



Metal-free 2-port solenoid valve

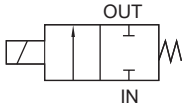
EMB21 Series

- NC (normally closed)
- Working fluid: Water/pure water/chemical liquids
- Port size: Rc1/4



JIS symbol

- NC (normally closed)



Specifications

| Item | EMB21 | |
|---|--|-----|
| Working fluid | Water/pure water/chemical liquids (fluids that do not corrode wetted part materials) | |
| Working pressure MPa | -0.05 to 0.3 | |
| Back pressure MPa | 0 to 0.1 | |
| Proof pressure MPa | 0.6 (water pressure) | |
| Fluid temperature °C | 5 to 80 | |
| Ambient temperature °C | 0 to 60 (no freezing) | |
| Valve seat leakage cm ³ /min | 0 (water pressure) | |
| Port size | Rc1/4 (*1) | |
| Orifice size mm | 3 | |
| Cv | 0.18 | |
| Mounting orientation | Unrestricted | |
| Weight kg | 0.32 (0.43 for SUS316 body) | |
| Frequency cycles/min. | 60 or less | |
| Electrical specifications | | |
| Rated voltage | 100 VAC (50/60Hz), 200 VAC (50/60Hz), 24 VDC | |
| Voltage fluctuation range | -10 to +10% of rated voltage | |
| Power consumption | 100 VAC | 4.6 |
| | 200 VAC | 5.4 |
| | 24 VDC | 4.5 |
| Leakage current mA | 2 or less | |
| Thermal class | Class 130 (B) | |

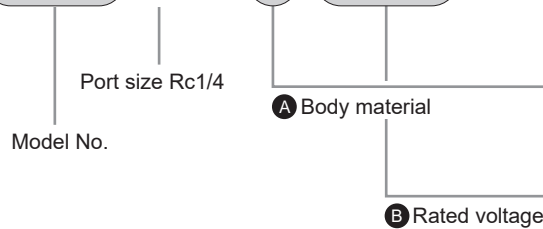
*1: Do not use metal fittings with the PTFE body because they could damage the port. Wrap PTFE sealing tape two or three times around a fitting which is compatible with the JIS B 0203 pipe taper screw. For tightening fluoro resin fittings, refer to the recommended tightening torque below.

Recommended tightening torque: 0.7 to 1.0 N·m (PTFE), 1.0 to 1.5 N·m (SUS316)

*2: Make sure to read the safety precautions on pages 3 to 8 before use.

How to order

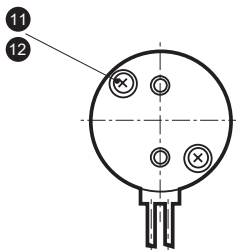
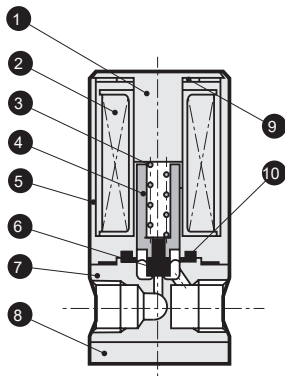
EMB21 - 8 - 5 - D - AC100V



| Code | Description |
|------------------------|--------------------|
| A Body material | |
| Blank | PTFE |
| D | SUS316 |
| B Rated voltage | |
| AC100V | 100 VAC (50/60 Hz) |
| AC200V | 200 VAC (50/60 Hz) |
| DC24V | 24 VDC |

