

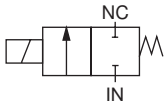
Compact Direct acting 2, 3-port solenoid valve

US(Resin body) Series

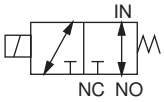
- NC, universal
- Port size: M6, barbed fitting(Compatible tube diameter ø6×ø4),1/4-28UNF

JIS symbol

- USB(2-port valve)
  :NC (open when energized)



- USG(3-port valve)
  : Universal



Common specifications

Item	USB/USG
Working fluid	Refer to the working fluid in individual specifications.
Working pressure differential MPa	0 to 0.9 (refer to max. working pressure differential in individual specifications.)
Proof pressure MPa	1.5(US*2), 2(US*3)(water pressure)
Fluid temperature °C	0 to 60 (no freezing)
Ambient temperature °C	0 to 50
Thermal class	Class 130 (B)
Atmosphere	No explosive or corrosive atmospheres
Valve seat leakage cm^3/min	0.2 or less(in air)
Port size	1/4-28UNF M6/barbed fitting (compatible tube diameter ø6×ø4)
Mounting orientation	Unrestricted
Rated voltage	24 VDC/12 VDC
Treatment	Oil-prohibited

Individual specifications

Item / Model No.		Working fluid	Orifice size [mm]	Cv	C[dm^3/(s·bar)]	b	Max. working pressure differential [MPa]	Power consumption [W]
2-port valve: Item Wetted metal material: 2 (equivalent to SUS316)								
USB2- *	-1	Water/pure water (*1)	1	0.03	0.13	0.36	0.6	3
	-2		1.5	0.06	0.27	0.28	0.3	3
USB3- *	-1		1.6	0.08	0.32	0.30	0.7	4
	-2		2.3	0.13	0.45	0.30	0.3	4
3-port valve: Item Wetted metal material: 2 (equivalent to SUS316)								
USG2- *	-1	Water/pure water (*1)	1	0.03	0.13	0.36	0.6 (0.2 for NO pressurization)	3
	-2		1.5	0.06	0.27	0.28	0.3 (when NO pressurized 0.1)	3
USG3- *	-1		1.6	0.08	0.32	0.30	0.2 (0.08 for NO pressurization)	4
2-port valve: Item Wetted metal material: 1 (equivalent to SUS405)								
USB2- *	-1	Air/water/ dry air/ low vacuum (1.33×10^2Pa(abs)) (*1)	1	0.03	0.13	0.36	0.7	3
	-2		1.5	0.06	0.27	0.28	0.3	3
USB3- *	-1		1.6	0.08	0.32	0.30	0.9	4
	-2		2.3	0.13	0.45	0.30	0.3	4
3-port valve: Item Wetted metal material: 1 (equivalent to SUS405)								
USG2- *	-1	Air/water/ dry air/ low vacuum (1.33×10^2Pa(abs)) (*1)	1	0.03	0.13	0.36	0.7 (0.3 for NO pressurization)	3
	-2		1.5	0.06	0.27	0.28	0.3 (when NO pressurized 0.1)	3
USG3- *	-1		1.6	0.08	0.32	0.30	0.3 (when NO pressurized 0.1)	4

*1: Check the compatibility between the wetted part material and working fluid before using chemical liquid for washing.
*2: When using a 3-port valve in a continuously energized state, select FKM for the sealant material.
*3: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.
*4: When using a 2-port valve at low vacuum, vacuum the NC port side.
*5: Make sure to read the safety precautions on pages 3 to 8 before use.

How to order

USB2 - M6 - 1 - S 2 - DC24V

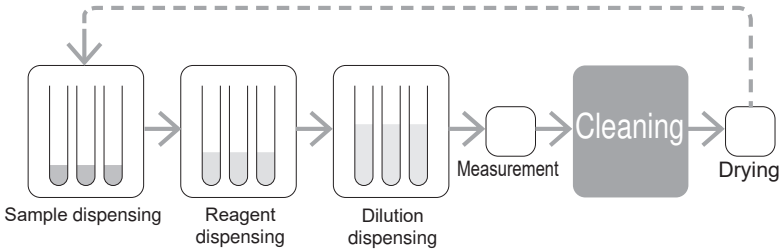
- Ⓐ Model No.
- Ⓑ Port size
- Ⓒ Orifice size
- Ⓓ Body/sealant
- Ⓔ Wetted metal material
- (*2) Ⓕ Voltage

