

DeZURIK VENDOR INSTRUCTIONS

MAC 800 & 1800 SERIES PILOT VALVES

Instruction DP00128

June 2011



PRECAUTIONS AND WARNINGS CONCERNING THE APPLICATION, INSTALLATION AND SERVICE OF MAC VALVES AND OTHER MAC VALVES PRODUCTS

The warnings and precautions below are important to be read and understood before designing into a system any MAC Valves products, and before installing or servicing any MAC Valves product. Improper use, installation or servicing of any MAC Valves product in some systems could create a hazard to personnel or equipment. No distinction in importance should be made between the terms warnings and precautions.

WARNING :

Under no circumstances are MAC Valves products to be used in any application or in any manner where failure of the MAC Valves product to operate as intended could in any way jeopardize the safety of the operator or any other person or property.

- Do not operate outside of pressure range listed on a valve label or outside of the designated temperature range.
- Air supply must be clean and dry. Moisture or contamination can affect proper operation of the valve.
- Before attempting to repair, adjust or clean a MAC Valves product, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to the valve.
- If air line lubrication is used do not use any lubrication other than those recommended in the catalog, parts & operation sheet or by the factory.

APPLICATION PRECAUTIONS :

INDUSTRIAL USE -

- MAC Valve products are intended for general use in industrial pneumatic and/or vacuum systems. They are general purpose industrial products with literally thousands of different applications in industrial systems. These products are not inherently dangerous, but they are only a component of an overall system. The system in which they are used must provide adequate safeguards to prevent injury or damage in the event failure occurs, whether it be failure of switches, regulators, cylinders, valves or any other component.

POWER PRESSES -

MAC Valve products are not designed nor intended to be used to operate and/or control the operation of clutch and/or brake systems on power presses. There are special products on the market for such use.

2-POSITION VALVES -

Some MAC valves are 2-position, 4-way valves. When air is supplied to the inlet port(s) of these valves, there will always be a flow path from the inlet to one of the outlets regardless of which of the two positions the valve is situated. Therefore, if pressurized air retained in the system would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the trapped air.

3- POSITION VALVES-

Some MAC valves are 3-position, 4-way valves. These valves are either double solenoid or double remote air operated.

If either of the two operators is in control, air supplied to the inlet port(s) will pass through the valve to one of the outlets as on 2-position, 4-way valves. However, if neither operator is in control, the valve moves to a center position. Listed below are the various center position functions :

A. CLOSED CENTER-

With this type valve, when in the center position all ports are blocked (inlets and exhausts) meaning the air at both outlet ports is trapped. If trapping the air in both outlet ports would present a hazard in the application or servicing, a separate method in the system must be provided to remove the trapped air or this type valve should not be used.

B. OPEN CENTER-

With this type valve, when in the center position, the inlet port(s) is blocked and the two outlet ports are open to the exhaust port(s) of the valve. If having no air in either outlet port would present a hazard in the application or servicing, this type valve should not be used.

C. PRESSURE CENTER-

With this type valve, when in the center position, the inlet port(s) is connected to both outlet ports of the valve. If having pressurized air to either or both outlet ports would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the retained air or this type valve should not be used.

OPERATING SPECIFICATIONS -

MAC Valves products are to be installed only on applications that meet all operating specifications described in the MAC catalog for the MAC Valves product.

MANUAL OPERATORS-

Most MAC valves can be ordered with manual operators. Manual operators when depressed, are designed to shift the valve to the same position as would the corresponding solenoid or remote air pilot operator if it were activated. Care must be taken to order a type, if any, that will be safe for the physical location of the manual operator in the system. If intentional or accidental operation of a valve by a manual operator could cause personal injury or property damage, a manual operator should not be used.

REMOTE AIR OPERATED VALVES

Pilot valves supplying signal pressure to remote air operated valves should be 3-way valves with adequate supply and exhaust capacity to provide positive pressurizing and exhausting of the pilot supply line. Pilot lines should be open to exhaust when valves are deenergized.

