

RS CAVC Series CAV Terminal Units

Installation, Operation & Maintenance



RS VAV

General

Royal Service CAVC is a mechanical type Constant Air Volume regulator working without external power supply. Airflows through the damper, the built-in bellows balance against the stainless steel spring to achieve a constant air volume.

Royal Service CAVC is made as CAVC-Q and CAVC-R rectangle & round, suitable for air supply and exhaust system.

Single duct VAV terminal box configuration table

Serial No.	Description	Standard	Option
1	Casing	√	
2	Damper	√	
3	Air bag	√	
4	Control box	√	
5	Extended shaft		√
6	Electric actuator		√
7	Electric actuator mounting bracket		√

Delivery

CAVC delivered as whole terminal, mechanical part and control part are assembled at the factory.

Storage

CAVC type regulator store in ventilated and dry warehouse or grid enclosure, and prevent the products from collision and corrosion by corrosive gas.

Check before installation

1. Check the box is without defects such as deformation.
2. Check the box is without any loose parts.
3. Check the air bag is free and can be inflated and deflated.
4. Check the air damper is free.
5. Unit cannot be used in the corrosive gas supply and exhaust system, special not allow be used to supply air which has dust or fiber.
6. The working temperature range 32 – 155F (0 to 50°C).
7. Install horizontally.
8. Use arrow indication for correct air flow direction.

Installation

1. CAVC-Q: Connect the inlet and intake duct flange, connect the outlet and supply air duct flange. The connection should be reliable, no loose and without air leakage. Install the hanger bracket under the box.(Installation shown as figure 1, 2)
2. CAVC-R: Connect the unit inlet/outlet to air duct inlet/outlet and then tighten by 4~6 self-tapping screws or rivets, and then seal the joint by sealant. Install the hanger bracket under the box.(Installation shown as figure 3)
3. Set air flow to design. If air balance is completed set against air balancer.
4. Units with optional electrical actuators install with correct electrical codes for all electrical wiring and connections. 24 volt transformers are required for 24 volt damper motor actuators.
5. Unit should not be installed in non-standard air conditions and exposed to gas or other chemicals. Heavy dust or fibers will affect the flow.

Attention

1. Units should be installed according to the installation direction shown on the units.
2. Units not subject to location restriction, but the valve shaft must be horizontal.
3. In order to ensure the unit's air control precision, it is recommended that the length of inlet duct should be 1.5 ~ 3 times equivalent diameter or above, the length of outlet duct should be 0.5 ~ 1.5 times equivalent diameter or above.
4. During installation, please avoid damaging the casing, this can cause the damping increase or damper be stuck.
5. No adjustment need internal. If the units operation does not control the air flow and the damper fails, replace with a new unit.

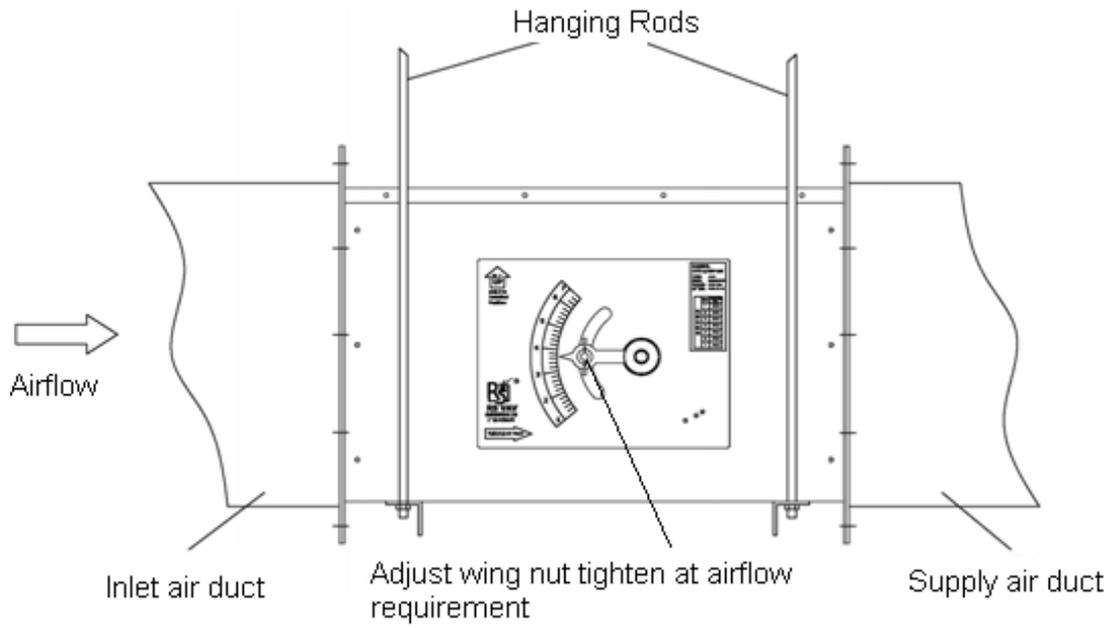


Chart 1(CAVC-Q)

