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TECHNOLOGY GROUP

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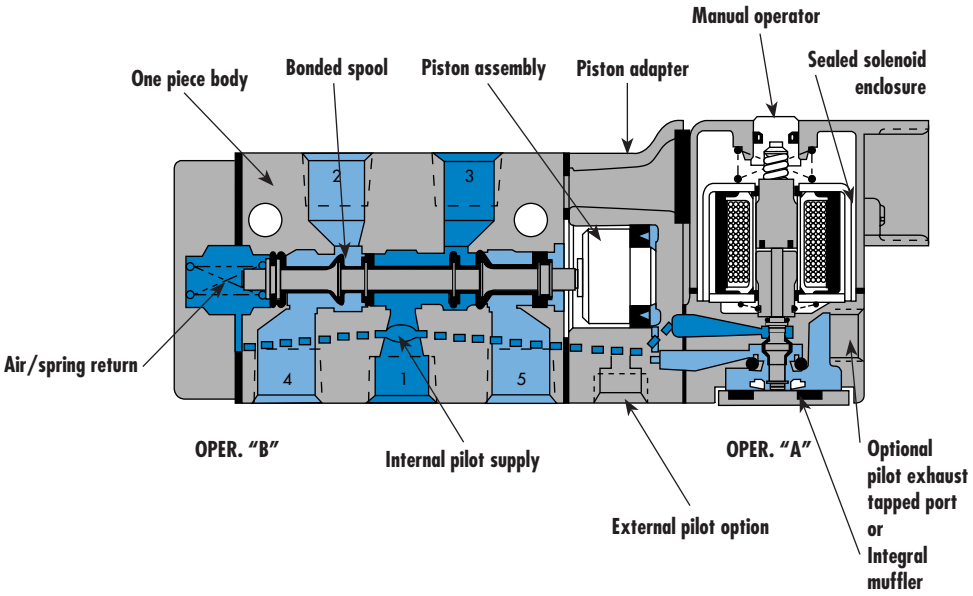
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Individual mounting

inline

Manifold mounting

stacking body with 1 common port (inlet)	stacking body with 3 common ports (inlet & exhausts)	stacking body with 3 common ports and integral F.C.	stacking body with 3 common ports with common conduit	stacking body with 3 common ports with C. C. & integral exh. F. C.



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 common conduit stacking valve with integral wiring space and indicator lights
- Optional integral individual exhaust flow controls.
- Optional low wattage DC solenoids down to 1 watt.
- Various types of manual operators and solenoid enclosures.

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

SPECIAL APPLICATIONS :

On all single pressure models, energizing the operator closest to port #5 supplies pressure to cylinder port "2" and energizing the operator closest to port #4 supplies pressure to cylinder port "3". For the following special applications, additional piping considerations are required.

EXTERNAL PILOT APPLICATIONS :

An External Pilot is only required when the main valve pressure is less than 20 PSIG on single solenoid or 10 PSIG on double solenoid valves in 2-position models, or less than 20 PSIG on 3-position double solenoid models. Also an External Pilot is required when main valve pressure is in excess of 150 PSIG.

INDIVIDUAL VALVES: The External Pilot supply is connected to the External Pilot port in the piston adapter. The valve must be an External Pilot model.

STACKING VALVES: The External Pilot supply is connected to the External Pilot ports in the end plates. The valve is the same valve for either Internal or External Pilot. The end plate must be the external pilot type.

DUAL PRESSURE (TWO INLET) APPLICATIONS :

When two pressures are required within a valve, a Dual Pressure (Inlet) model must be used. Additionally the following must be adhered to:

INDIVIDUAL VALVES: If both pressures are below the minimum, use an External Pilot supply as described above for Individual valves and connect the two pressures to ports #4 and #5. Otherwise, use an Internal Pilot model and connect the higher pressure to port #5 and the lower pressure to port #4.

STACKING VALVES: Use an External Pilot Manifold End Plate Kid, as described above for Stacking Valves and connect the two pressures to the Exhaust ports in the end plate.

MULTIPLE PRESSURES TO A STACK :

By isolating, different pressures can be supplied to each end of a stack to provide two pressures. If more than two pressures are required, a Dual Inlet Pressure Block can be installed providing 2 more inlet pressures to a stack. With the use of 1 or more of these Pressure Blocks, a stack can have virtually unlimited inlet pressures.

VACUUM APPLICATIONS :

Use an External Pilot model as described under "External Pilot Applications", (Individual valve or Stacking).

For single pressure, dual exhaust type valve ports #4 & #5 (Exhausts) should be connected to the vacuum supply and port #1 (Inlet) to atmosphere.

