

Individual mounting

Series

inline	
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Manifold mounting

stacking	sub-base non "plug-in"	sub-base with pressure regulators
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**35**

100

200

55

56

57

58

59

45

700

900

82

6300

6500

6600

1300

800

ISO 1

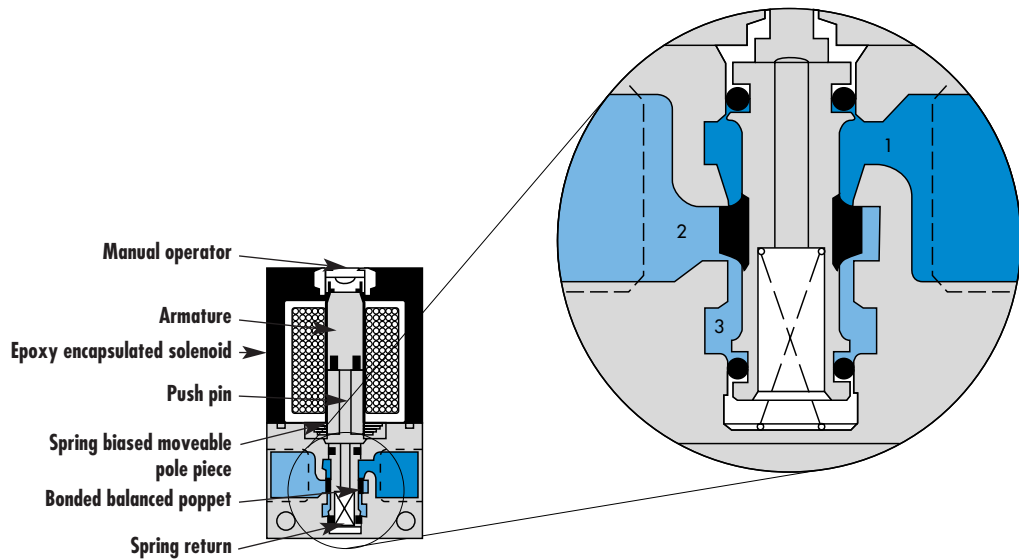
ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A



**SERIES FEATURES**

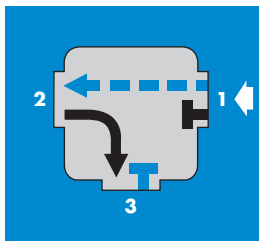
- Patented MACSOLENOID<sup>®</sup> for fastest possible response times.
- Bonded balanced poppet for high flow, precise repeatability, and consistent operation.
- Balanced poppet permits versatility in function — may be used as 3-way or 2-way normally open or normally closed and may be used for vacuum, divertor, or selector applications.
- Extremely high cycle rate capability.
- Use on lube or non-lube service.
- Manual overrides as standard.
- Various solenoid enclosures and plug-in connectors.
- Optional surge suppression (M.O.V. or Diode) available.
- Low wattage DC solenoids — down to 1.8 watts.
- Patented MACSOLENOID<sup>®</sup> — virtually burn-out proof on AC service.

**VALVE CONFIGURATIONS AVAILABLE :**

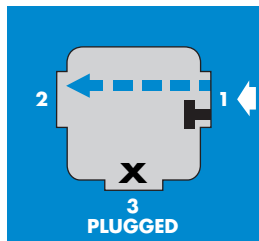
The 35 Series is a miniature 3 way or 2 way valve.  
This valve provides extremely fast response, long life and high flow in a surprisingly small package.

- Individual, stacking body or manifold base.
- 3 way—Normally Open or Normally Closed.
- 2 way—Normally Open or Normally Closed.
- Optional Normally Closed Only Models.
- Selectors & Divertors.

