



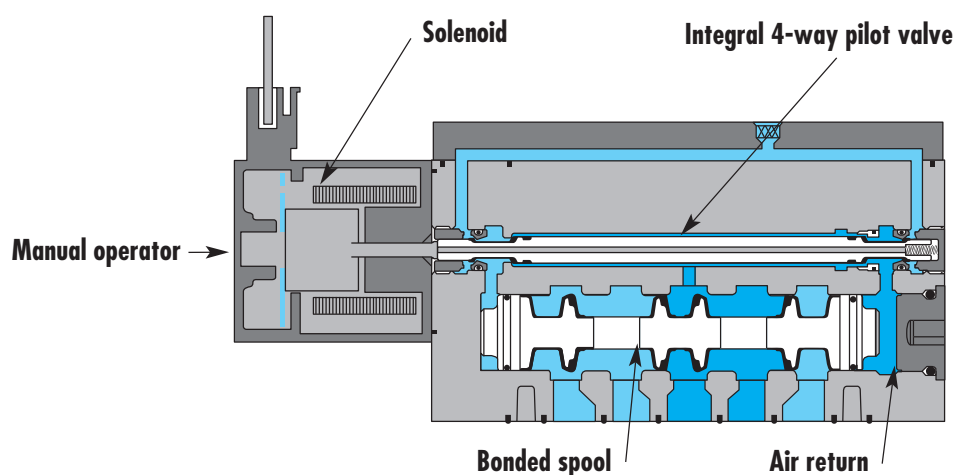
Direct solenoid and solenoid pilot operated valves

Individual mounting

Valve only – No base non "plug-in" Conform to ISO 15407/1	Valve only – No base plug-in Conform to ISO 15407/2
---	---

Manifold mounting

Valve only – No base non "plug-in" Conform to ISO 15407/1	Valve only – No base plug-in Conform to ISO 15407/2
---	---



SERIES FEATURES

- High force MACSOLENOID®.
- Integral 4-way pilot design.
- 2-position, single or double operator.
- 3-position, double solenoid, open centre, closed centre and pressure centre.
- Internal or external pilot.
- Single or dual pressure.



Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow [Max]	Individual/Manifold mounting
5/2, 5/3	G1/8"	430 NI/min	Valve only - No base non "plug-in" Conform to ISO 15407/1

OPERATIONAL BENEFITS

1. Unique patented MACsolenoid® with oval shaped armature for fastest possible response times.
2. Balanced poppet 5-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. Pilot valve and main valve in the same body.
6. Internal or external pilot operation.
7. Air only return
8. Optional low wattage DC solenoid down to 1.0 Watt.
9. Valve width: 18 mm.



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-A02A-AAMA-Jxxx-xxx	MV-A02A-ABMA-Jxxx-xxx	MV-A02A-AEMA-Jxxx-xxx	MV-A02A-AFMA-Jxxx-xxx
External "12" end	MV-A02A-AAMD-Jxxx-xxx	MV-A02A-ABMD-Jxxx-xxx	MV-A02A-AEMD-Jxxx-xxx	MV-A02A-AFMD-Jxxx-xxx
External "14" end	MV-A02A-AAME-Jxxx-xxx	MV-A02A-ABME-Jxxx-xxx	MV-A02A-AEME-Jxxx-xxx	MV-A02A-AFME-Jxxx-xxx

DUAL PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Pressure centre
Internal from port #3	MV-A02A-ACMB-Jxxx-xxx	MV-A02A-ADMB-Jxxx-xxx	MV-A02A-AHMB-Jxxx-xxx
Internal from port #5	MV-A02A-ACMC-Jxxx-xxx	MV-A02A-ADMC-Jxxx-xxx	MV-A02A-AHMC-Jxxx-xxx
External from "12" end	MV-A02A-ACMD-Jxxx-xxx	MV-A02A-ADMD-Jxxx-xxx	MV-A02A-AHMD-Jxxx-xxx
External from "14" end	MV-A02A-ACME-Jxxx-xxx	MV-A02A-ADME-Jxxx-xxx	MV-A02A-AHME-Jxxx-xxx

SOLENOID OPERATOR ➤

XX Voltage	X Lead wire length	X Manual operator	XX Electrical connection
DA 24V=/5,4W	O No lead wire/ connector	1 Non-locking	BA Flying leads
DB 12V=/5,4W	A 45 cm	2 Locking	JA Square connector
DC 24V=/2,4W	B 60 cm		JC Square connector with light
DD 12V=/2,4W	C 90 cm		JB Rectangular connector
DE 24V=/1,8W			JD Rectangular connector with light
DU 24V=/1,0W			KA Mini square connector
			KD Mini square connector with light

* Other options available, see page options.

Note: - ISO series, valve and base are ordered separately, see page for base codes.

- If sandwich regulator is required, valve must be ordered as external pilot. For internal pilot regulator use valve with external pilot 12 end valve - for external pilot regulator, use valve with external pilot 12 or 14 end.

