

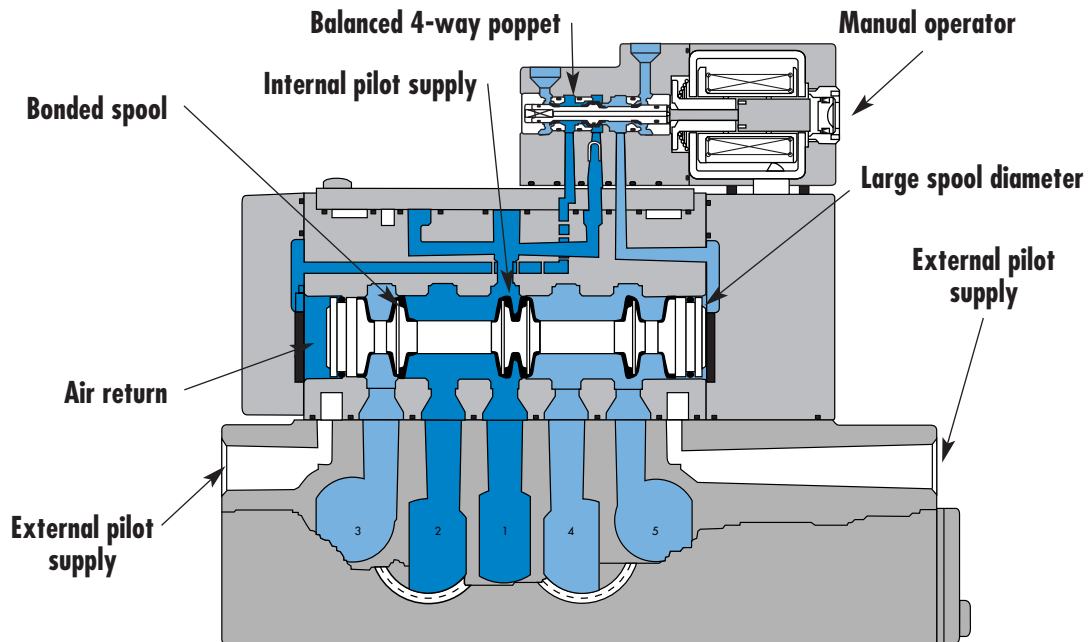
Individual mounting

| | |
|--|--|
| Valve only - No base non "plug-in" Conform to ISO 5599/1 | Valve only - No base "plug-in" Conform to ISO 5599/2 |
|--|--|

Series

Manifold mounting

| | |
|--|--|
| Valve only - No base non "plug-in" Conform to ISO 5599/1 | Valve only - No base "plug-in" Conform to ISO 5599/2 |
|--|--|



SERIES FEATURES

- Plug-in (5599/2) and non plug-in (5599/1) models.
- 2-position, single or double operator. (Solenoid or Remote Air)
- 3-position, double solenoid, open center, closed center, and pressure center.
- Extended or recessed manual operators.
- Single pressure and dual pressure.
- Individual base or add-a-unit manifold base.
- Plug-in, sandwich, single and dual pressure regulators for both individual and manifold valves.

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48P

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400

92

93

ISO 01

ISO 02

ISO 1

ISO 2

ISO 3

| Function | Port size | Flow [Max] | Individual/Manifold mounting | Series |
|-----------------|--------------------|--------------------------|--|--------|
| 5/2, 5/3 | 1/2" - 3/4" | 6.1 C_v | Valve only - No base "non plug-in" Conform to ISO 5599/1 | |

OPERATIONAL BENEFITS

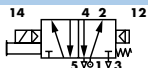
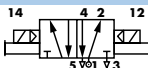
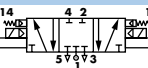

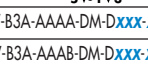
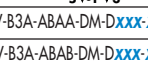
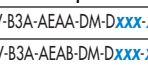
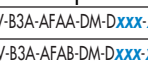
1. Unique patented Macsolenoid® for fastest possible response times and virtually burn-out proof AC solenoid operation.
2. Balanced poppet 4-way pilot valve provides maximum shifting forces, precise repeatability and consistent operation.
3. MAC spool and bore combination wipes away contamination, eliminates sticking and allows for use on non-lube service.
4. Large spool area for maximum shifting forces even at minimum operating pressure.
5. Very high flow in a compact package.
6. Plug-in design of valves, bases and regulators for modular assembly and ease of maintenance.
7. Internal or external pilot operation. Manifolds supplied with common external pilot.
8. Air only return. Optional memory spring is also available.
9. Optional low wattage DC solenoid down to 1.0 watt.



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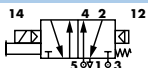
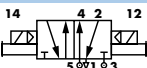
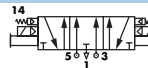
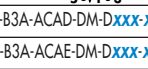
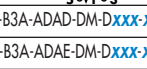
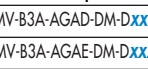

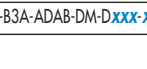
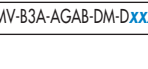
HOW TO ORDER

SINGLE PRESSURE MODELS

| Pilot air | 5/2 Single operator | 5/2 Double operator | 5/3 Closed center | 5/3 Open center |
|-------------------|--|--|---|--|
| Internal |  MV-B3A-AAAA-DM-Dxxx-xxx |  MV-B3A-ABAA-DM-Dxxx-xxx |  MV-B3A-AEAA-DM-Dxxx-xxx |  MV-B3A-AFAA-DM-Dxxx-xxx |
| External "12" end |  MV-B3A-AAAB-DM-Dxxx-xxx |  MV-B3A-ABAB-DM-Dxxx-xxx |  MV-B3A-AEAB-DM-Dxxx-xxx |  MV-B3A-AFAB-DM-Dxxx-xxx |

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42

DUAL PRESSURE MODELS

| Pilot air | 5/2 Single operator | 5/2 Double operator | 5/3 Pressure center |
|------------------------------|--|---|--|
| Internal pilot From port #3 |  MV-B3A-ACAD-DM-Dxxx-xxx |  MV-B3A-ADAD-DM-Dxxx-xxx |  MV-B3A-AGAD-DM-Dxxx-xxx |
| Internal pilot From port #5 |  MV-B3A-ACAE-DM-Dxxx-xxx |  MV-B3A-ADAE-DM-Dxxx-xxx |  MV-B3A-AGAE-DM-Dxxx-xxx |
| External pilot From "12" end |  MV-B3A-ACAB-DM-Dxxx-xxx |  MV-B3A-ADAB-DM-Dxxx-xxx |  MV-B3A-AGAB-DM-Dxxx-xxx |

47
48P
48
400

SOLENOID OPERATOR ➤

DM-D **xxx-xxx***

| XX Voltage | X Lead wire length | X Manual operator | XX Electrical connection |
|--------------------------|-----------------------------|-------------------------------|--|
| JA 110/50, 120/60 | A 18" (Flying leads) | 1 Non-locking recessed | KA Square connector |
| JB 220/50, 240/60 | B 24" (Flying leads) | 2 Locking recessed | KD Square connector with light |
| JC 24/50, 24/60 | J Connector | | JB Rectangular connector |
| FB 24 VDC (1.8W) | | | JD Rectangular connector with light |
| DA 24 VDC (5.4W) | | | BA Flying leads |
| DF 24 VDC (12.7W) | | | |

* Other options available, see page 309.
Note: ISO series, valve and base are ordered separately, see page 239 for base code.

OPTIONS

Valve function :

MV-B3A-**AXXX**-XX-Dxxx-xxx

- J** for single operator universal spool (ext. pilot only)
- K** for double operator universal spool (ext. pilot only)

Pilot style :

MV-B3A-AXXX-**DM**-Dxxx-xxx

- DM** Pilot exhaust muffled
- DP** Pilot exhaust piped (#10-32)

Spool return :

MV-B3A-AX**AX**-XX-Dxxx-xxx

- A** Standard return
- B** Memory spring return

93

ISO 01
ISO 02
ISO 1
ISO 2
ISO 3

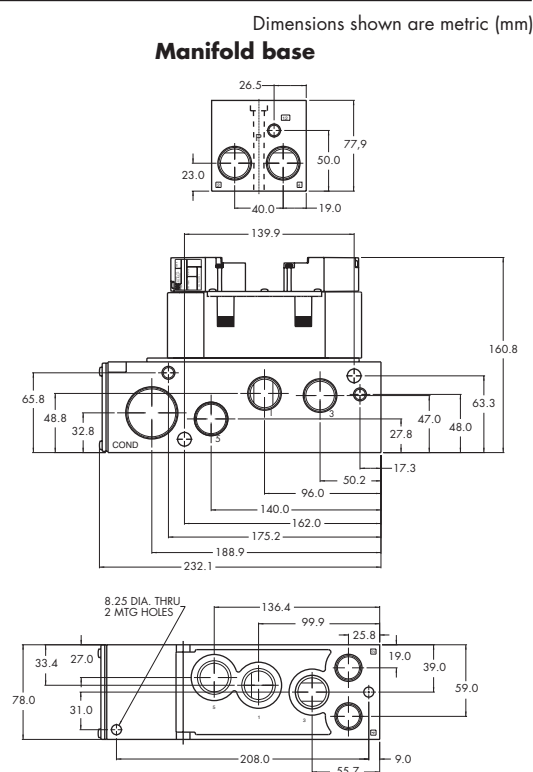
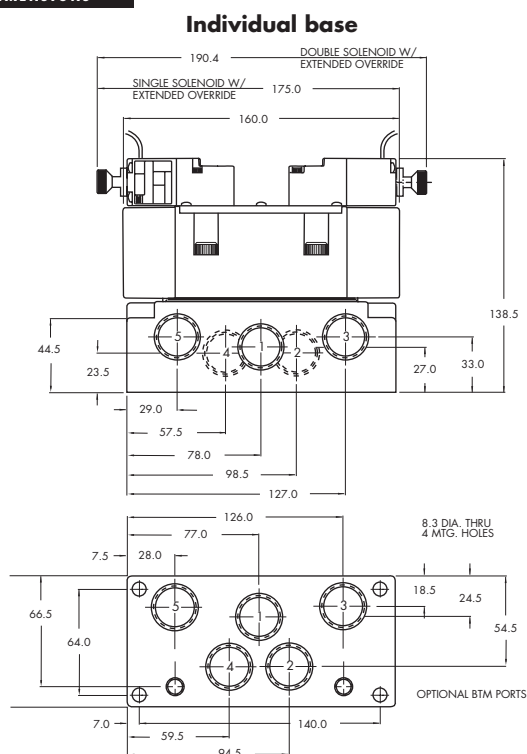
TECHNICAL DATA

| | |
|---|---|
| Fluid : | Compressed air, vacuum, inert gases |
| Pressure range : | Internal pilot: 20 to 120 PSI External pilot : vacuum to 120 PSI |
| Pilot pressure : | Single/double operator : 20 to 120 PSI, 3 positions : 30 to 120 PSI |
| Lubrication : | Not required, if used select a medium aniline point lubricant (between 180°F and 210°F) |
| Filtration : | 40 µ |
| Temperature range : | 0°F to 120°F (-18°C to +50°C) |
| Flow : | 1/2": (5.4 C _v) – 3/4": (6.1 C _v) |
| Coil : | Class A continuous duty, #22 AWG leads |
| Voltage range : | -15% to +10% of nominal voltage |
| Protection : | Consult factory |
| Power : | ~ Inrush 7.6 VA Holding: 4.8 VA = 12.7 to 1.0 W |
| Response times : (5.4 W coil) | Energize : 16.2 ms De-energize : 13.6 ms |

