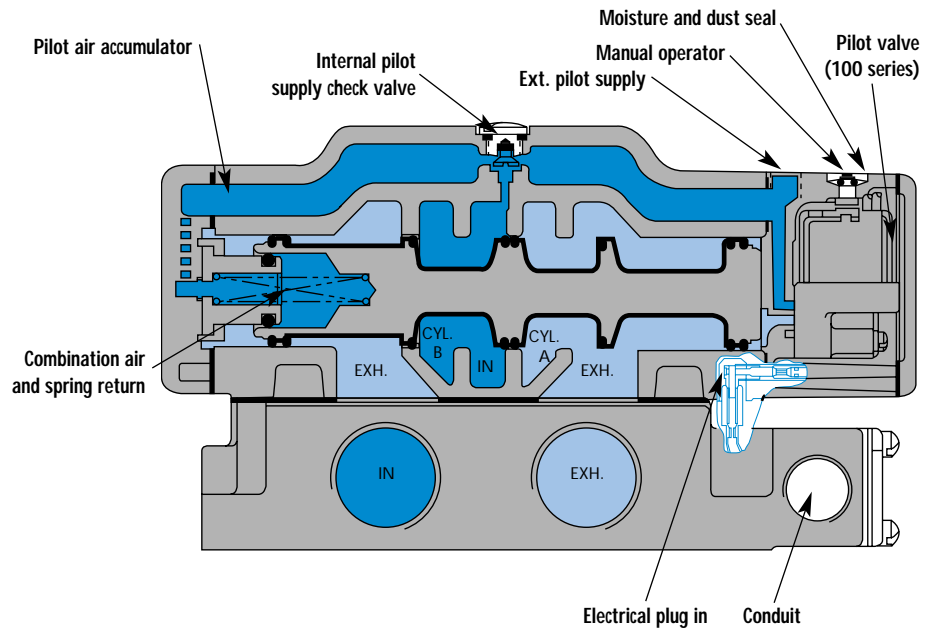


Individual mounting

sub-base  
"plug-in"



**SERIES FEATURES**

- The patented MACSOLENOID® with its non-burn out feature on AC service.
- A large checked accumulator for consistent shifting on single and double solenoid models.
- A plug-in design that provides for internal or external pilot with or without lights and all electrical in the base.
- Non-lubricated or lubricated service.
- Optional indicator lights, and various types of manual operators.

#### SOLENOID PILOT

The solenoid pilot utilized on the 1300 Series is the extremely fast and reliable, spring biased MAC 100 Series three-way manifold valve which features a high flow balanced poppet. The patented spring biased floating pole piece MACSOLENOID® of the 100 Series practically eliminates the two most common causes of solenoid valve failures: coil burnout on AC service and failure to shift. The versatility of the 100 Series permits either internal or external pilot supply. The solenoid housing incorporates a 1/8" NPTF pilot exhaust connection which can be either muffled or piped away and the external pilot supply connection.

#### MAIN VALVE

The main valve contains a MAC all bonded, lightweight one-piece aluminium spool. All spool seals are permanently bonded, precision ground and chemically surface hardened to provide long, stick-free operation. These valves with their pressure balanced design are not affected by restrictions or back pressure in the exhaust and can be plugged for use as three-way valves. The one-piece silicon aluminium body used with any of these valves incorporates an integral accumulator.

#### ACCUMULATOR

A large accumulator housed in the main valve body supplies both pilots on double solenoid valves as well as the air assisted spring return on single solenoid pilot or single

remote air pilot operated valves. Internally piloted, the accumulator is protected from inlet pressure fluctuations in the main valve by a check valve. The check valve is designed to bleed off the accumulator when the main supply pressure is removed. For external pilot supply operations, the check valve is reversed, blocking the internal pilot supply to the accumulator. The accumulator is then supplied through the external supply connection.

#### DIFFERENTIAL RETURN

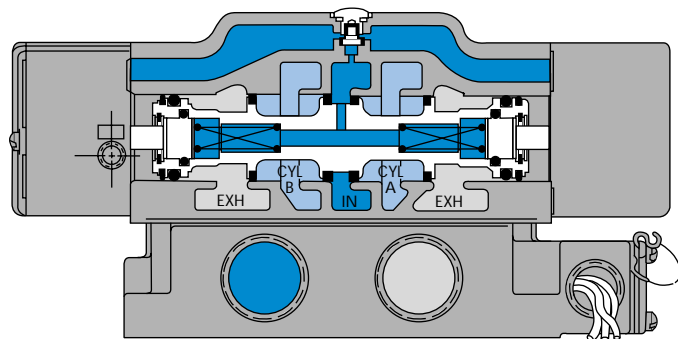
Single solenoid pilot or single air pilot operated models contain a combination spring and air assisted differential return. Supplied from the accumulator it balances the shifting forces for consistent operation and positive spool return.

#### BASES

The 4-port aluminium base design simplifies piping and enables the use of a single muffler or piped exhaust. They are provided with an integral electrical wiring space, sealed with a convenient access cover. The access cover also houses the optional indicator lights, available in voltages of 120/60, 110/50 or 240/60, 220/50 or 24 VDC in either single or double lights.

#### 3-POSITION VALVES

The 1300 Series solenoid pilot 3-position valves, are centered by MAC's exclusive combination spring and pressure assisted spool design. The combination spring and air assist assures fast, positive return of the main spool when the pilots are de-energized. Available in external or internal pilot supply models, with either a closed center spool (all ports blocked) or open center spool (inlet blocked, cylinder ports open to exhaust).

