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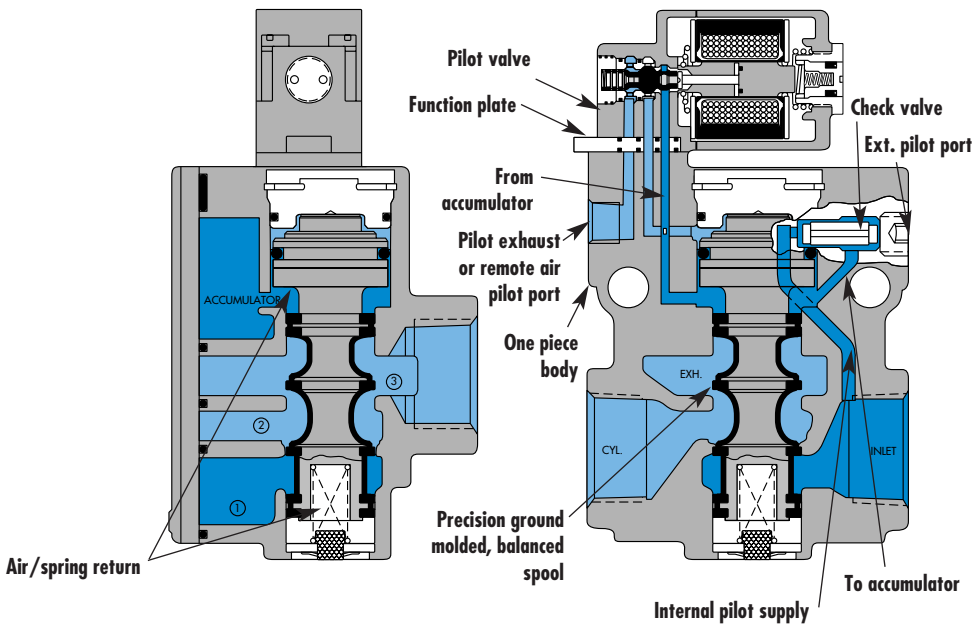
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Find the *MAC 56C-32-111AA* at our website: *Click HERE*

Individual mounting

inline



SERIES FEATURES

- The patented MACSOLENOID® with its non-burn out feature on AC service.
- Seven valve functions in one valve.
- Balanced spool unaffected by back pressure in the exhaust or by inlet restrictions. May be plugged for 2-way operation.
- A large checked accumulator which supplies the pilot and air/spring return for consistent shifting.
- Use on lube or non-lube service.
- Various types of manual operators and solenoid enclosures.
- Optional low wattage DC solenoids down to 1 watt.

Consult "Precautions" page 356 before use, installation or service of MAC Valves.

MAC

Series 56

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

VALVE CONFIGURATIONS AVAILABLE

- 3-Way Normally Open or Normally Closed (solenoid or remote air).
- 2-Way (by plugging a port) Normally Open or Normally Closed (solenoid or remote air).
- Internal pilot or External pilot for vacuum to 25 PSI main valve pressures on solenoid or remote air models.
- Manual and mechanical operators available.

SERIES FEATURES-REMOTE AIR PILOT OPERATED VALVES

These remote air versions feature:

- A large checked accumulator for air/spring return.
- Balanced spool unaffected by back pressure in the exhaust or by inlet restrictions. May be plugged for 2-way operation.
- Use on lube or non-lube service.
- Optional remote air pilot, pilot operated models available when application requires a pilot signal below the main valve pressure.

APPLICATION CONVERSION PROCEDURE

The balanced spool design and the unique N.C. and N.O. pilot valve function plate on solenoid models facilitate using the same valve for 7 different functions.

