



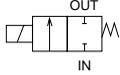
USB2 Series

- NC (normally closed) type
- Port size: M5



JIS symbol

- NC (normally closed) type



Specifications

Descriptions	USB2-M5-1	USB2-M5-2
Working fluid	Air, water, dry air, low vacuum (1.33 x 10 ² Pa (abs))	
Working pressure differential range MPa	0 to 0.7	0 to 0.3
Withstanding pressure (water pressure) MPa	1.5	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-20 to 50	
Valve seat leakage cm ³ /min	0.2 or less (under air pressure)	
Installation attitude	Free	
Weight kg	0.07	
Port size	M5	M5
Orifice mm	1	1.5
Cv flow factor	0.03	0.06
C[dm ³ /(s·bar)]	0.13	0.28
b	0.57	0.46
Electric specifications		
Rated voltage	12 VDC and 24 VDC (option: 100 VAC 50/60Hz, 200 VAC 50/60Hz)	
Allowable voltage fluctuation	±10%	
Power consumption W	DC	3
	AC	4
Heat proof class	B	

*1: For use with water when the solenoid valve is not used for a long time, the highly corrosion-proof solenoid valve HB Series (page 807) is recommended.

*2: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

How to order



Model no.

Port size
M5

A Orifice

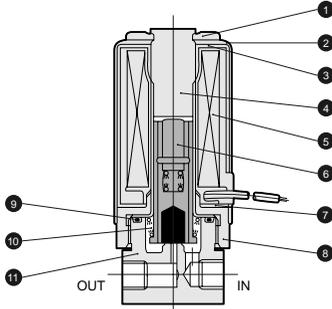
B Body/
sealant combination

C Voltage

Symbol	Descriptions		
A Orifice			
1	φ 1.0		
2	φ 1.5		
B Body/sealant combination			
	Body	Sealant	Treatment
Blank	Stainless steel	Nitrile rubber	-
L			-
0	Brass		-
C Voltage			
DC12V	Option Standard	12 VDC	
DC24V		24 VDC	
AC100V		100 VAC 50/60Hz	
AC200V		200 VAC 50/60Hz	

Internal structure and parts list

● USB2-M5

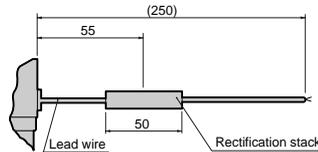
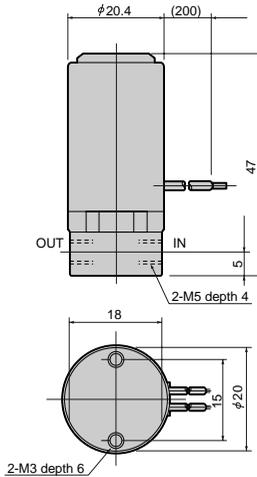


No.	Parts name	Materials	
1	Clip	PBT	PBT
2	Bonnet	SPC	Steel
3	Sub core	SPC	Steel
4	Core assembly	SUS405 or equivalent, SUS316L	Stainless steel
5	Coil assembly	-	-
6	Plunger assembly	SUS405 or equivalent, SUS303, NBR	Stainless steel, nitrile rubber
7	Waving washer	S65CM	Steel
8	Core B	SUM22	Free cutting steel
9	O ring	NBR	Nitrile rubber
10	Plunger spring	SUS304	Stainless steel
11	Body	SUS303 (C3604)	Stainless steel (brass)

() shows option.

Dimensions (Page 20)

● USB2-M5



The alternating current (AC) type has a rectifying stack assembled into the lead.

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

Compact direct acting 2 port solenoid valve



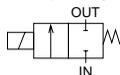
USB3 Series

- NC (normally closed) type
- Port size: Rc1/8



JIS symbol

- NC (normally closed) type



Specifications

Descriptions	USB3-6-1	USB3-6-2	USB3-6-3
Working fluid	Air, water, dry air, low vacuum (1.33 x 10 ² Pa (abs))		
Working pressure	0 to 0.9	0 to 0.4	0 to 0.1
differential range MPa			
Withstanding pressure (water pressure) MPa	2		
Fluid temperature °C	-10 to 60 (no freezing)		
Ambient temperature °C	-20 to 50		
Valve seat leakage cm ³ /min	0.2 or less (under air pressure)		
Installation attitude	Free		
Weight kg	0.13		
Port size	Rc1/8	Rc1/8	Rc1/8
Orifice mm	1.6	2.3	3.2
Cv flow factor	0.09	0.18	0.3
C[dm ³ /(s·bar)]	0.34	0.64	1.2
b	0.56	0.51	0.48

