

CHECK VALVES

- Check valves in which media flows in one direction.
These valves restrict flow in the other direction.
- Mounting is simple due to the integrated quick fittings.
They are perfect for compact piping.
- Excellent durability and the electroless nickel plating fits standard specifications.

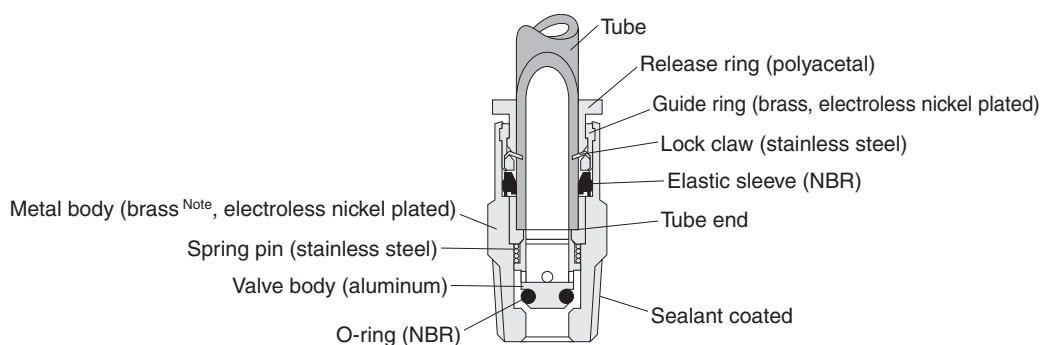
Symbol



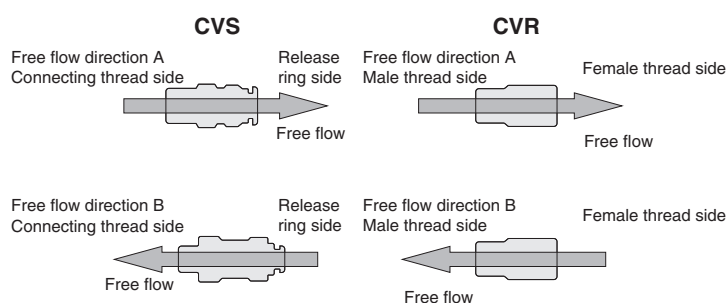
Specifications

Media	Air
Operating pressure range	-0.1~0.9MPa [-15~131 psi]
Minimum operating differential pressure	0.01 MPa [1 psi] or less
Minimum non-return differential pressure	0.02 MPa [3 psi]
Operating temperature range	0~60°C [32~140°F]
Recommended tube	Nylon tube, urethane tube
Sales unit	1 pc.

Inner Construction, Major Parts and Materials



Body configuration and control direction (only to CVS and CVR)



● CVU

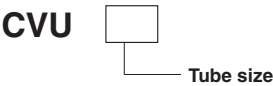


Model sample: CVU8

Tube size	
	4
	6
	8
	10
	12

Name	Material
Metal body	Aluminum

Order codes

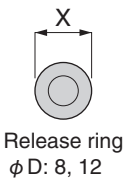
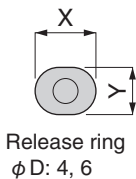
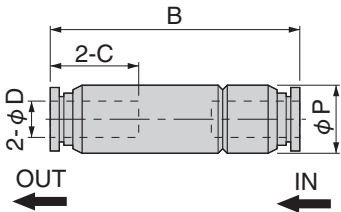


Dimensions mm

Union
CVU



Model	Tube outer diameter ϕD	B	ϕP	C	X	Y	Effective area mm^2	Mass g
CVU4	4	33.6	9	10.9	9.8	7.8	2.7	5.3
CVU6	6	38.2	12	11.7	11.8	9.8	6	10
CVU8	8	54.9	15	18.2	13.8	—	13.5	21
CVU10	10	73.4	25	20.7	16.8	—	32	63
CVU12	12	78.6	25	23.3	19.8	—	46	69



Union

● CVU

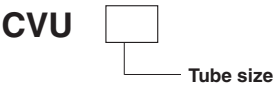


Model sample: CVU8

Tube size	
	0.157
	0.236
	0.315
	0.394
	0.472

Name	Material
Metal body	Aluminum

Order codes

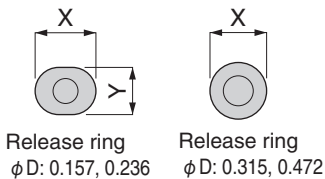
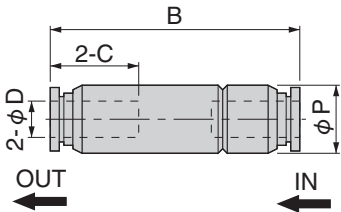


Dimensions in

Union
CVU



Model	Tube outer diameter ϕD	B	ϕP	C	X	Y	Effective area C_v	Mass oz
CVU4	0.157	1.323	0.354	0.429	0.386	0.307	49.815	0.187
CVU6	0.236	1.504	0.472	0.461	0.465	0.386	110.700	0.353
CVU8	0.315	2.161	0.591	0.717	0.543	-	249.075	0.741
CVU10	0.394	2.890	0.984	0.815	0.661	-	590.400	2.222
CVU12	0.472	3.094	0.984	0.917	0.780	-	848.700	2.434



Safety Precautions (Check Valve)

The safety precautions for the check valves are shown below. Be sure to read the material in the front of the General Personal Catalog regarding safety precautions other than those below.

WARNING

- Sometimes the body produces heat when the switch operating frequency of the valve body is extreme. This can cause the risk of burns due to heat. Contact us if the operating frequencies are extreme.