INSTALLATION PRECAUTIONS :

- Do not install any MAC Valves product without first turning off air (bleed system completely) and electricity to the machine.
- MAC Valves products should only be installed by qualified, knowledgeable personnel who understand how the specific valve is to be pneumatically piped and electrically connected (where applicable). Flow paths through the valve are shown in the catalog and on the valve by use of ANSI or ISO type standard graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.
- If air line lubrication is used do not use any lubrication other than those recommended in the catalog, parts & operation sheet or by the factory.

SERVICE PRECAUTIONS :

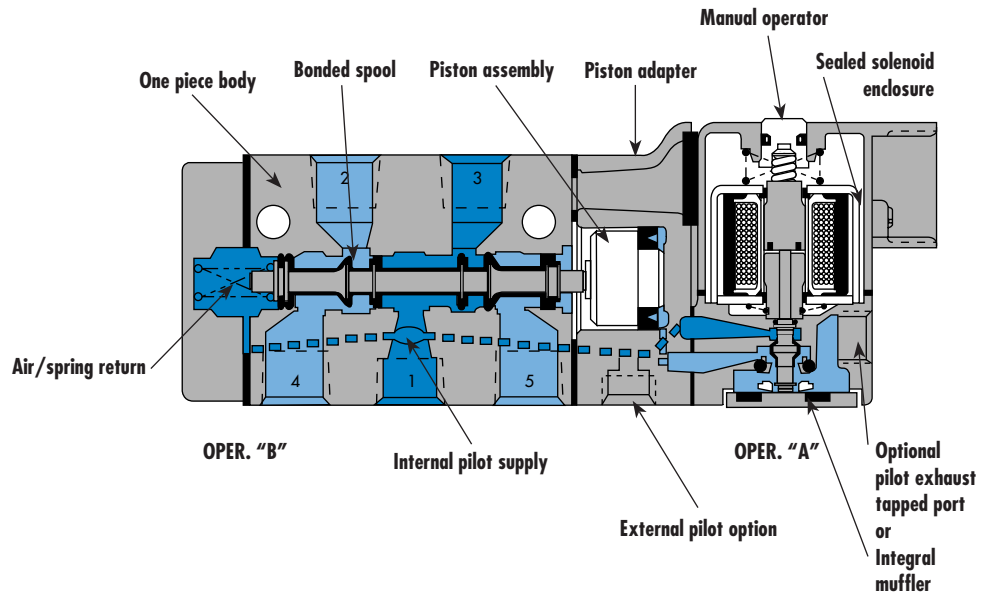
- Do not service or remove from service any MAC Valves product without first shutting off both the air and electricity to the valve and making certain no pressurized air which could present a hazard is retained in the system.
- MAC Valves products should only be serviced or removed from service by qualified, knowledgeable personnel who understand how the specific product is used and/or how the specific valve is piped and used and whether there is air retained in the connecting lines to the valve or electric power still connected to the valve.
- Before attempting to repair, adjust or clean a MAC Valves product, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to the valve.
- MAC Valves products are never to be stepped on while working on a machine. Damage to a MAC valve, or other product or lines to the product (either air or electrical lines) or accidental activation of a manual operator on the valve could result in personal injury or property damage.

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.

Series

35

100

200

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700

900

82

6300

6500

6600

1300

800

ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

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 Kit, 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.

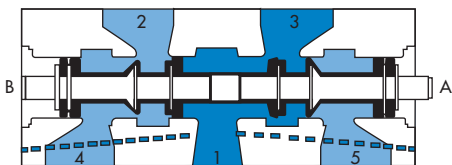
For dual pressure, single exhaust type valves, vacuum should be connected to port #1 (Inlet) and ports #4 & #5 (Exhausts) to atmosphere.

