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## MAC Valves 18 month guarantee plus lifetime coil guarantee

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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. Therefore, all valves appearing in this catalog are guaranteed for a period of eighteen months from the original date of shipment from our factory. In addition to this eighteen month Guarantee, MAC Valves, Inc. guarantees the electrical coils on every one of the valves listed in this catalog for life. LIMITATION OF GUARANTEE: This Guarantee is limited to the replacement or rebuilding of any valve which should fail to operate properly. Valves, under the MAC Guarantee, must be returned (with or without bases) transportation prepaid and received at our factory within the Guarantee period. They will be returned to the customer at the expense of MAC Valves, Inc., and will carry the same guarantee as provided under the Flat Rate Rebuild Program. DISCLAIMER OF GUARANTEE: No claims for labor, material, time, damage or transportation are allowable nor will any valve be replaced or rebuilt under this guarantee which has been damaged by the purchaser not in the normal course of its use and maintenance during the warranty period. The guarantee 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. MAC Valves, Inc. shall in no event be liable for remote, special or consequential damages under the MAC Guarantee, nor under any implied warranties, including the implied warranty of merchantability. The above Guarantee is our manner of extending the engineering and service resources of the MAC Valves, Inc. organization to assure our customer long, and continued satisfaction.

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## The flat rate rebuild program

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Valves no longer covered by the MAC Guarantee can be rebuilt under the Flat Rate Rebuild program. Our constant research and testing program is dedicated to extending the life of our valves and making them even more reliable under the most adverse operating conditions. Valves returned under this program are completely disassembled, inspected, rebuilt to current operating standards wherever possible, tested and returned within a few weeks for a nominal flat rate charge. All rebuilt valves carry for 90 days from date of shipment from our factory the same guarantee as provided for new valves.

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## Pneumatic functions

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All valves inside the MAC product range allow for multiple pneumatic functions. Direct solenoid and solenoid pilot operated valves could be used as 2 ways, 3 ways (NO, NC) or 4 ways. When plugging one orifice to achieve a 2 ways function (or 3 ways), it will not affect the valve operation.

- Direct solenoid valves 3 ways : universal  
The following functions are available

- 3 ways NC
- 3 ways NO
- 2 ways NC
- 2 ways NO
- Selector
- Divertor

- Direct solenoid valves 4 ways :  
The following functions are available

- 4 ways
- 3 ways NC
- 3 ways NO
- 2 ways NC
- 2 ways NO
- Divertor

- Pilot operated valves 3 ways :  
The following functions are available

- 3 ways NC
- 3 ways NO
- 2 ways NC
- 2 ways NO
- Selector : the highest pressure is connected to the IN port; the lowest pressure is connected to the EXH port. (Use external pilot when the highest pressure is less than 2 bar)
- Divertor (consult factory)

- Pilot operated valves 4 & 5 ways :  
The following functions are available

- 4 or 5 ways
- 3 ways NC
- 3 ways NO
- 2 ways NC
- 2 ways NO
- Selector (except 3 positions)
- Divertor (consult factory).

EVERY VALVE FULLY TESTED PRIOR TO SHIPMENT

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



## Section 1

## Direct solenoid and solenoid pilot operated valves



# Direct solenoid and solenoid pilot operated valves

| Function  | Port size             | Flow (Max) NI/min | Individual mounting |                        |                    |   |   |  | Manifold mounting                                    |          |                             |                         |  |  |                                      |   | Series |   |                        |                    |  |
|-----------|-----------------------|-------------------|---------------------|------------------------|--------------------|---|---|--|--|----------|-----------------------------|-------------------------|--|--|--------------------------------------|---|--------|---|------------------------|--------------------|--|
|           |                       |                   | Inline              | Sub-base non "plug-in" | Sub-base "plug-in" | Sub-base/manifold base non "plug-in" with latching solenoid | Sub-base/manifold base "plug-in" with latching solenoid | Valve only - No base non "plug-in" Conform to ISO 5599/1 | Valve only - No base "plug-in" Conform to ISO 5599/2 | stacking | Manifold base non "plug-in" | Manifold base "plug-in" | Manifold base "plug-in" with pressure regulators | Manifold base "plug-in" with flow controls | Manifold base "plug-in" with PR & FC | Sub-base/manifold base non "plug-in" with latching solenoid |        | Sub-base/manifold base "plug-in" with latching solenoid | Sub-base non "plug-in" | Sub-base "plug-in" | Valve only - No base non "plug-in" Conform to ISO 5599/1 |
| 3/2 - 2/2 | M5                    | 120               | ■                   |                        |                    |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    | 34   |
| 3/2       | G1/8"                 | 300               | ■                   |                        |                    |   |   |  |  |          | ■                           | ■                       |  |  |                                      |   |        |   |                        |                    | 36   |
| 3/2       | G1/8" - M5            | 300               |                     |                        |                    |   |   |  | ■  |          |                             |                         |  |  |                                      |   |        |   |                        |                    | 32   |
| 3/2       | G1/8"                 | 400               |                     | ■                      |                    |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    | 37   |
| 3/2       | M5 - M7               | 400               |                     |                        | ■                  | ■   | ■   |  |  | ■        | ■                           |                         |  |  | ■                                    | ■   |        |   |                        |                    | 38   |
| 3/2       | G1/8" - G1/4"         | 500               | ■                   | ■                      |                    |   |   |  |  | ■        | ■                           |                         |  |  | ■                                    | ■   |        |   |                        |                    | 52   |
| 3/2       | G1/8"                 | 1200              |                     | ■                      | ■                  | ■   | ■   |  |  | ■        | ■                           |                         |  |  | ■                                    | ■   |        |   |                        |                    | 67   |
| 3/2 - 2/2 | G1/8" - G1/4"         | 1500              | ■                   |                        |                    |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    | 44   |
| 3/2 - 2/2 | G3/4" - G1"           | 20000             | ■                   |                        |                    |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    | 46   |
| 5/2       | M5                    | 100               | ■                   |                        |                    |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    | 42   |
| 4/2       | G1/8" - M5            | 300               | ■                   |                        |                    |   |   |  |  | ■        |                             |                         |  |  |                                      |   |        |   |                        |                    | 47   |
| 4/2       | G1/8"                 | 300               |                     |                        |                    |   |   |  |  |          | ■                           | ■                       | ■  | ■  |                                      |   |        |   |                        |                    | 48   |
| 5/2 - 5/3 | M5 - M7               | 400               |                     | ■                      | ■                  |   |   |  |  | ■        | ■                           |                         |  |  |                                      |   |        |   |                        |                    | 400  |
| 5/2       | M5 - M7               | 400               |                     |                        |                    | ■   | ■   |  |  |          |                             |                         |  | ■  | ■                                    |   |        |   |                        |                    | 92   |
| 5/2       | G1/8" - G1/4"         | 500               | ■                   | ■                      |                    |   |   |  |  | ■        | ■                           |                         |  |  |                                      |   |        |   |                        |                    | 93   |
| 5/2 - 5/3 | G1/8"                 | 1100              |                     | ■                      | ■                  |   |   |  |  |          | ■                           | ■                       |  |  |                                      |   |        |   |                        |                    | ISO 1  |
| 5/2       | G1/8"                 | 1100              |                     |                        |                    | ■   |   |  |  |          |                             |                         |  | ■  |                                      |   |        |   |                        |                    | ISO 2  |
| 5/2       | G1/8"                 | 1000              |                     |                        |                    |   |   | ■  |  |          |                             |                         |  |  | ■                                    |   |        |   |                        |                    | ISO 3  |
| 5/2 - 5/3 | G1/8" - G1/4"         | 1000              | ■                   | ■                      |                    |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    |  |
| 5/2 - 5/3 | G1/8" - G1/4" - G3/8" | 1200              |                     | ■                      | ■                  |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    |  |
| 5/2 - 5/3 | G1/4" - G3/8"         | 1200              |                     |                        |                    |   |   |  |  |          |                             |                         |  |  |                                      |   | ■      | ■   |                        |                    |  |
| 5/2 - 5/3 | G3/8" - G1/2"         | 3800              | ■                   |                        |                    |   |   |  |  |          |                             |                         |  |  |                                      |   | ■      | ■   |                        |                    |  |
| 5/2 - 5/3 | G1/4" - G3/8" - G1/2" | 3400              |                     | ■                      | ■                  |   |   |  |  |          |                             |                         |  |  |                                      |   |        |   |                        |                    |  |
| 5/2 - 5/3 | G1/4" - G3/8"         | 1800              |                     |                        |                    |   |   |  | ■  | ■        |                             |                         |  |  |                                      |   |        |   | ■                      | ■                  |  |
| 5/2 - 5/3 | G3/8" - G1/2"         | 3000              |                     |                        |                    |   |   |  | ■  | ■        |                             |                         |  |  |                                      |   |        |   | ■                      | ■                  |  |
| 5/2 - 5/3 | G1/2" - G3/4"         | 6100              |                     |                        |                    |   |   |  | ■  | ■        |                             |                         |  |  |                                      |   |        |   | ■                      | ■                  |  |

Individual mounting

Series

Inline

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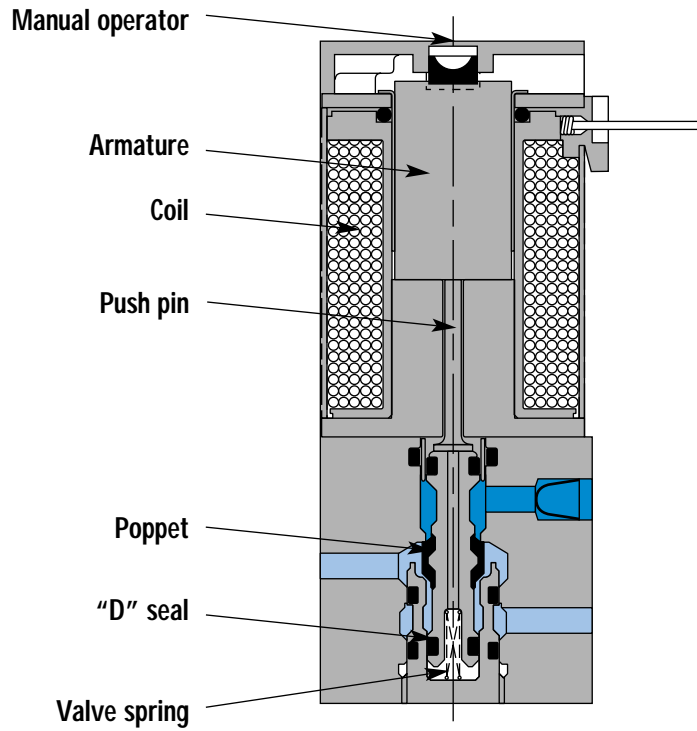
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ISO 1

ISO 2

ISO 3



**SERIES FEATURES**

- High force MACSOLENOID<sup>®</sup>.
- Universal porting.
- #10-32 or M5 ports.
- Rated for lubricated or non-lubricated service.
- 10mm direct operated.
- Cylinder port in valve or in circuit bar.



# Direct solenoid and solenoid pilot operated valves

| Function             | Port size | Flow (Max) | Individual mounting | Series |
|----------------------|-----------|------------|---------------------|--------|
| 3/2 NO-NC, 2/2 NO-NC | M5        | 120 NI/min | Inline              |        |

## OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. Patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.



## HOW TO ORDER

| Port size | Universal valve          | NC only valve            |
|-----------|--------------------------|--------------------------|
|           |                          |                          |
| M5        | 34B-ABA-G <b>XXX-XXX</b> | 34B-ABB-G <b>XXX-XXX</b> |

## SOLENOID OPERATOR ▶

G **XXX-XXX**\*

| XX | Voltage     | X | Wire length | X | Manual operator | XX | Electrical connection                   |
|----|-------------|---|-------------|---|-----------------|----|---|
| AA | 120 V~/2,5W | A | 45 cm       | 1 | Non-locking     | KA | Mini connector                          |
| DC | 24 V~/1,8W  | B | 60 cm       |   |                 | KT | Mini connector with light               |
| DD | 24 V~/2,5W  | C | 90 cm       |   |                 | BA | Flying leads                            |
| DF | 24 V~/4,0W  |   |             |   |                 | BT | Flying leads with light                 |
|    |             |   |             |   |                 | KC | Mini connector with rectifier and light |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

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ISO 1

ISO 2

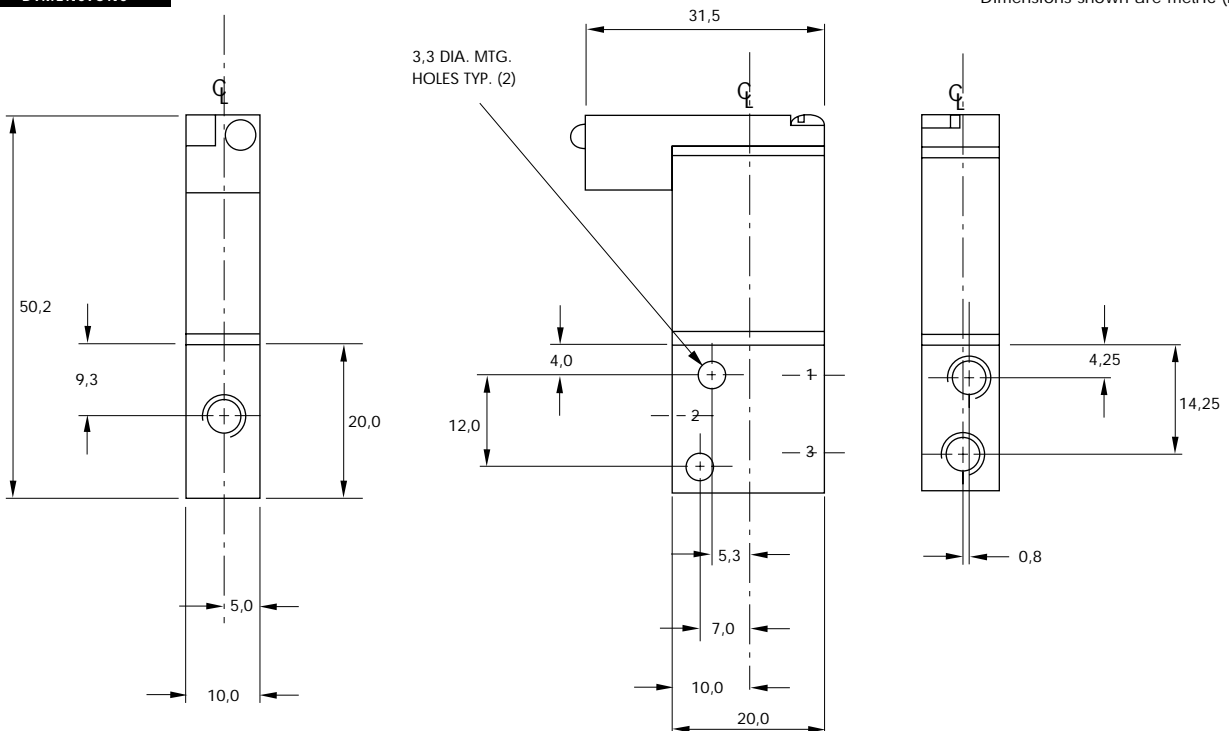
ISO 3

**TECHNICAL DATA**

|                                     |   |
|-------------------------------------|---|
| Fluid :                             | Compressed air, vacuum, inert gases   |
| Pressure range :                    | Vacuum to 8 bar   |
| Lubrication :                       | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)  |
| Filtration :                        | 40 μ  |
| Temperature range :                 | -18°C to +50°C  |
| Orifice :                           | 1,8 mm  |
| Flow :                              | 4 W : 120 NI/min (Cv 0,12) – 2,5 W : 100 NI/min (Cv 0,10) – 1,8 W : 60 NI/min (Cv 0,06) |
| Coil :                              | Epoxy encapsulated – 100% ED  |
| Voltage range :                     | -15% to +10% of nominal voltage   |
| Protection :                        | IP54 (electrical connection)  |
| Power :                             | 4 W – 2,5 W – 1,8 W   |
| Response times :<br>(with 4 W coil) | Energize : 3,4 ms<br>De-energize : 1,5 ms   |

**DIMENSIONS**

Dimensions shown are metric (mm)



Individual mounting

|        |
|--------|
| Inline |
|--------|

Series

Manifold mounting

|          |                         |  |
|----------|-------------------------|--|
| Stacking | Manifold base "plug-in" | Manifold base "plug-in" with pressure regulators |
|----------|-------------------------|--|

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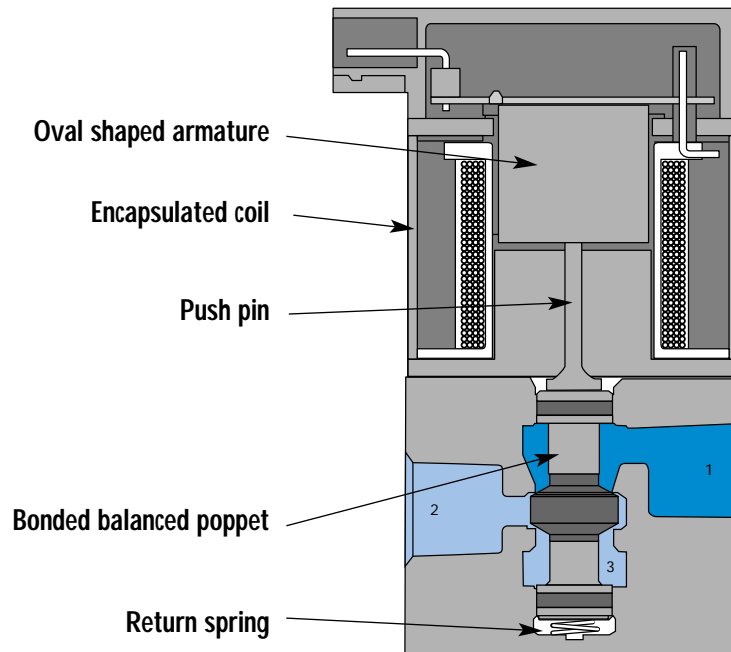
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ISO 1

ISO 2

ISO 3



**SERIES FEATURES**

- Patented high force MACSOLENOID<sup>®</sup> for fastest possible response times.
- Bonded balanced poppet for high flow, precise repeatability, and consistent operation.
- Balanced poppet permits versatility in function — may be used as 3-way or 2-way normally open or normally closed and may be used for vacuum, divertor, or selector applications.
- Extremely high cycle rate capability.
- Use on lube or non-lube service.
- Manual overrides as standard.
- Various solenoid enclosures and plug-in connectors.
- Optional surge suppression available.
- Low wattage DC solenoids — down to 1.8 watts.
- Rectified AC voltage.