Options : • Sandwich regulator, see „Regulators’ section

Spare parts : • Pilot valve: DMB-Dxxx-xxx • Valve to base pressure seal: 16614
• Valve mounting screws (x4): 35451

DIMENSIONS



| Function | Port size | Flow [Max] | Individual/Manifold mounting | Series |
|-----------------|--------------------|--------------------------|--|--------|
| 5/2, 5/3 | 1/2" - 3/4" | 6.1 C_v | Valve only - No base "plug-in" Conform to ISO 5599/2 | |

OPERATIONAL BENEFITS

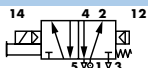
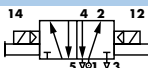
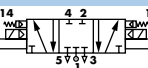

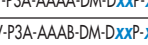
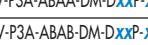
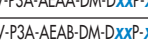
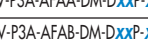
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8. Air only return. Optional memory spring is also available.
9. Optional low wattage DC solenoid down to 1.0 watt.



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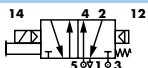
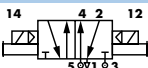
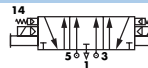
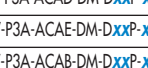
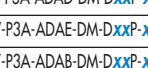
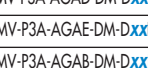



HOW TO ORDER

SINGLE PRESSURE MODELS

| Pilot air | 5/2 Single operator | 5/2 Double operator | 5/3 Closed center | 5/3 Open center |
|-------------------|--|--|---|--|
| Internal |  MV-P3A-AAAA-DM-DxxP-xxx |  MV-P3A-ABAA-DM-DxxP-xxx |  MV-P3A-AEAA-DM-DxxP-xxx |  MV-P3A-AFAA-DM-DxxP-xxx |
| External "12" end |  MV-P3A-AAAB-DM-DxxP-xxx |  MV-P3A-ABAB-DM-DxxP-xxx |  MV-P3A-AEAB-DM-DxxP-xxx |  MV-P3A-AFAB-DM-DxxP-xxx |

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42

DUAL PRESSURE MODELS

| Pilot air | 5/2 Single operator | 5/2 Double operator | 5/3 Pressure center |
|------------------------------|--|---|--|
| Internal pilot From port #3 |  MV-P3A-ACAD-DM-DxxP-xxx |  MV-P3A-ADAD-DM-DxxP-xxx |  MV-P3A-AGAD-DM-DxxP-xxx |
| Internal pilot From port #5 |  MV-P3A-ACAE-DM-DxxP-xxx |  MV-P3A-ADAE-DM-DxxP-xxx |  MV-P3A-AGAE-DM-DxxP-xxx |
| External pilot From "12" end |  MV-P3A-ACAB-DM-DxxP-xxx |  MV-P3A-ADAB-DM-DxxP-xxx |  MV-P3A-AGAB-DM-DxxP-xxx |

47
48P
48
400
92

SOLENOID OPERATOR ►

DM-D **XX** P-**XXX***

| XX Voltage | X Manual operator | XX Electrical connection |
|---------------------------------|-------------------------------|-------------------------------|
| JA 110/50, 120/60 (2.9W) | 1 Non-locking recessed | DM Plug-in |
| JB 220/50, 240/60 (2.9W) | 2 Locking recessed | DN Plug-in with diode |
| JC 24/50, 24/60 (2.9W) | | DP Plug-in with M.O.V. |
| FB 24 VDC (1.8W) | | DG Plug-in with ground |
| DA 24 VDC (5.4W) | | |
| DF 24 VDC (12.7W) | | |

* Other options available, see page 309.

Note: - ISO series, valve and base are ordered separately, see page 241 for base codes.
- Ground wire required for 30 volts or higher.

OPTIONS

Valve function :

MV-P3A-**AXXX**-XX-DxxP-xxx

- J** for single operator universal spool (ext. pilot only)
K for double operator universal spool (ext. pilot only)

Pilot style :

MV-P3A-AXXX-**DM**-DxxP-xxx

- DM** Pilot exhaust muffled
DP Pilot exhaust piped (#10-32)

Spool return :

MV-P3A-AX**AX**-XX-DxxP-xxx

- A** Standard return
B Memory spring return
D Standard return with light
E Memory spring return with light

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ISO 01
ISO 02
ISO 1
ISO 2
ISO 3

TECHNICAL DATA

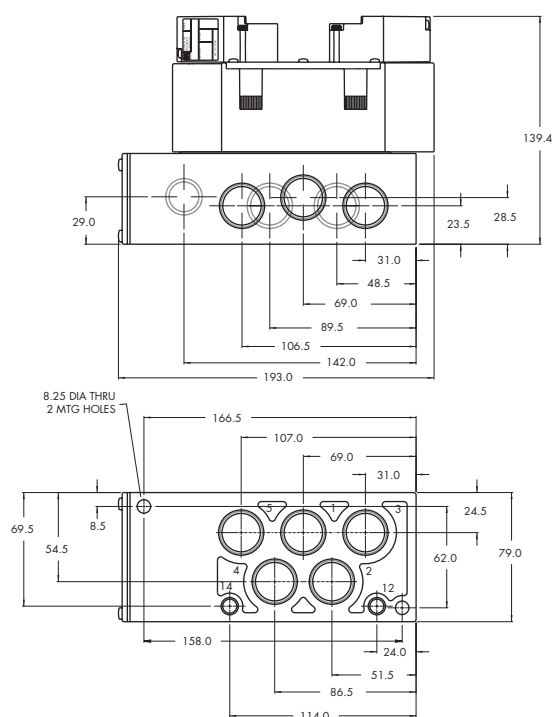
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|----------------------------------|---|
| Fluid : | Compressed air, vacuum, inert gases |
| Pressure range : | Internal pilot: 20 to 120 PSI External pilot : vacuum to 120 PSI |
| Pilot pressure : | Single/double operator : 20 to 120 PSI, 3 positions : 30 to 120 PSI |
| Lubrication : | Not required, if used select a medium aniline point lubricant (between 180°F and 210°F) |
| Filtration : | 40 µ |
| Temperature range : | 0°F to 120°F (-18°C to +50°C) |
| Flow : | 1/2": (5.4 C _v) – 3/4": (6.1 C _v) |
| Coil : | Class A continuous duty, #22 AWG leads |
| Voltage range : | -15% to +10% of nominal voltage |
| Protection : | Consult factory |
| Power : | ~ Inrush 7.6 VA Holding: 4.8 VA = 12.7 to 1.0 W |
| Response times : (5.4 W coil) | Energize : 16.2 ms De-energize : 13.6 ms |

Options : • Sandwich regulator, see „Regulators’ section

Spare parts : • Pilot valve: DMB-DxxP-xxx • Valve to base pressure seal: 16614
• Valve mounting screws (x4): 35451

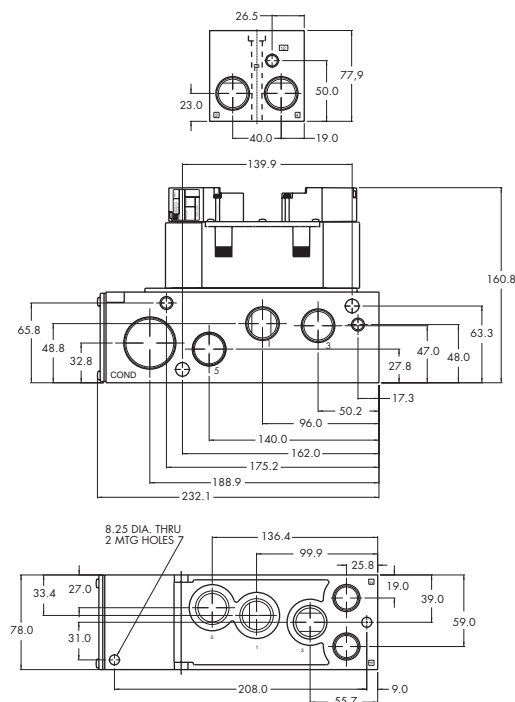
DIMENSIONS

Individual base



Dimensions shown are metric (mm)

Manifold base



| Function | Port size | Flow [Max] | Individual/Manifold mounting | Series |
|------------------|--------------------|--------------------------|------------------------------|--------|
| 5/2 - 5/3 | 1/2" - 3/4" | 6.2 C_v | Valve only - no base | |

OPERATIONAL BENEFITS

1. Balanced spool, immune to variations of pressure.
2. Powerful return forces thanks to the combination of mechanical and air springs.
3. Bonded spool with minimum friction, shifting in a glass-like finished bore.
4. Wiping effect eliminates sticking.
5. Long service life.