OPTIONS

Pilot exhaust:	MV-A02A-XX X X-Jxxx-xxx
	M Pilot exhaust muffled
	R Pilot exhaust piped M5
	U Pilot exhaust out main exhaust

TECHNICAL DATA

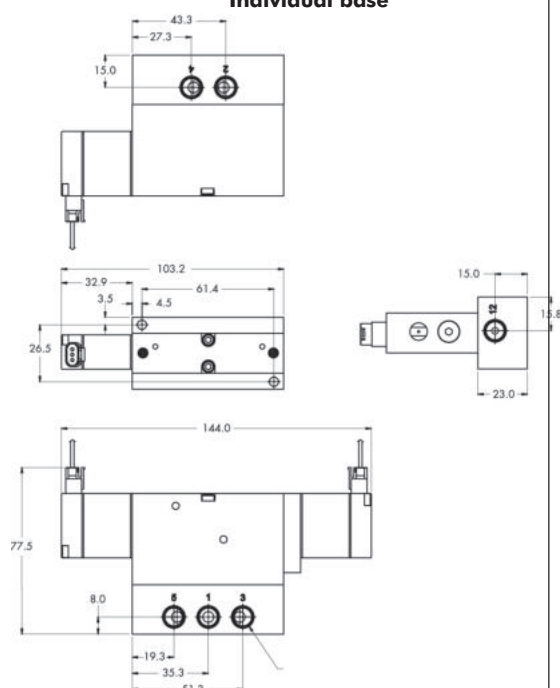
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Internal pilot – 2 pos.: 1,4 to 8 bar 3 pos.: 2,3 to 8 bar External pilot – Vacuum to 8 bar
Pilot pressure :	2 pos.: 1,4 to 8 bar – 3 pos.: 2,3 to 8 bar
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	-18°C to +50°C
Orifice :	4 mm
Flow (at 6 bar, ΔP=1bar) :	2 pos.: 430 Nl/min (Cv 0.43) – 3 pos.: 280 Nl/min (Cv 0.28)
Coil :	Epoxy encapsulated – Class A wires - 100% ED
Voltage range :	-15% to +10% of nominal voltage
Power :	1,0 to 5,4 W

Options :

- Sandwich flow controls: FCA02A-AA (screwdriver slot adjustment).
- Sandwich pressure regulator, see ,Regulators' section

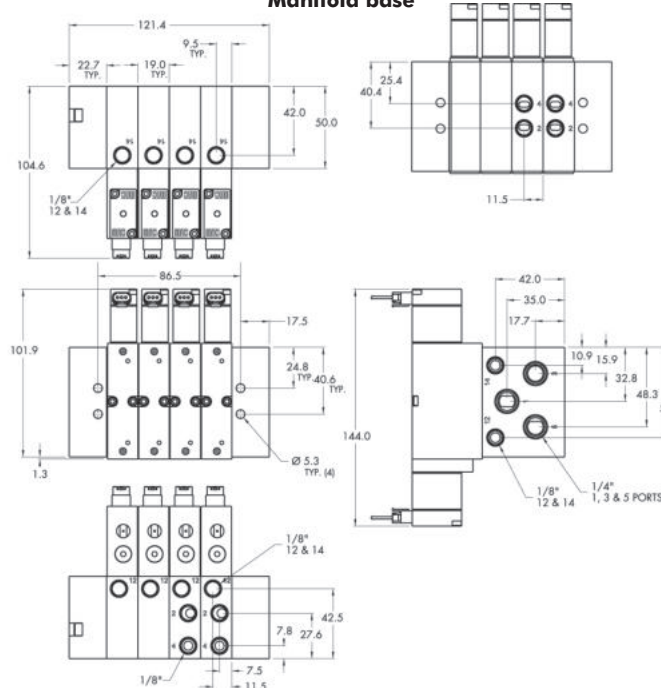
DIMENSIONS

Individual base



Dimensions shown are metric (mm)

Manifold base





Direct solenoid and solenoid pilot operated valves

Function Port size Flow [Max] Individual/Manifold mounting

5/2, 5/3

G1/8"

510 NI/min

Valve only -
No base
"plug-in"
Conform to
ISO 15407/2

OPERATIONAL BENEFITS

1. Unique patented MACsolenoid® with oval shaped armature for fastest possible response times.
2. Balanced poppet 5-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. Pilot valve and main valve in the same body.
6. Internal or external pilot operation.
7. Air only return
8. Valve width: 18 mm.



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-P02A-AACA-RxxP-xxx	MV-P02A-ABCA-RxxP-xxx	MV-P02A-AECA-RxxP-xxx	MV-P02A-AFCA-RxxP-xxx
External "12" end	MV-P02A-AACD-RxxP-xxx	MV-P02A-ABCD-RxxP-xxx	MV-P02A-AECD-RxxP-xxx	MV-P02A-AFCD-RxxP-xxx
External "14" end	MV-P02A-AACE-RxxP-xxx	MV-P02A-ABCE-RxxP-xxx	MV-P02A-AECE-RxxP-xxx	MV-P02A-AFCE-RxxP-xxx

DUAL PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Pressure centre
Internal from port #3	MV-P02A-ACCB-RxxP-xxx	MV-P02A-ADCB-RxxP-xxx	MV-P02A-AHCB-RxxP-xxx
Internal from port #5	MV-P02A-ACCC-RxxP-xxx	MV-P02A-ADCC-RxxP-xxx	MV-P02A-AHCC-RxxP-xxx
External from "12" end	MV-P02A-ACCD-RxxP-xxx	MV-P02A-ADCD-RxxP-xxx	MV-P02A-AHCD-RxxP-xxx
External from "14" end	MV-P02A-ACCE-RxxP-xxx	MV-P02A-ADCE-RxxP-xxx	MV-P02A-AHCE-RxxP-xxx

