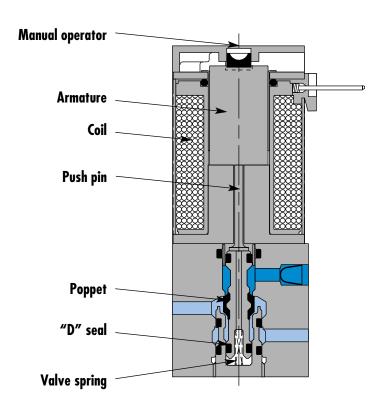


Circuit bar mounting

| non plug-in cylinder ports in base | non plug-in cylinder ports in valve | plug-in | plug-in with F. C. | plug-in with Pr. Reg. | plug-in with Pr. Reg. and F. C. | add-on style plug-in | add-on style plug-in with F. C. |
|--|---|-----------------------------------|---|--|--|-------------------------|---------------------------------------|
| add-on style plug-in with Pr. Reg. | add-on style plug-in with Pr. Reg. and F. C. | plug-in add-a-unit stations | plug-in add-a-unit stations with F. C. | plug-in add-a-unit stations with Pr. Reg. | plug-in add-a-unit stations with F. C. and Pr. Reg. | | |



SERIES FEATURES

- High force MACSOLENOID®.
- Universal porting.
- #10-32 or M5 ports.
- Rated for lubricated or non-lubricated service.
- 10mm direct operated.
- Cylinder port in valve or in circuit bar.



| Function | Port size | Flow (Max) | Circuit bar mounting |
|-----------|-------------|------------|--|
| 3/2 NO-NC | M5 - #10-32 | 110 NL/min | non plug-in cylinder ports in hore |

- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



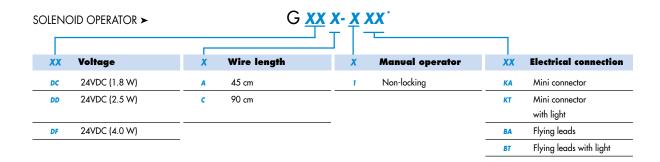




HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-----------------------------|---|---|
| | \square $\uparrow_{T} \upharpoonright_{T} \searrow_{T} W$ | $\begin{array}{c c} & & \\ & & \\ & & \\ \end{array}$ |
| Pressure range : 0 to 8 BAR | 34B-LOO-Gxxx-xxx | 34B-NOO-Gxxx-xxx |



HOW TO ORDER CIRCUIT BAR

| Port size | Side cylinder ports | Bottom cylinder ports |
|-----------|------------------------|------------------------|
| M5 | EBP34B-001D- xx | EBP34B-002D- xx |
| # 10-32 | EBP34B-001B-xx | EBP34B-002B-xx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.







Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 μ

Temperature range : 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W : 110 NL/min, 2.5 W : 84 NL/min, 1.8 W : 61 NL/min

Leak rate : 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

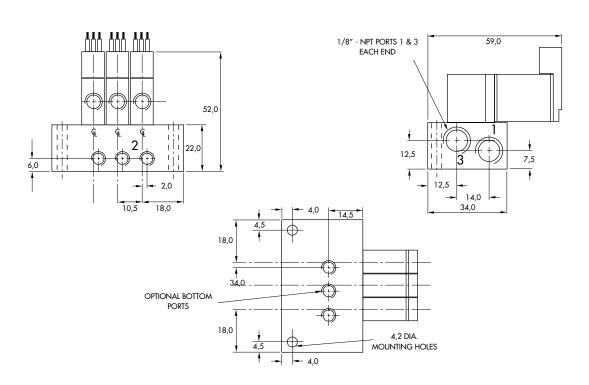
Response times: Energize: 3.4 ms (with 4 W coil)

De-energize: 1.5 ms

• Valve and coil are not interchangeable. Note:

Spare parts : • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Isolation of inlet and/or exhaust. Special bar. Consult factory. Options:





Function Port size (Inlet & Exhaust) Flow (Max) Circuit bar mounting

M5 - 1/8" BSPP 3/2 NO-NC 110 NL/min

OPERATIONAL BENEFITS

- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



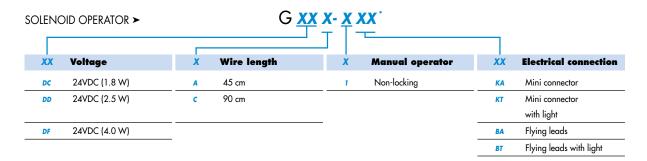




HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Valve port size | Universal valve | NC only valve |
|-----------------|------------------|------------------|
| | | |
| M5 | 34B-ABA-Gxxx-xxx | 34B-ABB-Gxxx-xxx |
| # 10-32 | 34B-AAA-Gxxx-xxx | 34B-AAB-Gxxx-xxx |



HOW TO ORDER CIRCUIT BAR

| Port size COMMON INLET & EXHAUST | |
|-------------------------------------|------------------------|
| M5 | EBM34A-001D- xx |
| 1/8" BSPP | EBM34A-002C-xx |

Number of stations (03=3 stations)

Note: clic for valves mounted on base at the factory, add - 9 to the model number.







Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 μ

Temperature range : $0^{\circ}F$ to $120^{\circ}F$ (- $18^{\circ}C$ to $50^{\circ}C$)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W: 110 NL/min, 2.5 W: 84 NL/min, 1.8 W: 61 NL/min

Leak rate: 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

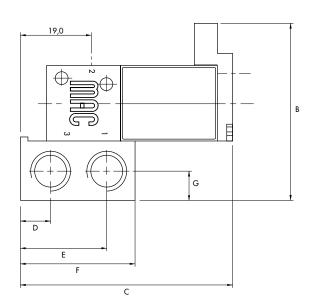
Power: 4 W - 2.5 W - 1.8 W

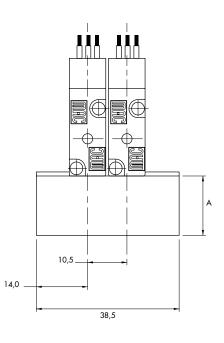
Response times: Energize: 3.4 ms (with 4 W coil) De-energize: 1.5 ms

Note: • Valve and coil are not interchangeable.