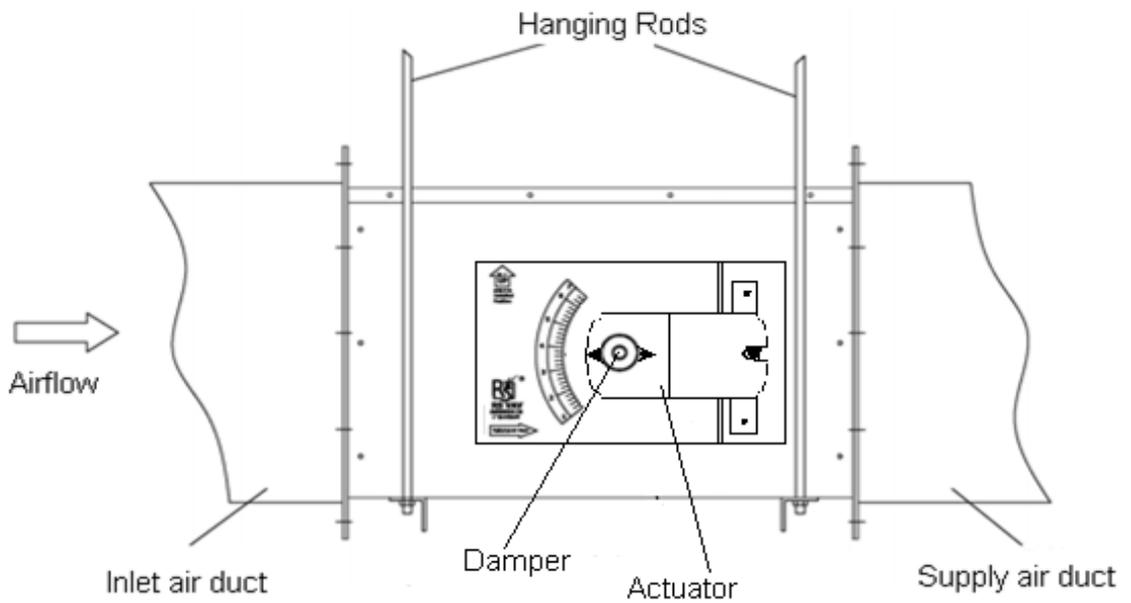


Chart 2(CAVC-Q)

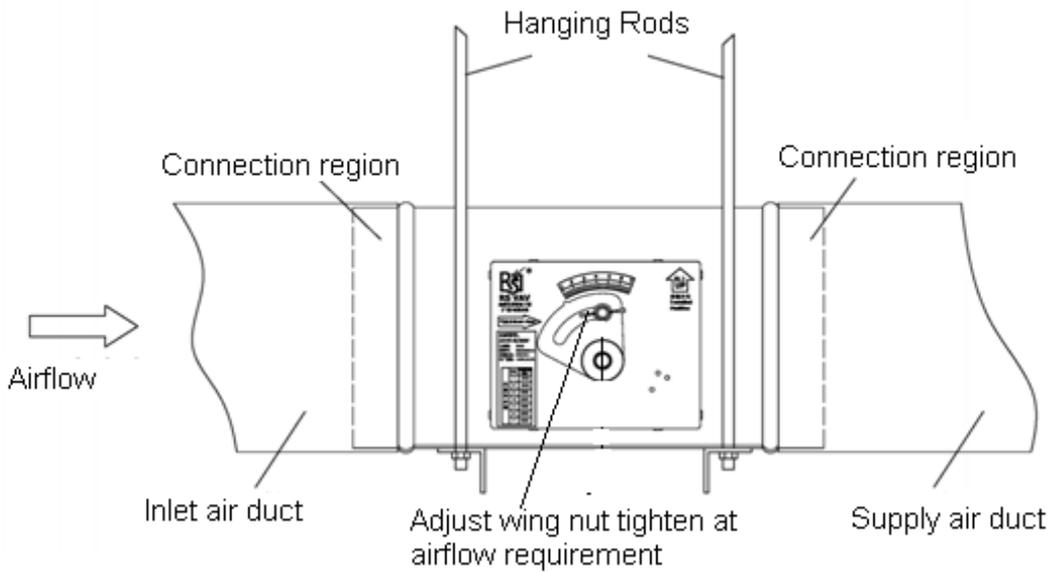


Chart 3(CAVC-R)

Operation

Airflow setting

1. After unit installation, loosen the wing nut and adjust the demanded airflow and then tighten.
2. Due to the site condition and standard test conditions may not be in agreement, the unit can be set and adjust according to the air volume which is balanced on site.
3. When air balance is required after the initial test under normal conditions, no other adjustment.
4. Static pressure at the fan can be adjusted against the highest resistant ducting.
5. Optional electrical actuator set Min and Max settings at the actuator by setting the damper bolts.
6. Pressures of inlet should be maintained 0.25 to 4 inch WG (62 to 1000 Pa), air balancing parties should balance and adjust against design air flow.

**If any technical questions during installation, please contact
nearest Royal Service Air-Conditioning Office.**