# Direct solenoid and solenoid pilot operated valves

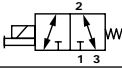
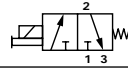
| Function | Port size | Flow (Max) | Individual mounting | Series |
|----------|-----------|------------|---------------------|--------|
| 3/2      | G1/8"     | 300 NI/min | Inline              |        |

## OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Patented solenoid develops high shifting forces.
3. Short stroke with high flow.
4. Higher forces result in lower wattages for given flow.
5. Powerful return spring.



## HOW TO ORDER

| Port size | Universal valve   | NC only valve   |
|-----------|---|---|
|           |  |  |
| G1/8"     | 36A-ACA-J xxx-xxx   | 36A-ACB-J xxx-xxx   |

## SOLENOID OPERATOR ►

J **xxx-xxx**\* (-G) Add "G" for ground

| XX | Voltage    | X | Lead wire length | X | Manual operator | XX | Electrical connection               |
|----|------------|---|------------------|---|-----------------|----|-------------------------------------|
| AA | 120V~/5,4W | A | 45 cm            | 1 | Non-locking     | BA | Flying leads                        |
| DA | 24V~/5,4W  | B | 60 cm            | 2 | Locking         | GA | MAC JAC solenoid plug-in            |
| DB | 12V~/5,4W  | C | 90 cm            |   |                 | GB | MAC JAC solenoid plug-in with diode |
| DC | 24V~/2,4W  |   |                  |   |                 | GD | MAC JAC solenoid plug-in with light |
| DD | 12V~/2,4W  |   |                  |   |                 | GG | MAC JAC solenoid plug-in rectifier  |

\* Click here for other options available.

Note : - AC voltage requires connector with rectifier.

- The MAC JAC connector is similar to the connector used for valves that incorporate the "G" type solenoid. With the MAC JAC, washdown capability is possible. Consult factory for washdown modification number.

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ISO 1

ISO 2

ISO 3



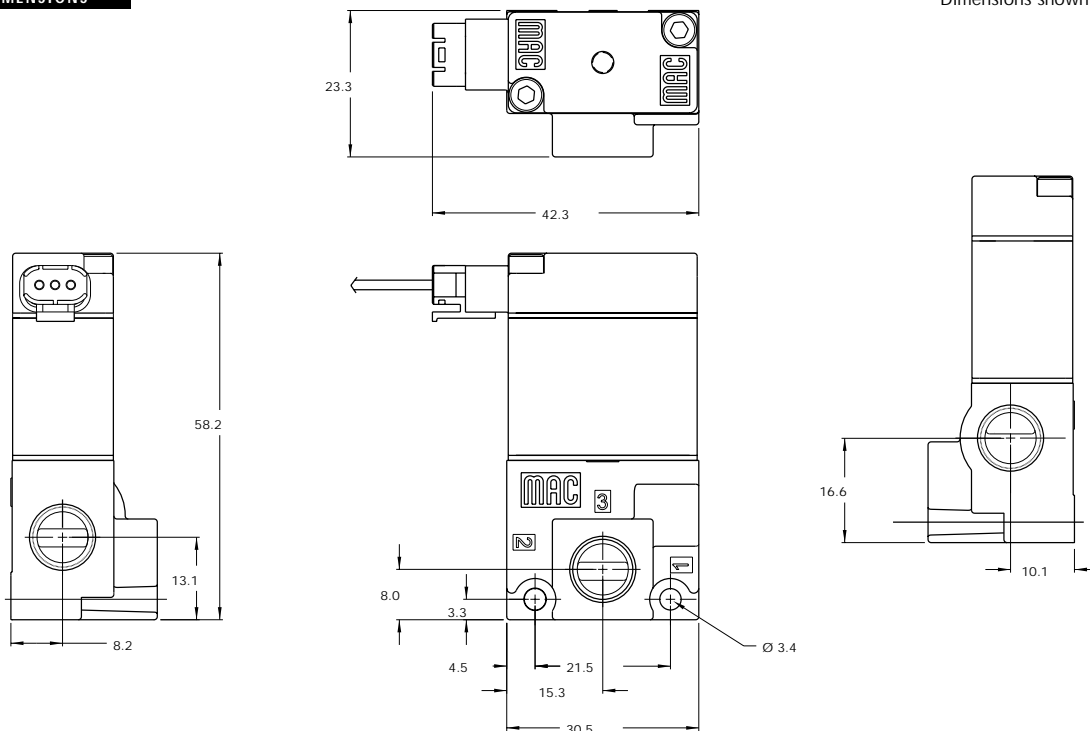
**TECHNICAL DATA**

|                            |  |
|----------------------------|--|
| Fluid :                    | Compressed air, vacuum, inert gases  |
| Pressure range :           | Vacuum to 8 bar  |
| Lubrication :              | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :               | 40 µ   |
| Temperature range :        | -18°C to +50°C   |
| Orifice :                  | 3,3 mm   |
| Flow (at 6 bar, ΔP=1bar) : | G1/8" : 300 NI/min (Cv 0 ,3)   |
| Coil :                     | Epoxy encapsulated – Class A wires – 100% ED   |
| Voltage range :            | -15% to +10% of nominal voltage  |
| Protection :               | IP54 (electrical connection)   |
| Power :                    | 5,4 W – 2,4 W – 1,0 W  |

Option : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)





# Direct solenoid and solenoid pilot operated valves

| Function | Port size  | Flow (Max) | Manifold mounting | Series |
|----------|------------|------------|-------------------|--------|
| 3/2      | G1/8" - M5 | 300 NI/min | Stacking          |        |

## OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Patented solenoid develops high shifting forces.
3. Short stroke with high flow.
4. Higher forces result in lower wattages for given flow.
5. Powerful return spring.

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## HOW TO ORDER

| Port size | NC only stacking  | NC stacking Universal poppet | NO stacking Universal poppet |
|-----------|-------------------|------------------------------|------------------------------|
|           |                   |                              |                              |
| G1/8"     | 36A-SCB-J xxx-xxx | 36A-SCC-J xxx-xxx            | 36A-SCD-J xxx-xxx            |
| M5        | 36A-SDB-J xxx-xxx | 36A-SDC-J xxx-xxx            | 36A-SDD-J xxx-xxx            |

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## SOLENOID OPERATOR >

J **xxx-xxx**\* (-G) Add "G" for ground

| XX | Voltage    | X | Lead wire length | X | Manual operator | XX | Electrical connection               |
|----|------------|---|------------------|---|-----------------|----|-------------------------------------|
| AA | 120V~/5,4W | A | 45 cm            | 1 | Non-locking     | BA | Flying leads                        |
| DA | 24V~/5,4W  | B | 60 cm            | 2 | Locking         | GA | MAC JAC solenoid plug-in            |
| DB | 12V~/5,4W  | C | 90 cm            |   |                 | GB | MAC JAC solenoid plug-in with diode |
| DC | 24V~/2,4W  |   |                  |   |                 | GD | MAC JAC solenoid plug-in with light |
| DD | 12V~/2,4W  |   |                  |   |                 | GG | MAC JAC solenoid plug-in rectifier  |

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\* Click here for other options available.

Note : - AC voltage requires connector with rectifier.

- The MAC JAC connector is similar to the connector used for valves that incorporate the "G" type solenoid. With the MAC JAC, washdown capability is possible. Consult factory for washdown modification number.

End plate kit required (port size G1/4") : M-36001-01P.

ISO 1  
ISO 2  
ISO 3

## BODY TYPE OPTIONS

36A-SCB-Jxxx-xxx

- S Stacking body
- T Stacking body with bottom inlet

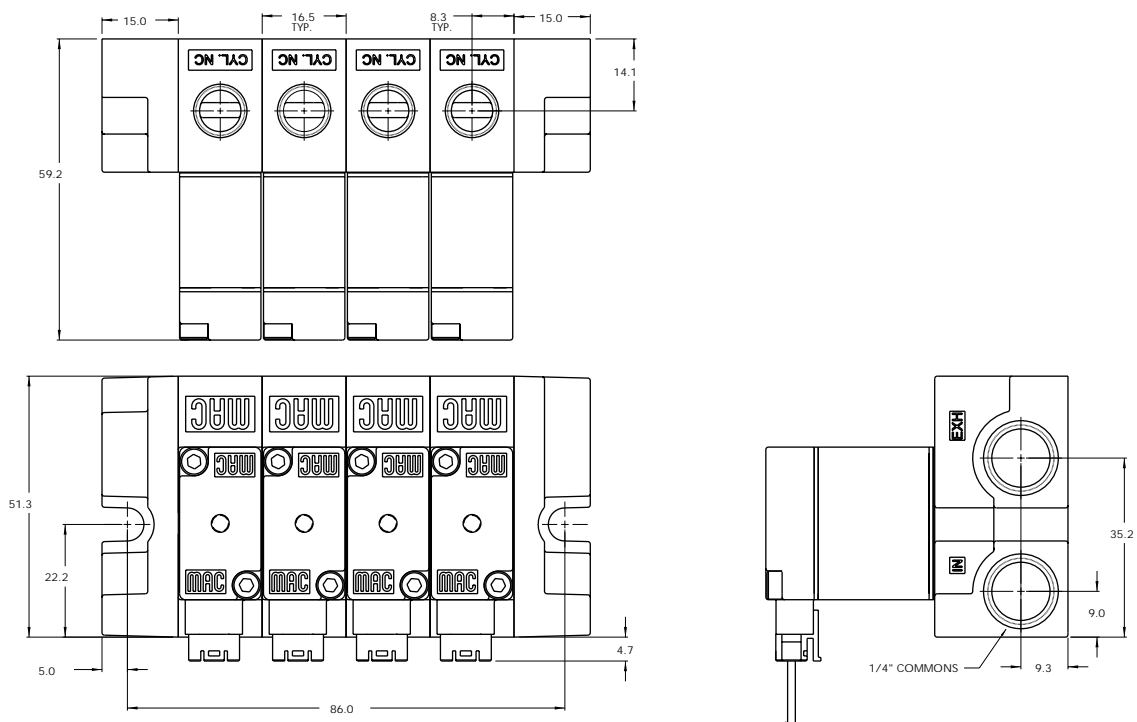
**TECHNICAL DATA**

|                            |  |
|----------------------------|--|
| Fluid :                    | Compressed air, vacuum, inert gases  |
| Pressure range :           | Vacuum to 8 bar  |
| Lubrication :              | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :               | 40 µ   |
| Temperature range :        | -18°C to +50°C   |
| Orifice :                  | 3,3 mm   |
| Flow (at 6 bar, ΔP=1bar) : | G1/8" : 300 NI/min (Cv 0,3) – M5 : 300 NI/min (Cv 0,3)                                 |
| Coil :                     | Epoxy encapsulated – Class A wires – 100% ED   |
| Voltage range :            | -15% to +10% of nominal voltage  |
| Protection :               | IP54 (electrical connection)   |
| Power :                    | 5,4 W – 2,4 W – 1,0 W  |

- Option :
- NPTF threads
- Spare parts :
- Inlet & exhaust isolator plate : N-36001 • Inlet isolator : N-36002
  - Exhaust isolator : N-36003 • Tie rod (x2) : 79411

**DIMENSIONS**

Dimensions shown are metric (mm)





# Direct solenoid and solenoid pilot operated valves

| Function | Port size | Flow (Max) | Manifold mounting       | Series |
|----------|-----------|------------|-------------------------|--------|
| 3/2      | G1/8"     | 300 NI/min | Manifold base "plug-in" |        |

## OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Patented solenoid develops high shifting forces.
3. Short stroke with high flow.
4. Higher forces result in lower wattages for given flow.
5. Powerful return spring.

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## HOW TO ORDER

| Port size       | Universal Valve Normally Closed | Universal Valve Normally Open | Normally Closed Only        | Series |
|-----------------|---------------------------------|-------------------------------|-----------------------------|--------|
|                 |                                 |                               |                             | 46     |
| Valve less base | 36A-J00-00-J <b>xxP-xxx</b>     | 36A-K00-00-J <b>xxP-xxx</b>   | 36A-L00-00-J <b>xxP-xxx</b> | 42     |
| G1/8"           | 36A-JSC-AE-J <b>xxP-xxx</b>     | 36A-KSC-AF-J <b>xxP-xxx</b>   | 36A-LSC-AE-J <b>xxP-xxx</b> | 47     |

## SOLENOID OPERATOR >

J **XX** P-**XXX**\* (-G) Add "G" for ground

| <b>XX</b> Voltage    | <b>X</b> Manual operator | <b>XX</b> Electrical connection       | Series |
|----------------------|--------------------------|---------------------------------------|--------|
| <b>AA</b> 120V~/5,4W | <b>1</b> Non-locking     | <b>FA</b> Base plug-in                | 400    |
| <b>DA</b> 24V~/5,4W  | <b>2</b> Locking         | <b>FB</b> Base plug-in with diode     |        |
| <b>DB</b> 12V~/5,4W  |                          | <b>FG</b> Base plug-in with rectifier | 92     |
| <b>DC</b> 24V~/2,4W  |                          |                                       |        |
| <b>DD</b> 12V~/2,4W  |                          |                                       |        |

\* Click here for other options available.

Note : AC voltage requires connector with rectifier.

Example : Manifold base only : 36A-0SC-AC (Normally closed manifold base).

End plate quit required (port size G1/4") : M-46003-01P.