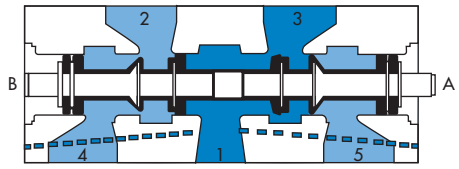
For dual pressure, single exhaust type valves, vacuum should be connected to port #1(Inlet) and ports #4 & #5 (Exhausts) to atmosphere.

SELECTOR APPLICATIONS :

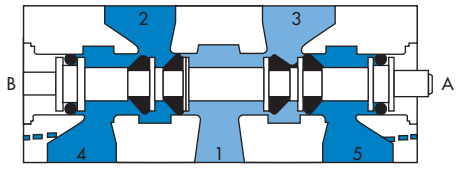
Use an External Pilot model as described above, if both pressures are below the minimum pilot pressure; otherwise use an Internal Pilot model. In either case, use a single pressure model and connect the higher pressure to port #1 (Inlet) and the lower pressure to port #4 (Exhaust) if using cylinder port #2 or to port #5 (Exhaust) if using cylinder port #3.

SPOOL CONFIGURATIONS

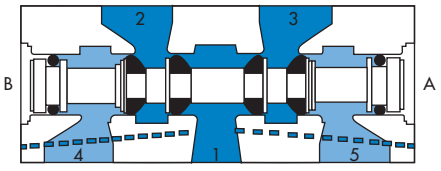
2-POSITION SGL. PRESSURE (SPOOL #12184)
B ACTUATED SHOWN



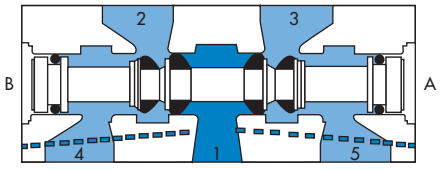
2-POSITION DUAL PRESSURE
(SPOOL ASSY.#10266) B ACTUATED SHOWN



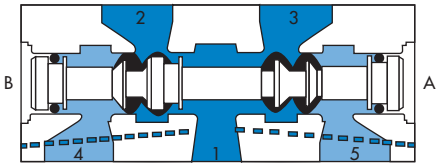
3-POSITION SGL. PRESS. CLOSED CENTER
(SPOOL ASSY. #S-00004) CENTER POSITION SHOWN



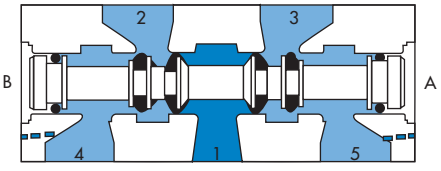
3-POSITION SGL. PRESS. OPEN CENTER
(SPOOL ASSY.#S-00003) CENTER POSITION SHOWN



3-POSITION SGL. PRESS. PRESSURE CENTER
(SPOOL ASSY. #S-08003) CENTER POSITION SHOWN



3-POSITION DUAL PRESS. PRESSURE CENTER
(SPOOL ASSY. #S-08002) CENTER POSITION SHOWN



Consult "Precautions" page 364 before use, installation or service of MAC Valves

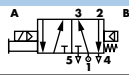
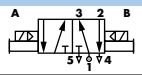
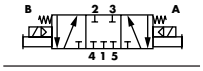
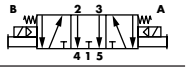
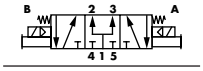
Function	Port size	Flow (Max)	Individual mounting	Series
5/2 - 5/3	**1/4"**	**1.4 C_v**	inline	

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.



HOW TO ORDER

Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
						
1/4" NPTF	Internal	811C-PM-***XXYZZ***-152	821C-PM-***XXYZZ***-152	825C-PM-***XXYZZ***-552	825C-PM-***XXYZZ***-652	825C-PM-***XXYZZ***-852
	External	812C-PM-***XXYZZ***-112	822C-PM-***XXYZZ***-112	826C-PM-***XXYZZ***-512	826C-PM-***XXYZZ***-612	826C-PM-***XXYZZ***-812

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
JB	Rectangular connector
JD	Rectangular connector with light
JA	Square connector
JC	Square connector with light
BA	Flying leads (18")
CA	Conduit 1/2" NPS

* Other options available, see page 357.

MODIFICATIONS - **N° 0358 -** 3/8" inlet and cylinder ports, exhaust ports 1/4"
MODIFICATIONS - **N° 1080 -** NAMUR interface.
Add mod. N° after valve part n°. - **EXAMPLE :** 811C-PM-111CA-152 Mod. 0358.

OPTIONS

811C-PM-111CA-152
- For 2 position dual pressure : replace by 2.

825C-PM-111CA-852
- For 3 position dual pressure, pressure center : replace by 7.

