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**STERLING  
CONCRETE  
EQUIPMENT**

937-747-4300

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Individual mounting

Series

inline

35

100

200

**55**

56

57

58

59

45

700

900

82

6300

6500

6600

1300

800

ISO 1

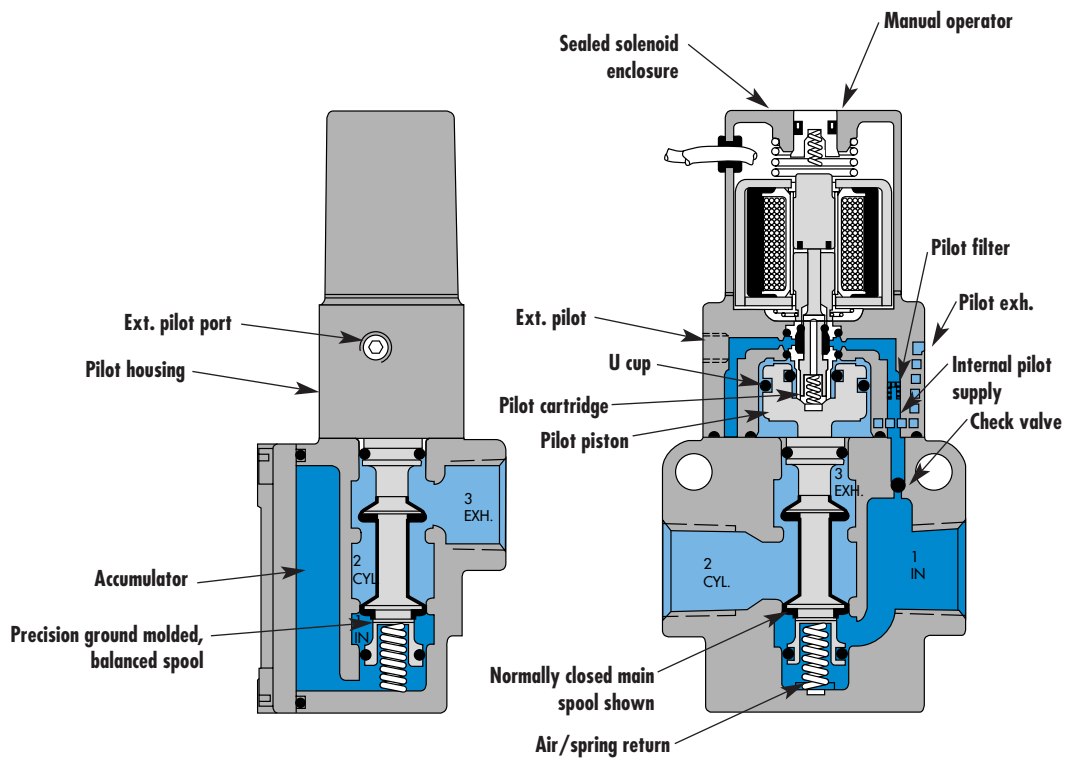
ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A



**SERIES FEATURES**

- The patented MACSOLENOID® with its non-burn out feature on AC service.
- 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.
- Extremely rapid response and cycle rate.
- Various types of manual operators and solenoid enclosures.
- Optional low wattage DC solenoids down to 1 watt.



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#### **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 30 PSI main valve pressures on solenoid or 25 on remote air operated models. Manual and mechanical operators available.

#### **SERIES FEATURES-REMOTE AIR PILOT OPERATED VALVES**

These 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.

#### **SERIES FEATURES-REMOTE AIR PILOT, PILOT OPERATED VALVES**

These special air versions have the same features as the remote air pilot operated models, but additionally feature:

- Ability to use a pilot signal pressure different from the main valve pressure. Pilot signal can be from 30 to 150 PSI, regardless of main valve pressure.
- A manual operator and position indicator standard.

