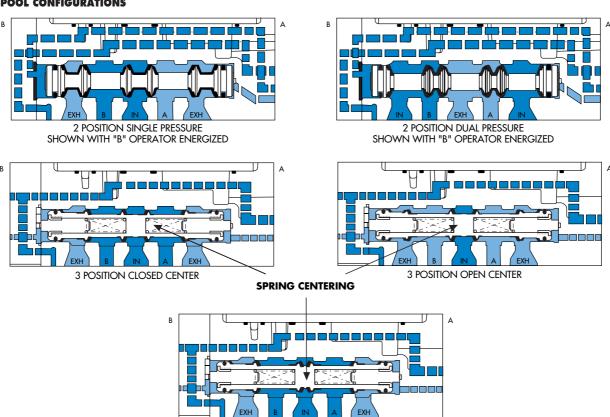








SPOOL CONFIGURATIONS



3 POSITION SINGLE PRESSURE, PRESSURE CENTER

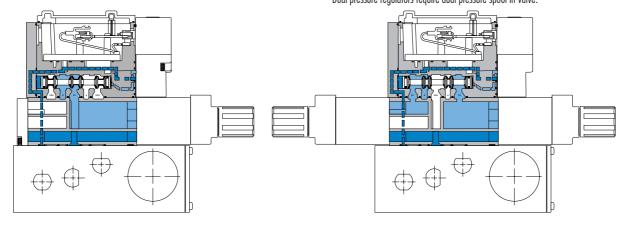
REGULATOR CONFIGURATIONS

SINGLE REGULATOR - SINGLE PRESSURE

Pressure supplied to the individual or manifold base passes through the regulator. Regulated pressure is supplied to the pressure path of the valve.

DUAL REGULATOR - DUAL PRESSURE

Pressure supplied from each regulator is divided in the block.
Regulated pressure from "A" regulator supplies cylinder port "A".
Regulated pressure from "B" regulator supplies cylinder port "B".
Dual pressure regulators require dual pressure spool in valve.



MANIFOLD WITH REGULATOR - SINGLE PRESSURE

Note: For both single and dual pressure, air supply to the pilot system is never regulated.

MANIFOLD WITH REGULATOR - DUAL PRESSURE



Function	Port size	Flow (Max)	Individual mounting	Series
5/2, 5/3	1/8" - 1/4" - 3/8"	1.2 C _v	Sub-base non "plug-in"	
OPERATIONAL BENEFITS				33
 The 4-way pilot develor forces both ways. 	ps maximum shifting			34

- 2. Memory spring available.
- 3. Balanced spool, immune to variations of pressure, also provides high flow.
- 4. Short stroke with high flow.
- 5. Bonded seal spool with minimum friction, shifting in a glass-like finished bore.
- 6. Pilot with balanced poppet, high flow; short and consistent response times.



36

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38 **52**

67 69

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47 48P

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400

92

93

ISO 01 ISO 02 **ISO** 1

ISO 2 ISO 3

HOW TO ORDER

SINGLE PRESSURE MODELS

0 10						
Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
		B A A A A B IN EA	B B A A A A A A A A A A A A A A A A A A	B B A A A A A A A A A A A A A A A A A A	B B A GIMM	B A A A A A A A A A A A A A A A A A A A
Valve less base		92B-ABA-000-DM-D xxx-xxx	92B-BBA-000-DM-D xxx-xxx	92B-EBA-000-DM-D xxx-xxx	92B-FBA-000-DM-D xxx-xxx	92B-GBA-000-DM-D xxx-xxx
1/8" NPTF		92B-ABA-AAG-DM-D xxx-xxx	92B-BBA-AAG-DM-Dxxx-xxx	92B-EBA-AAG-DM-D xxx-xxx	92B-FBA-AAG-DM-D xxx-xxx	92B-GBA-AAG-DM-Dxxx-xxx
1/4" NPTF	Internal	92B-ABA-BAG-DM-Dxxx-xxx	92B-BBA-BAG-DM-Dxxx-xxx	92B-EBA-BAG-DM-D xxx-xxx	92B-FBA-BAG-DM-Dxxx-xxx	92B-GBA-BAG-DM-Dxxx-xxx
3/8" NPTF		92B-ABA-CAG-DM-Dxxx-xxx	92B-BBA-CAG-DM-Dxxx-xxx	92B-EBA-CAG-DM-Dxxx-xxx	92B-FBA-CAG-DM-Dxxx-xxx	92B-GBA-CAG-DM-Dxxx-xxx
1/8" NPTF		92B-ABA-AAH-DM-D xxx-xxx	92B-BBA-AAH-DM-Dxxx-xxx	92B-EBA-AAH-DM-D xxx-xxx	92B-FBA-AAH-DM-D xxx-xxx	92B-GBA-AAH-DM-Dxxx-xxx
1/4" NPTF	External	92B-ABA-BAH-DM-Dxxx-xxx	92B-BBA-BAH-DM-Dxxx-xxx	92B-EBA-BAH-DM-Dxxx-xxx	92B-FBA-BAH-DM-Dxxx-xxx	92B-GBA-BAH-DM-Dxxx-xxx
3/8" NPTF		92B-ABA-CAH-DM-Dxxx-xxx	92B-BBA-CAH-DM-Dxxx-xxx	92B-EBA-CAH-DM-Dxxx-xxx	92B-FBA-CAH-DM-Dxxx-xxx	92B-GBA-CAH-DM-Dxxx-xxx