MAC

Series 800

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

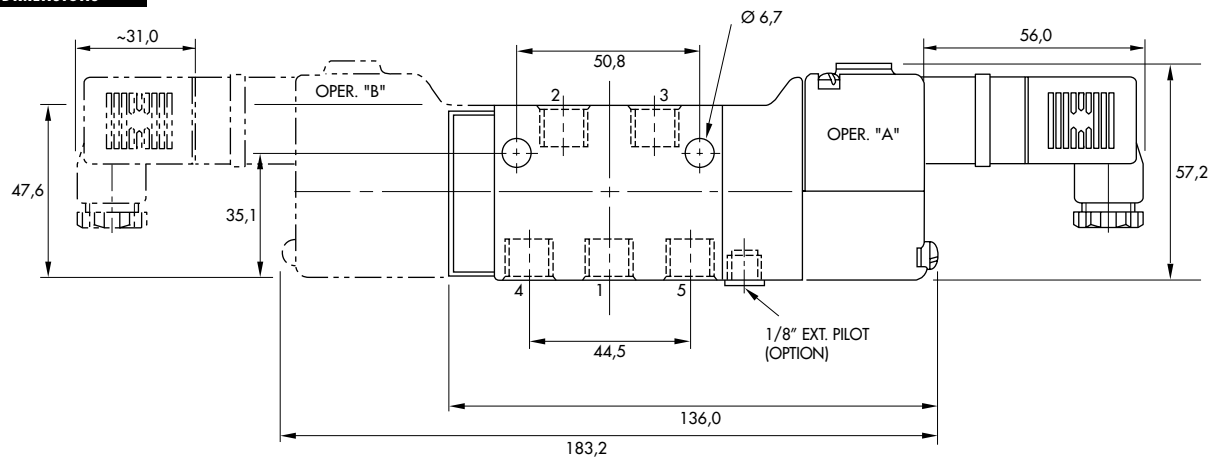
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 20-150 PSI		double operator : 10-150 PSI
	External pilot : vacuum to 200 PSI		
Pilot pressure :	Single operator and 3 positions : 20-150 PSI	Double operator : 10-150 PSI	
Lubrication :	Not 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) :	1/4" : (1.4 C_v)		
Coil :	General purpose - class A wires - 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 : 5-11 ms	De-energize : 9-16 ms

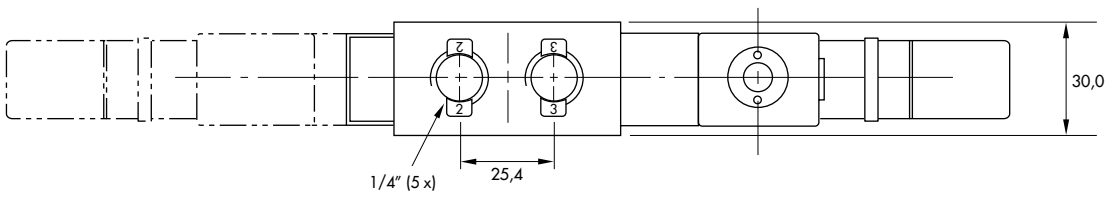
Spare parts : • Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
• Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.

Options : • BSPP threads. • NAMUR interface. • Explosion-proof model. • Flow control/muffler (1/4") : 10951

DIMENSIONS

Dimensions shown are metric (mm)





Consult "Precautions" page 364 before use, installation or service of MAC Valves

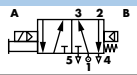
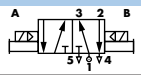
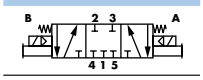
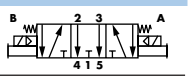
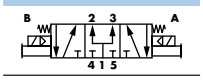
Function	Port size	Flow (Max)	Manifold Mounting	Series
5/2 - 5/3	**1/4"**	**1.4 C_v**	stacking body with 1 common port (inlet)	

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.



HOW TO ORDER

Port size	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
1/4" NPTF	811C-PM-***XXYZZ***-132	821C-PM-***XXYZZ***-132	825C-PM-***XXYZZ***-532	825C-PM-***XXYZZ***-632	825C-PM-***XXYZZ***-832

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
JB	Rectangular connector
JD	Rectangular connector with light
RA	Conduit 3/8" NPS
BA	Flying leads (18")

* Other options available, see page 357.

MANIFOLD END PLATE KITS (NPTF)*		
INT. PILOT - PART N°.	**EXT. PILOT - PART N°.**	**MODELS USED WITH**
M-08001-01-01	M-08001-02-01	3 com. port or 1 com. port models, stacks of 1 thru 16 valves
M-00005-01-01	M-00005-02-01	3 com. port or 1 com. port models, stacks of 17 or more valves

* Add letter **P** at end of part N°. for BSPP threads; **EXAMPLE** : M-08001-01-01**P**
Note : (1) end plate kit required per stack.

OPTIONS

811C-PM-111BA-132 - For 2 position dual pressure : replace by 2.