SELECTOR APPLICATIONS :

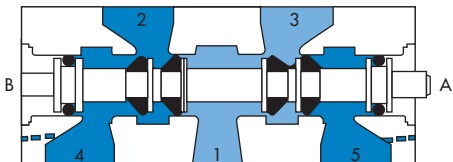
Use an External Pilot model as described above, if both pressures are below the minimum pilot pressure; otherwise use an Internal Pilot model. In either case, use a single pressure model and connect the higher pressure to port #1 (Inlet) and the lower pressure to port #4 (Exhaust) if using cylinder port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

SPOOL CONFIGURATIONS

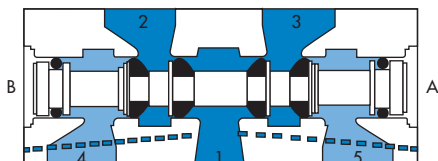
2-POSITION SGL. PRESSURE (SPOOL #12184)
B ACTUATED SHOWN



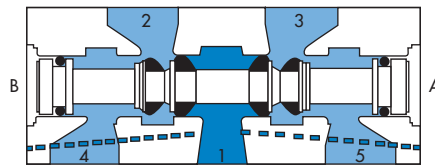
2-POSITION DUAL PRESSURE (SPOOL ASSY.#10266) B ACTUATED SHOWN



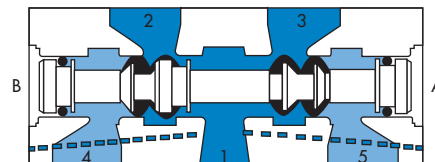
3-POSITION SGL. PRESS. CLOSED CENTER (SPOOL ASSY. #S-00004) CENTER POSITION SHOWN



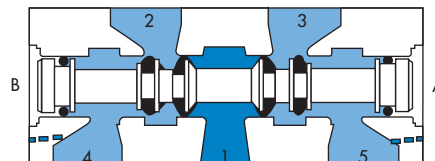
3-POSITION SGL. PRESS. OPEN CENTER (SPOOL ASSY.#S-00003) CENTER POSITION SHOWN



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



| Function | Port size | Flow [Max] | Individual mounting | Series |
|------------------|-------------|--------------------------|---------------------|--------|
| 5/2 - 5/3 | 1/4" | 1.4 C_v | inline | |

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.



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HOW TO ORDER

| Port size | Pilot air | 5/2 | 5/2 | 5/3 | 5/3 | 5/3 |
|-----------|-----------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | | Single operator | Double operator | Closed center | Open center | 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 |

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SOLENOID OPERATOR ▶

XX Y ZZ*

| 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 24/60, 24/50 | | 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 |

700

900

82

* 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.

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ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

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. |

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 :