SOLENOID OPERATOR ➤

R **xxP-xxx** *

XX Voltage	X Manual operator	XX Electrical connection
AA* 120 VAC	0 Non operator	PA Base plug-in
AC* 24 VAC	1 Recessed non locking	PB Base plug-in with light
DC 24V=/1.8W	3 Extended non locking	PC Base plug-in with MOV
DD 24V=/2.5W		PD Base plug-in with light & MOV
DE 24V=/3.0W		
DF 24V=/4.0W		
DJ 12V=/1.8W		
DK 12V=/2.5W		
DL 12V=/3.0W		
DM 12V=/4.0W		

* Use either PA or PB connector

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

** Other options available, see page options.

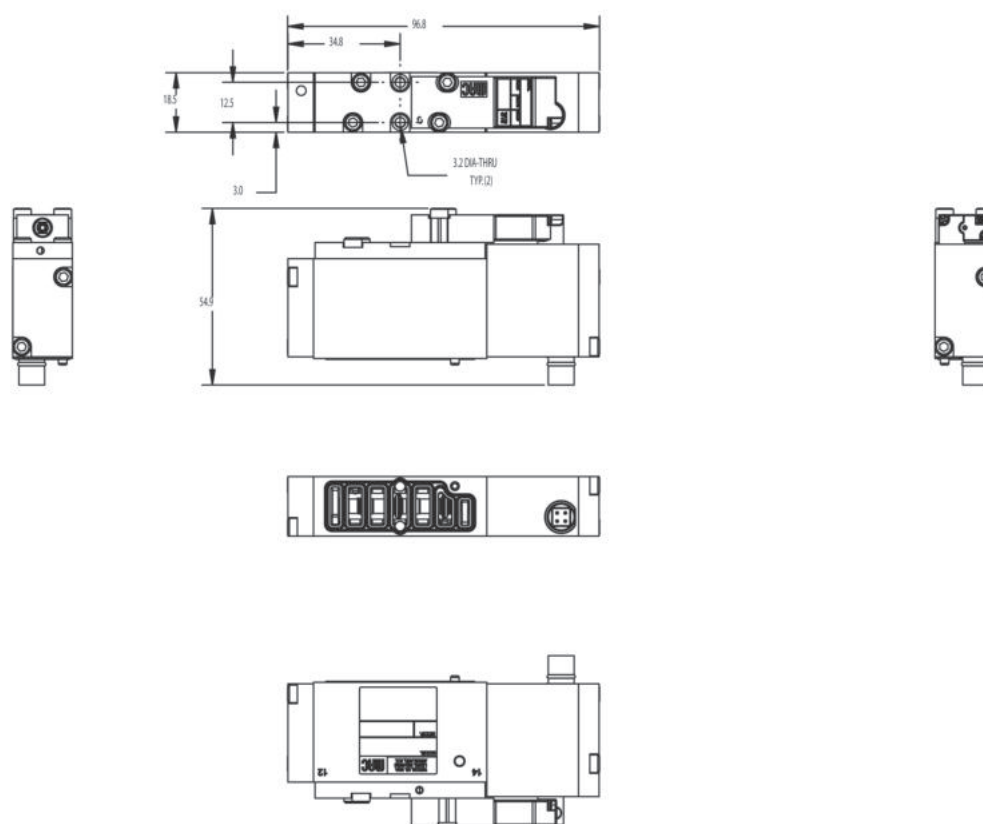
OPTIONS

Pilot exhaust: MV-P02A-XXxMVx-RxxP-xxx

- C Pilot exhaust muffled
- R Pilot exhaust piped M5
- U Pilot exhaust out main exhaust

TECHNICAL DATA	
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Internal pilot – 2 pos.: 1,3 to 8 bar 3 pos.: 2,3 to 8 bar External pilot: vacuum to 8 bar
Pilot pressure :	2 pos.: 1,3 to 8 bar – 3 pos.: 2,3 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
Flow (at 6 bar, ΔP=1 bar) :	2 pos.: 510 NI/min (Cv .51) – 3 pos.: 350 NI/min (Cv .35)
Coil :	Epoxy encapsulated - Class A wires - 100% ED
Voltage range :	-15% to +10%
Power :	1,8 to 5,4 W

DIMENSIONS	Dimensions shown are metric (mm)
------------	----------------------------------





Bases according to ISO 15407 / 1

Non plug-in individual / manifold base



HOW TO ORDER

INDIVIDUAL BASE

Port size	Pilot air	Side ports	Bottom 2 & 4 ports With all side ports
G1/8"	Internal	MB-A02A-211	MB-A02A-212

MANIFOLD BASE

Port size	Pilot air	Side ports	Bottom 2 & 4 ports With side 1, 3 & 5 ports
G1/8"	Internal	MM-A02A-211	MM-A02A-212

Notes:

- For manifold bases external pilot is common
- A base is ordered as internal pilot and can be changed into external pilot by removing pipe plugs from the external pilot ports (individual base).
- Manifold base: same base for internal and external pilot, different end plate kits.