DUAL PRESSURE MODELS (REQUIRE SANDWICH REGULATOR - SEE "REGULATORS" SECTION)

Port size	Pilot air	5/2 Single operator	5/2 Double operator
		ING EXH INA	B B A A A A A A A A A A A A A A A A A A
Valve less base		92B-CBA-000-DM-D xxx-xxx	92B-DBA-000-DM-D xxx-xxx
1/8" NPTF		92B-CBA-AAG-DM-D xxx-xxx	92B-DBA-AAG-DM-D xxx-xxx
1/4" NPTF	Internal	92B-CBA-BAG-DM-Dxxx-xxx	92B-DBA-BAG-DM-D xxx-xxx
3/8" NPTF		92B-CBA-CAG-DM-Dxxx-xxx	92B-DBA-CAG-DM-Dxxx-xxx
1/8" NPTF		92B-CBA-AAH-DM-D xxx-xxx	92B-DBA-AAH-DM-D xxx-xxx
1/4" NPTF	External	92B-CBA-BAH-DM-D xxx-xxx	92B-DBA-BAH-DM-D xxx-xxx
3/8" NPTF		92B-CBA-CAH-DM-D xxx-xxx	92B-DBA-CAH-DM-D xxx-xxx

COLEN	OPERATOR ➤	

SOLENC	DID OPERATOR >		DM-D 💥	<u>(x-xx</u>)	<u> </u>	Above models a	re shown with side ports.
				╛╏			
XX	Voltage	X	Wire length	X	Manual operato	er XX	Electrical connection
JA	110 /50, 120/60 (2.9W)	Α	18" (Flying leads)	1	Non-locking recessed	ВМ	Flying leads
JB	220/50, 240/60 (2.9W)	В	24" (Flying leads)	2	Locking recessed	BN	Flying leads with diode
JC	24/60 (2.9W)	J	Connector			BP	Flying leads with M.O.V.
FB	24 VDC (1.8W)					BG	Flying leads with ground
DA	24 VDC (5.4W)					JB	Rectangular connector
DF	24 VDC (12.7W)					JD	Rectangular connector with light
* Other o	ntions available see page 309					KA	Square connector

* Other options available, see page 309.

Other options available for the 92 series valves, see page 155.

Consult "Precautions" page 327 before use, installation or service of MAC Valves...

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Response times:

Fluid: Compressed air, vacuum, inert gases

Pressure range: Internal pilot: 20 to 120 PSI 3 position: 35 to 120 PSI

External pilot : vacuum to 120 PSI 3 position: 35 to 120 PSI

Lubrication: Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

Filtration:

Temperature range: 0° F to 120° F (- 18° C to $+50^{\circ}$ C)

Flow:

1/8": $(1.0 C_v) - 1/4$ ": $(1.1 C_v) - 3/8$ ": $(1.2 C_v)$

Coil: Class A continuous duty, #22 AWG x 18 lead wire

Voltage range: -15% to +10% of nominal voltage

Consult factory Protection:

Power: ~Inrush 7.6 VA Holding: 4.8 VA

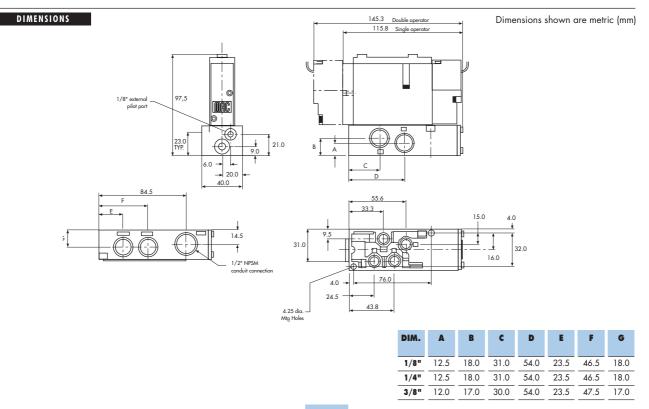
= 1.8 to 12.7 W

24V=/5.4W Energize: 8 ms $De\text{-energize}: 7 \ ms$ 120/60 Energize: 7-13 ms De-energize: 12-20 ms

• BSPP threads • Sandwich flow control: FC92B-CA Options:

• Pilot valve DM-Dxxx-xxx • Valve blanking plate: M-92002 Spare parts:

• Pressure seal between valve and base : 16543. • Mounting screws valve to base (X2) : 35050.





Function	Port size	Flow (Max)	Individual mounting	Series
5/2, 5/3	1/8" - 1/4" - 3/8"	1.2 C _v	Sub-base "plug-in"	