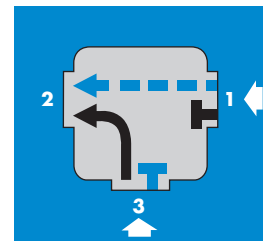
**PIPING CHART FOR INDIVIDUAL MODELS**



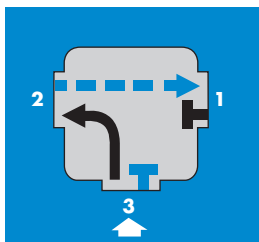
**3 Way  
Normally Closed**



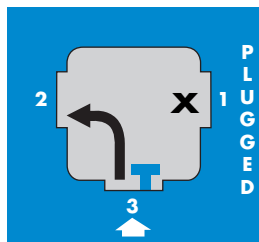
**2 Way  
Normally Closed**



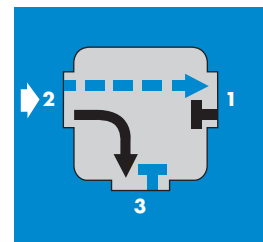
**Selector**



**3 Way  
Normally Open**



**2 Way  
Normally Open**



**Divertor**

Supply 

Operator De-Energized 

Operator Energized 

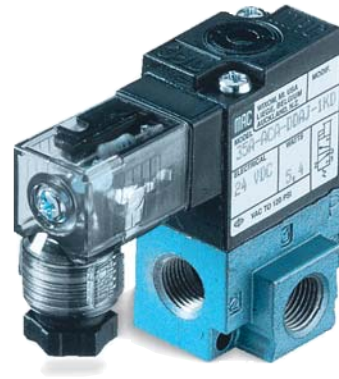


# Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow (Max)	Individual mounting	Series
<b>3/2 NO-NC, 2/2 NO-NC</b>	<b>1/8"</b>	<b>0.17 C<sub>v</sub></b>	inline	

### OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



35

100

200

55

56

57

58

59

### HOW TO ORDER

Port size	Universal valve	NC only valve
<b>1/8" NPTF</b>	35A-AAA-D <b>xxx-xxx</b>	35A-AAB-D <b>xxx-xxx</b>

45

### SOLENOID OPERATOR >

D **XX X- X XX**\*

XX Voltage	X Wire length	X Manual operator	XX Electrical connection
<b>AA</b> 120/60, 110/50	<b>A</b> 18" (Flying leads)	<b>1</b> Non-locking	<b>KA</b> Square connector
<b>AB</b> 240/60, 220/50	<b>J</b> Connector	<b>2</b> Locking	<b>KD</b> Square connector with light
<b>AC</b> 24/60, 24/50			<b>JB</b> Rectangular connector
<b>FB</b> 24 VDC (1.8 W)			<b>JD</b> Rectangular connector with light
<b>DA</b> 24 VDC (5.4 W)			<b>BA</b> Flying leads
<b>DF</b> 24 VDC (12.7 W)			

700

900

82

\* Other options available, see page 353.

### OPTIONS

35A-CAX-D**xxx-xxx**

- with (2) # 10-32 ports in backside of valve

6300

6500

6600

1300

800

ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

**TECHNICAL DATA**

<b>Fluid :</b>	Compressed air, vacuum, inert gases		
<b>Pressure range :</b>	Vacuum to 120 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>	1.8 W : 0.08 C <sub>v</sub> , 5.4 W : 0.15 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 : 10.9 VA    Holding : 7.7 VA = 1.8 to 12.7 W		
<b>Response times :</b>	24 VDC (5.4 W)	Energize : 6 ms	De-energize : 2 ms
	120/60	Energize : 3-8 ms	De-energize : 2-7 ms

Spare parts :

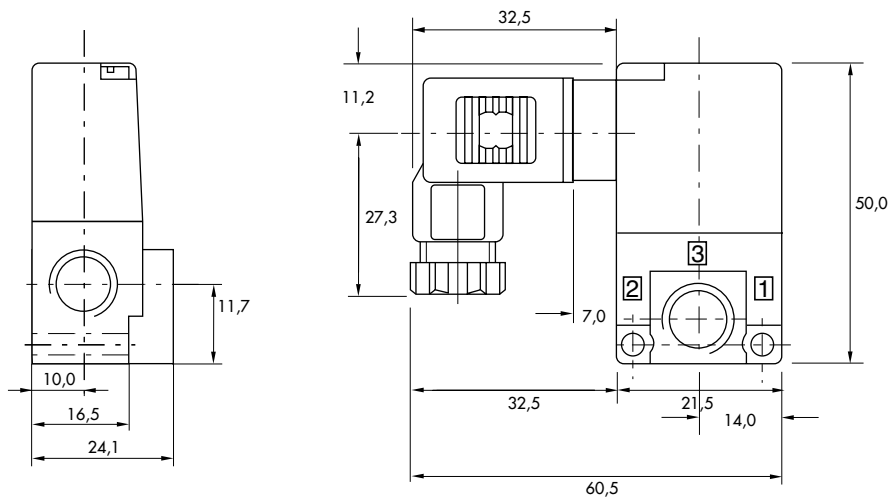
- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal (between solenoid and valve body) : 16402.

Options :

- BSPP threads. • High flow up to 0.25 C<sub>v</sub>, according to wattage and high flow mod.