Internal structure and parts list

● EMB21 Series

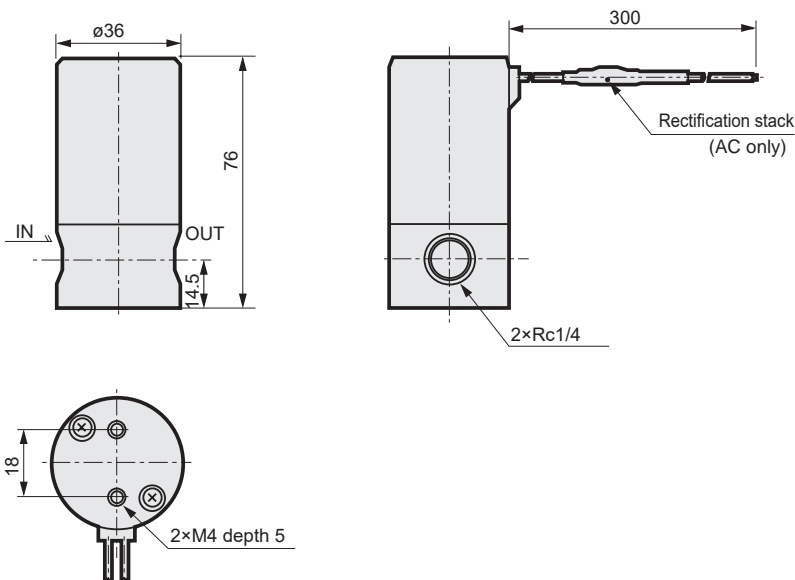


Cannot be disassembled

| Part No. | Part name | Material |
|----------|---------------------------------------|----------------------------------|
| 1 | Core A | SUM22 Steel |
| 2 | Coil assembly | - |
| 3 | Cylindrical spring | SUS304 Stainless steel |
| 4 | Plunger | SUS405 or equiv. Stainless steel |
| 5 | Core B | SUM22 Steel |
| 6 | Diaphragm | PTFE Tetrafluoroethylene resin |
| 7 | Body | PTFE Tetrafluoroethylene resin |
| 8 | Mounting plate | SUS303 Stainless steel |
| 9 | Gasket | FKM Fluoro rubber |
| 10 | Gasket | FKM Fluoro rubber |
| 11 | Cross-recessed pan head machine screw | SUS304 Stainless steel |
| 12 | Spring washer | SUS304 Stainless steel |

Dimensions

● EMB21-8-5-*





Metal-free 2-port solenoid valve

EMB41/51 Series

- NC (normally closed)
- Working fluid: Water/pure water/chemical liquids
- Port size: Rc3/8, Rc1/2

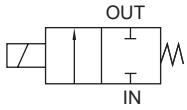
Export controlled items

* Subject: Port size 15

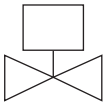


JIS symbol

- NC (normally closed)



Mounting orientation



Common specifications

| Item | EMB41/51 |
|---|--|
| Working fluid | Water/pure water/chemical liquids (fluids that do not corrode wetted part materials) |
| Working pressure MPa | 0 to 0.25 (refer to working pressure in individual specifications.) |
| Proof pressure MPa | 0.4 (water pressure) |
| Fluid temperature °C | 5 to 60 |
| Valve seat leakage cm ³ /min | 0 (water pressure) |
| Mounting orientation | Vertical direction with the coil on top |
| Frequency cycles/min. | 60 or less |
| Electrical specifications | |
| Rated voltage | 100 VAC (50/60Hz), 200 VAC(50/60Hz), 24 VDC |
| Voltage fluctuation range | -10 to +10% of rated voltage |
| Leakage current mA | 2 or less |
| Mounting wire | VCTF-0.75 (2-conductor) |

Note: Always read the safety precautions on pages 3 to 8 before use.

Individual specifications

| Item | Port size | Orifice size | Cv | Working pressure | Back pressure | Circumference ambient | Power consumption | Weight |
|------------|-----------|--------------|------|------------------|---------------|-----------------------|-------------------|--------|
| Model No. | (*1) | (mm) | | (MPa) | (MPa) | temperature(°C) | (W) | (kg) |
| EMB41-10-3 | Rc3/8 | 6 | 0.68 | 0 to 0.25 | 0.1 | 0 to 50 | 11 | 0.86 |
| EMB41-10-5 | | 8 | 0.83 | 0 to 0.2 | 0.07 | | | |
| EMB51-10-3 | Rc3/8 | 10 | 2.05 | 0 to 0.15 | 0.06 | 0 to 55 | 16 | 2.05 |
| EMB51-15-4 | Rc1/2 | 12 | 2.7 | 0 to 0.12 | | | | |
| EMB51-15-5 | | 15 | 3.6 | 0 to 0.05 | | | | |

*1: Do not use metal fittings because they could damage the port. Wrap PTFE sealing tape two or three times around a fitting which is compatible with the JIS B 0203 pipe taper screw. For tightening fluoro resin fittings, refer to the recommended tightening torque below.

Recommended tightening torque: Rc3/8: 1.0 to 1.5 N·m, Rc1/2: 1.5 to 2.0 N·m

How to order

EMB41 - 10 - 3 - AC100V

Model No.

Ⓐ Port size

Ⓑ Orifice size

Ⓒ Rated voltage

| | | Model No. | | |
|------------------------|--------------------|-----------|-------|---|
| Code | Description | EMB41 | EMB51 | |
| Ⓐ Port size | | | | |
| 10 | Rc 3/8 | ● | ● | |
| 15 | Rc 1/2 | | | ● |
| Ⓑ Orifice size | | | | |
| | | EMB41 | EMB51 | |
| 3 | | ø6 | ø10 | ● |
| 4 | | - | ø12 | ● |
| 5 | | ø8 | ø15 | ● |
| Ⓒ Rated voltage | | | | |
| AC100V | 100 VAC (50/60 Hz) | ● | ● | ● |
| AC200V | 200 VAC (50/60 Hz) | ● | ● | ● |
| DC24V | 24 VDC | ● | ● | ● |

[Example of model No.]

