

Flow control valve made of SUS316

# Needle Valve SUS316 Stainless Steel



Suggested fields



Food



Pharma



Chemical



Medical



Semiconductor



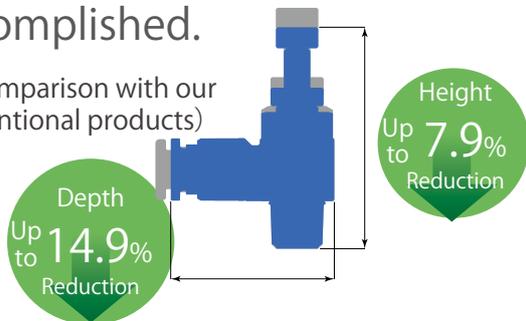
Secondary battery

The same lock-claws mechanism as tube fitting is adopted.

Disconnecting tubing is easier now.

Reduction in size is accomplished.

(By comparison with our conventional products)



Average of 5.4% cost reduction is achieved.

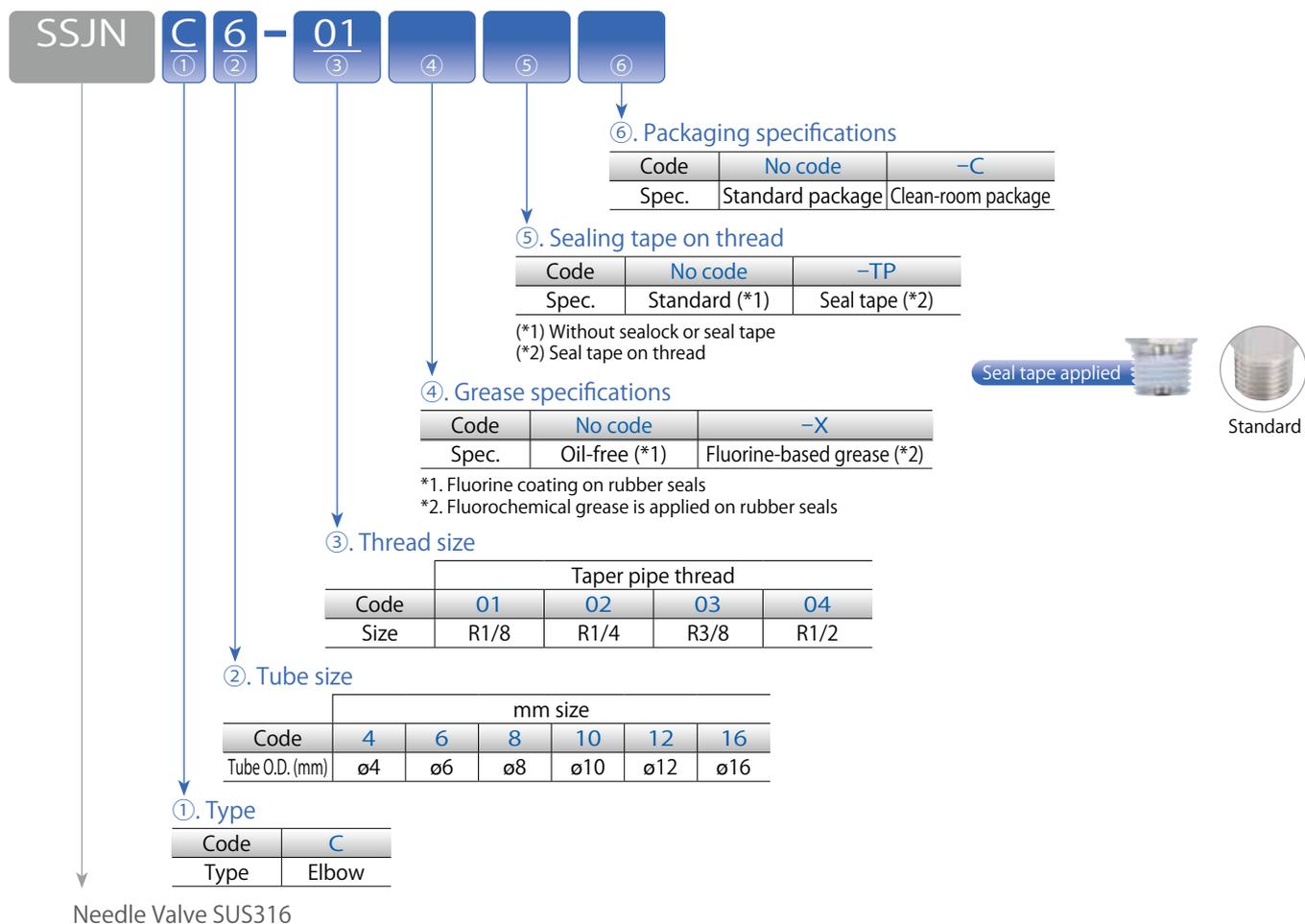
Cost reduction from the existing models is achievable.

