

Individual mounting

inline

Series

Manifold mounting

stacking

35

100

200

55

56

57

58

59

45

700

900

82

6300

6500

6600

1300

800

ISO 1

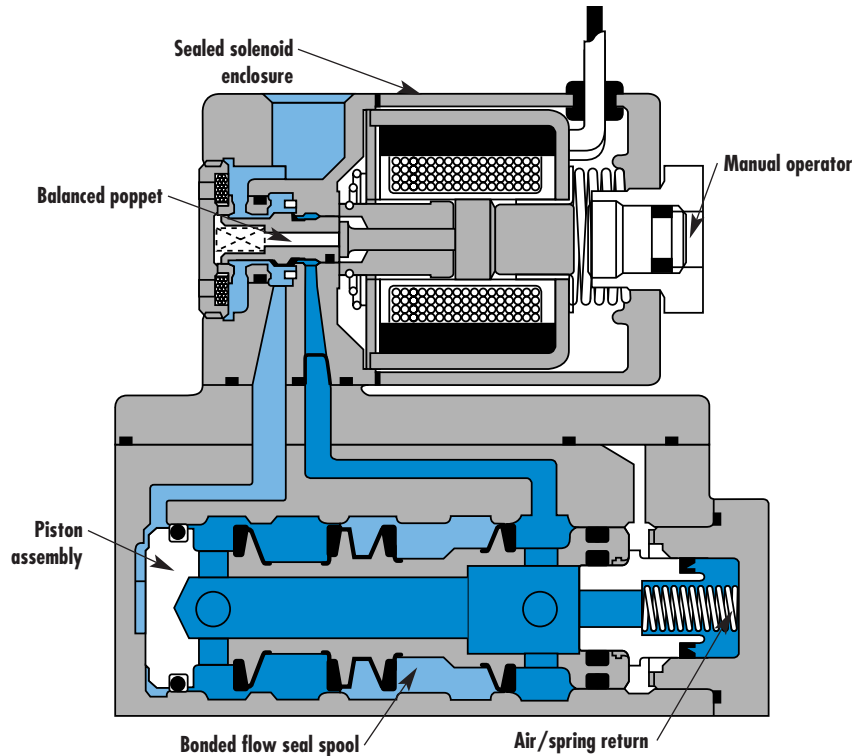
ISO 2

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 on single solenoid valves.
- Use for lube or non-lube service.
- Optional low wattage DC solenoids down to 1 watt.
- Various types of manual operators and electrical enclosures.



#### **VALVE CONFIGURATIONS AVAILABLE**

The 900 Series is a small Inline 4-way valve with a Cv of up to 1.4. 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 models.
- Manual and mechanical operators available

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

The remote air versions feature:

- Air/spring return on single remote air valves
- Use for lube or non-lube service.
- Optional remote air pilot, pilot operated models available when application requires a pilot signal below the main valve pressure.

#### **SPECIAL APPLICATIONS:**

On all models, energizing the "A" operator (solenoid or remote air) supplies pressure to cylinder port "A" and energizing the "B" operator supplies pressure to cylinder port "B". For the following special applications, additional piping considerations are required.

**VACUUM APPLICATIONS** (remote Air Models Only)-Connect the vacuum source to the Exhaust port and leave the Inlet open to atmosphere. Also specify MOD 158 which provides a heavy duty spring in lieu of air/spring.

**SELECTOR APPLICATIONS**-When using as a selector valve, connect the higher pressure to the Inlet port and the lower pressure to the Exhaust port. On solenoid models, the Inlet pressure must be a minimum of 25 PSI on singles or 10 PSI on doubles.



# Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow [Max]	Individual mounting	Series
<b>4/2</b>	<b>1/8" - 1/4"</b>	<b>1.2 C<sub>v</sub></b>	inline	

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- Large spool area 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.



- 35
- 100
- 200
- 55
- 56
- 57
- 58
- 59

### HOW TO ORDER

Port size	Single operator	Double operator
<b>1/8" NPTF</b>	911B-PM- <b>XXYZZ</b>	921B-PM- <b>XXYZZ</b>
<b>1/4" NPTF</b>	912B-PM- <b>XXYZZ</b>	922B-PM- <b>XXYZZ</b>

45

### 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

700

**900**

82

\* Other options available, see page 349.