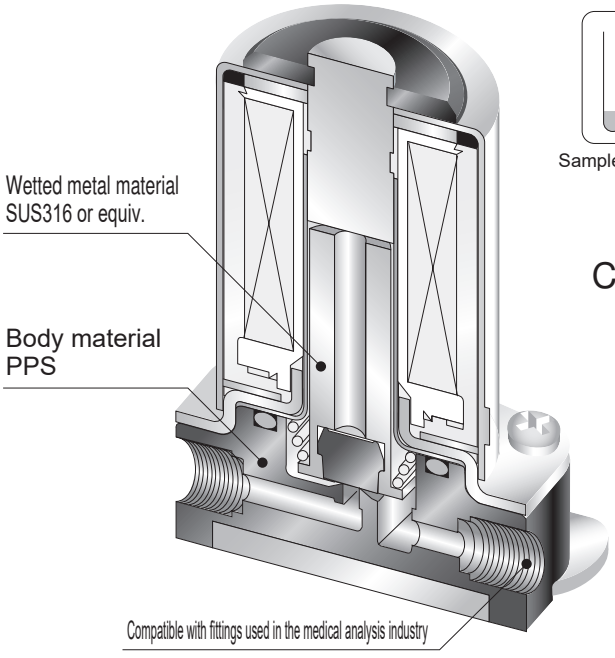
Code	Description	Ⓐ Model No. 2-port valve USB2	2-port valve USB3	3-port valve USG2	3-port valve USG3
Ⓑ Port size					
M6	M6	●	●	●(*1)	●
T6	Barbed fitting	●	●	●	●
4U	1/4-28UNF	●			
Ⓒ Orifice size					
1	Refer to text at right	ø1	ø1.6	ø1	ø1.6
2	Refer to text at right	ø1.5	ø2.3	ø1.5	
Ⓓ Body/sealant					
	Body / Seal				
G	PPS / NBR	●	●	●	●
S	PPS / FKM	●	●	●	●
Ⓔ Wetted metal material					
1	SUS405 or equiv.	●	●	●	●
2	SUS316 or equiv.	●	●	●	●
Ⓕ Voltage					
	DC12V	●	●	●	●
	DC24V	●	●	●	●

⚠ Precautions for model No. selection

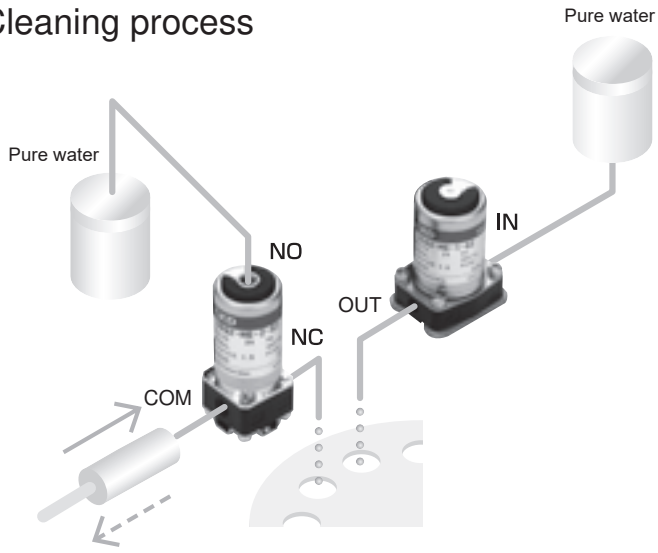
*1: NO port of USG2 is M5.
*2: 12 VDC, For voltages other than 24 VDC, contact CKD.