• Valve fastening kit: M34001-01 (1/8" Bar); M34001-21 (#10-32 Bar) • Blanking plate: 30456-A. Spare parts :

• Isolation of inlet and/or exhaust. Special bar. Consult factory. Options:





| Port size | A | В | С | D | E | F | G |
|-----------|------|------|------|-----|------|------|-----|
| 1/8" | 16.0 | 47.5 | 57.4 | 8.0 | 23.0 | 31.0 | 8.0 |
| M5 | 12.0 | 43.5 | 51.5 | 9.0 | 18.0 | 26.0 | 6.0 |



| Function | Port size | Floш (Max) | Circuit bar ı | mounting |
|----------|-----------|------------|---------------|----------|
| | | | | |

M5 - #10-32 3/2 NO-NC 100 NL/min plug-in

OPERATIONAL BENEFITS

- $1.\ 10\ mm$ valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.

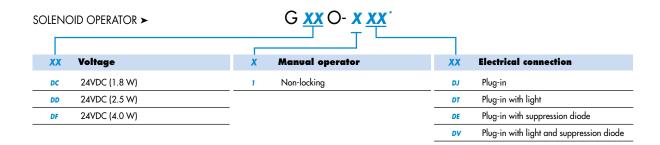




HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|------------------|
| | \square $\uparrow_{T} \upharpoonright_{T} \searrow_{T} W$ | |
| Valve less base | 34B-LOO-GXXO-XXX | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR

| Port size | Side cylinder ports (10.5 mm) | Bottom cylinder ports (10.5 mm) |
|-----------|----------------------------------|------------------------------------|
| M5 | ECD034B-001AD-AOXX | ECD034B-002AD-AOxx |
| # 10-32 | ECD034B-001AB-AOxx | ECD034B-002AB-AOxx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).







TECHNICAL

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 μ

Temperature range : 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min

Leak rate : 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

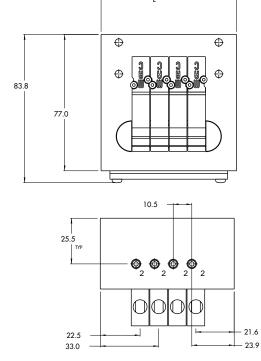
Response times: Energize : 4 ms (with 4 W coil) De-energize: 1.5 ms

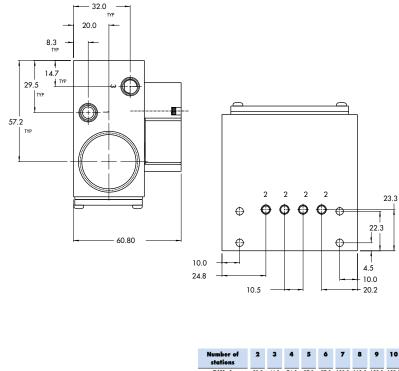
• Valve and coil are not interchangeable. Note:

Spare parts : • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Base wire Plug-in protector : 24180.

• Isolation of inlet and/or exhaust. • BSPP Threads. Options:







| Function | Port size | Flow (Max) | Circuit bar mou | unting |
|-----------|-------------|------------|-----------------------|--------|
| 3/2 NO-NC | M5 - #10-32 | 100 NL/min | plug-in with F. C. | |

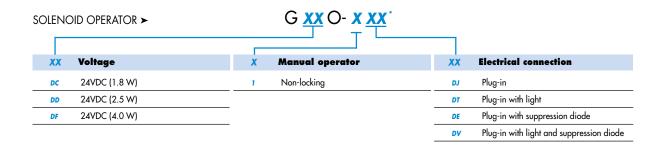
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|---|
| | \square $\uparrow_{T} \upharpoonright \uparrow_{T} w$ | \square |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

| Port size | Side cylinder ports (10.5 mm) | Bottom cylinder ports (10.5 mm) |
|-----------|----------------------------------|------------------------------------|
| M5 | ECD034B-005AD-AOxx | ECD034B-006AD-AOXX |
| # 10-32 | ECD034B-005AB-AOxx | ECD034B-006AB-AOxx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).







TECHNICAL DATA

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication : Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 µ

Temperature range: 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, AP=1bar): 4 W: 100 NL/min, 2.5 W: 90 NL/min, 1.8 W: 70 NL/min

Leak rate: 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

*13% to +10% of nonlinar voltage

Power: 4 W - 2.5 W - 1.8 W

(with 4 W coil) De-energize : 1.5 ms

Note: • Valve and coil are not interchangeable.

Energize : 4 ms

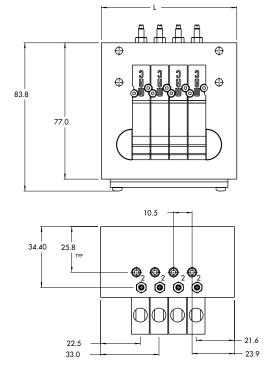
Spare parts: • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

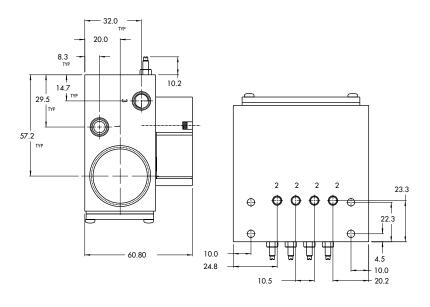
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS

Response times:







| Function | Port size | Flow (Max) | Circuit bar mounting |
|-----------|-------------|------------|--------------------------|
| 3/2 NO-NC | M5 - #10-32 | 100 NL/min | plug-in with Pr. Reg. |

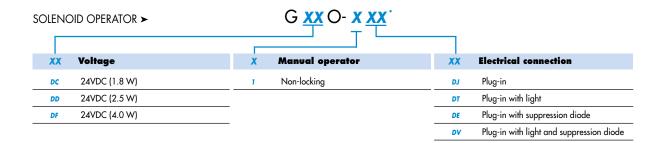
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|-----------------------------------|
| | \square | $rac{1}{\sqrt{1}} \int_{1}^{2} w$ |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS ** (to be ordered separately)

| Port size | Bottom cylinder ports (10.5 mm) | Side cylinder ports (10.5 mm) |
|-----------|------------------------------------|----------------------------------|
| M5 | ECD034B-004AD-AOxx | ECD034B-003AD-AOxx |
| # 10-32 | ECD034B-004AB-AOXX | ECD034B-003AB-AOxx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).