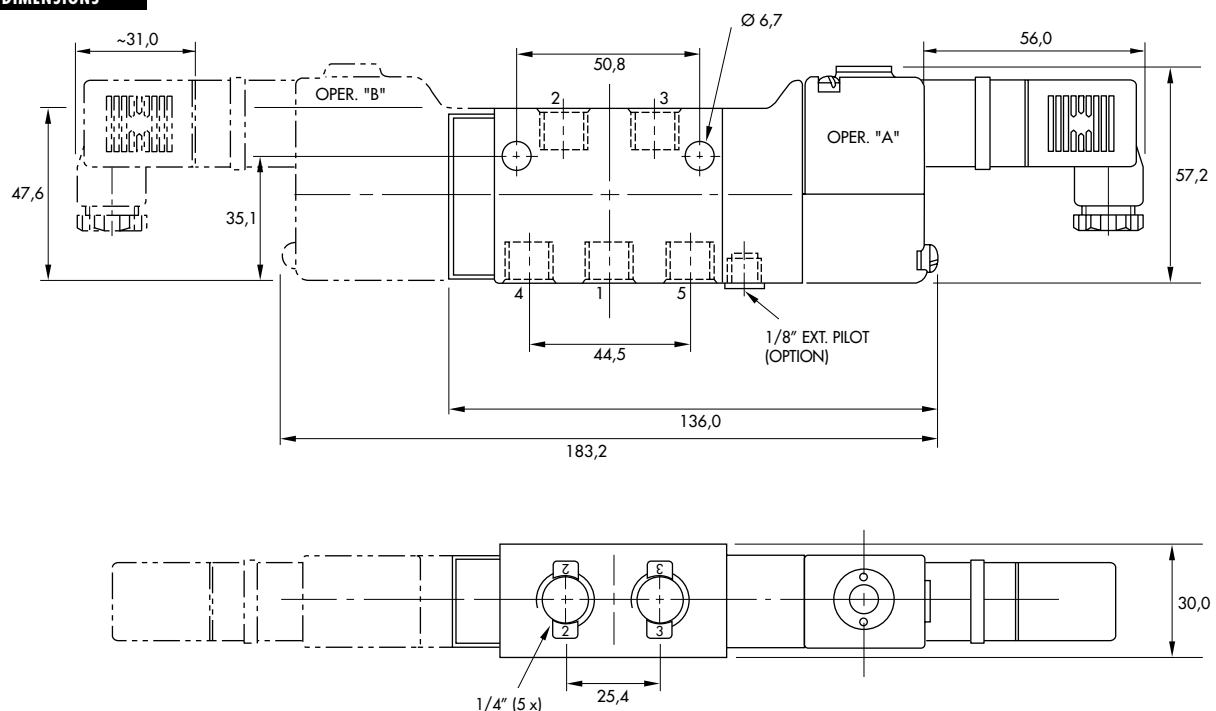
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.

Options :

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

DIMENSIONS

Dimensions shown are metric (mm)



| 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

- 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.



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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- XXYYZ -132 | 821C-PM- XXYYZ -132 | 825C-PM- XXYYZ -532 | 825C-PM- XXYYZ -632 | 825C-PM- XXYYZ -832 |

SOLENOID OPERATOR ▶

XX Y ZZ*

| 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 24/60, 24/50 | | RA Conduit 3/8" NPS |
| 59 24 VDC (2.5 W) | | BA Flying leads (18") |
| 87 24 VDC (17.1 W) | | |
| 61 24 VDC (8.5 W) | | |

* Other options available, see page 357.

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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.

6300
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ISO 1
ISO 2
ISO 3
MAC 125A
MAC 250A
MAC 500A

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 :

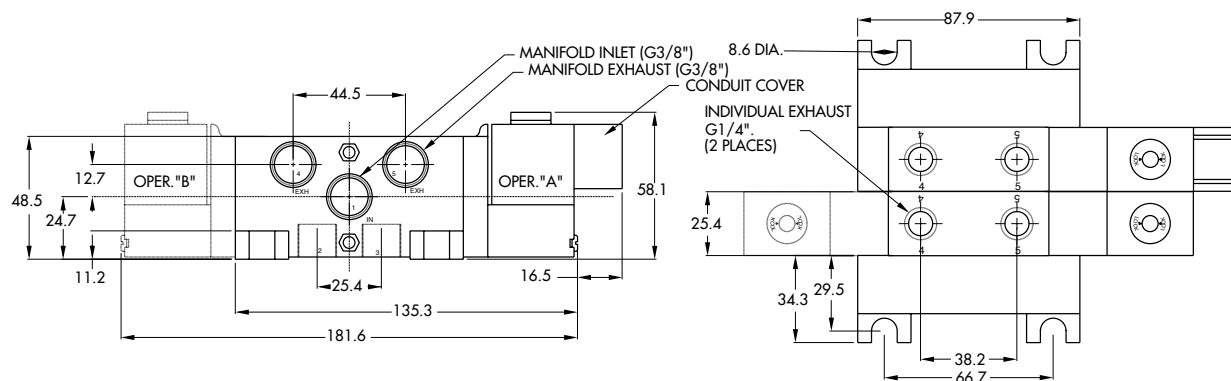
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002

Options :

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

DIMENSIONS

Dimensions shown are metric (mm)



| 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

- 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.



