



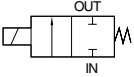
Metal free 2 port solenoid valve for chemical liquid

EMB21 Series

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

JIS symbol

- NC (normally closed type)



Specifications

Item	EMB21	
Working fluid	Water, pure water, chemical liquids (fluids that do not corrode materials at wetted parts)	
Working pressure range MPa	-0.05 to 0.3	
Back pressure MPa	0 to 0.1	
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 (*5)	
Orifice mm	3	
Cv flow factor	0.18	
Mounting attitude	Free	
Weight kg	0.32 (0.43 for body material SUS316)	
Frequency cycle/min.	60 or less	
Electric specifications		
Rating	Continuous	
Voltage	100 VAC (50/60 Hz), 200 VAC (50/60 Hz), 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	
Heat proof class	B	

*1: Read the safety precautions for EMB21 (page 769).

*2: Before starting use, check the compatibility between the materials of the product and working fluid. Working fluids must not adhere to the product body.

*3: Foreign matter etc. inside the piping may cause malfunction and valve seat leakage. Always flush the piping before installing the valve.

*4: Do not use for hydrochloric acid, hydrofluoric acid, nitric acid or sodium hypochlorite (soda).

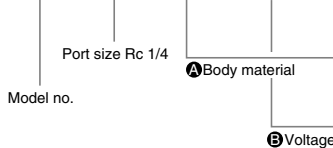
*5: When the body is made of PTFE, do not use metal joints. They could damage the port. Wrap PTFE sealing tape two or three times around a joint which is compatible with the JIS B 0203 pipe taper screw. Tighten the joint with the recommended tightening torque below.

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

*6: Do not disassemble the product.

How to order

EMB21 - **8** - **5** - **D** - **AC100V**



Symbol	Description
A	Body material
Blank	PTFE
D	SUS316
B	Voltage
AC100V	100 VAC (50/60 Hz)
AC200V	200 VAC (50/60 Hz)
DC24V	24 VDC

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/

AD

APK/

ADK

For

dry air

Explosion

proof

HVB/

HVL

SAB/

SVB

NP/NAP/

NVP

CHB/G

MXB/G

Other G.P.

systems

PD/FAD/

PJ

CVE/

CVSE

CPE/

CPD

Medical

analysis

Custom

order

Medical analysis process components

Compact medical fire

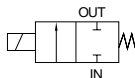


EMB41/51 Series

- NC (normally closed) type
- Working fluid: water, deionized water, chemical liquids Products subject to export trade control ordinances
- Port size: Rc3/8, Rc1/2, $\phi 10 \times \phi 8$ PFA tube connection *Subject: Port size 10 or 15

JIS symbol

- NC (normally closed) type



Common specifications

Descriptions	EMB41/51
Working fluid	Water, pure water, chemicals (fluid not to corrode wetted areas materials)
Working pressure range MPa	0 to 0.25 (refer to working pressure range on individual specifications.) (*1)
Fluid temperature °C	5 to 60
Valve seat leakage cm ³ /min.	0 (water pressure)
Mounting attitude	Vertical installation placing coil top.
Frequency cycle/min.	60 or less
Electrical specifications	
Rated	Continuous
Voltage	100 VAC (50/60Hz), 200 VAC (50/60Hz), 24 VDC
Allowable voltage fluctuation	-10 to +10% of rated voltage
Leakage current mA	2 or less
Mounted electric wire	VCTF-0.75 (2-conductor)

*1: Read the Safety Precautions for EMB41/51 (page 769).

*2: Check compatibility between the material of each components and working fluid.

Working fluid must not adhere to main body.

*3: Foreign matter etc. inside pipe may cause malfunction and valve seat leakage. Always flush the piping before installing the valve.

*4: Do not use for hydrochloric acid, hydrofluoric acid, or nitric acid. Consult with CKD before using sodium hypochlorite (soda).

*5: Do not use metal joints. They could damage the port.

When connecting the joint, wrap PTFE sealing tape two or three times around a joint which is compatible with the JIS B 0203 pipe taper screw. Tighten the joint at 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

*6: Do not disassemble the product.