#### **SPECIAL APPLICATIONS:**

- **VACUUM APPLICATIONS:** Connect the vacuum source to port #3 with port #1 open to atmosphere, and use external pilot on solenoid pilot operated models. On remote air pilot models, use **-RE**.
- **SELECTOR APPLICATIONS:** Pipe higher pressure to port #1 and lower pressure to port #3.
- **INTERNAL PILOT:** Use for main valve pressure of 30 to 150 PSI on all models. Includes ball check in the body and an M5x0.8 plug installed in the external pilot port.
- **EXTERNAL PILOT:** An external pilot supply is required when main valve pressures are lower than 30 psi on solenoid pilot or 25 psi on remote air pilot operated models. To convert from internal to external pilot on solenoid models simply rotate pilot housing 180 degrees and connect external pilot source. (Use either M5 or #10-32 fitting.) On remote air pilot models, specify **-RE**.



# Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow [Max]	Individual mounting	Series
<b>3/2 NO-NC, 2/2 NO-NC</b>	<b>1/4" - 3/8"</b>	<b>2.2 C<sub>v</sub></b>	inline	

### OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- The piston (booster) provides maximum 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.



- 35
- 100
- 200
- 55**
- 56
- 57
- 58
- 59

### HOW TO ORDER

Port size	Pilot air	NC valve	NO valve	
<b>1/4" NPTF</b>	Internal	55B-11-PI- <b>XXYZZ</b>	55B-21-PI- <b>XXYZZ</b>	45
<b>3/8" NPTF</b>		55B-12-PI- <b>XXYZZ</b>	55B-22-PI- <b>XXYZZ</b>	
<b>1/4" NPTF</b>	External	55B-11-PE- <b>XXYZZ</b>	55B-21-PE- <b>XXYZZ</b>	700
<b>3/8" NPTF</b>		55B-12-PE- <b>XXYZZ</b>	55B-22-PE- <b>XXYZZ</b>	900

### SOLENOID OPERATOR >

**XX Y ZZ\***

XX	Voltage	Y	Manual operator	ZZ	Electrical connection
<b>11</b>	120/60, 110/50	<b>1</b>	Non-locking	<b>JB</b>	Rectangular connector
<b>12</b>	240/60, 220/50	<b>2</b>	Locking	<b>JD</b>	Rectangular connector with light
<b>22</b>	24/60, 24/50			<b>JA</b>	Square connector
<b>59</b>	24 VDC (2.5 W)			<b>JC</b>	Square connector with light
<b>87</b>	24 VDC (17.1 W)			<b>BA</b>	Flying leads (18")
<b>61</b>	24 VDC (8.5 W)			<b>CA</b>	Conduit 1/2" NPS

\* Other options available, see page 349.

- 700
- 900
- 82
- 6300
- 6500
- 6600
- 1300
- 800
- ISO 1
- ISO 2
- ISO 3
- MAC 125A
- MAC 250A
- MAC 500A

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### TECHNICAL DATA

<b>Fluid :</b>	Compressed air, vacuum, inert gases
<b>Pressure range :</b>	Internal pilot : 30 to 150 PSI External pilot : vacuum to 150 PSI
<b>Pilot pressure :</b>	30 to 150 PSI
<b>Lubrication :</b>	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
<b>Filtration :</b>	40 µ
<b>Temperature range :</b>	0°F to 120°F (-18°C to 50°C)
<b>Flow (at 6 bar, ΔP=1bar) :</b>	Norm. Closed : 1/4" (1.4 C <sub>v</sub> ), 3/8" (1.6 C <sub>v</sub> ), Norm. Open : 1/4" (1.8 C <sub>v</sub> ), 3/8" (2.2 C <sub>v</sub> )
<b>Coil :</b>	General purpose class A, continuous duty, encapsulated
<b>Voltage range :</b>	-15% to +10% of nominal voltage
<b>Protection :</b>	Consult factory
<b>Power :</b>	~ Inrush : 14.8 VA      Holding : 10.9 VA = 1 to 17 W
<b>Response times :</b>	24 VDC (8.5 W)      Energize : 9 ms      De-energize : 4.8 ms 120/60      Energize : 5-11 ms      De-energize : 5-11 ms

Spare parts : 

