

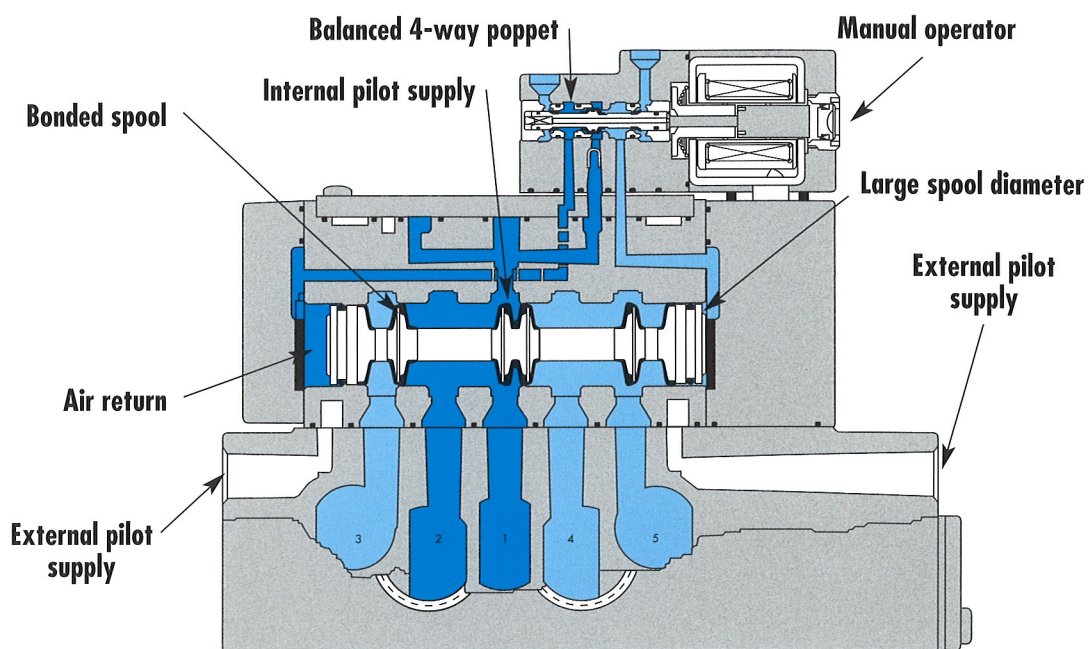
Individual mounting

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

Manifold mounting

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

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

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48P

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400

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93

ISO 01

ISO 02

ISO 1

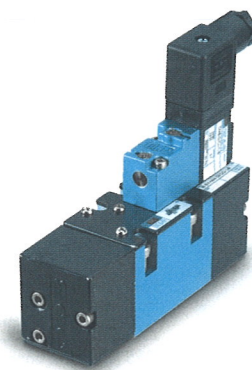
ISO 2

ISO 3

Function	Port size	Flow [Max]	Individual/Manifold mounting	Series
5/2, 5/3	G1/4" - G3/8"	1800 NI/min	Valve only - No base non "plug-in" Conform to ISO 5599/1	

OPERATIONAL BENEFITS

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



HOW TO ORDER

SINGLE PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed centre	5/3 Open centre
Internal	MV-B1A-AAAA-DM-DXXX-XXX	MV-B1A-ABAA-DM-DXXX-XXX	MV-B1A-AEAA-DM-DXXX-XXX	MV-B1A-AFAA-DM-DXXX-XXX
External "12" end	MV-B1A-AAAB-DM-DXXX-XXX	MV-B1A-ABAB-DM-DXXX-XXX	MV-B1A-AEAB-DM-DXXX-XXX	MV-B1A-AFAB-DM-DXXX-XXX