** Pressure Regulators :

Y=A (no gage port) Y=B (with gage port) X=A (0 to 6.7 BAR) X=B (0 to 4 BAR) X=C (0 to 2.7 BAR) X=D (0 to 1 BAR)







TECHNICAL DATA

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication : Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 µ

Temperature range: 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, AP=1bar): 4 W: 100 NL/min, 2.5 W: 90 NL/min, 1.8 W: 70 NL/min

Leak rate: 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

**Inde runge : "13% to +10% of nonlinar void

 Power:
 4 W - 2.5 W - 1.8 W

 Response times:
 Energize: 4 ms

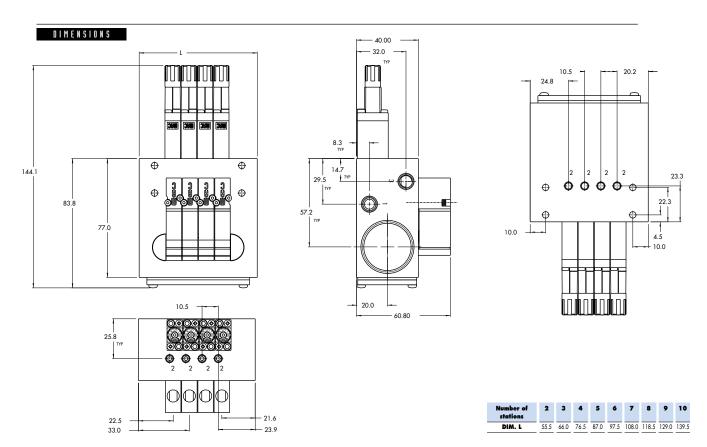
(with 4 W coil) De-energize : 1.5 ms

Note: • Valve and coil are not interchangeable.

Spare parts: • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Blanking plate for regulator : N-44003. • Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.





Port size Flow (Max) Circuit bar mounting **Function**

plug-in with Pr. Reg. and F. C. 3/2 NO-NC M5 - #10-32 90 NL/min

OPERATIONAL BENEFITS

- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.

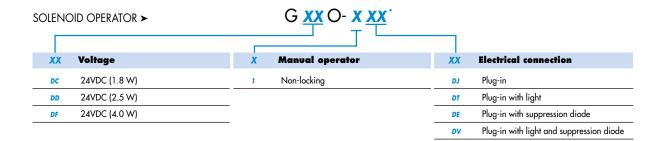






HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|---|
| | \square $\uparrow_{T} \upharpoonright \uparrow_{T} w$ | \square |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS ** (pressure regulators to be ordered separately)

| Port size | Bottom cylinder ports (10.5 mm) | Side cylinder ports (10.5 mm) |
|-----------|------------------------------------|----------------------------------|
| M5 | ECD034B-007AD-AOxx | ECD034B-008AD-AOxx |
| # 10-32 | ECD034B-007AB-AOxx | ECD034B-008AB-AOxx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).

** Pressure Regulators :

Y=A (no gage port) Y=B (with gage port) X=A (0 to 6.7 BAR) X=B (O to 4 BAR) X=C (0 to 2.7 BAR)

X=D (0 to 1 BAR)







TECHNICAL DATA

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication : Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration:

Temperature range: 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, AP=1bar): 4 W: 100 NL/min, 2.5 W: 90 NL/min, 1.8 W: 70 NL/min

Leak rate: 50 cm³/m

Coil: General purpose class A, continuous duty, encapsulated

150 - 100 f - 1 l l

Voltage range : -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

 Response times:
 Energize: 4 ms

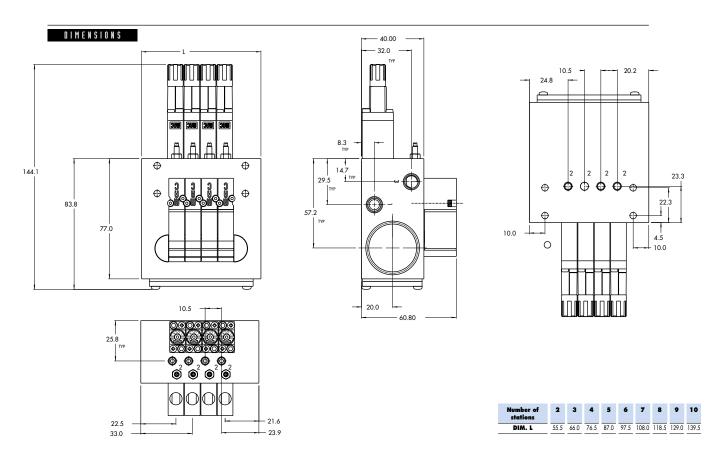
 (with 4 W coil)
 De-energize: 1.5 ms

Note: • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.

• Base wire Plug-in protector: 24180. • Blanking plate for regulator: N-44003.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.





| Function | Port size | Flow (Max) | Circuit bar mounting |
|-----------|-------------|------------|-------------------------|
| 3/2 NO-NC | M5 - #10-32 | 100 NL/min | add-on style plug-in |

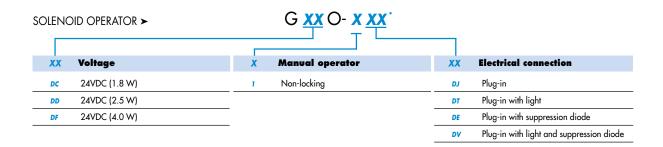
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|---|
| | \square $\uparrow_{T} \upharpoonright \uparrow_{T} w$ | \square |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR Port size Side cylinder ports **Bottom cylinder ports** (10.5 mm) (10.5 mm) ECD034B-001BD-AOXX ECD034B-002BD-AOXX M5 # 10-32 ECD034B-001BB-AOXX ECD034B-002BB-AOXX

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).

add-a-unit stations may be added to above bars. Clic here for model numbers.







TECHNICAL Data

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication : Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 µ

Temperature range: 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, AP=1bar): 4 W: 100 NL/min, 2.5 W: 90 NL/min, 1.8 W: 70 NL/min

Leak rate: 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

13% to +10% of nonlinal vollage

Power: 4 W - 2.5 W - 1.8 W

 Response times:
 Energize: 4 ms

 (with 4 W coil)
 De-energize: 1.5 ms

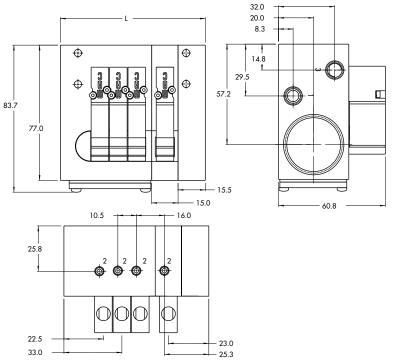
De chargize : 1.5 ms

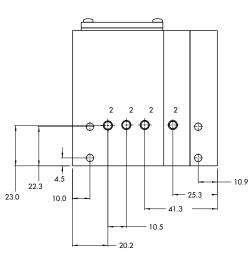
Note: • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.

• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.







| Function | Port size | Flow (Max) | Circuit bar mounting |
|-----------|-------------|------------|---------------------------------|
| 3/2 NO-NC | M5 - #10-32 | 100 NL/min | add-on style plug-in with F. C. |

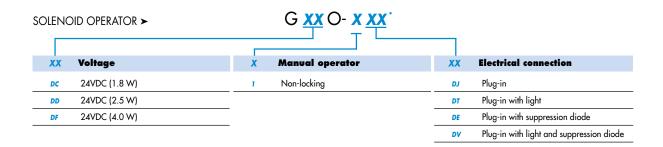
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|-----------------------------------|
| | \square \uparrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} | $rac{1}{\sqrt{1}} \int_{1}^{2} w$ |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

| Port size | Side cylinder ports (10.5 mm) | Bottom cylinder ports (10.5 mm) |
|-----------|----------------------------------|------------------------------------|
| M5 | ECD034B-005BD-AOXX | ECD034B-006BD-AOxx |
| # 10-32 | ECD034B-005BB-AOxx | ECD034B-006BB-AOxx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).

add-a-unit stations may be added to above bars. Clic here for model numbers.







TECHNICAL Data

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication : Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 µ

Temperature range: 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, AP=1bar): 4 W: 100 NL/min, 2.5 W: 90 NL/min, 1.8 W: 70 NL/min

Leak rate: 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

13% 10 +10% of Hoffman Vollage

Power: 4 W - 2.5 W - 1.8 W

 Response times:
 Energize: 4 ms

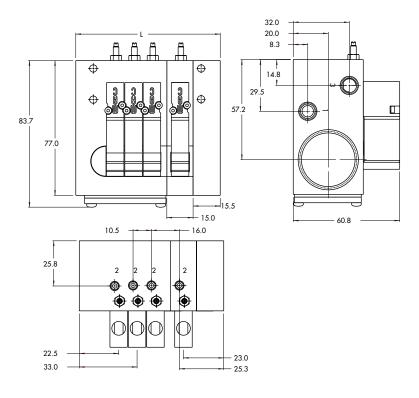
 (with 4 W coil)
 De-energize: 1.5 ms

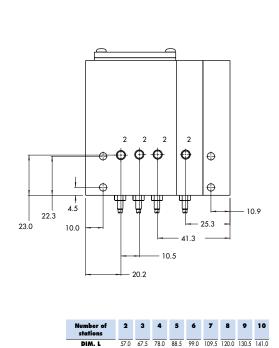
Note: • Valve and coil are not interchangeable.

Spare parts: • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.







| Function | Port size | Flow (Max) | Circuit bar mounting |
|-----------|-------------|------------|------------------------------------|
| 3/2 NO-NC | M5 - #10-32 | 100 NL/min | add-on style plug-in with Pr. Reg. |

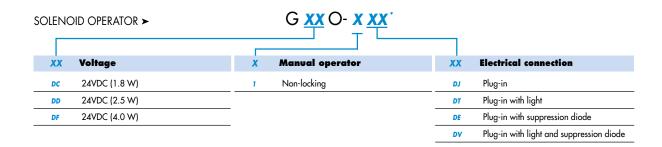
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|--|-----------------------------------|
| | \square $\uparrow_{T} \mid_{T}^{2} \mid_{3} W$ | $rac{1}{\sqrt{1}} \int_{1}^{2} w$ |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS ** (to be ordered separately)

| Port size | Bottom cylinder ports (10.5 mm) | Side cylinder ports (10.5 mm) |
|-----------|------------------------------------|----------------------------------|
| M5 | ECD034B-004BD-AOxx | ECD034B-003BD-AOxx |
| # 10-32 | ECD034B-004BB-AOxx | ECD034B-003BB-AOxx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).

add-a-unit stations may be added to above bars. Clic here for model numbers.

** Pressure Regulators :

Y=A (no gage port) Y=B (with gage port) X=A (0 to 6.7 BAR) X=B (0 to 4 BAR) X=C (0 to 2.7 BAR) X=D (0 to 1 BAR)







TECHNICAL

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration:

Temperature range : 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min

Leak rate :

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

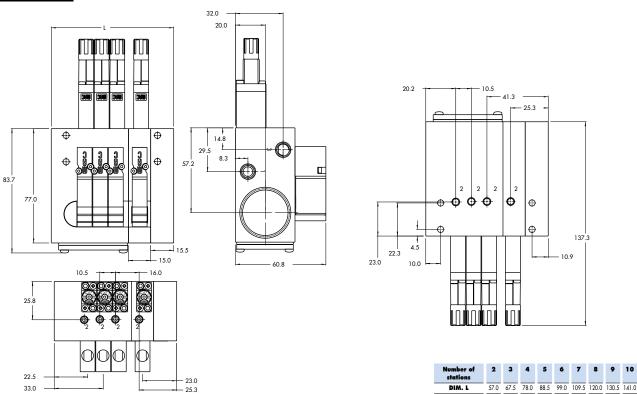
Power: 4 W - 2.5 W - 1.8 W

Response times: Energize : 4 ms (with 4 W coil) De-energize: 1.5 ms

• Valve and coil are not interchangeable. Note:

• Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005. • Base wire Plug-in protector : 24180. • Blanking plate for regulator : N-44003. Spare parts :

Options: • Isolation of inlet and/or exhaust. • BSPP Threads.





| Function | Port size | Flow (Max) | Circuit bar mounting |
|-----------|-------------|------------|--|
| 3/2 NO-NC | M5 - #10-32 | 90 NL/min | add-on style plug-in with Pr. Reg. and E. C. |

- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



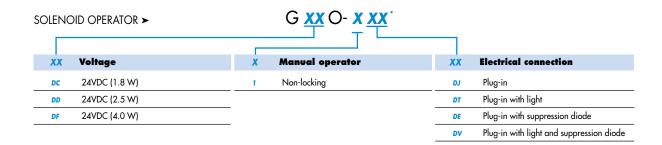




HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|--------------------------------------|
| | \square \uparrow_{τ} \downarrow_{τ} | $rac{2}{\sqrt{1}\sqrt{1}\sqrt{1}}$ w |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS ** (pressure regulators to be ordered separately)

| Port size | Bottom cylinder ports (10.5 mm) | Side cylinder ports (10.5 mm) |
|-----------|------------------------------------|----------------------------------|
| M5 | ECD034B-007BD-AOxx | ECD034B-008BD-AOxx |
| # 10-32 | ECD034B-007BB-AOxx | ECD034B-008BB-AOxx |

Number of stations (03=3 stations)

clic for valves mounted on base at the factory, add - 9 to the model number.

clic for multi-pin connector option (9, 15 or 25).

add-a-unit stations may be added to above bars. Clic here for model numbers.