Electric specifications

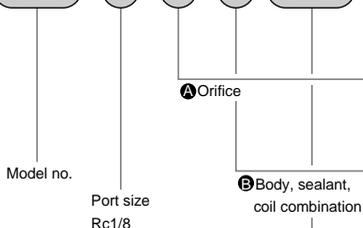
Rated voltage	12 VDC and 24 VDC (option: 100 VAC 50/60Hz, 200 VAC 50/60Hz)		
Allowable voltage fluctuation	±10%		
Power consumption W	DC	4	
	AC	4	
Heat proof class	E (molded coil: B)		

*1: For use with water when the solenoid valve is not used for a long time, the highly corrosion-proof solenoid valve HB Series (page 807) is recommended.

*2: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

How to order

USB3 - 6 - 1 - B - DC24V

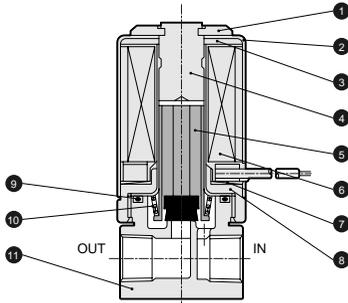


Symbol	Descriptions				
A	Orifice				
1	φ 1.6				
2	φ 2.3				
3	φ 3.2				
B	Body, sealant, coil combination				
		Body	Sealant	Coil	Treatment
Blank	Standard	Brass	Nitrile rubber	Tape	-
B	Option	Brass	Fluoro rubber	Molded coil	Vacuum inspection *3
V					
D					
E		Stainless steel	Nitrile rubber	Molded coil	-
W		Fluoro rubber			
H	Brass	Nitrile rubber	Tape	Oil-prohibited	
J	Fluoro rubber				
L	Stainless steel	Nitrile rubber	Molded coil		
M	Fluoro rubber				
C	Voltage				
DC12V	Standard	12 VDC			
DC24V	Standard	24 VDC			
AC100V	Option	100 VAC 50/60Hz			
AC200V		200 VAC 50/60Hz			

*3: For option symbol V and W, vacuum is inspected at "leakage amount: 1.33 x 10⁻⁶ Pa·m³/s or less".

Internal structure and parts list

● USB3-6

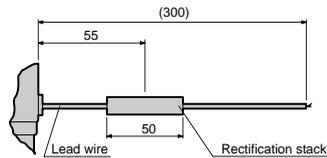
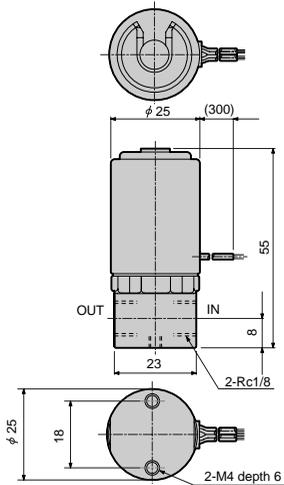


No.	Parts name	Materials	
1	Clip	PBT	PBT
2	Bonnet	SPC	Steel
3	Bonnet piece	SPC	Steel
4	Core assembly	SUS316, SUS405 or equivalent	Stainless steel
5	Plunger assembly	SUS405 or equivalent, NBR (FKM)	Stainless steel, nitrile rubber (fluoro rubber)
6	Coil assembly	-	-
7	Waving washer	S65CM	Steel
8	Core B	SUM22	Free cutting steel
9	O ring	NBR (FKM)	Nitrile rubber (fluoro rubber)
10	Plunger spring	SUS304	Stainless steel
11	Body	C3604 (SUS303)	Brass (stainless steel)

() shows option.

Dimensions (Page 20)

● USB3-6



The alternating current (AC) type has a rectifying stack assembled into the lead.