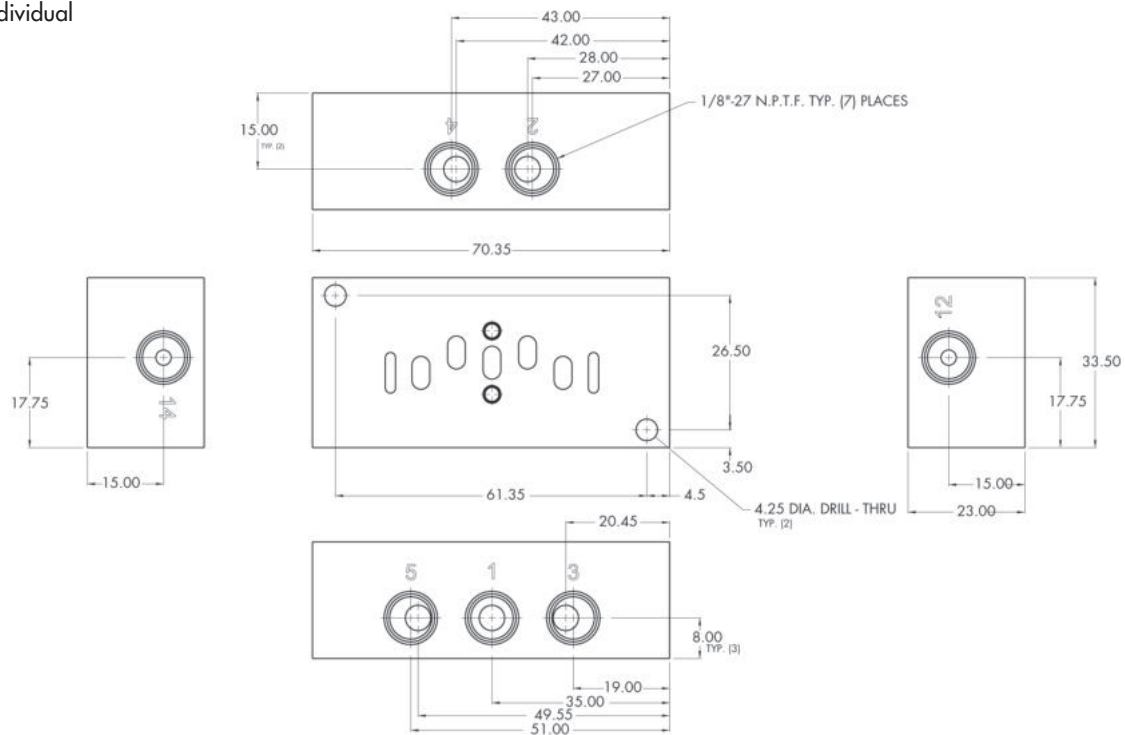
End plate kit: Internal pilot M-00018-01-01P
External pilot M-00018-02-01P

Inlet/exhaust isolator: 28499

DIMENSIONS

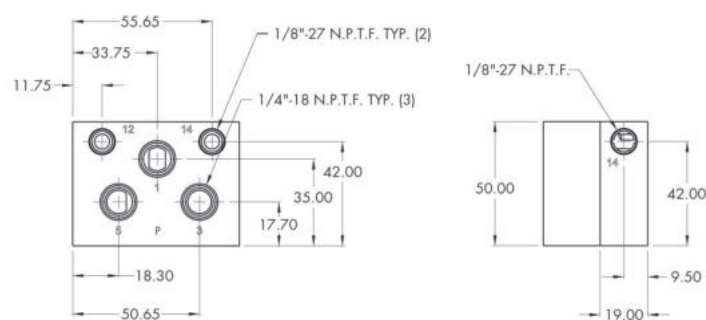
Dimensions shown are metric (mm)

Individual

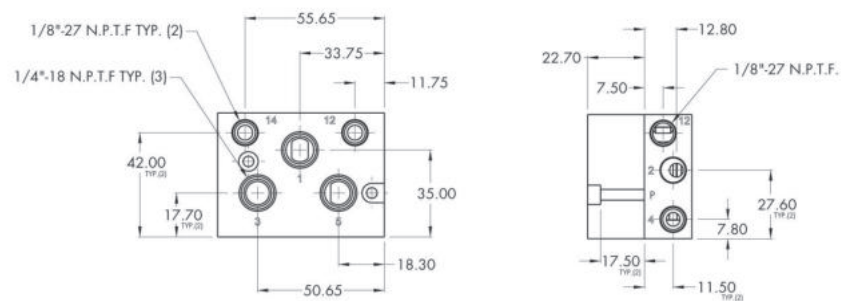


Manifold

LEFT SIDE



RIGHT SIDE



Plug-in individual / manifold base



HOW TO ORDER

INDIVIDUAL BASE

Port size	Pilot air	Side ports with all side ports	Bottom 2 & 4 ports
G1/8"	Internal	MB-P02A-211	MB-P02A-212

