

# LARGE 4-WAY

Mac Valves with 4 or 5 ports; inlet, a common exhaust (4 way) or two exhausts (5 way) and two cylinder ports, one normally open and the other normally closed. Their common application is to operate double acting cylinders.

Patents and Patents Pending

## LARGE 4-WAY SOLENOID

82, 83, 92, 93, 800, 1300, 1800, 2700, 62-6600 SERIES (Cv from 1.2)



### AVAILABILITY TABLE

SERIES FEATURES	92	82	6200	6300	6500	6600	1300	ISO 1	ISO 2	ISO 3
SGL DBL SOL 2 POSN	/	/	/	/	/	/	/	/	/	/
3 POSITION C.C.	/	/	/	/	/	/	/	/	/	/
3 POSITION O.C.	/	/	/	/	/	/	/	/	/	/
3 POSITION P.C.	/	/	X	•	/	/	X	/	/	/
SANDWICH REGULATOR	/	/	/	/	/	X	X	/	/	/
SANDWICH FLOW CONTROL	/	/	X	X	X	X	X	X	X	X
DUAL PRESSURE	/	/	X	••	/	/	X	/	/	/
INT./EXT PILOT	/	/	/	/	/	/	/	/	/	/

**LEGEND:**

- = available on 6300 manifold only.
- = available on 6300 manifold only with sandwich pressure regulator.
- / = available
- X = not available

### PORTING – INDIVIDUAL BASES

PORT SIZE	92	82	6200	6300	6500	6600	1300	ISO 1	ISO 2	ISO 3
1/8"	/•	/•								
1/4"	/	/•						/•		
3/8"	/	/	/•	/•	/•			/•	/•	
1/2"				/	/•				/•	/•
3/4"					/	/•	/•			/•
1"						/•	/•			/•
1 1/4"							/			
1 1/2"							/			

**LEGEND:**

- / = side ports
- = bottom ports available (no side ports)

### PORTING – MANIFOLD BASES

PORT SIZE	92	82	6200	6300	6500	6600	ISO 1	ISO 2
1/4"	/•	/•+	/•	/•	/•		/•+	/•+
3/8"	/•	/•	/•+	/•+	/•		/•+	/•+
1/2"				/•+	/•			/•+
3/4"					/•+			/•+
1"						/•		/•
1 1/4"						/+		/+

**LEGEND:**

- / = side ports
- = bottom cylinder ports
- + = bottom inlet (92 series – consult factory)

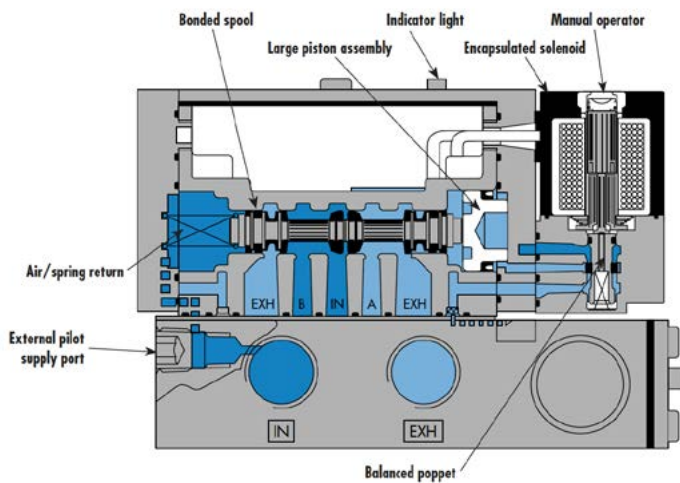


## OPERATIONAL BENEFITS

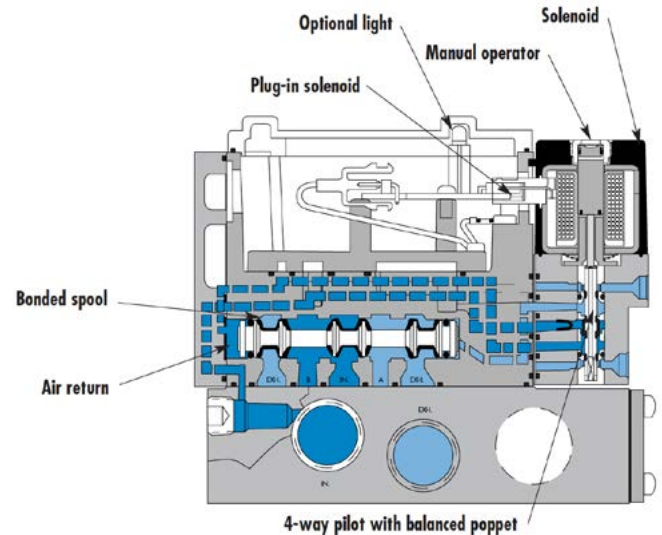
- Unique patented MACSOLENOID for fastest possible response time with its non burnout feature on AC service.
- Unique patented MACSOLENOID for fastest possible response times.
- Balanced poppet pilot valve for high flow, precise repeatability and consistent operation.
- Balanced poppet 4 way pilot valve provides maximum shifting forces, precise repeatability and consistent operation.
- Large spool or piston for maximum shifting forces even at minimum operating pressure.
- Air only return. Optional memory spring is also available.
- Air/Spring return for consistent shifting on single solenoid valves.
- MAC spool and bore combination for wiping away contamination, eliminating sticking and for use on lubricated and non-lubricated service.
- Patented, virtually burnout proof AC solenoid.
- Optional low wattage DC solenoids down to 18W (82 series) or 10W (92, 6000, 1300 & ISO series).
- Plug-in design of valves, bases, flow controls and regulators for modular assembly and ease of maintenance.
- Indicator lights in valve body, base or external plug-in connector.
- Plug-in solenoid and optional circuit board to allow for lights, diodes, MOV's and AC rectification
- Very high flow in a very compact package.
- NEMA 4 solenoid enclosure (6000 & ISO series)
- A large checked accumulator for consistent shifting on single and double solenoid models (6300, 6500, 6600, 1300 & ISO 3)
- Internal or external pilot operation: manifolds supplied with optional common external pilot.
- Non-locking manual operators standard on all valves; other types of manual operators available.
- Add-on style circuit bar manifolds provide for additional stations to be added to existing manifold.

### EXHAUST

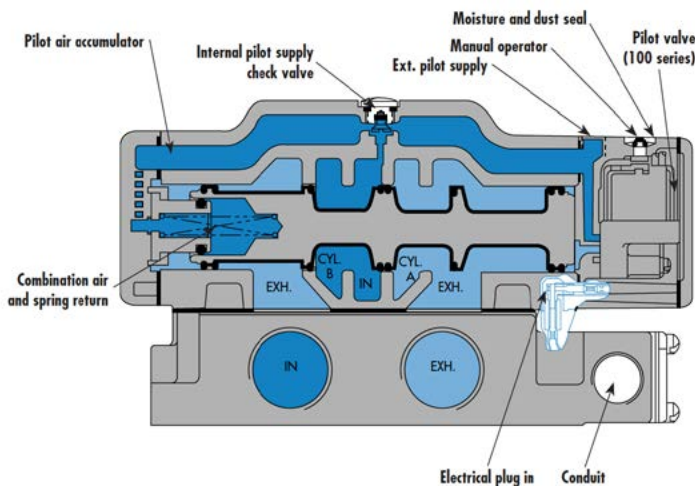
### PRESSURE



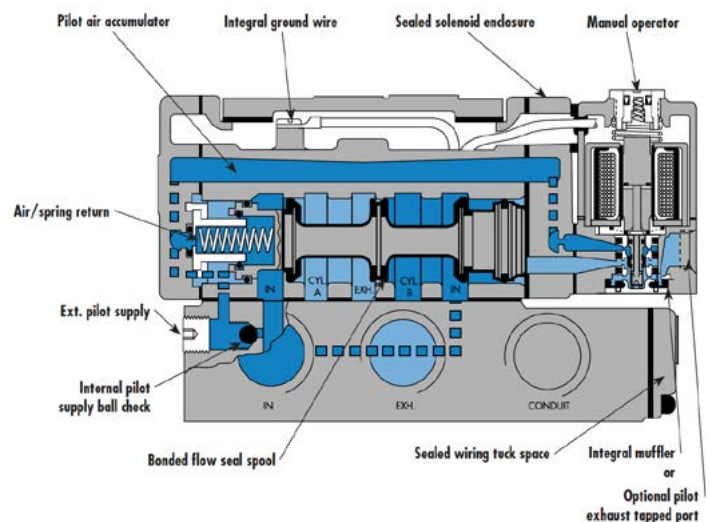
82 Series



92 Series



1300 Series



6500 Series



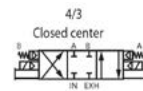
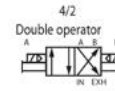
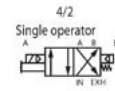
The MAC 82 series is a versatile 4-way solenoid piloted spool valve. This features our balanced poppet in the pilot and an air/spring return for consistent shifting regardless of inlet pressure fluctuations. Our balanced spool means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 82A-AC-000-TM-DDAP-1DA

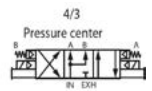
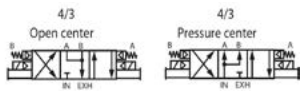
Function	Port size	Flow (Max)	Individual Mounting
4/2, 4/3	1/8"-1/4"-3/8"	1.35 Cv	Sub Base 'Plug-In'/'Non Plug-In'

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- The piston (booster) provides maximum shifting forces.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.
- Long service life.