OPERATIONAL BENEFITS

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



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47 48P

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92

93

ISO 01 ISO 02 **ISO** 1

ISO 2

ISO 3

HOW TO ORDER

SINGLE PRESSURE MODELS

Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
		B A A A A B IN EA	B B A A A A A A A A A A A A A A A A A A	B B A A A A A A A A A A A A A A A A A A	B B A GIMM	B A A A A A A A A A A A A A A A A A A A
Valve less base		92B-AAA-000-DM-D xx P- xxx	92B-BAA-000-DM-D xx P- xxx	92B-EAA-000-DM-D xx P- xxx	92B-FAA-000-DM-D xx P- xxx	92B-GAA-000-DM-D xx P- xxx
1/8"		92B-AAA-AAA-DM-D xx P- xxx	92B-BAA-AAA-DM-D xx P- xxx	92B-EAA-AAA-DM-DxxP-xxx	92B-FAA-AAA-DM-DxxP-xxx	92B-GAA-AAA-DM-D xx P- xxx
1/4"	Internal	92B-AAA-BAA-DM-DxxP-xxx	92B-BAA-BAA-DM-DxxP-xxx	92B-EAA-BAA-DM-DxxP-xxx	92B-FAA-BAA-DM-DxxP-xxx	92B-GAA-BAA-DM-DxxP-xxx
3/8"		92B-AAA-CAA-DM-DxxP-xxx	92B-BAA-CAA-DM-DxxP-xxx	92B-EAA-CAA-DM-DxxP-xxx	92B-FAA-CAA-DM-DxxP-xxx	92B-GAA-CAA-DM-DxxP-xxx
1/8"		92B-AAA-AAD-DM-DxxP-xxx	92B-BAA-AAD-DM-DxxP-xxx	92B-EAA-AAD-DM-DxxP-xxx	92B-FAA-AAD-DM-DxxP-xxx	92B-GAA-AAD-DM-DxxP-xxx
1/4"	External	92B-AAA-BAD-DM-DxxP-xxx	92B-BAA-BAD-DM-DxxP-xxx	92B-EAA-BAD-DM-DxxP-xxx	92B-FAA-BAD-DM-DxxP-xxx	92B-GAA-BAD-DM-DxxP-xxx
3/8"		92B-AAA-CAD-DM-DxxP-xxx	92B-BAA-CAD-DM-DxxP-xxx	92B-EAA-CAD-DM-DxxP-xxx	92B-FAA-CAD-DM-DxxP-xxx	92B-GAA-CAD-DM-DxxP-xxx

DUAL PRESSURE MODELS (REQUIRE SANDWICH REGULATOR - SEE "REGULATORS" SECTION)

Port size	Pilot air	5/2 Single operator	5/2 Double operator
		IN BE EXH INA	B B A A A
Valve less base		92B-CAA-000-DM-D xx P- xxx	92B-DAA-000-DM-D xx P- xxx
1/8"		92B-CAA-AAA-DM-D xx P- xxx	92B-DAA-AAA-DM-D xx P- xxx
1/4"	Internal	92B-CAA-BAA-DM-DxxP-xxx	92B-DAA-BAA-DM-D xxP-xxx
3/8"		92B-CAA-CAA-DM-DxxP-xxx	92B-DAA-CAA-DM-D xx P- xxx
1/8"		92B-CAA-AAD-DM-DxxP-xxx	92B-DAA-AAD-DM-D xx P- xxx
1/4"	External	92B-CAA-BAD-DM-DxxP-xxx	92B-DAA-BAD-DM-DxxP-xxx
3/8"		92B-CAA-CAD-DM-DxxP-xxx	92B-DAA-CAD-DM-D xxP-xxx

SOLENOID OPERATOR >

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

DM-D XX P-XXX

Consult "Precautions" page 327 before use, installation or service of MAC Valves...

Above models are shown with side ports.

^{*} Other options available, see page 309. Note: Ground required for 30 Volts or higher. Other options available for the 92 series valves, see page 156.







Fluid: Compressed air, vacuum, inert gases

Pressure range: Internal pilot: 20 to 120 PSI 3 position: 35 to 120 PSI

External pilot : vacuum to 120 PSI 3 position : 35 to 120 PSI

Lubrication: Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

Filtration: 40

Temperature range: 0°F to 120°F (-18°C to +50°C)

0 1 10 120 1 (10 0 10 10 0 C)

Flow: $1/8": (1.0 C_{v}) - 1/4": (1.1 C_{v}) - 3/8": (1.2 C_{v})$

Class A continuous duty, #22 AWG x 18 lead wire

Voltage range: -15% to +10% of nominal voltage

Protection: Consult factory

Power: ~Inrush 7.6 VA Holding: 4.8 VA

 $\frac{= 1.8 \text{ to } 12.7 \text{ W}}{24 \text{V} = /5.4 \text{W}}$

120/60 Energize : 7-13 ms De-energize : 12-20 ms

Energize: 8 ms

Options: • BSPP threads • Sandwich flow control: FC92B-AA (sgl. operator), FC92B-BA (dbl. operator)

Spare parts : • Pilot valve DM-DxxP-xxx • Valve blanking plate: M-92002

• Pressure seal between valve and base: 16543. • Mounting screws valve to base (X2): 35050.