** Pressure Regulators :

Y=A (no gage port) Y=B (with gage port) X=A (0 to 6.7 BAR) X=B (0 to 4 BAR) X=C (0 to 2.7 BAR) X=D (0 to 1 BAR)







TECHNICAL

Fluid: Compressed air, vacuum, inert gases

Vacuum to 8 BAR Pressure range:

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration:

Temperature range : 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min

Leak rate :

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

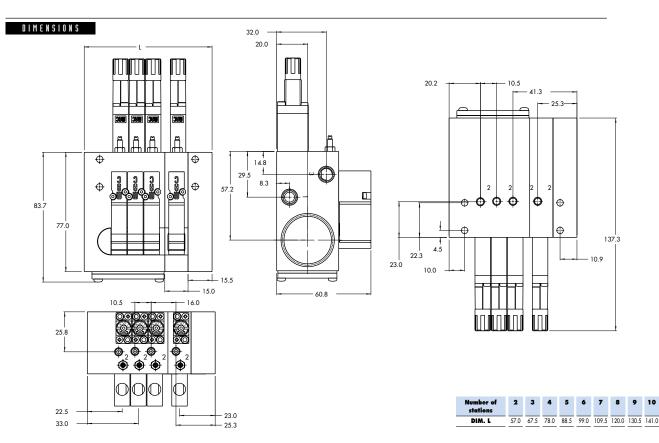
Response times: Energize : 4 ms (with 4 W coil) De-energize: 1.5 ms

• Valve and coil are not interchangeable. Note:

Spare parts : • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Blanking plate for regulator : N-44003. • Base wire Plug-in protector : 24180.

Options: • Isolation of inlet and/or exhaust. • BSPP Threads.





Port size Flow (Max) Circuit bar mounting **Function** plug-in add-a-unit 3/2 NO-NC M5 - #10-32 100 NL/min

OPERATIONAL BENEFITS

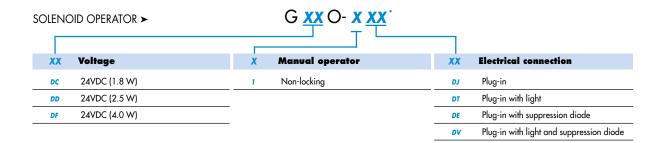
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
- 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|---|
| | \square \uparrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} | \square |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR

| Port size | Side cylinder ports | Bottom cylinder ports |
|-----------|---------------------|-----------------------|
| M5 | ECD034B-001CD-AOxx | ECD034B-002CD-AOxx |
| # 10-32 | ECD034B-001CB-AOxx | ECD034B-002CB-AOXX |

Number of stations (03=3 stations) - Maximum length is 4 stations

clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.







Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 μ

Temperature range : 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min

Leak rate : 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

Response times: Energize : 4 ms

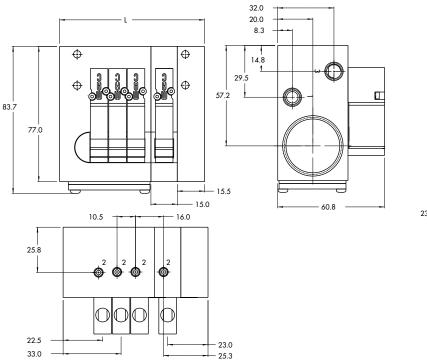
(with 4 W coil) De-energize: 1.5 ms

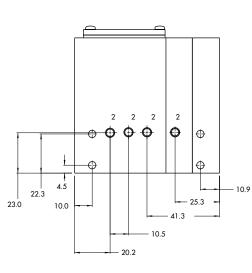
• Valve and coil are not interchangeable. Note:

Spare parts : • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Base wire Plug-in protector : 24180.

• Isolation of inlet and/or exhaust. • BSPP Threads. Options:







| Function | Port size | Flow (Max) | Circuit bar mounting |
|-----------|-------------|------------|--|
| 3/2 NO-NC | M5 - #10-32 | 100 NL/min | plug-in add-a-unit stations with F.C. |

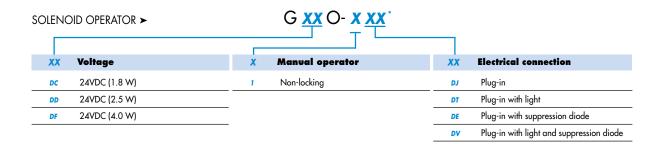
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|--|
| | \square \uparrow | $\left[\begin{array}{c} \begin{array}{c} 2 \\ 1 \end{array} \right] $ |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

| Port size | Side cylinder ports | Bottom cylinder ports |
|-----------|---------------------|-----------------------|
| M5 | ECD034B-005CD-AOXX | ECD034B-006CD-AOxx |
| # 10-32 | ECD034B-005CB-AOxx | ECD034B-006CB-AOxx |

Number of stations (03=3 stations) - Maximum length is 4 stations

clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.







TECHNICAL NA TA

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration: 40 µ

Temperature range: 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, AP=1bar): 4 W: 100 NL/min, 2.5 W: 90 NL/min, 1.8 W: 70 NL/min

Leak rate: 50 cm³/min

Coil: General purpose class A, continuous duty, encapsulated

Voltage range : -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

Response times: Energize: 4 ms

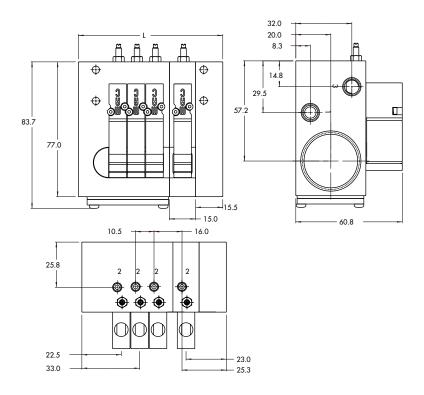
(with 4 W coil) De-energize : 1.5 ms

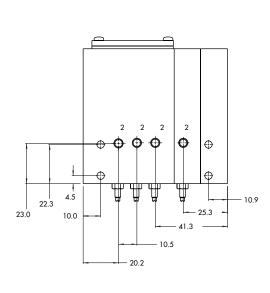
Note: • Valve and coil are not interchangeable.