82 SERIES



### 82 SERIES VALVE & BASE OPTIONS

82A - X X - X X X - XX - D XX X - X XX  
 T T T T T T T T T T  
 1 2 3 4 5 6 7 8 9 10

#### 1 - Spool Type - Valve Function

- O Base or Manifold Only
- A Single Solenoid - Single Pressure
- B Double Solenoid - Single Pressure
- C Single Solenoid - Dual Pressure
- D Double Solenoid - Dual Pressure
- E Double Solenoid - 3-Position Closed Center
- F Double Solenoid - 3-Position Open Center
- G Double Solenoid - 3-Position Pressure Center
- H Double Solenoid - 3-Position - Dual Pressure - Pressure Center
- J Single Solenoid - Single Pressure With Solenoid On "B" End
- K Single Solenoid - Dual Pressure With Solenoid On "B" End
- L Double Solenoid - 3-Position Dual Pressure - Open Center
- M Double Solenoid - 3-Position Dual Pressure - Closed Center

#### 2 - Body Type/Lights In Body

- A Plug-in Body
- B Non Plug-in Body
- C Internal Plug-in With Light In Body
  - Single Light 120V      Single Light 240V
  - Single Light 24V      Double Light 120V
  - Double Light 240V      Double Light 24V

#### 3 - Port Size And Thread Type

- O Valve Only
- E 1/4" BSPPL Ports
- F 3/8" BSPPL Ports
- L 1/4" Dual Pressure BSPPL Ports (Individual Base Only)
- M 3/8" Dual Pressure BSPPL Ports (Individual Base Only)

#### 4 - Base/Manifold Configurations

- O Valve Only
- A Individual Base - Standard Porting
- B 1/4" Bottom Ports
- C 1/4" Both Bottom & Side Ports
- D Individual Side Inlet & Exhaust - Bottom Cylinder Ports
- K Manifold Base - Standard Ports
- L Manifold With Bottom Cylinder Ports
- M Manifold With Additional Bottom Inlet
- R Manifold Bottom Inlet & Bottom & End Cylinder Ports

#### 5 - Internal/External Pilot

- O Internal Pilot Valve Only - No Base
- A No Indicator Light
- B Single Indicator Light in Base or Manifold
  - 110V      240V      24V
- C Double Indicator Light in Base or Manifold
  - 110V      240V      24V
- D External Pilot - No Light
  - Individual Base      Manifold
- E External Pilot - Single Light in Base or Manifold
  - Individual Base 110V      Individual Base 240V
  - Individual Base 24V      Manifold 110V
  - Manifold 240V      Manifold 24V
- F External Pilot - Double Light in Base or Manifold
  - Individual Base 110V      Individual Base 240V
  - Individual Base 24V      Manifold 110V
  - Manifold 240V      Manifold 24V

#### 6 - Pilot Body

- TM Pilot Valve with muffled exhaust
- TP Pilot Valve with piped exhaust
- TU Pilot Valve; pilot exhaust out main exhaust (Single Pressure Only)

\*Continued Next Page



### 7 - Voltage

AA	120/60, 110/50	AC	24/60, 24/50
AF	240/50	DA	24 VDC (54W)
DB	12 VDC (54W)	DC	12 VDC (7.5W)
DD	24 VDC (7.3W)	DE	12 VDC (12.7W) (CLSF)
DF	24 VDC (12.7W) (CLSF)	FE	12 VDC (24W)
FF	24 VDC (24W)		

### 8 - Wire Length

Plug-in Valve/Base		Non Plug-in Valve/Base	
P	Plug-in 8" - Standard	A	18" E 72"
1	18" 4 48"	B	24" F 96"
2	24" 5 72"	C	36" J 6"*
3	36" 6 96"	D	48"

\* Lead wire length for external plug-in connectors must be "J"

### 9 - Manual Operator

- 0 No Operator
- 1 Non-Locking Manual Operator
- 2 Locking Manual Operator
- 3 Non-Locking Extended Manual Operator
- 4 Locking Extended Manual Operator

### 10 - Electrical Connector

DA	Plug-in	BA	Grommet
CA	Conduit 1/2"	JB	Rectangular Plug-in
JD	Rectangular Plug-in with Light	JM	Rectangular Male Only
KA	Mini Plug-in	KB	Mini Plug-in with Diode
KC	Mini Plug-in with M.O.V.	KD	Mini Plug-in with Light
KE	Mini Plug-in with Light & Diode	KF	Mini Plug-in w/light & M.O.V.
KG	Mini Plug-in with LED Light & Diode		

### 82 Series Pilot Valves - Bodies and Assemblies

TM	Pilot Body Assembly Only
TP	Pilot Body Assembly Only
TU	Pilot Body Assembly Only
TM-DXXY-XXX*	Complete Pilot Valve
TP-DXXY-XXX*	Complete Pilot Valve
TU-DXXY-XXX*	Complete Pilot Valve
TM-RAIX	Complete Remote Air Pilot Valve
TP-RAIX	Complete Remote Air Pilot Valve
TU-RAIX	Complete Remote Air Pilot Valve
TO-RAIX	Remote Air Operator
DXXY-XXX*	Solenoid and Cover Assembly

Note: Low wattage available as complete valves only

### 82 Series Flow Control Module

FC82A-AA	Plug-in Flow Control Assembly
FC82A-BA	Non Plug-in Flow Control Assembly

### 82 Series Accessories

N-82005-01	Manifold Fastening Kit
32835 3/8"	Isolation Plugs
M-82003	Blank Station Cover Plate (Manifold)
M-82003-00-1	Blank Station Cover Plate when used with regulator

## 82 SERIES REMOTE AIR

82A-XX-XXX-RA  
 TT TTT  
 1 2 3 4 5

### 1 - Spool - Valve Function

- 0 Base Only
- A Single Operator — Single Pressure
- B Double Operator — Single Pressure
- E 3-Position Closed Centre
- F 3-Position Open Centre
- G 3-Position - Single Pressure - Pressure Centre
- H 3-Position Dual Pressure, Pressure Centre

### 2 - Remote Air

- B Remote Air Body

### 3 - Port Size And Thread Type

- 0 Valve Only — No Base
- D 1/8" BSPPL
- E 1/4" BSPPL
- F 3/8" BSPPL

### 4 - Base Configurations

- 0 Valve Only — No Base
- A Base with Standard Porting
- B Base with Bottom Ports Only (1/8" or 1/4")
- C Base with Side and Bottom Ports (1/8" or 1/4")
- D Base with Side Inlet and Exhaust and Bottom Cylinder Ports

### 5 - Single/Double Remote Air Base

- 0 Valve Only — No Base
- A Single Remote Air — Internal Pilot
- D Single Remote Air — External Pilot or Double Remote Air





## 82 SERIES REGULATOR

PR82A -  $\begin{matrix} X & X & X & X & X \\ T & T & T & T & T \\ 1 & 2 & 3 & 4 & 5 \end{matrix}$

### 1 - Adjustment Type

*Manual Adjust With Slotted Stem*

- A Plug-in Solenoid
- B Remote Air or Non Plug-in
- C Regulator Only

*Air Pilot Adjust (0-120 PSI Only)*

- D Plug-in Solenoid
  - Single
  - Double
- E Remote Air or Non Plug-in Body
  - Single
  - Double
- F Regulator Only

*Manual Adjust With Locking Knob*

- G Plug-in Solenoid
  - Single
  - Double
- H Remote Air or Non Plug-in Body
  - Single
  - Double
- J Regulator Only

*Manual Adjust With Locking Slotted Stem*

- K Plug-in Solenoid
  - Single
  - Double
- L Remote Air or Non Plug-in
  - Single
  - Double
- M Regulator Only

### 2 - Configuration

- O Regulator Only
- A Regulator on "A" end (Standard)
- B Regulator on "B" end with by-pass on "A" end
- C Regulator on "A" end with by-pass on "B" end
- D Regulators on both ends
- S Selector to inlet of next valve (Dual Reg.)
- T Selector to inlet of next valve (Sgle. reg. w/by-pass on "A")

### 3 - Gauges

- A No gauge port
- B Gauge with face perpendicular to manual operator\*\*
  - Single & Double
- C Gauge with face parallel to manual operator\*\*
  - Single & Double
- D Gauge port with pipe plug
  - Single & Double

### 4 - Pressure Range

- A 0-120 PSI
- B 0-80 PSI
- C 0-30 PSI
- D 0-120 PSI on "A" end  
0-80 PSI on "B" end
- E 0-120 PSI on "B" end  
0-80 PSI on "A" end
- F 0-120 PSI on "A" end  
0-30 PSI on "B" end
- G 0-120 PSI on "B" end  
0-30 PSI on "A" end
- H 0-80 PSI on "A" end  
0-30 PSI on "B" end
- J 0-80 PSI on "B" end  
0-30 PSI on "A" end

### 5 - Assembly

- 7 Regulator block supplied with extra long screws to be used in conjunction with flow control blocks
- 8 Same as 7 except valve assembles to block
- 9 Regulator block assembled to valve

### MAC 82 Series Regulator Accessories

- \*N-82013 Extra long screws for sandwich regulator mounted with flow control block.