MANIFOLD BASE

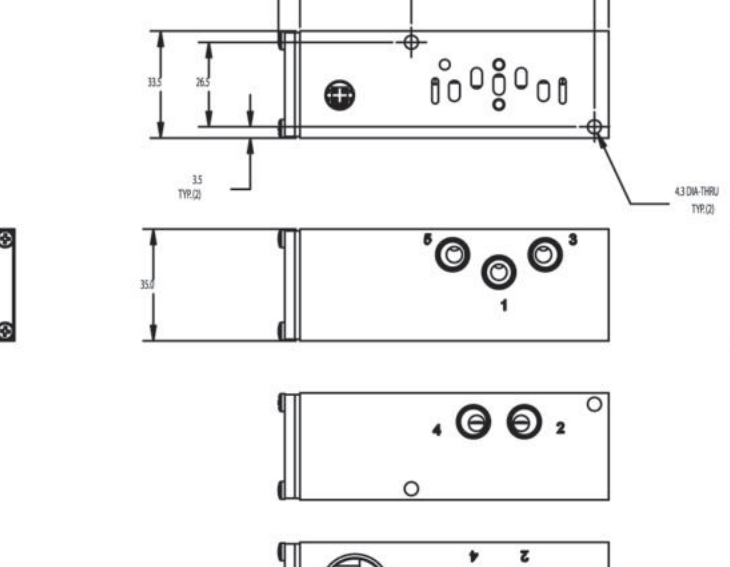
Port size	Pilot air	Side ports With side 1, 3 & 5 ports	Bottom 2 & 4 ports
G1/8"	Internal	MM-P02A-211	MM-P02A-212

- Notes:
- For manifold bases external pilot is common
 - End plate kit:

Internal pilot	M-00021-01-01P
External pilot	M-00021-02-01P



Dimensions shown are metric (mm)



Technical drawing of the 1000 Series 12" cabinet, showing front, side, and top views with dimensions and mounting details.

Front View: Shows the cabinet with a width of 103.7" and a height of 35.5". The mounting flange has a width of 35.0" and a height of 35.5". The main body has a width of 57.5". The cabinet features a central handle and four locking bolts (1, 2, 3, 4) on the right side. The bottom edge is labeled "4.3 DIA. THRU TYP.(2)".

Side View: Shows the cabinet with a height of 35.5". The mounting flange has a width of 35.0". The main body has a width of 57.5". The cabinet features a central handle and four locking bolts (1, 2, 3, 4) on the right side.

Top View: Shows the cabinet with a width of 103.7" and a height of 35.5". The mounting flange has a width of 35.0" and a height of 35.5". The main body has a width of 57.5". The cabinet features a central handle and four locking bolts (1, 2, 3, 4) on the right side.

Mounting Details: The cabinet is shown with four mounting holes (1, 2, 3, 4) and a central handle. The mounting flange has a width of 35.0" and a height of 35.5". The main body has a width of 57.5". The cabinet features a central handle and four locking bolts (1, 2, 3, 4) on the right side.

Technical drawing of the 1000 Series 1200mm wide cabinet, showing front, top, and side views with dimensions and callouts.

Front View: Shows the cabinet with a width of 1200mm and a height of 900mm. The top panel has a width of 1124mm and a height of 53mm. The door has a width of 550mm and a height of 145mm. The door handle is located 175mm from the bottom edge. The door is labeled "14".

Top View: Shows the cabinet with a width of 1200mm and a depth of 550mm. The top panel has a width of 1124mm and a height of 53mm. The door has a width of 550mm and a height of 145mm. The door handle is located 175mm from the bottom edge. The door is labeled "14".

Side View: Shows the cabinet with a depth of 550mm. The top panel has a width of 1124mm and a height of 53mm. The door has a width of 550mm and a height of 145mm. The door handle is located 175mm from the bottom edge. The door is labeled "14".

Callouts:

- 5.8 DIA THRU TYP (2)
- 14
- 175
- 145
- 900
- 550
- 1124
- 53

Non plug-in sandwich pressure regulator with manual adjust

OPERATIONAL BENEFITS

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



HOW TO ORDER

Pilot	Single pressure Regulator 12 end	Dual pressure Regulator 12 end with by-pass 14 end	Dual pressure Regulator 14 end with by-pass 12 end	Dual pressure Regulator both ends
Internal	PRA02A-AAAA	PRA02A-ABAA	PRA02A-ADAA	PRA02A-AEAA
External	PRA02A-BAAA	PRA02A-BBAA	PRA02A-BDAA	PRA02A-BEAA

Above models are for manual adjust with knob
For other manual adjustments and pressure ranges, see Options.

Note: Add -9 after part number for regulator block assembled to valve.
* To be used with dual pressure valves.