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ISO 1

ISO 2

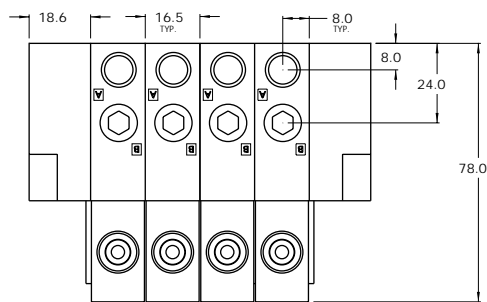
ISO 3

**TECHNICAL DATA**

|                            |   |
|----------------------------|---|
| Fluid :                    | Compressed air, vacuum, inert gases   |
| Pressure range :           | Vacuum to 8 bar   |
| Lubrication :              | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)  |
| Filtration :               | 40 μ  |
| Temperature range :        | -18°C to +50°C  |
| Orifice :                  | 3,3 mm  |
| Flow (at 6 bar, ΔP=1bar) : | 1,8W : 200 NI/min (Cv 0,20) – 2,4W : 200 NI/min (Cv 0,20) – 5,4W : 300 NI/min (Cv 0,30) |
| Coil :                     | Epoxy encapsulated – Class A wires – 100% ED  |
| Voltage range :            | -15% to +10% of nominal voltage   |
| Protection :               | IP54 (electrical connection)  |
| Power :                    | 5,4 W – 2,4 W – 1,8 W   |

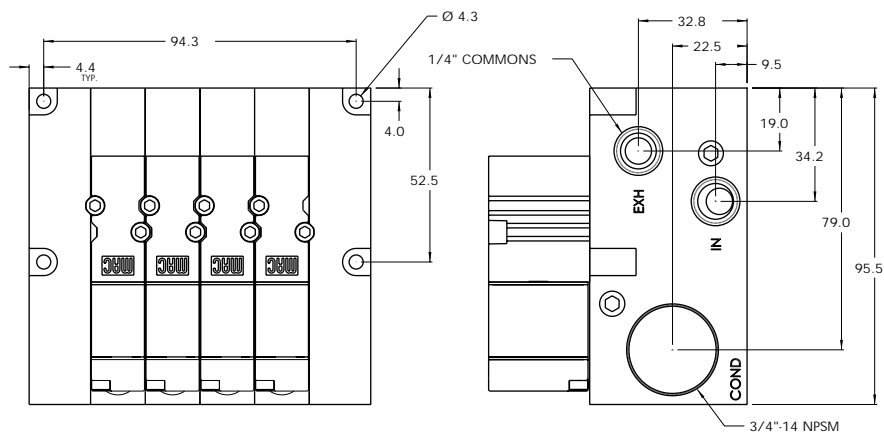
- Option :
- NPTF threads
- Spare parts :
- Inlet isolator : 28501 • Exhaust isolator : 28502 • Valve cover plate : M-46002
  - Tie rod (x2) : 79443

**DIMENSIONS**



Dimensions shown are metric (mm)

Note: For Normally closed manifold the "E" port is plugged.  
For Normally open manifold the "A" port is plugged.



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



# Direct solenoid and solenoid pilot operated valves

| Function | Port size | Flow (Max) | Manifold mounting                                | Series |
|----------|-----------|------------|--|--------|
| 3/2      | G1/8"     | 300 NI/min | Manifold base "plug-in" with pressure regulators | 34     |

## OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Patented solenoid develops high shifting forces.
3. Short stroke with high flow.
4. Higher forces result in lower wattages for given flow.
5. Powerful return spring.

34

36

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44

## HOW TO ORDER

| Port size       | Universal Valve Normally Closed | Universal Valve Normally Open | Normally Closed Only        | Series |
|-----------------|---------------------------------|-------------------------------|-----------------------------|--------|
|                 |                                 |                               |                             | 46     |
| Valve less base | 36A-J00-00-J <b>xxP-xxx</b>     | 36A-K00-00-J <b>xxP-xxx</b>   | 36A-L00-00-J <b>xxP-xxx</b> | 42     |
| G1/8"           | 36A-JSC-AG-J <b>xxP-xxx</b>     | 36A-KSC-AH-J <b>xxP-xxx</b>   | 36A-LSC-AG-J <b>xxP-xxx</b> | 47     |

## SOLENOID OPERATOR ▶

J **xxP-xxx**\* (-G) Add "G" for ground

| <b>XX</b> Voltage    | <b>X</b> Manual operator | <b>XX</b> Electrical connection       | Series |
|----------------------|--------------------------|---------------------------------------|--------|
| <b>AA</b> 120V~/5,4W | <b>1</b> Non-locking     | <b>FA</b> Base plug-in                | 400    |
| <b>DA</b> 24V~/5,4W  | <b>2</b> Locking         | <b>FB</b> Base plug-in with diode     | 92     |
| <b>DB</b> 12V~/5,4W  |                          | <b>FG</b> Base plug-in with rectifier | 93     |
| <b>DC</b> 24V~/2,4W  |                          |                                       | ISO 1  |
| <b>DD</b> 12V~/2,4W  |                          |                                       | ISO 2  |

\* Click here for other options available.

Note : AC voltage requires connector with rectifier.

## OPTIONS

36A-JSC-AG-J**xxP-xxx**

- G** NC manifold & regulator with slotted stem adjustment
- S** NC manifold & regulator with locking slotted stem adjustment
- J** NC manifold & regulator with knob adjustment
- H** NO manifold & regulator with slotted stem adjustment
- T** NO manifold & regulator with locking slotted stem adjustment
- K** NO manifold & regulator with knob adjustment

Note : All manifold bases are only available with a bottom cylinder port.

Example : Manifold base only : 36A-OSC-AJ (Normally closed manifold base & regulator with knob).

End plate quit required (port size G1/4") : M-46003-01P.

**TECHNICAL DATA**

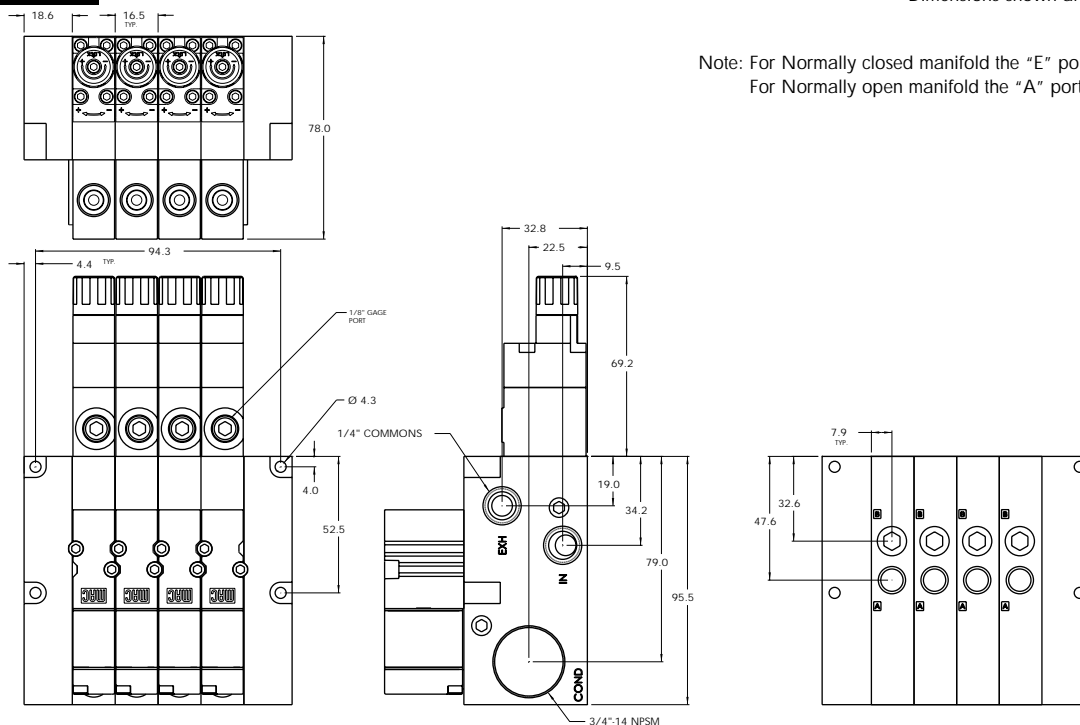
|                            |   |
|----------------------------|---|
| Fluid :                    | Compressed air, vacuum, inert gases   |
| Pressure range :           | Vacuum to 8 bar   |
| Lubrication :              | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)  |
| Filtration :               | 40 µ  |
| Temperature range :        | -18°C to +50°C  |
| Orifice :                  | 3,3 mm  |
| Flow (at 6 bar, ΔP=1bar) : | 1,8W : 200 NI/min (Cv 0,20) – 2,4W : 200 NI/min (Cv 0,20) – 5,4W : 300 NI/min (Cv 0,30) |
| Coil :                     | Epoxy encapsulated – Class A wires – 100% ED  |
| Voltage range :            | -15% to +10% of nominal voltage   |
| Protection :               | IP54 (electrical connection)  |
| Power :                    | 5,4 W – 2,4 W – 1,8 W   |

Option : • NPTF threads

Spare parts : • Inlet isolator : 28501 • Exhaust isolator : 28502 • Valve cover plate : M-46002  
• Tie rod (x2) : 79443

**DIMENSIONS**

Dimensions shown are metric (mm)



Note: For Normally closed manifold the "E" port is plugged.  
For Normally open manifold the "A" port is plugged.

## Individual mounting

|                        |                    |   |   |
|------------------------|--------------------|---|---|
| Sub-base non "plug-in" | Sub-base "plug-in" | Sub-base/manifold base non "plug-in" with latching solenoid | Sub-base/manifold base "plug-in" with latching solenoid |
|------------------------|--------------------|---|---|

Series

## Manifold mounting

|                             |                         |   |   |
|-----------------------------|-------------------------|---|---|
| Manifold base non "plug-in" | Manifold base "plug-in" | Sub-base/manifold base non "plug-in" with latching solenoid | Sub-base/manifold base "plug-in" with latching solenoid |
|-----------------------------|-------------------------|---|---|

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52

67

44

46

42

47

48

400

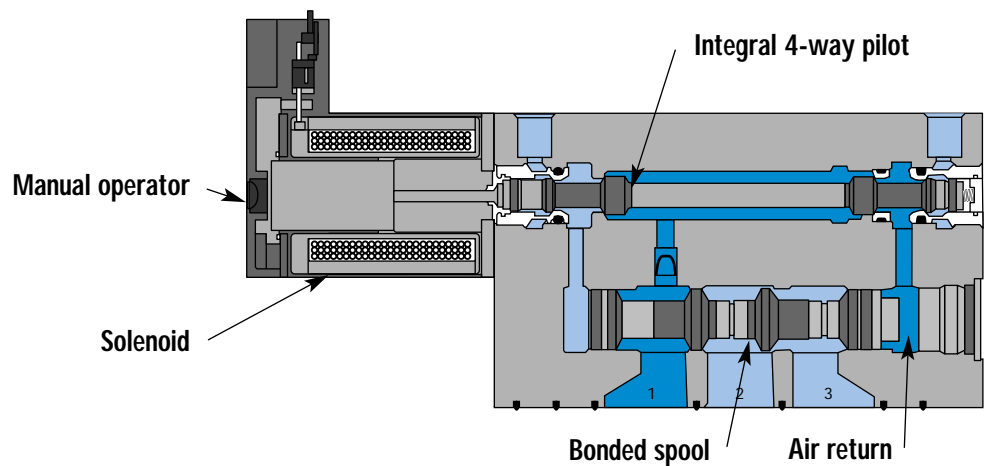
92

93

ISO 1

ISO 2

ISO 3



## SERIES FEATURES

- High force MACSOLENOID<sup>®</sup>.
- Integral 4-way pilot design.
- Internal or external pilot.
- Normally open or normally closed function.
- Universal function (external pilot).
- Rectified AC voltage.
- Latching solenoid technology.





# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max) | Individual mounting    | Series |
|-----------|-----------|------------|------------------------|--------|
| 3/2 NO-NC | G1/8"     | 400 NI/min | Sub-base non "plug-in" |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 10.5 mm centres).
3. High flow (up to 400 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 32A-BMA-000-Gxxx-xxx | 32A-AMA-000-Gxxx-xxx |                      |
|                 | External  | 32A-BMB-000-Gxxx-xxx | 32A-AMB-000-Gxxx-xxx | 32A-GMB-000-Gxxx-xxx |
| G1/8"           | Internal  | 32A-BMA-HAL-Gxxx-xxx | 32A-AMA-HAL-Gxxx-xxx |                      |
|                 | External  | 32A-BMB-HAM-Gxxx-xxx | 32A-AMB-HAM-Gxxx-xxx | 32A-GMB-HAM-Gxxx-xxx |

Note : Above codes are for side port.

## STANDARD SOLENOID OPERATOR >

G **XXX-XXX**\*

| XX | Voltage     | X | Wire length | X | Manual operator | XX | Electrical connection**                        |
|----|-------------|---|-------------|---|-----------------|----|--|
| AA | 120 V~/2,5W | A | 45 cm       | 1 | Non-locking     | BA | Flying leads                                   |
| DA | 24 V~/1,0W  | B | 60 cm       | 2 | Locking         | BT | Flying leads with light                        |
| DC | 24 V~/1,8W  | C | 90 cm       |   |                 | KA | Mini connector                                 |
| DD | 24 V~/2,5W  |   |             |   |                 | KT | Mini connector with light                      |
| DF | 24 V~/4,0W  |   |             |   |                 | KD | Mini connector with rectifier & light & ground |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 32 series with non plug-in base configuration must use type "B" or "K" electrical connector.

Latching solenoid also available, click here.

## OPTIONS

Pilot/Base Configuration :

32A-xMx-xAx-Gxxx-xxx

- A Individual base – Side port
- B Individual base – Bottom port
- M Pilot exhaust muffled
- R Pilot exhaust piped M5
- U Pilot exhaust to main exhaust (not available with external pilot)

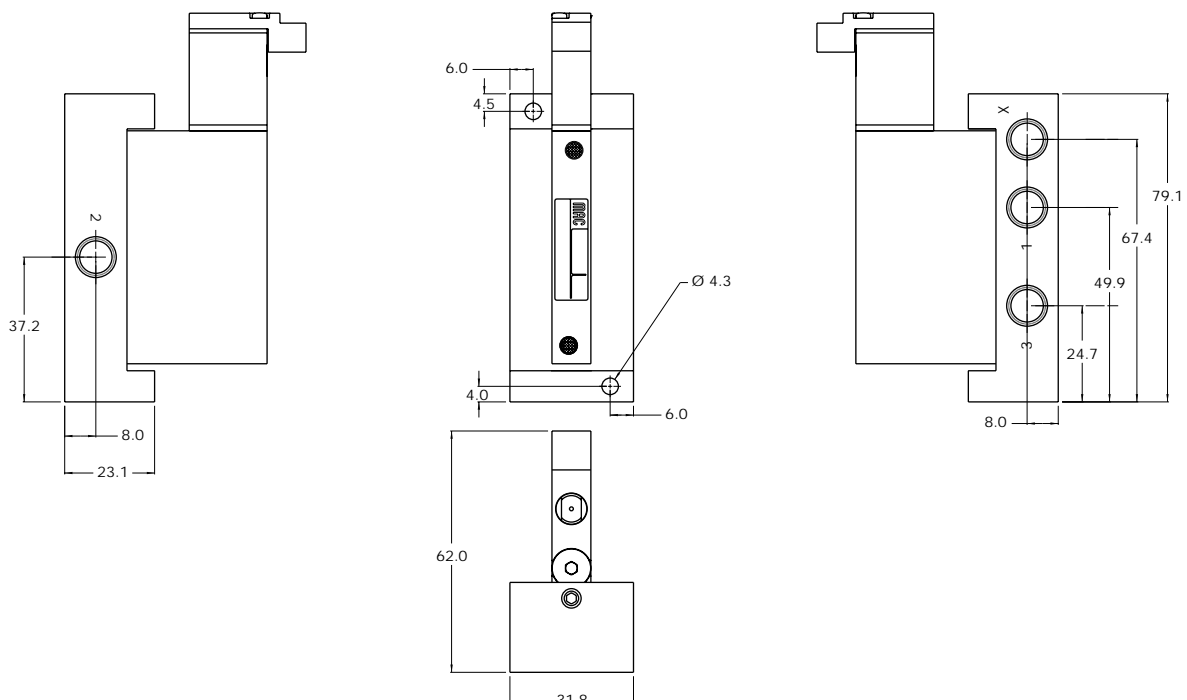
**TECHNICAL DATA**

|                                     |  |
|-------------------------------------|--|
| Fluid :                             | Compressed air, vacuum, inert gases  |
| Pressure range :                    | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| Pilot pressure :                    | 1,3 to 8 bar   |
| Lubrication :                       | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :                        | 40 µ   |
| Temperature range :                 | -18°C to +50°C   |
| Orifice :                           | 3,8 mm   |
| Flow (at 6 bar, ΔP=1bar) :          | G1/8" : 400 NI/min (Cv 0,40)   |
| Coil :                              | Epoxy encapsulated – 100% ED – Class A wire  |
| Voltage range :                     | -15% to +10% of nominal voltage  |
| Protection :                        | IP54 (electrical connection)   |
| Power :                             | 1.0 to 4.0 W   |
| Response times :<br>(with 4 W coil) | Energize : 5 ms<br>De-energize : 5 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)



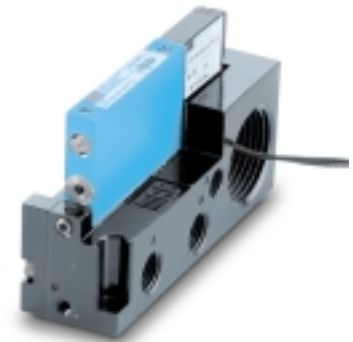


# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max) | Individual mounting | Series |
|-----------|-----------|------------|---------------------|--------|
| 3/2 NO-NC | M5, M7    | 400 NI/min | Sub-base "plug-in"  |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 10.5 mm centres).
3. High flow (up to 400 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



34  
36  
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52  
67  
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## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 32A-BMA-000-GxxP-xxx | 32A-AMA-000-GxxP-xxx |                      |
|                 | External  | 32A-BMB-000-GxxP-xxx | 32A-AMB-000-GxxP-xxx | 32A-GMB-000-GxxP-xxx |
| M5              | Internal  | 32A-BMA-GAA-GxxP-xxx | 32A-AMA-GAA-GxxP-xxx |                      |
|                 | External  | 32A-BMB-GAB-GxxP-xxx | 32A-AMB-GAB-GxxP-xxx | 32A-GMB-GAB-GxxP-xxx |
| M7              | Internal  | 32A-BMA-LAA-GxxP-xxx | 32A-AMA-LAA-GxxP-xxx |                      |
|                 | External  | 32A-BMB-LAB-GxxP-xxx | 32A-AMB-LAB-GxxP-xxx | 32A-GMB-LAB-GxxP-xxx |

Note : Above codes are for side port.