**DIMENSIONS**

Dimensions shown are metric (mm)



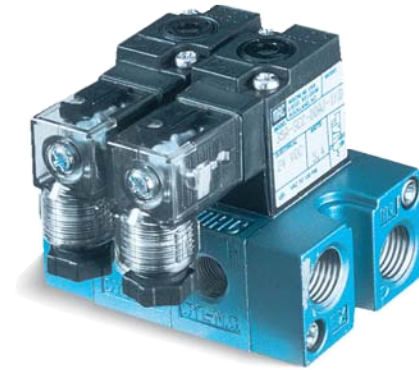


# Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow (Max)	Manifold mounting	Series
<b>3/2 NO-NC, 2/2 NO-NC</b>	<b># 10-32, 1/8"</b>	<b>0.16 C<sub>v</sub></b>	stacking	

### OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



35

100

200

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57

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### HOW TO ORDER

Port size	NC only valve	NO only valve
<b>1/8" NPTF</b>	35A-SAC-Dxxx-xxx	35A-SAD-Dxxx-xxx
<b># 10-32 UNF</b>	35A-SBC-Dxxx-xxx	35A-SBD-Dxxx-xxx

45

### SOLENOID OPERATOR >

D **XX X- X XX**\*

XX Voltage	X Wire length	X Manual operator	XX Electrical connection
<b>AA</b> 120/60, 110/50	<b>A</b> 18" (Flying leads)	<b>1</b> Non-locking	<b>KA</b> Square connector
<b>AB</b> 240/60, 220/50	<b>J</b> Connector	<b>2</b> Locking	<b>KD</b> Square connector with light
<b>AC</b> 24/60, 24/50			<b>BA</b> Flying leads
<b>FB</b> 24 VDC (1.8 W)			
<b>DA</b> 24 VDC (5.4 W)			
<b>DF</b> 24 VDC (12.7 W)			

700

900

82

\* Other options available, see page 353.

End plate kit required (Port size : 1/4") : M-35001-01  
 Note : upon request, manifolds are mounted at the factory.

### OPTIONS

35A-TXX-Dxxx-xxx  
 - Bottom Inlet

6300

6500

6600

1300

800

ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

**TECHNICAL DATA**

<b>Fluid :</b>	Compressed air, vacuum, inert gases		
<b>Pressure range :</b>	Vacuum to 120 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>	1.8 W : 0.12 C <sub>v</sub> , 5.4 to 12.7 W : 0.16 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 : 10.9 VA      Holding : 7.7 VA = 1.8 to 12.7 W		
<b>Response times :</b>	24 VDC (5.4 W)	Energize : 6 ms	De-energize : 2 ms
	120/60	Energize : 3-8 ms	De-energize : 2-7 ms

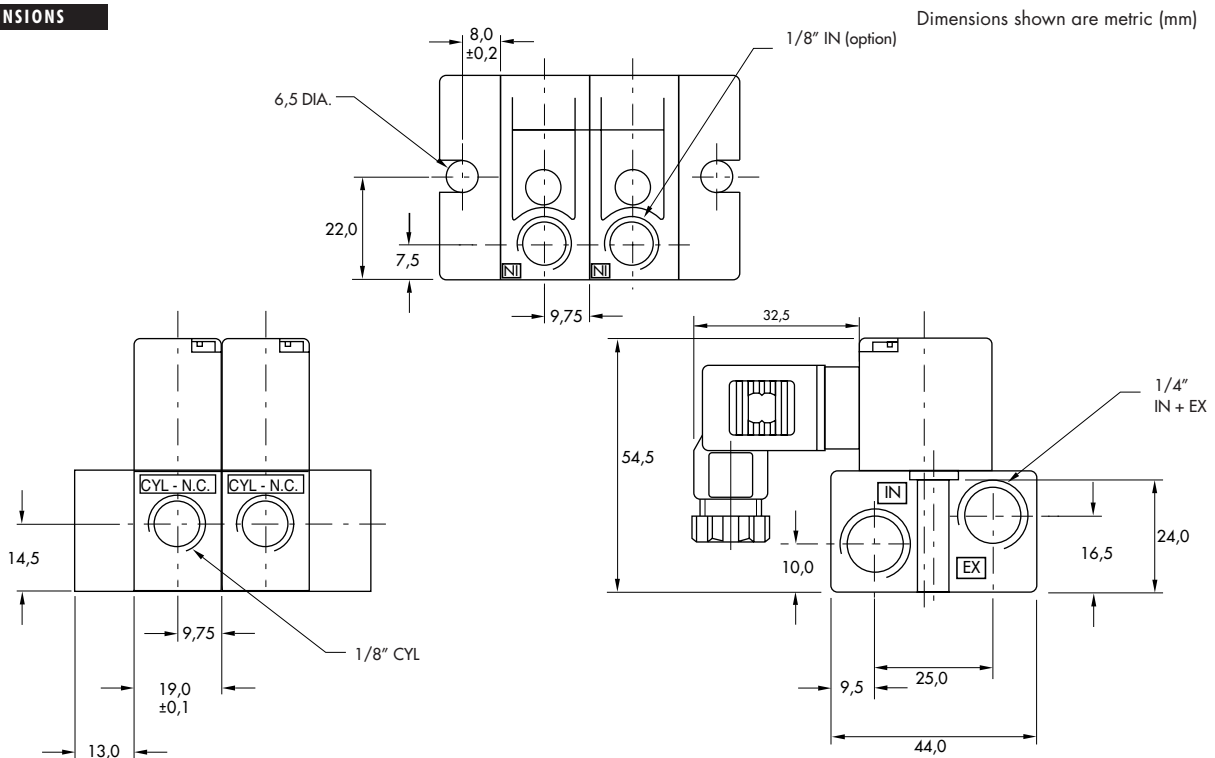
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal (between solenoid and valve body) : 16402. • Pressure seal (between valves) : 16433.
- Tie-rod (x2) : 19813. • Inlet isolator : N-35002. • Exhaust isolator : N-35003. • Inlet & Exhaust isolator : N-35001.