OPTIONS

Adjustments :

PRA02A - XXXX

- A** Manual adjust with knob – Internal pilot
- B** Manual adjust with knob – External pilot
- G** Manual adjust with screwdriver slot – Internal pilot
- H** Manual adjust with screwdriver slot – External pilot
- K** Manual adjust with screwdriver slot with locknut– Internal pilot
- L** Manual adjust with screwdriver slot with locknut – External pilot

Regulated Pressure range :

PRA02A - XXXX

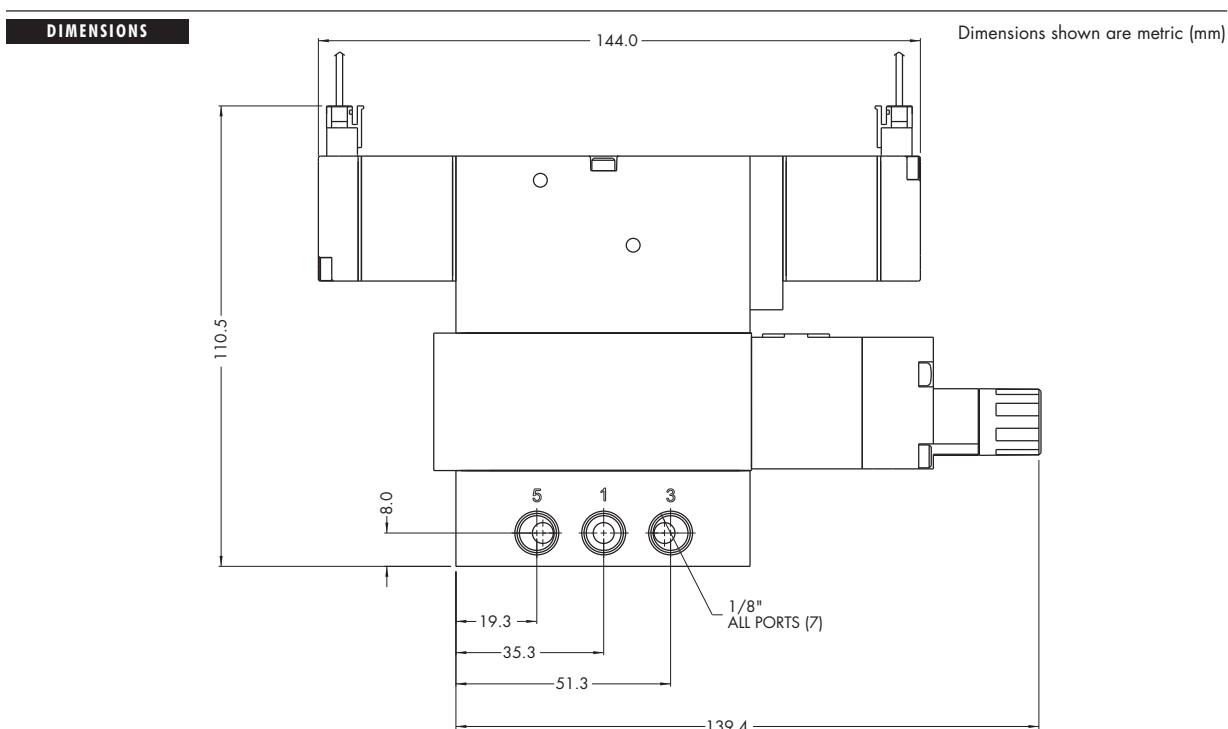
- A** 0 to 8 bar
- B** 0 to 5,3 bar
- C** 0 to 2 bar
- D** 0 to 8 bar "14" end – 0 to 5,3 bar "12" end
- E** 0 to 8 bar "12" end – 0 to 5,3 bar "14" end
- F** 0 to 8 bar "14" end – 0 to 2 bar "12" end
- G** 0 to 8 bar "12" end – 0 to 2 bar "14" end
- H** 0 to 5,3 bar "14" end– 0 to 2 bar "12" end
- J** 0 to 5,3 bar "12" end – 0 to 2 bar "14" end



100%
OF
PRODUCTION
TESTED
100%

WARRANTY
18
MONTHS

TECHNICAL DATA	
Fluid :	Compressed air, inert gases
Pressure supply :	Higher than maximum regulated pressure (max. 8,5 bar)
Regulating range :	0 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





P r e s s u r e r e g u l a t o r s

Plug-in sandwich pressure regulator with manual adjust

OPERATIONAL BENEFITS

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

HOW TO ORDER

Pilot	Single pressure Regulator 1/2 end
Internal	PRP02A-AAAA
External	PRP02A-BAAA

Above models are for manual adjust with knob
For other manual adjustments and pressure ranges, see Options.

Note: Add -9 after part number for regulator block assembled to valve.

OPTIONS

Adjustments :

PRP02A - XXXX

- A Manual adjust with knob – Internal pilot
- B Manual adjust with knob – External pilot
- G Manual adjust with screwdriver slot – Internal pilot
- H Manual adjust with screwdriver slot – External pilot
- K Manual adjust with screwdriver slot with locknut – Internal pilot
- L Manual adjust with screwdriver slot with locknut – External pilot

Regulated Pressure range :