DUAL PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Pressure centre
Internal From port #3	MV-B1A-ACAD-DM-DXXX-XXX	MV-B1A-ADAD-DM-DXXX-XXX	MV-B1A-AGAD-DM-DXXX-XXX
Internal From port #5	MV-B1A-ACAE-DM-DXXX-XXX	MV-B1A-ADAE-DM-DXXX-XXX	MV-B1A-AGAE-DM-DXXX-XXX
External From "12" end	MV-B1A-ACAB-DM-DXXX-XXX	MV-B1A-ADAB-DM-DXXX-XXX	MV-B1A-AGAB-DM-DXXX-XXX

SOLENOID OPERATOR ➤

DM-D XXX-XXX*

XX Voltage	X Lead wire length	X Manual operator	XX Electrical connection
JA 110 V~/50Hz	A 45 cm	1 Non-locking	KA Square connector
JB 220 V~/50Hz	B 60 cm	2 Locking	KD Square connector with light
JC 24 V~/50Hz	J Connector		JB Rectangular connector
FB 24 V=/1,8W			JD Rectangular connector with light
DA 24 V=/5,4W			BA Flying leads
DF 24 V=/12,7W			

* Other options available, see page 299.

Note: ISO series, valve and base are ordered separately, see page 229 for base code.

OPTIONS

Valve function :

MV-B1A-AXXX-XX-DXXX-XXX

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

Pilot style :

MV-B1A-AXXX-DM-DXXX-XXX

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

Spool return :

MV-B1A-AXAX-XX-DXXX-XXX

- A Standard return
- B Memory spring return
- C Standard return with light
- D Memory spring return with light

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 bar
Pilot pressure :	Single / double operator : 1,3 to 8 bar 3 positions : 2 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 :	7.8 mm
Flow (at 6 bar, ΔP=1bar) :	3/8": 1800 NL/min (Cv 1.8) – 1/4": 1600 NL/min (Cv 1.6)
Coil :	Epoxy encapsulated – Class A wires - 100% ED
Voltage range :	-15% to +10% of nominal voltage
Protection :	IP65 (electrical connection)
Power :	~ Inrush 7,6 VA Holding: 4,8 VA = 1 to 12.7 W
Response times :	Energize :11.3 ms (with 5,4 W coil)
	De-energize : 7.8 ms

Options :

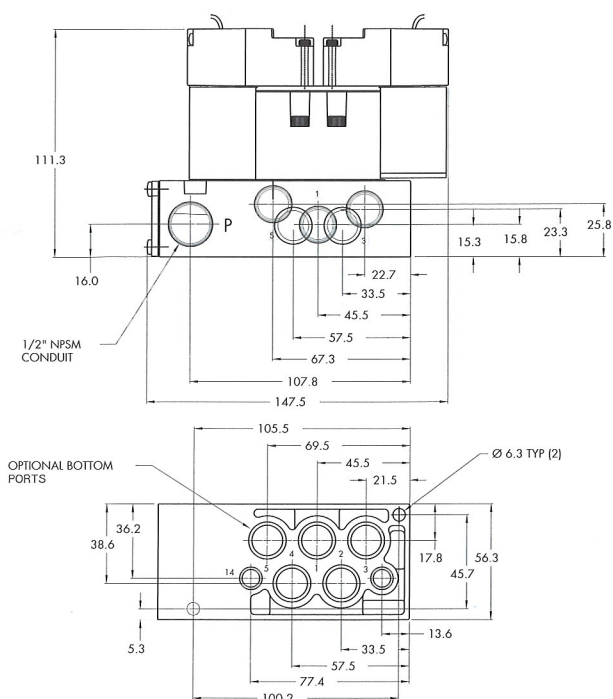
- Sandwich flow controls: FCP1A-BA (screwdriver slot adjustment)
FCP1A-BB (locking knob adjustment)
- Sandwich regulator, see „Regulators“ section

Spare parts :