Options :

- BSPP threads. • High flow up to 0.25 C<sub>v</sub>, according to wattage and high flow mod.

**DIMENSIONS**





# Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow (Max)	Manifold mounting	Series
<b>3/2 NO-NC, 2/2 NO-NC</b>	<b># 10-32, 1/8"</b>	<b>0.10 C<sub>v</sub></b>	sub-base non "plug-in"	

### OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



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100

200

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57

58

59

45

700

900

82

6300

6500

6600

1300

800

ISO 1

ISO 2

ISO 3

MAC 125A

MAC 250A

MAC 500A

### HOW TO ORDER

#### SIDE CYLINDER PORTS

Port size	Norm. closed Manifold base	Norm. open Manifold base
<b>Valve less base (universal)</b>	35A-B00-Dxxx-xxx	35A-B00-Dxxx-xxx
<b># 10-32 UNF base</b>	35A-BBE-Dxxx-xxx	35A-BBF-Dxxx-xxx
<b>1/8" NPTF base</b>	35A-BAE-Dxxx-xxx	35A-BAF-Dxxx-xxx

#### BOTTOM CYLINDER PORTS

Port size	Norm. closed Manifold base	Norm. open Manifold base
<b>Valve less base (universal)</b>	35A-B00-Dxxx-xxx	35A-B00-Dxxx-xxx
<b># 10-32 UNF base</b>	35A-BGE-Dxxx-xxx	35A-BGF-Dxxx-xxx
<b>1/8" NPTF base</b>	35A-BFE-Dxxx-xxx	35A-BFF-Dxxx-xxx

#### SOLENOID OPERATOR ▶

D **XX X- X XX**\*

XX Voltage	X Wire length	X Manual operator	XX Electrical connection
AA 120/60, 110/50	A 18" (Flying leads)	1 Non-locking	KA Square connector
AB 240/60, 220/50	J Connector	2 Locking	KD Square connector with light
AC 24/60, 24/50			BA Flying leads
FB 24 VDC (1.8 W)			
DA 24 VDC (5.4 W)			
DF 24 VDC (12.7 W)			

\* Other options available, see page 353.

End plate kit required (Port size : 1/4") : M-35003-01

Note : upon request, manifolds are mounted at the factory.

### OPTIONS

35A-EXX-Dxxx-xxx	35A-FXX-Dxxx-xxx	35A-OXX
- N.C. only valve	- universal w/gage port	- no valve body (base only)