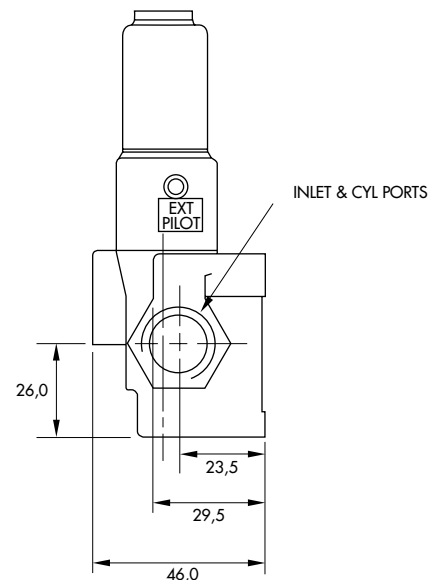
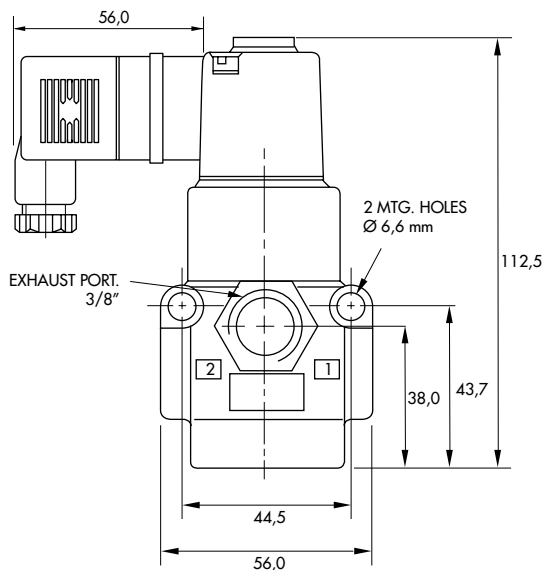
- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PID-XXYZZ, including mounting screws 35214 and seal 16363. • Check valve : 70061.

Options : 

- BSPP threads.

### DIMENSIONS

Dimensions shown are metric (mm)





0 p t i 0 n s

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

VALVE CODE >

**-XX Y ZZ (-VV)**  
**1 2 3 4**

OPTIONS AVAILABLE FOR	OPTIONS AVAILABLE FOR
<ul style="list-style-type: none"> <li>- valves type 100 Series</li> <li>- pilot valves "CNOMO"</li> </ul>	<ul style="list-style-type: none"> <li>- valves type 200 Series</li> </ul>
<ul style="list-style-type: none"> <li>- Pilot operated valves with pilots type 100 Series</li> <li>Series : 55 - 56 - 700 - 800 - 900</li> <li style="padding-left: 20px;">- 6300 - 6500 - 6600 - 1300</li> <li style="padding-left: 20px;">- ISO 1 - ISO 2 - ISO 3.</li> <li style="padding-left: 20px;">- MAC 125 - MAC 250 - MAC 500</li> </ul>	<ul style="list-style-type: none"> <li>- pilot operated valves with pilots type 200 Series</li> <li>Series : 200 - 57 - 58 - 59.</li> </ul>
<ul style="list-style-type: none"> <li>- Pilot operated valves with pilots "CNOMO"</li> <li>Series : ISO1 - ISO2 - ISO3</li> </ul>	



