

# STD COP caster Specification

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Manufacturer	:	Zhuhai Rocateq Technology Company Ltd D,3rd Floor 1# Factory 8,Chuang Xin Liu Road,Xiangzhou District,Zhuhai,Guangdong,519085,P.R.China
Trade Mark	:	Rocateq
EUT	:	Caster STD&OCS COP
M/N	:	Caster STD COP, Caster OCS COP

## FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1 . Subject Matter and Scope

This standard specifies the Rocateq COP shopping caster production, technical requirements, test methods, inspection rules, marking, packaging and storage.

2 . Reference Standard

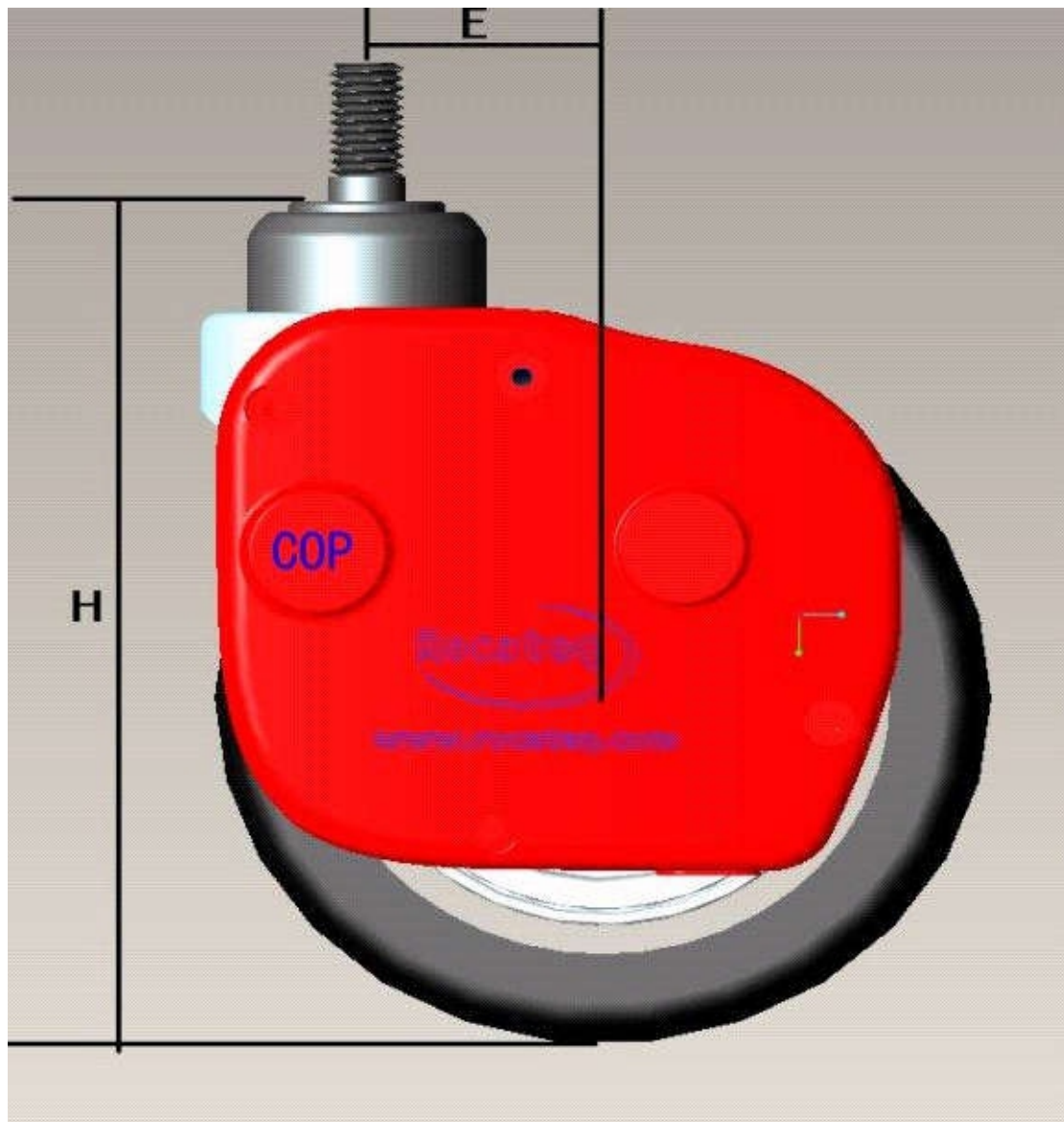
ANSI / ASQ Z1.4-2003 each inspection Sampling and sample forms (for continuous batch of checks)