De-energize: 7 ms

DIMENSIONS

Response times:

Dimensions shown are metric (mm) 145.3 Double opera 115.3 Single opera 33.3 43.8 4.25 dia Mtg Hole: DIM. G 1/8" 12.5 18.0 31.0 54.0 23.5 46.5 18.0 1/4" 12.5 18.0 31.0 54.0 23.5 46.5 18.0 3/8" 12.0 17.0 30.0 54.0 23.5 17.0



Function		Port size	Flow (Max)		Manifold mounting	Series
5/2, 5/3		1/4" - 3/8"	1.2 C _v		Sub-base non "plug-in"	
OPERATIONAL BEN	IEFITS					33
 The 4-way pilo forces both wa 		iximum shifting				34
 Memory spring Balanced spoo pressure, also 	g available. I, immune to v provides high					36
 Short stroke wi Bonded seal sp shifting in a glo 	oool with mini ass-like finishe	d bore.			U	32
Pilot with balar and consistent					60	37
 Wiping effect of the service life 		king.			. 5 %	38
. 3 /2						52
HOW TO ORD	ER					67
SINGLE PRESSI						69
Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
		B B A A A	B B A A A	B B A A A A A A A A A A A A A A A A A A	B B A A A A A A A A A A A A A A A A A A	B A D A A B A A B A A B A A B A A B A A B A A B A A B A A B A A B A A B A A B
Valve less base		92B-ABA-000-DM-DXXX-XXX	92B-BBA-000-DM-D xxx-xxx	92B-EBA-000-DM-Dxxx-xxx	92B-FBA-000-DM-DXXX-XXX	92B-GBA-000-DM-Dxxx-xxx 92B-GBA-BIG-DM-Dxxx-xxx
1/4" NPTF 3/8" NPTF	Internal	92B-ABA-BJG-DM-Dxxx-xxx 92B-ABA-CJG-DM-Dxxx-xxx	92B-BBA-BJG-DM-Dxxx-xxx 92B-BBA-CJG-DM-Dxxx-xxx	92B-EBA-BJG-DM-Dxxx-xxx 92B-EBA-CJG-DM-Dxxx-xxx	92B-FBA-BJG-DM-D <i>xxx-xxx</i> 92B-FBA-CJG-DM-D <i>xxx-xxx</i>	92B-GBA-CJG-DM-DXXX-XXX
OUAL PRESSUR	E MODELS	(REQUIRE SANDWIC	Ch regulator – See	"REGULATORS" SEC	TIONI	47
Port size		Pilot air		5/2 gle operator		5/2 e operator
			B D		B B	48
Valve less b				EXH INA		XH INA 00-DM-DXXX-XXX
1/4" NPT		Internal		A-BJG-DM-D xxx-xxx	92B-DBA-BJ	G-DM-Dxxx-xxx
3/8" NPT	F		92B-CBA	A-CJG-DM-D xxx-xxx		G-DM-Dxxx-xxx
SOLENOID OP	ERATOR >		DM-D <u>xxx</u> -	<u>X</u> XX*	Above models are	shown with side ports.
				\ <u></u>		93
XX Volte	_		e length	X Manual oper		lectrical connection
JB 220/5	50, 120/60 (2.º 0, 240/60 (2.9		flying leads) ector	 Non-locking reces Locking recessed 	KD Se	quare connector with light 150 04
FB 24 VD	(2.9W) C (1.8W)				JD R	ect. connector with light
DA 24 VD	C (5.4W) C (12.7W)					ying leads ying leads with diode
Other options av	vailable, see po		n . I da			ISO 3
End plate kit require	.,	/8"): M-92004-01-01 M-92004-02-01 e 92 series valves, see pa	(External pilot)			130 3

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Fluid:

Power:

Pressure range: Internal pilot: 20 to 120 PSI 3 position: 35 to 120 PSI External pilot : vacuum to 120 PSI 3 position: 35 to 120 PSI

Compressed air, vacuum, inert gases

Lubrication: Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

Filtration:

Temperature range : $0^{\circ}\text{F to }120^{\circ}\text{F (-18°C to }+50^{\circ}\text{C)}$

Flow: 1/4": $(1.1 \, C_V) - 3/8$ ": $(1.2 \, C_V)$

Coil: Class A continuous duty, #22 AWG x 18 leads

Voltage range : -15% to +10% of nominal voltage

Protection: Consult factory

> ~Inrush 7.6 VA Holding: 4.8 VA

= 1.8 to 12.7 W

Response times : 24V=/5.4W Energize: 8 ms De-energize: 7 ms

120/60 Energize: 7-13 ms De-energize: 12-20 ms

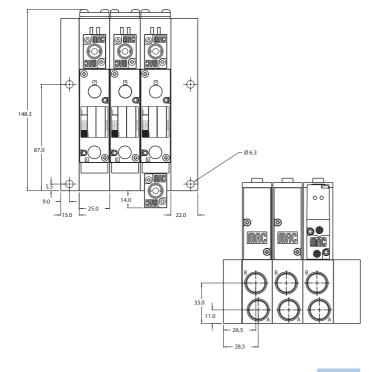
Options: • BSPP threads • Sandwich flow controls: FC92B-CA

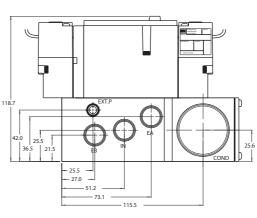
Spare parts: • Pilot valve: DM-Dxxx-xxx • Valve blanking plate: M-92002 • Pressure seal, valve to base 16543

• Inlet/Exhaust isolator disc: N-92018.

