b>CC</b>	1/2" NPT conduit
<b>FA</b>	Military type 2 PIN
<b>GA</b>	Military type 3 PIN
<b>HA</b>	AA with ground wire
<b>JA*</b>	Square connector
<b>JB</b>	Rectangular connector
<b>JC*</b>	Square connector with light
<b>JD</b>	Rectangular connector with light
<b>JE</b>	Square connector on top (ISO2, ISO3)
<b>JF</b>	Rectangular connector on top (ISO1, ISO2, ISO3)
<b>JG</b>	JE with light
<b>JH</b>	JF with light
<b>JJ</b>	Square connector, male only
<b>JM</b>	Rectangular connector, male only
<b>MA</b>	Electrical common conduit (100 Series-Manifold/900 Series)
<b>MB</b>	Electrical common conduit (100 Series-Stacking/700 Series)
<b>NA</b>	CA with ground wire
<b>NC</b>	CC with ground wire
<b>RA</b>	3/8" NPS conduit

\* Not to be used with 100, 800 and 900 Series manifold mounting

**3. ELECTRICAL CONNECTION (200 Serie type coil)**

- XX Y ZZ	ELECTRICAL CONNECTION
<b>AA</b>	Wiring box with 1/2" NPS conduit
<b>BA</b>	Flying leads
<b>CA</b>	1/2" NPS conduit
<b>CC</b>	1/2" NPT conduit
<b>EA</b>	Explosion proof (200 Series)
<b>EA</b>	Explosion proof (57, 58 & 59 Series)
<b>FA</b>	Military type 2 PIN
<b>GA</b>	Military type 3 PIN
<b>HA</b>	AA with ground wire
<b>JA*</b>	Square connector
<b>JC</b>	Square connector with light
<b>JJ</b>	Square connector, male only
<b>NA</b>	CA with ground wire
<b>NC</b>	CC with ground wire

**4. COIL WIRE LENGTH (Common options for 100 & 200 Serie type coils)**

<b>- XX Y ZZ (-VV)</b>	<b>WIRE LENGTH</b>
<b>AA</b>	18"
<b>AB</b>	24"
<b>AD</b>	36"
<b>AE</b>	48"
<b>AF</b>	72"
<b>AG</b>	6"
<b>AR</b>	12"
<b>AU</b>	120"
<b>BA</b>	60"
<b>BB</b>	144"
Series 6000 : wire length, from the base	
<b>MOD L024</b>	24"
<b>MOD L036</b>	36"
<b>MOD L048</b>	48"
<b>MOD L060</b>	60"
<b>MOD L072</b>	72"
<b>MOD L120</b>	120"