The 7 functions are as follows:

- 3-way Normally Closed-All 3 main valve ports utilized and function plate placed with "3N.C." (3-way N.C.) visible.
- 3-way Normally Open-All 3 main valve ports utilized and function plate placed with "3N.O." (3-way N.O.) visible.
- 2-way Normally Closed-Same as 3-way N.C. but also plug port #3.
- 2-way Normally Open-Same as 3-way N.O. but also plug port #3.
- Selector-Pipe higher pressure to port #1 and lower pressure port #3.
- Internal Pilot-Utilized for main valve pressures of 25-150 PSI. Includes a check rod in the body and a 1/8'' pipe plug installed in the External Pilot port.
- External Pilot-An External Pilot supply is required when main valve pressures are lower than 25 PSI. If converting from an Internal Pilot model, remove the 1/8" pipe plug and check rod from the External Pilot port and install a 1/16" pipe plug in the check rod hole and pipe an external supply greater than 25 PSI to the External Pilot port. For vacuum service, make the vacuum connection to the port #3 and leave port #1 open to atmosphere or pressure port #1 for vacuum/pressure selector applications.

N.C.-N.O. OPERATIONS:

SOLENOID MODELS:

With the pilot valve available either N.C. or N.O., simply by inverting the function plate, maximum flexibility is available in solenoid pilot operated models by using the N.C. main spool and installing the function plate for either N.C. or N.O. operation. Where an N.C. pilot function is desired with a N.O. main valve operation, a N.O. main spool option is available.

REMOTE AIR MODELS:

On remote air pilot operated models, N.C. and N.O. main spools are both available so that a N.C. pilot signal can always be used.

Consult "Precautions" page 356 before use, installation or service of MAC Valves.

Function	Port size	Flow (Max)	Individual mounting	Series
3/2 NO-NC, 2/2 NO-NC	**3/8" - 1/2" - 3/4"**	**5.7 C_v**	inline	

OPERATIONAL BENEFITS

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



HOW TO ORDER

Port size	Pilot air	NC only valve NC pilot - NC spool	NO only valve NO pilot - NC spool	NO only valve NC pilot - NO spool
				
3/8" NPTF	Internal	56C-12-*XXYZZ*	56C-22-*XXYZZ*	56C-62-*XXYZZ*
1/2" NPTF		56C-13-*XXYZZ*	56C-23-*XXYZZ*	56C-63-*XXYZZ*
3/4" NPTF		56C-17-*XXYZZ*	56C-27-*XXYZZ*	56C-67-*XXYZZ*
3/8" NPTF	External	56C-32-*XXYZZ*	56C-42-*XXYZZ*	56C-72-*XXYZZ*
1/2" NPTF		56C-33-*XXYZZ*	56C-43-*XXYZZ*	56C-73-*XXYZZ*
3/4" NPTF		56C-37-*XXYZZ*	56C-47-*XXYZZ*	56C-77-*XXYZZ*

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
JB	Rectangular connector
JD	Rectangular connector with light
JA	Square connector
JC	Square connector with light
BA	Flying leads (18")
CA	Conduit 1/2" NPS

* Other options available, see page 349.

35
100
200
55
56
57
58
59
45
700
900
82
6300
6500
6600
1300
800
ISO 1
ISO 2
ISO 3
MAC 125A
MAC 250A
MAC 500A

Consult "Precautions" page 356 before use, installation or service of MAC Valves.