GB / T 14688-93 industrial casters

3 . Term, Code

3 . 1 Casters

Having a wheel mounted on the eccentricity of the stent, the stent can be rotated around the geometrical axis vertical line (see FIG. 1)



### 3 . 2 Screw Casters

Mounting structure for the casters of the screw (see Figure 1)

### 3 . 3 Eccentric distance E

The distance between c asters steering axis and the axes of rotation of the wheels (see Figure 1)

### 3 . 4 Brackets

The part for install the wheel and can be rotated in the meantime.

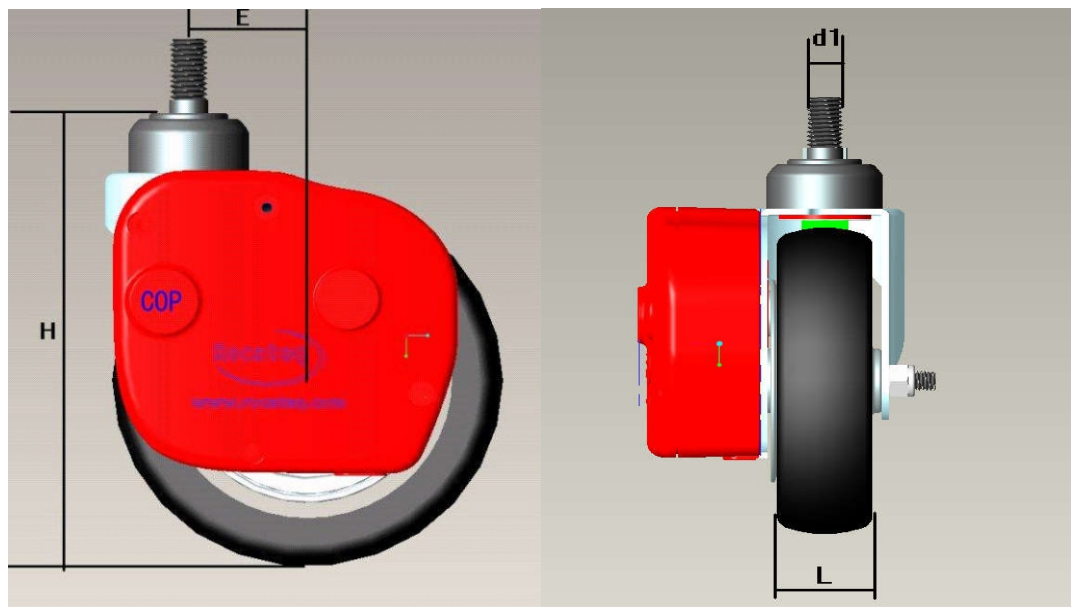


Fig2

## 4 . Main dimensions and loading capacity

mm					
D	L	H	E	d 1	loading capacity W (Kg)
125	32	152	38.5	M12	65

Table 3

## 5 . Technical conditions

### 5.1 Appearance Quality

All Metal parts of the surface should use effective methods to prevent corrosion. All the parts should not affect the use.

### 5.2 Assembly quality

5.2.1 All rotating parts (wheels, brackets) should be flexible rotation, no jams, abnormal noise or inattentive.

5.2.2 Wheel and tire assembly firm, does not rotate with the wheel axle.

5.2.3 Reliable performance brakes.

5.3 Main dimensions casters in accordance with Table 3.

#### 5.4 Electrical parameters

NO	ITEM	Parameters	
		Normal temperature	Environmental Testing -20 ~ 60°C
1	Voltage	3V± 10%	3V± 10%
2	Standby current	≤ 30uA	± 5%
3	Locked operation current	≤ 150mA	± 50%
4	Unlocked operation current	≤ 150mA	± 50%
5	Current when receiving locked signal at locked state	≤ 50uA	± 20%
6	Distance by receiving MRU	≥ 25cm	± 10%
7	Receiving frequency	8.13KHZ	
8	Emitter Frequency	317.95MHZ~318.15MHZ	
9	Emitter distance	>10m(open)	
10	Emitter Power	>- 50dB	

#### Test conditions

5.4.1 Environmental temperature -20°C~60°C,

5.4.2 Voltage : 3V± 10%;

5.4.3 Accessories: MRU, EET, COT, COP Alarm

#### 5.4.4 Test Methods

A: Lock & Unlock function test:

1. Power: Connect a 3V battery, the motor is rotating until it detects the switch, the motor stops.

2. Lock: At the unlocked state, the lock signal is received, the motor rotates, locking the wheel, the wheel lock time is less than 3 seconds.