Note: If option #7 or #8 are ordered in position #5, this kit does not need to be ordered separately

### Gauges

*Gauge Assemblies*

- N-82016-01 (0-120 PSI — "B" option)
- N-82016-02 (0-120 PSI — "C" option)
- N-82016-03 (0-80 PSI — "B" option)
- N-82016-04 (0-80 PSI — "C" option)
- N-82016-05 (0-30 PSI — "B" option)
- N-82016-06 (0-30 PSI — "C" option)

*Gauges Only*

- 24143-030P
- 24143-100P
- 24143-160P

*Gauge Extensions*

- 32602 (90°)
- 32603 (Straight)

Note: Gauges called out in regulator must be ordered as separate line item @ N/C

The MAC 83 series is a 4-way balanced spool valve piloted by a small direct operated 4-way solenoid pilot - a one-off in air valve manufacturing. The 4-way pilot means a low minimum operating pressure - no pistons or springs - and minimal resistance to shifting. The balanced design in the pilot means shifting forces are constantly high and response times are repeatable regardless of inlet pressure fluctuations. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 83A-AAD-DM-DDAJ-1JD

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	1/4" - 3/8"	1.5 Cv	Vac. to 120PSI	Sub Base 'Plug-In'/'Non Plug-In'



83 SERIES

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- The piston (booster) provides maximum shifting forces.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.
- Long service life.

### 83 SERIES VALVE & BODY OPTIONS

83A -  $\begin{matrix} X & X & X \\ T & T & T \\ 1 & 2 & 3 \end{matrix}$  - XX -  $\begin{matrix} R \\ D \end{matrix}$  XX X - X XX

#### 1 - Spool Type

- 0 Base Only
- A Single Operator Single Pressure
- B Double Operator Single Pressure
- C Single Operator Dual Pressure
- D Double Operator Dual Pressure
- E 3 Position Closed Center
- F 3 Position Open Center
- G 3 Position Dual Pressure, Pressure Center
- M Single Operator Single Pressure w/ Memory Spring
- N Single Operator Dual Pressure w/ Memory Spring

#### 2 - Internal/External Pilot

- A Internal Pilot
- B Internal Pilot Dual Pressure (supply from #5 port)
- D External Pilot from #14 End
- E External Pilot from #12 End

#### 3 - Port Size And Thread Type

- 0 Valve Only
- C 1/4" BSPPL
- D 3/8" BSPPL

#### 4 - Pilot Body

- DM Muffled Pilot Exhaust
- TM Muffled Pilot Exhaust

### 83 SERIES: DM SOLENOID PILOT OPTIONS

D  $\begin{matrix} XX & X & X \\ T & T & T \\ 1 & 2 & 3 & 4 \end{matrix}$  - X XX

#### 5 - Voltage

- |                    |                    |
|--------------------|--------------------|
| JA 120/60, 110/50  | JF 240/50          |
| JC 24/60, 24/50    | DA 24 VDC (54W)    |
| DB 12 VDC (54W)    | DE 12 VDC (12.7W)* |
| DF 24 VDC (12.7W)* | FE 12 VDC (24W)    |
| FF 24 VDC (24W)    |                    |

\* MOD CLSF Only

#### 6 - Lead Wire Length - Longer Options Available

- A 18" Coil leads
- J External plug-in lead

#### 7 - Manual Operator

- |                        |                            |
|------------------------|----------------------------|
| 0 No operator          | 1 Non-locking manual op.   |
| 2 Locking manual op.   | 3 Non-locking extended op. |
| 4 Locking extended op. |                            |

#### 8 - Electrical Connector

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| BA Grommet                           | BK Grommet with diode           |
| BL Grommet with M.O.V.               | CA Conduit 1/2"                 |
| JB Rectangular plug-in - No Light    | JD Rectangular plug-in w/light  |
| JM Rectangular male only             | KA Mini plug-in                 |
| KB Mini plug-in w/ diode             | KC Mini plug-in w/ M.O.V.       |
| KD Mini plug-in w/ light             | KE Mini plug-in w/light & diode |
| KF Mini plug-in w/ light & M.O.V.    |                                 |
| KG Mini plug-in w/ LED light & diode |                                 |

#### Complete Pilot Valve

- DMB-DXXX-XXX-1 Pilot Valve



## 83 SERIES - SINGLE REMOTE AIR

83A -  $\begin{matrix} \text{X} & \text{X} & \text{X} & \text{DM} & \text{RA1} & \text{X} \\ \text{1} & \text{2} & \text{3} & \text{4} & \text{5} & \text{6} \end{matrix}$

### 1 - Spool Type

- 0 Base Only
- A Single Operator Single Pressure
- C Single Operator Dual Pressure
- M Single Operator Single Pressure with Memory Spring
- N Single Operator Dual Pressure with Memory Spring

### 2 - Internal/External Pilot

- A Internal Pilot
- B Internal Pilot Dual Pressure (supply from #5 port)
- D External Pilot from "14" End
- E External Pilot from "12" End

### 3 - Cylinder Port Size And Thread Type

- 0 Valve Only
- C 1/4" BSPPL
- D 3/8" BSPPL

### 4 - Pilot Body

- DM Muffled Exhaust

### 5 - Remote Pilot Operator

- RA1 Pilot Operator

### 6 - Pilot Port Size and Thread Type

- 4 1/8" BSPPL

## 83 SERIES - DOUBLE REMOTE AIR

83A -  $\begin{matrix} \text{X} & \text{X} & \text{X} & \text{RA} \\ \text{1} & \text{2} & \text{3} & \end{matrix}$

### 1 - Spool Type

- 0 Base Only
- B Double Op. Sgls. Prs.
- D Double Op. Dual Prs.
- E 3 Position Closed Center
- F 3 Position Open Center
- G Dual Pressure Pressure Center

### 2 - External Pilot

- F Remote Air

### 3 - Port Size & Thread Type

- 0 Valve Only
- C 1/4" BSPPL
- D 3/8" BSPPL

## 83 SERIES - CIRCUIT BAR (EBM)

EBM83A -  $\begin{matrix} \text{XX} & \text{X} & \text{X} & \text{X} & \text{X} & \text{XX} & \text{9} \\ \text{1} & \text{2} & \text{3} & \text{4} & \text{5} & & \end{matrix}$

### 1 - Spacing

- 00 254mm Spacing

### 2 - Configuration

- A Side Port
- B Bottom Port
- C Regulator w/Bottom Ports

### 3 - Style

- A Standard Bar Internal Pilot
- B Standard Bar External Pilot

### 4 - Port Size & Thread Type

- D 1/8" BSPPL
- E 1/4" BSPPL

### 5 - Stations

- Number of Stations (02, 03, 04, etc.)

Note: Regulators priced separately

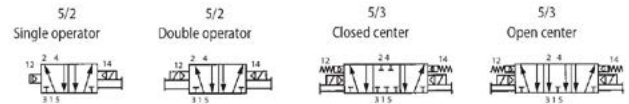
The MAC 92 series is a 4-way spool valve pilot operated by a small direct operated 4-way solenoid valve - a one-off in air valve manufacturing. The 4-way pilot means a low minimum operating pressure - no pistons - and minimal resistance to shifting. The balanced design in the pilot means shifting forces are consistently high and response times are repeatable regardless of inlet pressure fluctuations. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 92B-ABA-000-DM-DJCJ-2JD

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	1/8"-3/8"	1.2 Cv	Int.: 20-120PSI, 3 pos.: 35-120PSI Ext.: vac. to 120PSI, 3 pos.: 35-120PSI	Sub Base 'Plug-In'/ 'Non Plug-In'

### OPERATIONAL BENEFITS

- The 4-way pilot develops maximum shifting forces both ways.
- Memory spring available.
- Balanced spool, immune to variations of pressure, also provides high flow.
- Short stroke with high flow.
- Bonded seal spool with minimum friction, shifting in a glass-like finished bore.
- Pilot with balanced poppet, high flow; short and consistent response times.



### 92 SERIES VALVE & BASE OPTIONS

92B - X X X - X X X - XX - D XX X - X XX  
 1 2 3 4 5 6 7 8 9 10 11

#### 1 - Spool Type - Valve Function

- 0 Base Only
- A Single Solenoid - Single Pressure
- B Double Solenoid - Single Pressure
- C Single Solenoid - Dual Pressure
- D Double Solenoid - Dual Pressure
- E Double Solenoid - 3 Position Closed Centre
- F Double Solenoid - 3 Position Open Centre
- G Double Solenoid - 3 Position Pressure Centre
- H Double Sol. - 3 Position Dual Pres., Pres. Centre
- J Double Sol. - 3 Position Dual Pres., Closed Centre
- K Double Solenoid - 3 Position Open Centre
- L Single Solenoid - Single Pressure w/Memory Spring
- N Single Solenoid - Dual Pressure w/Memory Spring

#### 2 - Plug-In/Non Plug-In - Pilot Exhaust

- 0 Base Only
- A Plug-In Standard Exhaust
- B Non Plug-In Standard Exhaust
- C Plug-In w/Pilot Exst. to Main Exst. (DU Pilot Only)
- D Non Plug-In w/Pilot Exst. to Main Exst. (DU Pilot Only)

#### 3 - Body Options

- 0 Base Only
- A No Light in Top
- B Light in Top
 

110V AC	220/240V AC	24V AC
12VDC	24VDC	

#### 4 - Port Size And Thread Type

- 0 Basic Valve Only
- D 1/8" BSPPL
- E 1/4" BSPPL
- F 3/8" BSPPL

#### 5 - Base/Manifold Configurations

- 0 Basic Valve Only
- A Side Ports (Individual Base)
- B Bottom Ports Only (1/8" only) (Individual Base)
- C Side & Bottom Ports (1/8" only) (Individual Base)
- D Side Inlet & Exhaust, Bottom Cylinder Ports (1/8" only) (Individual Base)
- J Side Cyl. Ports (Manifold Base)