PRP02A - XXXX

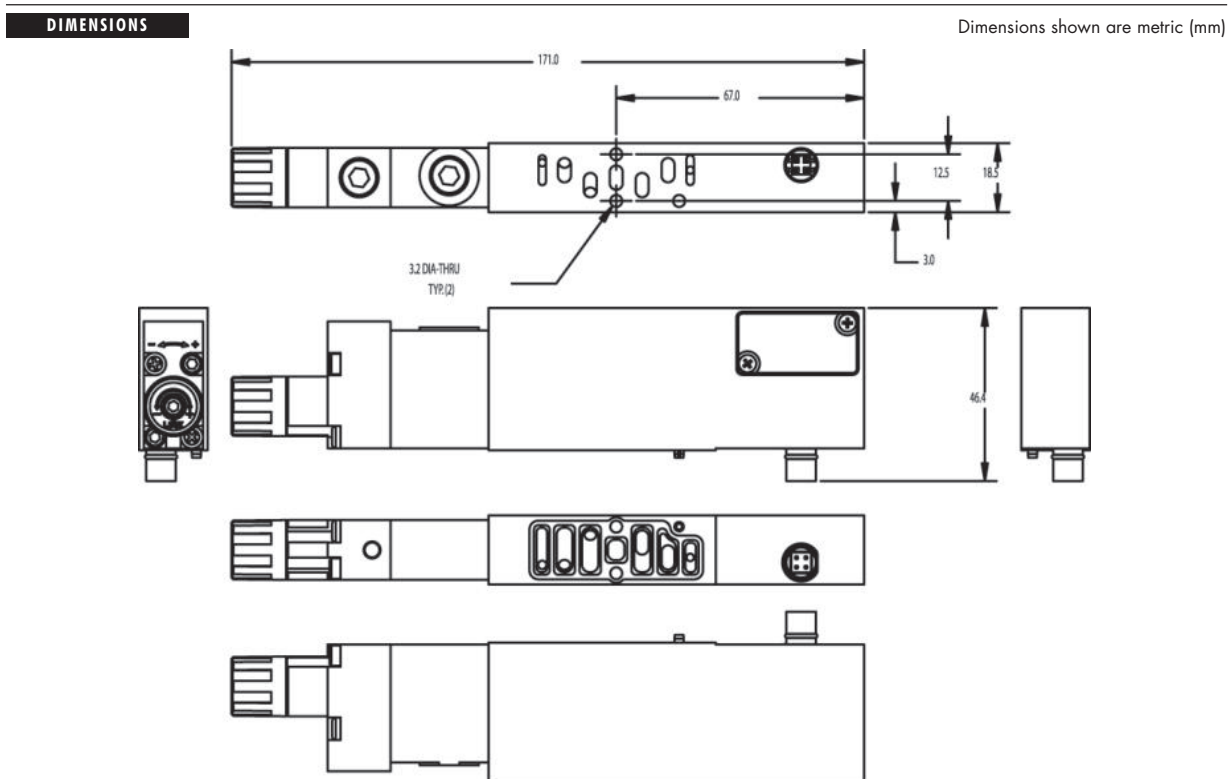
- A 0 to 8 bar
- B 0 to 5,3 bar
- C 0 to 2 bar



100%
OF
PRODUCTION
TESTED
100%

WARRANTY
18
MONTHS

TECHNICAL DATA	
Fluid :	Compressed air, inert gases
Pressure supply :	Higher than maximum regulated pressure (max. 8,5 bar)
Regulating range :	0 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



Codification table for voltages / Manual operators / Electrical connections

VALVE CODE ►

(Non Plug-in series)

