Disabled Passengers Boarding Vehicle

Brochure

The CMQ5100JCR disabled passengers boarding vehicle is a special equipment for airports that provides boarding and alighting services for special passengers with reduced mobility. Using Isuzu chassis, advanced technology, reasonable structure and stable performance, it is suitable for all kinds of aircraft with a door height between 2600 and 5600mm, including A300, A310, A318, A319, A320, A321, A330, A340, A380, B737, B747, B757, B767, B777 and other aircraft.

1. Product standard:

IATA AHM 905	Reference material for ramp support equipment for civil aircraft
IATA AHM 910	Basic requirements for airport ground support equipment
IATA AHM 913	Basic safety requirements for airport ground support equipment
IATA AHM 915	Standard control
IATA AHM 916	Basic requirements for operating airport equipment
GB/T 31028-2014	Boarding vehicle for passengers with reduced mobility

2. Main performance and technical parameters:

Chassis model	IsuzuQL1100A8PAY
Overall vehicle dimensions (L×W×H)	8990×2460×3800 mm
Dimensions of the vehicle body (L×W×H)	6520×2300×2350 mm
Internal dimensions of the vehicle body (L×W	6320×2180×2130 mm

×H)			
Front platform working height		2600～5600 mm	
Left and right movement range of front platform	0～600 mm	Front and rear telescopic range of front platform	0～500 mm
Vehicle curb weight	10150 kg	Vehicle body rated load	1500 kg
Fixed platform rated load	1000 kg	Rated load of movable platform	500 kg
Lifting height of rear lifting platform	5～1530 mm	Rated load of rear lifting platform	400 kg
Outer diameter of channel circle	20000 mm	Minimum ground clearance	215 mm

3. Main structure and configuration:

CMQ5100JCR disabled passengers boarding vehicle is composed of vehicle chassis, bottom frame assembly, lifting fork frame assembly, box body assembly, platform assembly, hydraulic system, electrical control system, etc.

3.1 Automobile chassis

Isuzu QL1100A8PAY chassis. The engine is a 4HK-TC51 diesel engine (emission country V), and the cab is equipped with air conditioning and hydraulic power steering.

3.2 Bottom frame assembly

The bottom frame is always a frame structure, consisting of a frame frame, a front platform bracket and four hydraulic supports.

3.3 Lifting system assembly

The lifting frame is a scissor-type structure, and the lifting action is vehicleried out by a hydraulic cylinder. The speed of the vehicle body is uniform and stable when it is lifted.

3.4 Vehicle body assembly

① The vehicle body is composed of front and rear door frames, top cover, floor, left and right side panels, front and rear folding doors and lighting.

②The front and rear door frames of the vehicle body are made of rectangular tube profiles, and the working platform chute is formed by high-strength seamless steel pipes.

③The top cover and left and right side panels of the vehicle body are of integral frame structure, and there are fixed side windows on the left and right side panels.

④The vehicle floor is paved with patterned aluminum plate, which has the advantages of anti-skid, clean and easy to clean.

⑤The front and rear doors of the vehicle body are folding doors, which are flexible and light to open.

⑥The two sides of the cabin are equipped with LED light-emitting tubes for lighting in the cabin. Platform working lights are installed on the outer upper edges of the front and rear doors of the vehicle body for lighting during night work.

3.5 Platform Assembly

①The working platform is equipped with a front movable platform and a rear lift working platform for passengers with disabilities.

②The front working platform consists of a fixed platform, a left and right moving platform, and a front and rear telescopic platform.

③The rear of the fixed platform is equipped with 4 rollers to cooperate with the chute at the front of the vehicle body, so that when the vehicle body is lifted by the fork, it drives the platform to rise or fall.

④The left and right mobile platforms are installed in the fixed platform, and the front and rear telescopic platforms are installed in the left and right mobile platforms. Both use roller devices. Through the pressure oil output from the independent hydraulic station installed on the platform, the hydraulic cylinder is used to move the platform left and right. Retractable front and rear.

⑤The front end of the front working platform is equipped with a buffer tube and a safety device for docking with the aircraft door to avoid collision with the aircraft.

⑥The rear working platform is composed of overturning oil cylinder, telescopic oil cylinder, lifting oil cylinder, protective fence and so on. The turning of the platform is completed by the left and right two-way oil cylinders, and the lifting of the platform is vehicleried out by the lifting oil cylinder to move the platform up and down. Wheelchairs for passengers with reduced mobility are pushed onto the platform by the staff, and the platform is lifted and lowered to enter and exit the vehicleriage.

3.6 Hydraulic system

The hydraulic system consists of power take-off, fuel tank, gear oil pump, emergency hand pump, emergency electric pump, solenoid valve, hydraulic lock, oil cylinder, pipeline accessories, etc. The gear oil pump is driven by the power take-off to work, and the output oil controls the lift of the vehicle body and the retraction of the support feet; the movements of the left and right moving platforms and the front and rear telescopic platforms are controlled by hydraulic pressure. The system is equipped with emergency electric pump and emergency hand pump.

3.7 Electrical control system

It adopts 24V DC control system, which consists of control switches, operation panels, relays, lamps, wires, etc. The action of each oil cylinder is realized by controlling the commutation of the solenoid valve.

4. Safety protection device:

①The main hydraulic parts are imported or domestic well-known brands, with reliable operation and low failure rate.

②The lifting hydraulic cylinder adopts a single-stage plunger type, and the lifting is stable. The lifting cylinder and the outrigger cylinder are equipped with hydraulic locks to ensure safety.

③When the vehicle body is raised and lowered and the outriggers are retracted, there will be a buzzer alarm; the lower edge of the vehicle body is equipped with 6 flashing indicators, etc., indicating that the vehicle body is rising and falling.

④The cab is equipped with a power take-off gear switch, a support foot in-position indicator light, and a support leg retraction switch.

⑤There are two sets of operating systems, the operating system adopts relay logic control circuit, and each function realizes the interlocking function; the operation panel is equipped with an emergency flameout switch.

⑥Two working spotlights are installed on the working platform; LED light bar lighting is installed in the box, with high brightness and long working life.

⑦The vehicle body and the cab are equipped with wired intercom devices to facilitate the communication between the operator and the driver in the vehicle.

5. Emergency action:

①Equipped with electric emergency system: in the event of failure of the main power, the vehicle body can be raised and lowered by the emergency electric pump, and the support feet can be retracted, so that the disabled passenger boarding vehicle can be quickly evacuated.

②Equipped with manual emergency system: In the case of failure of the main power and electric emergency system, the hand pump can be used to lower the vehicle body and retract the support feet, so that the disabled passengers can be quickly evacuated from the boarding vehicle.

6. Paint

①The whole vehicle uses high-quality vehicle paint.

②Professional paint booth adopts low-temperature drying process, which improves the dryness, abrasion resistance, water resistance and hardness of the paint film.

③Use high-quality primer to make the coating film have better weather resistance and stronger oil resistance.

7. Body color and signage

①The standard color is white, or according to customer requirements.

②Signs: Operation instrument panel, control box, whole vehicle safety signs and other texts are made in Chinese and English or selected according to customer requirements.

8. Optional

Box air conditioning system.