## STANDARD SOLENOID OPERATOR >

G XX P-XXX\*

| XX | Voltage     | X | Manual operator | XX | Electrical connection**                      |
|----|-------------|---|-----------------|----|--|
| AA | 120 V-/2,5W | 1 | Non-locking     | DJ | Base plug-in                                 |
| DA | 24 V-/1,0W  | 2 | Locking         | DT | Base plug-in with light                      |
| DC | 24 V-/1,8W  |   |                 | DD | Base plug-in with rectifier & light & ground |
| DD | 24 V-/2,5W  |   |                 |    |  |
| DF | 24 V-/4,0W  |   |                 |    |  |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 32 series with plug-in base configuration must use type "D" electrical connector. Latching solenoid also available, click here.

400  
92  
93  
ISO 1  
ISO 2  
ISO 3

## OPTIONS

Pilot/Base Configuration :

32A-M-A-GxxP-xxx

- A** Individual base – Side port
- B** Individual base – Bottom port
- M** Pilot exhaust muffled
- R** Pilot exhaust piped M5
- U** Pilot exhaust to main exhaust (not available with external pilot)

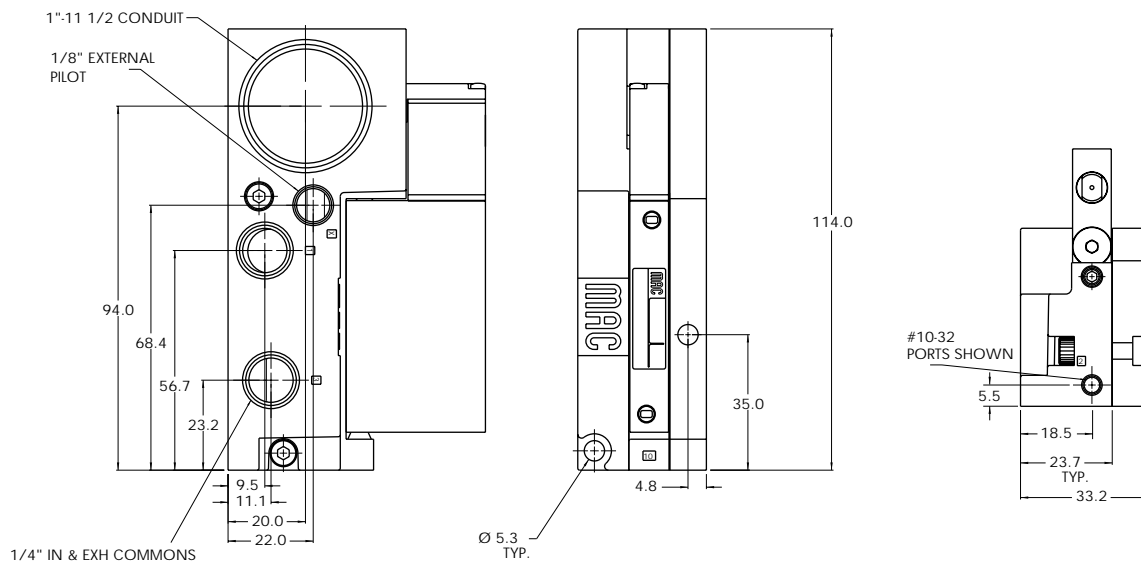
**TECHNICAL DATA**

|   |  |
|---|--|
| <b>Fluid :</b>                              | Compressed air, vacuum, inert gases  |
| <b>Pressure range :</b>                     | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| <b>Pilot pressure :</b>                     | 1,3 to 8 bar   |
| <b>Lubrication :</b>                        | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| <b>Filtration :</b>                         | 40 µ   |
| <b>Temperature range :</b>                  | -18°C to +50°C   |
| <b>Orifice :</b>                            | 3,8 mm   |
| <b>Flow (at 6 bar, ΔP=1bar) :</b>           | M5 : 350 NI/min (Cv 0,35) - M7 : 400 NI/min (Cv 0,40)                                  |
| <b>Coil :</b>                               | Epoxy encapsulated – 100% ED – Class A wire  |
| <b>Voltage range :</b>                      | -15% to +10% of nominal voltage  |
| <b>Protection :</b>                         | IP54 (electrical connection)   |
| <b>Power :</b>                              | 1.0 to 4.0 W   |
| <b>Response times :<br/>(with 4 W coil)</b> | Energize : 5 ms<br>De-energize : 5 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)





# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max) | Manifold mounting           | Series |
|-----------|-----------|------------|-----------------------------|--------|
| 3/2 NO-NC | M5, M7    | 400 NI/min | Manifold base non "plug-in" |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 10.5 mm centres).
3. High flow (up to 400 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



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32  
37  
38  
52  
67  
44

## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 32A-BMA-000-Gxxx-xxx | 32A-AMA-000-Gxxx-xxx |                      |
|                 | External  | 32A-BMB-000-Gxxx-xxx | 32A-AMB-000-Gxxx-xxx | 32A-GMB-000-Gxxx-xxx |
| M5              | Internal  | 32A-BMA-GJL-Gxxx-xxx | 32A-AMA-GJL-Gxxx-xxx |                      |
|                 | External  | 32A-BMB-GJM-Gxxx-xxx | 32A-AMB-GJM-Gxxx-xxx | 32A-GMB-GJM-Gxxx-xxx |
| M7              | Internal  | 32A-BMA-LJL-Gxxx-xxx | 32A-AMA-LJL-Gxxx-xxx |                      |
|                 | External  | 32A-BMB-LJM-Gxxx-xxx | 32A-AMB-LJM-Gxxx-xxx | 32A-FMB-LJM-Gxxx-xxx |

Note : Above codes are for side port.

## STANDARD SOLENOID OPERATOR >

G **XXX-XXX**\*

| XX | Voltage     | X | Wire length | X | Manual operator | XX | Electrical connection**                        |
|----|-------------|---|-------------|---|-----------------|----|--|
| AA | 120 V-/2,5W | A | 45 cm       | 1 | Non-locking     | BA | Flying leads                                   |
| DA | 24 V-/1,0W  | B | 60 cm       | 2 | Locking         | BT | Flying leads with light                        |
| DC | 24 V-/1,8W  | C | 90 cm       |   |                 | KA | Mini connector                                 |
| DD | 24 V-/2,5W  |   |             |   |                 | KT | Mini connector with light                      |
| DF | 24 V-/4,0W  |   |             |   |                 | KD | Mini connector with rectifier & light & ground |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 32 series with non plug-in base configuration must use type "B" or "K" electrical connector.

Latching solenoid also available, click here.

400  
92  
93  
ISO 1  
ISO 2  
ISO 3

## OPTIONS

Base only :

32A-000-xxx (i.e. 32A-000-GJL)

Base Configuration :

32A-xMx-xJx-Gxxx-xxx

- J Manifold base – Side port
- K Manifold base – Bottom port

- M Pilot exhaust muffled
- R Pilot exhaust piped M5
- U Pilot exhaust to main exhaust (not available with external pilot)

Note : Manifold assemblies require an end plate kit :  
M-32003-01-01P (Internal pilot)  
M-32003-02-01P (External pilot)

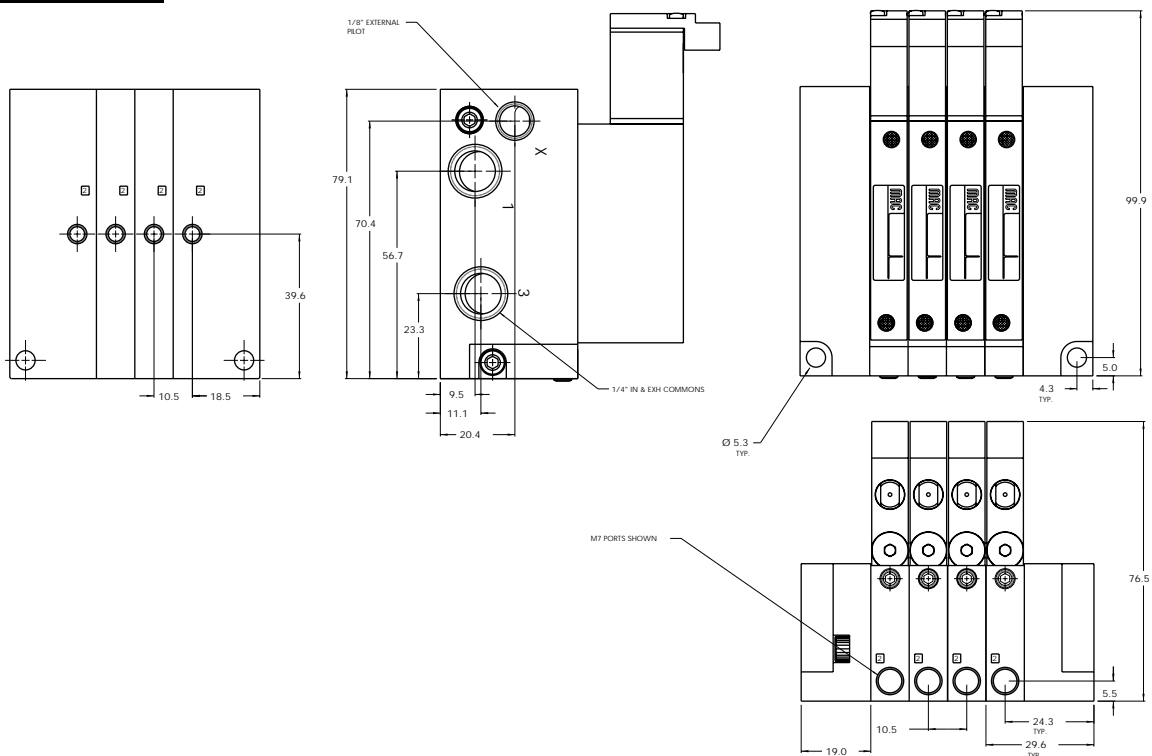
**TECHNICAL DATA**

|   |  |
|---|--|
| <b>Fluid :</b>                              | Compressed air, vacuum, inert gases  |
| <b>Pressure range :</b>                     | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| <b>Pilot pressure :</b>                     | 1,3 to 8 bar   |
| <b>Lubrication :</b>                        | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| <b>Filtration :</b>                         | 40 µ   |
| <b>Temperature range :</b>                  | -18°C to +50°C   |
| <b>Orifice :</b>                            | 3,8 mm   |
| <b>Flow (at 6 bar, ΔP=1bar) :</b>           | M5 : 350 NI/min (Cv 0,35) - M7 : 400 NI/min (Cv 0,40)                                  |
| <b>Coil :</b>                               | Epoxy encapsulated – 100% ED – Class A wire  |
| <b>Voltage range :</b>                      | -15% to +10% of nominal voltage  |
| <b>Protection :</b>                         | IP54 (electrical connection)   |
| <b>Power :</b>                              | 1.0 to 4.0 W   |
| <b>Response times :<br/>(with 4 W coil)</b> | Energize : 5 ms<br>De-energize : 5 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)

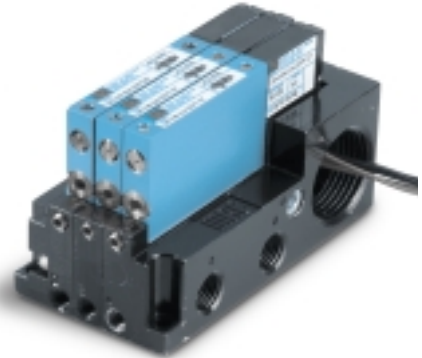


Consult "Precautions" before use, installation or service of MAC Valves..

| Function  | Port size | Flow (Max) | Manifold mounting       | Series |
|-----------|-----------|------------|-------------------------|--------|
| 3/2 NO-NC | M5, M7    | 400 NI/min | Manifold base "plug-in" |        |

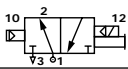
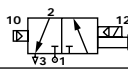
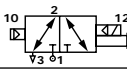
### OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 10.5 mm centres).
3. High flow (up to 400 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



34  
36  
32  
37  
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67  
44

### HOW TO ORDER

| Port size       | Pilot air | NO valve  | NC valve  | Universal valve   |
|-----------------|-----------|---|---|---|
|                 |           |  |  |  |
| Valve less base | Internal  | 32A-BMA-000-GxxP-xxx  | 32A-AMA-000-GxxP-xxx  |   |
|                 | External  | 32A-BMB-000-GxxP-xxx  | 32A-AMB-000-GxxP-xxx  | 32A-GMB-000-GxxP-xxx  |
| M5              | Internal  | 32A-BMA-GJA-GxxP-xxx  | 32A-AMA-GJA-GxxP-xxx  |   |
|                 | External  | 32A-BMB-GJB-GxxP-xxx  | 32A-AMB-GJB-GxxP-xxx  | 32A-GMB-GJB-GxxP-xxx  |
| M7              | Internal  | 32A-BMA-LJA-GxxP-xxx  | 32A-AMA-LJA-GxxP-xxx  |   |
|                 | External  | 32A-BMB-LJB-GxxP-xxx  | 32A-AMB-LJB-GxxP-xxx  | 32A-GMB-LJB-GxxP-xxx  |

46  
42  
47  
48  
400

Note : Above codes are for side port.

### STANDARD SOLENOID OPERATOR >

G XX P-XXX\*

| XX | Voltage     | X | Manual operator | XX | Electrical connection**                      |
|----|-------------|---|-----------------|----|--|
| AA | 120 V-/2,5W | 1 | Non-locking     | DJ | Base plug-in                                 |
| DA | 24 V-/1,0W  | 2 | Locking         | DT | Base plug-in with light                      |
| DC | 24 V-/1,8W  |   |                 | DD | Base plug-in with rectifier & light & ground |
| DD | 24 V-/2,5W  |   |                 |    |  |
| DF | 24 V-/4,0W  |   |                 |    |  |

92  
93  
ISO 1  
ISO 2  
ISO 3

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 32 series with plug-in base configuration must use type "D" electrical connector.

Latching solenoid also available, click here.

### OPTIONS

Base only :

32A-000-xxx (i.e. 32A-000-GJA)

Base Configuration :

32A-xxx-Jx-GxxP-xxx

- J Manifold base - Side port
- K Manifold base - Bottom port
- L Left end manifold base - Side port
- M Left end manifold base - Bottom port
- N Right end manifold base - Side port
- P Right end manifold base - Bottom port

Note : Manifold assemblies consist of (1) left end manifold, (1) right end manifold and middle station manifolds (options "J" or "K").