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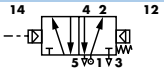
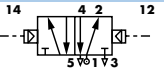
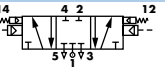
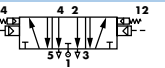
69

ISO 2

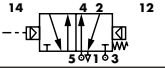
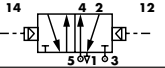
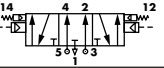
ISO 3

HOW TO ORDER

SINGLE PRESSURE MODELS

| Air spring | 5/2 Single operator | 5/2 Double operator | 5/3 Closed center | 5/3 Open center |
|------------|---|---|--|---|
| |  |  |  |  |
| Internal | MV-R3A-BACF | MV-R3A-BBAK | MV-R3A-BEAK | MV-R3A-BFAK |
| External | MV-R3A-BACG | | | |

DUAL PRESSURE MODELS

| Air spring | 5/2 Single operator | 5/2 Double operator | 5/3 Pressure center |
|------------------|---|---|---|
| |  |  |  |
| Internal port #3 | MV-R3A-BCCH | | |
| Internal port #5 | MV-R3A-BCCJ | MV-R3A-BDAK | MV-R3A-BGAK |
| External | MV-R3A-BCCG | | |

Note: ISO series, valve and base are ordered separately, see page 239 for base code.

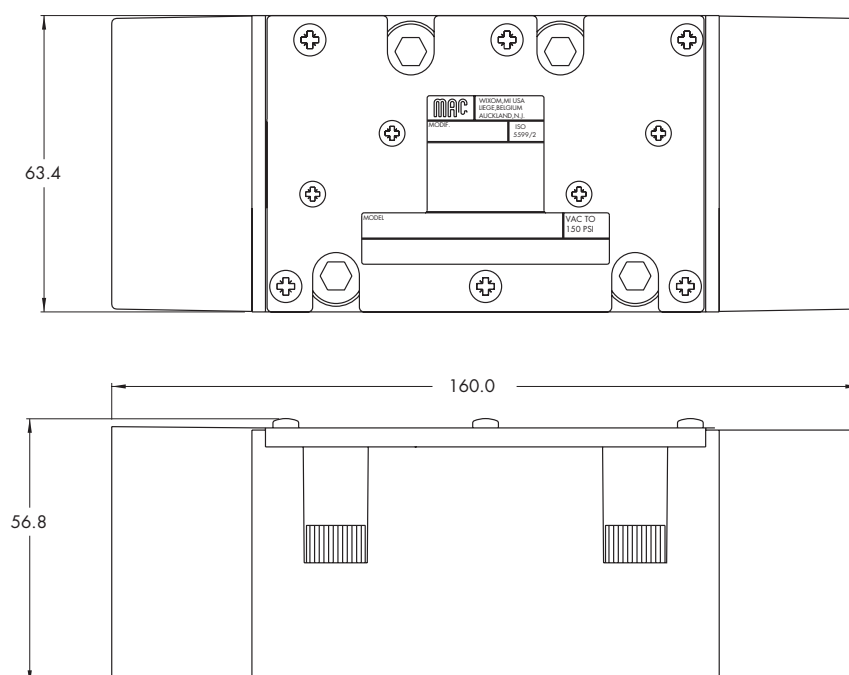
TECHNICAL DATA

| | |
|-----------------------|---|
| Fluid : | Compressed air, vacuum, inert gases |
| Pressure range : | Vacuum to 150 PSI |
| Air signal pressure : | Single/double operator: 20 to 150 PSI 3 position: 30 to 150 PSI |
| Lubrication : | Not required, if used select a medium aniline point lubricant (between 180°F and 210°F) |
| Filtration : | 40 µ |
| Temperature range : | 0°F to 120°F (-18°C to 50°C) |
| Flow : | 1/2" : (5.4 C _v) - 3/4" : (6.2 C _v) |

Spare parts : • Valve to base pressure seal: 16614 • Valve mounting screws (x4): 35451

DIMENSIONS

Dimensions shown are metric (mm)



Non plug-in base / manifold

ISO 01

ISO 02

ISO 1

ISO 2

ISO 3



HOW TO ORDER

INDIVIDUAL BASE

| Port size | Side ports | Bottom ports | Bottom cylinder ports 2 and 4. | Bottom inlet port 1 |
|-----------|------------|--------------|--------------------------------|---------------------|
| 1/2" NPTF | MB-A3B-221 | MB-A3B-223 | MB-A3B-222 | MB-A3B-224 |
| 3/4" NPTF | MB-A3B-231 | MB-A3B-233 | MB-A3B-232 | MB-A3B-234 |

MANIFOLD BASE

| Port size | Side ports | Bottom ports | Bottom cylinder ports 2 and 4. | Bottom inlet port 1 |
|-----------|--------------|--------------|--------------------------------|---------------------|
| 1/2" NPTF | MM-B3A-221-A | MM-B3A-223-A | MM-B3A-222-A | MM-B3A-224-A |
| 3/4" NPTF | MM-B3A-231-A | MM-B3A-233-A | MM-B3A-232-A | MM-B3A-234-A |

Manifold fastening kit: N-P3003-01.

Valve blanking plate: M-P3001.

Inlet/exhaust isolator plug: 32845.

Individual Base Options:

MB-A3B-XXXF

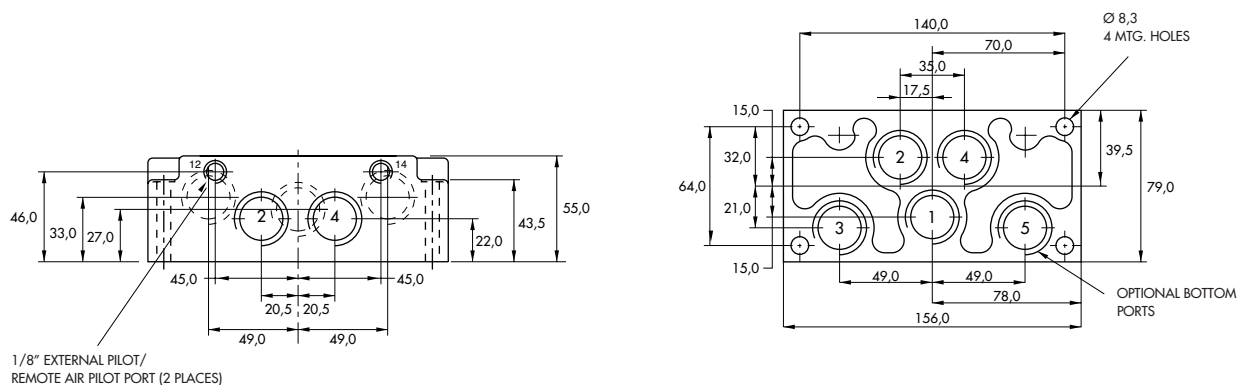
Optional Integral Flow Controls

DIMENSIONS

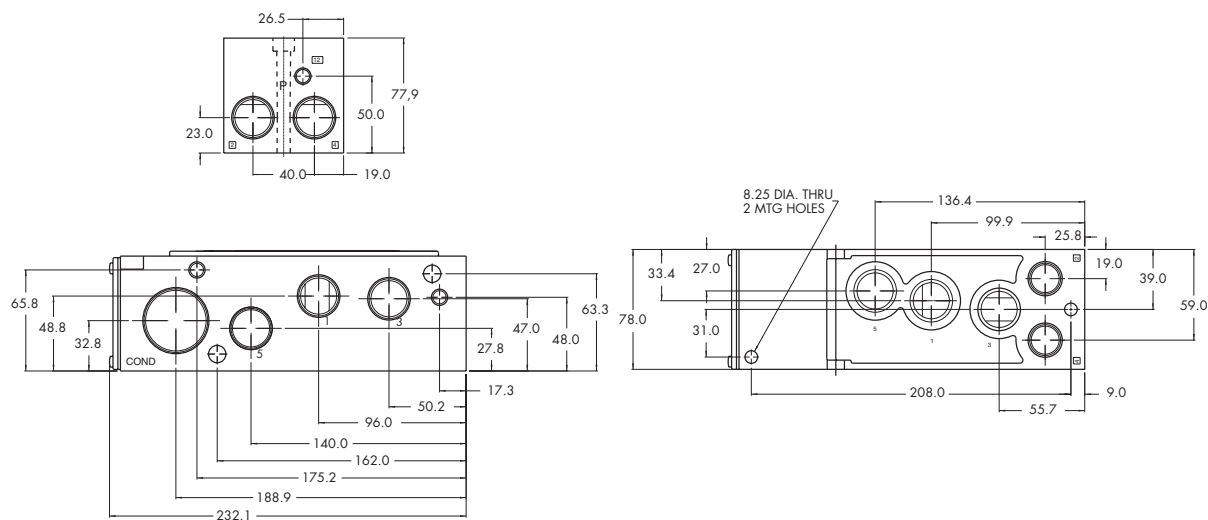
Dimensions shown are metric (mm)

Individual

ISO DIN 5599/1



Manifold



Plug-in manifold



ISO 01

ISO 02

ISO 1

ISO 2

ISO 3

HOW TO ORDER

MANIFOLD BASE

| Port size | Wired for | Side ports | Side ports w/ bottom 2 & 4 ports | All side & bottom ports (see note) |
|------------------|-----------------|--------------|----------------------------------|------------------------------------|
| 1/2" NPTF | Single solenoid | MM-P3A-221-A | MM-P3A-222-A | MM-P3A-223-A |
| | Double solenoid | MM-P3A-221-B | MM-P3A-222-B | MM-P3A-223-B |
| 3/4" NPTF | Single solenoid | MM-P3A-231-A | MM-P3A-232-A | MM-P3A-233-A |
| | Double solenoid | MM-P3A-231-B | MM-P3A-232-B | MM-P3A-233-B |

Note : Ports 1, 3 & 5 are always 3/4"