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

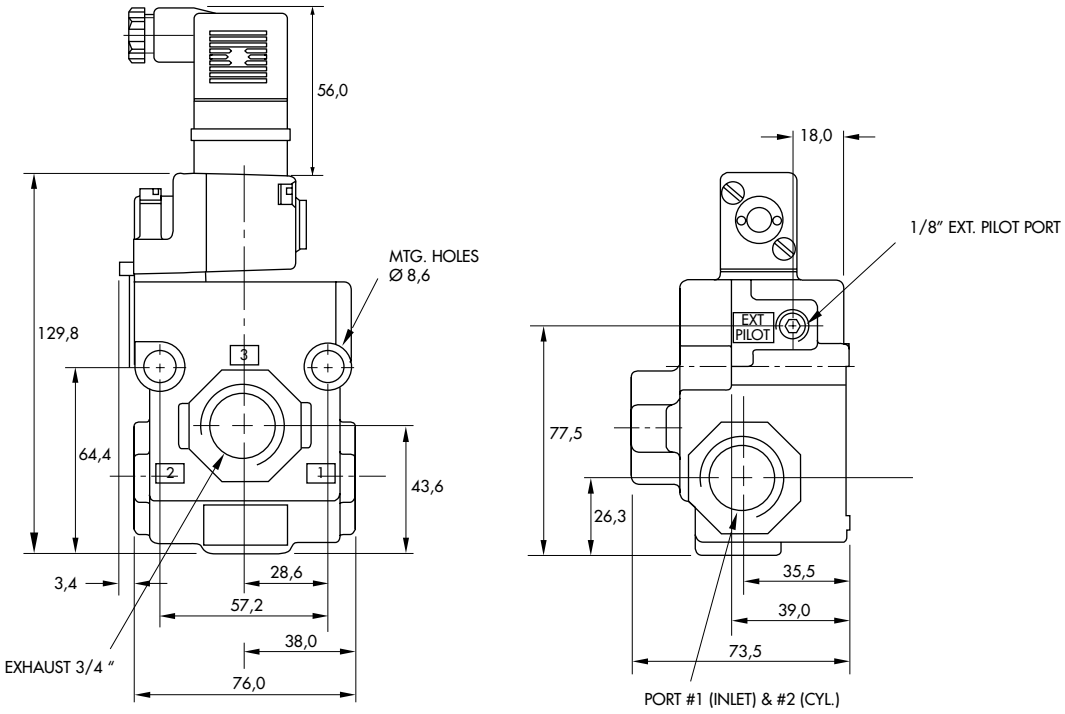
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 25 to 150 PSI External pilot : vacuum to 150 PSI		
Pilot pressure :	25 to 150 PSI		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Flow (at 6 bar, ΔP=1bar) :	Norm. Closed :3/8" (4.4 C_V), 1/2" (5.0 C_V), 3/4" (5.4 C_V), Norm. Open : 3/8" (4.6 C_V), 1/2" (5.1 C_V), 3/4" (5.7 C_V)		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Consult factory		
Power :	~ Inrush : 14.8 VA	Holding : 10.9 VA	
	= 1 to 17 W		
Response times :	24 VDC (8.5 W)	Energize : 11 ms	De-energize : 10,8ms
	120/60	Energize : 7-12 ms	De-energize : 9-14 ms

Spare parts :
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 32184 and seal 16234.
- Pilot valve : 130B-XXYZZ, including function plate A2-7009. • Pilot mounting screws kit : N-56002.
- Check valve : 70063.

Options :
- BSPP threads.

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 364 before use, installation or service of MAC Valves

HOW TO ORDER

VALVE BODY ASSEMBLY

56 C - **X X - (XXYZZ) - FM - SOLENOID OPTIONS**

SERIES — REVISION LEVEL

SEE BELOW

VALVE FUNCTION		PORT SIZE/BODY STYLE	
1	Internal pilot N.C. pilot, N.C. main spool	2	3/8" NPTF
3	External pilot N.C. pilot, N.C. main spool	3	1/2" NPTF
6	Internal pilot N.C. pilot, N.O. main spool	5	3/8" BSPP
7	External pilot N.C. pilot, N.O. main spool	6	1/2" BSPP
		7	3/4" NPTF
		8	3/4" BSPP

VALVE BODY ASSEMBLY

57
58 C - **X X - (XXYZZ) - FM - SOLENOID OPTIONS**

SERIES — REVISION LEVEL

SEE BELOW

VALVE FUNCTION		PORT SIZE/BODY STYLE	
1	Internal pilot N.C. pilot, N.C. main spool	1	1/2" NPTF (57 Series) 1" NPTF (58 Series)
3	External pilot N.C. pilot, N.C. main spool	2	3/4" NPTF (57 Series) 1-1/4" NPTF (58 Series)
6	Internal pilot N.C. pilot, N.O. main spool	3	1" NPTF (57 Series) 1-1/2" NPTF (58 Series)
7	External pilot N.C. pilot, N.O. main spool	4	1/2" BSPP (57 Series) 1" BSPP (58 Series)
		5	3/4" BSPP (57 Series) 1-1/4" BSPP (58 Series)
		6	1" BSPP (57 Series) 1-1/2" BSPP (58 Series)