#### 6 - Internal/External Pilot - Base Light Options

- 0 Basic Valve Only
- A Internal Pilot - No Light In Base
- B Internal Pilot - Single Light In Base
 

110 Volt	240 Volt	24 Volt
----------	----------	---------
- C Internal Pilot - Double Light In Base
 

110 Volt	240 Volt	24 Volt
----------	----------	---------
- D External Pilot - No Light In Base
- E External Pilot - Single Light In Base
 

110 Volt	240 Volt	24 Volt
----------	----------	---------
- F External Pilot Double Light In Base
 

120 Volt	240 Volt	24 Volt
----------	----------	---------
- G Non Plug-In Internal Pilot
- H Non Plug-In External Pilot

#### 7 - Pilot Body Exhaust Options

- DM Pilot Valve w/muffled exhaust
- DP Pilot Valve w/piped exhaust
- DU Pilot Valve; pilot exhaust out main exhaust





## 92 SERIES VALVE & BASE OPTIONS

92B -  $\begin{matrix} X & X & X \\ \text{T} & \text{T} & \text{T} \end{matrix}$  -  $\begin{matrix} X & X & X \\ \text{T} & \text{T} & \text{T} \end{matrix}$  -  $\begin{matrix} XX \\ \text{T} \end{matrix}$  - D  $\begin{matrix} XX & X \\ \text{T} & \text{T} \end{matrix}$  -  $\begin{matrix} X & X \\ \text{T} & \text{T} \end{matrix}$

1 2 3 4 5 6 7 8 9 10 11

### 8 - Voltage

JA*	120/60, 110/50	JC	24/60, 24/50
JF*	240/50	DA	24 VDC (54W)
DB	12 VDC (54W)	FA	12 VDC (1.8W)
FB	24 VDC (1.8W)	FE	12 VDC (24w)
FF	24 VDC (24W)		

\* Must use electrical connection with ground wire

### 9 - Lead Wire Length

P	Plug-in 8" Standard
1	18" Base Leads
0	No Wires
A	18" Coil Leads
J	External Plug-In Lead

### 10 - Manual Operator

0	No Operator
1	Non-Locking Manual Operator
2	Locking Manual Operator
3	Non-Locking Extended Manual Operator
4	Locking Extended Manual Operator

### 11 - Electrical Connector

DG	Plug-In w/Ground	DH	Plug-In w/Diode & Ground
DJ	Plug-In w/M.O.V. & Ground	DM	Plug-In
DN	Plug-In w/Diode	BA	Grommet - Flying Lead
BK	Grommet w/Diode		
JB	Rectangular Plug-In - No Light	JD	Rectangular Plug-In w/Light
JM	Rectangular Male Only	KA	Mini Plug-In
KB	Mini Plug-In w/Diode	KC	Mini Plug-In w/M.O.V.
KD	Mini Plug-In w/Light	KE	Mini Plug-In w/Light & Diode
KF	Mini Plug-In w/Light & M.O.V.		
KG	Mini Plug-In w/LED Light & Diode		

## OPTIONAL ACCESSORIES

### Flow Control Module

FC92B-AA	Plug-in Flow Control Assembly - Single Sol.
FC92B-BA	Plug-in Flow Control Assembly - Double Sol.
FC92B-CA	Non Plug-in Flow Control Assembly

### Modifications

416G	2 1/2 Ft. Prewired Cord (For Mini Connector)
416K	6 Ft Prewired Cord (For Mini Connector)
416L	10 Ft Prewired Cord (For Mini Connector)

### Pilot Valves - Bodies and Assemblies

DMB-A1	4-Way Pilot Body (Muffled Exhaust)
DPB-A1	4-Way Pilot body (Piped Exhaust)
DUB-A1	4-Way Pilot body (Pilot Exhaust to main Exhaust)
DMB-DXXX-XXX1	Complete Pilot Valve (4-Way)
DPB-DXXX-XXX1	Complete Pilot Valve (4-Way)
DUB-DXXX-XXX1	Complete Pilot Valve (4-Way)
DMB-RA11	Complete Remote Air Pilot Valve (4-Way)
RDM001-01	Remote Air Operator (used w/ 4-Way Body)

### Manifold Accesories

M-92004-01-01P	(BSPPL) Manifold End Plate Kit Internal Pilot
M-92004-02-01P	(BSPPL) Manifold End Plate Kit External Pilot
M-92002	Blank Station Cover Plate Kit
M-92002-01	Blank Station Cover Plate Kit Sgl Pressure Inlet to "B" Port
M-92002-02	Blank Station Cover Plate Kit Dual Pressure Inlet to "A" & "B" Ports
N-92018	Inlet and Exhaust Isolater Disc

Note: Low wattage available as complete valves only

## 92 SERIES - REGULATOR

PR92C -  $\begin{matrix} X & X & X & X & - & X \\ T & T & T & T & - & T \\ 1 & 2 & 3 & 4 & & 5 \end{matrix}$

### 1 - Adjustment Type

Manual adjust with slotted stem

- |                           |                           |
|---------------------------|---------------------------|
| A Plug-In Single Solenoid | B Plug-In Double Solenoid |
| C Non Plug-In             | D Regulator Only          |

Air pilot adjust (0-120 PSI only)

- |                           |                           |
|---------------------------|---------------------------|
| E Plug-In Single Solenoid | F Plug-In Double Solenoid |
| G Non Plug-In             | H Regulator Only          |

Manual adjust with locking knob

- |                           |                           |
|---------------------------|---------------------------|
| J Plug-In Single Solenoid | K Plug-In Double Solenoid |
| L Non Plug-In             | M Regulator Only          |

Manual adjust with locking slotted stem

- |                           |                           |
|---------------------------|---------------------------|
| N Plug-In Single Solenoid | P Plug-In Double Solenoid |
| R Non Plug-In             | S Regulator Only          |

### 2 - Configuration

- O Regulator Only
- A Regulator "A" End
- B Regulator "B" End
- C Regulator "A" End With By-Pass On "B" End
- D Regulator "B" End With By-Pass On "A" End
- E Regulators Both Ends
- P Select To "A" Port - Regulator "A" End With By-Pass On "B" End
- R Select To "B" Port - Regulator "B" End With By-Pass On "A" End
- S Select To "A" Port - Regulators Both Ends
- T Select To "B" Port - Regulators Both Ends

### 3 - Gauges

- A Gauge Port (Plugged)
- B Gauge With face Perp. To Manual Operator
- C Gauge With Face Parallel to Manual Operator

Note: Gauges ordered in regulator must be called out as separate line item at N/C

### 4 - Pressure Range

- A 0-120 PSI
- B 0-80 PSI
- C 0-30 PSI
- D 0-120 PSI On "A" End 0-80 PSI On "B" End
- E 0-120 PSI On "B" End 0-80 PSI On "A" End
- F 0-120 PSI On "A" End 0-30 PSI On "B" End
- G 0-120 PSI On "B" End 0-30 PSI On "A" End
- H 0-80 PSI On "A" End 0-30 PSI On "B" End
- J 0-80 PSI On "B" End 0-30 PSI On "A" End

### 5 - Assembly

- 9 Regulator Block Assembled To Valve

### Gauge assemblies

- |            |  |
|------------|--|
| N-92006-01 | (23mm Gauge w/90° Fitting) 0-160 PSI Perpendicular |
| 24177-160  | (23mm Gauge - No Fitting) 0-160 PSI Parallel       |
| N-92006-02 | (23mm Gauge w/90° Fitting) 0-100 PSI Perpendicular |
| 24177-100  | (23mm Gauge - No Fitting) 0-100 PSI Parallel       |
| N-92006-03 | (23mm Gauge w/90° Fitting) 0-60 PSI Perpendicular  |
| 24177-60   | (23mm Gauge - No Fitting) 0-60 PSI Parallel        |
| N-92004-01 | (15mm Gauge w/90° Fitting)                         |
| N-92004-02 | (15mm Gauge w/Straight Fitting)                    |
| 24165-150  | (15mm Gauge - No Fitting)                          |

## 92 SERIES - CIRCUIT BAR

CBM092B -  $\begin{matrix} XX & X & X & X & - & XX & - & XX & - & 9 \\ T & T & T & T & - & T & - & T & - & T \\ 1 & 2 & 3 & 4 & & 5 & & 6 & & \end{matrix}$  Valves and cover plates assembled to valve

### 1 - Spacing

- 01 25mm Spacing
- 03\* 30mm Spacing (required Spacing for Terminal Strip with or without Light)

### 2 - Configuration

- A Side Cylinder Port
- B Bottom Cylinder Ports

### 3 - Style

- A Standard Bar
- B Add-on Style Bar (Includes End Plate)
- C Add-a-Unit Station
  - 25mm-Single Station
  - 30mm-Single Station

### 4 - Port Size & Thread Type

- B 1/8" BSPPL
- E 1/4" BSPPL
- H 3/8" BSPPL

### 5 - Terminal Strip/Lights

- AA Standard w/Light (120 V)
- AB Standard w/Light (240 V)
- AD Standard w/Light (24 V)

### 6 - Stations

- Number of Stations (01, 02, 03, etc.)