Spare parts: • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.







Port size Flow (Max) **Function** Circuit bar mounting plug-in add-a-unit stations with Pr. Reg

3/2 NO-NC M5 - #10-32 100 NL/min

OPERATIONAL BENEFITS

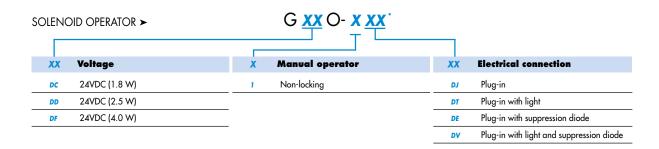
- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
- 7. Manual operator standard on all valves.



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|-----------------------------------|
| | \square \uparrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} | $rac{1}{\sqrt{1}} \int_{1}^{2} w$ |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS ** (to be ordered separately)

| Port size | Side cylinder ports | Bottom cylinder ports |
|-----------|---------------------|-----------------------|
| M5 | ECD034B-003CD-AOxx | ECD034B-004CD-AOXX |
| # 10-32 | ECD034B-003CB-AOxx | ECD034B-004CB-AOXX |

Number of stations (03=3 stations) - Maximum length is 4 stations

clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

** Regulator ordered separately-see below

Y=A (no gage port) Y=B (with gage port) X=A (0 to 6.7 BAR)

X=B (0 to 4 BAR) X=C (0 to 2.7 BAR)

X=D (0 to 1 BAR)







TECHNICAL

Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration:

Temperature range : 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min

Leak rate :

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

Response times: Energize : 4 ms

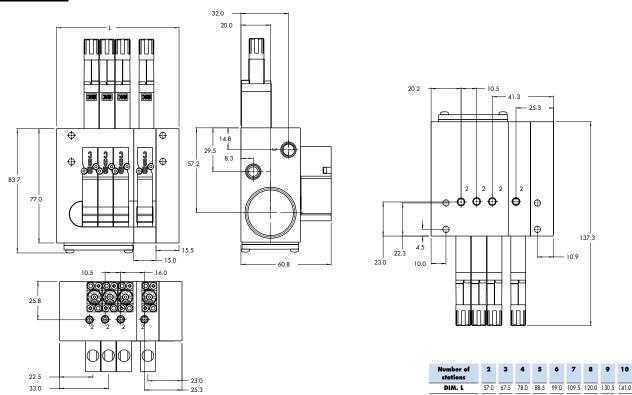
(with 4 W coil) De-energize: 1.5 ms

• Valve and coil are not interchangeable. Note:

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.

• Base wire Plug-in protector : 24180. • Blanking plate for regulator : N-44003.

Options: • Isolation of inlet and/or exhaust. • BSPP Threads.





Port size **Function** Flow (Max) Circuit bar mounting

3/2 NO-NC M5 - #10-32 100 NL/min

OPERATIONAL BENEFITS

- 1. 10 mm valve, direct solenoid operated.
- 2. Balanced poppet, immune to variations of pressure.
 3. Short stroke with high flow.
- 4. The patented solenoid develops high shifting forces.
- 5. Powerful return spring.
- 6. Flow is specifically adjusted on each valve.
- 7. Manual operator standard on all valves.



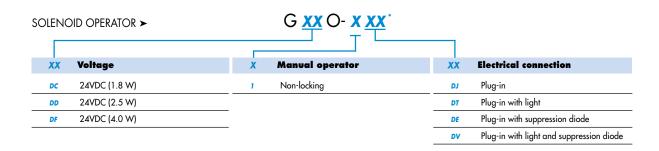




HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

| Port size (see base) | Universal valve | NC only valve |
|-------------------------|---|-----------------------------------|
| | \square \uparrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} \downarrow_{T} | $rac{1}{\sqrt{1}} \int_{1}^{2} w$ |
| Valve less base | 34B-LOO-GxxO-xxx | 34B-NOO-GxxO-xxx |



HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS ** (pressure regulators to be ordered separately)

| Port size | Side cylinder ports | Bottom cylinder ports |
|-----------|---------------------|-----------------------|
| M5 | ECD034B-008CD-AOxx | ECD034B-007CD-AOXX |
| # 10-32 | ECD034B-008CB-AOxx | ECD034B-007CB-AOXX |

Number of stations (03=3 stations) - Maximum length is 4 stations

clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

** Regulator ordered separately-see below

Y=A (no gage port) Y=B (with gage port) X=A (0 to 6.7 BAR)

X=B (0 to 4 BAR)

X=C (0 to 2.7 BAR) X=D (0 to 1 BAR)







Fluid: Compressed air, vacuum, inert gases

Pressure range: Vacuum to 8 BAR

Lubrication: Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)

Filtration:

Temperature range : 0°F to 120°F (-18°C to 50°C)

Orifice: 1.8 mm

Flow (at 6 bar, $\Delta P = 1 bar$): 4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min

Leak rate :

Coil: General purpose class A, continuous duty, encapsulated

Voltage range: -15% to +10% of nominal voltage

Power: 4 W - 2.5 W - 1.8 W

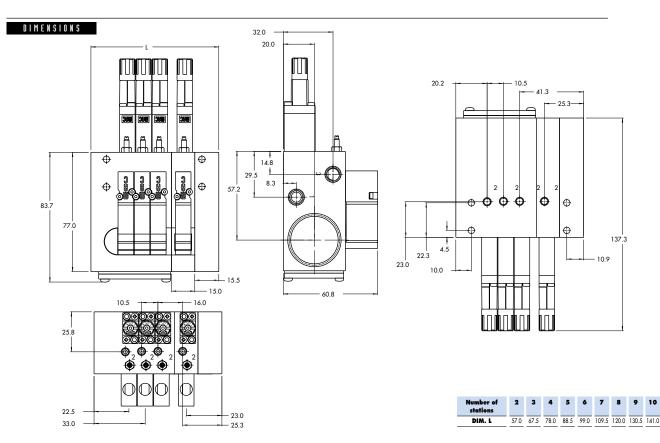
Response times: Energize : 4 ms (with 4 W coil) De-energize: 1.5 ms

• Valve and coil are not interchangeable. Note:

Spare parts : • Seal between valve and bar: 16595. • Mounting screw (x2): 35031. • Blanking plate: M-34005.