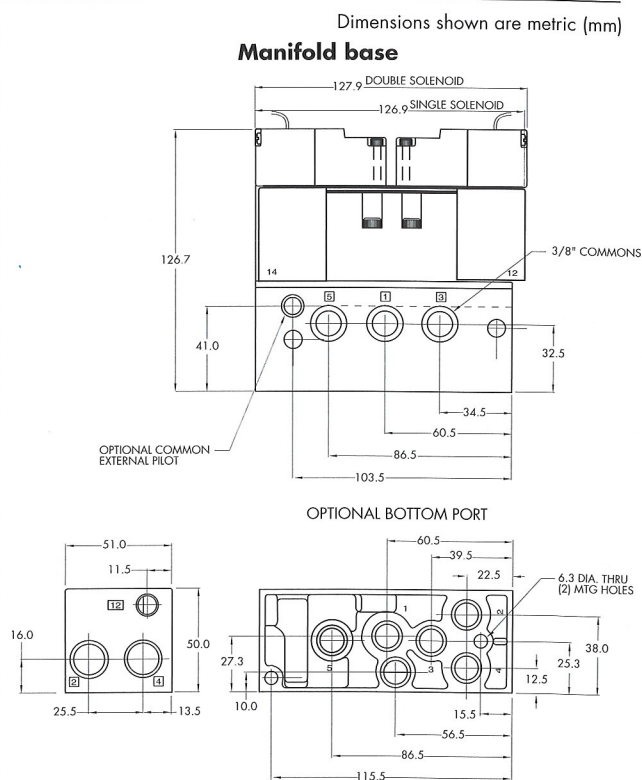
- Pilot valve: DMB-Dxxx-xxx • Valve to base pressure seal: 16661

DIMENSIONS

Individual base



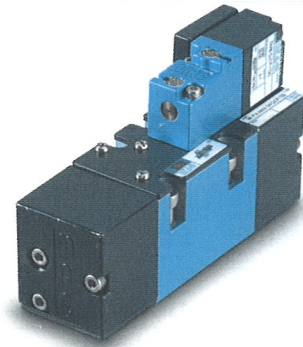
Manifold base



Function	Port size	Flow [Max]	Individual/Manifold mounting	Series
5/2, 5/3	G1/4" - G3/8"	1800 NI/min	Valve only - No base "plug-in" Conform to ISO 5599/2	

OPERATIONAL BENEFITS

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



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HOW TO ORDER

SINGLE PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed centre	5/3 Open centre
Internal	MV-P1A-AAAA-DM-DxxP-xxx	MV-P1A-ABAA-DM-DxxP-xxx	MV-P1A-AEAA-DM-DxxP-xxx	MV-P1A-AFAA-DM-DxxP-xxx
External "12" end	MV-P1A-AAAB-DM-DxxP-xxx	MV-P1A-ABAB-DM-DxxP-xxx	MV-P1A-AEAB-DM-DxxP-xxx	MV-P1A-AFAB-DM-DxxP-xxx

DUAL PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Pressure centre
Internal From port #3	MV-P1A-ACAD-DM-DxxP-xxx	MV-P1A-ADAD-DM-DxxP-xxx	MV-P1A-AGAD-DM-DxxP-xxx
Internal From port #5	MV-P1A-ACAE-DM-DxxP-xxx	MV-P1A-ADAE-DM-DxxP-xxx	MV-P1A-AGAE-DM-DxxP-xxx
External From "12" end	MV-P1A-ACAB-DM-DxxP-xxx	MV-P1A-ADAB-DM-DxxP-xxx	MV-P1A-AGAB-DM-DxxP-xxx

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42
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48P
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400
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SOLENOID OPERATOR ➤

DM-D XX P-xxx*

XX Voltage	X Manual operator	XX Electrical connection
JA 110 V~/50Hz	1 Non-locking	DM Plug-in
JB 220 V~/50Hz	2 Locking	DN Plug-in with diode
JC 24 V~/50Hz		DP Plug-in with M.O.V.
FB 24 V=/1,8W		DG Plug-in with ground
DA 24 V=/5,4W		
DF 24 V=/12,7W		

* Other options available, see page 299.

Note: - ISO series, valve and base are ordered separately, see page 229 for base codes.
- Ground wire required for 30 volts or higher.