### Accessories

- |             |  |
|-------------|--|
| M-92001-01P | Right Hand End Plate Kit                 |
| 28413       | Isolator Disc (Inlet/Exhaust)            |
| M-92002     | Blank Station Cover Plate                |
| M-92002-01  | Blank Station Cover Plate                |
|             | Single Pressure                          |
|             | Inlet to Cylinder B                      |
| M-92002-02  | Blank Station Cover Plate                |
|             | Dual Pressure                            |
|             | Inlet to Cylinder A, Inlet to Cylinder B |



The MAC 93 series is a 4-way spool valve pilot operated by a small direct operated 4-way solenoid valve - a one-off in air valve manufacturing. The 4-way pilot means a low minimum operating pressure - no pistons - and minimal resistance to shifting. The balanced design in the pilot means shifting forces are consistently high and response times are repeatable regardless of inlet pressure fluctuations. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 93A-AAB-000-DM-DDAP-1DG

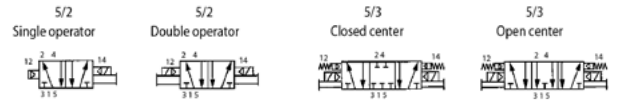
Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
5/2, 5/3	3/8" - 1/2"	3.8 Cv	Int.: 20-120PSI Ext.: Vac. to 120PSI	Inline

### OPERATIONAL BENEFITS

- Unique patented Macsolenoid® for fastest possible response times and virtually burn-out proof solenoid operation.
- Balanced poppet 4-way pilot valve provides maximum shifting forces, precise repeatability and consistent operation.
- Air only return. Optional memory spring is also available.
- Optional low wattage DC solenoid down to 1 watt.
- MAC spool and bore combination wipes away contamination, eliminates sticking and allows for use on non-lube service.



93 SERIES



### 93 SERIES - VALVE OPTIONS

93A - X X X - X X X - XX - D XX X - X XX  
 1 2 3 4 5 6 7 8 9 10 11

#### 1 - Spool Type - Valve Function

- 0 Base Only
- A Single Solenoid Single Pressure
- B Double Solenoid Single Pressure
- C Single Solenoid Dual Pressure
- D Double Solenoid Dual Pressure
- E Double Solenoid 3 Position Closed Center
- F Double Solenoid 3 Position Open Center
- H Double Solenoid 3 Position Dual Pres., Pres. Center
- L Single Solenoid Single Pressure w/ Memory Spring
- K Double Solenoid 3 Position Dual Pres. Open Center
- J Double Solenoid 3 Position Dual Pres. Closed Center
- N Single Solenoid Dual Pressure w/ Memory Spring
- R Universal Spool, Single Solenoid
- S Universal Spool, Double Solenoid

#### 2 - Plug-In/Non Plug-In - Pilot Exhaust

- 0 Base Only
- A Plug-In Standard Exhaust
- B Non Plug-In Standard Exhaust
- J Inline Body

#### 3 - Body Options

- 0 Base Only/Inline
  - A No Light in Top
  - B Light in Top
- |         |             |        |
|---------|-------------|--------|
| 110V AC | 220/240V AC | 24V AC |
| 12V DC  | 24V DC      |        |

#### 4 - Port Size And Thread Type

- 0 Basic Valve Only
- E 3/8" BSPPL
- F 1/2" BSPPL

#### 5 - Base/Manifold Configurations

- 0 Basic Valve Only/Inline
- A Side Ports (Individual Base)
- B Bottom Ports Only (3/8" only) (Indiv. Base)
- C Side & Bottom Ports (3/8" only) (Indiv. Base)
- D Side Inlet & Exhaust, Bottom Cylinder Ports (3/8" only) (Individual Base)
- J Side Cyl. Ports (Manifold Base)
- K Bottom Cyl. Ports (Manifold Base)

#### 6 - Internal/External Pilot - Base Light Options

- 0 Basic Valve Only
- A Internal Pilot - No Light In Base
- B Internal Pilot - Single Light In Base
- C Internal Pilot - Double Light In Base
- D External Pilot - No Light In Base
- E External Pilot - Single Light In Base
- F External Pilot Double Light In Base
- G Non Plug-In Internal Pilot
- H Non Plug-In External Pilot
- J Internal Pilot (Inline Valve)
- K External Pilot (Inline Valve)

#### 7 - Pilot Body Exhaust Options

- DM Pilot Valve w/muffled exhaust
- DP Pilot Valve w/piped exhaust
- DU Pilot Valve w/exhaust to main exhaust

Continued Next page

## 93 SERIES - BASE OPTIONS

93A - X X X - X X X - XX - D XX X - X XX  
 T  
 1 2 3 4 5 6 7 8 9 10 11

### 8 - Voltage

JA*	120/60, 110/50
JC	24/60, 24/50
JF*	240/50
DA	24 VDC (54W)
DB	12 VDC (54W)
DE	12 VDC (12.7W) (CLSF)
DF	24 VDC (12.7W) (CLSF)
FE	12 VDC (24w)
FF	24 VDC (24W)

\* Must use electrical connection with ground wire

### 9 - Lead Wire Length

P	Plug-in 8" Standard
1	18" Base Leads
0	No Wires
A	18" Coil Leads
J	External Plug-In Lead (use with "J" or "K" type electrical connector)

### 10 - Manual Operator

0	No Operator
1	Non-Locking Manual Operator
2	Locking Manual Operator
3	Non-Locking Extended Manual Operator
4	Locking Extended Manual Operator

### Flow Control Module

FC93A-AA	Plug-in Flow Control w/ Screwdriver slot
FC93A-AB	Plug-in Flow Control w/ Locking Knob
FC93A-BA	Non Plug-in Flow Control w/ Screwdriver slot
FC93A-BB	Non Plug-in Flow Control w/ Locking Knob

Note: If flow control module is to be installed between valve and base at the factory, add -9 after the flow control module number.

For example: FC93A-AA-9

### Pilot Valves - Bodies and Assemblies

DMB-A1	4-Way Pilot Body (Muffled Exhaust)
DPB-A1	4-Way Pilot body (Piped Exhaust)

### 11 - Electrical Connector

JB	Rectangular Plug-In
BA	Grommet
DG	Plug-In w/ Ground
JD	Rectangular Plug-In w/Light
JM	Rectangular Male Only
JA	Square Plug-In
JC	Square Plug-In with light
JJ	Square Male Only
KA	Mini Plug-In
KB	Mini Plug-In w/Diode
KC	Mini Plug-In w/M.O.V.
KD	Mini Plug-In w/Light
KE	Mini Plug-In w/Light & Diode
KF	Mini Plug-In w/Light & M.O.V.
KG	Mini Plug-In w/LED Light & Diode
KJ	Mini Plug-In Male Only
KK	Mini Plug-In Male Only w/Diode
KL	Mini Plug-In Male Only w/M.O.V.

Note: Further Voltage & Plug-In options available

### Manifold Accesories

M-93001-01-01P	(BSPPL) Manifold End Plate Kit Internal Pilot
M-93001-02-01P	(BSPPL) Manifold End Plate Kit External Pilot
M-93002	Blank Station Cover Plate Kit
M-93002-01	Blank Station Cover Plate Kit - Inlet to Cyl B
M-93002-02	Blank Station Cover Plate Kit - Inlet to Cyl A & B
N-93008	Isolator Disc For Inlet and/or Exhausts



# 800 SERIES

The MAC 800 series is a versatile 4-way solenoid piloted spool valve. This series features our balanced poppet in the pilot and an air/spring return for consistent shifting regardless of inlet pressure fluctuations. Versatility in piping means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used for vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance.

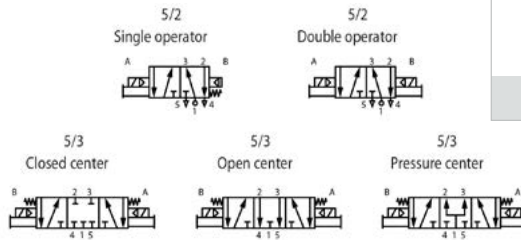
For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 811C-PM-111JD-155

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
5/2, 5/3	1/4"	14 Cv	Int.: sgle. op. & 3 pos.: 20-150PSI, dble. op.: 10-150PSI Ext.: vac. to 200PSI	Inline

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- The piston (booster) provides maximum shifting forces.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.
- Long service life.



800 SERIES

### 800 SERIES

8 X X C - XX - XX X XX - X X X  
 1 2 3 4 5 6 7 8 9

#### 1 - Operator

- 1 Single Solenoid
- 2 Double Solenoid

#### 2 - Pilot Air

- 1 Internal Pilot - 2 Position
- 2 External Pilot - 2 Position
- 5 Internal Pilot - 3 Position
- 6 External Pilot - 3 Position

#### 3 - Pilot Exhaust

PM Pilot Exh. Muffled      PP Pilot Exh. Piped

#### 4 - Voltage

AC Voltage		DC Voltage	
11	120/60, 110/50	55	12VDC (6W)
39	240/50	59	24VDC (2.5W)
		61	24VDC (8.5W)

Other AC & DC Voltages available. DC wattages from 1.0 to 17 watts.

#### 5 - Manual Operators

- |                    |                               |
|--------------------|-------------------------------|
| 0 No Operator      | 1 Non-Locking Recessed (Std.) |
| 2 Locking Recessed | 3 Non-Locking Extended        |
| 4 Locking Extended |                               |

#### 6 - Enclosure

- |                      |                         |
|----------------------|-------------------------|
| BA Grommet           | JB Rectangle - No Light |
| CA Conduit 1/2" NPS  | JC Square With Light    |
| JA Square - No Light | JD Rectangle With Light |

#### 7 - Spool Configurations

- 1 Single Pressure Position
- 2 Dual Pressure 2 Position
- 5 Single Pressure 3 Position Closed Centre
- 6 Single Pressure 3 Position Open Centre
- 7 Dual Pressure 3 Position Pressure Centre\*
- 8 Single Pressure 3 Position Pressure Centre

\* - Not available on models with integral flow controls.

