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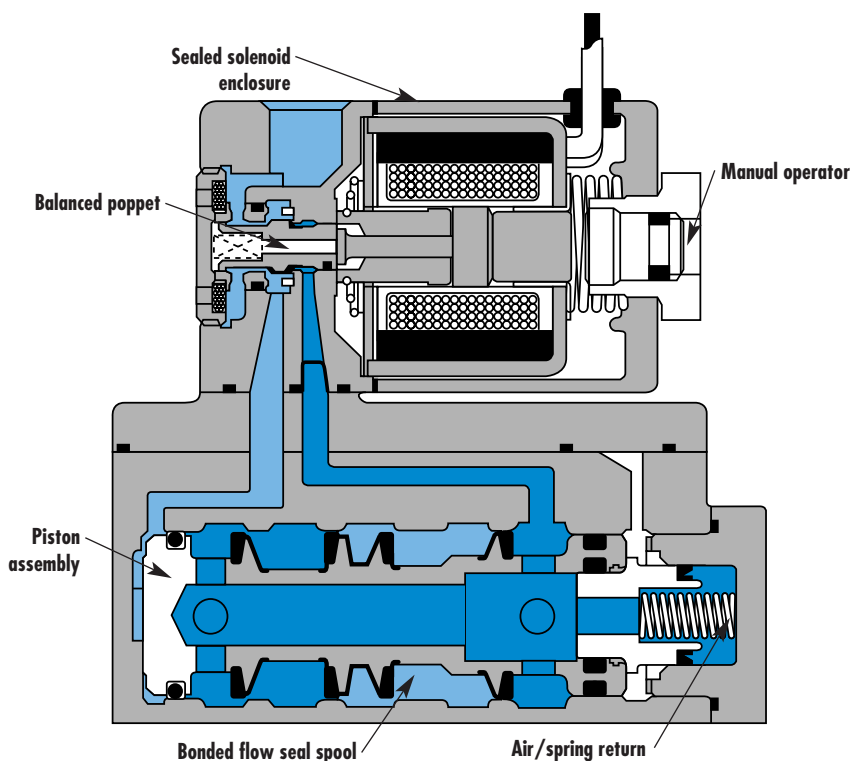


Individual mounting

inline

Manifold mounting

stacking



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.

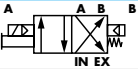
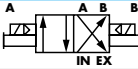
SELECTOR APPLICATIONS-When using as a selector valve, connect the higher pressure to the Inlet port and the lower pressure to the Exhaust port. On solenoid models, the Inlet pressure must be a minimum of 25 PSI on singles or 10 PSI on doubles.

Function	Port size	Flow [Max]	Individual mounting	Series
4/2	1/8" - 1/4"	1.2 C_v	inline	

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.

HOW TO ORDER

Port size	Single operator	Double operator
		
1/8" NPTF	911B-PM- XXYYZZ	921B-PM- XXYYZZ
1/4" NPTF	912B-PM- XXYYZZ	922B-PM- XXYYZZ

SOLENOID OPERATOR ➤

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

* Other options available, see page 349.



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

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Single operator : 25 to 150 PSI Double operator : 10 to 150 PSI		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Flow (at 6 bar, ΔP=1bar) :	1/8" : (0.8 C _v), 1/4" : (1.2 C _v)		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Consult factory		
Power :	~ Inrush : 14.8 VA Holding : 10.9 VA = 1 to 17.1 W		
Response times :	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 :

