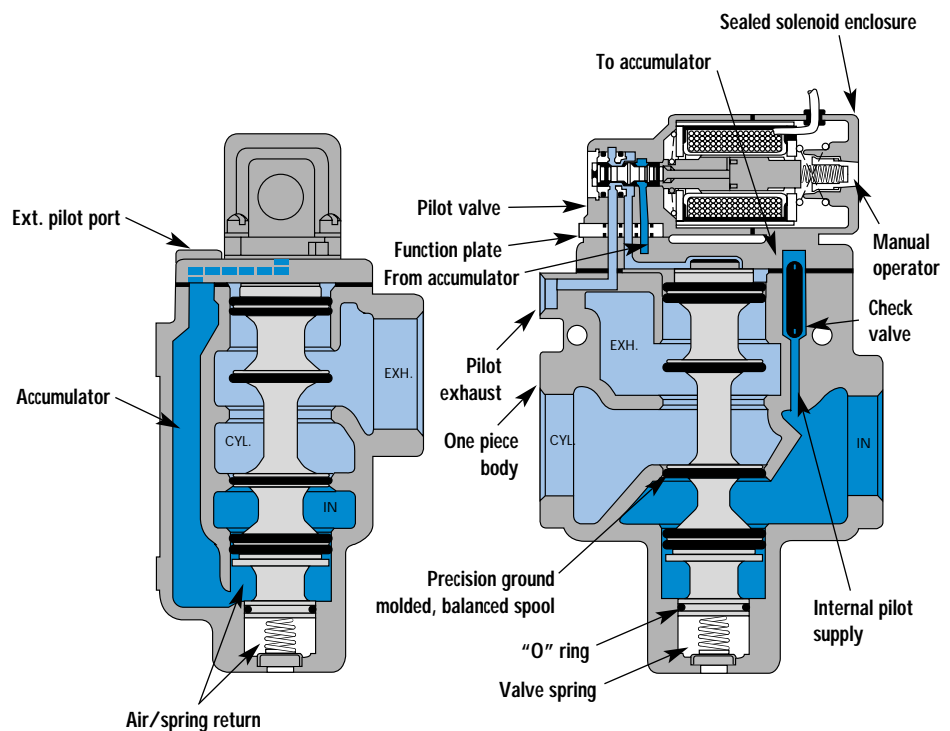


Individual mounting

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.
- Optional explosion proof models designed to meet UL & CSA standards for Class I, Groups B, C, D and Class II, Groups E, F and G. (NEMA equivalent of Class I is NEMA 7; Class II is NEMA 9).

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 25 PSI 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 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 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 25 PSI 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.

Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC, 2/2 NO-NC	2" - 2 1/2"	60.0 C _v	inline

OPERATIONAL BENEFITS

- Balanced spool, immune to variations of pressure.
- Short stroke with high flow.
- Large spool area 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.



HOW TO ORDER

Port size	Pilot air	NC only valve NC pilot - NC spool	NO only valve NO pilot - NC spool
2" NPTF	Internal	59B-12- XXYZZ	59B-22- XXYZZ
2 1/2" NPTF	Internal	59B-13- XXYZZ	59B-23- XXYZZ
2" NPTF	External	59B-32- XXYZZ	59B-42- XXYZZ
2 1/2" NPTF	External	59B-33- XXYZZ	59B-43- XXYZZ

SOLENOID OPERATOR ▶

XX Y ZZ

XX	Voltage	Y	Manual operator	ZZ	Electrical connection
11	120/60, 110/50, 24 VDC (6.0 W)	0	No operator	JA	Square connector
12	240/60, 220/50	1	Non-locking	JC	Square connector with light
22	24/60, 24/50	2	Locking	BA	Flying leads (18")
52	24 VDC (2.5 W)			CA	Conduit 1/2" NPS
78	24 VDC (24.0 W)			EA	Hazardous location
61	24 VDC (8.5 W)				

Note : Hazardous location option supplied with no manual operator ("0"). DC voltage not available below 6 Watts.

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) :	2" (55.0 C _v), 2 1/2" C _v (60.0 C _v)		
Leak rate :	150 cm ³ /min		
Coil :	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 VDC (8.5 W)	Energize : 38 ms	De-energize : 25ms
	120/60	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 : • BSPP threads.

DIMENSIONS

Dimensions shown are metric (mm)