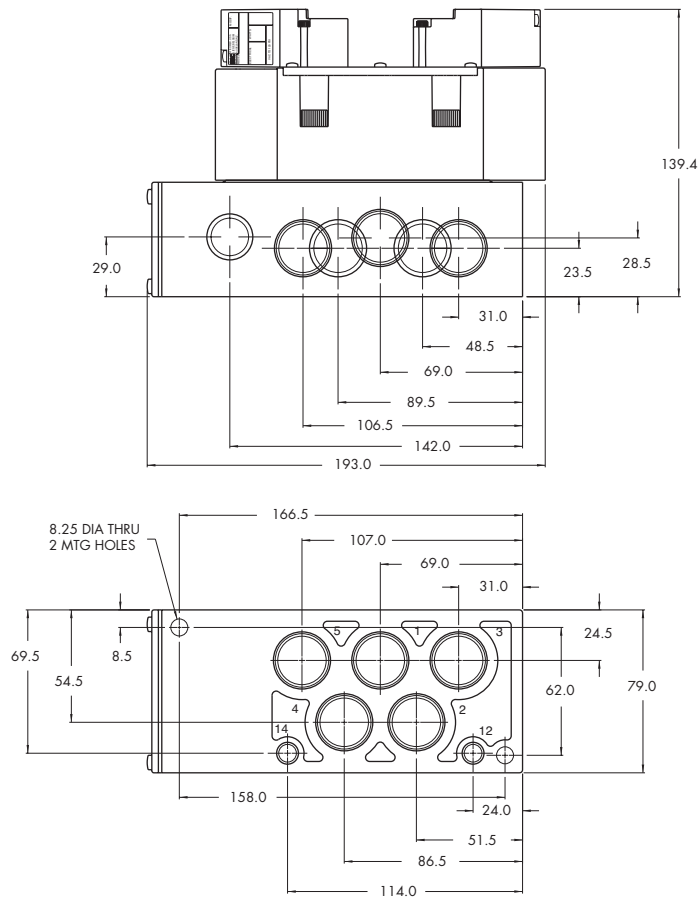
OPTIONS

| | | | |
|--------------------|----------------|------------------------|--|
| Manifold options : | External pilot | MM-P3A- 22x-x | 25 for 1/2" port – common external pilot 26 for 3/4" port – common external pilot |
| | Terminal strip | MM-P3A- xxx-A | J wired for sgl solenoid K wired for double solenoid |
| | light(s) | MM-P3A- xxx-xJA | JA 110/120 volt JB 220/240 volt DA 24 volt |

| | | |
|--------------|------------|------------------------------|
| Accessories: | M-P3001 | Valve blanking plate. |
| | N-P3003-01 | Manifold fastening kit. |
| | 32845 | Inlet/exhaust isolator plug. |

DIMENSIONS

Dimensions shown are metric (mm)



Non plug-in sandwich pressure regulator with manual adjust knob

OPERATIONAL BENEFITS

1. Easy mounting : saves on installation costs in comparison with inline regulators.
2. Allows to have compact, all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.



PR37A
PR42B
PR46A
PR47A
PR48B

PR92C

PR93A

PRA01A

PRA02A

PRA1A

PRP1A

PRA2D

PRP2B

PRA3C

PRP3B

HOW TO ORDER

INTERNAL PILOT

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|--|--|--|--|--|--|
| No gage | PRA3C-1AAA | PRA3C-1EAA | PRA3C-1BAA | PRA3C-1FAA | PRA3C-1JAA |
| Non-filled gage on regulator(s) | PRA3C-1ADA | PRA3C-1EDA | PRA3C-1BDA | PRA3C-1FDA | PRA3C-1JEA |
| Non-filled gage opposite to regulator | PRA3C-1CDA | PRA3C-1GDA | PRA3C-1DDA | PRA3C-1HDA | ---- |
| Glycerine filled gage on regulator(s) | PRA3C-1ABA | PRA3C-1EBA | PRA3C-1BBA | PRA3C-1FBA | PRA3C-1JCA |
| Glycerine filled gage opposite to regulator | PRA3C-1CBA | PRA3C-1GBA | PRA3C-1DBA | PRA3C-1HBA | ---- |

EXTERNAL PILOT AND REMOTE AIR

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|--|--|--|--|--|--|
| No gage | PRA3C-2AAA | PRA3C-2EAA | PRA3C-2BAA | PRA3C-2FAA | PRA3C-2JAA |
| Non-filled gage on regulator(s) | PRA3C-2ADA | PRA3C-2EDA | PRA3C-2BDA | PRA3C-2FDA | PRA3C-2JEA |
| Non-filled gage opposite to regulator | PRA3C-2CDA | PRA3C-2GDA | PRA3C-2DDA | PRA3C-2HDA | ---- |
| Glycerine filled gage on regulator(s) | PRA3C-2ABA | PRA3C-2EBA | PRA3C-2BBA | PRA3C-2FBA | PRA3C-2JCA |
| Glycerine filled gage opposite to regulator | PRA3C-2CBA | PRA3C-2GBA | PRA3C-2DBA | PRA3C-2HBA | ---- |

* - To be used with dual pressure valves.

Note : regulating range for above models is 0-150 PSI.
For other ranges see technical data page.

Main valve body assembly must be external pilot model. Pilots are supplied internally from primary pressure in regulator block. Cannot field convert regulator block from Single Pressure to dual pressure. Body/Block to base mounting screw #35418.

ADJUSTMENT OPTIONS

PRA3C-xxxx

- A** for slotted stem adjustment (internal pilot)
- B** for slotted stem adjustment (external pilot)
- D** for slotted stem with locknut (internal pilot)
- E** for slotted stem with locknut (external pilot)

TECHNICAL DATA

| | |
|----------------------------|--|
| Fluid : | Compressed air, inert gases |
| Pressure range : | 0 to 150 PSI |
| Regulating range : | 0 to 150 PSI (other ranges see below) |
| 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 : | 5.4 C _v |

Spare parts :

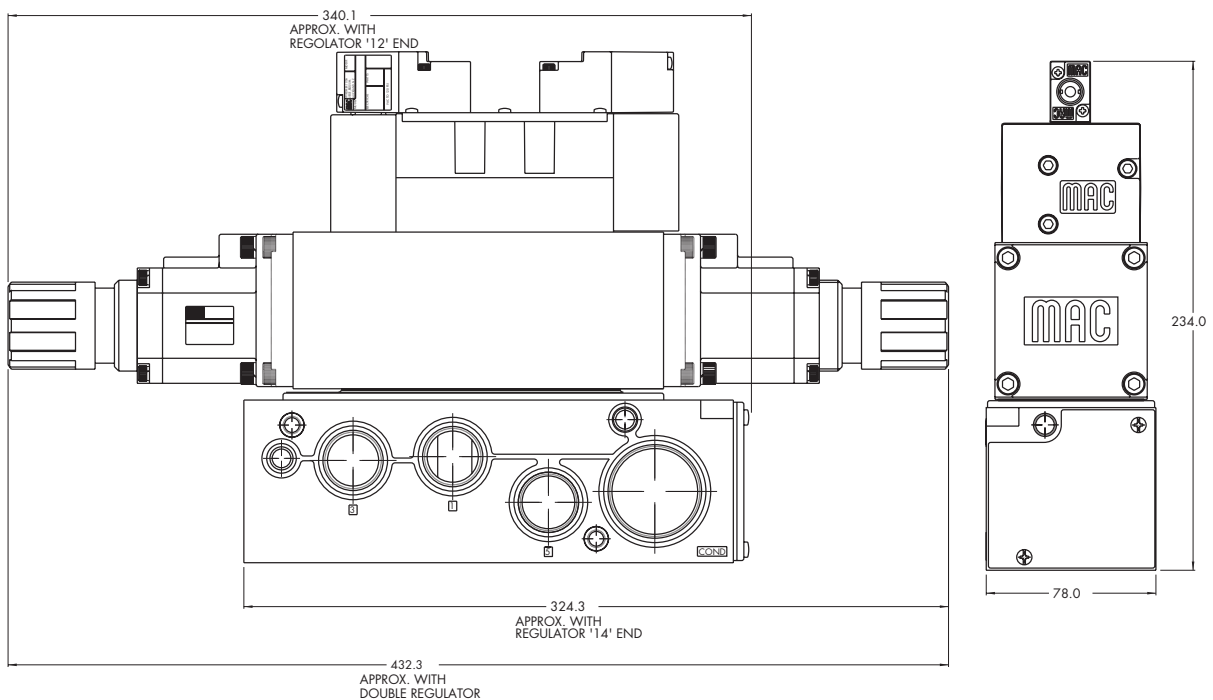
- Pressure regulator (less sandwich block) : PRA3C-30AA (KNOB), PRA3C-C0AA (SLOTTED STEM), PRA3C-F0AA (SLOTTED STEM WITH LOCKNUT).
- Gage :
 - Glycerine filled : N-62015-01
 - Non filled : N-62016-01

Regulating range options : PRA3C-XXXX

Replace by B - 0 to 100 PSI
 Replace by C - 0 to 45 PSI

DIMENSIONS

Dimensions shown are metric (mm)



Non plug-in sandwich pressure regulator with air pilot adjust

OPERATIONAL BENEFITS

1. Easy mounting : saves on installation costs in comparison with inline regulators.
2. Allows to have compact, all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.



PR37A

PR42B

PR46A

PR47A

PR48B

PR92C

HOW TO ORDER

INTERNAL PILOT

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|--|--|--|--|--|--|
| No gage | PRA3C-4AAA | PRA3C-4EAA | PRA3C-4BAA | PRA3C-4FAA | PRA3C-4JAA |
| Non-filled gage on regulator(s) | PRA3C-4ADA | PRA3C-4EDA | PRA3C-4BDA | PRA3C-4FDA | PRA3C-4JEA |
| Non-filled gage opposite to regulator | PRA3C-4CDA | PRA3C-4GDA | PRA3C-4DDA | PRA3C-4HDA | ----- |
| Glycerine filled gage on regulator(s) | PRA3C-4ABA | PRA3C-4EBA | PRA3C-4BBA | PRA3C-4FBA | PRA3C-4JCA |
| Glycerine filled gage opposite to regulator | PRA3C-4CBA | PRA3C-4GBA | PRA3C-4DBA | PRA3C-4HBA | ----- |

PR93A

PRA01A

PRA02A

PRA1A

EXTERNAL PILOT AND REMOTE AIR

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|--|--|--|--|--|--|
| No gage | PRA3C-5AAA | PRA3C-5EAA | PRA3C-5BAA | PRA3C-5FAA | PRA3C-5JAA |
| Non-filled gage on regulator(s) | PRA3C-5ADA | PRA3C-5EDA | PRA3C-5BDA | PRA3C-5FDA | PRA3C-5JEA |
| Non-filled gage opposite to regulator | PRA3C-5CDA | PRA3C-5GDA | PRA3C-5DDA | PRA3C-5HDA | ----- |
| Glycerine filled gage on regulator(s) | PRA3C-5ABA | PRA3C-5EBA | PRA3C-5BBA | PRA3C-5FBA | PRA3C-5JCA |
| Glycerine filled gage opposite to regulator | PRA3C-5CBA | PRA3C-5GBA | PRA3C-5DBA | PRA3C-5HBA | ----- |

PRP1A

PRA2D

PRP2B

* - To be used with dual pressure valves.