825C-PM-111BA-832 - For 3 position dual pressure, pressure center : replace by 7.

MAC

Series 800

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 20-150 PSI		double operator : 10-150 PSI
	External pilot : vacuum to 200 PSI		
Pilot pressure :	Single operator and 3 positions : 20-150 PSI	Double operator : 10-150 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) :	1/4" : (1.4 C_V)		
Coil :	General purpose - class A wires - 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 : 5-11 ms	De-energize : 9-16 ms

Spare parts :

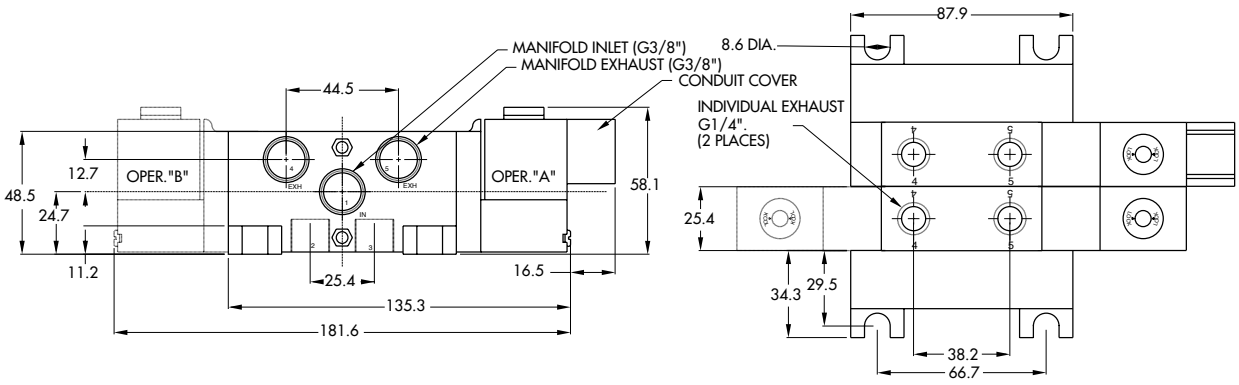
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002

Options :

- BSPP threads. • Dual inlet block: M-08003 • Flow control/muffler (1/4") : 10951

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 364 before use, installation or service of MAC Valves

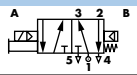
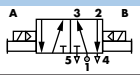
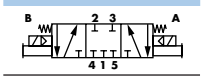
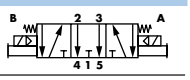
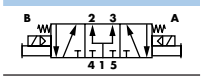
Function	Port size	Flow (Max)	Manifold mounting	Series
5/2 - 5/3	**1/4" - 3/8"**	**1.4 C_v**	stacking body with 3 common ports (inlet & exhausts)	

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.



HOW TO ORDER

Port size	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
1/4" NPTF	811C-PM-***XXYZZ***-122	821C-PM-***XXYZZ***-122	825C-PM-***XXYZZ***-522	825C-PM-***XXYZZ***-622	825C-PM-***XXYZZ***-822
3/8" NPTF	811C-PM-***XXYZZ***-123	821C-PM-***XXYZZ***-123	825C-PM-***XXYZZ***-523	825C-PM-***XXYZZ***-623	825C-PM-***XXYZZ***-823

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
JB	Rectangular connector
JD	Rectangular connector with light
RA	Conduit 3/8" NPS
BA	Flying leads (18")

* Other options available, see page 357.

MANIFOLD END PLATE KITS (NPTF)*		
INT. PILOT - PART N°.	**EXT. PILOT - PART N°.**	**MODELS USED WITH**
M-08001-01-01	M-08001-02-01	3 com. port or 1 com. port models, stacks of 1 thru 16 valves
M-00005-01-01	M-00005-02-01	3 com. port or 1 com. port models, stacks of 17 or more valves

* Add letter **P** at end of part N°. for BSPP threads; **EXAMPLE** : M-08001-01-01**P**
Note : (1) end plate kit required per stack.

OPTIONS

811C-PM-111RA-122 — For 2 position dual pressure : replace by 2.

825C-PM-111RA-822 — For 3 position dual pressure, pressure center: replace by 7.