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

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

1. VOLTAGE (100 Serie type coil)		1. VOLTAGE (200 Serie type coil)	
- XX Y ZZ	VOLTAGE	- XX Y ZZ	VOLTAGE
11	120/60, 110/50	11	120/60, 110/50, 24 VDC (6 W)
12	240/60, 220/50	12	240/60, 220/50
13	100/60, 100/50	13	100/60, 100/50
15	200/60, 200 /50	14	200/60, 200/50
16	10/60	20	6/60
20	6/60	21	12/60
21	12/50, 12/60	22	24/60, 24/50
22	24/60, 24/50	23	32/60, 32/50
23	32/60, 32/50	24	48/60, 42/50
24	48/60, 42/50	25	240/50
26*	380/50, 440/50, 440/60, 480/60	26	480/60, 440/50
29	220/60	27	127/60
34	127/50, 120/50	28	415/50
35	48/50	29	220/60
36	16/60	30	380/50
B1	24/50	31	550/60, 550/50
50	24 VDC (6 W)	32	120/60, 110/50
51	24 VDC (4 W)	33	600/60
54	12 VDC (4 W)	34	127/50
55	12 VDC (6 W)	35	48/50
57	12 VDC (2.5 W)	50	24 VDC (6 W)
59	24 VDC (2.5 W)	51	24 VDC (4.5 W)
60	12 VDC (8.5 W)	52	24 VDC (2.5 W)
61	24 VDC (8.5 W)	53	24 VDC (1.0 W)
64	6 VDC (6 W)	55	12 VDC (6 W)
65	32 VDC (7 W)	57	12 VDC (2.5 W)
66	48 VDC (5.8 W)	58	48 VDC (2.5 W)
67	64 VDC (7.5 W)	60	12 VDC (9.5 W)
68	120 VDC (6.4 W)	61	24 VDC (8.5 W)
69*	220 VDC (8.7 W), 250 VDC (11.2 W)	64	6 VDC (8.5 W)
75	90 VDC (8.8 W)	65	32 VDC (10 W)
76*	100 VDC (6.9 W)	66	48 VDC (11.5 W)
84*	125 VDC (10.9 W)	67	64 VDC (10.5 W)
87*	24 VDC (17.1 W)	68	120 VDC (12.3 W)
88*	12 VDC (17.4 W)	69	250 VDC (9.2 W)
89*	36 VDC (18.8 W)	71	8 VDC (8.2 W)
90	28 VDC (8.2 W)	72	24 VDC (12 W)
91*	6 VDC (10.6 W)	73	198 VDC (10 W)
92	190 VDC (6.5 W)	74	72 VDC (11.3 W)
94	3 VDC (7 W)	75	90 VDC (11.3 W)
95	38 VDC (6.4 W)	76	100 VDC (9 W)
A1	24 VDC (1 W)	77	220 VDC (10 W), 230 VDC (11.6 W)
A2	12 VDC (1 W)	78*	24 VDC (24 W)
A3	9 VDC (1 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)

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

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

\* Voltages are CLSF only



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

- XX Y ZZ	MANUAL OPERATOR
<b>0</b>	No operator
<b>1</b>	Non-locking recessed
<b>2</b>	Locking recessed
<b>3</b>	Non-locking extended
<b>4</b>	Locking extended

<b>5*</b>	No Operator with Light
<b>6*</b>	Non-Locking Recessed with Light
<b>7*</b>	Locking Recessed with Light
<b>8*</b>	Non-Locking Extended with Light
<b>9*</b>	Locking Extended with Light

\* Lights used with "AA" electrical connection

**3. ELECTRICAL CONNECTION (100 Serie type coil)**

- XX Y ZZ	ELECTRICAL CONNECTION
<b>AA</b>	Wiring box with 1/2" NPS conduit
<b>BA</b>	Flying leads
<b>CA</b>	1/2" NPS conduit
<b>CC</b>	1/2" NPT conduit
<b>FA</b>	Military type 2 PIN
<b>GA</b>	Military type 3 PIN
<b>HA</b>	AA with ground wire
<b>JA*</b>	Square connector
<b>JB</b>	Rectangular connector
<b>JC*</b>	Square connector with light
<b>JD</b>	Rectangular connector with light
<b>JE</b>	Square connector on top (ISO2, ISO3)
<b>JF</b>	Rectangular connector on top (ISO1, ISO2, ISO3)
<b>JG</b>	JE with light
<b>JH</b>	JF with light
<b>JJ</b>	Square connector, male only
<b>JM</b>	Rectangular connector, male only
<b>MA</b>	Electrical common conduit (100 Series-Manifold/900 Series)
<b>MB</b>	Electrical common conduit (100 Series-Stacking/700 Series)
<b>NA</b>	CA with ground wire
<b>NC</b>	CC with ground wire
<b>RA</b>	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
<b>AA</b>	Wiring box with 1/2" NPS conduit
<b>BA</b>	Flying leads
<b>CA</b>	1/2" NPS conduit
<b>CC</b>	1/2" NPT conduit
<b>EA</b>	Explosion proof (200 Series)
<b>EA</b>	Explosion proof (57, 58 & 59 Series)
<b>FA</b>	Military type 2 PIN
<b>GA</b>	Military type 3 PIN
<b>HA</b>	AA with ground wire
<b>JA*</b>	Square connector
<b>JC</b>	Square connector with light
<b>JJ</b>	Square connector, male only
<b>NA</b>	CA with ground wire
<b>NC</b>	CC with ground wire



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

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