Main valve body assembly must be external pilot model. Pilots are supplied internally from primary pressure in regulator block. Cannot field convert regulator block from Single Pressure to dual pressure. Body/Block to base mounting screw #35418.

PRA3C

PRP3B

TECHNICAL DATA

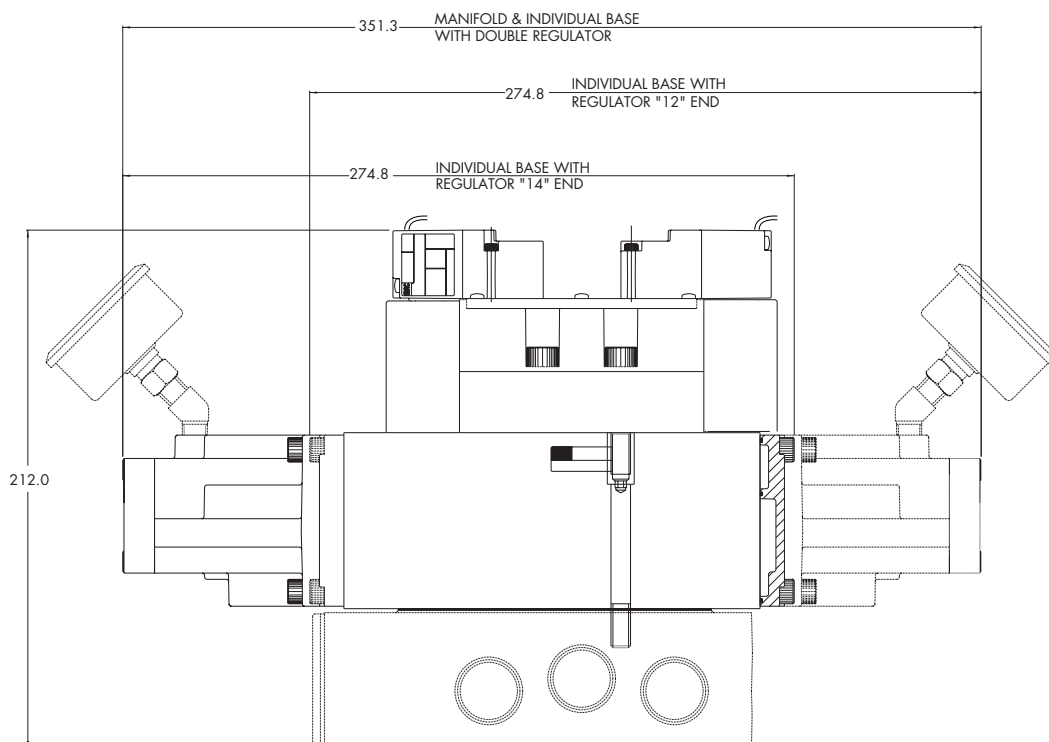
| | |
|---------------------|--|
| Fluid : | Compressed air, inert gases |
| Pressure range : | 0 to 150 PSI |
| Regulating range : | 0 to 150 PSI |
| Lubrication : | Not required, if used select a medium aniline point lubricant (between 180°F to 210°F) |
| Filtration : | 40 µ |
| Temperature range : | 0°F to 120°F (-18°C to +50°C) |
| Flow : | 5.4 C _v |

Spare parts :

- Pressure regulator (less sandwich block) : PRA3C-60AA.
- Gage :
 - Glycerine filled : N-62015-01
 - Non filled : N-62016-01

DIMENSIONS

Dimensions shown are metric (mm)



Plug-in sandwich pressure regulator with manual adjust knob

OPERATIONAL BENEFITS

1. Easy mounting; saves on installation costs in comparison with inline regulators.
2. Compact all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.



PR37A

PR42B

PR46A

PR47A

PR48B

PR92C

HOW TO ORDER

REGULATORS FOR INTERNAL PILOT (CODED FOR KNOB ADJUSTMENT)

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|-----------------|--|--|--|--|--|
| No gage | PRP3B-AAAA | PRP3B-AEAA | PRP3B-ABAA | PRP3B-AFAA | PRP3B-AJAA |
| Glycerine gage | PRP3B-AABA | PRP3B-AEBA | PRP3B-ABBA | PRP3B-AFBA | PRP3B-AJCA |
| Non-filled gage | PRP3B-AADA | PRP3B-AEDA | PRP3B-ABDA | PRP3B-AFDA | PRP3B-AJEA |

PR93A

PRA01A

PRA02A

REGULATORS FOR EXTERNAL PILOT AND REMOTE AIR (CODED FOR KNOB ADJUSTMENT)

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|-----------------|--|--|--|--|--|
| No gage | PRP3B-BAAA | PRP3B-BEAA | PRP3B-BBAA | PRP3B-BFAA | PRP3B-BJAA |
| Glycerine gage | PRP3B-BABA | PRP3B-BEBA | PRP3B-BBBA | PRP3B-BFBA | PRP3B-BJCA |
| Non-filled gage | PRP3B-BADA | PRP3B-BEDA | PRP3B-BBDA | PRP3B-BFDA | PRP3B-BJEA |

PRA1A

PRP1A

PRA2D

PRP2B

* For use with dual pressure valves.

ADJUSTMENT OPTIONS

PRP3B-XXXX

- G** for slotted stem (internal pilot)
- H** for slotted stem (external pilot)
- K** for slotted stem with locknut (internal pilot)
- L** for slotted stem with locknut (external pilot)

Notes:

1. Regulating range for above models is 0-150 PSI. For other ranges, see technical data page.
2. Valves used with above models must be external pilot models.
3. Cannot field convert regulator block from single pressure to dual pressure.
4. Cannot field convert from internal pilot to external pilot.
5. Wired for double solenoid valves.

PRA3C

PRP3B

TECHNICAL DATA

| | |
|---------------------|--|
| Fluid : | Compressed air, inert gases |
| Pressure range : | 0 to 150 PSI |
| Regulating range : | 0 to 150 PSI (other ranges see below) |
| 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 : | 5.4 C _v |

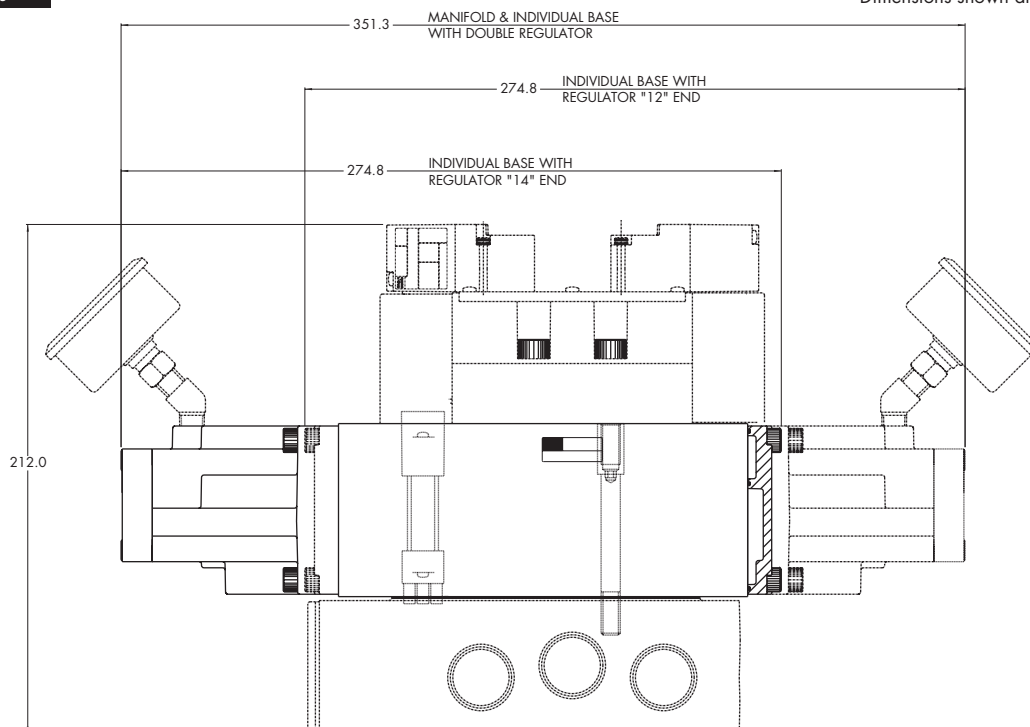
Spare parts :

- Pressure regulator (less sandwich block): PRP3B-C0AA (knob), PRP3B-J0AA (slotted stem), PRP3B-M0AA (slotted stem with locknut)
- Regulating block to base mounting screw: 19457
- Regulating range options: PRP3B-xxxA

Replace by B for 0 to 100 PSI
Replace by C for 0 to 45 PSI

DIMENSIONS

Dimensions shown are metric (mm)



Plug-in sandwich pressure regulator with air pilot adjust

OPERATIONAL BENEFITS

1. Easy mounting; saves on installation costs in comparison with inline regulators.
2. Compact all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.



PR37A

PR42B

PR46A

PR47A

PR48B

PR92C

HOW TO ORDER

REGULATORS FOR INTERNAL PILOT

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|-----------------|--|--|--|--|--|
| No gage | PRP3B-DAAA | PRP3B-DEAA | PRP3B-DBAA | PRP3B-DFAA | PRP3B-DJAA |
| Glycerine gage | PRP3B-DABA | PRP3B-DEBA | PRP3B-DBBA | PRP3B-DFBA | PRP3B-DJCA |
| Non-filled gage | PRP3B-DADA | PRP3B-DEDA | PRP3B-DBDA | PRP3B-DFDA | PRP3B-DJEA |

PR93A

PRA01A

PRA02A

REGULATORS FOR EXTERNAL PILOT AND REMOTE AIR

| Gage | Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4 | Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4 | Dual pressure Regulator 14 end Regulated pressure to port 4 * | Dual pressure Regulator 12 end Regulated pressure to port 2 * | Dual pressure Dual regulator Two regulated pressures to ports 2 and 4 * |
|-----------------|--|--|--|--|--|
| No gage | PRP3B-EAAA | PRP3B-EEAA | PRP3B-EBAA | PRP3B-EFAA | PRP3B-EJAA |
| Glycerine gage | PRP3B-EABA | PRP3B-EEBA | PRP3B-EBBA | PRP3B-EFBA | PRP3B-EJCA |
| Non-filled gage | PRP3B-EADA | PRP3B-EEDA | PRP3B-EBDA | PRP3B-EFDA | PRP3B-EJEA |

PRA1A

PRP1A

PRA2D

PRP2B

* - To be used with dual pressure valves.