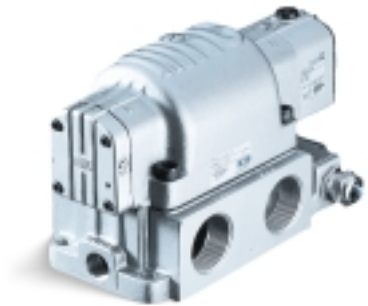


3-POSITION DOUBLE  
SOLENOID CLOSED CENTER

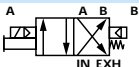
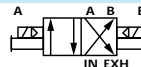
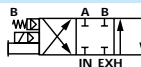

Function	Port size	Flow (Max)	Individual mounting
4/2 - 4/3	3/4" - 1" - 1 1/4" - 1 1/2"	15.9 C <sub>v</sub>	sub-base "plug-in"

### 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.



### HOW TO ORDER

Port size	4/2 Single operator	4/2 Double operator	4/3 Closed center	4/3 Open center
				
Valve less base	1301G-xxYD-xx	1303G-xxYD-xx	1307G-xxYD-xx	1308G-xxYD-xx
Sub base 3/4" NPTF	1321G-xxYD-xx	1323G-xxYD-xx	1327G-xxYD-xx	1328G-xxYD-xx
Sub base 1" NPTF	1331G-xxYD-xx	1333G-xxYD-xx	1337G-xxYD-xx	1338G-xxYD-xx
Sub base 1 1/4" NPTF	1351G-xxYD-xx	1353G-xxYD-xx	1357G-xxYD-xx	1358G-xxYD-xx
Sub base 1 1/2" NPTF	1361G-xxYD-xx	1363G-xxYD-xx	1367G-xxYD-xx	1368G-xxYD-xx

### SOLENOID OPERATOR ►

## XX Y D- X X

XX	Voltage	Y	Manual operator	X	Pilot air	X	Indicator light
11	120/60, 110/50	1	Non-locking	1	Internal	5	With light in base
12	240/60, 220/50	2	Locking	2	External		
22	24/60, 24/50						
59	24 VDC (2.5 W)						
87	24 VDC (17.1 W)						
61	24 VDC (8.5 W)						

Bases	
10952	3/4" NPTF
10953	1" NPTF
10954	1-1/4" NPTF
10955	1-1/2" NPTF

**BOTTOM PORTS** available only on 3/4" valves

For bottom ports only specify **MOD 0002**

For side and bottom ports specify **MOD 0004**

**EXAMPLE** : 1321G-111D-1 **MOD 0002**

**TECHNICAL DATA**

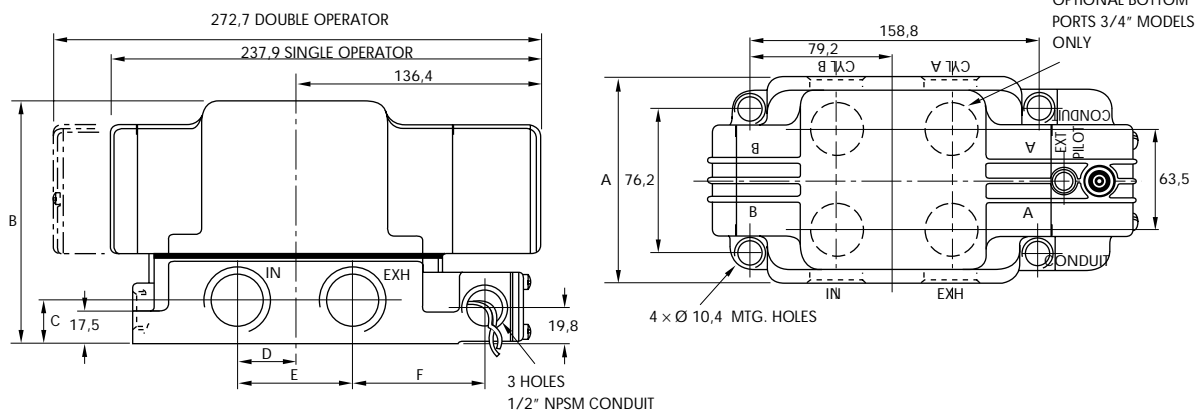
<b>Fluid :</b>	Compressed air, vacuum, inert gases		
<b>Pressure range :</b>	Internal pilot : single operator and 3 positions : 25-150 PSI	double operator : 10-150 PSI	
	External pilot : vacuum to 150 PSI		
<b>Pilot pressure :</b>	Single operator and 3 positions : 25-150 PSI Double operator : 10-150 PSI		
<b>Lubrication :</b>	Not required, if used select a medium aniline point lubricant (between 180°F to 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>	3/4" : (11.5 C <sub>v</sub> ), 1" : (13.7 C <sub>v</sub> ), 1 1/4" : (15.4 C <sub>v</sub> ), 1 1/2" : (15.9 C <sub>v</sub> )		
<b>Leak rate :</b>	100 cm <sup>3</sup> /min		
<b>Coil :</b>	Epoxy encapsulated - class A wires - Continuous duty		
<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 17.1 W		
<b>Response times :</b>	24 VDC (8.5 W)	Energize : 20 ms	De-energize : 28 ms
	120/60	Energize : 17-23 ms	De-energize : 29-35 ms

- Spare parts :
- Solenoid operator (power ≥ 4 W) : D1-XXBD. • Pressure seal between valve and base : 16083.
  - Pilot valve : 150B-XXBD, including mounting screws 32180 and adaptor plate N-03001.
  - Mounting screw valve to base (x4) : 32396.

- Options :
- BSPP threads. • Lights in base.

**DIMENSIONS**

Dimensions shown are metric (mm)



Port size	A	B	C	D	E	F
3/4", 1" NPTF	111.3	132.4	23.8	31.7	63.5	71.4
1 1/4" NPTF	114.3	148.3	30.2	38.1	76.2	65.0
1 1/2" NPTF				35.0	69.9	68.0