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100
200
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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 |

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SOLENOID OPERATOR ▶

XX Y ZZ*

| 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 24/60, 24/50 | | RA Conduit 3/8" NPS |
| 59 24 VDC (2.5 W) | | BA Flying leads (18") |
| 87 24 VDC (17.1 W) | | |
| 61 24 VDC (8.5 W) | | |

700

* 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 |

6300

6500

* 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.

6600

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.

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

TECHNICAL DATA

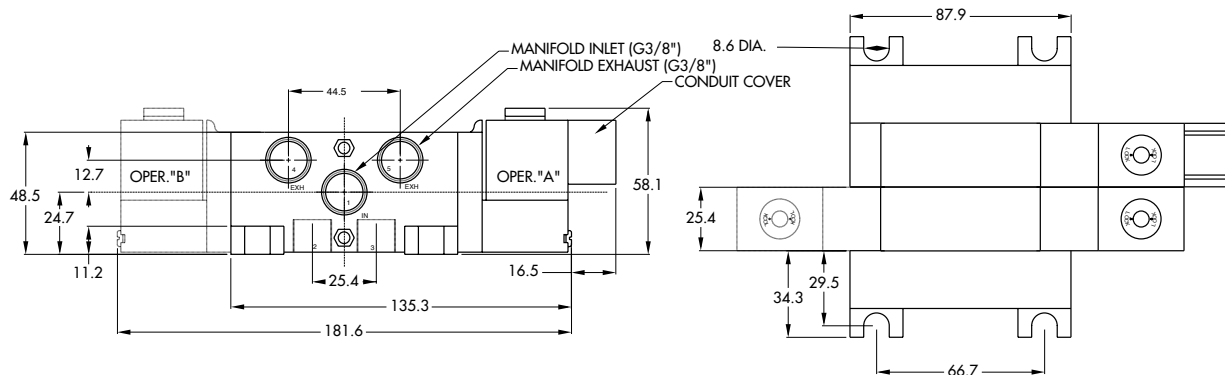
| | | | |
|-----------------------------------|--|------------------------------|-----------------------|
| Fluid : | Compressed air, vacuum, inert gases | | |
| Pressure range : | Internal pilot : single operator and 3 positions : 20-150 PSI | double operator : 10-150 PSI | |
| | External pilot : vacuum 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

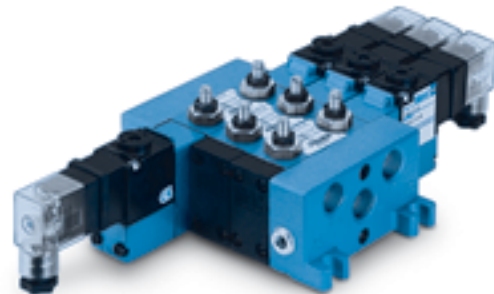
Dimensions shown are metric (mm)



| 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

- 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.



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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 |

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SOLENOID OPERATOR ▶

XX Y ZZ*

| 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 24/60, 24/50 | | RA Conduit 3/8" NPS |
| 59 24 VDC (2.5 W) | | BA Flying leads (18") |
| 87 24 VDC (17.1 W) | | |
| 61 24 VDC (8.5 W) | | |

700

* Other options available, see page 357.

900

82

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 |

6300

6500

6600

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

Note : (1) end plate kit required per stack.

1300

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.