OPTIONS

Valve function :

MV-P1A-AXXX-XX-DxxP-xxx

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

Pilot style :

MV-P1A-AXXX-DM-DxxP-xxx

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

Spool return :

MV-P1A-AXXX-XX-DxxP-xxx

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

93
ISO 01
ISO 02
ISO 1
ISO 2
ISO 3

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 bar
Pilot pressure :	Single / double operator : 1,3 to 8 bar 3 positions : 2 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 :	7.8 mm
Flow (at 6 bar, ΔP=1bar) :	3/8": 1800 NL/min (Cv 1.8) - 1/4": 1600 NL/min (Cv 1.6)
Coil :	Epoxy encapsulated - Class A wires - 100% ED
Voltage range :	-15% to +10% of nominal voltage
Protection :	IP65 (electrical connection)
Power :	~ Inrush 7,6 VA Holding: 4,8 VA = 1 to 12.7 W
Response times : (with 5,4 W coil)	Energize :10 ms De-energize : 9 ms

Options :

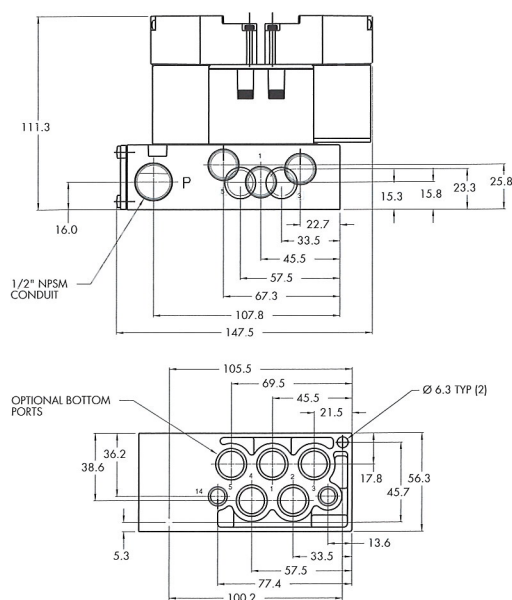
- Sandwich flow controls: FCP1A-AA (screwdriver slot adjustment)
FCP1A-AB (locking knob adjustment)
- Sandwich regulator, see 'Regulators' section

Spare parts :

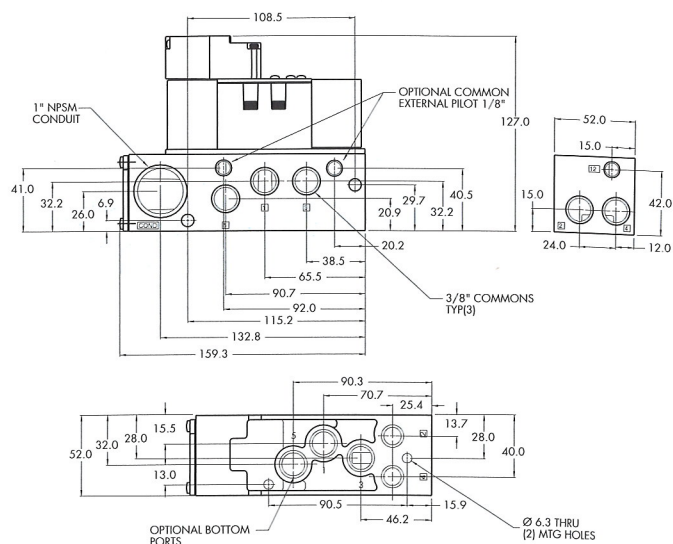
- Pilot valve: DMB-DxxP-xxx • Valve to base pressure seal: 16661

DIMENSIONS

Individual base



Manifold base



Non plug-in base / manifold



ISO 01

ISO 02

ISO 1

ISO 2

ISO 3

HOW TO ORDER

INDIVIDUAL BASE

Port size	Side ports	Bottom ports	Bottom cylinder ports 2 and 4.	Bottom port 1
G1/4"	MB-A1C-121	MB-A1C-123	MB-A1C-122	MB-A1C-124
G3/8"	MB-A1C-131	MB-A1C-133	MB-A1C-132	MB-A1C-134

INDIVIDUAL BASE ACCORDING TO VDMA 24345

Port size	Side ports	Bottom ports
G1/4"	HB-A1A-A	HB-A1A-B

MANIFOLD BASE

Port size	Side ports	Bottom ports	Bottom cylinder ports 2 and 4.	Bottom port 1
G1/4"	MM-A1C-121	MM-A1C-123	MM-A1C-122	MM-A1C-124
G3/8"	MM-A1C-131	MM-A1C-133	MM-A1C-132	MM-A1C-134

Manifold fastening kit : N-63002-01.