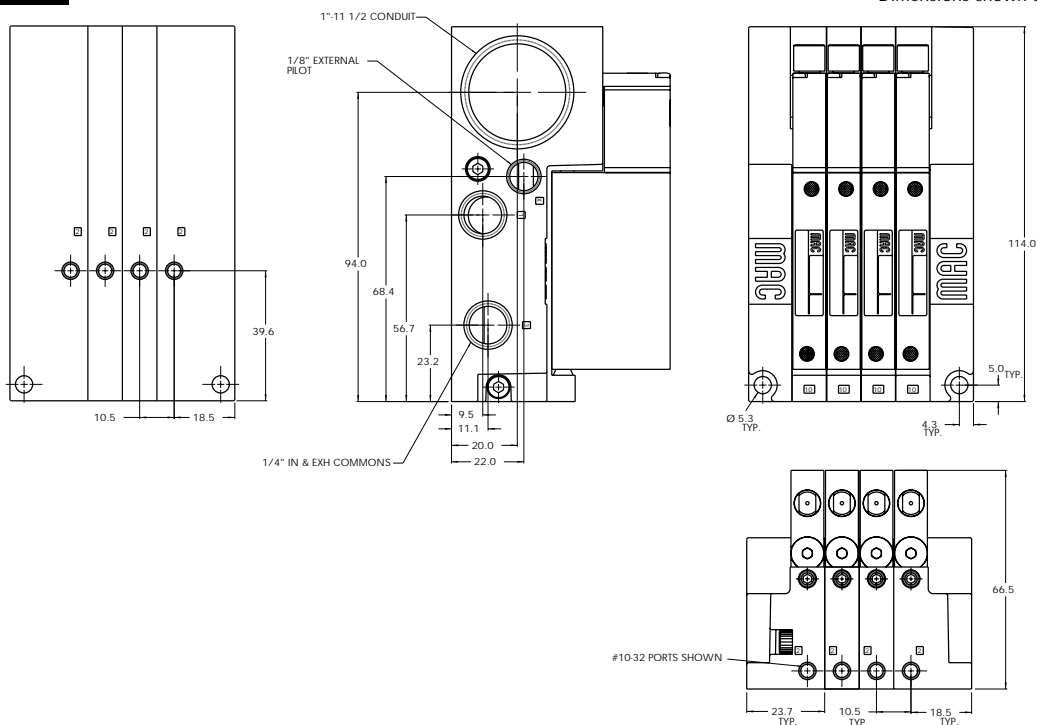
**TECHNICAL DATA**

|   |  |
|---|--|
| <b>Fluid :</b>                              | Compressed air, vacuum, inert gases  |
| <b>Pressure range :</b>                     | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| <b>Pilot pressure :</b>                     | 1,3 to 8 bar   |
| <b>Lubrication :</b>                        | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| <b>Filtration :</b>                         | 40 µ   |
| <b>Temperature range :</b>                  | -18°C to +50°C   |
| <b>Orifice :</b>                            | 3,8 mm   |
| <b>Flow (at 6 bar, ΔP=1bar) :</b>           | M5 : 350 NI/min (Cv 0,35) - M7 : 400 NI/min (Cv 0,40)                                  |
| <b>Coil :</b>                               | Epoxy encapsulated – 100% ED – Class A wire  |
| <b>Voltage range :</b>                      | -15% to +10% of nominal voltage  |
| <b>Protection :</b>                         | IP54 (electrical connection)   |
| <b>Power :</b>                              | 1.0 to 4.0 W   |
| <b>Response times :<br/>(with 4 W coil)</b> | Energize : 5 ms<br>De-energize : 5 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)







# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max) | Individual/Manifold mounting   | Series |
|-----------|-----------|------------|--|--------|
| 3/2 NO-NC | M5, M7    | 400 NI/min | Sub-base/<br>manifold base<br>non "plug-in"<br>with latching<br>solenoid |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 10.5 mm centres).
3. High flow (up to 400 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             |
|-----------------|-----------|----------------------|----------------------|
|                 |           |                      |                      |
| Valve less base | Internal  | 32A-BMA-000-Lxxx-xxx | 32A-AMA-000-Lxxx-xxx |
|                 | External  | 32A-BMB-000-Lxxx-xxx | 32A-AMB-000-Lxxx-xxx |
| M5              | Internal  | 32A-BMA-GAL-Lxxx-xxx | 32A-AMA-GAL-Lxxx-xxx |
|                 | External  | 32A-BMB-GAM-Lxxx-xxx | 32A-AMB-GAM-Lxxx-xxx |
| M7              | Internal  | 32A-BMA-LAL-Lxxx-xxx | 32A-AMA-LAL-Lxxx-xxx |
|                 | External  | 32A-BMB-LAM-Lxxx-xxx | 32A-AMB-LAM-Lxxx-xxx |

Note : Above codes are for individual base and side port.

## LATCHING SOLENOID OPERATOR >

| L XXX-XXX*    |               |                   |   |
|---------------|---------------|-------------------|---|
| XX Voltage    | X Wire length | X Manual operator | XX Electrical connection**                            |
| DF 24 V=4,0W  | A 45 cm       | 0 No operator     | BA 2 Wire Flying leads                                |
| HA 24 V=1,95W | B 60 cm       |                   | BJ 4 Wire Flying leads                                |
|               | C 90 cm       |                   | KA 2 Wire Plug-in Assembly                            |
|               |               |                   | KE 4 Wire Plug-in Assembly                            |
|               |               |                   | LA 3 Wire plug-in assembly (Polarity Switching Cover) |

\* Click here for other options available.

\*\* Latching 32 series with non plug-in base configuration must use "B", "K" or "L" type electrical connector.

## OPTIONS

Pilot/Base Configuration :

32A-xMx-xAx-Lxxx-xxx

- A Individual base – Side port
- B Individual base – Bottom port
- J Manifold base – Side port
- K Manifold base – Bottom port
- M Pilot exhaust muffled
- R Pilot exhaust piped M5
- U Pilot exhaust to main exhaust (not available with external pilot)

Note : Manifold assemblies require an end plate kit: M-32003-01-01P (internal pilot)  
M-32003-02-01P (external pilot)

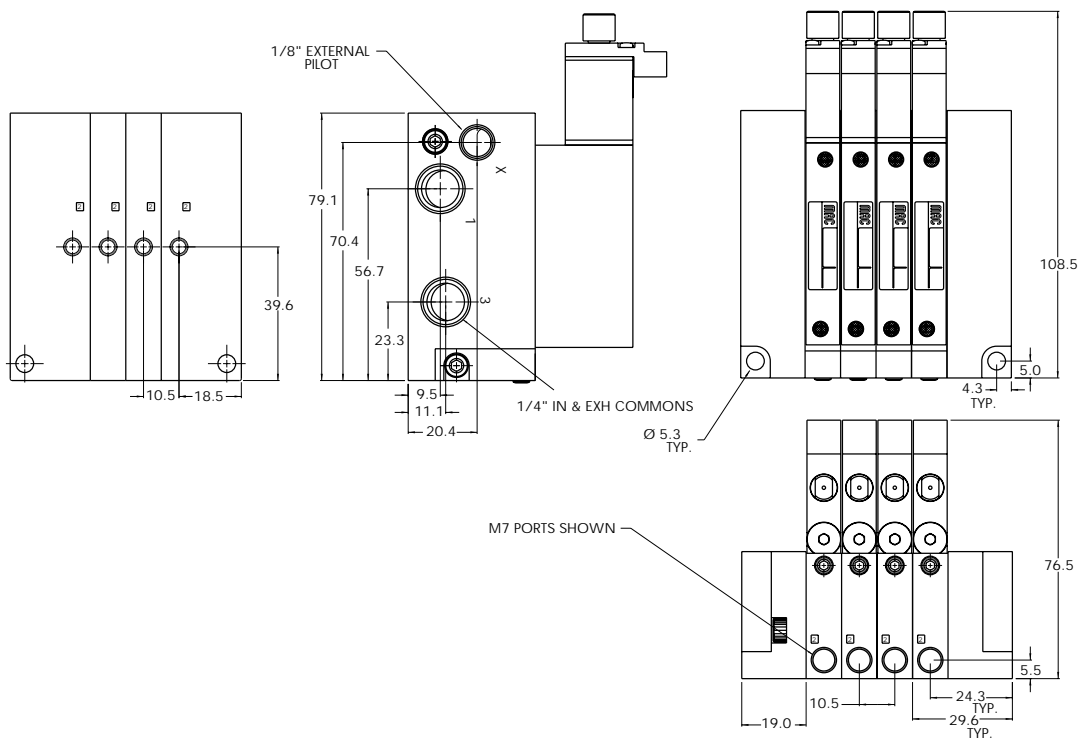
**TECHNICAL DATA**

|                                     |  |
|-------------------------------------|--|
| Fluid :                             | Compressed air, vacuum, inert gases  |
| Pressure range :                    | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| Pilot pressure :                    | 1,3 to 8 bar   |
| Lubrication :                       | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :                        | 40 µ   |
| Temperature range :                 | -18°C to +50°C   |
| Orifice :                           | 3,8 mm   |
| Flow (at 6 bar, ΔP=1bar) :          | M5 : 350 NI/min (Cv 0,35) - M7 : 400 NI/min (Cv 0,40)                                  |
| Coil :                              | Epoxy encapsulated – 100% ED – Class A wire  |
| Voltage range :                     | -15% to +10% of nominal voltage  |
| Protection :                        | IP54 (electrical connection)   |
| Power :                             | 1.95 to 4.0 W  |
| Response times :<br>(with 4 W coil) | Energize : 5 ms<br>De-energize : 5 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)



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

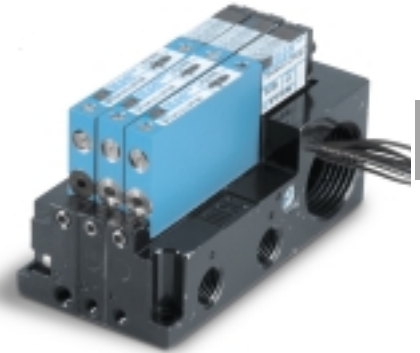


# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max) | Individual/Manifold mounting   | Series |
|-----------|-----------|------------|--|--------|
| 3/2 NO-NC | M5, M7    | 400 NI/min | Sub-base/<br>manifold base<br>"plug-in"<br>with latching<br>solenoid |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 10.5 mm centres).
3. High flow (up to 400 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             |
|-----------------|-----------|----------------------|----------------------|
|                 |           |                      |                      |
| Valve less base | Internal  | 32A-BMA-000-LxxP-xxx | 32A-AMA-000-LxxP-xxx |
|                 | External  | 32A-BMB-000-LxxP-xxx | 32A-AMB-000-LxxP-xxx |
| M5              | Internal  | 32A-BMA-GAA-LxxP-xxx | 32A-AMA-GAA-LxxP-xxx |
|                 | External  | 32A-BMB-GAB-LxxP-xxx | 32A-AMB-GAB-LxxP-xxx |
| M7              | Internal  | 32A-BMA-LAA-LxxP-xxx | 32A-AMA-LAA-LxxP-xxx |
|                 | External  | 32A-BMB-LAB-LxxP-xxx | 32A-AMB-LAB-LxxP-xxx |

Note : Above codes are for individual base and side port.

## LATCHING SOLENOID OPERATOR >

L XX P-XXX\*

| XX | Voltage      | X | Manual operator | XX | Electrical connection**                                |
|----|--------------|---|-----------------|----|--|
| DF | 24 V= /4,0W  | 0 | No operator     | DA | Base/Manifold Plug-in                                  |
| HA | 24 V= /1,95W |   |                 | DB | Base/Manifold Plug-in w/ Ground                        |
|    |              |   |                 | DC | Base/Manifold Plug-in w/ Light                         |
|    |              |   |                 | DD | Base/Manifold Plug-in w/ Light and Ground              |
|    |              |   |                 | EA | Base/Manifold Plug-in 3 Pin (Polarity Switching Cover) |

\* Click here for other options available.

\*\*2 and 4 wire base must use "D" type electrical connector, 3 wire base must use "EA" type electrical connector.

## OPTIONS

Manifold/Base Configuration :

32A-xMx-xAx-LxxP-xxx

- A Individual base - Side port
- B Individual base - Bottom port
- J Manifold base - Side port
- K Manifold base - Bottom port
- L Left end manifold base - Side port
- M Left end manifold base - Bottom port
- N Right end manifold base - Side port
- P Right end manifold base - Bottom port

- M Pilot exhaust muffled
- R Pilot exhaust piped M5
- U Pilot exhaust to main exhaust (not available with external pilot)

Base Int./Ext. Pilot :

32A-xxx-xxA-LxxP-xxx

- A Plug-In Int. Pilot (2 Wire)\*\*
- B Plug-In Ext. Pilot (2 Wire)\*\*
- C Plug-In Int. Pilot (3 Wire)\*\*
- D Plug-In Ext. Pilot (3 Wire)\*\*
- E Plug-In Int. Pilot (4 Wire)\*\*
- F Plug-In Ext. Pilot (4 Wire)\*\*

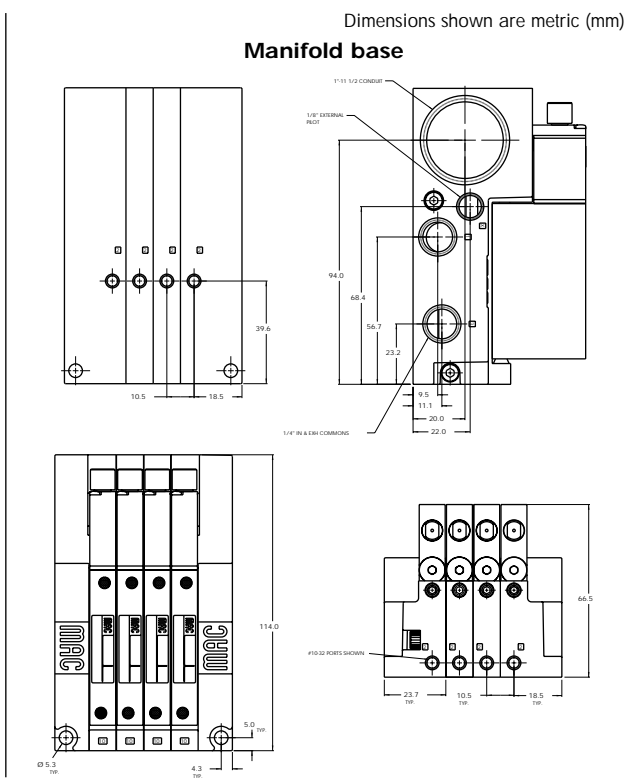
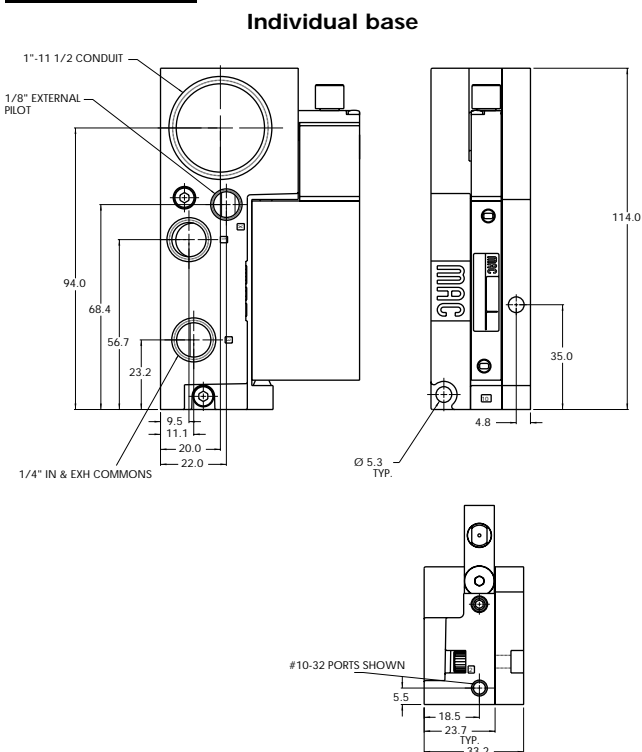
Note : Manifold assemblies consist of (1) left end manifold, (1) right end manifold, and middle station manifolds (option J or K).