800

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

TECHNICAL DATA

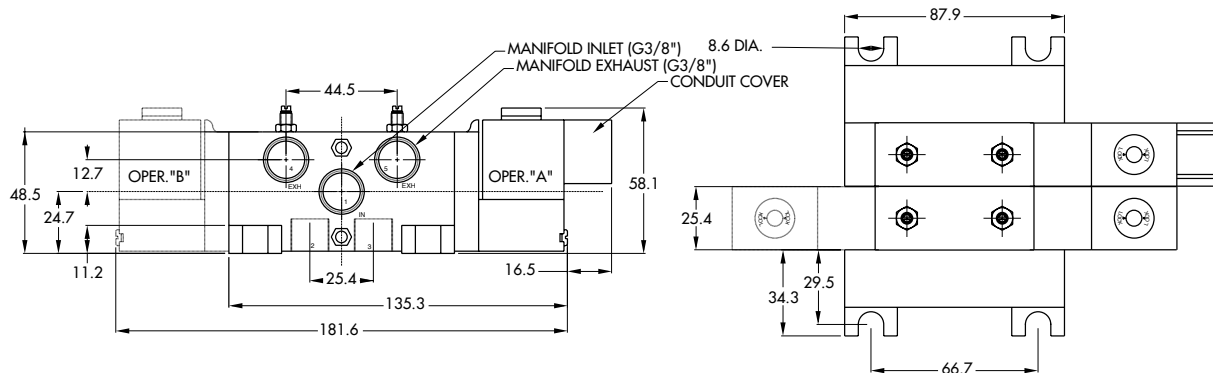
| | | | |
|-----------------------------------|--|------------------------------|-----------------------|
| Fluid : | Compressed air, vacuum, inert gases | | |
| Pressure range : | Internal pilot : single operator and 3 positions : 20-150 PSI | double operator : 10-150 PSI | |
| | External pilot : vacuum 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 Cv), 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-XYZZ, 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)



| 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

- 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.



35
100
200
55
56
57
58
59

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- XXYYZZ -142 | 821C-PM- XXYYZZ -142 | 825C-PM- XXYYZZ -542 | 825C-PM- XXYYZZ -642 | 825C-PM- XXYYZZ -842 |
| 3/8" NPTF | 811C-PM- XXYYZZ -143 | 821C-PM- XXYYZZ -143 | 825C-PM- XXYYZZ -543 | 825C-PM- XXYYZZ -643 | 825C-PM- XXYYZZ -843 |

45

SOLENOID OPERATOR ▶

XX Y ZZ*

| XX Voltage | Y Manual operator | ZZ Electrical connection |
|---------------------------|----------------------|--------------------------|
| 11 120/60, 110/50 | 1 Non-locking | DA Common conduit |
| 12 240/60, 220/50 | 2 Locking | |
| 22 24/60, 24/50 | | |
| 59 24 VDC (2.5 W) | | |
| 87 24 VDC (17.1 W) | | |
| 61 24 VDC (8.5 W) | | |

700
900
82

* Other options available, see page 357.

MODIFICATIONS

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

6300
6500
6600

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 |

1300
800

* 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.

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

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 :

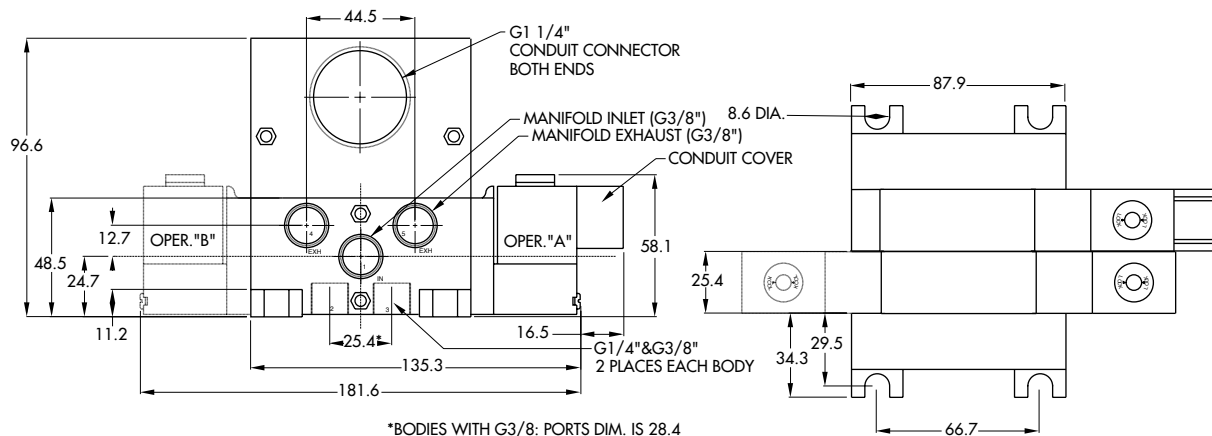
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002.