MANIFOLD BASE ACCORDING TO VDMA 24345

Port size	Side ports
G1/4"	HM-A1A-C

End plate kit: HM-A1A-D.

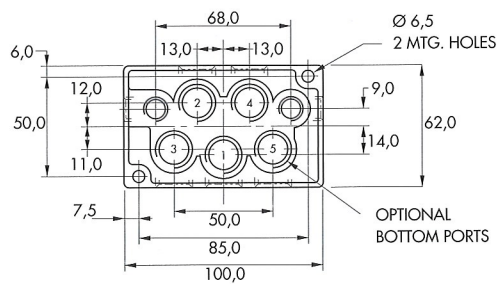
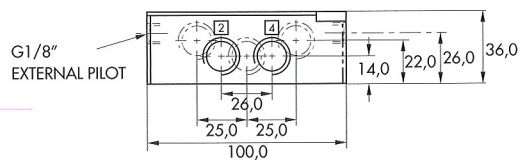
Valve blanking plate: MA1003.
Inlet/exhaust isolator plug: 32835.

DIMENSIONS

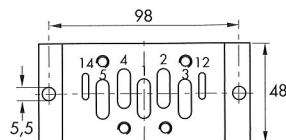
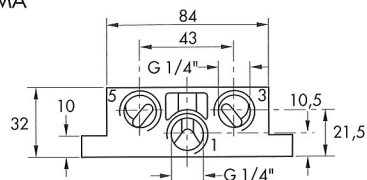
Dimensions shown are metric (mm)

Individual

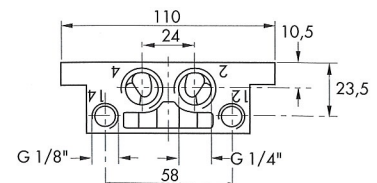
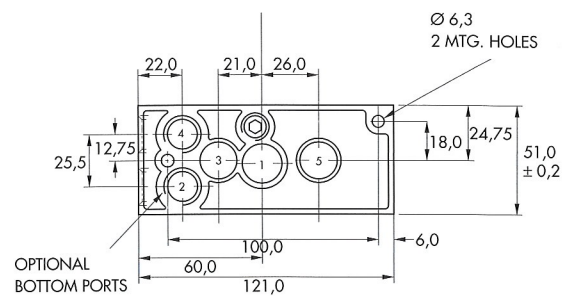
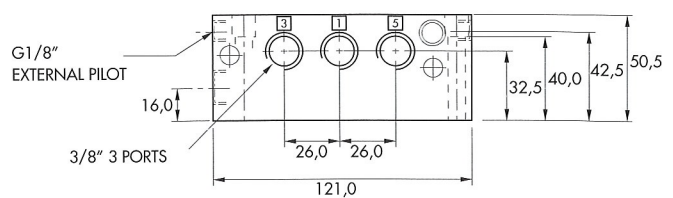
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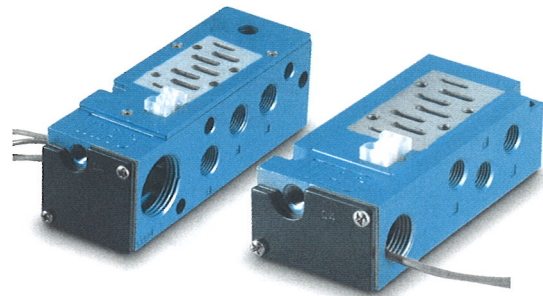
VDMA