• Blanking plate for regulator : N-44003. • Base wire Plug-in protector : 24180.

Options: • Isolation of inlet and/or exhaust. • BSPP Threads.





Section 2 Options

Codification table for voltages / Manual operator / Electrical connection

VALVE CODE > $-G \underbrace{XX}_{1} \underbrace{X}_{2} - \underbrace{X}_{3} \underbrace{XX}_{4}$

OPTIONS AVAILABLE FOR

- solenoid valves 34 & 44 Series



| 1. VOLTAGE (type 34 Series) | | | 1. VOLTAGE (type 44 Series) | |
|-----------------------------|----------------|----------------|-----------------------------|--|
| -G XX X - X XX | VOLTAGE | -G XX X - X XX | VOLTAGE | |
| DC | 24 VDC (1,8 W) | DA | 24 VDC (1,0 W) | |
| DD | 24 VDC (2,5 W) | DC | 24 VDC (1,8 W) | |
| DE | 24 VDC (3,0 W) | DD | 24 VDC (2,5 W) | |
| DF | 24 VDC (4,0 W) | DF | 24 VDC (4,0 W) | |
| DJ | 12 VDC (1,8 W) | DG | 12 VDC (1,0 W) | |
| DK | 12 VDC (2,5 W) | DJ | 12 VDC (1,8 W) | |
| DM | 12 VDC (3,0 W) | DK | 12 VDC (2,5 W) | |
| DN | 12 VDC (4,0 W) | DN | 12 VDC (4,0 W) | |

| | | 2. WIRE LENGTH (Common options for 34 & 44 Series) |
|----------------|-------------|--|
| -G XX X - X XX | WIRE LENGTH | |
| A | 45 cm | |
| В | 60 cm | |
| С | 90 cm | |
| D | 120 cm | |
| E | 180 cm | |
| F | 240 cm | |
| G | 305 cm | |
| Н | 366 cm | |

S



| 3. MANUAL OPERATOR (COMMON OPTIONS FOR 34 & 44 SERIES) | |
|--|----------------------|
| -G XX X - X XX | MANUAL OPERATOR |
| 1 | Non-locking recessed |
| 3 | Non-locking extended |

| | 4. ELECTRICAL CONNECTION (COMMON OPTIONS FOR 34 & 44 SERIES) |
|----------------|--|
| -G XX X - X XX | NO CONNECTOR |
| BA | Flying leads |
| BB | BA with ground wire |
| ВС | BA with light |
| BD | BA with light and ground wire |
| BE | BA with suppression diode |
| BF | BA with suppression diode and ground wire |
| BG | BA with suppression diode and light |
| ВН | BA with suppression diode, light and ground wire |
| BN | BA with suppression diode and blocking diode |
| BP | BA with suppression diode, blocking diode and ground wire |
| BR | BA with suppression diode, blocking diode and light |
| BS | BA with suppression diode, blocking diode, light and ground wire |
| ВТ | BA with light |
| BU | BA with light and ground wire |
| BV | BA with suppression diode and light |
| BW | BA with suppression diode, light and ground wire |
| ВХ | BA with suppression diode, blocking diode and light |
| BY | BA with suppression diode, blocking diode, light and ground wire |

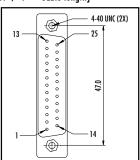
| -G XX X - X XX | PLUG-IN CONNECTOR |
|----------------|--|
| KA | Mini connector with flying leads |
| KB | KA with ground wire |
| KE | KA with suppression diode |
| KF | KA with suppression diode and ground wire |
| KJ | Mini connector for KA option |
| KM | Mini connector for KB option |
| KN | KA with suppression diode and blocking diode |
| KP | KA with suppression diode, blocking diode and ground wire |
| KT | KA with light |
| KU | KA with light and ground wire |
| KV | KA with suppression diode and light |
| KW | KA with suppression diode, light and ground wire |
| KX | KA with suppression diode, blocking diode and light |
| KY | KA with suppression diode, blocking diode, light and ground wire |



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Connector SUB_D 25 (option ZZZY = SUBY; Y = cable length)



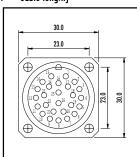


TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
 Temp. range -40° to +125°C
- Insulation resistance $\geq 10^{10} \ \Omega$
- Protection class IP40 (DIN 40050)
- Number of solenoids: 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

Connector RND (option ZZZY = RNDY; Y = cable length)



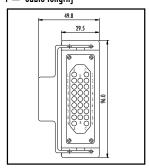


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG) Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance $\geq 10^8~\Omega$
- Cable entry PG16
- Temp. range -40° to +125°C
 Protection class IP65 (DIN 40050)
- Number of solenoids: 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT $\{\text{option ZZZY} = \text{HDTY} : \text{Y} = \text{cable length}\}$



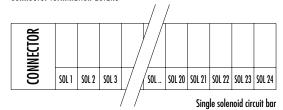


TECHNICAL DATA

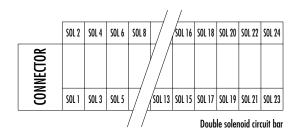
- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance $\geq 10^{10} \ \Omega$
- Cable entry PG16
- Temp. range -40° to $+125^{\circ}$ C
- Protection class IP65 (DIN 40050)
- Number of solenoids: 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar



Connector termination details



p



Connector SUB_D25 (option ZZZY = SUBY; Y = cable length)

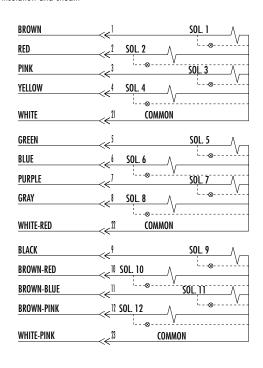
TECHNICAL DATA PREWIRED CABLE

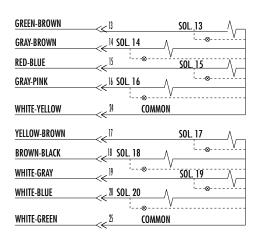
• Type : LIYY -0.14 mm² • Dia. ca. 9.3 mm

