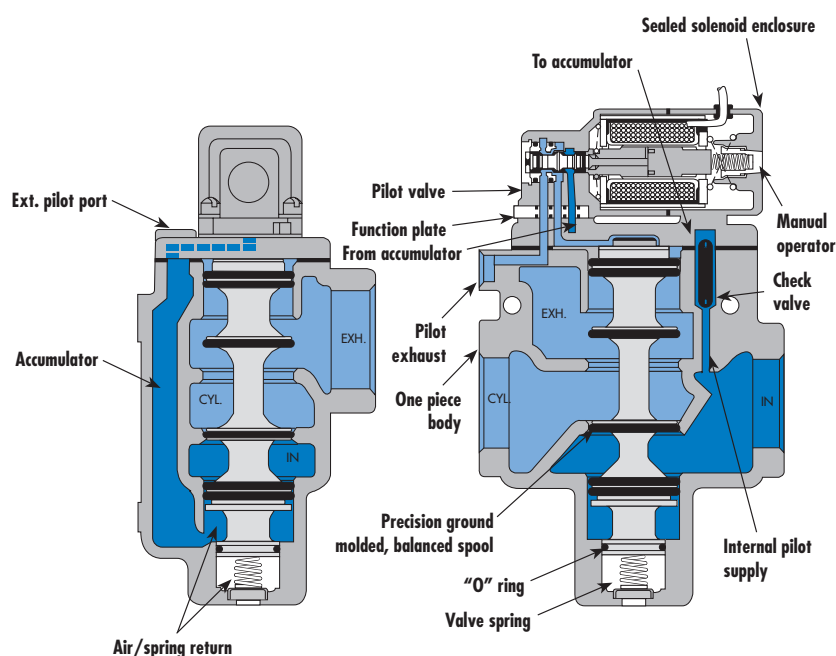


Direct solenoid and solenoid pilot operated valves

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.
- A large checked accumulator which supplies the pilot and air/spring return for consistent shifting.
- A triple rated coil for 120/60, 110/50 or 24 VDC (6 Watt).
- Use on lube or non-lube service.
- Various types of manual operators and solenoid enclosures.
- Optional low wattage DC coils down to 1 watt.



VALVE CONFIGURATIONS AVAILABLE

- 3-Way Normally Open (solenoid) or Normally Closed (solenoid or remote air).
- 2-Way (by plugging Exhaust port), Normally Open (solenoid) & Normally Closed (solenoid or remote air).
- Internal pilot or External pilot for vacuum to 1.7 bar main valve pressures on solenoid models.

SERIES FEATURES-REMOTE AIR PILOT OPERATED VALVES

The remote air versions feature:

- A large checked accumulator for air/spring return.
- Balanced spool unaffected by back pressure in the exhaust and may be plugged for 2-way operation.
- Use on lube or non-lube service.

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 "3-C" (3-way N.C.) visible.
- 3-way Normally Open-All 3 main valve ports utilized and function plate placed with "3-O" (3-way N.O.) visible.

- 2-way Normally Closed-Same as 3-way N.C. but also plug the Exhaust port.
- 2-way Normally Open-Same as 3-way N.O. but also plug the Exhaust port.
- Selector-Pipe higher pressure to the Inlet port and lower pressure to the Exhaust port.
- Internal Pilot-Utilized for main valve pressures of 1.7-10 bar. 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 1.7 bar. If converting from an Internal Pilot model, remove the 1/8" pipe plug from the External Pilot and remove adapter plate. Remove check rod from the body and install an 1/8" pipe plug in the check rod hole and pipe an external supply greater than 1.7 bar to the External Pilot port. For vacuum service, make the vacuum connection to the Exhaust port and leave the Inlet port open to atmosphere.

N.C.-N.O. OPERATIONS:

SOLENOID MODELS:

With the pilot valve available either N.C. or N.O., simply by inverting the function plate, and using the N.C. main spool, N.C or NO main valve functions are achieved.

REMOTE AIR MODELS:

On remote air pilot operated models, N.O. pilot signal must be used for a N.C. main valve function.

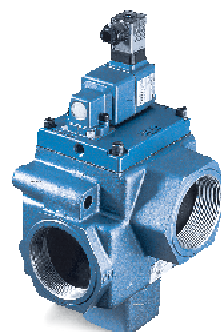


Direct solenoid and solenoid pilot operated valves



Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC, 2/2 NO-NC	G2" - G2 1/2"	60000 NI/min	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
			
G2"	Internal	59B-15- XXYYZZ	59B-25- XXYYZZ
G2 1/2"	Internal	59B-16- XXYYZZ	59B-26- XXYYZZ
G2"	External	59B-35- XXYYZZ	59B-45- XXYYZZ
G2 1/2"	External	59B-36- XXYYZZ	59B-46- XXYYZZ

SOLENOID OPERATOR ►

XX Y ZZ*

XX Voltage	Y Manual operator	ZZ Electrical connection
11 110V~/50Hz	0 No operator	JA Square connector
12 220V~/50Hz	1 Non-locking	JC Square connector with light
22 24V~/50Hz	2 Locking	BA Flying leads (45 cm)
52 24V~/2,5W		
78 24V~/24W		
61 24V~/8,5W		

