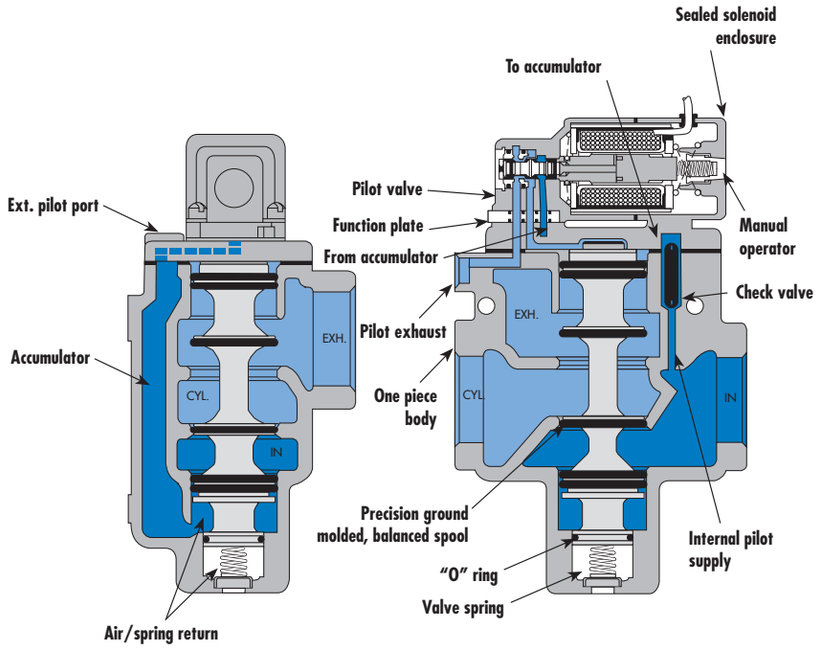
Series 57

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.

Check the warranty page 277

Series **57**

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 Exhaust port), Normally Open or Normally Closed (solenoid or remote air).
- Internal pilot or External pilot for vacuum to 1.7 bar main valve pressures on solenoid models.
- Manual and mechanical operators available.

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 1/4'' 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 1/4" pipe plug and check rod from the External Pilot port and install a 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, 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.

Check the warranty page 277

MAC

Series **57**

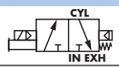
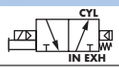
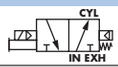
Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC, 2/2 NO-NC	**G1/2" - G3/4" - G1"**	**17400 Nl/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	NO only valve NC pilot - NO spool
				
G1/2"	Internal	57D-14-***XXYZZ***	57D-24-***XXYZZ***	57D-64-***XXYZZ***
G3/4"		57D-15-***XXYZZ***	57D-25-***XXYZZ***	57D-65-***XXYZZ***
G1"		57D-16-***XXYZZ***	57D-26-***XXYZZ***	57D-66-***XXYZZ***
G1/2"	External	57D-34-***XXYZZ***	57D-44-***XXYZZ***	57D-74-***XXYZZ***
G3/4"		57D-35-***XXYZZ***	57D-45-***XXYZZ***	57D-75-***XXYZZ***
G1"		57D-36-***XXYZZ***	57D-46-***XXYZZ***	57D-76-***XXYZZ***

SOLENOID OPERATOR ➤ ***XX Y ZZ*** *

XX	**Voltage**
11	110V~/50Hz
12	220V~/50Hz
22	24V~/50Hz
52	24V=/2,5W
78	24V=/24W
61	24V=/8,5W

Y	**Manual operator**
0	No operator
1	Non-locking
2	Locking

ZZ	**Electrical connection**
JA	Square connector
JC	Square connector with light
BA	Flying leads (45 cm)

* Other options available, see page 305.

Note : Exhaust port is G1"