**TECHNICAL DATA**

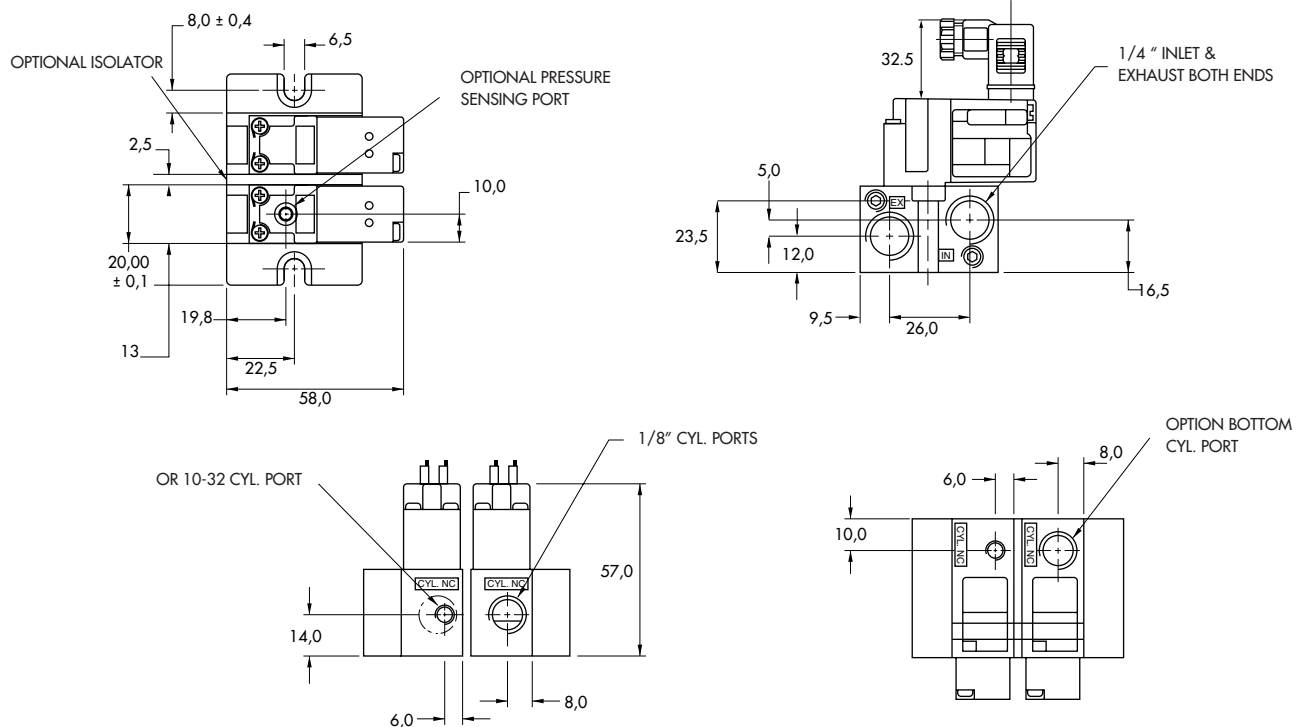
<b>Fluid :</b>	Compressed air, vacuum, inert gases		
<b>Pressure range :</b>	Vacuum to 120 PSI		
<b>Lubrication :</b>	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)		
<b>Filtration :</b>	40 µ		
<b>Temperature range :</b>	0°F to 120°F (-18°C to 50°C)		
<b>Flow (at 6 bar, ΔP=1bar) :</b>	1.8 W : 0.09 C <sub>v</sub> , 5.4 to 12.7 W : 0.1 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 : 10.9 VA    Holding : 7.7 VA = 1.8 to 12.7 W		
<b>Response times :</b>	24 VDC (5.4 W)	Energize : 6 ms	De-energize : 2 ms
	120/60	Energize : 3-8 ms	De-energize : 2-7 ms

- Spare parts :
- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
  - Seal (between solenoid and valve body) : 16402. • Pressure seal (between valve and base) : 16447.
  - Pressure seal (between bases) : 16461. • Tie-rod (x2) : 19753. • Inlet isolator : N-35007. • Exhaust isolator : N-35008.
  - Inlet & Exhaust isolator : N-35006.

- Options :
- BSPP threads. • High flow up to 0.18 C<sub>v</sub>, according to wattage and high flow mod.

**DIMENSIONS**

Dimensions shown are metric (mm)







# Direct solenoid and solenoid pilot operated valves

Function	Port size	Flow (Max)	Manifold mounting	Series
<b>3/2 NO-NC, 2/2 NO-NC</b>	<b># 10-32, 1/8"</b>	<b>0.10 C<sub>v</sub></b>	sub-base with pressure regulators	

### OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



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

### HOW TO ORDER

#### SIDE CYLINDER PORTS

Port size	Norm. closed Manifold base	Norm. open Manifold base
<b>Valve less base (universal)</b>	35A-B00-Dxxx-xxx	35A-B00-Dxxx-xxx
<b># 10-32 UNF base</b>	35A-BBJ-Dxxx-xxx	35A-BBK-Dxxx-xxx
<b>1/8" NPTF base</b>	35A-BAJ-Dxxx-xxx	35A-BAK-Dxxx-xxx