DIMENSIONS

Dimensions shown are metric (mm)







	Port size	Flow (Max)		Manifold mounting	Series
	1/4" - 3/8"	1.2 C _v		Sub-base "plug-in"	
EFITS					33
	aximum shifting			W.	34
available. I, immune to v provides high					36
ool with mini ass-like finishe	d bore.				32
				100	37
eliminates stic				5.3	38
⊌.				1	52
E R					67
JRE MODE	LS				69
Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 44 Pressure center
	B A AZZ	B B A A A	B B A A A A A A A A A A A A A A A A A A		B A A A A A A A A A A A A A A A A A A A
	92B-AAA-000-DM-D xx P- xxx	92B-BAA-000-DM-D xx P- xxx	92B-EAA-000-DM-D xx P- xxx	92B-FAA-000-DM-D xx P- xxx	92B-GAA-000-DM-D xx P- xxx
Internal		92B-BAA-BJA-DM-DxxP-xxx	92B-EAA-BJA-DM-DxxP-xxx	92B-FAA-BJA-DM-DxxP-xxx	92B-GAA-BJA-DM-DxxP-xxx
					92B-GAA-CJA-DM-DxxP-xxx 47
E MODELS		H REGULATOR – SEE			48P
	Pilot air	Sing			5/2 operator
		B D	B A A A A A A A A A A A A A A A A A A A	B B	48
ase					0-DM-DxxP-xxx
			1 DI 1 DI 1 D	000 044 01	1 D11 DD
F	Internal		A-BJA-DM-DxxP-xxx		A-DIVI-DAAI -AAA
F	Internal	92B-CAA	A-CJA-DM-DxxP-xxx	92B-DAA-CJ	A-DM-DxxP-xxx
	Internal		A-CJA-DM-DxxP-xxx		A-DM-DxxP-xxx side ports and no lights.
FERATOR ➤	Internal	92B-CAA DM-D <u>XX</u> P-	A-CJA-DM-DxxP-xxx -XXX Above	92B-DAA-CJ. e models are shown with	A-DM-DxxP-xxx side ports and no lights. 93
FERATOR >		DM-D XX P-	A-CJA-DM-DxxP-xxx Above	92B-DAA-CJ. e models are shown with XX Electrical co	A-DM-DxxP-xxx side ports and no lights. 93 nnection
ERATOR > sige 60, 120/60 (2.60, 240/60 (2.90)	9W)	92B-CAA DM-D <u>XX</u> P-	A-CJA-DM-DxxP-xxx Above	928-DAA-CJ. e models are shown with XX Electrical co DM Plug-in DN Plug-in with diode	A-DM-DxxP-xxx side ports and no lights. 93 nnection
ERATOR > 19e 50, 120/60 (2.50, 240/60 (2.50), (2.9W)	9W)	92B-CAA DM-D XX P- X Manual opera 1 Non-locking recesse	A-CJA-DM-DxxP-xxx Above	92B-DAA-CJ. e models are shown with XX Electrical co DM Plug-in DN Plug-in with diod. DP Plug-in with M.O	A-DM-DxxP-xxx side ports and no lights. 93 nnection ISO ISO
ERATOR > ERATOR > 50, 120/60 (2.50, 240/60 (2.50, 240/60 (2.50) (2.9W)) C (1.8W) C (5.4W)	9W)	92B-CAA DM-D XX P- X Manual opera 1 Non-locking recesse	A-CJA-DM-DxxP-xxx Above	928-DAA-CJ. e models are shown with XX Electrical co DM Plug-in with diodl DP Plug-in with M.O. DG Plug-in with M.O. DJ Plug-in with M.O. DJ Plug-in with M.O. DJ Plug-in with M.O.	A-DM-DxxP-xxx side ports and no lights. 93 nnection Solution NV. aground
ERATOR > 198 198 100, 120/60 (2.90) 100, 240/60 (2.90) 100, 240/60 (2.90) 100, 240/60 (2.90) 100, 240/60 (2.90)	9W)	92B-CAA DM-D XX P- X Manual opera 1 Non-locking recesse	A-CJA-DM-DxxP-xxx Above	928-DAA-CJ. e models are shown with XX Electrical co DM Plug-in DN Plug-in with diod. DP Plug-in with M.O DG Plug-in with grou	A-DM-DxxP-xxx side ports and no lights. 93 nnection Solution NV. aground
ERATOR > ERATOR > 50, 120/60 (2.50, 240/60 (2.50, 240/60 (2.50) (2.9W)) C (1.8W) C (5.4W)	9W) PW) age 309.	92B-CAA DM-D XX P- X Manual opera 1 Non-locking recesse	A-CJA-DM-DxxP-xxx Above	928-DAA-CJ. e models are shown with XX Electrical co DM Plug-in with diodl DP Plug-in with M.O. DG Plug-in with M.O. DJ Plug-in with M.O. DJ Plug-in with M.O. DJ Plug-in with M.O.	A-DM-DxxP-xxx side ports and no lights. 93 nnection S. V. and V. & ground 98 ground 150
	develops moves. available. yis. available. yirovides high h high flow. ool with mini ss-like finishe ced poppet, response time liminates stice. IRE Pilot air Internal E MODELS	develops maximum shifting s. available. , immune to variations of provides high flow. h high flow. ool with minimum friction, ss-like finished bore. ced poppet, high flow; short response times. liminates sticking. e IR JRE MODELS Pilot air 5/2 Single operator 8 B A A A A A A A A A A A A A A A A A A	develops maximum shifting /s. available. , immune to variations of provides high flow. h high flow. ool with minimum friction, ss-like finished bore. ced poppet, high flow; short response times. liminates sticking. e. IR IRE IRE IRE IRE IRE IRE IRE	develops maximum shifting //s. available. , immune to variations of oreovides high flow. h high flow. ool with minimum friction, ss-like finished bore. ced poppet, high flow; short esponse times. liminates sticking. 2. R URE MODELS Pilot air Solution Solu	1/4" - 3/8" 1.2 C _V Sub-base Plug-in' develops maximum shifting //s. available. / immune to variations of rovides high flow. h high flow. h high flow. ool with minimum friction, ss-like finished bore. ced poppet, high flow; short esponse times. liminates sticking. b. R IRE MODELS Pilot air Single operator Pilot air 928-AAA-000-DM-DxxP-xxx 928-BAA-000-DM-DxxP-xxxx 928-BAA-000-DM-DxxP-xxxx 928-BAA-000-DM-DxxP-xxxx 928-BAA-000-DM-DxxP-xxxx 928-BAA-BJA-DM-DxxP-xxxx 928-BAA-CJA-DM-DxxP-xxxx 928-