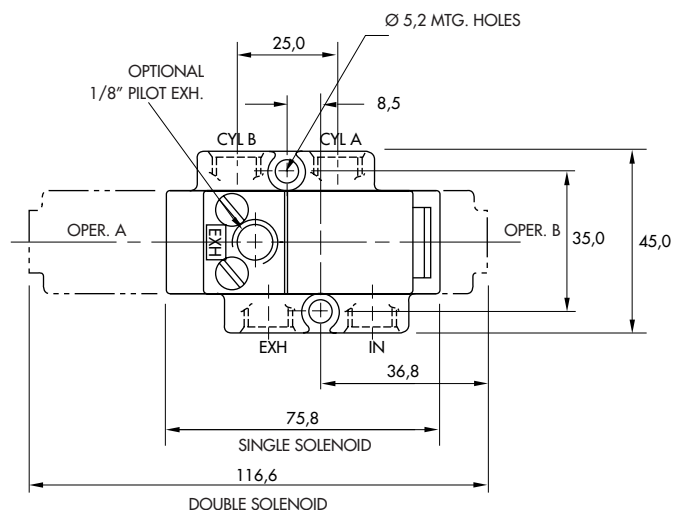
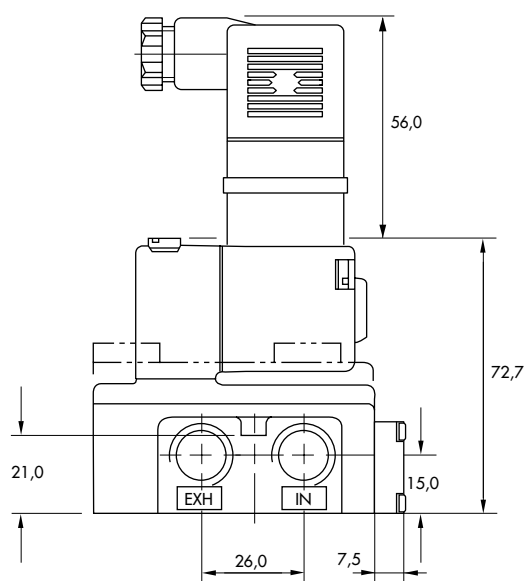
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw pilot to main valve : 35219.

Options :

- BSPP threads.

DIMENSIONS

Dimensions shown are metric (mm)

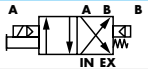


Function	Port size	Flow [Max]	Manifold mounting	Series
4/2	1/8" - 1/4" - 3/8"	1.4 C _v	stacking	

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.

HOW TO ORDER

Port size	Single operator
	
1/8" NPTF	913B-PM- XX Y ZZ
1/4" NPTF	914B-PM- XX Y ZZ
3/8" NPTF	919B-PM- XX Y ZZ

SOLENOID OPERATOR ➤

XX Voltage	Y Manual operator	ZZ Electrical connection
11 120/60, 110/50	1 Non-locking	JB Rectangular connector
12 240/60, 220/50	2 Locking	JD Rectangular connector with light
22 24/50, 24/60		BA Flying leads (18")
59 24 VDC (2.5 W)		MA Common conduit 1" NPS
87 24 VDC (17.1 W)		RA Conduit 3/8" NPS
61 24 VDC (8.5 W)		

* 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.



35

100

200

55

56

57

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59

45

700

900

82

6300

6500

6600

1300

800

ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Single operator : 25 to 150 PSI Double operator : 10 to 150 PSI		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Flow (at 6 bar, ΔP=1bar) :	1/8" : (1.2 C _v), 1/4" : (1.4 C _v), 3/8" : (1.4 C _v)		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Consult factory		
Power :	~ Inrush : 14.8 VA Holding : 10.9 VA = 1 to 17.1 W		
Response times :	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 :

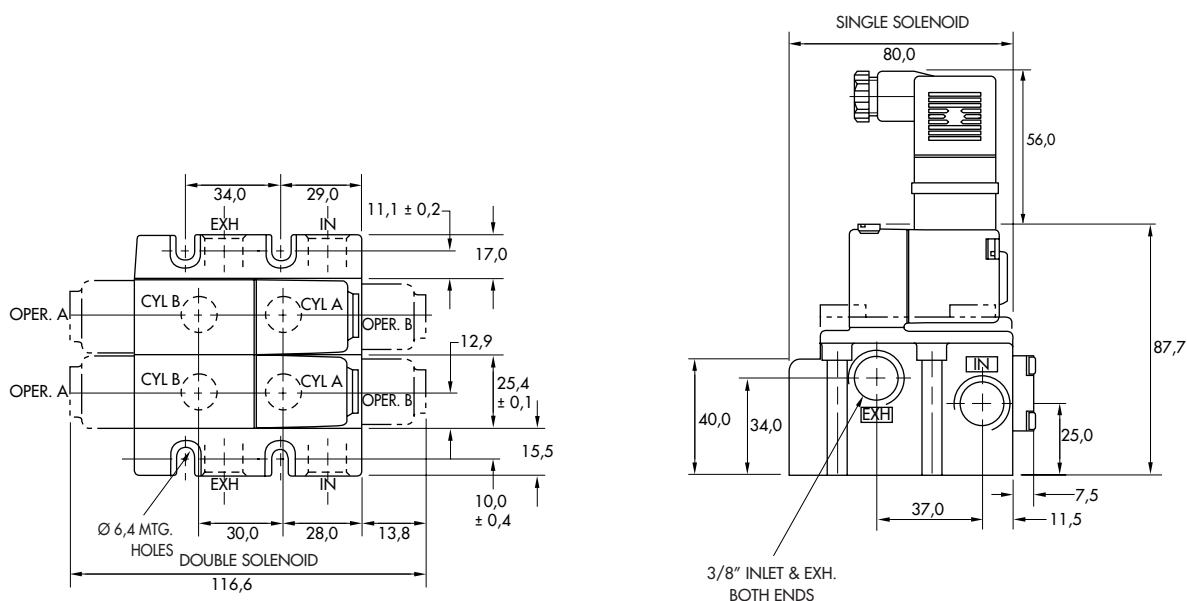
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16367. • Mounting screw pilot to main valve : 35208.
- Pressure seal between valves : 16358. • Tie-rod (x2) : 19615. • Inlet & exhaust isolator : N-09002. • Inlet isolator : 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
- valves type 100 Series - pilot valves "CNOMO"	- valves type 200 Series
- Pilot operated valves with pilots type 100 Series - Series : 55 - 56 - 700 - 800 - 900 - 6300 - 6500 - 6600 - 1300 - ISO 1 - ISO 2 - ISO 3. - MAC 125 - MAC 250 - MAC 500	- pilot operated valves with pilots type 200 Series - Series : 200 - 57 - 58 - 59.
- Pilot operated valves with pilots "CNOMO" - Series : ISO1 - ISO2 - ISO3	