6300

6500

6600

1300

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>	Single operator : 25 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" : (0.8 C <sub>v</sub> ), 1/4" : (1.2 C <sub>v</sub> )
<b>Leak rate :</b>	50 cm <sup>3</sup> /min
<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 : 8 ms      De-energize : 10 ms 120/60      Energize : 5-10 ms      De-energize : 8-15 ms

Spare parts :

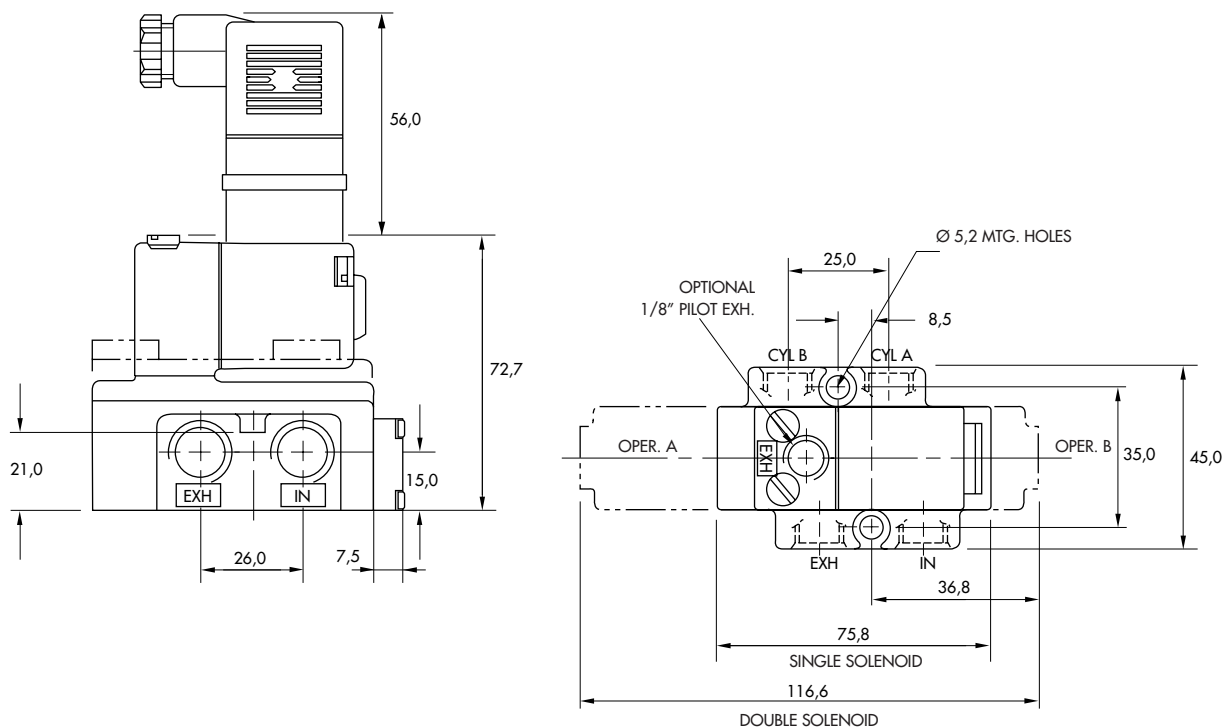
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw pilot to main valve : 35219.

Options :

- BSPP threads.

**DIMENSIONS**

Dimensions shown are metric (mm)





# Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow (Max)	Manifold mounting	Series
<b>4/2</b>	<b>1/8" - 1/4" - 3/8"</b>	<b>1.4 C<sub>v</sub></b>	stacking	

### OPERATIONAL BENEFITS

1. Balanced spool, immune to variations of pressure.
2. Short stroke with high flow.
3. Large spool area 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
- 55
- 56
- 57
- 58
- 59

### HOW TO ORDER

Port size	Single operator	Double operator
<b>1/8" NPTF</b>	913B-PM- <b>XXYZZ</b>	923B-PM- <b>XXYZZ</b>
<b>1/4" NPTF</b>	914B-PM- <b>XXYZZ</b>	924B-PM- <b>XXYZZ</b>
<b>3/8" NPTF</b>	919B-PM- <b>XXYZZ</b>	N/A

45

### 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>BA</b> Flying leads (18")
<b>59</b> 24 VDC (2.5 W)		<b>MA</b> Common conduit 1" NPS
<b>87</b> 24 VDC (17.1 W)		<b>RA</b> Conduit 3/8" NPS
<b>61</b> 24 VDC (8.5 W)		

700

900

82

\* Other options available, see page 349.

End plate kit required (Port size : 3/8") : M-09001-01.  
 "MA" option also requires end plate kit : M-01002-01.