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Fluid: Compressed air, vacuum, inert gases Pressure range: Internal pilot: 20 to 120 PSI 3 position: 35 to 120 PSI External pilot : vacuum to 120 PSI 3 position: 35 to 120 PSI Lubrication: Not required, if used select a medium aniline point lubricant (between 180°F and 210°F) Filtration: Temperature range : $0^{\circ}\text{F to }120^{\circ}\text{F (-18°C to }+50^{\circ}\text{C)}$ Flow: 1/4": $(1.1 \, C_V) - 3/8$ ": $(1.2 \, C_V)$ Coil: Class A continuous duty, #22 AWG x 12 base leads Voltage range : -15% to +10% of nominal voltage Protection: Consult factory Power: ~Inrush 7.6 VA Holding: 4.8 VA = 1.8 to 12.7 W

De-energize: 7 ms

De-energize: 12-20 ms

Options: • BSPP threads • Sandwich flow controls: FC92B-AA (sgl. operator), FC92B-BA (dbl. operator)

Energize: 8 ms

Energize: 7-13 ms

Spare parts: • Pilot valve: DM-DxxP-xxx • Valve blanking plate: M-92002 • Pressure seal, valve to base: 16543

• Mounting screws valve to base (x2): 35050 • Inlet/Exhaust isolator disc: N-92018.

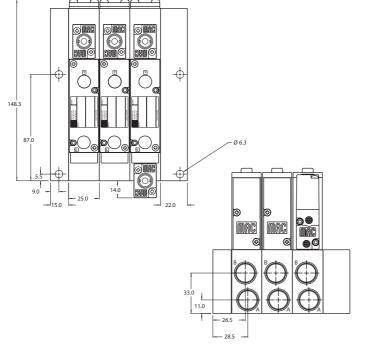
DIMENSIONS

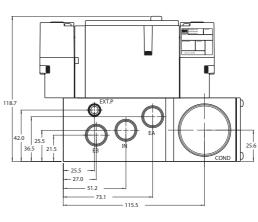
Response times :

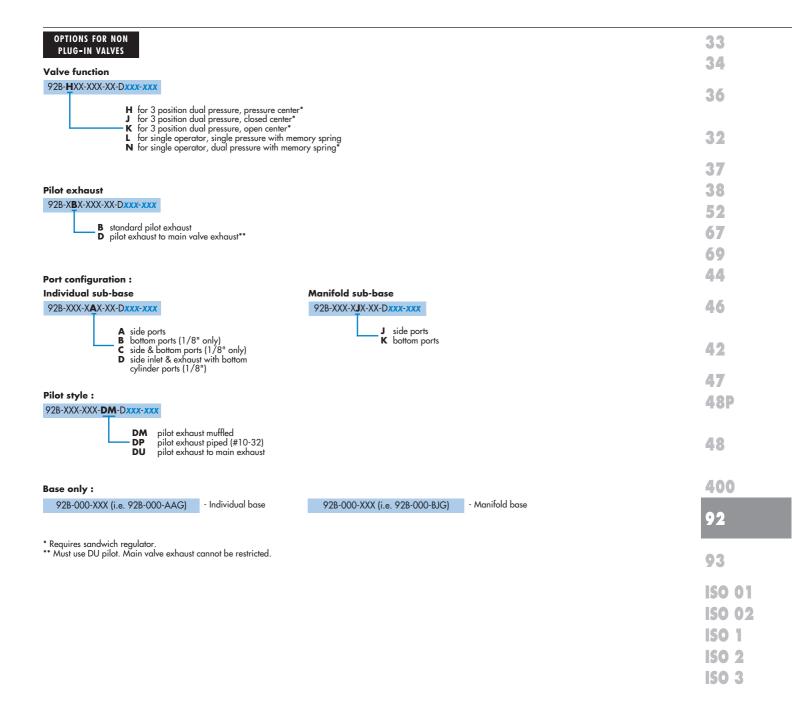
24V=/5.4W

120/60

Dimensions shown are metric (mm)