MAC

Series 800

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 20-150 PSI		double operator : 10-150 PSI
	External pilot : vacuum to 200 PSI		
Pilot pressure :	Single operator and 3 positions : 20-150 PSI	Double operator : 10-150 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) :	1/4" : (1.4 C_V), 3/8" : (1.4 C_V)		
Coil :	General purpose - class A wires - 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 : 5-11 ms	De-energize : 9-16 ms

Spare parts :

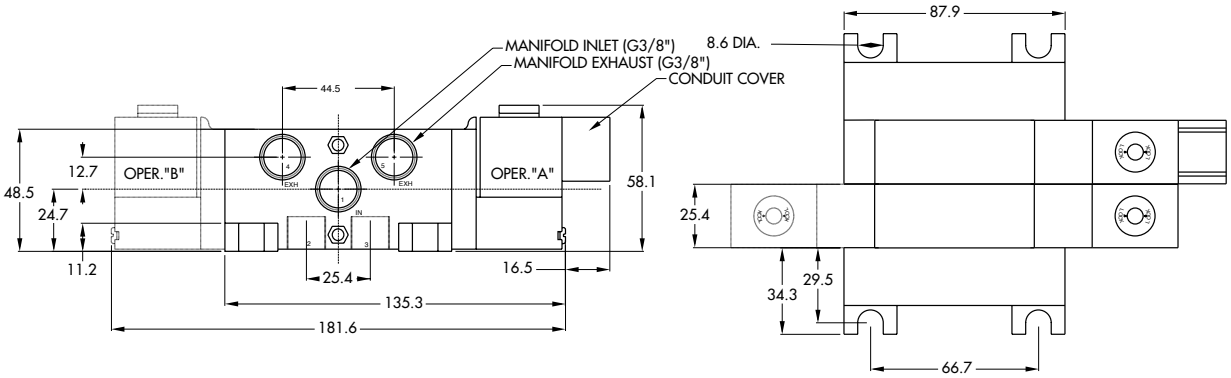
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002.

Options :

- BSPP threads. • Dual inlet block: M-08003.

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 364 before use, installation or service of MAC Valves

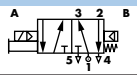
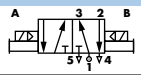
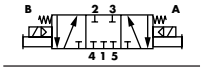
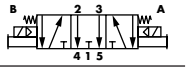
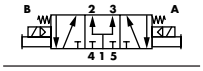
Function	Port size	Flow (Max)	Manifold mounting	Series
5/2 - 5/3	**1/4" - 3/8"**	**1.4 C_v**	stacking body with 3 common ports and integral F.C.	

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.



HOW TO ORDER

Port size	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
1/4" NPTF	811C-PM-*XXYZZ*-192	821C-PM-*XXYZZ*-192	825C-PM-*XXYZZ*-592	825C-PM-*XXYZZ*-692	825C-PM-*XXYZZ*-892
3/8" NPTF	811C-PM-*XXYZZ*-193	821C-PM-*XXYZZ*-193	825C-PM-*XXYZZ*-593	825C-PM-*XXYZZ*-693	825C-PM-*XXYZZ*-893

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
JB	Rectangular connector
JD	Rectangular connector with light
RA	Conduit 3/8" NPS
BA	Flying leads (18")

* Other options available, see page 357.

MANIFOLD END PLATE KITS (NPTF)*		
INT. PILOT - PART N°.	**EXT. PILOT - PART N°.**	**MODELS USED WITH**
M-08001-01-01	M-08001-02-01	3 com. port or 1 com. port models, stacks of 1 thru 16 valves
M-00005-01-01	M-00005-02-01	3 com. port or 1 com. port models, stacks of 17 or more valves

* Add letter **P** at end of part N°. for BSPP threads; **EXAMPLE** : M-08001-01-01**P**
Note : (1) end plate kit required per stack.

OPTIONS

811C-PM-111RA-192 - For 2 position dual pressure : replace by 2.

825C-PM-111RA-892 - For 3 position dual pressure, pressure center: replace by 7.

Consult "Precautions" page 364 before use, installation or service of MAC Valves

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 20-150 PSI		double operator : 10-150 PSI
	External pilot : vacuum to 200 PSI		
Pilot pressure :	Single operator and 3 positions : 20-150 PSI	Double operator : 10-150 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) :	1/4" : (1.4 C_V), 3/8" : (1.4 Cv)		
Coil :	General purpose - class A wires - 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 : 5-11 ms	De-energize : 9-16 ms

Spare parts :

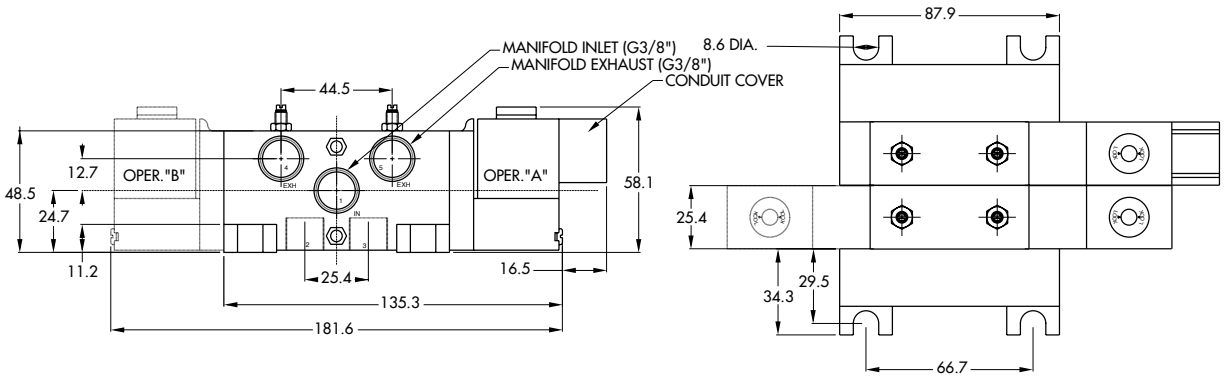
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002.

