

# Installation Manual

## **200kg 3-Stop Window-Type Dumbwaiter**

Model: Traction-type window dumbwaiter (food elevator) Rated Load: 200kg Stops: 3  
stops, 3 landings Door Type: Window-type (sill height approx. 750mm) Standards  
Complied: GB 25194-2010, TSG T7006-2012

## **1. Technical Specifications**

Rated load: 200kg

Rated speed: 0.4m/s

Control system: PLC microcomputer control, hall call operation

Drive mode: Traction machine (worm gear or PM synchronous)

Car inner dimensions (reference): W800mm × D800mm × H1000mm

Landing door style: Vertical sliding door / center opening door (window type)

Power supply: 380V AC, 50Hz, 3-phase 5-wire

Recommended shaft dimensions: W1200mm × D1000mm

Pit depth:  $\geq 800$ mm

Top floor height:  $\geq 3000$ mm

Leveling accuracy:  $\pm 5$ mm

## **2. Pre-Installation Preparation**

## **2.1 Site Conditions**

Shaft must be vertical and free of obstacles; vertical tolerance  $\leq 5\text{mm}$  per 5m.

Pit must be dry, waterproof, and free of water accumulation.

Top floor space must allow installation of the traction machine.

Power supply ready: 380V, 5 - 10kW, with reliable grounding.

## **2.2 Tools Required**

Level, plumb bob, measuring tape, square ruler

Hoist, impact drill, wrenches, screwdrivers

Multimeter, 500V megohmmeter

Scaffolding, safety harnesses, warning signs

## **2.3 Parts Checklist**

Car, 3 sets of landing doors, car door, guide rails, counterweight, traction machine, steel

wire ropes, control cabinet, 3 call panels, door locks, buffers, limit switches, etc.

## **3. Installation Procedures**

### **3.1 Setting Out and Positioning**

Mark the center lines of the car, counterweight, and door sills.

Ensure three-story sills are vertically aligned with tolerance  $\leq 3\text{mm}$ .

### **3.2 Pit Components Installation**

Install car buffer and counterweight buffer.

Install pit inspection light and emergency stop switch.

Secure buffers firmly and check vertical and horizontal alignment.

### **3.3 Guide Rail Bracket and Guide Rail Installation**

Guide rail bracket spacing  $\leq 2\text{m}$ ; at least 2 brackets per rail.

Install car guide rails and counterweight guide rails.

Verticality adjusted to  $\leq 0.5\text{mm/m}$ , total  $\leq 1.5\text{mm}$  over full length.

Rail joints must be smooth without steps.

### **3.4 Sill and Landing Door Installation (3 Floors)**

Install 1F, 2F, 3F door sills with horizontality  $\leq 1/1000$ .

Install landing door frames, door panels, and door locks.

Adjust door pulleys and slides for smooth operation.

Each landing door must be equipped with mechanical lock + electrical interlock switch.

Door gaps uniform and properly sealed when closed.

### **3.5 Car Assembly**

Assemble car frame at the pit or middle shaft.

Install car wall, floor, and roof.

Install car door, door operator, guide shoes, and safety gear.

Car diagonal tolerance  $\leq 2\text{mm}$ .

Window heights unified for convenient food transfer.

### **3.6 Traction Machine Installation**

Install bearing steel beam and traction machine base.

Align traction wheel vertically and horizontally.

Adjust brake clearance for reliable braking.

Secure all wiring connections.

### **3.7 Wire Rope and Counterweight Installation**

Minimum 2 steel wire ropes, diameter  $\geq 6\text{mm}$ .

Secure rope sockets firmly.

Install counterweight frame and counterweight blocks.

Adjust rope tension to be uniform.

### **3.8 Electrical System Installation**

Install control cabinet on the top floor or machine room.

Lay power cables, control wires, and grounding cables.

Install 3-story call stations, floor indicators, and leveling sensors.

Connect limit switches, final switches, door interlocks, and emergency stop circuits.

Insulation test requirements:

Power circuit  $\geq 0.5M \Omega$

Control circuit  $\geq 1M \Omega$

Grounding resistance  $\leq 4 \Omega$

## **4. Commissioning and Operation**

### **4.1 Inspection Slow-Speed Commissioning**

Jog up and down to check for jamming or abnormal noise.

Adjust upper and lower limit positions.

Test safety gear linkage and brake operation.

### **4.2 Automatic High-Speed Commissioning**

Set floor address codes (1F, 2F, 3F).

Adjust leveling accuracy within  $\pm 5\text{mm}$ .

Test hall calls, arrival function, automatic door opening, and delayed closing.

Verify 3-story door interlocks: elevator cannot start if any door is open.

### **4.3 Load Testing**

No-load run: smooth movement, no abnormal noise.

Rated load (200kg) run: accurate leveling, no slipping.

125% overload test (250kg):

Elevator alarms and prohibits operation.

Brake holds firmly; no structural deformation.

### **4.4 Safety Function Tests**

Door open protection during operation

Emergency stop function

Overload protection

Upper and lower final limit protection

Emergency lighting test

## **5. Acceptance Criteria (For 3-Stop Window-Type)**

All three landing door interlocks effective and securely closed.

Window heights consistent for safe and convenient food transfer.

Accurate leveling with no obvious height difference.

Smooth operation without shaking or abnormal noise.

Correct floor display and responsive hall calls.

Dry pit with effective buffers.

Qualified grounding and insulation resistance.

## **6. Safety Notes**

Installation must be performed by certified lift technicians.

Shaft work requires safety helmets and harnesses.

Riding in the dumbwaiter is strictly prohibited. Do not exceed 200kg.

After installation, the elevator must pass inspection by the local special equipment authority before official use.