EMB51-15-5-AC200V

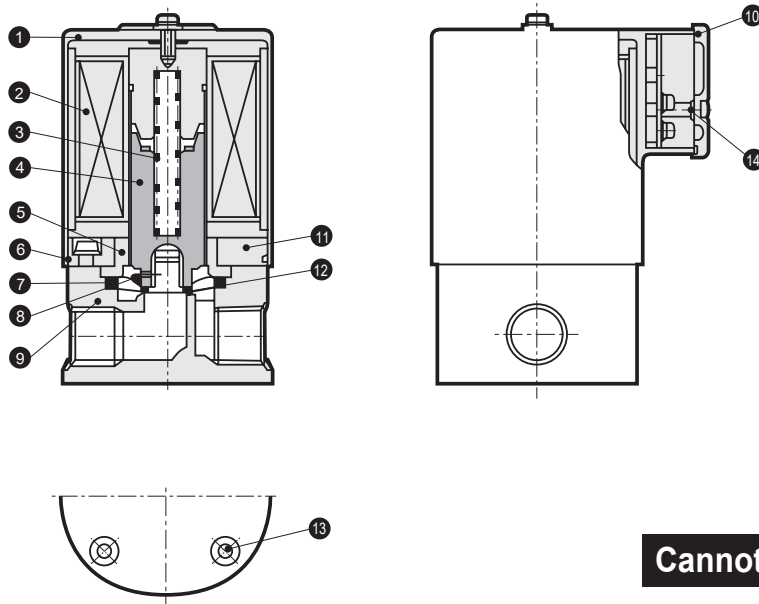
Model: EMB51

- Ⓐ Port size : Rc1/2
- Ⓑ Orifice size : ø15
- Ⓒ Rated voltage : 200 VAC (50/60 Hz)

EMB41/51 Series

Internal structure and parts list

● EMB41/51 Series



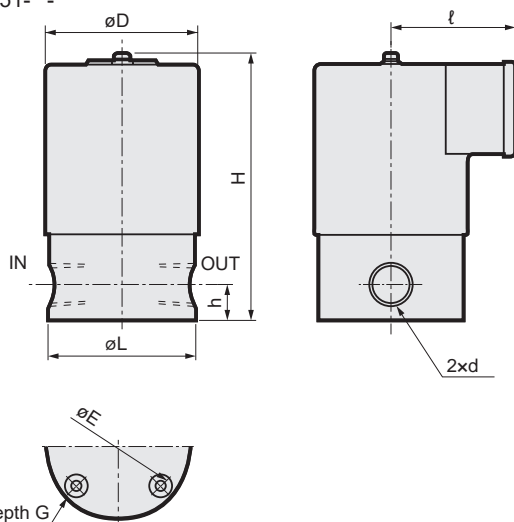
Cannot be disassembled

| Part No. | Part name | Material | Part No. | Part name | Material |
|----------|------------------|------------------|----------|---------------|----------|
| 1 | Cover | PP | 9 | Body | PTFE |
| 2 | Coil assembly | - | 10 | Gasket | FKM |
| 3 | Spring | SUS304 | 11 | Stuffing | A + 5056 |
| 4 | Plunger | SUS405 or equiv. | 12 | Rubber spacer | FKM |
| 5 | Core assembly | SUS403/SUS316 | 13 | Embedded nut | SUS303 |
| 6 | O-ring | FKM | 14 | Gasket | FKM |
| 7 | Diaphragm | PTFE | | | |
| 8 | Double diaphragm | PTFE | | | |

Dimensions

● EMB41-**-*

EMB51-**-*



4 x F depth G
(Mounting hole)

| Model No. | D | d | E | F-G | H | h | L | ℓ |
|------------|----|-------|----|-------|-----|----|----|----|
| EMB41-10-3 | 54 | Rc3/8 | 41 | M4-8 | 110 | 14 | 54 | 50 |
| EMB41-10-5 | 54 | Rc3/8 | 41 | M4-8 | 110 | 14 | 54 | 50 |
| EMB51-10-3 | 74 | Rc3/8 | 56 | M5-12 | 136 | 22 | 70 | 60 |
| EMB51-15-4 | 74 | Rc1/2 | 56 | M5-12 | 136 | 22 | 70 | 60 |
| EMB51-15-5 | 74 | Rc1/2 | 56 | M5-12 | 136 | 22 | 70 | 60 |