All parts used are oil-free and Food Sanitation Act compliant.  
(Please check our Website for more details.)

All metal parts are made of SUS316 stainless steel with excellent anticorrosivity.

The material of sealing rubber is FKM.

## Model designation (Example)



## Specifications

Fluid medium	Air, water, others such as chemicals (Conditional *)
Max. operating pressure	1.0MPa
Max. vacuum	-100kPa
Operating temp. range	-5 ~ 150°C (no freezing)

⚠ Warning (\*) When the fluid medium is water or other liquid, be sure to read and follow the conditions below.

1. Surge pressure must be controlled lower than max. operating pressure when using water or liquid as a fluid medium.
2. General tap water in Japan, free from foreign substances or contamination, can be used. Carry out the evaluation under an actual operating condition for using other kind of water.
3. Be sure to place Insert Ring (WR) into the tube edge when using water or liquid as a fluid medium.
4. The specifications above may not be applied when the fluid medium is a chemical or a mixed gas, depending on its usage conditions. Be sure to verify its suitability on the user side before using.

### Identification



Needle Valve SUS316 and Speed Control Valve SUS316 can be identified by the marking on their back.



### Needle Valve

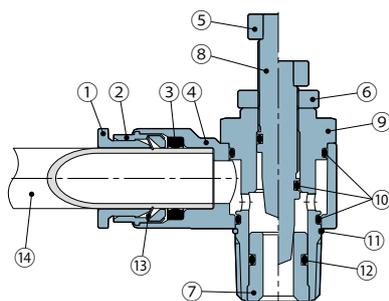


### Speed Control Valve



Sectional drawing

In the case of Elbow type: SSJNC12-03



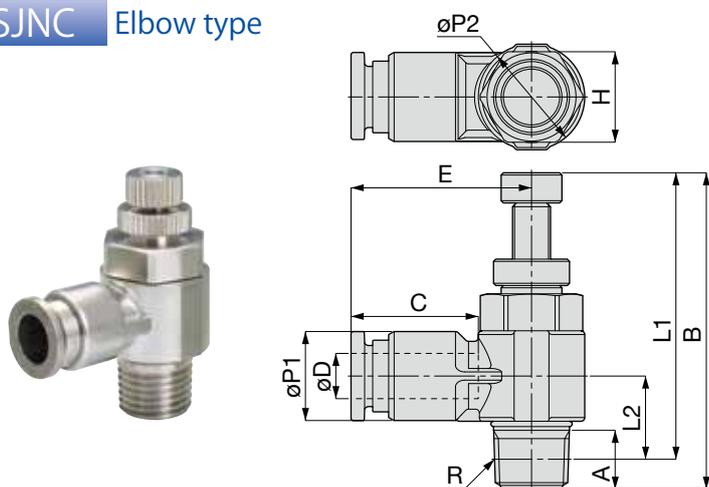
No.	Parts	Material (Treatment)
①	Release ring	SUS316 (*1)
②	Guide ring	SUS316
③	Elastic sleeve	FKM (*2)
④	Resin body	SUS316
⑤	Knob	SUS316
⑥	Lock nut	SUS316
⑦	Core cylinder	SUS316
⑧	Needle	SUS316
⑨	Metallic body	SUS316 (*2)
⑩	O-ring	FKM (*1)
⑪	C-ring	SUS316
⑫	O-ring	FKM
⑬	Lock claws	SUS316
⑭	Tube	Various PISCO tubes are available

\*1. Fluorine coating

\*2. As no seal tape nor sealock is applied on the taper pipe thread, please handle piping with care.