#### 8 - Body Configurations

- 1 Individual Stacking Body, External Pilot
- 2 Stacking Body, 3 Common Ports (inlet & Exhausts)
- 9 Port Size
- 5 1/4" BSPP
- 6 3/8" BSPP (Stacking valves only)

#### 9 - Port Size

- 5 1/4" BSPP
- 6 3/8" BSPP



**ISOLATORS** - Sections of a gang may be isolated permitting different pressures to be fed to either end of the gang.  
Part# N-08001 (inlet), N-08002 (exhaust).

**ACCESSORIES - MANIFOLD END PLATE KITS (BSPP)**

Internal Pilot Part No.	External Pilot Part No.	Models Used With...
M-08001-01-01P	M-08001-02-01P	3 com. port or 1 com. port models, stacks of 1 thru 16 valves.
M-08002-01-01P	M-08002-02-01P	Com. conduit models, stacks of 1 thru 16 valves.
M-00005-01-01P	M-00005-02-01P	3 com. port or 1 com. port models, stacks of 17 or more valves.
M-00007-01-01P	M-00007-02-01P	Com. conduit models, stacks of 17 more valves.

**MODIFICATIONS**

Mod. No.	Description	Model Availability
0358	3/8" inlet and cylinder ports	Individual Valves
<i>Example: 811C-PM-111DA-155 MOD 0358</i>		

**800 SERIES - CIRCUIT BAR (EBM)**

EBM800A -  $\frac{XX}{1} \frac{X}{2} \frac{X}{3} \frac{XX}{4} - \frac{9}{T}$   
Valves and cover plates assembled to valve

**1 - Spacing**

00 31mm Spacing (Std.)

**2 - Configuration**

- 1 Standard Common Inlet & Exhaust
- 2 Standard with Flow Controls

**3 - Port Size & Thread Type**

B 3/8" BSPPL

**4 - Stations**

Number of Stations (02, 03, 04, etc.)

**Accessories**

- Blanking Plate — M-08008
- Flow Control Assembly — N-08006

**800 SERIES - CIRCUIT BAR (EBI)**

EBI800A -  $\frac{XX}{1} \frac{X}{2} \frac{X}{3} \frac{XX}{4} - \frac{9}{T}$   
Valves and cover plates assembled to valve

**1 - Spacing**

00 31mm Spacing

**2 - Configuration**

- 1 Valve Mount

**3 - Port Size & Thread Type**

B 3/8" BSPPL

**4 - Stations**

Number of Stations (02, 03, 04, etc.)

**Accessories**

- M-08011 Blank Station Cover Plate



The MAC 1300 series is a versatile 4-way solenoid piloted spool valve. This series features our balanced poppet in the pilot and an air/spring return for consistent shifting regardless of inlet pressure fluctuations. Versatility in piping means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used for vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 1303G-111D-3

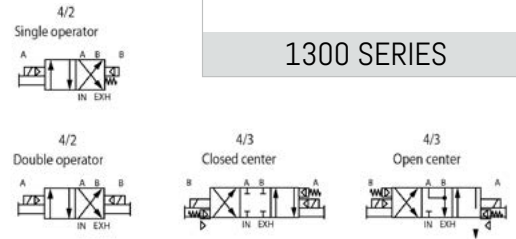
Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	3/4"-1"-1 1/4"-1 1/2"	15.9 Cv	Int.: sgle. op. & 3 pos.: 25-150PSI, dble. op.: 10-150PSI, Ext.: vac. to 150PSI	Individual Sub Base Plug-in

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- High shifting forces.
- Checked accumulator guarantees maximum pilot pressure.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.



1300 SERIES



## 1300 SERIES

13 X X G - XX - X D - X X  
 1 2      3 4      5 6

### 1 - Port Size

- 0 Valve Only - No Base
- 2 3/4" Base
- 3 1" Base
- 5 1 1/4" Base
- 6 1 1/2" Base

### 2 - Operator

- 1 Single Solenoid
- 3 Double Solenoid
- 7 3 Position Closed Centre
- 8 3 Position Open Centre

### 3 - Voltage

#### AC Voltage

- 11 120/60, 110/50      22 24/50-60
- 39 240/50

#### DC Voltage

- 50 24VDC (6W)      55 12VDC (6W)
- 60 12VDC (8.5W)      61 24VDC (8.5W)

Other AC & DC voltages available. DC wattages up to 17 watts for faster response times.

### 4 - Manual Operators

- 0 No Operator
- 1 Non-Locking Recessed
- 2 Locking Recessed
- 3 Non-Locking Extended
- 4 Locking Extended

### 5 - Pilot & Pipe Thread

- 3 Internal Pilot BSPP
- 4 External Pilot BSPP

### 6 - Indicator Light

- 5 With Light

### BASES ONLY:

- 10952-00-05P 3/4"BSP Single Solenoid
- 10953-MOD-005 1"BSP
- 10954-00-05P 1/4"BSP

SMALL 3-WAY

LARGE 3-WAY

SMALL 4-WAY

LARGE 4-WAY

ISO VALVES

PPC VALVES

PULSE VALVES

BULLET VALVES

The MAC 1800 series is a versatile 4-way mechanical valve. This series features a wide variety of manual operator options, from levers and push-buttons to cams and remote air operated versions. Versatility in piping means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used for vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

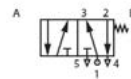
**Stock Part Number:** 1800001-115-0003

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
5/2	1/4"	14 Cv	Vac. to 200PSI	Inline

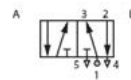
### OPERATIONAL BENEFITS

- Short stroke with high flow.
- Powerful return force.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Long service life.

Single operator



Double operator



### 1800 SERIES

18 XXXX - YYY - XXXX  
 Oper. B    Body    Oper. A

#### Mechanical Operator A & B

- 0001 Spring (Use 02 on Push/Pull)
- 0002 Retainer (Used with 0034, 0035, & 0039)
- 0003 Pilot (2-Pos.)
- 0004 Pilot Sequence
- 0006 Spring retainer end mount
- 0010 Side pilot (2-Pos.)
- 0011 Side pilot w/Manual operator & Indicator (2-Pos.)
- 0012 Side pilot sequence
- 0013 Lever cam perpendicular to ports 2 & 3
- 0014 Lever cam parallel to ports 2 & 3
- 0021 Lever locking push perpendicular to body
- 0022 Lever non-locking push perpendicular to body
- 0023 Lever locking pull perpendicular to body
- 0024 Lever non-locking pull perpendicular to body
- 0025 Lever locking push parallel to body
- 0026 Lever non-locking push parallel to body
- 0027 Lever locking pull parallel to body
- 0028 Lever non-locking pull parallel to body
- 0031 Push button
- 0032 Push button (panel mounting)
- 0033 Push button with guard
- 0034 Push Pull
- 0035 Push Pull (panel mounting)
- 0036 Palm button
- 0037 Palm button (panel mounting)
- 0038 Palm button with guard
- 0039 Push Pull palm button
- 0111 Cam roller parallel to ports 2 & 3
- 0112 Cam roller perpendicular to ports 2 & 3

#### Body - Note: Port 2 & 3 always = Cylinder Ports

*Indiv. Body - Ext. All 1/4" BSP, Individual Body*

- 115 2 Pos - Single Pressure
- 215 2 Pos - Dual Pressure
- 515 3 Pos - Closed Centre
- 615 3 Pos - Open Centre
- 715 3 Pos - Pressure Centre, Dual Pressure,
- 815 3 Pos - Pressure Centre, Single Pressure, (Port 1 Inlet)

*Stack - 3 Common Ports. All 1/4" BSP, Stacking Body*

- 125 2 Pos - Single Pressure
- 225 2 Pos - Dual Pressure
- 525 3 Pos - Closed Centre
- 625 3 Pos - Open Centre
- 725 3 Pos - Pressure Control, Dual Pressure Ports 4&5 Inlet
- 825 3 Pos - Pressure Control, Single Pressure Port 1 Inlet

#### Accessories

- M - 08003 Dual inlet block
- N - 08001 Isolator plug port #1
- N - 08002 Isolator plug ports #4 and #5
- 10951 Flow control and muffler
- M - 08001 - 03 - 01P\* Manifold end plate kit (style A)
- M - 18001 - 02 - 01P\* Manifold end plate kit (style B)
- M - 00005 - 03 - 01P\*\* Manifold end plate kit (style A)

\*For stacks of 1 thru 16 valves

\*\*For stacks of 17 valves or more

**002X** - Replace '0' with '2' for lever operator with Boot



The MAC 2700 series is a versatile 4-way remote air operated valve with large flow capabilities. Versatility in piping means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used for vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 2703G-3

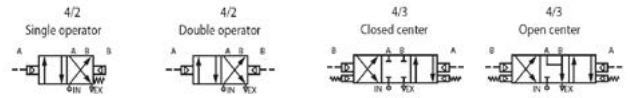
Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	3/4"-1"-1 1/4"-1 1/2"	15.9 Cv	Vac to 150PSI	Sub-Base

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- The piston (booster) provides maximum shifting forces.
- Powerful return thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Low leakage rate.