J XX X-X XX
1 2 3 4

1. VOLTAGE		J-XX X-X XX	ELECTRICAL CONNECTION
J-XX X-X XX	VOLTAGE	*JJ	Square connector Male only (Plain)
AA	120V~/5,4W	*JK	Square connector with rectifier
AC	24V~/5,4W	*JL	Square connector with rectifier with light
DE	24V~/1,8W	*JM	Rectangular connector Male only (Plain)
DF	12V~/1,8W	*JN	Rectangular connector with diode
DJ	24V~/1,3W	*JP	Rectangular connector with MOV
DL	12V~/1,3W	*JR	Rectangular connector with diode/light
DN	12V~/0,5W*	*JS	Rectangular connector with MOV/light
DR	12V~/1,0W*	*JT	Rectangular connector with rectifier
DS	24V~/0,5W*	*JU	Rectangular connector with rectifier with light
DU	24V~/1,0W*	* Not available on manifold or stacking valves	
* Not available on 36 series universal valves		J-XX X-X XX	MINI SQUARE PLUG-IN CONNECTORS 9,4 MM SPACING BETWEEN PINS
2. WIRE LENGHT		KA	Mini plug-in
J-XX X-X XX	WIRE LENGHT	KB	Mini plug-in with diode
A	45 cm - 18" coil leads	KC	Mini plug-in with MOV
B	60 cm - 24" coil leads	KD	Mini plug-in with light
C	90 cm - 36" coil leads	KE	Mini plug-in with diode and light
D	120 cm - 48" coil leads	KF	Mini plug-in with MOV and light
E	180 cm - 72" coil leads	KG	Mini plug-in with rectifier
F	240 cm - 96" coil leads	KH	Mini plug-in with rectifier and light
P	Base plug-in	KJ	Mini plug-in - Male only
O	No leads (use with J, K & L type connectors)	KK	Mini plug-in with diode - Male only
3. MANUAL OPERATOR		KL	Mini plug-in with MOV - Male only
J-XX X-X XX	MANUAL OPERATOR	KM	Mini plug-in with light - Male only
0	No operator	KN	Mini plug-in with diode and light - Male only
1	Non-locking recessed	KP	Mini plug-in with MOV and light - Male only
2	Locking recessed	KR	Mini plug-in with rectifier - Male only
3	Non-locking extended	KS	Mini plug-in with rectifier and light - Male only
4	Locking extended	* Not available on manifold or stacking valves	
4. ELECTRICAL CONNECTION		J-XX X-X XX	CONNECTORS FOR NON PLUG-IN VALVES MINI SQUARE PLUG-IN CONNECTORS 8.0 MM SPACING BETWEEN PINS ISO SPECIFICATION 15217
J-XX X-X XX	ELECTRICAL CONNECTION	LA	Mini plug-in
BA	Flying leads	LB	Mini plug-in with diode
GA	MAC JAC solenoid plug-in	LC	Mini plug-in with MOV
GB	MAC JAC solenoid plug-in with diode	LD	Mini plug-in with light
GC	MAC JAC solenoid plug-in with MOV	LE	Mini plug-in with diode and light
GD	MAC JAC solenoid plug-in with light	LF	Mini plug-in with MOV and light
GE	MAC JAC solenoid plug-in with diode and light	LG	Mini plug-in with rectifier
GF	MAC JAC solenoid plug-in with MOV and light	LH	Mini plug-in with rectifier and light
GG	MAC JAC solenoid plug-in with rectifier	LJ	Mini plug-in - Male only
GH	MAC JAC solenoid plug-in with rectifier and light	LK	Mini plug-in with diode - Male only
GJ	MAC JAC solenoid plug-in - Male only	LL	Mini plug-in with MOV - Male only
GK	MAC JAC solenoid plug-in with diode - Male only	LM	Mini plug-in with light - Male only
GL	MAC JAC solenoid plug-in with MOV - Male only	LN	Mini plug-in with diode and light - Male only
GM	MAC JAC solenoid plug-in with light - Male only	LP	Mini plug-in with MOV and light - Male only
GN	MAC JAC solenoid plug-in with diode and light - Male only	LR	Mini plug-in with rectifier - Male only
GP	MAC JAC solenoid plug-in with MOV and light - Male only	LS	Mini plug-in with rectifier and light - Male only
GR	MAC JAC solenoid plug-in with rectifier - Male only	J-XX X-X XX	CONNECTORS FOR PLUG-IN VALVES
GS	MAC JAC solenoid plug-in with rectifier and light - Male only	FA	Base plug-in
*JA	Square connector	FB	Base plug-in with diode
*JB	Rectangular connector	FC	Base plug-in with MOV
*JC	Square connector with light	FD	Base plug-in with light
*JD	Rectangular connector with light	FE	Base plug-in with diode and light
*JE	Square connector with diode	FF	Base plug-in with MOV and light
*JF	Square connector with MOV	FG	Base plug-in with rectifier
*JG	Square connector with diode/light	FH	Base plug-in with rectifier and light
*JH	Square connector with MOV/light		



0 p t i o n s

Codification table for voltages / Manual operators / Electrical connections

VALVE CODE ► **R XX X - X XX**
(Plug-in series) **1 2 3 4**

1. VOLTAGE		3. MANUAL OPERATOR	
R XX X - XXX	VOLTAGE	R XX X - XXX	MANUAL OPERATOR
DB	24 VDC (1.0W)	0	No operator
DC	24 VDC (1.8W)	1	Non-locking recessed
DD	24 VDC (2.5W)	3	Non-locking extended
DE	24 VDC (3.0W)		
DF	24 VDC (4.0W)		
DH	12 VDC (1.0W)		
DJ	12 VDC (1.8W)		
DK	12 VDC (2.5W)		
DL	12 VDC (3.0W)		
DM	12 VDC (4.0W)		
EA*	24 VDC (60W)		
EB*	24 VDC (90W)		
EC*	24 VDC (230W)		
* MOD numbers required for these voltages (consult factory)			
2. WIRE LENGHT		4. ELECTRICAL CONNECTION	
R XX X - XXX	WIRE LENGHT	ELECTRICAL CONNECTION FOR NON PLUG-IN VALVES	
0*	No lead wire	R XX X - XXX	
A	45 cm - 18"	BA	Flying leads
B	60 cm - 24"	BB	Flying leads with LED
C	90 cm - 36"	BC	Flying leads with MOV
D	120 cm - 48"	BD	Flying leads with LED and MOV
E	180 cm - 72"	DA	Base plug-in
F	240 cm - 96"	DB	Base plug-in with LED
G	300 cm - 120"	DC	Base plug-in with MOV
H	365 cm - 144"	DD	Base plug-in with LED and MOV
P	Base plug-in	RA	Mini JAC solenoid
* Not available for flying leads connector		RB	Mini JAC solenoid with LED
		RC	Mini JAC solenoid with MOV
		RD	Mini JAC solenoid with LED and MOV
		TA	JST solenoid plug-in
		TB	JST solenoid plug-in with LED
		TC	JST solenoid plug-in with MOV
		TD	JST solenoid plug-in with LED and MOV
		ELECTRICAL CONNECTION FOR PLUG-IN VALVES	
		R XX X - XXX	
		PA	Base plug-in
		PB	Base plug-in with light
		PC	Base plug-in with MOV
		PD	Base plug-in with light and MOV