• Insulation resistance : 20 $M\Omega$ for 1000 meter

• Temp. range -5° to $+80^{\circ}$ C • Rated voltage : 250 V~

• PVC core insulation and sheath





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O p t i o n s

Connector RND (option ZZZY = SNDY ; Y = cable length)

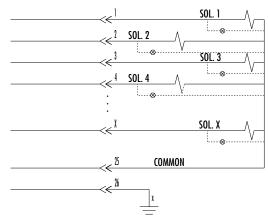
TECHNICAL DATA PREWIRED CABLE

• Type : LIY(C)Y -0.50 mm^2

• Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)

• Insulation resistance : 20 $M\Omega$ for 1000 meter

Temp. range -5° to +80°C
Rated voltage : 500 V~
PVC core insulation and sheath
Tinned copper wire braid



Connector HDT (option ZZZY = HDTY; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

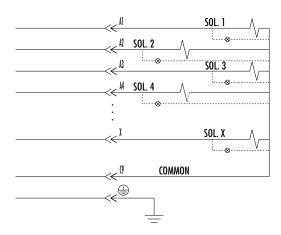
• Type : LIY(C)Y -0.75 mm²

• Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)

• Insulation resistance : 20 $M\Omega$ for 1000 meter

Temp. range -5° to +80°C
Rated voltage : 500 V~
PVC core insulation and sheath

• Tinned copper wire braid





PRECAUTIONS CONCERNING THE APPLICATION, INSTALLATION AND SERVICE OF MAC VALVES

The precautions below are important to be read and understood before designing into a system any MAC valve, and before installing or servicing any MAC valve. Improper use, installation or servicing of any MAC valve in some systems could create a hazard to personnel or equipment

APPLICATION PRECAUTIONS:

INDUSTRIAL USF -

MAC valves are intended for use in industrial pneumatic and/or vacuum systems. They are not intended for consumer use or service. They are general purpose industrial valves with literally thousands of different applications in industrial systems. These products are not inherently dangerous, but they are only a component of an overall system. The system in which they are used must provide adequate safeguards to prevent injury or damage in the event failure occurs, whether it be failure of switches, regulators, cylinders, valves or any other component.

POWER PRESSES -

MAC valves are not designed nor intended to be used to operate and/or control the operation of clutch and/or brake systems on power presses. There are special products on the market for such use.

2-POSITION VAIVES -

Some MAC valves are 2-position, 4-way valves. When air is supplied to the inlet port(s) of these valves, there will always be a flow path from the inlet to one of the outlets regardless of which of the two positions the valve is situated. Therefore, if pressurized air retained in the system would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the trapped air.

3- POSITION VALVES-

Some MAC valves are 3-position, 4-way valves. These valves are either double solenoid or double remote air operated.

If either of the two operators is in control, air supplied to the inlet port(s) will pass through the valve to one of the outlets as on 2-position, 4-way valves. However, if neither operator is in control, the valve moves to a center position. Listed below are the various center position functions :

A. CLOSED CENTER-

With this type valve, when in the center position all ports are blocked (inlets and exhausts) meaning the cir at both outlet ports is trapped. If trapping the cir in both outlet ports would present a hazard in the application or servicing, a separate method in the system must be provided to remove the trapped air or this type valve should not be used

B. OPEN CENTER-

With this type valve, when in the center position, the inlet port(s) is blocked and the two outlet ports are open to the exhaust port(s) of the valve. If having no air in either outlet port would present a hazard in the application or servicing, this type valve should not

C. PRESSURE CENTER-

With this type valve, when in the center position, the inlet port(s) is connected to both outlet ports of the valve. If having pressurized air to either or both outlet ports would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the retained air.

OPERATING SPECIFICATIONS -

MAC valves are to be installed only on applications that meet all operating specifications described in the MAC catalog for the valve.

MANUAL OPERATORS

Most MAC valves can be ordered with manual operators. Manual operators when depressed, are designed to shift the valve to the same position as would the corresponding solenoid or remote air pilot operator if it were activated. Care must be taken to order a type, if any, that will be safe for the physical location of the manual operator in the system. Accidental activation of a manual operator could create a dangerous situation. If intentional or accidental operation of a valve by a manual operator could create a dangerous situation then the "no operator" option should be

REMOTE AIR OPERATED VALVES

Pilot valves supplying signal pressure to remote air operated valves should be 3-way valves with adequate supply and exhaust capacity to provide positive pressurizing and exhausting of the pilot supply line. Pilot lines should be open to exhaust when valves are deenergized.

INSTALLATION AND SERVICE PRECAUTIONS:

- A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.
- B. MAC valves should only be installed and/or serviced by qualified, knowledgeable personnel who understand how the specific valve is to be pneumatically piped and electrically connected (where applicable). Flow paths through the valve are shown in the catalog and on the valve by use of ANSI or ISO type standard and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.
- C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.
- D. MAC valves are never to be stepped on while working on a machine. Damage to the valve, or lines to the valve (either air or electrical lines) or accidental activating of a manual operator on the valve could result in a dangerous condition.

WARNING:

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any

- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
 Air supply must be clean. Contamination of valve can affect proper operation.
- An supply into the clean. Contamination of valve, can allest proper operation.

 Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents.

 Never attempt to repair or perform other maintenance with air pressure to valve.

 If airline lubrication is used, consult catalog, parts & operation sheet, or factory for
- recommended lubricants.

LIMITATION OF GUARANTEE

This Guarantee is limited to the replacement or rebuilding of any valve which should fail to operate properly. Valves, under the MAC Guarantee, must be returned (with or without bases) transportation prepaid and received at our factory within the Guarantee period. They will be returned to the customer at the expense of MAC Valves, Inc., and will carry the same guarantee as provided under the Flat Rate Rebuild Program.

DISCLAIMER OF GUARANTEE

No claims for labor, material, time, damage, or transportation are allowable nor will any valve be replaced or rebuilt under this guarantee which has been damaged by the purchaser not in the normal course of its use and maintenance during the warranty period. The guarantee does not apply to loss or damage caused by fire, theft, riot, explosion, labor dispute, act of God, or other causes beyond the control of MAC Valves, Inc. MAC Valves, Inc. shall in no event be liable for remote, special or consequential damages under the MAC Guarantee, nor under any implied warranties, including the implied warranty of merchantability.

The above Guarantee is our manner of extending the engineering and service resources of the MAC Valves, Inc. organization to assure our customer long, and continued satisfaction.