Options :

- BSPP threads. • Dual inlet block: M-08003.

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 364 before use, installation or service of MAC Valves

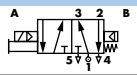
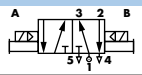
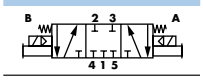
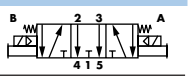
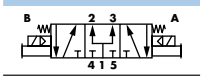
Function	Port size	Flow (Max)	Manifold mounting	Series
5/2 - 5/3	**1/4" - 3/8"**	**1.4 C_v**	stacking body with 3 common ports with common conduit	

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.



HOW TO ORDER

Port size	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
1/4" NPTF	811C-PM-*XXYZZ*-142	821C-PM-*XXYZZ*-142	825C-PM-*XXYZZ*-542	825C-PM-*XXYZZ*-642	825C-PM-*XXYZZ*-842
3/8" NPTF	811C-PM-*XXYZZ*-143	821C-PM-*XXYZZ*-143	825C-PM-*XXYZZ*-543	825C-PM-*XXYZZ*-643	825C-PM-*XXYZZ*-843

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
DA	Common conduit

* Other options available, see page 357.

MODIFICATIONS		
MOD. N°	**DESCRIPTION**	**MODEL AVAILABILITY**
0387	Indicator light 24 VDC	Single & double solenoid
0295	Indicator light 120 V/60/50	
0296	Indicator light 240 V/60/50	

TO ORDER - Add the appropriate modification number after the valve number; **EXAMPLE** : 811C-PM-111DA-142 **MOD 0295**

MANIFOLD END PLATE KITS (NPTF)*		
INT. PILOT - PART N°.	**EXT. PILOT - PART N°.**	**MODELS USED WITH**
M-08002-01-01	M-08002-02-01	Com. conduit models, stacks of 1 thru 16 valves
M-00007-01-01	M-00007-02-01	Com. conduit models, stacks of 17 or more valves

* Add letter **P** at end of part N°. for BSPP threads; **EXAMPLE** : M-08002-01-01**P**
Note : (1) end plate kit required per stack.

OPTIONS

811C-PM-111DA-142
- For 2 position dual pressure : replace by 2.

825C-PM-111DA-842
- For 3 position dual pressure, pressure center : replace by 7.

Consult "Precautions" page 364 before use, installation or service of MAC Valves

MAC

Series 800

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 20-150 PSI		double operator : 10-150 PSI
	External pilot : vacuum to 200 PSI		
Pilot pressure :	Single operator and 3 positions : 20-150 PSI	Double operator : 10-150 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) :	1/4" : (1.4 C_V), 3/8" : (1.4 C_V)		
Coil :	General purpose - class A wires - 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 : 5-11 ms	De-energize : 9-16 ms

Spare parts :

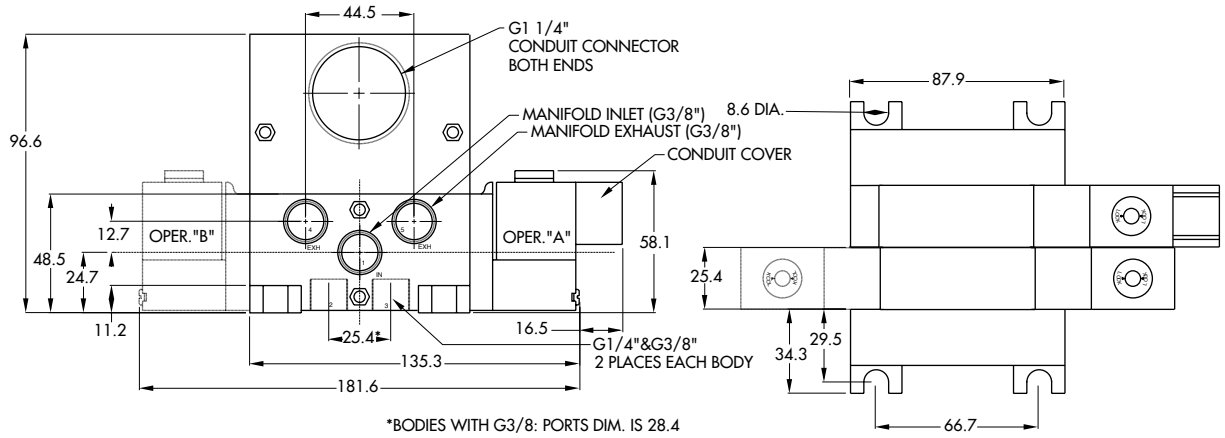
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002.