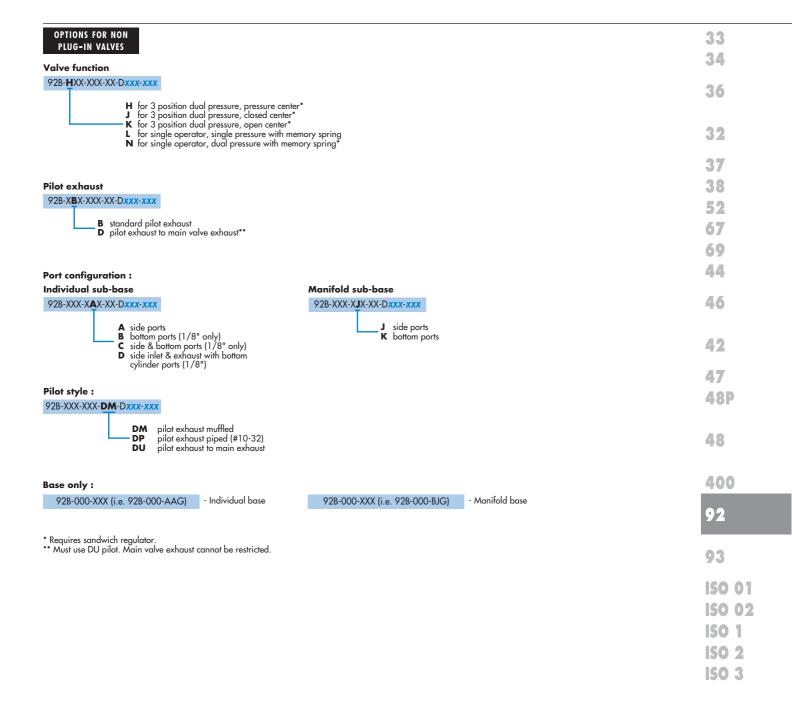






OPTIONS FOR PLUG-IN VALVES Valve function 92B-HXX-XXX-XX-DxxP-xxx H for 3 position dual pressure, pressure center* J for 3 position dual pressure, closed center* K for 3 position dual pressure, open center* L for single operator, single pressure with memory spring N for single operator, dual pressure with memory spring* Pilot exhaust 92B-XAX-XXX-XX-DxxP-xxx A standard pilot exhaust C pilot exhaust to main valve exhaust** **Body** electrical 92B-XXA-XXX-XX-DxxP-xxx A no light B light(s) F suppression and blocking diode with light(s) H M.O.V. with light(s) Port configuration: Individual sub-base Manifold sub-base 92B-XXX-X**J**X-XX-D**xx**P-**xxx** 92B-XXX-XAX-XX-DxxP-xxx A side ports B bottom ports (1/8" only) C side & bottom ports (1/8" only) D side inlet & exhaust with bottom cylinder ports (1/8") J side ports K bottom ports Individual & Manifold sub-base Int. pilot Individual sub-base Ext. pilot 92B-XXX-XXA-XX-DxxP-xxx 92B-XXX-XX**D**-XX-D**xx**P-**xxx** A internal pilot no light B internal pilot single light C internal pilot double light external pilot no light external pilot single light external pilot double light Pilot style: 92B-XXX-XXX-DM-DxxP-xxx pilot exhaust muffled pilot exhaust piped (#10-32) pilot exhaust to main exhaust Lead Wire Lengths: (manifold sub-base only) 92B-XXX-XXX-DM-DxxP-xxx P 12" leads 1 18" leads 2 24" leads 3 36" leads 4 48" leads 5 72" leads Base only: 92B-000-XXX (i.e. 92B-000-AAA) - Individual base 92B-000-XXX (i.e. 92B-000-BJA) - Manifold base (Note: bases are wired for double solenoid valves)

* Requires sandwich regulator.
** Must use DU pilot. Main valve exhaust cannot be restricted.



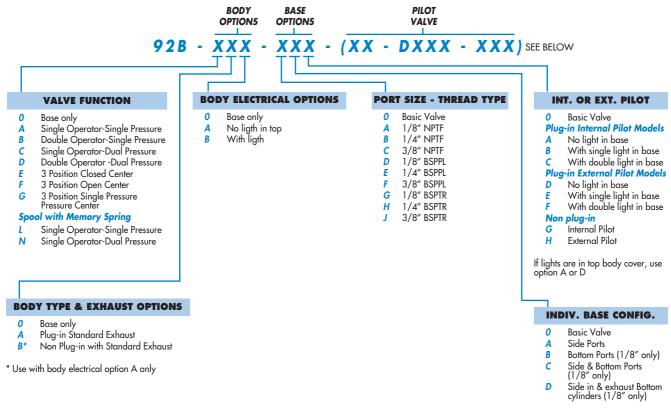


OPTIONS FOR PLUG-IN VALVES Valve function 92B-HXX-XXX-XX-DxxP-xxx H for 3 position dual pressure, pressure center* J for 3 position dual pressure, closed center* K for 3 position dual pressure, open center* L for single operator, single pressure with memory spring N for single operator, dual pressure with memory spring* Pilot exhaust 92B-XAX-XXX-XX-DxxP-xxx A standard pilot exhaust C pilot exhaust to main valve exhaust** **Body** electrical 92B-XXA-XXX-XX-DxxP-xxx A no light B light(s) F suppression and blocking diode with light(s) H M.O.V. with light(s) Port configuration: Individual sub-base Manifold sub-base 92B-XXX-X**J**X-XX-D**xx**P-**xxx** 92B-XXX-XAX-XX-DxxP-xxx A side ports B bottom ports (1/8" only) C side & bottom ports (1/8" only) D side inlet & exhaust with bottom cylinder ports (1/8") J side ports K bottom ports Individual & Manifold sub-base Int. pilot Individual sub-base Ext. pilot 92B-XXX-XXA-XX-DxxP-xxx 92B-XXX-XX**D**-XX-D**xx**P-**xxx** A internal pilot no light B internal pilot single light C internal pilot double light external pilot no light external pilot single light external pilot double light Pilot style: 92B-XXX-XXX-DM-DxxP-xxx pilot exhaust muffled pilot exhaust piped (#10-32) pilot exhaust to main exhaust Lead Wire Lengths: (manifold sub-base only) 92B-XXX-XXX-DM-DxxP-xxx P 12" leads 1 18" leads 2 24" leads 3 36" leads 4 48" leads 5 72" leads Base only: 92B-000-XXX (i.e. 92B-000-AAA) - Individual base 92B-000-XXX (i.e. 92B-000-BJA) - Manifold base (Note: bases are wired for double solenoid valves)