#### BOTTOM CYLINDER PORTS

Port size	Norm. closed Manifold base	Norm. open Manifold base
<b>Valve less base (universal)</b>	35A-B00-Dxxx-xxx	35A-B00-Dxxx-xxx
<b># 10-32 UNF base</b>	35A-BGJ-Dxxx-xxx	35A-BGK-Dxxx-xxx
<b>1/8" NPTF base</b>	35A-BFJ-Dxxx-xxx	35A-BFK-Dxxx-xxx

#### SOLENOID OPERATOR >

D **XX X- X XX**\*

XX Voltage	X Wire length	X Manual operator	XX Electrical connection
<b>AA</b> 120/60, 110/50	<b>A</b> 18" (Flying leads)	<b>1</b> Non-locking	<b>KA</b> Square connector
<b>AB</b> 240/60, 220/50	<b>J</b> Connector	<b>2</b> Locking	<b>KD</b> Square connector with light
<b>AC</b> 24/60, 24/50			<b>BA</b> Flying leads
<b>FB</b> 24 VDC (1.8 W)			
<b>DA</b> 24 VDC (5.4 W)			
<b>DF</b> 24 VDC (12.7 W)			

\* Other options available, see page 353.

End plate kit required (Port size : 1/4") : M-35003-01

Note : upon request, manifolds are mounted at the factory.

### OPTIONS

35A-EXX-Dxxx-xxx	35A-FXX-Dxxx-xxx	35A-OXX
- N.C. only valve	- universal w/gage port	- no valve body (base w/regulator)

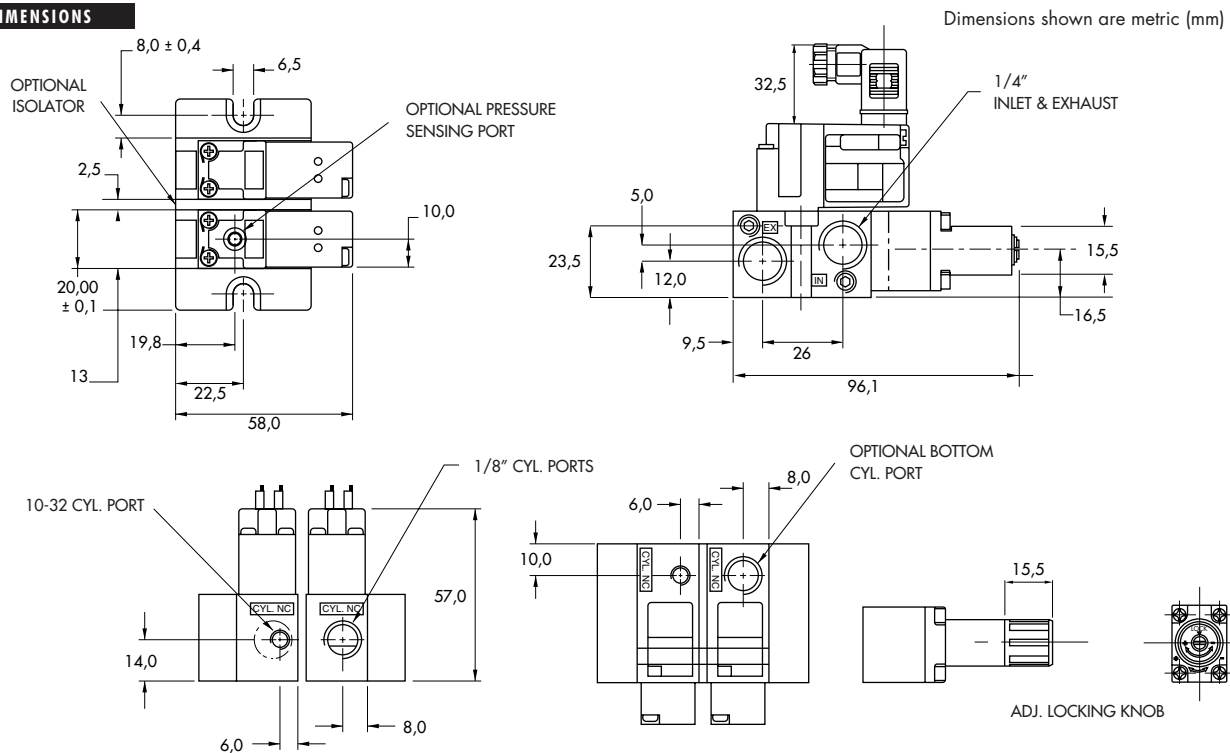
**TECHNICAL DATA**

<b>Fluid :</b>	Compressed air, vacuum, inert gases		
<b>Pressure range :</b>	Vacuum to 120 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>	1.8 W : 0.09 C <sub>v</sub> , 5.4 to 12.7 W : 0.1 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 : 10.9 VA    Holding : 7.7 VA = 1.8 to 12.7 W		
<b>Response times :</b>	24 VDC (5.4 W)	Energize : 6 ms	De-energize : 2 ms
	120/60	Energize : 3-8 ms	De-energize : 2-7 ms