Handling Instructions and Precautions

● Mounting

Precautions for mounting the body

- ① Use the appropriate tool to tighten the hex nuts on the fitting.
- ② Refer to the following table of recommended tightening torques when attaching the threaded parts. If you use more than the recommended torque when tightening the threaded parts, you may cause leaks by fracturing the threads or deforming the gaskets. Also, if you use less than the recommended torque when tightening the threaded parts, it may result in looseness or leaks.

Recommended tightening torque

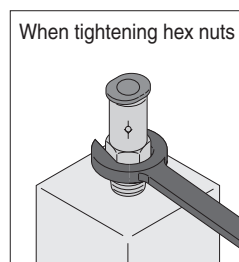
Thread type	Thread size	Tightening torque
Metric thread	M5×0.8	1.5 to 1.9 N·m [13.277 to 16.817 in·lbf]
	M6×1	2 to 2.7 N·m [17.702 to 23.898 in·lbf]
Tapered threads for pipes	R1/8	7 to 9 N·m [61.957 to 79.659 in·lbf]
	R1/4	12 to 14 N·m [106.212 to 123.914 in·lbf]
	R3/8	22 to 24 N·m [194.722 to 212.424 in·lbf]
	R1/2	28 to 30 N·m [247.828 to 265.530 in·lbf]

Precautions for disconnecting fittings

- ① Use the appropriate tool to remove the hex nuts from the fitting.
- ② Remove the sealant from the threads on the other parts. If the sealant is stuck to the other parts, it may get into peripheral devices and cause a malfunction.

Tightening threaded parts

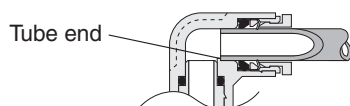
- ① Tightening threaded parts
Use a wrench on the hex nut to tighten the threaded parts.



● Attaching and detaching tubes

Precautions for attaching tubes

- ① Confirm that the cut surface of the tube is cut straight across, that the outer surface of the tube is not damaged, and that the tube has not become oval shaped.
- ② When connecting tubes, if you do not insert the tube all the way to the tube end, it may result in leaks.



- ③ After installing the tube, pull on it to check that it does not come off.
- ④ Do not meaninglessly press on the release ring before attaching a tube. Doing so may cause the tube to become detached.

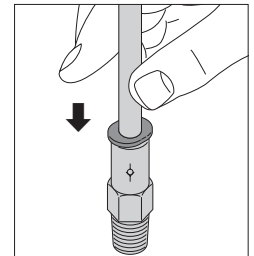
Precautions for removing tubes

- ① Before removing tubing, be sure to confirm that the pressure inside the tubing is zero.
- ② Uniformly press the release ring inwards as far as it goes and then pull out the tubing. If you do not fully press in on the release ring, the tube may not come out, or the tubing may become scratched causing debris to be left inside the fitting.

How to attach and detach tubes

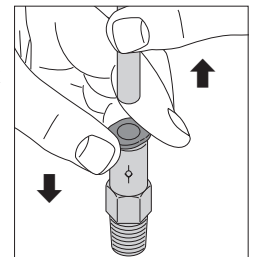
① Attaching tubes

Check valves are equipped with lock claws that hold tubes in place when they have been pushed all the way to the end, and with an elastic sleeve for sealing the periphery around the tubes.



② Removing tubes

When removing a tube, pressing the release ring opens the lock claw and the tube can be pulled out. Be sure to stop the air before removing tubes.



If removing pipes is difficult because the piping space is very constricted, consult your nearest Koganei sales office for specialized tools that are available.

Specialized tools for removing tubes

For $\phi 3$ [0.118], $\phi 4$ [0.157], and $\phi 6$ [0.236] tubes

Order codes: **UJ-1**



For $\phi 6$ [0.236], $\phi 8$ [0.315], $\phi 10$ [0.394], and $\phi 12$ [0.472] tubes

Order codes: **UJ-2**



Depending on the usage conditions, check valves may produce a droning (vibrating) noise. Consult the nearest Koganei sales office for countermeasures against the noise.

Handling Instructions and Precautions

●Usable tubes

Use of both nylon tubing and urethane tubing are supported. Nylon tubing outside diameter precision should be within ± 0.1 mm [± 0.004 in] (nominal) for nylon tubing and within ± 0.15 mm [± 0.006 in] (nominal) for urethane tubing. Use tubing with ovality (difference between major axis and minor axis) within 0.2 mm [0.008 in] (use of Koganei tubing is recommended). Use of tubing that is not a Koganei genuine product or a compatible (recommended) product may result in tube disconnection, air leakage, or other problems. Be sure to check on tubing before building a pneumatic system.



1. Use tubing with an exterior that is not damaged. If tubing becomes damaged after repeated use, cut off the damaged portion.
2. Do not allow tubing to become severely bent or twisted near the connection to a fitting. Such a condition creates the risk of air leakage. The table below shows minimum radius guidelines for nylon and urethane tubing.
3. Do not use extremely soft tubing, which causes a severe drop in pull-out strength.
4. Before removing any tubes, always turn off the air supply. Also, be sure to confirm that the air inside the pipes is completely vented before starting.

mm [in]

Tube size	Minimum bending radius	
	Nylon tube	Urethane tube
$\phi 4$ [0.157]	20 [0.787]	10 [0.394]
$\phi 6$ [0.236]	30 [1.181]	15 [0.591]
$\phi 8$ [0.315]	50 [1.969]	20 [0.787]
$\phi 10$ [0.394]	80 [3.150]	27 [1.063]
$\phi 12$ [0.472]	150 [5.9]	35 [1.378]