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

Compact direct acting 2 port solenoid valve



Compact direct acting 3 port solenoid valve

USG2 Series

- Universal type
- Port size: M5



JIS symbol

- Universal type



Specifications

Descriptions	USG2-M5-1	USG2-M5-2
Working fluid	Air, water, dry air, low vacuum ($1.33 \times 10^2 \text{Pa}$ (abs))	
Working pressure	0 to 0.7 (0 to 0.3 when NO pressurized)	0 to 0.3 (0 to 0.1 when NO pressurized)
differential range MPa		
Withstanding pressure (water pressure) MPa	1.5	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-20 to 50	
Valve seat leakage cm^3/min	0.2 or less (under air pressure)	
Installation attitude	Free	
Weight kg	0.07	
Port size	M5	M5
Orifice mm	1	1.5
Cv flow factor	0.03	0.06
C[$\text{dm}^3/(\text{s} \cdot \text{bar})$]	0.13	0.28
b	0.57	0.46
Electric specifications		
Rated voltage	12 VDC and 24 VDC (option: 100 VAC 50/60Hz, 200 VAC 50/60Hz)	
Allowable voltage fluctuation	$\pm 10\%$	
Power consumption W	DC	3
	AC	4
Heat proof class	B	

*1. Contact CKD when using water and the solenoid valve is not used for a long time.

*2. When using in a continuous energized state, use a fluoro rubber seal. Contact CKD for details.

*3. Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

How to order



Model no.

Port size
M5

A Orifice

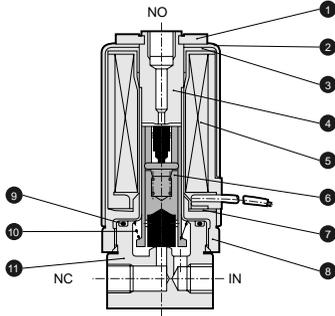
B Body, sealant combination

C Voltage

Symbol	Descriptions	
A	Orifice	
1	$\phi 1.0$	
2	$\phi 1.5$	
B	Body/sealant combination	
	Body	Sealant
Blank	Stainless steel	Nitrile rubber
0	Brass	Nitrile rubber
C	Voltage	
DC12V	Standard	12 VDC
DC24V		24 VDC
AC100V	Option	100 VAC 50/60Hz
AC200V		200 VAC 50/60Hz

Internal structure and parts list

● USG2-M5

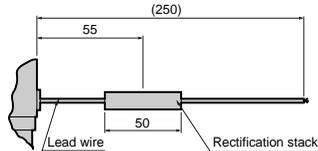
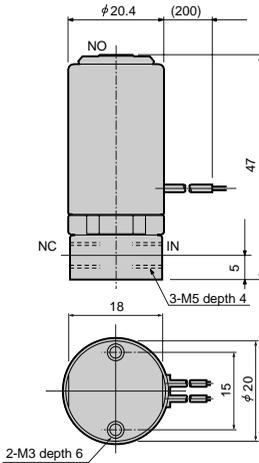


No.	Parts name	Materials	
1	Clip	PBT	PBT
2	Bonnet	SPC	Steel
3	Sub core	SPC	Steel
4	Core assembly	SUS316, SUS405 or equivalent	Stainless steel
5	Coil assembly	-	-
6	Plunger assembly	SUS405 or equivalent, NBR	Stainless steel, nitrile rubber
7	Waving washer	S65CM	Steel
8	Core B	SUM22	Free cutting steel
9	O ring	NBR	Nitrile rubber
10	Plunger spring	SUS304	Stainless steel
11	Body	SUS303 (C3604)	Stainless steel (brass)

() shows option.

Dimensions (Page 20)

● USG2-M5



The alternating current (AC) type has a rectifying stack assembled into the lead.