Notes:

1. Valves used with above models must be external pilot models.
2. Cannot field convert regulator block from single pressure to dual pressure.
3. Cannot field convert from internal pilot to external pilot.
4. Wired for double solenoid valves.

PRA3C

PRP3B

TECHNICAL DATA

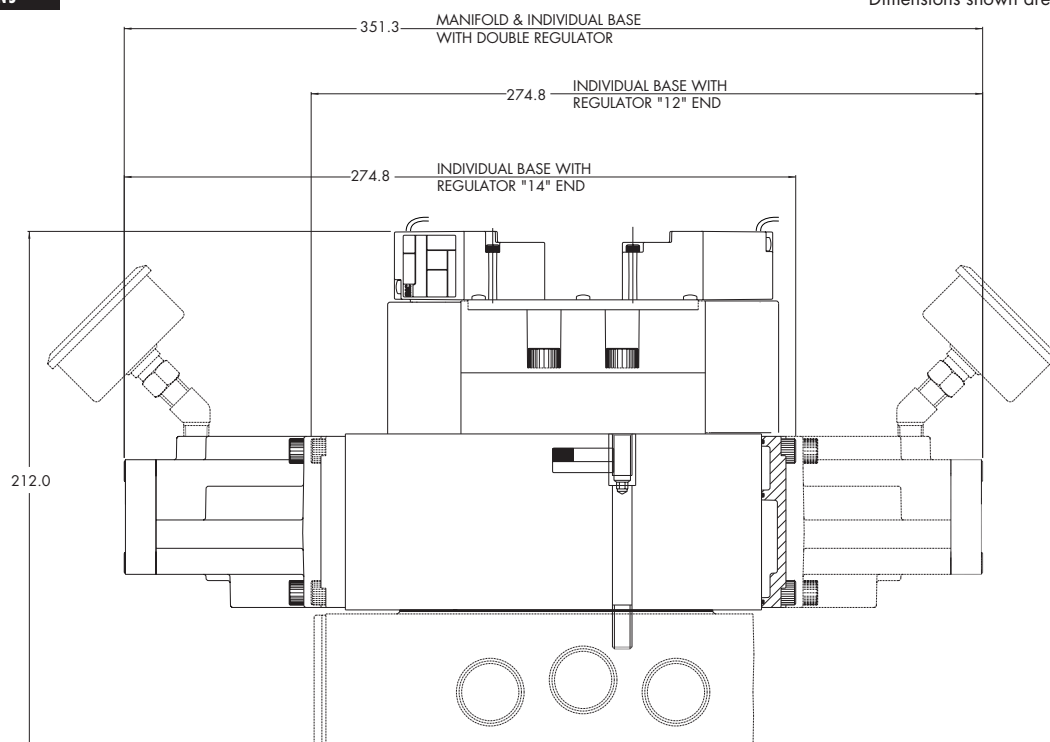
| | |
|---------------------|--|
| Fluid : | Compressed air, inert gases |
| Pressure range : | 0 to 150 PSI |
| Regulating range : | 0 to 150 PSI |
| Lubrication : | Not required, if used select a medium aniline point lubricant (between 180°F to 210°F) |
| Filtration : | 40 µ |
| Temperature range : | 0°F to 120°F (-18°C to +50°C) |
| Flow : | 5.4 C _v |

Spare parts :

- Pressure regulator (less sandwich block): PRP3B-F0AA
- Regulator block to base mounting screw: 19457

DIMENSIONS

Dimensions shown are metric (mm)





Codification table for voltages / Manual operator / Electrical connection

VALVE CODE ➤ **-DM- D XX X-X XX**
1 2 3 4

OPTIONS AVAILABLE FOR

- Pilot operated valves 52, 67, 92, 93, 400, ISO1, ISO2, ISO3 Series

1. VOLTAGE

| D-XX X-X XX | VOLTAGE |
|-------------|-------------------------------|
| DA | 24 VDC (5.4W) |
| DB | 12 VDC (5.4W) |
| DC | 12 VDC (7.5W) |
| DD | 24 VDC (7.3W) |
| DE | 12 VDC (12.7W) |
| DF | 24 VDC (12.7W) |
| DK | 110 VDC (4.7W) |
| DJ | 28 VDC (5.2W) |
| DL | 64 VDC (6.0W) |
| DM | 36 VDC (5.3W) |
| DN | 6 VDC (6.0W) |
| DR | 90 VDC (6.6W) |
| DS | 110 VDC (7.3W) |
| DT | 75 VDC (5.6W) |
| DP | 48 VDC (5.8W) |
| FA | 12 VDC (1.8W) |
| FB | 24 VDC (1.8W) |
| FE | 12 VDC (2.4W) |
| FF | 24 VDC (2.4W) |
| JA | 120/60, 110/50 (2.9W) |
| JB | 240/60, 220/50 (2.9W) |
| JC | 24/60, 24/50 (3.7W) |
| JD | 100/60, 100/50, 110/60 (3.9W) |
| JE | 220/60 (3.4W) |
| JF | 240/50 (2.8W) |
| JG | 200/60, 200/50 (3.9W) |

2. WIRE LENGTH

| D-XX X-X XX | WIRE LENGTH |
|-------------|-------------|
| O | No wires |
| A | 18" |
| B | 24" |
| C | 36" |
| D | 48" |
| E | 72" |
| F | 96" |

3. MANUAL OPERATOR

| D-XX X-X XX | MANUAL OPERATOR |
|-------------|----------------------|
| 0 | No operator |
| 1 | Non-locking recessed |
| 2 | Locking recessed |
| 3 | Non-locking extended |
| 4 | Locking extended |

4. ELECTRICAL CONNECTION

| D-XX X-X XX | ELECTRICAL CONNECTION |
|-------------|---|
| BA* | Flying leads (grommet) |
| BK* | BA with protection diode |
| BL* | BA with protection varistor |
| BM** | Flying leads (solenoid plug-in) |
| BN** | BM with protection diode |
| BP** | BM with protection varistor |
| BG** | BM with ground |
| BH** | BM with protection diode & ground |
| BJ** | BM with protection varistor & ground |
| CA* | 1/2" NPS conduit with flying leads |
| CM* | 1/2" NPS metal conduit with flying leads |
| CN* | 1/2" NPS metal conduit with flying leads & ground |
| JB | Rectangular connector |
| JD | JB with light |
| JM | Rectangular connector (male only) |
| KA | Mini square connector |
| KB | KA with protection diode |
| KC | KA with protection varistor |
| KD | KA with light |
| KE | KA with light and protection diode |
| KF | KA with light and protection varistor |
| KG | KA with light & diode |
| KJ | Mini square connector (male only) |
| KK | KJ with protection diode (male only) |
| KL | KJ with protection varistor (male only) |
| TA | Dual tabs with receptacles |
| TB | TA with protection diode |
| TD | TA with light |
| TE | TA with light and protection diode |
| TJ | Dual tabs (male only) |
| TK | TJ with protection diode |
| TM | TJ with light |
| TN | TJ with light and protection diode |

* From Lead wire length options choose A through F

** From Lead wire length options choose O through F

Note: When coil is above 30 volts, a ground wire is required. Applies to options with flying leads.