SOLENOID OPTIONS

EXAMPLE : XX Y ZZ - FM

XX	DC VOLTAGE
A5	12 VDC (0.6 W)
A6	24 VDC (0.6 W)

Y	MANUAL OPERATOR
0	No operator
1	Non-locking Recessed (std.)
2	Locking Recessed
3	Non-locking Extended
4	Locking Extended

ZZ	ENCLOSURE
AA	JIC w/1/2" NPS Conduit
BA	Grommet
CA	Conduit 1/2" NPS
CC	Conduit 1/2" NPT (CSA threads)
JA	Square Plug-in
JB	Rectangular Plug-in
JJ	Square Male only
JM	Rectangular Male only

Consult "Precautions" page 356 before use, installation or service of MAC Valves.

Codification table for voltages / Manual operator / Electrical connection / Wire length

VALVE CODE ➤ $-\underset{1}{XX}\ \underset{2}{Y}\ \underset{3}{ZZ}\ (-\underset{4}{VV})$

OPTIONS AVAILABLE FOR	OPTIONS AVAILABLE FOR
- valves type 100 Series - pilot valves "CNOMO"	- valves type 200 Series
- Pilot operated valves with pilots type 100 Series Series : 55 - 56 - 700 - 800 - 900 - 6300 - 6500 - 6600 - 1300 - ISO 1 - ISO 2 - ISO 3. - MAC 125 - MAC 250 - MAC 500	- pilot operated valves with pilots type 200 Series Series : 200 - 57 - 58 - 59.
- Pilot operated valves with pilots "CNOMO" Series : ISO1 - ISO2 - ISO3	

Consult "Precautions" page 356 before use, installation or service of MAC Valves.

Used on valve series: 100, 55, 56, 700, 800, 900, 6300, 6500, 6600, 1300, MVA1C, MVA2B, MVA3B, MAC125, MAC250, MAC500.

1. VOLTAGE (100 Serie type coil)

- XX Y ZZ	VOLTAGE
11	120/60, 110/50
12	240/60, 220/50
13	100/60, 100/50
15	200/60, 200 /50
16	10/60
20	6/60
21	12/50, 12/60
22	24/60, 24/50
23	32/60, 32/50
24	48/60, 42/50
26*	380/50, 440/50, 440/60, 480/60
29	220/60
34	127/50, 120/50
35	48/50
36	16/60
B1	24/50
50	24 VDC (6 W)
51	24 VDC (4 W)
54	12 VDC (4 W)
55	12 VDC (6 W)
57	12 VDC (2.5 W)
59	24 VDC (2.5 W)
60	12 VDC (8.5 W)
61	24 VDC (8.5 W)
64	6 VDC (6 W)
65	32 VDC (7 W)
66	48 VDC (5.8 W)
67	64 VDC (7.5 W)
68	120 VDC (6.4 W)
69*	220 VDC (8.7 W), 250 VDC (11.2 W)
75	90 VDC (8.8 W)
76*	100 VDC (6.9 W)
84*	125 VDC (10.9 W)
87*	24 VDC (17.1 W)
88*	12 VDC (17.4 W)
89*	36 VDC (18.8 W)
90	28 VDC (8.2 W)
91*	6 VDC (10.6 W)
92	190 VDC (6.5 W)
94	3 VDC (7 W)
95	38 VDC (6.4 W)
A1	24 VDC (1 W)
A2	12 VDC (1 W)
A3	9 VDC (1 W)

MOD. DD01 : Protection diode (DC) - MAX. 8.5W

MOD. MOV1 : Protection varistor (AC) - MAX. 8.5W

* Voltages are CLSF only

Used on valve series: 200, 57, 58, 59.