Options :

- BSPP threads. • Dual inlet block: M-00014.

DIMENSIONS

Dimensions shown are metric (mm)



*BODIES WITH G3/8: PORTS DIM. IS 28.4

Consult "Precautions" page 364 before use, installation or service of MAC Valves

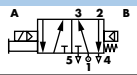
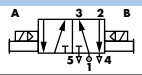
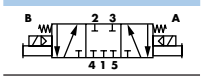
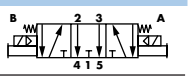
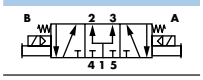
Function	Port size	Flow (Max)	Manifold mounting	Series
5/2 - 5/3	**1/4" - 3/8"**	**1.4 C_v**	stacking body with 3 common ports with C. C. & integral exh. F. C.	

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.



HOW TO ORDER

Port size	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
1/4" NPTF	811C-PM-***XXYZZ***-162	821C-PM-***XXYZZ***-162	825C-PM-***XXYZZ***-562	825C-PM-***XXYZZ***-662	825C-PM-***XXYZZ***-862
3/8" NPTF	811C-PM-***XXYZZ***-163	821C-PM-***XXYZZ***-163	825C-PM-***XXYZZ***-563	825C-PM-***XXYZZ***-663	825C-PM-***XXYZZ***-863

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
DA	Common conduit

* Other options available, see page 357.

MODIFICATIONS		
MOD. N°	**DESCRIPTION**	**MODEL AVAILABILITY**
0387	Indicator light 24 VDC	Single & double solenoid
0295	Indicator light 120 V/60/50	
0296	Indicator light 240 V/60/50	

TO ORDER - Add the appropriate modification number after the valve number; **EXAMPLE** : 811C-PM-111DA-162 **MOD 0295**

MANIFOLD END PLATE KITS (NPTF)*		
INT. PILOT - PART N°.	**EXT. PILOT - PART N°.**	**MODELS USED WITH**
M-08002-01-01	M-08002-02-01	Com. conduit models, stacks of 1 thru 16 valves
M-00007-01-01	M-00007-02-01	Com. conduit models, stacks of 17 or more valves

* Add letter **P** at end of part N°. for BSPP threads; **EXAMPLE** : M-08002-01-01**P**
Note : (1) end plate kit required per stack.

OPTIONS

811C-PM-111DA-162
- For 2 position dual pressure : replace by 2.

825C-PM-111DA-862
- For 3 position dual pressure, pressure center : replace by 7.

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

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 20-150 PSI		double operator : 10-150 PSI
	External pilot : vacuum to 200 PSI		
Pilot pressure :	Single operator and 3 positions : 20-150 PSI	Double operator : 10-150 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) :	1/4" : (1.4 C_V), 3/8" : (1.4 C_V)		
Coil :	General purpose - class A wires - 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 : 5-11 ms	De-energize : 9-16 ms

Spare parts :

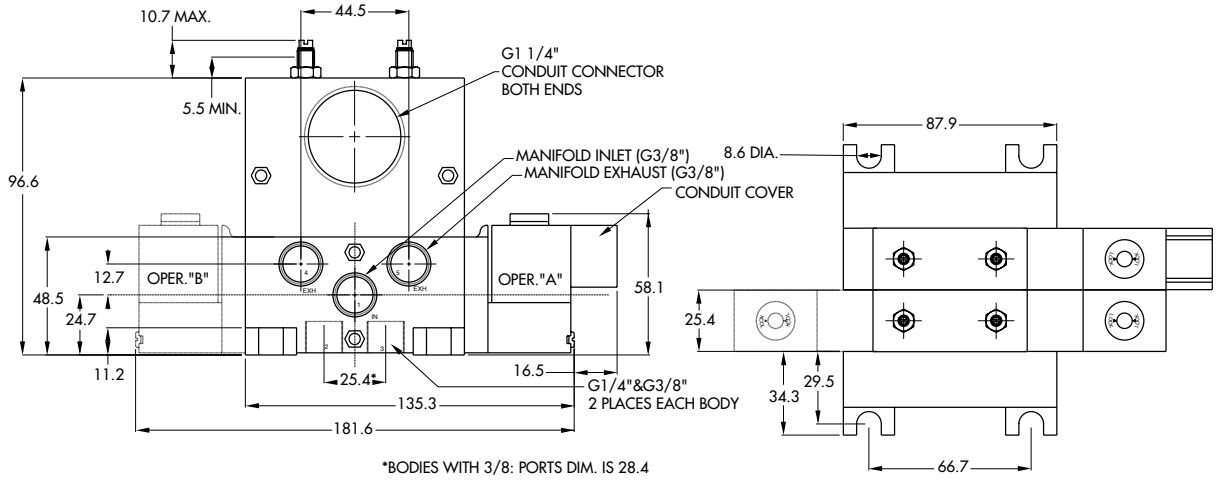
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002.