How To Order ISO 3 Non Plug-In Regulator

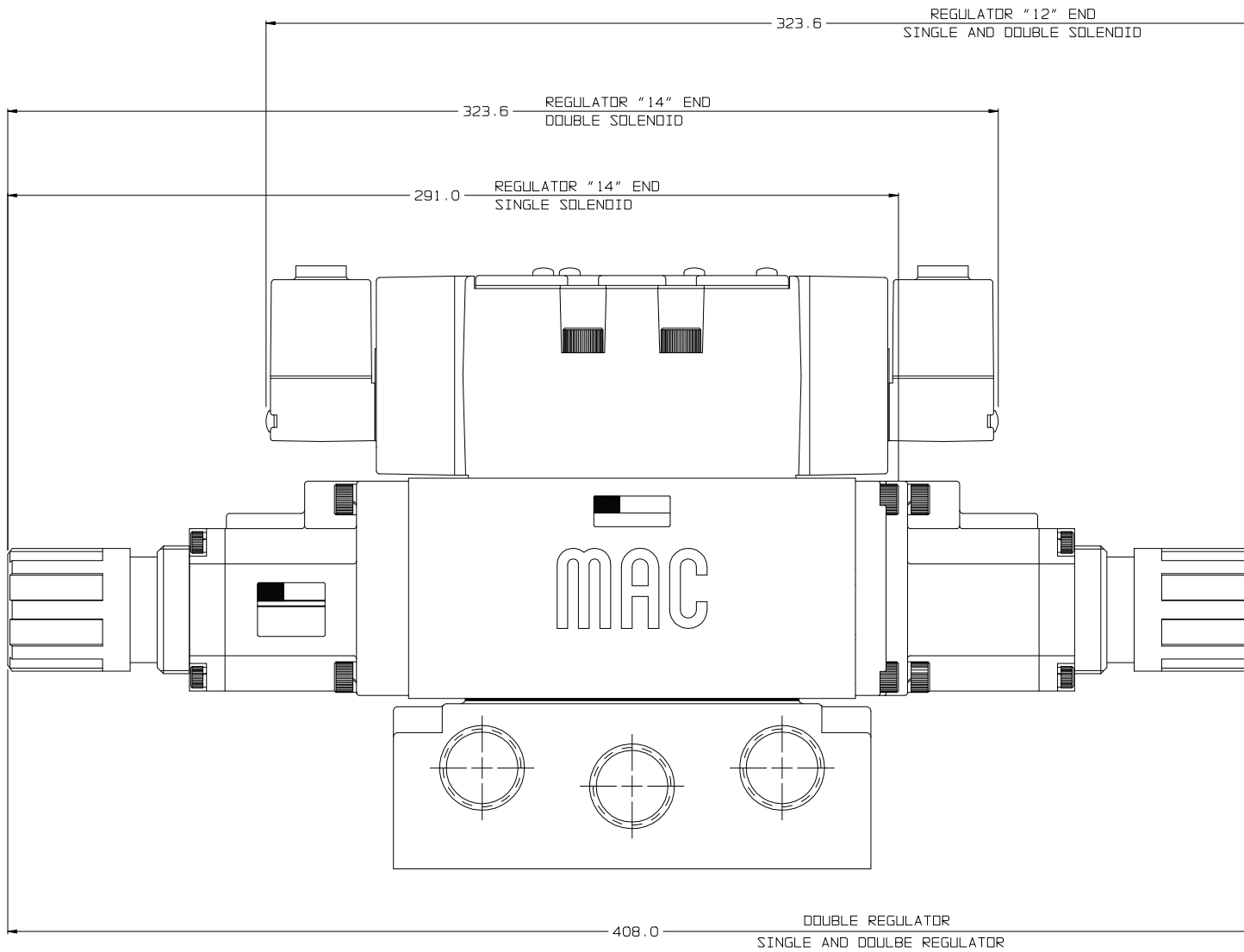
PRA3C - X X X X - X

| Type Adjustment | Configuration | Gages | Pressure Range | Assembled |
|--|--|---|---|--|
| Manual Adjust w/ Knob 1 Internal Pilot 2 External Pilot or Dbl. Remote Air 3 Regulator Only Air Pilot Adjust 4 Internal Pilot 5 External Pilot or Dbl. Remote Air 6 Regulator Only Manual Adjust w/ Screwdriver Slot A Internal Pilot B External Pilot or Dbl. Remote Air C Regulator Only Manual Adjust w/ Screwdriver Slot w/ Locknut D Internal Pilot E External Pilot or Dbl. Remote Air F Regulator Only | 0 Regulator Only A Regulator "14" End Blank Plate "12" End B Regulator "14" End w/ By-Pass "12" End C Regulator "14" End Plate "12" End w/ Gage Port In Plate D Regulator "14" End w/ By-Pass "12" End Gage Port In Plate E Regulator "12" End Blank Plate "14" End F Regulator "12" End w/ By-Pass "14" End G Regulator "12" End Plate "14" End w/ Gage Port In Plate H Regulator "12" End w/ By-Pass "14" End Gage Port In Plate J Regulators Both Ends | A No Gage B Glycerine Gage (1) For Single Regulator C Glycerine Gage (2) For Dual Regulators D Non Filled Gage (1) For Single Regulator E Non Filled Gage (2) For Dual Regulators | A 0 to 150 PSI B 0 to 100 PSI C 0 to 45 PSI | 9 Regulator Block is Assembled w/ Valve Leave Blank If Not Assembled w/ Valve |

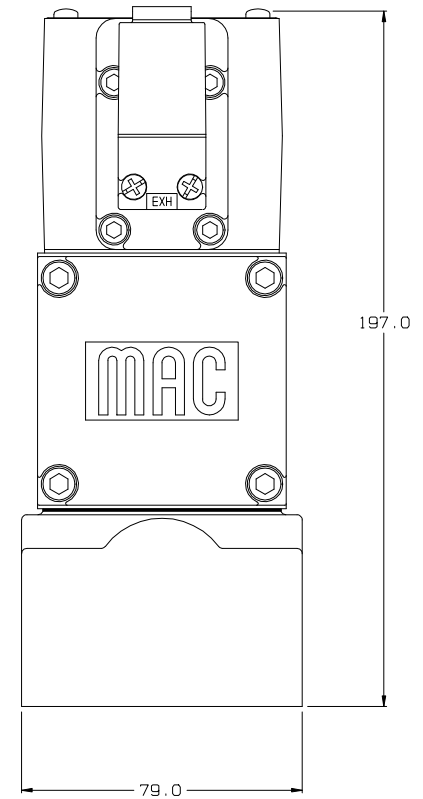
Notes:

1. Main valve body assembly must be external pilot model, pilots are supplied internally from primary pressure in regulator block.
2. Dual pressure valve must be used with dual regulator or by-pass option.
3. Cannot field convert regulator block from single pressure to dual pressure.
4. Cannot field convert pilot type (Internal to external pilot).
5. Regulator block to base mounting screw (#35418).

IS03 NON PLUG-IN BASE WITH REGULATOR (PRA3C-XXXX)



*ALL DIMENSIONS SHOWN
ARE IN MILLIMETERS



How To Order ISO 3 Plug-In Regulator

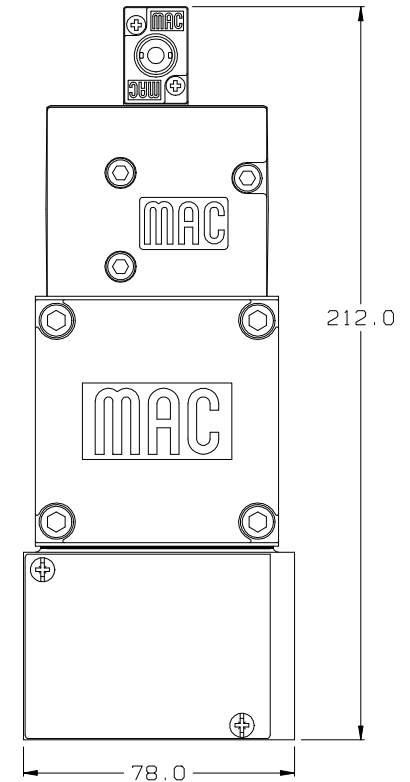
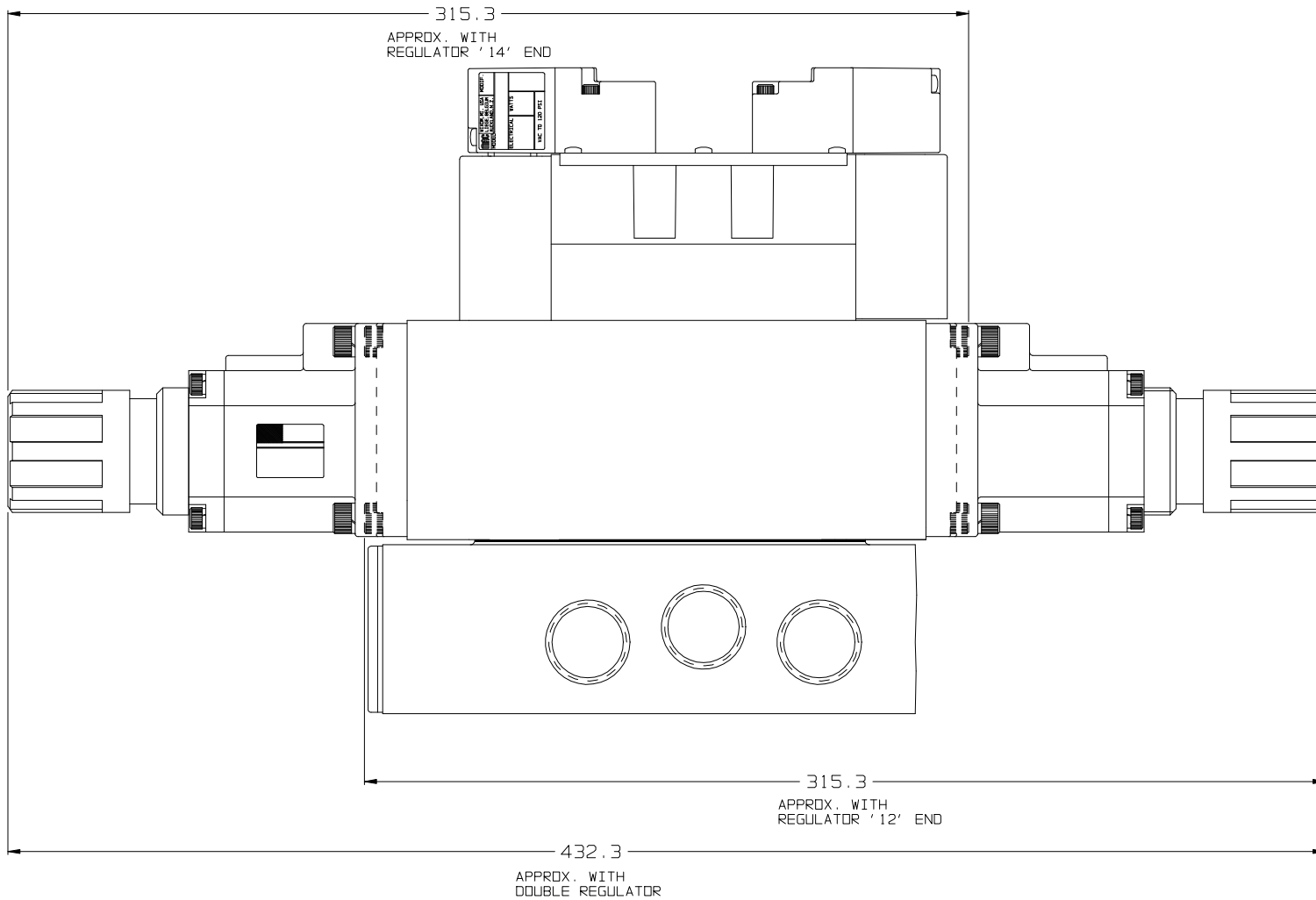
PRP3B - X X X X - X

| Type Adjustment | Configuration | Gages | Pressure Range | Assembled |
|--|--|---|---|--|
| Manual Adjust w/ Knob A Internal Pilot B External Pilot or Dbl. Remote Air C Regulator Only Air Pilot Adjust D Internal Pilot E External Pilot or Dbl. Remote Air F Regulator Only Manual Adjust w/ Screwdriver Slot G Internal Pilot H External Pilot or Dbl. Remote Air J Regulator Only Manual Adjust w/ Screwdriver Slot w/ Locknut K Internal Pilot L External Pilot or Dbl. Remote Air M Regulator Only | 0 Regulator Only A Regulator "14" End Blank Plate "12" End B Regulator "14" End w/ By-Pass "12" End C Regulator "14" End Plate "12" End w/ Gage Port In Plate D Regulator "14" End w/ By-Pass "12" End Gage Port In Plate E Regulator "12" End Blank Plate "14" End F Regulator "12" End w/ By-Pass "14" End G Regulator "12" End Plate "14" End w/ Gage Port In Plate H Regulator "12" End w/ By-Pass "14" End Gage Port In Plate J Regulators Both Ends | A No Gage B Glycerine Gage (1) For Single Regulator C Glycerine Gage (2) For Dual Regulators D Non Filled Gage (1) For Single Regulator E Non Filled Gage (2) For Dual Regulators | A 0 to 150 PSI B 0 to 100 PSI C 0 to 45 PSI | 9 Regulator Block is Assembled w/ Valve Leave Blank If Not Assembled w/ Valve |