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

1. VOLTAGE (100 Serie type coil)

- XX Y ZZ	VOLTAGE
11	120/60, 110/50
12	240/60, 220/50
13	100/60, 100/50
15	200/60, 200 /50
16	10/60
20	6/60
21	12/50, 12/60
22	24/60, 24/50
23	32/60, 32/50
24	48/60, 42/50
26*	380/50, 440/50, 440/60, 480/60
29	220/60
34	127/50, 120/50
35	48/50
36	16/60
B1	24/50
50	24 VDC (6 W)
51	24 VDC (4 W)
54	12 VDC (4 W)
55	12 VDC (6 W)
57	12 VDC (2.5 W)
59	24 VDC (2.5 W)
60	12 VDC (8.5 W)
61	24 VDC (8.5 W)
64	6 VDC (6 W)
65	32 VDC (7 W)
66	48 VDC (5.8 W)
67	64 VDC (7.5 W)
68	120 VDC (6.4 W)
69*	220 VDC (8.7 W), 250 VDC (11.2 W)
75	90 VDC (8.8 W)
76*	100 VDC (6.9 W)
84*	125 VDC (10.9 W)
87*	24 VDC (17.1 W)
88*	12 VDC (17.4 W)
89*	36 VDC (18.8 W)
90	28 VDC (8.2 W)
91*	6 VDC (10.6 W)
92	190 VDC (6.5 W)
94	3 VDC (7 W)
95	38 VDC (6.4 W)
A1	24 VDC (1 W)
A2	12 VDC (1 W)
A3	9 VDC (1 W)

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

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

* Voltages are CLSF only

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

1. VOLTAGE (200 Serie type coil)

- XX Y ZZ	VOLTAGE
11	120/60, 110/50, 24 VDC (6 W)
12	240/60, 220/50
13	100/60, 100/50
14	200/60, 200/50
20	6/60
21	12/60
22	24/60, 24/50
23	32/60, 32/50
24	48/60, 42/50
25	240/50
26	480/60, 440/50
27	127/60
28	415/50
29	220/60
30	380/50
31	550/60, 550/50
32	120/60, 110/50
33	600/60
34	127/50
35	48/50
50	24 VDC (6 W)
51	24 VDC (4.5 W)
52	24 VDC (2.5 W)
53	24 VDC (1.0 W)
55	12 VDC (6 W)
57	12 VDC (2.5 W)
58	48 VDC (2.5 W)
60	12 VDC (9.5 W)
61	24 VDC (8.5 W)
64	6 VDC (8.5 W)
65	32 VDC (10 W)
66	48 VDC (11.5 W)
67	64 VDC (10.5 W)
68	120 VDC (12.3 W)
69	250 VDC (9.2 W)
71	8 VDC (8.2 W)
72	24 VDC (12 W)
73	198 VDC (10 W)
74	72 VDC (11.3 W)
75	90 VDC (11.3 W)
76	100 VDC (9 W)
77	220 VDC (10 W), 230 VDC (11.6 W)
78*	24 VDC (24 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)

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)

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

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