**TECHNICAL DATA**

|   |  |
|---|--|
| <b>Fluid :</b>                              | Compressed air, vacuum, inert gases  |
| <b>Pressure range :</b>                     | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| <b>Pilot pressure :</b>                     | 1,3 to 8 bar   |
| <b>Lubrication :</b>                        | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| <b>Filtration :</b>                         | 40 µ   |
| <b>Temperature range :</b>                  | -18°C to +50°C   |
| <b>Orifice :</b>                            | 3,8 mm   |
| <b>Flow (at 6 bar, ΔP=1bar) :</b>           | M5 : 350 NI/min (Cv 0,35) - M7 : 400 NI/min (Cv 0,40)                                  |
| <b>Coil :</b>                               | Epoxy encapsulated – 100% ED – Class A wire  |
| <b>Voltage range :</b>                      | -15% to +10% of nominal voltage  |
| <b>Protection :</b>                         | IP54 (electrical connection)   |
| <b>Power :</b>                              | 1.0 to 4.0 W   |
| <b>Response times :<br/>(with 4 W coil)</b> | Energize : 5 ms<br>De-energize : 5 ms  |

Options : • NPT threads

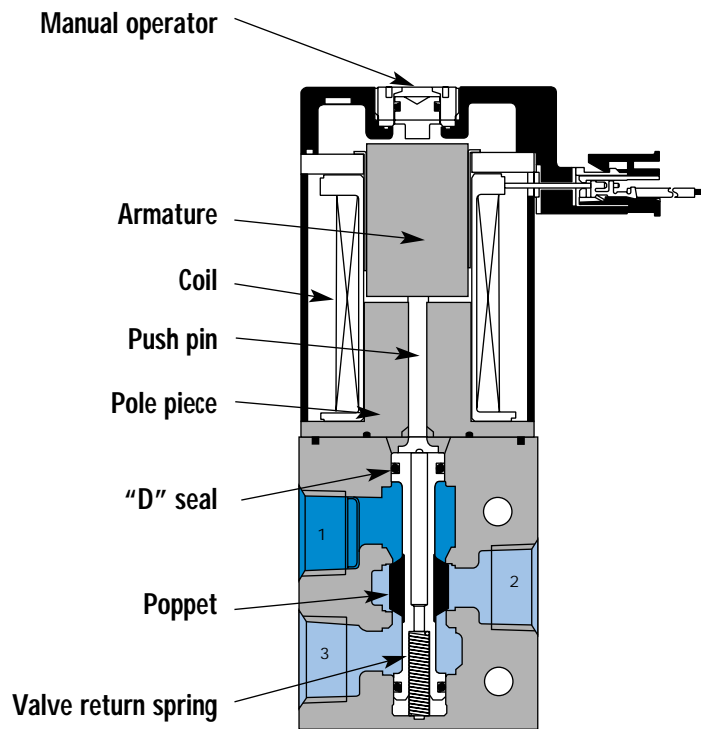
**DIMENSIONS**



Individual mounting

Series

| Inline | Sub-base non plug-in | Series    |
|--------|----------------------|-----------|
|        |                      | 34        |
|        |                      | 36        |
|        |                      | 32        |
|        |                      | <b>37</b> |
|        |                      | 38        |
|        |                      | 52        |
|        |                      | 67        |
|        |                      | 44        |
|        |                      | 46        |
|        |                      | 42        |
|        |                      | 47        |
|        |                      | 48        |
|        |                      | 400       |
|        |                      | 92        |
|        |                      | 93        |
|        |                      | ISO 1     |
|        |                      | ISO 2     |
|        |                      | ISO 3     |



**SERIES FEATURES**

- Balanced poppet equals consistent high shifting forces.
- Valve shifting forces are consistent and independent of pressure fluctuations.
- High solenoid and return spring forces ensure high speed and precise repeatability.
- Built-in wear compensation - valve stroke is shorter than solenoid stroke.
- Constant high flow maintained throughout the pressure range.
- Exhaust contaminants are isolated from the solenoid.
- Full flow exhaust.
- Universal porting - 6 functions in one valve.



# Direct solenoid and solenoid pilot operated valves

| Function  | Port size     | Flow (Max) | Individual mounting | Series |
|-----------|---------------|------------|---------------------|--------|
| 3/2 NO-NC | G1/8" - G1/4" | 500 NI/min | Inline              |        |

## OPERATIONAL BENEFITS

- Balanced poppet equals consistent high shifting forces.
- Valve shifting forces are consistent and independent of pressure fluctuations.
- High solenoid and return spring forces ensure high speed and precise repeatability.
- Built-in wear compensation – valve stroke is shorter than solenoid stroke.
- Constant high flow maintained throughout the pressure range.
- Exhaust contaminants are isolated from the solenoid.
- Full flow exhaust.
- Universal porting – 6 functions in one valve.



## HOW TO ORDER

| Port size | Universal valve   | NC only valve     |
|-----------|-------------------|-------------------|
|           |                   |                   |
| G1/8"     | 37A-AC0-H xxx-xxx | 37A-BC0-H xxx-xxx |
| G1/4"     | 37A-AD0-H xxx-xxx | 37A-BD0-H xxx-xxx |

## SOLENOID OPERATOR ►

H **XXX-XXX**\*

| XX | Voltage     | X | Wire length | X | Manual operator | XX | Electrical connection**               |
|----|-------------|---|-------------|---|-----------------|----|---------------------------------------|
| AA | 120 V~/6,7W | A | 45 cm       | 1 | Non-locking     | MA | Mini connector                        |
| DA | 24 V~/5,2W  | B | 60 cm       | 2 | Locking         | MC | Mini connector with light             |
| DB | 24 V~/2,4W  |   |             |   |                 | BA | Flying leads                          |
| DC | 24 V~/1,8W  |   |             |   |                 | BC | Flying leads with light               |
|    |             |   |             |   |                 | HA | Mini connector with rectifier & light |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

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ISO 1

ISO 2

ISO 3

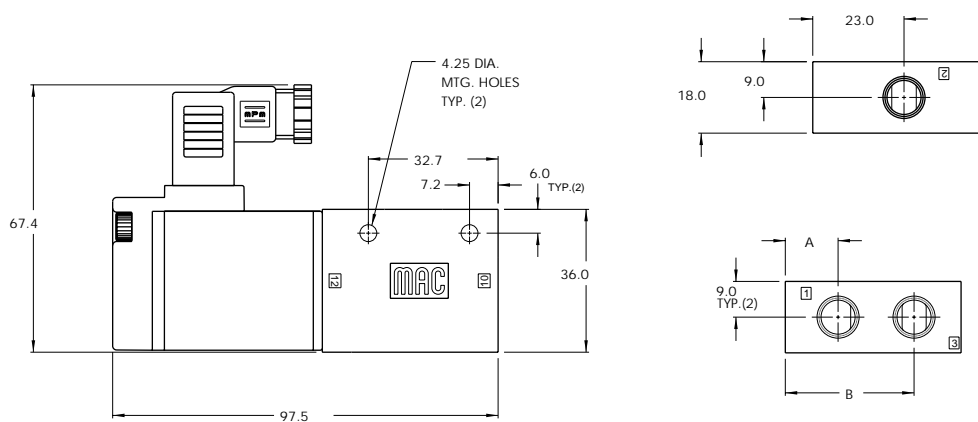
**TECHNICAL DATA**

|                                       |  |
|---------------------------------------|--|
| Fluid :                               | Compressed air, vacuum, inert gases  |
| Pressure range :                      | Vacuum to 8 bar  |
| Lubrication :                         | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :                          | 40 μ   |
| Temperature range :                   | -18°C to +50°C   |
| Orifice :                             | 4,3 mm   |
| Flow :                                | 5,2 W : 500 NI/min (Cv 0,5) – 2,4 W : 350 NI/min (Cv 0,35)                             |
| Coil :                                | Epoxy encapsulated – 100% ED   |
| Voltage range :                       | -15% to +10% of nominal voltage  |
| Protection :                          | IP54 (electrical connection)   |
| Power :                               | 5,2 W – 2,4 W  |
| Response times :<br>(with 5,2 W coil) | Energize : 16,9 ms<br>De-energize : 6,7 ms   |

Options : • NPTF ports

**DIMENSIONS**

Dimensions shown are metric (mm)



| Dim  | A    | B     |
|------|------|-------|
| 1/8" | 13.3 | 32.45 |
| 1/4" | 14.7 | 33.7  |



# Direct solenoid and solenoid pilot operated valves

| Function  | Port size     | Flow (Max) | Individual mounting  | Series |
|-----------|---------------|------------|----------------------|--------|
| 3/2 NO-NC | G1/8" - G1/4" | 500 NI/min | Sub-base non plug-in |        |

## OPERATIONAL BENEFITS

- Balanced poppet equals consistent high shifting forces.
- Valve shifting forces are consistent and independent of pressure fluctuations.
- High solenoid and return spring forces ensure high speed and precise repeatability.
- Built-in wear compensation – valve stroke is shorter than solenoid stroke.
- Constant high flow maintained throughout the pressure range.
- Exhaust contaminants are isolated from the solenoid.
- Full flow exhaust.
- Universal porting – 6 functions in one valve.



## HOW TO ORDER

| Port size       | Universal valve          | NC only valve            |
|-----------------|--------------------------|--------------------------|
|                 |                          |                          |
| Valve less base | 37A-C10-H <b>xxx-xxx</b> | 37A-D10-H <b>xxx-xxx</b> |
| G1/8"           | 37A-CCA-H <b>xxx-xxx</b> | 37A-DCA-H <b>xxx-xxx</b> |
| G1/4"           | 37A-CDA-H <b>xxx-xxx</b> | 37A-DDA-H <b>xxx-xxx</b> |

## SOLENOID OPERATOR ▶

H **xxx-xxx**\*

| XX | Voltage     | X | Wire length | X | Manual operator | XX | Electrical connection                        |
|----|-------------|---|-------------|---|-----------------|----|--|
| AA | 120 V~/6,7W | A | 45 cm       | 1 | Non-locking     | MA | Plug-in wire assembly                        |
| DA | 24 V~/5,2W  | B | 60 cm       | 2 | Locking         | MC | Plug-in wire assembly with light             |
| DB | 24 V~/2,4W  |   |             |   |                 | BA | Flying leads                                 |
| DC | 24 V~/1,8W  |   |             |   |                 | BC | Flying leads with light                      |
|    |             |   |             |   |                 | HA | Plug-in wire assembly with rectifier & light |

Note : AC voltage requires connector with rectifier.  
\* Click here for other options available.

## OPTIONS

Base only :

37A-OCA (1/8")

37A-ODA (1/4")

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ISO 1

ISO 2

ISO 3



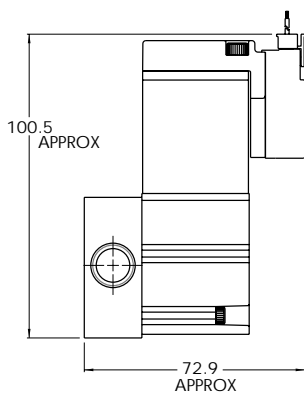
**TECHNICAL DATA**

|                                       |  |
|---------------------------------------|--|
| Fluid :                               | Compressed air, vacuum, inert gases  |
| Pressure range :                      | Vacuum to 8 bar  |
| Lubrication :                         | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :                          | 40 µ   |
| Temperature range :                   | -18°C to +50°C   |
| Orifice :                             | 4,3 mm   |
| Flow :                                | 5,2 W : 500 NI/min (Cv 0,5) – 2,4 W : 350 NI/min (Cv 0,35)                             |
| Coil :                                | Epoxy encapsulated – 100% ED   |
| Voltage range :                       | -15% to +10% of nominal voltage  |
| Protection :                          | IP54 (electrical connection)   |
| Power :                               | 5,2 W – 2,4 W  |
| Response times :<br>(with 5,2 W coil) | Energize : 16,9 ms<br>De-energize : 6,7 ms   |

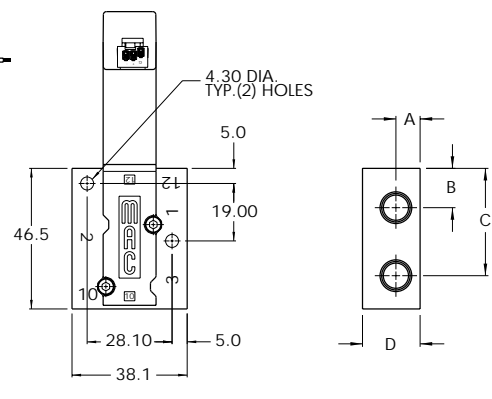
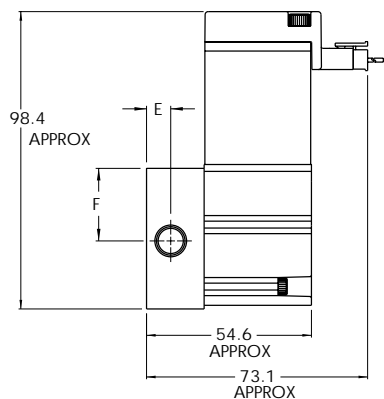
Options : • NPTF ports

**DIMENSIONS**

Dimensions shown are metric (mm)



RECTIFIER COVER OPTION  
(SHOWN WITH 1/4" PORTS)



FLYING LEAD OPTION  
(SHOWN WITH 1/8" PORTS)

| Dim  | A   | B    | C    | D     | E   | F    |
|------|-----|------|------|-------|-----|------|
| 1/8" | 8.0 | 13.0 | 35.5 | 19.05 | 8.0 | 24.0 |
| 1/4" | 9.5 | 9.5  |      |       | 9.5 | 22.5 |

## Individual mounting

|                        |                    |   |   |
|------------------------|--------------------|---|---|
| Sub-base non "plug-in" | Sub-base "plug-in" | Sub-base/manifold base non "plug-in" with latching solenoid | Sub-base/manifold base "plug-in" with latching solenoid |
|------------------------|--------------------|---|---|

Series

34

## Manifold mounting

|                             |                         |   |   |
|-----------------------------|-------------------------|---|---|
| Manifold base non "plug-in" | Manifold base "plug-in" | Sub-base/manifold base non "plug-in" with latching solenoid | Sub-base/manifold base "plug-in" with latching solenoid |
|-----------------------------|-------------------------|---|---|

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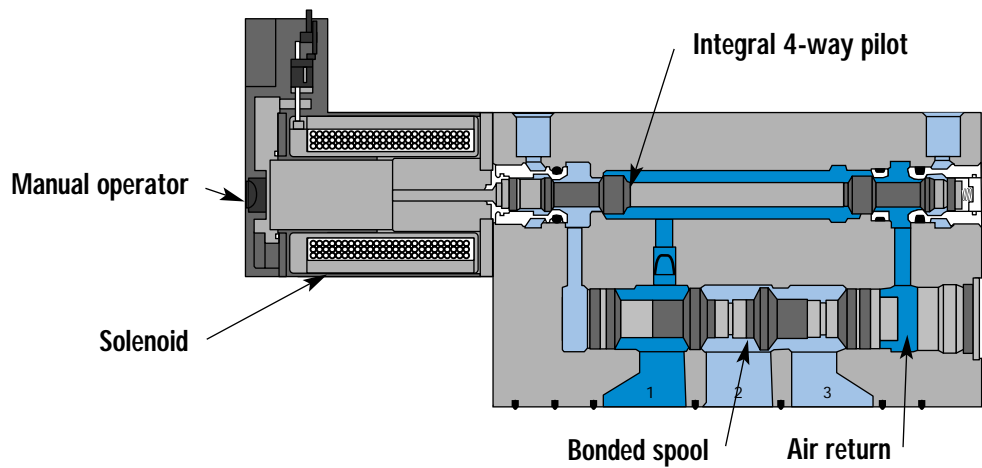
92

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ISO 1

ISO 2

ISO 3



## SERIES FEATURES

- High force MACSOLENOID<sup>®</sup>.
- Integral 4-way pilot design.
- Internal or external pilot.
- Normally open or normally closed function.
- Universal function (external pilot).
- Rectified AC voltage.
- Latching solenoid technology.



# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max)  | Individual mounting    | Series |
|-----------|-----------|-------------|------------------------|--------|
| 3/2 NO-NC | G1/8"     | 1200 NI/min | Sub-base non "plug-in" |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 16.5 mm centers).
3. High flow (up to 1200 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 38A-BMA-000-Gxxx-xxx | 38A-AMA-000-Gxxx-xxx |                      |
|                 | External  | 38A-BMB-000-Gxxx-xxx | 38A-AMB-000-Gxxx-xxx | 38A-GMB-000-Gxxx-xxx |
| G1/8"           | Internal  | 38A-BMA-BAL-Gxxx-xxx | 38A-AMA-BAL-Gxxx-xxx |                      |
|                 | External  | 38A-BMB-BAM-Gxxx-xxx | 38A-AMB-BAM-Gxxx-xxx | 38A-GMB-BAM-Gxxx-xxx |

Note : Above codes are for side port.