- Spare parts :
- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
  - Seal (between solenoid and valve body) : 16402. • Pressure seal (between valve and base) : 16447.
  - Pressure seal (between bases) : 16461. • Tie-rod (x2) : 19753. • Inlet isolator : N-35007. • Exhaust isolator : N-35008.
  - Inlet & Exhaust isolator : N-35006. • Pressure regulator : 35A-00M (ADJ, KNOB) - 35A-00L (SLOTTED STEM).

- Options :
- BSPP threads. • High flow up to 0.18 C<sub>v</sub>, according to wattage and high flow mod.

**DIMENSIONS**



**HOW TO ORDER**



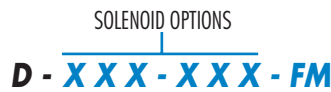
BODY TYPE	PORT SIZE	VALVE FUNCTION/MANIFOLD TYPE
<b>Inline</b> <b>A</b> Individual Inline <b>D</b> Indiv. Inline w/2 Manifold Mount Ports <b>Manifold</b> <b>E</b> Manifold Body (N.C. Only) <b>G</b> Manifold Body w/Gage Port (N.C. Only)	<b>O</b> Manifold Body Only <b>B</b> #10-32 UNF (Inline Only) <b>D</b> M5 (Inline Only)	<b>O</b> Manifold Body Only <b>B</b> 3 way N.C. Only (Inline)  Note : there is no manifold base for the 35 series. The manifold valve can only mount to a circuit bar, see note below



BODY TYPE	PORT SIZE	VALVE FUNCTION/MANIFOLD TYPE
<b>Inline</b> <b>A</b> 4 Port Body <b>B</b> 5 Port Body <b>D</b> 4 Port Body "O" Ring Mount -All Bottom Ports <b>E</b> 5 Port Body "O" Ring Mount -3 Bottom Ports Inlet and Cylinders <b>F</b> 4 Port Body "O" Ring Mount-Bottom Cylinder Ports Only <b>Base Mount</b> <b>O</b> For Base Only - No Valve <b>L</b> Base Mount Body <b>M</b> Base Mount Body with Gage Port	<b>O</b> Manifold Body Only <b>A</b> 1/8" NPT <b>B</b> #10-32 UNF <b>C</b> 1/8" BSPPL <b>D</b> M5 (Metric) <b>F</b> #10-32 UNF Bottom Ports <b>G</b> M5 Bottom Ports <b>H</b> "O" Ring Mount Ports <b>J</b> 1/8" NPT Bottom Ports <b>K</b> 1/8" BSPPL Bottom Ports	<b>Inline</b> <b>1</b> No Flow Controls <b>Bases - Regulators</b> <b>O</b> Valve Only - No Base <b>A</b> Individual Base <b>C</b> Manifold Base <b>E</b> Manifold w/Regulator w/Slotted Stem <b>G</b> Manifold w/Regulator w/Locking Slotted Stem <b>J</b> Manifold w/Regulator w/Locking Knob

**MANIFOLD MOUNT ACCESSORIES**

- M-45008-01** End Plate Kit
- 16455** Pressure Seal Between Manifold
- 19753** Tie Rod
- N-45008** Isolator Kit - Inlet and Exhaust
- N-45009** Isolator Kit - Inlet only
- N-45010** Isolator Kit - Exhaust only
- N-45015** End Cover Plate - Plain
- N-45016** End Cover Plate w/Flow Controls
- N-45017** Flow Control Needle Assembly



VOLTAGE	LEAD LENGTH	MANUAL OPERATOR	ELECTRICAL CONNECTION
<b>FR</b> 12VDC (0.6 W) <b>FS</b> 24VDC (0.6 W)	<b>A</b> 18" Leads <b>B</b> 24" Leads <b>C</b> 36" Leads <b>D</b> 48" Leads <b>E</b> 72" Leads <b>J*</b> 6" Leads	<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>BA</b> Grommet <b>CA</b> Conduit 1/2" NPS† <b>CM</b> Metal Conduit 1/2" NPS† <b>CN</b> Metal Conduit w/grd. 1/2" NPS† <b>External Plug-in</b> <b>FM</b> Plug-in (For ECD & ECE Bar) <b>JB</b> Rectangular Plug-in† <b>JM</b> Rectangular Male only† <b>KA</b> Mini Plug-in <b>KJ</b> Mini Plug-in Male only <b>TA</b> Dual Tabs (.110) Plain <b>TJ</b> Dual Tabs (.110) Plain

\*Use "J" for external plug-in connectors

NOTE : For valves mounted to a circuit bar reference MAC circuit bar Catalog for ordering info.  
 For the 35 series circuit bar, use MOD FM01 after circuit bar part number.