Options :

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

DIMENSIONS

Dimensions shown are metric (mm)



| 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

- 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.



35
100
200
55
56
57
58
59

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 |

45

SOLENOID OPERATOR ➤

XX Y ZZ*

| XX Voltage | Y Manual operator | ZZ Electrical connection |
|---------------------------|----------------------|--------------------------|
| 11 120/60, 110/50 | 1 Non-locking | DA Common conduit |
| 12 240/60, 220/50 | 2 Locking | |
| 22 24/60, 24/50 | | |
| 59 24 VDC (2.5 W) | | |
| 87 24 VDC (17.1 W) | | |
| 61 24 VDC (8.5 W) | | |

700

* Other options available, see page 357.

900

82

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

6300

6500

6600

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

1300

| 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 |

800

* 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 | 825C-PM-111DA-862 |
| - For 2 position dual pressure : replace by 2. | - For 3 position dual pressure, pressure center : replace by 7. |

ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

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 :

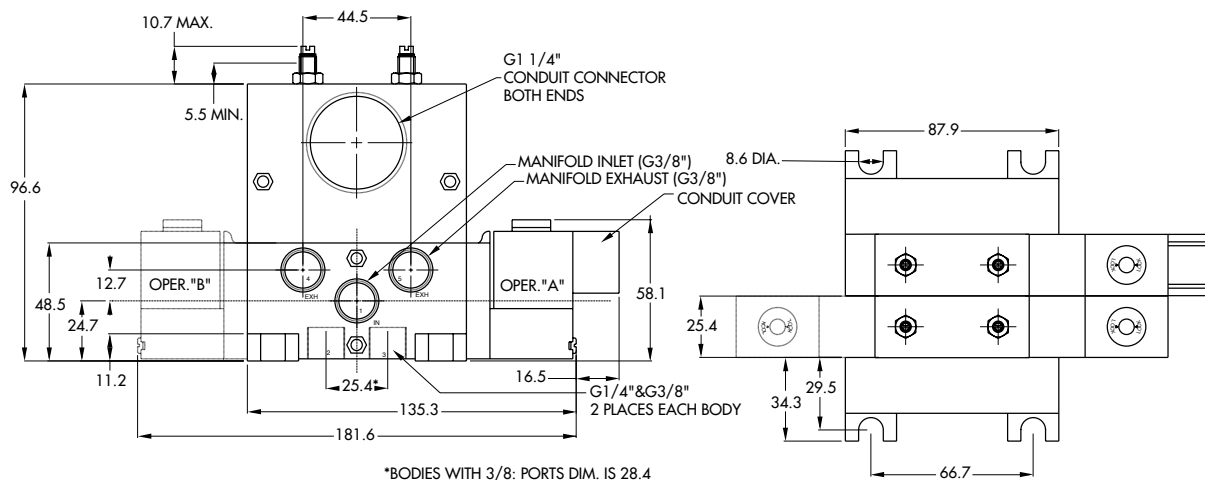
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Mounting screw kit for pilot : N-08003.
- Inlet isolator : N-08001 • Exhaust isolator (x2) : N-08002.