3. Unlock: At the locked state, received unlock signal, the motor rotates, unlocking the wheel, the wheel unlock time is less than 3 seconds.

4. When locked, the steady current motor ≤ 150mA

5. When unlocked, the steady current of motor ≤ 150mA

B: Wheel PUSH OUT system function test:

B-1. At unlocked state, receive entrance signal emitted entrance (into the supermarket).

a. within 30S, the wheel doesn't receive checkout signal (not across the cashier), and then receives entrance signal. The wheels will not lock, nor drive alarm. the wheel returns to the initial state.

- b. after 30S, the wheel doesn't receive checkout signal (not across the cashier ), and then receives entrance signal. The wheel will lock, drive alarm. the wheel goes to the Locked state
- c. the wheel receives checkout signal (across the cashier), and then receives entrance signal. The wheels will not lock, nor drive alarm. the wheel returns to the initial state.

#### B-2 wheel locked state.

If the wheel is locked outside the supermarket , by Unlock button on the remote control to unlock the wheels return to the initial state.

#### 5.5 waterproof test

The battery compartment and the controller into the water 30 minutes, the water depth 20cm, confirm that the battery box and the controller does not have water in it.

#### 5.6 running performance

Under the test conditions specified in 6.1, on a test machine running 30,000 times across the obstacle, should meet the following requirements:

- a. tire without cracking, spalling and excessive wear;
- b. casters has no normal damage or affect the use of permanent deformation;
- c. Bearing normal rotation, free of loose and jam.

#### 5.7 tire wear

In the case of the wheel lock, the implementation of 100M, reduce the amount of wheel diameter of  $\leq 2.0$  mm

#### 5.8 braking performance

When the wheels lock, single damper rotational torque 22kgf.cm ~ 35kgf.cm.

#### 5.9 salt spray test

Dependent on manufacturers testing.

### 6. Test Method

#### 6.1 Test conditions

6.1.1 Ambient temperature  $20 \pm 10$  °C, bearing 65kg

6.1.2 Table: horizontal, rigid

6.1.3 Walking obstacles. Single

#### 6.2 waterproof test

The battery compartment and the controller into the water (water depth 20cm), 30 minutes standing time, confirm that the battery box and the controller does not water

#### 6.3 running performance test

Under the test conditions specified in 6.1, on a test machine running across obstacles 30,000 times

#### 6.4 braking performance test

Press the LOCK button on the remote control wheels are locked, face control box, the wheel can be rotated in a clockwise direction, the inverse

Clockwise difficult.

Test each damper rotational torque, the torque requirement  $22\text{kgf.cm} \leq F \leq 35\text{kgf.cm}$ , use self-test system tools.

#### 6.5 tire wear test

Wheel locked state implemented in the cement pavement 100 meters, the wheel diameter reduction amount  $\leq 2.0\text{mm}$

## 7. Inspection Rules

7.1.1 factory inspection content see 5.1-5.4

7.1.2 factory inspection batch inspection according to the provisions of ANSI / ASQZ1.4-2003 .

## 7.2 Type inspection

7.2.1 casters have one of the following conditions, type inspection should be carried out:

- a. new products or old products to the plant trial stereotypes identification;
- b. product design, process, material significant changes;
- c. shut down and restarted when more than eight months;
- d. normal continuous production of products, once a year.;
- e. State Administration of Quality Supervision bodies type inspection requirements

Content 7.2.2 Type inspection see 5.5-5.9 bar.

7.2.3 Type test in any one of the caster any project failed, we should redouble the same batch of product sampling, review of the project failed. Recheck qualified, this batch of qualified products, if any re-examination of when a project failed, the batch of product failure. Substandard products, improved or repaired after resubmit the test.

## 7.3 Acceptance

Ordering party according to the factory acceptance test items of products, such as the quality of dispute occurred, both supply and demand of the product supply agreement review.

## 8. Logo, packaging and storage

8.1 flag, the flag should include trademark

## 8.2 Packaging

Each factory should be properly packed casters

## 8.3 Storage

Casters (including boxed caster) shall be in a well -ventilated, relative humidity less than 80%, non-corrosive gases stored in the warehouse, storage period of 12 months.