Exterior dimensional Drawings

SSJNC Elbow type



Unit: mm

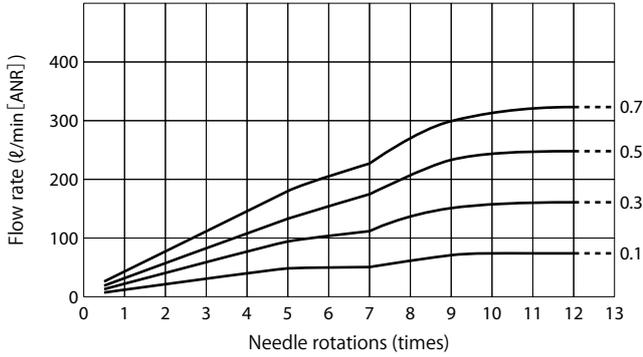
Model	Tube O.D. øD	R	A	B		L1		L2	øP1	øP2	Tube end C	E	Hex H	Weight (g)
				(max.)	(min.)	(max.)	(min.)							
SSJNC4-01④⑤⑥	4	R1/8	7.8	42	35.3	38	31.3	11	9.9	14	14.9	22.4	12	29
SSJNC6-01④⑤⑥	6	R1/8	7.8	42	35.3	38	31.3	11	11.8	14	16.8	23.8	12	31
SSJNC8-01④⑤⑥	8	R1/8	7.8	42	35.3	38	31.3	11.9	13.8	14	17.8	24.4	12	32
SSJNC8-02④⑤⑥		R1/4	10.6	49.7	42.3	43.7	36.3	13.1		19		26.7	17	60
SSJNC10-02④⑤⑥	10	R1/4	10.6	49.7	42.3	43.7	36.3	14.6	16.8	19	19.7	30.7	17	68
SSJNC10-03④⑤⑥		R3/8	13.2	57.4	48.1	51.1	41.8	16.9		23		31.2	21	102
SSJNC12-03④⑤⑥	12	R3/8	13.2	57.4	48.1	51.1	41.8	18.4	19.8	23	23.3	36	21	113
SSJNC12-04④⑤⑥		R1/2	15.4	65.3	54.4	57.1	46.2	18.7		28		37.3	24	165
SSJNC16-04④⑤⑥		R1/2	15.4	65.3	54.4	57.1	46.2	20.7		23.7		28	24	40.4

\* "L1" and "L2" are reference values for length dimensions after tightening thread.