1. VOLTAGE (200 Serie type coil)

- XX Y ZZ	VOLTAGE
11	120/60, 110/50, 24 VDC (6 W)
12	240/60, 220/50
13	100/60, 100/50
14	200/60, 200/50
20	6/60
21	12/60
22	24/60, 24/50
23	32/60, 32/50
24	48/60, 42/50
25	240/50
26	480/60, 440/50
27	127/60
28	415/50
29	220/60
30	380/50
31	550/60, 550/50
32	120/60, 110/50
33	600/60
34	127/50
35	48/50
50	24 VDC (6 W)
51	24 VDC (4.5 W)
52	24 VDC (2.5 W)
53	24 VDC (1.0 W)
55	12 VDC (6 W)
57	12 VDC (2.5 W)
58	48 VDC (2.5 W)
60	12 VDC (9.5 W)
61	24 VDC (8.5 W)
64	6 VDC (8.5 W)
65	32 VDC (10 W)
66	48 VDC (11.5 W)
67	64 VDC (10.5 W)
68	120 VDC (12.3 W)
69	250 VDC (9.2 W)
71	8 VDC (8.2 W)
72	24 VDC (12 W)
73	198 VDC (10 W)
74	72 VDC (11.3 W)
75	90 VDC (11.3 W)
76	100 VDC (9 W)
77	220 VDC (10 W), 230 VDC (11.6 W)
78*	24 VDC (24 W)
80	55 VDC (10.6 W)
82	170 VDC (11.1 W)
83	15 VDC (8.1 W)
84	125 VDC (10 W)
86	36 VDC (11 W)
93*	12 VDC (24 W)

Consult “Precautions” page 356 before use, installation or service of MAC Valves.

2. MANUAL OPERATOR (Common options for 100 & 200 Series type coils)

- XX Y ZZ	MANUAL OPERATOR		
0	No operator	5*	No Operator with Light
1	Non-locking recessed	6*	Non-Locking Recessed with Light
2	Locking recessed	7*	Locking Recessed with Light
3	Non-locking extended	8*	Non-Locking Extended with Light
4	Locking extended	9*	Locking Extended with Light

* Lights used with "AA" electrical connection

3. ELECTRICAL CONNECTION (100 Serie type coil)

- XX Y ZZ	ELECTRICAL CONNECTION
AA	Wiring box with 1/2" NPS conduit
BA	Flying leads
CA	1/2" NPS conduit
CC	1/2" NPT conduit
FA	Military type 2 PIN
GA	Military type 3 PIN
HA	AA with ground wire
JA*	Square connector
JB	Rectangular connector
JC*	Square connector with light
JD	Rectangular connector with light
JE	Square connector on top (ISO2, ISO3)
JF	Rectangular connector on top (ISO1, ISO2, ISO3)
JG	JE with light
JH	JF with light
JJ	Square connector, male only
JM	Rectangular connector, male only
MA	Electrical common conduit (100 Series-Manifold/900 Series)
MB	Electrical common conduit (100 Series-Stacking/700 Series)
NA	CA with ground wire
NC	CC with ground wire
RA	3/8" NPS conduit

* Not to be used with 100, 800 and 900 Series manifold mounting

3. ELECTRICAL CONNECTION (200 Serie type coil)

- XX Y ZZ	ELECTRICAL CONNECTION
AA	Wiring box with 1/2" NPS conduit
BA	Flying leads
CA	1/2" NPS conduit
CC	1/2" NPT conduit
EA	Explosion proof (200 Series)
EA	Explosion proof (57, 58 & 59 Series)
FA	Military type 2 PIN
GA	Military type 3 PIN
HA	AA with ground wire
JA*	Square connector
JC	Square connector with light
JJ	Square connector, male only
NA	CA with ground wire
NC	CC with ground wire

Consult "Precautions" page 356 before use, installation or service of MAC Valves.

4. COIL WIRE LENGTH (Common options for 100 & 200 Serie type coils)

- XX Y ZZ (-VV)	WIRE LENGTH
AA	18″
AB	24″
AD	36″
AE	48″
AF	72″
AG	6″
AR	12″
AU	120″
BA	60″
BB	144″
Series 6000 : wire length, from the base	
MOD L024	24″
MOD L036	36″
MOD L048	48″
MOD L060	60″
MOD L072	72″
MOD L120	120″

Consult “Precautions” page 356 before use, installation or service of MAC Valves.

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