## STANDARD SOLENOID OPERATOR >

G **XXX-XXX**\*

| XX | Voltage     | X | Wire length | X | Manual operator | XX | Electrical connection**                        |
|----|-------------|---|-------------|---|-----------------|----|--|
| AA | 120 V~/2,5W | A | 45 cm       | 1 | Non-locking     | BA | Flying leads                                   |
| DA | 24 V~/1,0W  | B | 60 cm       | 2 | Locking         | BT | Flying leads with light                        |
| DC | 24 V~/1,8W  | C | 90 cm       |   |                 | KA | Mini connector                                 |
| DD | 24 V~/2,5W  |   |             |   |                 | KT | Mini connector with light                      |
| DF | 24 V~/4,0W  |   |             |   |                 | KD | Mini connector with rectifier & light & ground |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 38 series with non plug-in base configuration must use type "B" or "K" electrical connector  
Latching solenoid also available, click here.

## OPTIONS

Pilot/Base Configuration :

38A-x**M**x-x**A**x-Gxxx-xxx

- A** Individual base – Side port
- B** Individual base – Bottom port
- M** Pilot exhaust muffled
- R** Pilot exhaust piped M5
- U** Pilot exhaust to main exhaust

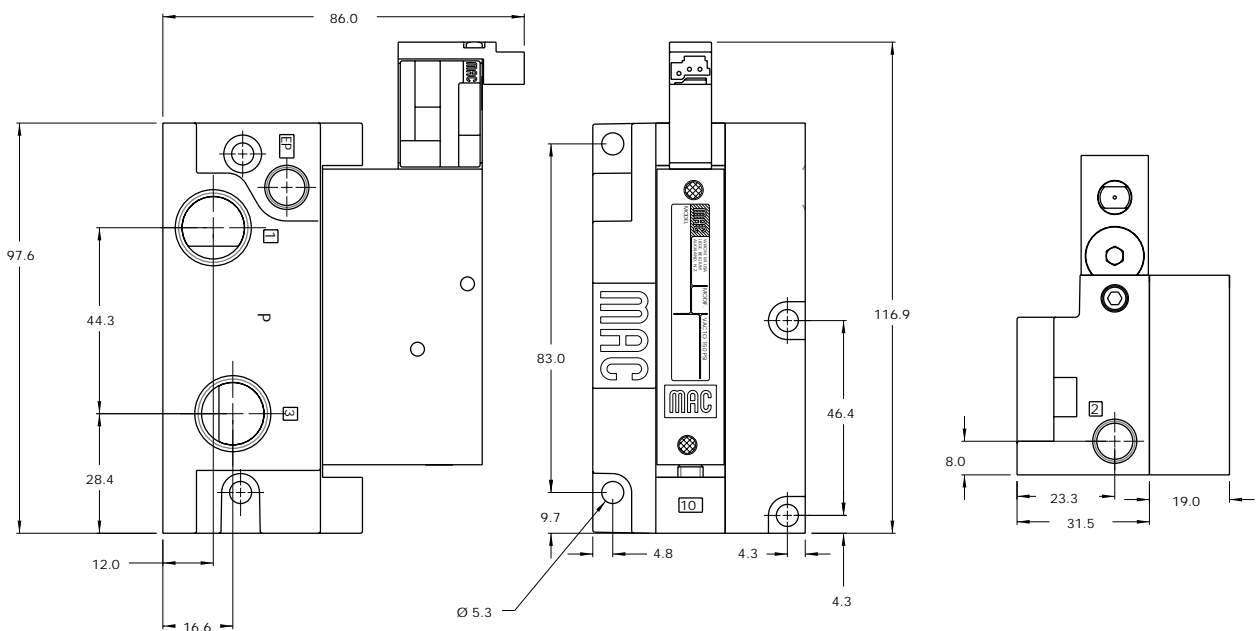
**TECHNICAL DATA**

|   |  |
|---|--|
| <b>Fluid :</b>                              | Compressed air, vacuum, inert gases  |
| <b>Pressure range :</b>                     | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| <b>Pilot pressure :</b>                     | 1,3 to 8 bar   |
| <b>Lubrication :</b>                        | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| <b>Filtration :</b>                         | 40 µ   |
| <b>Temperature range :</b>                  | -18°C to +50°C   |
| <b>Orifice :</b>                            | 6,0 mm   |
| <b>Flow (at 6 bar, ΔP=1bar) :</b>           | G1/8" bottom port: 1200 NI/min (Cv 1,2) - G1/8" side port: 1000 NI/min (Cv 1,0)        |
| <b>Coil :</b>                               | Epoxy encapsulated – 100% ED – Class A wire  |
| <b>Voltage range :</b>                      | -15% to +10% of nominal voltage  |
| <b>Protection :</b>                         | IP54 (electrical connection)   |
| <b>Power :</b>                              | 1.0 to 4.0 W   |
| <b>Response times :<br/>(with 4 W coil)</b> | Energize : 6 ms<br>De-energize : 6 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)





# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max)  | Individual mounting | Series |
|-----------|-----------|-------------|---------------------|--------|
| 3/2 NO-NC | G1/8"     | 1200 NI/min | Sub-base "plug-in"  |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 16.5 mm centers).
3. High flow (up to 1200 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 38A-BMA-000-GxxP-xxx | 38A-AMA-000-GxxP-xxx |                      |
|                 | External  | 38A-BMB-000-GxxP-xxx | 38A-AMB-000-GxxP-xxx | 38A-GMB-000-GxxP-xxx |
| G1/8"           | Internal  | 38A-BMA-BAA-GxxP-xxx | 38A-AMA-BAA-GxxP-xxx |                      |
|                 | External  | 38A-BMB-BAB-GxxP-xxx | 38A-AMB-BAB-GxxP-xxx | 38A-GMB-BAB-GxxP-xxx |

Note : Above codes are for side port.

## STANDARD SOLENOID OPERATOR >

G **XX** P-**XXX**\*

| XX | Voltage     | X | Manual operator | XX | Electrical connection**                      |
|----|-------------|---|-----------------|----|--|
| AA | 120 V-/2,5W | 1 | Non-locking     | DJ | Base plug-in                                 |
| DA | 24 V-/1,0W  | 2 | Locking         | DT | Base plug-in with light                      |
| DC | 24 V-/1,8W  |   |                 | DD | Base plug-in with rectifier & light & ground |
| DD | 24 V-/2,5W  |   |                 |    |  |
| DF | 24 V-/4,0W  |   |                 |    |  |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 38 series with plug-in base configuration must use type "D" electrical connector.

Latching solenoid also available, click here.

## OPTIONS

Pilot/Base Configuration :

38A-**M**-**x**-**A**-GxxP-xxx

- A** Individual base – Side port
- B** Individual base – Bottom port
- M** Pilot exhaust muffled
- R** Pilot exhaust piped M5
- U** Pilot exhaust to main exhaust

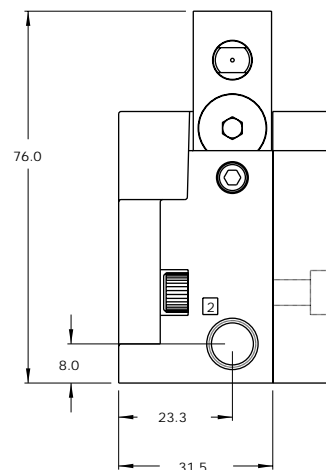
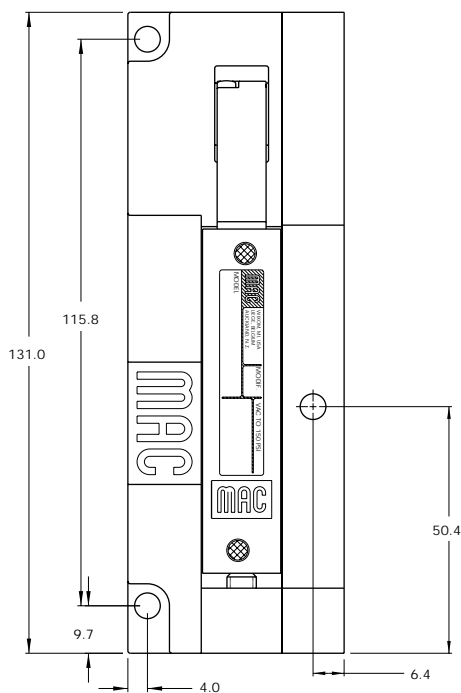
**TECHNICAL DATA**

|   |  |
|---|--|
| <b>Fluid :</b>                              | Compressed air, vacuum, inert gases  |
| <b>Pressure range :</b>                     | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| <b>Pilot pressure :</b>                     | 1,3 to 8 bar   |
| <b>Lubrication :</b>                        | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| <b>Filtration :</b>                         | 40 µ   |
| <b>Temperature range :</b>                  | -18°C to +50°C   |
| <b>Orifice :</b>                            | 6,0 mm   |
| <b>Flow (at 6 bar, ΔP=1bar) :</b>           | G1/8" bottom port: 1200 NI/min (Cv 1,2) - G1/8" side port : 1000 NI/min (Cv 1,0)       |
| <b>Coil :</b>                               | Epoxy encapsulated – 100% ED – Class A wire  |
| <b>Voltage range :</b>                      | -15% to +10% of nominal voltage  |
| <b>Protection :</b>                         | IP54 (electrical connection)   |
| <b>Power :</b>                              | 1.0 to 4.0 W   |
| <b>Response times :<br/>(with 4 W coil)</b> | Energize : 6 ms<br>De-energize : 6 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)





# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max)  | Manifold mounting           | Series |
|-----------|-----------|-------------|-----------------------------|--------|
| 3/2 NO-NC | G1/8"     | 1200 NI/min | Manifold base non "plug-in" |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 16.5 mm centers).
3. High flow (up to 1200 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.

34

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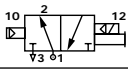
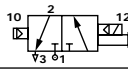
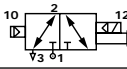
38

52

67

44

## HOW TO ORDER

| Port size       | Pilot air | NO valve  | NC valve  | Universal valve   |
|-----------------|-----------|---|---|---|
|                 |           |  |  |  |
| Valve less base | Internal  | 38A-BMA-000-Gxxx-xxx  | 38A-AMA-000-Gxxx-xxx  |   |
|                 | External  | 38A-BMB-000-Gxxx-xxx  | 38A-AMB-000-Gxxx-xxx  | 38A-GMB-000-Gxxx-xxx  |
| G1/8"           | Internal  | 38A-BMA-BJL-Gxxx-xxx  | 38A-AMA-BJL-Gxxx-xxx  |   |
|                 | External  | 38A-BMB-BJM-Gxxx-xxx  | 38A-AMB-BJM-Gxxx-xxx  | 38A-GMB-BJM-Gxxx-xxx  |

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Note : Above codes are for side port.

## STANDARD SOLENOID OPERATOR >

G **XXX-XXX**\*

| XX | Voltage     | X | Wire length | X | Manual operator | XX | Electrical connection**                        |
|----|-------------|---|-------------|---|-----------------|----|--|
| AA | 120 V~/2,5W | A | 45 cm       | 1 | Non-locking     | BA | Flying leads                                   |
| DA | 24 V~/1,0W  | B | 60 cm       | 2 | Locking         | BT | Flying leads with light                        |
| DC | 24 V~/1,8W  | C | 90 cm       |   |                 | KA | Mini connector                                 |
| DD | 24 V~/2,5W  |   |             |   |                 | KT | Mini connector with light                      |
| DF | 24 V~/4,0W  |   |             |   |                 | KD | Mini connector with rectifier & light & ground |

400

92

93

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 38 series with non plug-in base configuration must use type "B" or "K" electrical connector  
Latching solenoid also available, click here.

ISO 1

ISO 2

ISO 3

## OPTIONS

Base only :

38A-000-xxx (i.e. 38A-000-BJL)

Pilot/Base Configuration :

38A-xMx-xJx-Gxxx-xxx

- J Manifold base – Side port
- K Manifold base – Bottom port
- M Pilot exhaust muffled
- R Pilot exhaust piped M5
- U Pilot exhaust to main exhaust

Note : Manifold assemblies require an end plate kit :  
M-38003-01-01P (Internal pilot)  
M-38003-02-01P (External pilot)

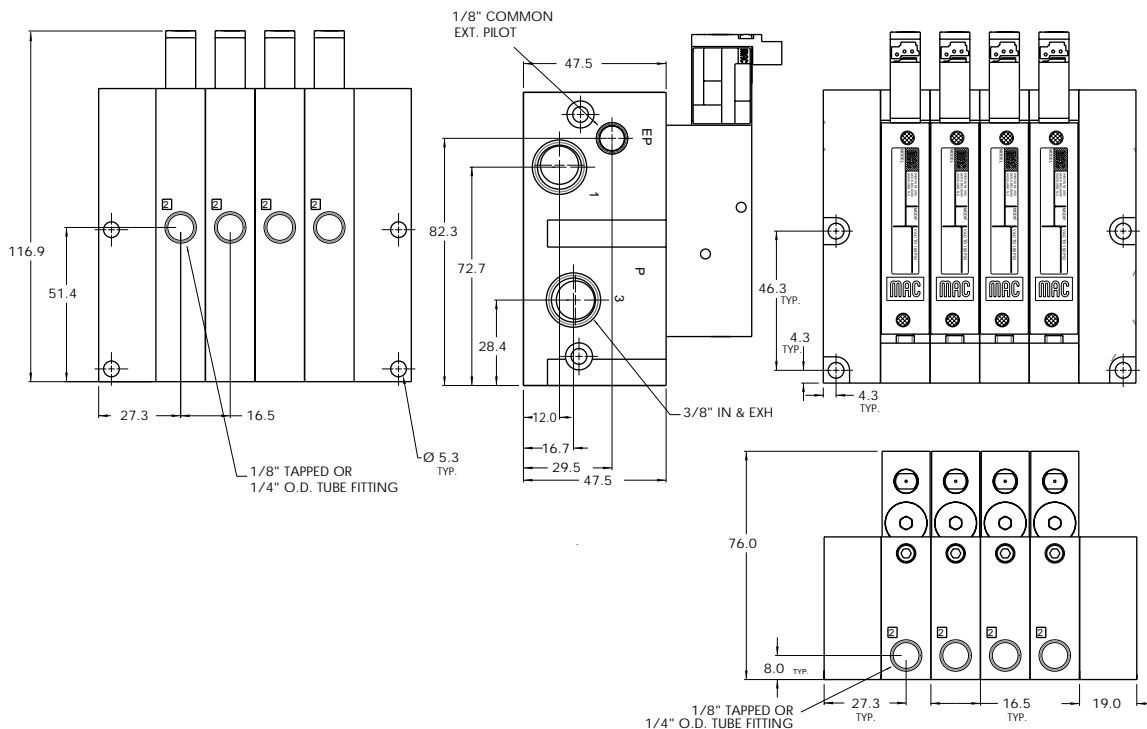
**TECHNICAL DATA**

|                                     |  |
|-------------------------------------|--|
| Fluid :                             | Compressed air, vacuum, inert gases  |
| Pressure range :                    | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| Pilot pressure :                    | 1,3 to 8 bar   |
| Lubrication :                       | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :                        | 40 μ   |
| Temperature range :                 | -18°C to +50°C   |
| Orifice :                           | 6,0 mm   |
| Flow (at 6 bar, ΔP=1bar) :          | G1/8" bottom port: 1200 NI/min (Cv 1,2) - G1/8" side port : 1000 NI/min (Cv 1,0)       |
| Coil :                              | Epoxy encapsulated – 100% ED – Class A wire  |
| Voltage range :                     | -15% to +10% of nominal voltage  |
| Protection :                        | IP54 (electrical connection)   |
| Power :                             | 1.0 to 4.0 W   |
| Response times :<br>(with 4 W coil) | Energize : 6 ms<br>De-energize : 6 ms  |

Options : • NPTF threads

**DIMENSIONS**

Dimensions shown are metric (mm)



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





# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max)  | Manifold mounting       | Series |
|-----------|-----------|-------------|-------------------------|--------|
| 3/2 NO-NC | G1/8"     | 1200 NI/min | Manifold base "plug-in" |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 16.5 mm centers).
3. High flow (up to 1200 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 38A-BMA-000-GxxP-xxx | 38A-AMA-000-GxxP-xxx |                      |
|                 | External  | 38A-BMB-000-GxxP-xxx | 38A-AMB-000-GxxP-xxx | 38A-GMB-000-GxxP-xxx |
| G1/8"           | Internal  | 38A-BMA-BJA-GxxP-xxx | 38A-AMA-BJA-GxxP-xxx |                      |
|                 | External  | 38A-BMB-BJB-GxxP-xxx | 38A-AMB-BJB-GxxP-xxx | 38A-GMB-BJB-GxxP-xxx |

Note : Above codes are for side port.