2700 SERIES



## 2700 SERIES

27  $\begin{matrix} X \\ T \end{matrix}$   $\begin{matrix} X \\ T \end{matrix}$  G -  $\begin{matrix} X \\ T \end{matrix}$   
                   1 2          3

### 1 - Port Size

- 0 Valve Less Base
- 2 3/4" Base
- 3 1" Base
- 5 1 1/4" Base
- 6 1 1/2" Base

### 2 - Operator

- 1 Single Pilot
- 3 Double Pilot
- 7 3 Position Closed Centre
- 8 3 Position Open Centre

### 3 - Pilot & Pipe Thread Options

- 0 No Operator
- 1 Non-Locking Recessed
- 2 Locking Recessed
- 3 Non-Locking Extended
- 4 Locking Extended

**BOTTOM PORTS** Available only on 3/4" valves.

For bottom ports only, specify MOD 0002. For side and bottom ports, specify 0004.

### BASE ONLY

- 10986-1P 3/4" BSP
- 10987-1P 1" BSP
- 10988-1P 1 1/4" BSP
- 10989-1P 1 1/2" BSP

SMALL 3-WAY

LARGE 3-WAY

SMALL 4-WAY

LARGE 4-WAY

ISO VALVES

PPC VALVES

PULSE VALVES

BULLET VALVES

# 6200 SERIES

The MAC 6200 series is a versatile, 4-way, solenoid-piloted spool valve. Balanced poppet in the pilot and an air/spring return for consistent shifting, regardless of inlet pressure fluctuations. Balanced spool means valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open, and can be used for vacuum, diverter or selector applications. One piece, bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 6211C-000-PM-111DA

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	1/4" - 3/8"	1.6 Cv	Vac. to 150PSI	Sub-Base

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- High shifting forces.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.



### 6200 SERIES

62  $\begin{matrix} X & X & C \\ \hline 1 & 2 \end{matrix}$  -  $\begin{matrix} X & X & X \\ \hline 3 & 4 & 5 \end{matrix}$  -  $\begin{matrix} XX & \\ \hline 6 \end{matrix}$  -  $\begin{matrix} XX & X & X \\ \hline 7 & 8 & 9 \end{matrix}$

#### 1 - Function

- |                            |                          |
|----------------------------|--------------------------|
| 1 Single Solenoid          | 2 Double Solenoid        |
| 3 3 Position Closed Centre | 4 3 Position Open Centre |

#### 2 - Body Type

- |                          |                             |
|--------------------------|-----------------------------|
| 1 Plug-In                | 2 Non Plug-In Or Remote Air |
| 3 Plug-In Lights In Body |                             |

#### 3 - Port Size

- |                      |                 |
|----------------------|-----------------|
| 0 Valve Only-No Base | 1 1/4" Base     |
| 2 3/8" Base          | 4 1/4" Manifold |
| 5 3/8" Manifold      |                 |

#### 4 - Pilot Air - BSPP Options

- |                                      |                                |
|--------------------------------------|--------------------------------|
| 0 Valve Only-No Base                 | 5 Internal Pilot               |
| 6 External Pilot                     | 7 Int. Pilot (Sgl. Remote Air) |
| 8 External Pilot (Double Remote Air) |                                |

#### 5 - Porting Options

- |  |                                  |
|--|----------------------------------|
| 0 Valve Only-No Base                                 | 1 Side Ports without lights      |
| 2 Side Ports with lights (Sgl. Sol.)                 | 3 Side Ports w/lights (Dbl. Sol) |
| 4 Bottom Ports without lights                        |                                  |
| 5 Bottom Ports with lights (Single Solenoid)         |                                  |
| 6 Bottom Ports with lights                           |                                  |
| 7 Side & bottom Ports without lights*                |                                  |
| 8 Side & bottom Ports with lights (Single Solenoid)* |                                  |
| 9 Side & bottom Ports with lights (Double Solenoid)* |                                  |

\*Manifold Bases Only

#### 6 - Pilot Exhaust

- |                          |                        |
|--------------------------|------------------------|
| PM Pilot Exhaust Muffled | PP Pilot Exhaust Piped |
| RA Remote Air            |                        |

If RA is selected XX & Y options do not apply. Other AC & DC voltages available. DC wattages from 1.0 up to 17 watts.

#### 7 - Voltage

<i>AC Voltage</i>			
11	120/60, 110/50	22	24/50-60
39	240/50		
<i>DC Voltage</i>			
50	24VDC (6W)	55	12VDC (6W)
57	12VDC (2.5W)	59	24VDC (2.5W)
60	12VDC (8.5W)	61	24VDC (8.5W)

#### 8 - Manual Operators

- |                    |                              |
|--------------------|------------------------------|
| 0 No Operator      | 1 Non-Locking Resstd. (Std.) |
| 2 Locking Recessed | 3 Non-Locking Extended       |
| 4 Locking Extended |                              |

#### 9 - Electrical Connectors

- |    |                                     |
|----|-------------------------------------|
| DA | Plug In                             |
| JC | Din Square w/Light (Non Plug-In)    |
| JD | Din Rectangle w/Light (Non Plug-In) |

#### MODIFICATIONS

- |         |  |
|---------|--|
| MOD0210 | Bottom inlet port in addition to side inlet port (manifolds only). |
|---------|--|

#### NOTE:

- The valve less base is always the same for internal or external pilot. These options are effected in the base or manifold.
- To order bases or manifolds without the valve, choose the base or manifold from the above table & options, then add 6200C as a prefix.
- When ordering an external pilot connection for manifold bases, a common external pilot port is standard. One connection only is required for all the valves in the manifold whether single or double solenoid.
- Manifolds for solenoid and remote air operated valves must be ganged separately.
- Manifold accessories: Inlet & Exhaust Isolators #32839





The MAC 6300 series are a versatile 4-way solenoid piloted spool valve. This series feature our balanced poppet in the pilot and an air/spring return for consistent shifting regardless of inlet pressure fluctuations. Our balanced spool means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used for vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 6311C-000-PM-501DA

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	3/4" - 1/2"	3.0 Cv	Int.: sgle. op. & 3 pos.: 25-150PSI dble. op.: 10-150PSI Ext.: vac. to 150PSI	Sub-Base

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- High shifting forces.
- Checked accumulator guarantees maximum pilot pressure.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.



## 6300 SERIES

63  $\begin{matrix} X & X & D \\ \hline 1 & 2 & 3 \end{matrix}$  -  $\begin{matrix} X & X & X \\ \hline 3 & 4 & 5 \end{matrix}$  -  $\begin{matrix} XX \\ \hline 6 \end{matrix}$  -  $\begin{matrix} X & X & X & X \\ \hline 7 & 8 & 9 \end{matrix}$

1 - Function	
1	Single Solenoid
2	Double Solenoid
3	3 Position Closed Centre
4	3 Position Open Centre
5	3 Position Pressure Centre

2 - Body Type	
1	Plug-In
2	Non Plug-In Or Remote Air
3	Plug-In Lights In Body
4-6	Dual Pressure Options **

\*\*Dual pressure body option for use with regulators:  
 63X4D: Plug-In      63X5D: Non Plug-In  
 63X6D: Plug-In w/ Lights

3 - Port Size	
0	Valve Only-No Base
1	1/4" Base
2	3/8" Base
3	1/2" Base
4	1/4" Manifold
5	3/8" Manifold
6	1/2" Manifold

4 - Pilot Air - BSPP Options	
0	Valve Only-No Base
5	Internal Pilot
6	External Pilot
7	Int. Pilot (Single Remote Air)
8	External Pilot (Double Remote Air)

5 - Porting Options	
0	Valve Only-No Base
1	Side Ports - No lights
2	Side Ports w/lights (Sgl. Sol.)
3	Side Ports w/lights (Dbl.Sol.)
4	Bottom Ports without lights
5	Bot. Ports w/lights (Sgl.Sol.)
6	Bottom Ports with lights
7	Side & bot. Ports No lights*
8	Side & bottom Ports with lights (Single Solenoid)*
9	Side & bottom Ports with lights (Double Solenoid)*

\*Manifold Bases Only

6 - Pilot Exhaust	
PM	Pilot Exhaust Muffled
PP	Pilot Exhaust Piped
RA	Remote Air

If RA is selected XX & Y options do not apply. Other AC & DC voltages available. DC wattages from 1.0 up to 17 watts.

7 - Voltage	
<i>AC Voltage</i>	
11	120/60, 110/50
22	24/50-60
39	240/50
<i>DC Voltage</i>	
50	24VDC (6W)
55	12VDC (6W)
57	12VDC (2.5W)
59	24VDC (2.5W)
60	12VDC (8.5W)
61	24VDC (8.5W)

8 - Manual Operators	
0	No Operator
1	Non-Locking Recessed (Std.)
2	Locking Recessed
3	Non-Locking Extended
4	Locking Extended

9 - Electrical Connectors	
DA	Plug In Base
JC	Din Square w/Light (Non Plug In)
JD	Din Rectangle w/Light (Non Plug In)

MODIFICATIONS	
MOD0210	Bottom inlet port in addition to side inlet port (manifolds only).

- NOTE:**
- The valve less base is always the same for internal or external pilot. These options are effected in the base or manifold.
  - To order bases or manifolds without the valve, choose the base or manifold from the above table & options, then add 6300D as a prefix.
  - When ordering an external pilot connection for manifold bases, a common external pilot port is standard. One connection only is required for all the valves in the manifold whether single or double solenoid.
  - Manifolds for solenoid and remote air operated valves must be ganged separately.