## Flow characteristics

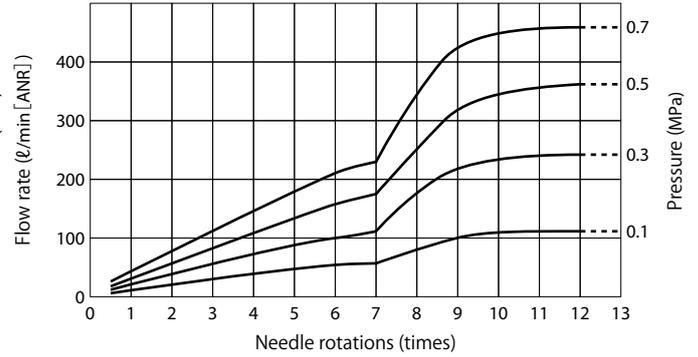
SSJNC4-01

Controlled flow



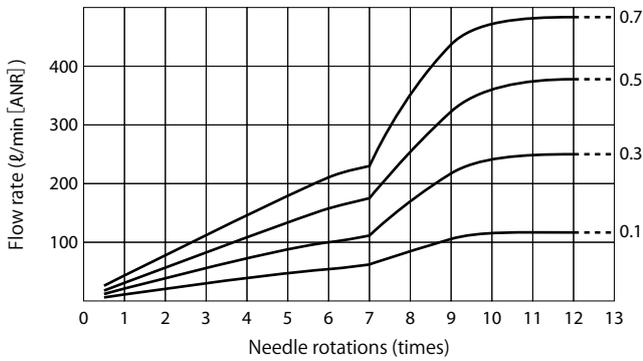
SSJNC6-01

Controlled flow



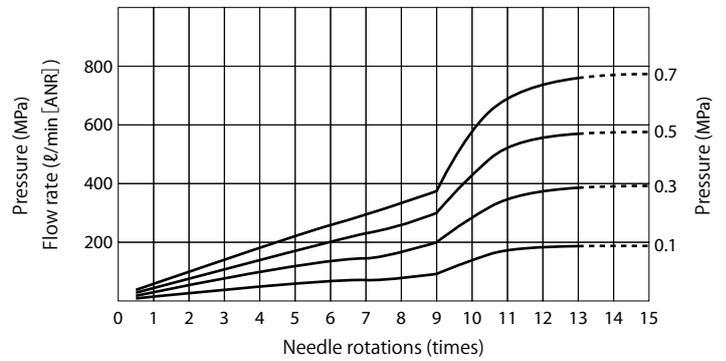
SSJNC8-01

Controlled flow



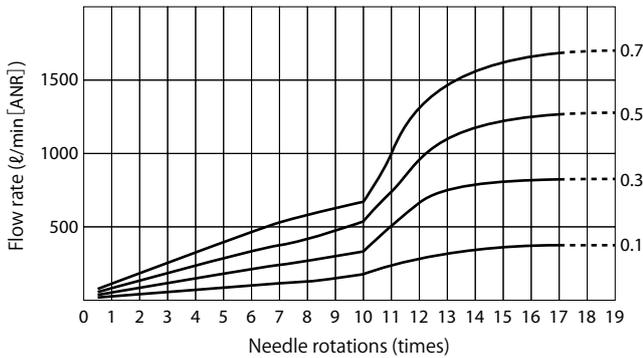
SSJNC8-02  
SSJNC10-02

Controlled flow



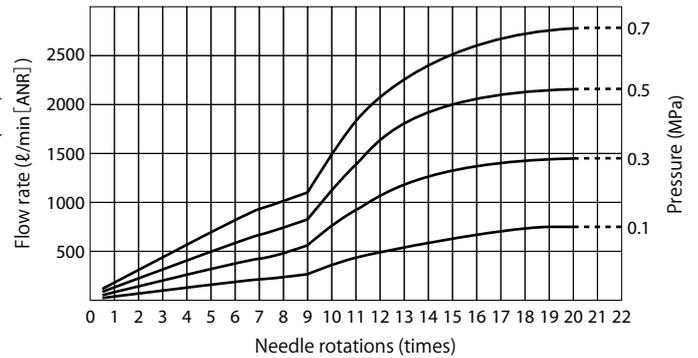
SSJNC10-03  
SSJNC12-03

Controlled flow



SSJNC12-04  
SSJNC16-04

Controlled flow



## Safety Instructions

### ⚠ Warning

1. Check the chemical resistance before use when the fluid medium is a chemical or mixed gas. Depending on the usage conditions, it may cause damage to the fitting body, disengagement of the tube, or leakage.
2. Do not use the product if it does not satisfy all the conditions listed in the specifications when the fluid medium is water or liquid. It may cause damage to the fitting body, disengagement of the tube, or leakage.
3. When setting the speed of actuators, open the air gradually by turning the needle from the fully-closed position. Otherwise, the actuators can pop or cause unplanned movements. Turn the needle clockwise to close and counterclockwise to open.
4. When adjusting the flow rate in the equipment, open the air gradually by turning the needle from the fully-closed position. If the needle is in open position, instant, large flow discharge will occur and may cause damage to the product.
5. Be sure to use Insert Ring under the following conditions of use. Use without Insert Ring may cause disengagement of tubing and air leakage.
  - In case the temperature of fluid medium and environment of use fluctuates intensely
  - When using at high temperature
6. Do not use under conditions where the fitting part is subject to shaking or impact. It may cause damage to the product or the screw to loosen.