Applications



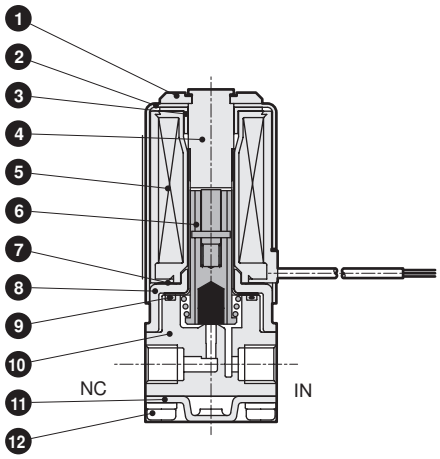


Cleaning process

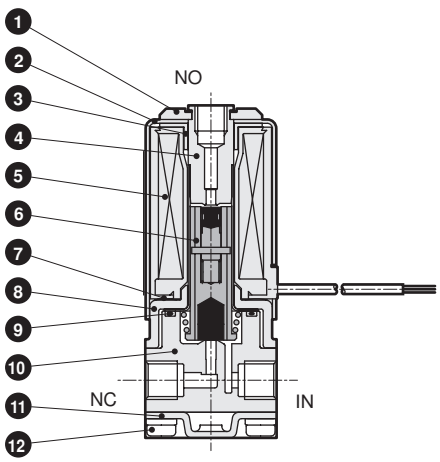


Internal structure and parts list

● USB2



● USG2

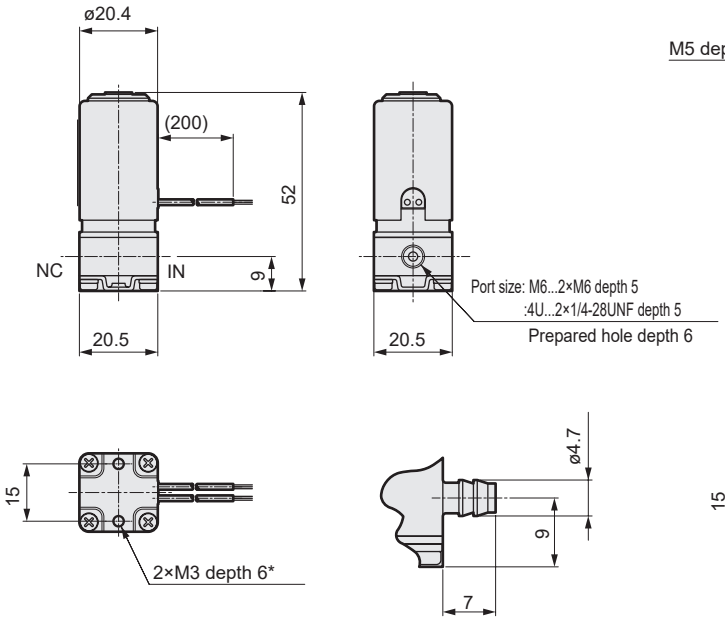


Part No.	Part name	Material	Part No.	Part name	Material
1	Clip	PBT	7	Wave washer	S65C
2	Bonnet	SPC	8	Core B	SPC
3	Sub core	SPC	9	O-ring	NBR (FKM)
4	Core assembly	SUS316 or equivalent (SUS405 or equivalent), SUS316L	10	Body	PPS
5	Coil assembly	-	11	Retainer plate	SPC
6	Plunger assembly	SUS316 or equivalent (SUS405 or equivalent), NBR (FKM)	12	Pan head machine screw	SWRM

Materials in ( ) are selectable based on options.

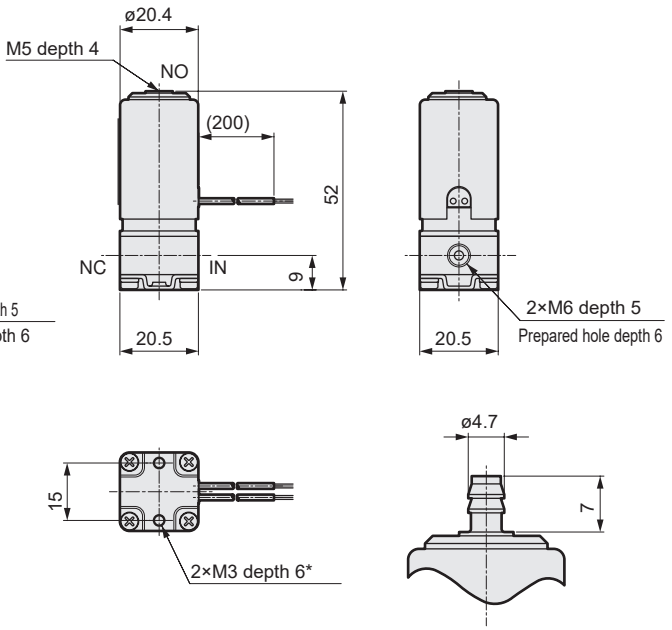
Dimensions

● USB2



[For option code "T6"]
Barbed fitting dimensions

● USG2

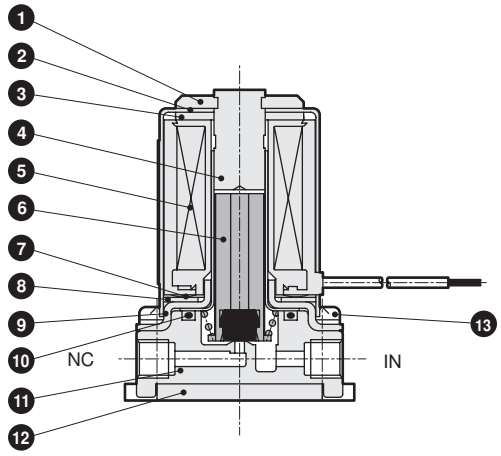


[For option code "T6"]
Barbed fitting dimensions of NO port
(IN and NC ports are the same as the 2-port valve)