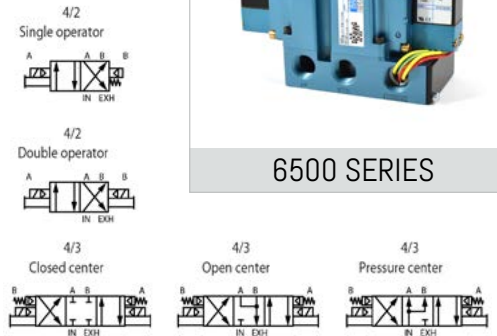
The MAC 6500 series are a versatile 4-way solenoid piloted spool valve. This series feature our balanced poppet in the pilot and an air/spring return for consistent shifting regardless of inlet pressure fluctuations. Our balanced spool means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used for vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 6511C-000-PM-112DA

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	3/8" - 3/4"	5.1 Cv	Int.: sgle. op. & 3 pos.: 25-150PSI, dble. op.: 10-150PSI Ext.: vac. to 150PSI	Sub-Base Non 'Plug-In'

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- High shifting forces.
- Checked accumulator guarantees maximum pilot pressure.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.



## 6500 SERIES

65  $\begin{matrix} X & X & B \\ T & T & \end{matrix}$  -  $\begin{matrix} X & X & X \\ T & T & T \end{matrix}$  -  $\begin{matrix} XX \\ T & T \end{matrix}$  -  $\begin{matrix} XX & X & XX \\ T & T & T \end{matrix}$

1 2 3 4 5 6 7 8 9

1 - Function	
1	Single Solenoid
2	Double Solenoid
3	3 Position Closed Centre
4	3 Position Open Centre
5	3 Position Pressure Centre

2 - Body Type	
1	Plug-In
2	Non Plug-In Or Remote Air
3	Plug-In Lights In Body

Note: Dual pressure body options for use with regulator

3 - Port Size	
0	Valve Only-No Base
1	3/8" Base
2	1/2" Base
3	3/4" Base
4	3/8" Manifold
5	1/2" Manifold
6	3/4" Manifold

4 - Pilot Air - BSPP Options	
0	Valve Only-No Base
5	Internal Pilot
6	External Pilot
7	Internal Pilot (Sgl. Rem. Air)
8	External Pilot (Double Remote Air)

5 - Porting Options	
0	Valve Only-No Base
1	Single Pressure - No lights
2	Single Pressure with lights (Single Solenoid)
3	Single Pressure with lights (Double Solenoid)
4	Dual Pressure - No lights
5	Dual Pressure with lights (Single Solenoid)
6	Dual Pressure with lights (Double Solenoid)

Note: For sandwich regulators use Single Pressure option

6 - Pilot Exhaust	
PM	Pilot Exhaust Muffled
PP	Pilot Exhaust Piped
RA	Remote Air

If RA is selected XX & Y options do not apply. Other AC & DC voltages available. DC wattages from 1.0 up to 17 watts.

7 - Voltage	
<i>AC Voltage</i>	
11	120/60, 110/50
22	24/50-60
39	240/50

<i>DC Voltage</i>	
50	24VDC (6W)
55	12VDC (6W)
57	12VDC (2.5W)
59	24VDC (2.5W)
60	12VDC (8.5W)
61	24VDC (8.5W)

8 - Manual Operators	
0	No Operator
1	Non-Locking Recessed (Std)
2	Locking Recessed
3	Non-Locking Extended
4	Locking Extended

9 - Electrical Connectors	
DA	Plug In
JC	Din Square w/Light (Non Plug-In)
JD	Din Rectangle w/Light (Non Plug-In)

MODIFICATIONS	
0002	Bottom inlet, exh, & cyl ports (no side ports) <i>Individual Base 3/8" &amp; 1/2" only.</i>
0004	Full side porting & additional bottom inlet, exh, & cylinder ports. <i>Individual Base 3/8" only.</i>
0112	Side inlet & exhaust w/ bottom cyl. ports (No end cyl. ports) <i>All manifold models.</i>
0210	Porting ordered in model number + an additional bottom inlet. <i>All manifold models.</i>
0364	SINGLE PRESSURE - Side inlet & exhaust and additional bottom inlet with bottom cyl. ports (No end cyl. ports) DUAL PRESSURE - same as single pressure except with two bottom inlets. <i>All manifold models.</i>



# 6600 SERIES

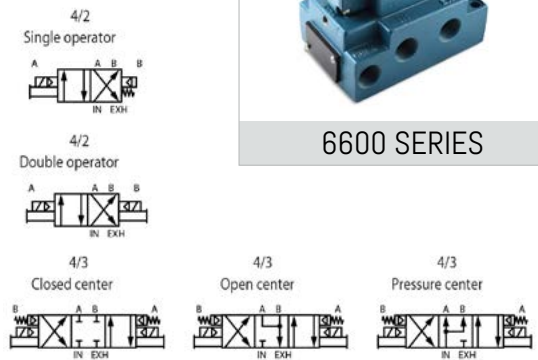
The MAC 6600 series are a versatile 4-way solenoid piloted spool valve. This series feature our balanced poppet in the pilot and an air/spring return for consistent shifting regardless of inlet pressure fluctuations. Our balanced spool means the valve can be piped as a 4-way, 3-way or 2-way, normally closed or normally open or can be used for vacuum, diverter or selector applications. Our one piece bonded seal spool means longer life and easy maintenance. For more information regarding certifications (such as UL, CSA, RoHS and CE) please ask our team at Mac Valves Pacific.

**Stock Part Number:** 6611-A-000-PM-391DA

Function	Port size	Flow (Max)	Pressure Range	Individual Mounting
4/2, 4/3	3/4" - 1"	9.6 Cv	Int.: sgle. op. & 3 pos.: 25-150PSI, dble op.: 10-150PSI Ext.: vac. to 150PSI	Sub-Base Non 'Plug-In'

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- High shifting forces.
- Checked accumulator guarantees maximum pilot pressure.
- Powerful return force thanks to the combination of mechanical and air springs.
- Bonded spool with minimum friction, shifting in a glass-like finished bore.
- Wiping effect eliminates sticking.
- Pilot valve with balanced poppet, high flow, short and consistent response times.



### 6600 SERIES

66 X X A - X X X - XX - XX X XX  
 1 2 3 4 5 6 7 8 9

#### 1 - Function

1	Single Solenoid	2	Double Solenoid
3	3 Position Closed Centre	4	3 Position Open Centre
5	3 Position Pressure Centre		

#### 2 - Body Type

1	Plug-In	2	Non Plug-In Or Remote Air
3	Plug-In Lights In Body		

#### 3 - Port Size

0	Valve Only-No Base	2	3/4" Base
3	1" Base	4	3/4" Manifold
5	1" Manifold	6	1 1/4" Manifold

#### 4 - Pilot Air BSP Options

0	Valve Only-No Base	5	Internal Pilot
6	External Pilot	7	Internal Pilot (Sgl. Rem. Air)
8	External Pilot (Double Remote Air)		

#### 5 - Porting Options

0	Valve Only-No Base
1	Single Pressure - No lights
2	Single Pressure with lights (Single Solenoid)
3	Single Pressure with lights (Double Solenoid)
4	Dual Pressure without lights
5	Dual Pressure with lights (Single Solenoid)
6	Dual Pressure with lights (Double Solenoid)

#### 6 - Pilot Exhaust

PM	Pilot Exhaust Muffled
PP	Pilot Exhaust Piped
RA	Remote Air

If RA is selected XX & Y options do not apply. Other AC & DC voltages available. DC wattages from 1.0 up to 17 watts.

#### 7 - Voltage

AC Voltage			
11	120/60, 110/50	22	24/50-60
39	240/50		
DC Voltage			
50	24VDC (6W)	55	12VDC (6W)
57	12VDC (2.5W)	59	24VDC (2.5W)
60	12VDC (8.5W)	61	24VDC (8.5W)

#### 8 - Manual Operators

0	No Operator
1	Non-Locking Recessed (Standard)
2	Locking Recessed
3	Non-Locking Extended
4	Locking Extended

#### 9 - Electrical Connectors

DA	Plug In
JC	Din Square w/Light
JD	Din Rectangle w/Light

## MODIFICATIONS

0002	Bottom inlet, exh, & cyl ports (Side ports plugged) Individual Base 3/4" only.
0004	Full side porting & additional bottom inlet, exh, & cylinder ports. Individual Base 3/4" only.
0112	Side inlet & exhaust w/ bottom cyl. ports (Side cylinder ports plugged) Individual Base 3/4", Manifold Base 3/4" & 1".
0210	1 1/4" bottom inlet. Manifold Base.
0364	1 1/4" bottom inlet, 3/4" or 1" bottom cylinder. Manifold Base.
CLSF	Class F coil option. All voltages.

## NOTE:

1. The valve less base is always the same for internal or external pilot.  
These options are effected in the base or the manifold.
2. Bottom ports: Refer modification table below.
3. To order bases or manifolds without the valve, choose the base or manifold from the above table & options, then add 6600A as a prefix.
4. When ordering an external pilot connection for manifold bases, a common external pilot port is standard. One connection only is require for all the valves in the manifold whether single or double solenoid.
5. MANIFOLD ACCESSORIES: Inlet & exhaust isolator #28367
6. 2 position & 3 position valve bodies are not interchangeable.



SMALL  
3-WAY



LARGE  
3-WAY



SMALL  
4-WAY



LARGE  
4-WAY



ISO  
VALVES



PPC  
VALVES



PULSE  
VALVES



BULLET  
VALVES