Options :

- BSPP threads. • Dual inlet block: M-00014.

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 364 before use, installation or service of MAC Valves

HOW TO ORDER

BODY OPTIONS

8XXC - (XX-XXYZZ) - XXX

SERIES

SOLENOID PILOT OPTIONS SEE BELOW

REVISION LEVEL

OPERATOR

1	Single Solenoid
2	Double Solenoid

PILOT AIR

1	Internal Pilot-2 Position
2	External Pilot-2 Position
5	Internal Pilot-3 Position
6	External Pilot-3 Position

PORT SIZE

2	1/4" NPTF
3	3/8" NPTF*
5	1/4" BSPP
6	3/8" BSPP*

*For stacking valves only.
For individual valves see Modification Table.

SPOOL CONFIGURATIONS

1	Single Pressure 2 Position
2	Dual Pressure 2 Position*
5	Single Pressure 3 Position Closed Center
6	Single Pressure 3 Position Open Center
7	Dual Pressure 3 Position Pressure Center
8	Single Pressure 3 Position Pressure Center

*Not available on models with integral flow controls

BODY CONFIGURATIONS

1	Individual Body, External Pilot
2	Stacking Body, 3 Common Ports (Inlet & Exhausts)
3	Stacking Body, 1 Common Port (Inlet)
4	Stacking Body, Common Ports (with Common Electrical Conduit)
5	Individual Body, Internal Pilot
6	Stacking Body, 3 Common Ports (with Common Electrical Conduit and Integral Exhaust Flow Controls)
9	Stacking Body, 3 Common Ports (with Integral Exhaust Flow Controls)

SOLENOID PILOT OPTIONS

EXAMPLE: XX-XX Y ZZ

XX PILOT EXHAUST

FM	Muffled Exhaust
FP	Piped Exhaust

XX DC VOLTAGE

A5	12 VDC (0,6W)
A6	24 VDC (0,6W)

Y MANUAL OPERATORS

0	No Operator
1	Non-Locking Recessed (Std)
2	Locking Recessed
3	Non-Locking Extended
4	Locking Extended

ZZ ENCLOSURE

AA	JIC w/1/2" NPS Conduit
BA	Grommet
CA	Conduit 1/2" NPS
CC	Conduit 1/2" NPT (CSA Threads)
DA	Com. Conduit Stacking only
RA	Conduit 3/8" NPS (Stacking)
JB	Rectangular Plug-In
JM	Rectangular Male only

ISOLATORS- Sections of gang may be isolated permitting different pressures to be fed to either end of the gang. Part # N-08001 (inlet), N-08002 (exhaust).
FLOW CONTROL & MUFFLER- 1/4" unit for installing in individual exhaust ports. Part #10951.
DUAL INLET PRESSURE BLOCK- For 3 common ports or 1 common port stacking valves. Provides 2 additional inlet pressure ports to a stack. Part #M-08003. For Common Conduit Valves. Part #M-00014.

ACCESSORIES

MANIFOLD END PLATE KITS (NPTF)*

INT. PILOT PART NO.	EXT. PILOT PART NO.	MODELS USED WITH
M-08001-01-01	M-08001-02-01	3 com. port or 1 com. port models, stacks of 1 thru 16 valves.
M-08002-01-01	M-08002-02-01	Com. conduit models, stacks of 1 thru 16 valves.
M-00005-01-01	M-00005-02-01	3 com. port or 1 com. port models, stacks of 17 or more valves.
M-00007-01-01	M-00007-02-01	Com. conduit models, stacks of 17 or more valves.

*Add letter P at end of part number for BSPP threads; EXAMPLE: M-08001-01-01P

MODIFICATIONS

MOD. NO.	DESCRIPTION	MODEL AVAILABILITY
0358	3/8" Inlet & Cylinder Ports	Individual Valves

Consult "Precautions" page 364 before use, installation or service of MAC Valves

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

VALVE CODE ➤ $-\underset{1}{XX}\ \underset{2}{Y}\ \underset{3}{ZZ}\ \underset{4}{(-VV)}$

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)

Consult “Precautions” page 364 before use, installation or service of MAC Valves

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″

Consult “Precautions” page 364 before use, installation or service of MAC Valves

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