6300

6500

6600

1300

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>	Single operator : 25 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" : (1.2 C <sub>v</sub> ), 1/4" : (1.4 C <sub>v</sub> ), 3/8" : (1.4 C <sub>v</sub> )
<b>Leak rate :</b>	50 cm <sup>3</sup> /min
<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 : 8 ms      De-energize : 10 ms 120/60      Energize : 5-10 ms      De-energize : 8-15 ms

Spare parts :

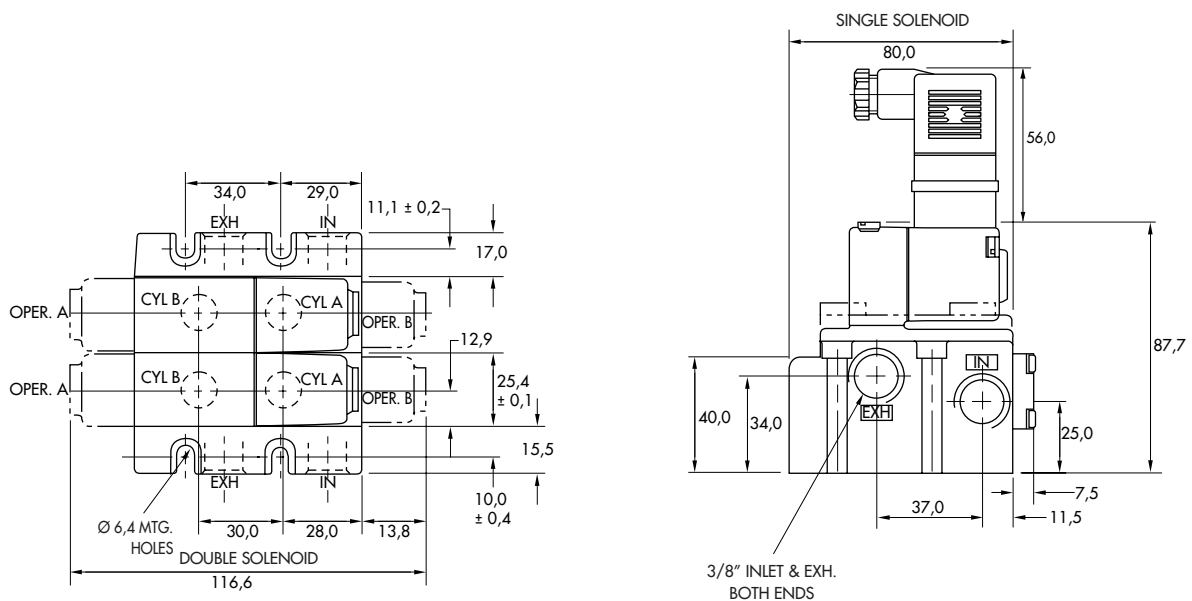
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XYZZ, including seal 16367. • Mounting screw pilot to main valve : 35208.
- Pressure seal between valves : 16358. • Tie-rod (x2) : 19615. • Inlet & exhaust isolator : N-09002. • Inlet isolator : N-09004.A.
- Exhaust isolator : N-09003.

Options :

- BSPP threads.

**DIMENSIONS**

Dimensions shown are metric (mm)



**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		
0	No operator	5*	No Operator with Light
1	Non-locking recessed	6*	Non-Locking Recessed with Light
2	Locking recessed	7*	Locking Recessed with Light
3	Non-locking extended	8*	Non-Locking Extended with Light
4	Locking extended	9*	Locking Extended with Light

\* Lights used with "AA" electrical connection

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

- XX Y ZZ	ELECTRICAL CONNECTION
AA	Wiring box with 1/2" NPS conduit
BA	Flying leads
CA	1/2" NPS conduit
CC	1/2" NPT conduit
FA	Military type 2 PIN
GA	Military type 3 PIN
HA	AA with ground wire
JA*	Square connector
JB	Rectangular connector
JC*	Square connector with light
JD	Rectangular connector with light
JE	Square connector on top (ISO2, ISO3)
JF	Rectangular connector on top (ISO1, ISO2, ISO3)
JG	JE with light
JH	JF with light
JJ	Square connector, male only
JM	Rectangular connector, male only
MA	Electrical common conduit (100 Series-Manifold/900 Series)
MB	Electrical common conduit (100 Series-Stacking/700 Series)
NA	CA with ground wire
NC	CC with ground wire
RA	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
AA	Wiring box with 1/2" NPS conduit
BA	Flying leads
CA	1/2" NPS conduit
CC	1/2" NPT conduit
EA	Explosion proof (200 Series)
EA	Explosion proof (57, 58 & 59 Series)
FA	Military type 2 PIN
GA	Military type 3 PIN
HA	AA with ground wire
JA*	Square connector
JC	Square connector with light
JJ	Square connector, male only
NA	CA with ground wire
NC	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"