† Available on individual valves and circuit bars.



0 p t i o n s

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**Codification table for voltages / Wire length / Manual operators / Electrical connections**

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VALVE CODE >

**-DXX X - X XX**  
**1 2 3 4**

**OPTIONS AVAILABLE FOR**

- Solenoid valves 35, 45 and 82 Series

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## 1. VOLTAGE

- D XX X - X XX	VOLTAGE
<b>AA</b>	120/60, 110/50
<b>AB</b>	240/60, 220/50
<b>AC</b>	24/60, 24/50
<b>AD</b>	24/60
<b>AE</b>	200/60
<b>AF</b>	240/50
<b>AG</b>	100/50, 100/60, 110/60
<b>DA</b>	24 VDC (5.4 W)
<b>DB</b>	12 VDC (5.4 W)
<b>DC</b>	12 VDC (7.5 W)
<b>DD</b>	24 VDC (7.3 W)
<b>DE</b>	12 VDC (12.7 W) - CLSFonly
<b>DF</b>	24 VDC (12.7 W) - CLSF only
<b>DK</b>	110 VDC (4.7 W)
<b>DL</b>	64 VDC (6 W)
<b>DM</b>	36 VDC (5.3 W)
<b>DN</b>	6 VDC (6 W)
<b>DP</b>	48 VDC (5.8 W)
<b>DU</b>	24 VDC (6 W)
<b>EA</b>	12 VDC (6 W)
<b>FA</b>	12 VDC (1.8 W)
<b>FB</b>	24 VDC (1.8 W)
<b>FE</b>	12 VDC (2.4 W)
<b>FF</b>	24 VDC (2.4 W)

## 2. WIRE LENGTH

- D XX X - X XX	WIRE LENGTH
<b>A</b>	18"
<b>B</b>	24"
<b>C</b>	36"
<b>D</b>	48"
<b>E</b>	72"
<b>F</b>	96"
<b>J</b>	For external plug-in connector ("J", "K" & "T" type electrical connection)
<b>P</b>	For plug-in valves (82 Series only)

**3. MANUAL OPERATOR**

<b>- D XX X - X XX</b>	<b>MANUAL OPERATOR</b>
<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

**4. ELECTRICAL CONNECTION**

<b>- D XX X - X XX</b>	<b>ELECTRICAL CONNECTION</b>
<b>BA</b>	Flying leads
<b>BK</b>	BA with protection diode
<b>BL</b>	BA with protection varistor (M.O.V.)
<b>** CA</b>	1/2" NPS conduit
<b>** CM</b>	1/2" NPS metal conduit
<b>** CN</b>	1/2" NPS metal conduit w/ground
<b>** JB</b>	Rectangular connector
<b>** JD</b>	Rectangular connector with light
<b>** JM</b>	Rectangular connector, male only
<b>KA</b>	Square connector
<b>KB</b>	Square connector with protection diode
<b>KC</b>	Square connector with protection varistor (M.O.V.)
<b>KD</b>	Square connector with light
<b>KE</b>	Square connector with light and protection diode
<b>KF</b>	Square connector with light and protection varistor (M.O.V.)
<b>KG</b>	Square connector with LED light & diode
<b>KJ</b>	Square connector (male only)
<b>KK</b>	Square connector with protection diode (male only)
<b>KL</b>	Square connector with protection varistor (male only) (M.O.V.)
<b>TA</b>	Dual tabs
<b>TB</b>	TA with protection diode
<b>TD</b>	TA with light
<b>TE</b>	TA with light and protection diode
<b>TJ</b>	Dual tabs (male only)
<b>TK</b>	TJ with protection diode
<b>TM</b>	TJ with light
<b>TN</b>	TJ with light and protection diode
<b>DA*</b>	Plug-in connector
<b>DK*</b>	DA with protection diode
<b>DL*</b>	DA with protection varistor (M.O.V.)
<b>FM</b>	Plug-in
<b>FN</b>	Plug-in with diode
<b>FP</b>	Plug-in with M.O.V.

\* To be used with 82 Series only  
 \*\* Inline valves only for 35 & 45 series. No restrictions for 82 series.