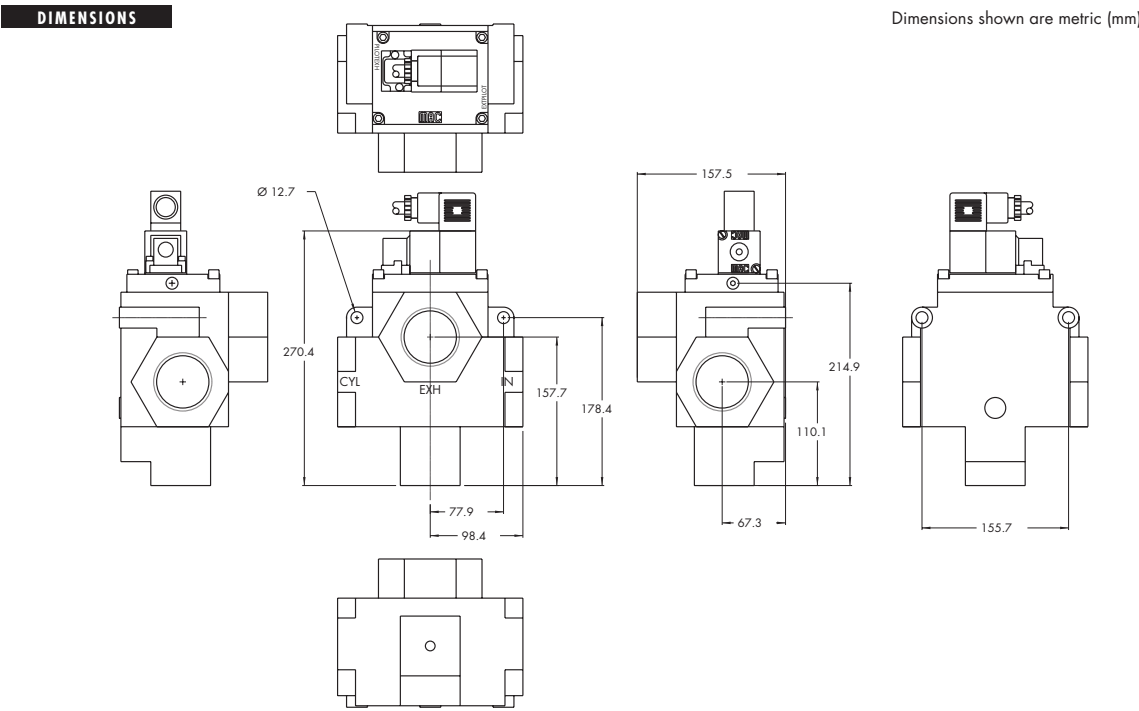
* Other options available, see page 305.

Note : Exhaust port is G2 1/2"



TECHNICAL DATA	
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Internal pilot : 1.7 to 10 bar External pilot : vacuum to 10 bar
Pilot pressure :	1.7 to 10 bar (Not to exceed main valve pressure by more than 3.3 bar)
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	-18°C to 50°C (0°F to 120°F)
Flow (at 6 bar, ΔP=1bar) :	G2" : 55000 NI/min, G2 1/2" : 60000 NI/min
Coil :	1 General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Protection :	Consult factory
Power :	~ Inrush : 33 VA Holding : 19.7 VA = 1 to 24 W
Response times :	24 V=/8.5 W Energize : 38 ms De-energize : 25ms 50 Hz/6 W Energize : 35-45 ms De-energize : 25-34 ms

- Spare parts :
- Solenoid operator (power ≥ 6 W) : D4-XXAAB, cover mounting screws 32222 and seal B5-6001.
 - Pilot valve : 250B-XXYZZ, including mounting screws 32203 and function plate A2-7005.
 - Check valve : 70019.
- Options :
- NPTF threads.



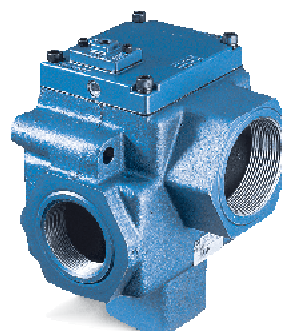


Remote air valves

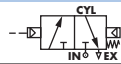
Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC, 2/2 NO-NC	G2" - G2 1/2"	65000 NI/min	Inline

OPERATIONAL BENEFITS

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



HOW TO ORDER

Port size	Air spring	NC valve
G2"	Internal	 59B-55-RA
G2 1/2"		59B-56-RA
G2"	External	59B-55-RE
G2 1/2"		59B-56-RE

Air pilot port : G1/8".

Note: Designation "RE" required on remote air pilot models with main valve pressures of vacuum to 1.7 bar. "RE" provides an external pilot port and should have a pressure range of 1.7-5 bar. Since the external pilot supplies the air spring, it must not exceed the remote air pilot signal pressure.



TECHNICAL DATA	
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 10 bar
Air signal pressure :	1.7 to 10 bar ≥ main valve pressure
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)
Filtration :	40 µ
Temperature range :	-18°C to 50°C (0°F to 120°F)
Flow (at 6 bar, ΔP=1bar) :	G2" : 60000 NI/min, G2 1/2" : 65000 NI/min

- Spare parts :
- Remote air pilot block : R-59003.
 - Check valve : 70019.
- Options :
- NPTF threads.

DIMENSIONS

Dimensions shown are metric (mm)

