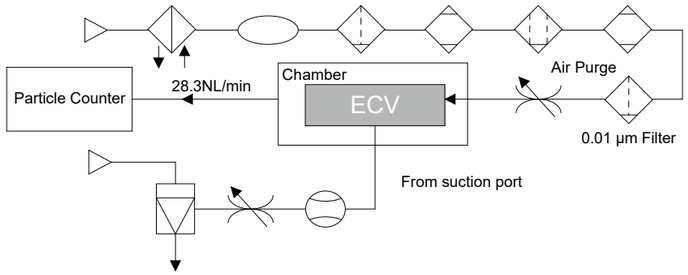
Particle Emission Characteristics Reference Data

Test Circuit



Measurement Method

① Test sample set in acrylic resin chamber.

② Clean air supplied in the same quantity as the particle counter intake rate (28.3 NL/min).

③ Set in a clean bench of ISO Class 4 (Class 10) within the chamber.

④ Test sample activated, particle concentration change over time measured up to required measurement time.

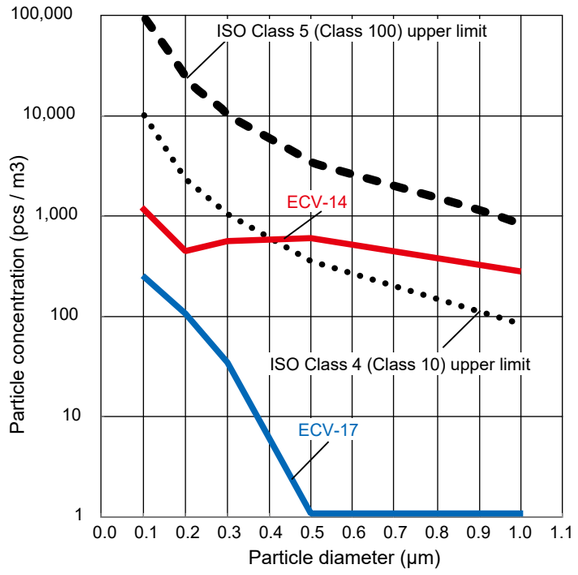
⑤ Test sample operating speed

Measurement Conditions

Item		Content
Test Sample	Model No.	For ECV-14-40040, operating speed 800 mm/sec
		For ECV-17-40040, operating speed 800 mm/sec
	Acceleration/Deceleration Time	0.4 sec
	Air Suction Volume	60.0 NL/min for ECV-14-40040
		80.0 NL/min for ECV-17-40040
Chamber	Internal Volume	28.3 NL
Particle Counter	Name	Laser dust monitor
	Minimum measurable particle size	0.1 μm
	Suction Volume	28.3 NL/min
Setting Conditions	Sampling	10 min
	Interval	40 min
	Measurement Time	50 h

Particle Emission Data

Data is measured under the above conditions and is not guaranteed.



To Use This Product Safely

Be sure to read this before use.
For general information on Electric Actuators, please refer to Intro 15.

Individual Precautions: Electric Actuator ECV Series

During Design and Selection

Danger

■ Do not use in locations where hazardous materials such as ignitable, flammable, or explosive substances are present. There is a possibility of ignition, fire, or explosion.

■ Ensure that the product is free of water droplets and oil droplets. This can cause fire or failure.

■ When mounting the product, be sure to securely hold and fix it (including the workpiece).
There is a risk of injury due to the product tipping over, falling, or malfunctioning.

Warning

■ Use within the product's specified operating range.

■ If there is a risk of danger to the human body, install a protective cover.
● If the moving parts of the electric actuator pose a particular danger to the human body, design the structure so that people cannot enter the drive range of the electric actuator or directly touch that area.

■ Design a safety circuit or equipment so that damage to equipment, injury to persons, etc., does not occur when the machine stops in the event of a system failure such as emergency stop or power outage.

■ Install indoors with low humidity.
In places exposed to rain or high humidity (over 85% RH, with condensation), there is a risk of electric leakage and fire. Oil drops and oil mist are also strictly prohibited.
● Use in such environments can cause damage and malfunction.

■ Use and store in accordance with the working/storage temperatures and where there is no condensation.
(Storage temperature : -10 °C to 50 °C, Storage humidity : 35 % to 80 %, Operating Temperature : 0 °C to 40 °C, Operating humidity : 35 % to 80 %)
This can cause abnormal product stoppage or reduced service life. If heat accumulates, ventilate.

■ Install in a location free from direct sunlight, dust, and corrosive gas/explosive gas/inflammable gas/combustibles, and away from heat sources. In addition, this product has not been considered for chemical resistance.
This can cause failure, explosion, or fire.

■ Use and store in a location free from strong electromagnetic waves, ultraviolet rays, and radiation.
This can cause malfunction or failure.

■ Consider the possibility of power source failure.
● In case of breakdown in the power source, take countermeasures without causing trouble or damage to the operator or equipment.

■ Consider the operating state when restarting after an emergency stop or abnormal stop.
● Design so that restarting does not cause harm to people or damage to the equipment.
Also, if it is necessary to reset the electric actuator to the starting position, design a safe control device.
Consider the possibility of failure of the installed motor.
Take measures to prevent injury to personnel or damage to equipment in the event of a power source failure.

■ Avoid using this product where vibration and impact are present.

■ Do not apply a load to the product that is greater than or equal to the allowable load listed in the materials for selection.

Caution

■ Do not use in a range where the moving table could collide with the stroke end and break.

■ Clearly state the maintenance conditions in the equipment's instruction manual.
● The functionality of this product may be significantly reduced and safety may not be ensured depending on the usage conditions, environment, and maintenance. If maintenance is performed correctly, the product's functions can be fully utilized.

■ Regarding installing, setting up, adjusting and maintaining the product, read through the instruction manual and operate correctly.

■ The product is manufactured in conformity with the related standards. Never disassemble or modify.

■ Refer to the instruction manual of the motor mounted to the product and control for your safety before wiring and designing.

■ The customer is responsible for confirming the compatibility of CKD products with the customer's systems, machines and equipment.

■ Do not pressurize from the suction port. Lubricating grease may scatter, potentially reducing product life.

■ The required air intake amount differs depending on the model. Please use the required air suction volume for your model.

ECV-14	ECV-17	ECV-22
60 NL/min or less	80 NL/min or less	100 NL/min or less

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Equipment Product Site(https: //www.ckd.co.jp/kiki/en/) → 'model No.' → Instruction Manual.