MAC

Series **57**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

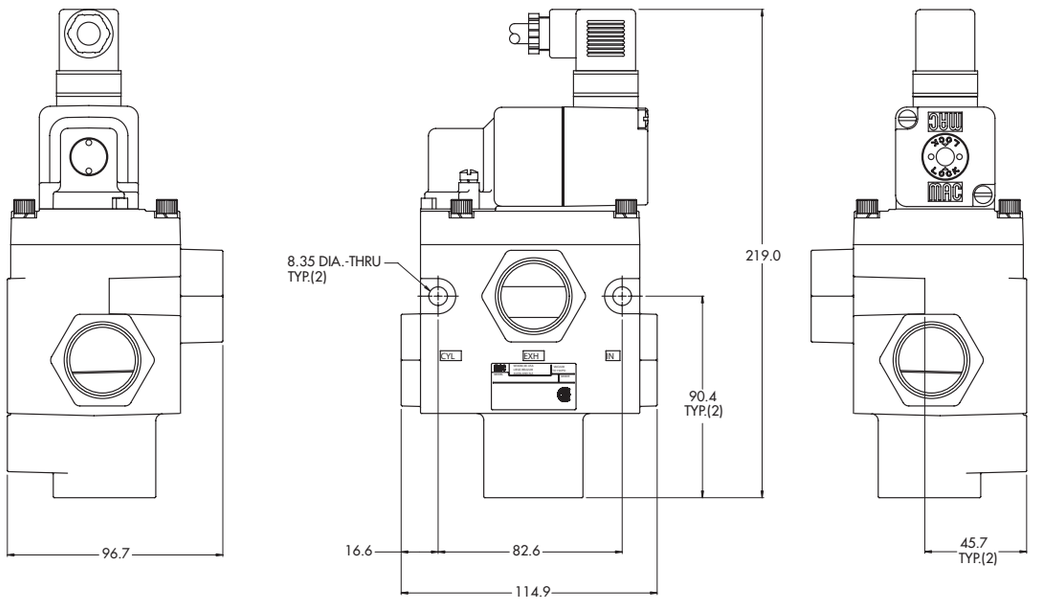
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.7 to 10 bar External pilot : vacuum to 10 bar		
Pilot pressure :	1.7 to 10 bar (Not to exceed main valve pressure by more than 3.3 bar)		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 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) :	Norm. Closed : G1/2" : 9000 Nl/min, G3/4" : 12700 Nl/min, G1" : 15900 Nl/min, Norm. Open : G1/2" : 10000 Nl/min, G3/4" : 13700 Nl/min, G1" : 17400 Nl/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 V=/8.5 W	Energize : 23 ms	De-energize : 13ms
	50 Hz/6 W	Energize : 9-16 ms	De-energize : 11-22 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.

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 312 before use, installation or service of MAC Valves.

Check the warranty page 277

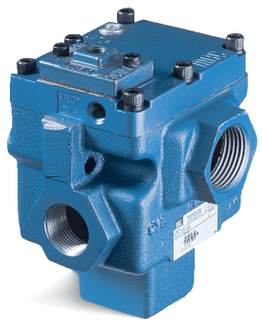
MAC

Series 57

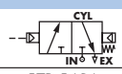
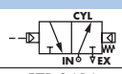
Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC, 2/2 NO-NC	**G1/2" - G3/4" - G1"**	**17400 Nl/min**	Inline

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	NO valve
			
G1/2"	Internal	57D-54-RA	57D-84-RA
G3/4"		57D-55-RA	57D-85-RA
G1"		57D-56-RA	57D-86-RA
G1/2"	External	57D-54-RE	57D-84-RE
G3/4"		57D-55-RE	57D-85-RE
G1"		57D-56-RE	57D-86-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.

Check the warranty page 277

Series 57

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

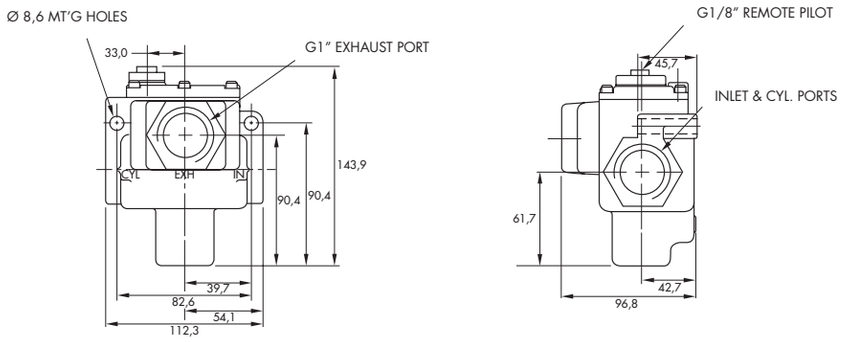
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 10 bar
Air signal pressure :	1.7 to 10 bar ≥ main valve pressure
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)
Filtration :	40 µ
Temperature range :	-18°C to 50°C (0°F to 120°F)
Flow (at 6 bar, ΔP=1bar) :	G1/2" : 11000 Nl/min, G3/4" : 15300 Nl/min, G1" : 17400 Nl/min

Spare parts : • Remote air pilot block : R-59003. • Check valve : 70019.

Options : • NPTF threads.

DIMENSIONS

Dimensions shown are metric (mm)



Check the warranty page 277