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

Compact direct acting 3 port solenoid valve



Compact direct acting 3 port solenoid valve

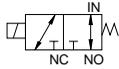
USG3 Series

- Universal type
- Port size: Rc1/8



JIS symbol

- Universal type



Specifications

Descriptions	USG3-6-1	USG3-6-2
Working fluid	Air, water, dry air, low vacuum (1.33×10^2 Pa (abs))	
Working pressure differential range MPa	0 to 0.7 (0 to 0.3 when NO pressurized)	0 to 0.3 (0 to 0.1 when NO pressurized)
Withstanding pressure (water pressure) MPa	2	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-20 to 50	
Valve seat leakage cm^3/min	0.2 or less (under air pressure)	
Installation attitude	Free	
Weight kg	0.14	
Port size	Rc1/8	Rc1/8
Orifice mm	1.2	1.8
Cv flow factor	0.05	0.1
C[$\text{dm}^3/(\text{s} \cdot \text{bar})$]	0.19	0.42
b	0.57	0.5
Electric specifications		
Rated voltage	12 VDC and 24 VDC (option: 100 VAC 50/60Hz, 200 VAC 50/60Hz)	
Allowable voltage fluctuation	$\pm 10\%$	
Power consumption W	DC	4
	AC	4
Heat proof class	E (molded coil: B)	

*1: Contact CKD when using water and the solenoid valve is not used for a long time.

*2: When using in a continuous energized state, use a fluoro rubber seal.

*3: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

How to order

USG3 - 6 - 1 - B - DC24V

Model no.

Port size
Rc1/8

A Orifice

B Body, sealant,
coil combination

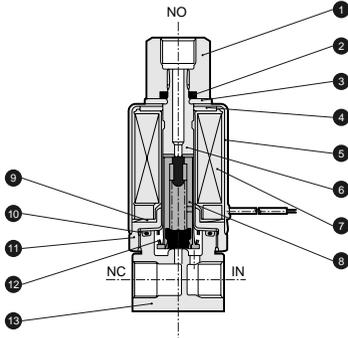
C Voltage

Symbol	Descriptions				
A Orifice					
1	$\phi 1.2$				
2	$\phi 1.8$				
B Body, sealant, coil combination					
	Body	Sealant	Coil	Treatment	
Blank	Standard	Nitrile rubber	Tape	-	
B	Option	Fluoro rubber	Molded coil	Vacuum inspection*4	
V					
D					
E					
W	Stainless steel	Fluoro rubber	Molded coil	Vacuum inspection*4	
H	Brass	Nitrile rubber			
J					Fluoro rubber
L	Stainless steel	Nitrile rubber			
M			Fluoro rubber		
C Voltage					
DC12V	Standard	12 VDC			
DC24V		24 VDC			
AC100V		Option	100 VAC 50/60Hz		
AC200V			200 VAC 50/60Hz		

*4: For option symbol V and W, vacuum is inspected at "leakage amount: 1.33×10^{-6} Pa · m³/s or less".

Internal structure and parts list

● USG3-6

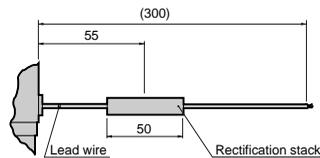
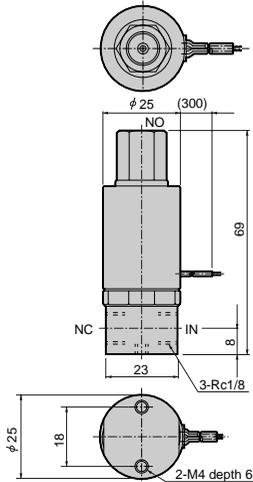


No.	Parts name	Materials	
1	Socket	C3604 (SUS303)	Brass (stainless steel)
2	O ring	NBR (FKM)	Nitrile rubber (fluoro rubber)
3	Washer	SPC	Steel
4	Bonnet piece	SPC	Steel
5	Bonnet	SPC	Steel
6	Core assembly	SUS316, SUS405 or equivalent	Stainless steel
7	Coil assembly	-	-
8	Plunger assembly	SUS405 or equivalent, NBR (FKM)	Stainless steel, nitrile rubber (fluoro rubber)
9	Waving washer	S65CM	Steel
10	O ring	NBR (FKM)	Nitrile rubber (fluoro rubber)
11	Core B	SUM22	Free cutting steel
12	Plunger spring	SUS304	Stainless steel
13	Body	C3604 (SUS303)	Brass (stainless steel)

() shows option.

Dimensions (Page 20)

● USG3-6



The alternating current (AC) type has a rectifying stack assembled into the lead.

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

Compact direct acting 3 port solenoid valve