Manifold



Plug-in base / manifold



ISO 01

ISO 02

ISO 1

ISO 2

ISO 3

HOW TO ORDER

INDIVIDUAL BASE

Port size	Wired for	Side ports	Side ports w/ bottom 2 & 4 ports	All side & bottom ports
G1/4"	Single solenoid	MB-P1A-121-A	MB-P1A-122-A	MB-P1A-123-A
	Double solenoid	MB-P1A-121-B	MB-P1A-122-B	MB-P1A-123-B
G3/8"	Single solenoid	MB-P1A-131-A	MB-P1A-132-A	MB-P1A-133-A
	Double solenoid	MB-P1A-131-B	MB-P1A-132-B	MB-P1A-133-B

MANIFOLD BASE

Port size	Wired for	Side ports	Side ports w/ bottom 2 & 4 ports	All side & bottom ports
G1/4"	Single solenoid	MM-P1A-121-A	MM-P1A-122-A	MM-P1A-123-A
	Double solenoid	MM-P1A-121-B	MM-P1A-122-B	MM-P1A-123-B
G3/8"	Single solenoid	MM-P1A-131-A	MM-P1A-132-A	MM-P1A-133-A
	Double solenoid	MM-P1A-131-B	MM-P1A-132-B	MM-P1A-133-B

OPTIONS

Manifold options :

External pilot

MM-P1A-12x-xx

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33

for 1/4" port – common external pilot
for 3/8" port – common external pilot

Terminal strip

MM-P1A-xxx-A
(N/A with light)

J
K

wired for sgl solenoid
wired for double solenoid

Base / Manifold option: light(s)

MX-P1A-xxx-xJA

JA
JB
DA

110/120 volt
220/240 volt
24 volt

Accessories:

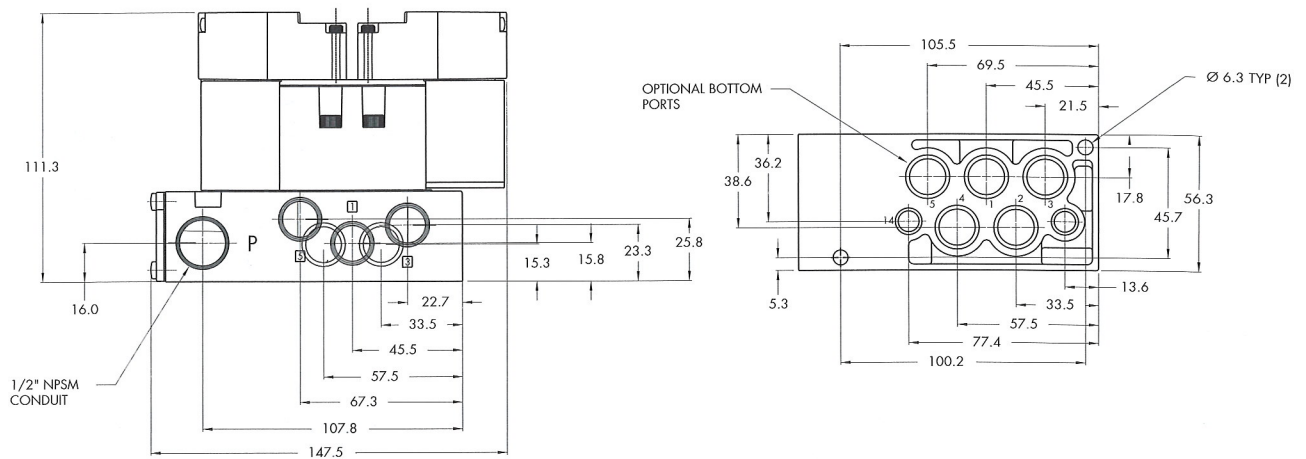
M-P1001
N-P1007-01
32835

Valve blanking plate.
Manifold fastening kit.
Inlet/exhaust isolator plug.

DIMENSIONS

Dimensions shown are metric (mm)

Individual



Manifold