Individual specifications

Descriptions	Port size (* 5)	Orifice Diameter (mm)	Cv flow factor	Working pressure range (MPa)	Back pressure (MPa)	Ambient temperature (°C)	Power consumption (w)	Weight (kg)
Series								
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			
EMB41-10U-5	PFA tube connection ($\phi 10 \times \phi 8$)	8	0.83	0 to 0.2	0.07	0 to 55	16	2.05
EMB51-10-3	Rc3/8	10	2.05	0 to 0.15	0.06			
EMB51-15-4	Rc1/2	12	2.7	0 to 0.12		0.03		
EMB51-15-5		15	3.6	0 to 0.05				

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/

ADK

For

dry air

Explosion

proof

HVB/

HVL

SAB/

SVB

NP/NAP/

NVP

CHB/G

MXB/G

Other G.P.

systems

PDF/FAD/

PJ

CVE/

CVSE

CPE/

CPD

Medical

analysis

Custom

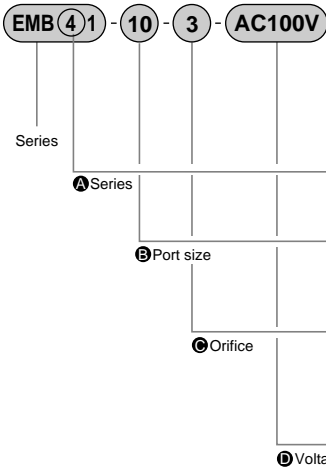
order

Medical analysis process components

Compact metal free chemical liquids 2 port solenoid valve

EMB41/51 Series

How to order



		Series	
		EMB41	EMB51
Symbol	Descriptions		
A Series			
4	Small	●	
5	Large		●
B Port size			
10	Rc3/8	●	●
10U	PFA tube connection (ϕ 10 x ϕ 8)	●	
15	Rc1/2		●
C Orifice			
		EMB41	EMB51
3	ϕ 6		ϕ 10
4	-		ϕ 12
5	ϕ 8	ϕ 8	ϕ 15
		●	●
D Voltage			
AC100V	100 VAC (50/60Hz)	●	●
AC200V	200 VAC (50/60Hz)	●	●
DC24V	24 VDC	●	●

● shows availability.

<Example of model number>

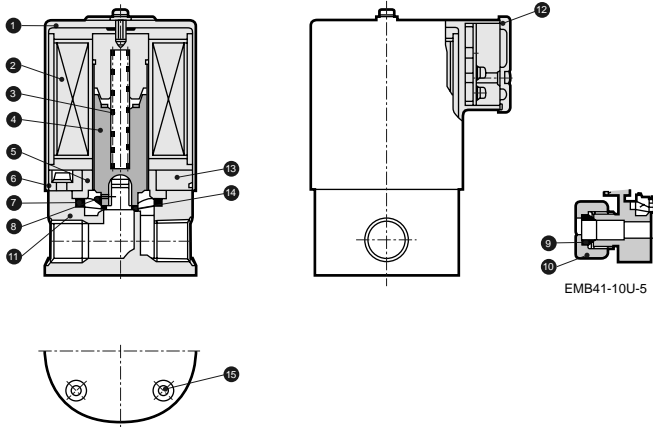
EMB51-15-5-AC200V

Series: EMB51

- A** Series : large
- B** Port size : Rc1/2
- C** Orifice : ϕ 15
- D** Voltage : 200 VAC (50/60Hz)

Internal structure and parts list

● EMB41/51 Series



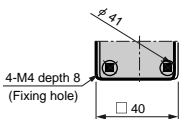
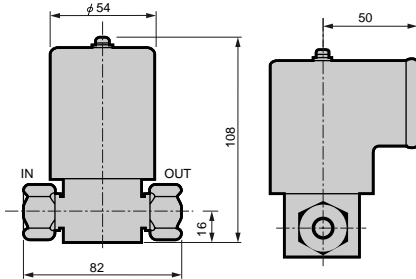
EMB41-10U-5

No.	Parts name	Material	No.	Parts name	Material
1	Cover	PP	9	Wedge sealing	PTFE
2	Coil assembly	-	10	Nut	PTFE
3	Spring	SUS304	11	Body	PTFE
4	Plunger	SUS405	12	Gasket	FKM
5	Core assembly	SUS403, SUS316	13	Stuffing	A5056
6	O ring	FKM	14	Rubber spacer	FKM
7	Diaphragm	PTFE	15	Embedded nut	SUS303
8	Double diaphragm	PTFE			

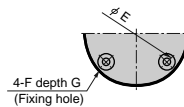
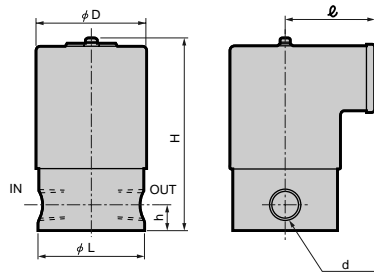
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/
ADK
For
dry air
Explosion
proof
HV/B/
HVL
SAB/
SVB
NP/NAP/
NVP

Dimensions

● EMB41-10U-5



● EMB41-**-* EMB51-**-*



CHB/G
MXB/G
Other G.P.
systems
PD/FAD/
PJ
CVE/
CVSE
CPE/
CPD
Medical
analysis
Custom
order

Series	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
EMB41-15-5	74	Rc1/2	56	M5-12	136	22	70	60

Medical analysis process components
Compact metal free chemical liquids 2 port solenoid valve