Notes:

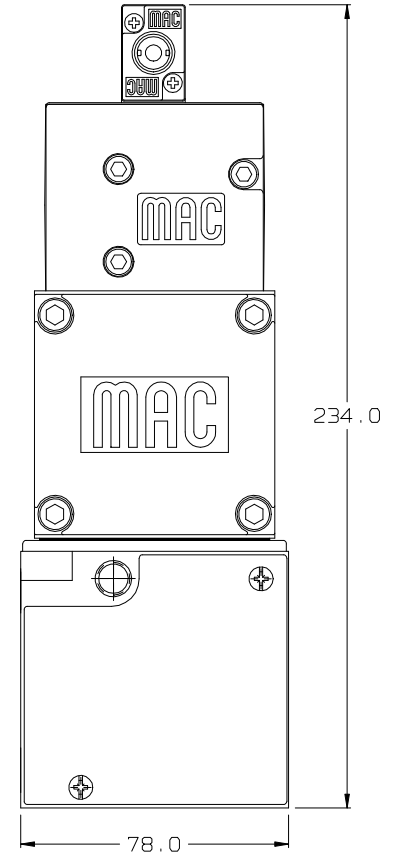
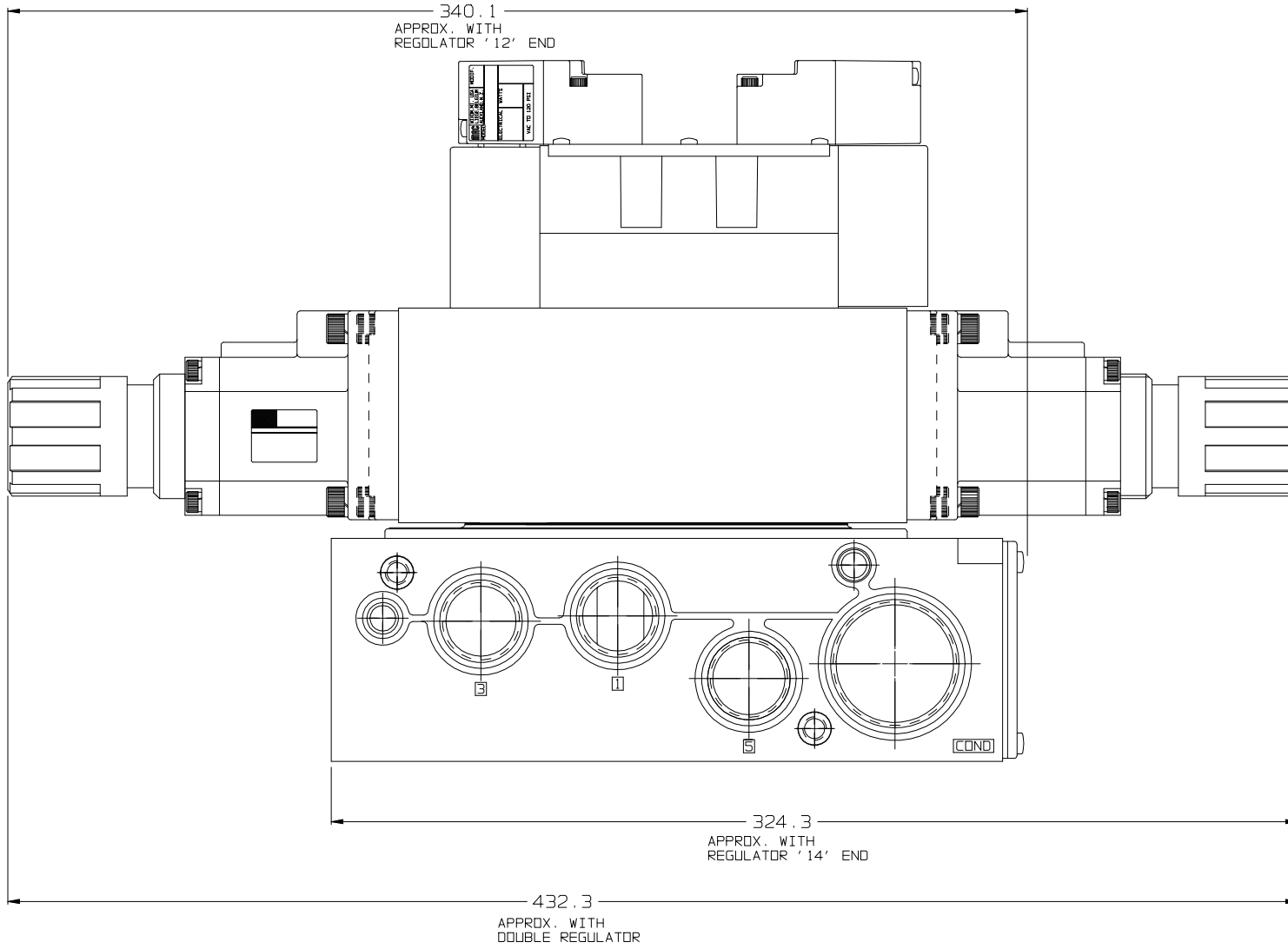
1. Main valve body assembly must be external pilot model, pilots are supplied internally from primary pressure in regulator block.
2. Dual pressure valve must be used with dual regulator or by-pass option.
3. Cannot field convert regulator block from single pressure to dual pressure.
4. Regulator block assembly is furnished with double wire assembly.
5. Tie rod to assemble regulator block to base (#19457 - 4mm hex recess).

ISO3 PLUG-IN BASE WITH REGULATOR (PRP3B-XXXX)



*ALL DIMENSIONS SHOWN
ARE IN MILLIMETERS

IS03 PLUG-IN MANIFOLD WITH REGULATOR (PRP3B-XXXX)



*ALL DIMENSIONS SHOWN
ARE IN MILLIMETERS

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.



MAC Valves Product Warranty Information

MAC VALVES Warranty, Warranty Limitations, Flat Rate Rebuild Program

The MAC Valves organization has established a reputation over many years for fulfilling the needs and requirements of the users of its products. All MAC Valves are quality products specifically designed and built for long and rugged service. For this reason, MAC Valves is able to provide the Buyer a limited warranty.

WARRANTY:

MAC Valves, Inc. hereby warrants to Buyer that, for a period of 18 months from the original date of shipment of each valve from our factory ("Warranty Period"), such valve will be free from significant defects in material and workmanship and will conform to all specifications agreed to by MAC Valves, Inc.. In addition, MAC Valves, Inc. warrants that the electrical coils on such valves will be free from significant defects in material and workmanship for their normal useful life. EXCEPT FOR THESE LIMITED WARRANTIES, MAC VALVES, INC. EXPRESSLY DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES OF ANY KIND (WHETHER EXPRESS, IMPLIED OR ARISING BY OPERATION OF LAW) WITH RESPECT TO THE VALVES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR REPRESENTATIONS AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER MATTER. THIS SECTION SURVIVES THE EXPIRATION, TERMINATION OR CANCELLATION OF ANY AGREEMENTS BETWEEN THE PARTIES RELATING TO THE PURCHASE OF THE VALVES.

WARRANTY LIMITATIONS:

This Warranty does not apply where the valves have been (i) subjected to abuse, misuse, damage, neglect, negligence, accident, improper testing, improper installation, improper storage, improper handling, abnormal physical stress, abnormal environmental condition, or use contrary to any instructions issued by MAC Valves, Inc.; (ii) modified, reconstructed, repaired, or altered by persons other than MAC Valves, Inc. or its authorized representative; or (iii) used with any third-party product, hardware, software or other product that has not been previously approved in writing by MAC Valves, Inc. Additionally, this Warranty does not cover claims for labor, material, time or transportation, and does not apply to loss or damage caused by fire, theft, riot, explosion, labor dispute, act of God, or other causes beyond the control of MAC Valves, Inc.

EXCLUSIVE REMEDY:

The Buyer's sole remedy under this Warranty is limited to the replacement or rebuilding of any valve which does not conform to the warranties provided herein or, in MAC Valves, Inc.'s sole discretion, refund of the purchase price for the non-conforming valve. Buyer's remedy is conditioned on Buyer's compliance with its obligations under this Warranty. Valves that Buyer believes do not conform to this Warranty must be returned (with or without bases) transportation prepaid and received at our factory within the Warranty Period. If MAC Valves, Inc. determines that the valve is non-conforming and is otherwise covered by this Warranty, the rebuilt or replaced valve will be returned to the customer at the expense of MAC Valves, Inc., and will carry the same warranties as provided under the Flat Rate Rebuild Program described below. MAC VALVES, INC. WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION DIRECT AND INDIRECT LOST PROFITS, REGARDLESS OF WHETHER THOSE DAMAGES WERE FORESEEABLE.

THE FLAT REBUILD PROGRAM:

Valves no longer covered by the MAC Warranty may be eligible for a one-time rebuild under the MAC Valves, Inc. Flat Rate Rebuild Program. Our constant research and testing program is dedicated to extending the life of our valves and maximizing their reliability under the most adverse conditions. Valves returned under this limited program are completely disassembled, inspected, rebuilt to current operating standards whenever possible, tested and returned within a few weeks for a nominal flat rate charge. All rebuilt valves carry the same warranty described (in our MAC Warranty) for new valves for a warranty period of 90 days from the date of shipment from our factory.

Valves that have gone through the one-time rebuild will have been marked with a letter "R" as part of the date stamp (This is an example of a rebuild date stamp from this month E(May)17(Year)Tester Symbol R(Indicates Rebuild)).



Please note that any valves sent back for subsequent rebuild that have already been through the program previously (indicated by the "R") will not be eligible for additional rebuild.