### ⚠ Caution

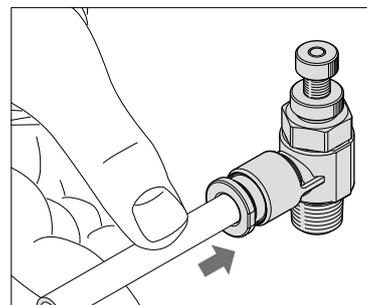
1. Leakage is allowed for the controlled flow even when the needle is fully closed position and should not be used in such a way that zero leakage is required.
2. As no sealock (thread sealant) is coated on taper pipe thread, be careful with the installation. When applying sealing tape or agent on the thread, wrap or apply it leaving 1.5 to 2 thread ridges from the tip of the thread unapplied.
3. The corrosivity and dust emission depend on the operating environment. If there is concern about adverse effects on the machinery or the equipment, evaluate the adoption of the product in advance in accordance with the operating conditions.

## How to connect and disconnect tubes

### 1. Inserting and removing tubes

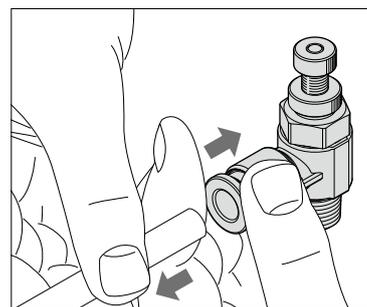
#### ① Inserting tubes

Insert a tube into Push-in fitting up to the tube end. Lock claws bite and hold the tube automatically. The elastic sleeve seals the tube simultaneously. Refer to "8-1. Precautions for tube insertion (push-in fitting)" under "Common Safety Instructions for Controllers" on our website.



#### ② Removing tubes

Remove a tube by pushing down the release ring and unlocking the Lock claws. Make sure to shut off the air flow before removing the tube.



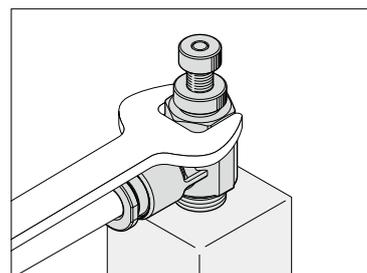
### 2. Tightening the thread

#### ① Tightening the thread

Use a wrench to tighten a hexagonal head part of the valve. The taper pipe thread type model has no sealock application. Apply seal tape or sealant on the thread as needed. Refer to the table below "Tightening torque" for tightening the thread.

● Table: Tightening torque

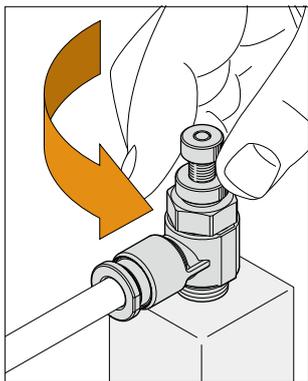
Thread	Size	Tightening torque (N·m)
Taper pipe thread	R1/8	4.5 ~ 6.5
	R1/4	7 ~ 9
	R3/8	12.5 ~ 14.5
	R1/2	20 ~ 22



## How to adjust flow rate

### ①. To increase flow rate

Turn the needle counterclockwise from the fully-closed position. At the desired flow rate, be sure to tighten the lock nut so that the flow rate setting remains constant.



### ②. To reduce flow rate

Turn the needle clockwise if the flow rate increases too much and needs to be reduced. At the desired flow rate, be sure to tighten the lock nut so that the flow rate setting remains constant.