## STANDARD SOLENOID OPERATOR >

G **XX** P-**XXX**\*

| XX | Voltage     | X | Manual operator | XX | Electrical connection**                      |
|----|-------------|---|-----------------|----|--|
| AA | 120 V-/2,5W | 1 | Non-locking     | DJ | Base plug-in                                 |
| DA | 24 V-/1,0W  | 2 | Locking         | DT | Base plug-in with light                      |
| DC | 24 V-/1,8W  |   |                 | DD | Base plug-in with rectifier & light & ground |
| DD | 24 V-/2,5W  |   |                 |    |  |
| DF | 24 V-/4,0W  |   |                 |    |  |

Note : AC voltage requires connector with rectifier.

\* Click here for other options available.

\*\* 38 series with plug-in base configuration must use type "D" electrical connector.

Latching solenoid also available, click here.

## OPTIONS

Base only :

38A-000-xxx (i.e. 38A-000-BJA)

Base Configuration :

38A-xxx-**J**x-GxxP-xxx

- J Manifold base - Side port
- K Manifold base - Bottom port
- L Left end manifold base - Side port
- M Left end manifold base - Bottom port
- N Right end manifold base - Side port
- P Right end manifold base - Bottom port

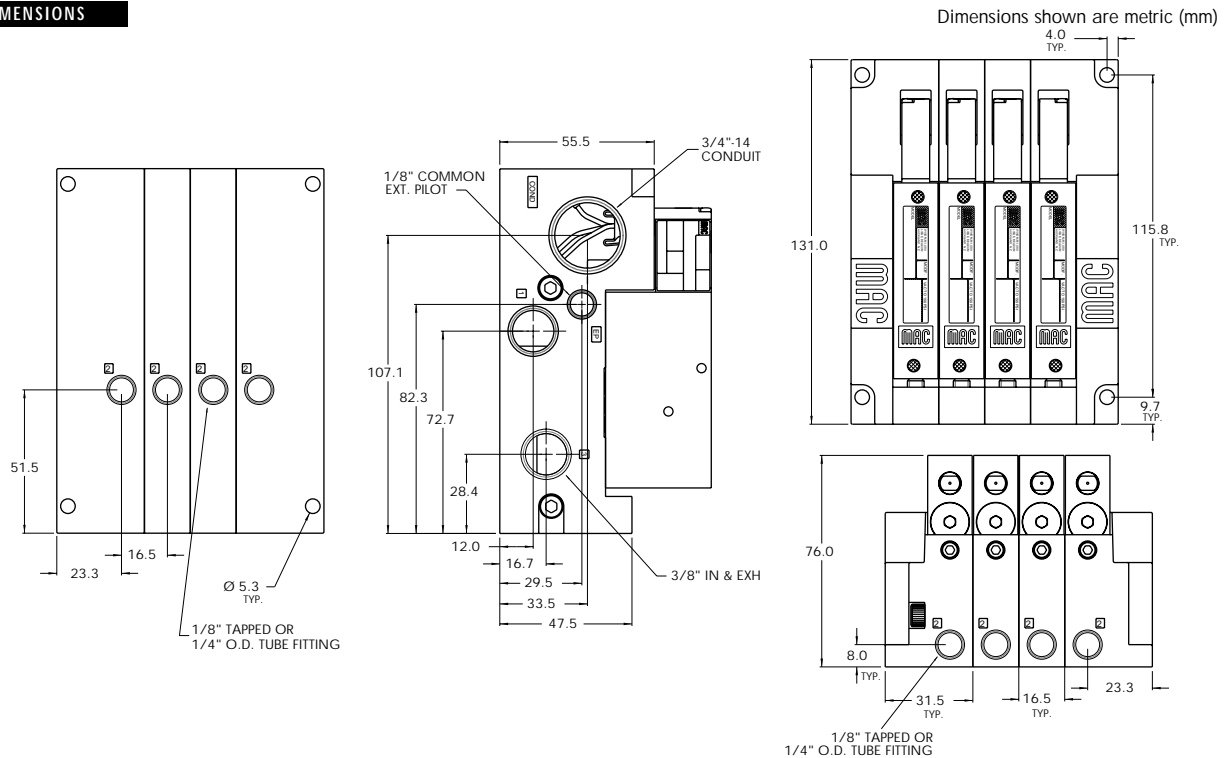
Note : Manifold assemblies consist of (1) left end manifold, (1) right end manifold and middle station manifolds (options "J" or "K").

**TECHNICAL DATA**

|                                     |  |
|-------------------------------------|--|
| Fluid :                             | Compressed air, vacuum, inert gases  |
| Pressure range :                    | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| Pilot pressure :                    | 1,3 to 8 bar   |
| Lubrication :                       | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| Filtration :                        | 40 µ   |
| Temperature range :                 | -18°C to +50°C   |
| Orifice :                           | 6,0 mm   |
| Flow (at 6 bar, ΔP=1bar) :          | G1/8" bottom port: 1200 NI/min (Cv 1,2) - G1/8" side port : 1000 NI/min (Cv 1,0)       |
| Coil :                              | Epoxy encapsulated – 100% ED – Class A wire  |
| Voltage range :                     | -15% to +10% of nominal voltage  |
| Protection :                        | IP54 (electrical connection)   |
| Power :                             | 1.0 to 4.0 W   |
| Response times :<br>(with 4 W coil) | Energize : 6 ms<br>De-energize : 6 ms  |

Options : • NPTF threads

**DIMENSIONS**



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



# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max)  | Individual/Manifold mounting   | Series |
|-----------|-----------|-------------|--|--------|
| 3/2 NO-NC | G1/8"     | 1200 NI/min | Sub-base/<br>manifold base<br>non "plug-in"<br>with latching<br>solenoid |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 16.5 mm centers).
3. High flow (up to 1200 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 38A-BMA-000-Lxxx-xxx | 38A-AMA-000-Lxxx-xxx |                      |
|                 | External  | 38A-BMB-000Lxxx-xxx  | 38A-AMB-000-Lxxx-xxx | 38A-GMB-000-Lxxx-xxx |
| G1/8"           | Internal  | 38A-BMA-BAL-Lxxx-xxx | 38A-AMA-BAL-Lxxx-xxx |                      |
|                 | External  | 38A-BMB-BAM-Lxxx-xxx | 38A-AMB-BAM-Lxxx-xxx | 38A-GMB-BAM-Lxxx-xxx |

Note : Above codes are for individual base and side port.

## LATCHING SOLENOID OPERATOR >

| L XXX-XXX*           |                      |                          |  |
|----------------------|----------------------|--------------------------|--|
| <b>XX</b> Voltage    | <b>X</b> Wire length | <b>X</b> Manual operator | <b>XX</b> Electrical connection**                            |
| <b>DF</b> 24 V=4,0W  | <b>A</b> 45 cm       | <b>0</b> No operator     | <b>BA</b> 2 Wire Flying leads                                |
| <b>HA</b> 24 V=1,95W | <b>B</b> 60 cm       |                          | <b>BJ</b> 4 Wire Flying leads                                |
|                      | <b>C</b> 90 cm       |                          | <b>KA</b> 2 Wire Plug-in Assembly                            |
|                      |                      |                          | <b>KE</b> 4 Wire Plug-in Assembly                            |
|                      |                      |                          | <b>LA</b> 3 Wire plug-in assembly (Polarity Switching Cover) |

\* Click here for other options available.

\*\* Latching 38 series with non plug-in base configuration must use "B", "K" or "L" type electrical connector.

## OPTIONS

Pilot/Base Configuration :

38A-xMx-xAx-Lxxx-xxx

- A** Individual base – Side port
- B** Individual base – Bottom port
- J** Manifold base – Side port
- K** Manifold base – Bottom port
- M** Pilot exhaust muffled
- R** Pilot exhaust piped M5
- U** Pilot exhaust to main exhaust

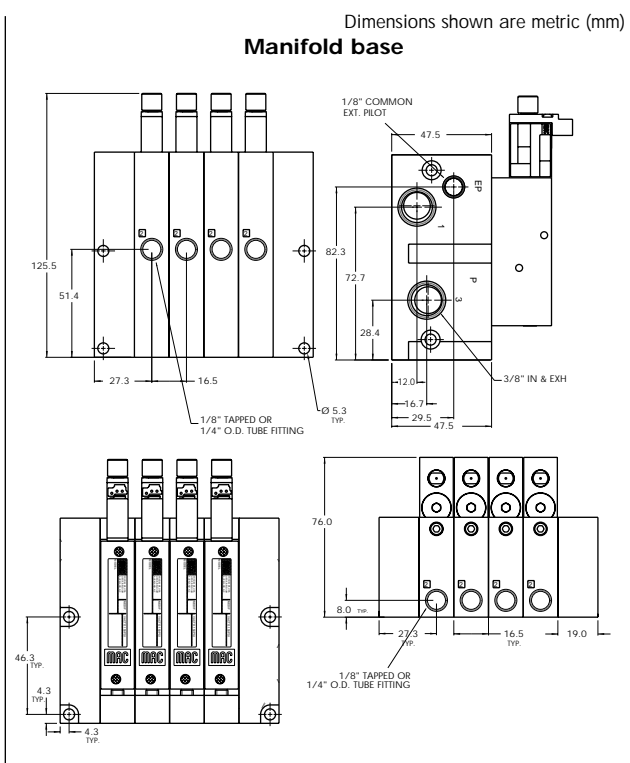
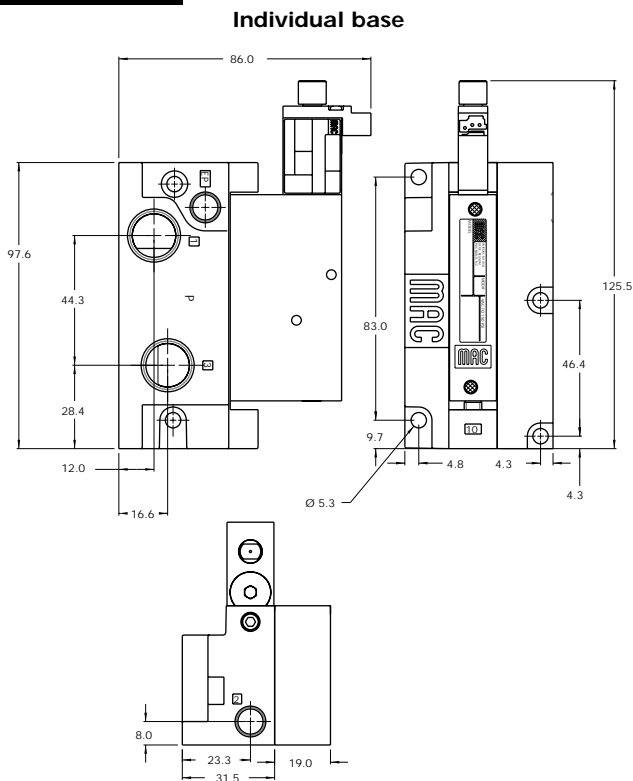
Note : Manifold assemblies require an end plate kit :  
M-38003-01-01P (internal pilot)  
M-38003-02-01P (external pilot)

**TECHNICAL DATA**

|   |  |
|---|--|
| <b>Fluid :</b>                              | Compressed air, vacuum, inert gases  |
| <b>Pressure range :</b>                     | Internal Pilot : 1,3 to 8 bar<br>External Pilot : Vacuum to 8 bar                      |
| <b>Pilot pressure :</b>                     | 1,3 to 8 bar   |
| <b>Lubrication :</b>                        | Not required, if used select a medium aniline point lubricant (between 80°C and 100°C) |
| <b>Filtration :</b>                         | 40 µ   |
| <b>Temperature range :</b>                  | -18°C to +50°C   |
| <b>Orifice :</b>                            | 6,0 mm   |
| <b>Flow (at 6 bar, ΔP=1bar) :</b>           | G1/8" bottom port: 1200 NI/min (Cv 1,2) - G1/8" side port : 1000 NI/min (Cv 1,0)       |
| <b>Coil :</b>                               | Epoxy encapsulated – 100% ED – Class A wire  |
| <b>Voltage range :</b>                      | -15% to +10% of nominal voltage  |
| <b>Protection :</b>                         | IP54 (electrical connection)   |
| <b>Power :</b>                              | 1.95 to 4.0 W  |
| <b>Response times :<br/>(with 4 W coil)</b> | Energize : 6 ms<br>De-energize : 6 ms  |

Options : • NPTF threads

**DIMENSIONS**



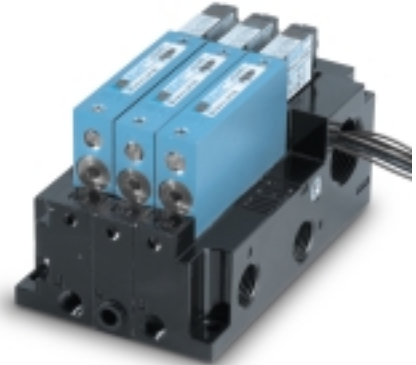


# Direct solenoid and solenoid pilot operated valves

| Function  | Port size | Flow (Max)  | Individual/Manifold mounting   | Series |
|-----------|-----------|-------------|--|--------|
| 3/2 NO-NC | G1/8"     | 1200 NI/min | Sub-base/<br>manifold base<br>"plug-in"<br>with latching<br>solenoid |        |

## OPERATIONAL BENEFITS

1. 3-way valve with 4-way integral pilot.
2. 10 mm valve (stacks on 16.5 mm centers).
3. High flow (up to 1200 NI/min).
4. Fast, repeatable response times.
5. Maximum shifting forces in both directions.



## HOW TO ORDER

| Port size       | Pilot air | NO valve             | NC valve             | Universal valve      |
|-----------------|-----------|----------------------|----------------------|----------------------|
|                 |           |                      |                      |                      |
| Valve less base | Internal  | 38A-BMA-000-LxxP-xxx | 38A-AMA-000-LxxP-xxx |                      |
|                 | External  | 38A-BMB-000LxxP-xxx  | 38A-AMB-000-LxxP-xxx | 38A-GMB-000-LxxP-xxx |
| G1/8"           | Internal  | 38A-BMA-BAA-LxxP-xxx | 38A-AMA-BAA-LxxP-xxx |                      |
|                 | External  | 38A-BMB-BAB-LxxP-xxx | 38A-AMB-BAB-LxxP-xxx | 38A-GMB-BAB-LxxP-xxx |

Note : Above codes are for individual base and side port.

## LATCHING SOLENOID OPERATOR >

L **XX** P-**XXX**\*

| XX | Voltage     | X | Manual operator | XX | Electrical connection**                                   |
|----|-------------|---|-----------------|----|---|
| DF | 24 V=/4,0W  | 0 | No operator     | DA | Base/Manifold Plug-in                                     |
| HA | 24 V=/1,95W |   |                 | DB | Base/Manifold Plug-in w/Ground                            |
|    |             |   |                 | DC | Base/Manifold Plug-in w/ Led                              |
|    |             |   |                 | DD | Base/Manifold Plug-in w/ Led and Ground                   |
|    |             |   |                 | EA | Base/Manifold Plug-in 3 Pin<br>(Polarity Switching Cover) |

\* Click here for other options available.

\*\* 2 and 4 wire bases must use "D" type electrical connector.  
3 wire bases must use "EA" type electrical connector.

## OPTIONS

Manifold/Base Configuration :

38A-xxx-x**A**x-LxxP-xxx

- A** Individual base – Side port
- B** Individual base – Bottom port
- J** Manifold base – Side port
- K** Manifold base – Bottom port
- L** Left end manifold base - Side port
- M** Left end manifold base - Bottom port
- N** Right end manifold base - Side port
- P** Right end manifold base - Bottom port

Manifold/Base Int./Ext. Pilot : (Wire options)

38A-xxx-xx**A**-LxxP-xxx

- A** Plug-In Int. Pilot (2 Wire)\*\*
- B** Plug-In Ext. Pilot (2 Wire)\*\*
- C** Plug-In Int. Pilot (3 Wire)\*\*
- D** Plug-In Ext. Pilot (3 Wire)\*\*
- E** Plug-In Int. Pilot (4 Wire)\*\*
- F** Plug-In Ext. Pilot (4 Wire)\*\*

Note : Manifold assemblies consist of (1) left end manifold, (1) right end manifold, and middle station manifolds (option J or K).