Options :

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

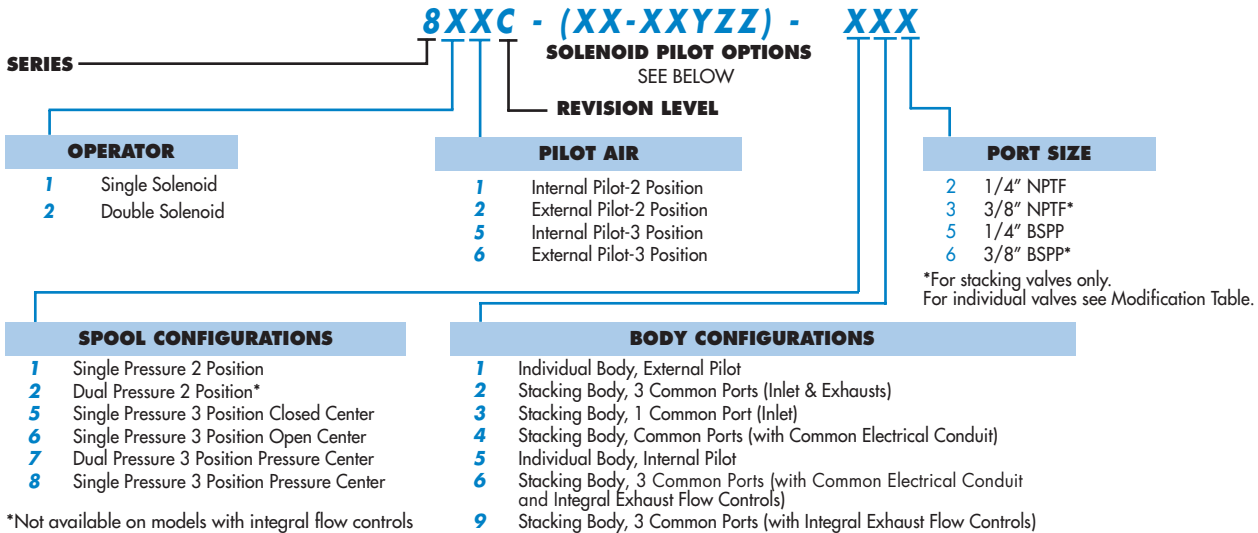
DIMENSIONS

Dimensions shown are metric (mm)

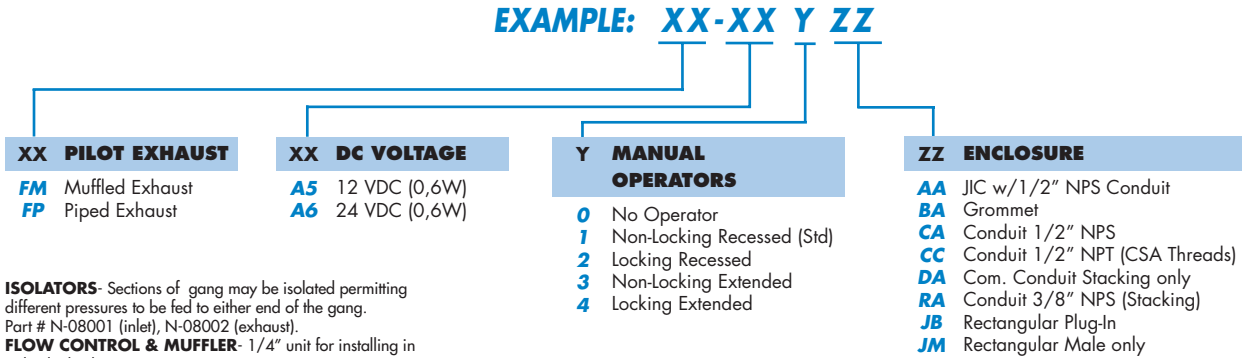


HOW TO ORDER

BODY OPTIONS



SOLENOID PILOT OPTIONS



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 |

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

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)

| - 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" |

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web site: www.dezurik.com E-Mail: info@dezurik.com



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