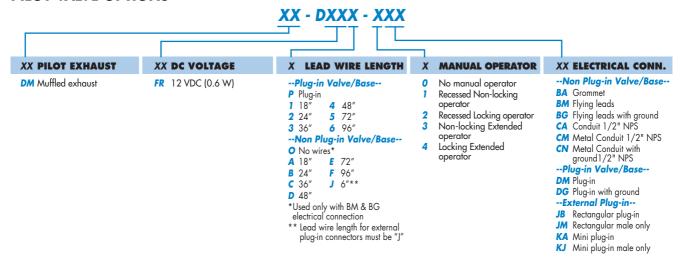
* Requires sandwich regulator.
** Must use DU pilot. Main valve exhaust cannot be restricted.



HOW TO ORDER



PILOT VALVE OPTIONS



HOW TO ORDER 92 SERIES FLOW CONTROL MODULE*

FC 92C-AA	Plug-in flow control assembly single solenoid
FC 92C-BA	Plug-in flow control assembly double solenoid
FC 92C-CA	Non plug-in flow control assembly

*If flow control module is to be installed between valve and base or valve and manifold at the factory, add -9 after the flow control model number, i.e., FC92C-AA-9. The flow control model number should follow the valve model number on which it is to be installed.

NOTE: If a flow control assembly is used with the dual pressure regulator option, only the flow control on the "B" end is functional. (Controls both cylinder ports.)
NOTE: Consult the general catalog for regulator and circuit bar ordering information.

Consult "Precautions" page 327 before use, installation or service of MAC Valves...





Codification table for voltages / Manual operator / Electrical connection

VALVE CODE > -DM- D $\frac{XX}{1}$ $\frac{X-X}{2}$ $\frac{XX}{3}$

OPTIONS AVAILABLE FOR

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



	1. VOLTAGE		4. ELECTRICAL CONNECTION		
D-XX X-X XX	VOLTAGE	D-XX X-X XX	D-XX X-X XX ELECTRICAL CONNECTION		
DA	24 VDC (5.4W)	BA*	Flying leads (grommet)		
DB	12 VDC (5.4W)	BK*	BA with protection diode		
DC	12 VDC (7.5W)	BL*	BA with protection varistor		
DD	24 VDC (7.3W)	BM**	Flying leads (solenoid plug-in)		
DE	12 VDC (12.7W)	BN**	N** BM with protection diode		
DF	24 VDC (12.7W)	BP**	* BM with protection varistor		
DK	110 VDC (4.7W)	BG**	BG** BM with ground		
DJ	28 VDC (5.2W)	BH**	BH** BM with protection diode & ground		
DL	64 VDC (6.0W)	BJ**	BJ** BM with protection varistor & ground		
DM	36 VDC (5.3W)	CA*			
DN	6 VDC (6.0W)	CM*	1/2" NPS metal conduit with flying leads		
DR	90 VDC (6.6W)	CN*	1/2" NPS metal conduit with flying leads & ground		
DS	110 VDC (7.3W)	JB	Rectangular connector		
DT	75 VDC (5.6W)	JD	JB with light		
DP	48 VDC (5.8W)	JM	Rectangular connector (male only)		
FA	12 VDC (1.8W)	KA	Mini square connector		
FB	24 VDC (1.8W)	КВ	KA with protection diode		
FE	12 VDC (2.4W)	KC	KA with protection varistor		
FF	24 VDC (2.4W)	KD	KA with light		
JA	120/60, 110/50 (2.9W)	KE	-		
JB	240/60, 220/50 (2.9W)	KF	KA with light and protection varistor		
JC	24/60, 24/50 (3.7W)	KG	KA with light & diode		
JD	100/60, 100/50, 110/60 (3.9W)	KJ	Mini square connector (male only)		
JE	220/60 (3.4W)	KK	KJ with protection diode (male only)		
JF	240/50 (2.8W)	KL	KJ with protection varistor (male only)		
JG	200/60, 200/50 (3.9W)	TA	Dual tabs with receptacles		
		ТВ	TA with protection diode		
2. WIRE LENGTH		TD	TA with light		
		TE	TA with light and protection diode		
D-XX X-X XX	WIRE LENGTH	TJ	Dual tabs (male only)		
0	No wires	TK	TJ with protection diode		
A	18"	TM	TJ with light		
В	24"	TN	TJ with light and protection diode		
С	36"	* From Lead wire len	* From Lead wire length options choose A through F		
D	48"	** From Lead wire len	** From Lead wire length options choose 0 through F		
E	72"	Note: When coil is above 30 volts, a ground wire is required. Applies to options			
F	96"	with flying leads.			

3.	MAN	UAL (OPER	ATOR

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