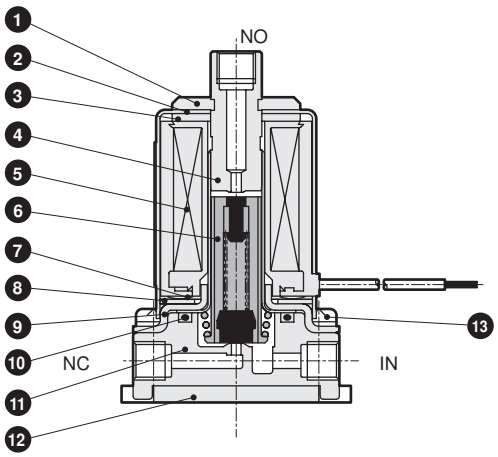
* Keep the product screw insertion depth to within 6 mm.

Internal structure and parts list

● USB3



● USG3

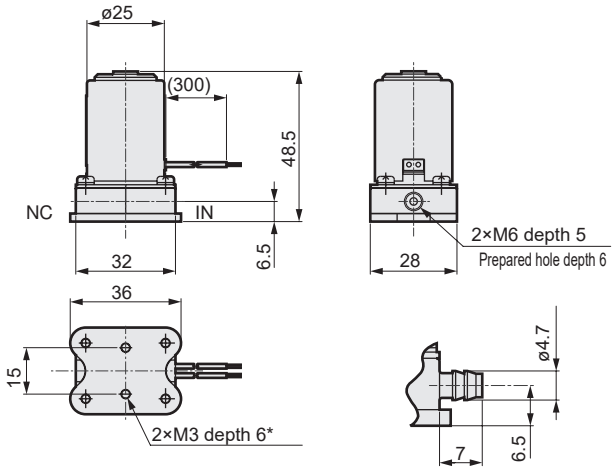


Part No.	Part name	Material	Part No.	Part name	Material
1	Clip	PBT	8	Sub core	SPC
2	Bonnet	SPC	9	Core B	SPC
3	Bonnet piece	SPC	10	O-ring	NBR (FKM)
4	Core assembly	SUS316 or equivalent (SUS405 or equivalent), SUS316L	11	Body	PPS
5	Coil assembly	-	12	Retainer plate	SPC
6	Plunger assembly	SUS316 or equivalent (SUS405 or equivalent), NBR (FKM)	13	Pan head machine screw	SWRM
7	Wave washer	S65C			

Materials in ( ) are selectable based on options.

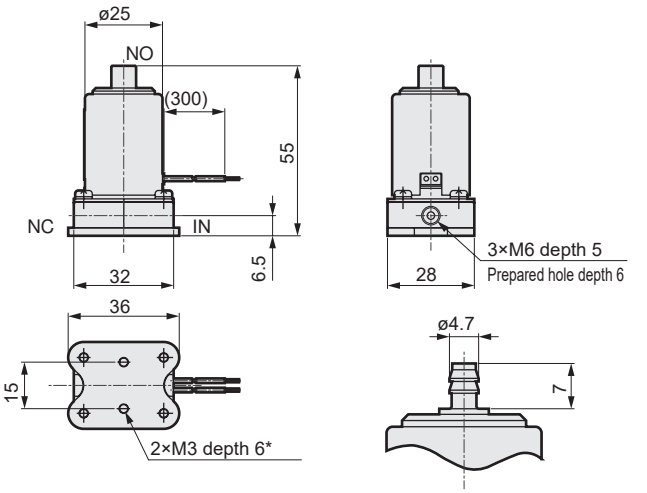
Dimensions

● USB3



[For option code "T6"]
Barbed fitting dimensions

● USG3



[For option code "T6"]
Barbed fitting dimensions of NO port
(IN and NC ports are the same as the 2-port valve)

* Keep the product screw insertion depth to within 6 mm.