

MILITARY CABINET LOADING LIFT – PROJECT CASE STUDY

Custom self-propelled scissor lift platform with roller conveyor system for military vehicle cabin loading applications.



Project Overview

This project was developed for a military equipment loading application requiring safe and stable transfer of heavy electronic cabinets into enclosed mobile cabins and military vehicle compartments. Traditional overhead crane loading created risks of cabinet swinging, impact damage, and inaccurate positioning. The customer required a compact, self-propelled lifting solution capable of precise height alignment and smooth roller conveyor transfer.

Customer Challenges

- Eliminate cabinet swinging during loading operations
- Improve operator safety in narrow cabin environments
- Enable precise alignment with cabin floor height
- Support remote-controlled loading and unloading
- Prevent scratches and impact damage during transfer
- Maintain stable operation under heavy load conditions

Customized Engineering Solution

Jinan Zhongding designed a fully customized self-propelled scissor lift platform equipped with a powered roller conveyor system. The platform combines hydraulic lifting, electric driving, remote operation, and conveyor transportation into one integrated mobile loading solution.

The equipment includes:

- Heavy-duty hydraulic scissor lifting structure
- Rubber-coated roller conveyor system
- Foldable stabilizing support legs
- Detachable 1200mm safety guardrails
- Dual remote wired control systems
- Battery-powered mobile drive system

- Emergency lowering and overload protection system

Core Technical Specifications

- Platform Size: 2600 × 2200 mm
- Rated Load Capacity: 1000 kg
- Maximum Lifting Height: 2500 mm
- Minimum Platform Height: 800 mm
- Roller Conveyor Width: 900 mm
- Lifting Speed: 4–6 m/min
- Conveyor Speed: 5 cm/s (adjustable)
- Travel Speed: ≤ 8 km/h
- Battery System: 48V 200Ah
- Drive Motor: 1.5 kW
- Hydraulic Motor: 2.2 kW
- Roller Conveyor Motor: 0.75 kW

Key Design Advantages

Stable Cabinet Transfer

Rubber-coated rollers ensure smooth movement while preventing scratches and vibration.

Safe Loading Operation

Support legs and protective guardrails improve operational stability and personnel safety.

Compact Structure

Optimized lifting geometry allows the platform to maintain a low closed height while reaching cabin loading height.

Flexible Remote Control

Operators can control lifting, traveling, and conveyor movement from both ground level and platform level.

Military Application Adaptability

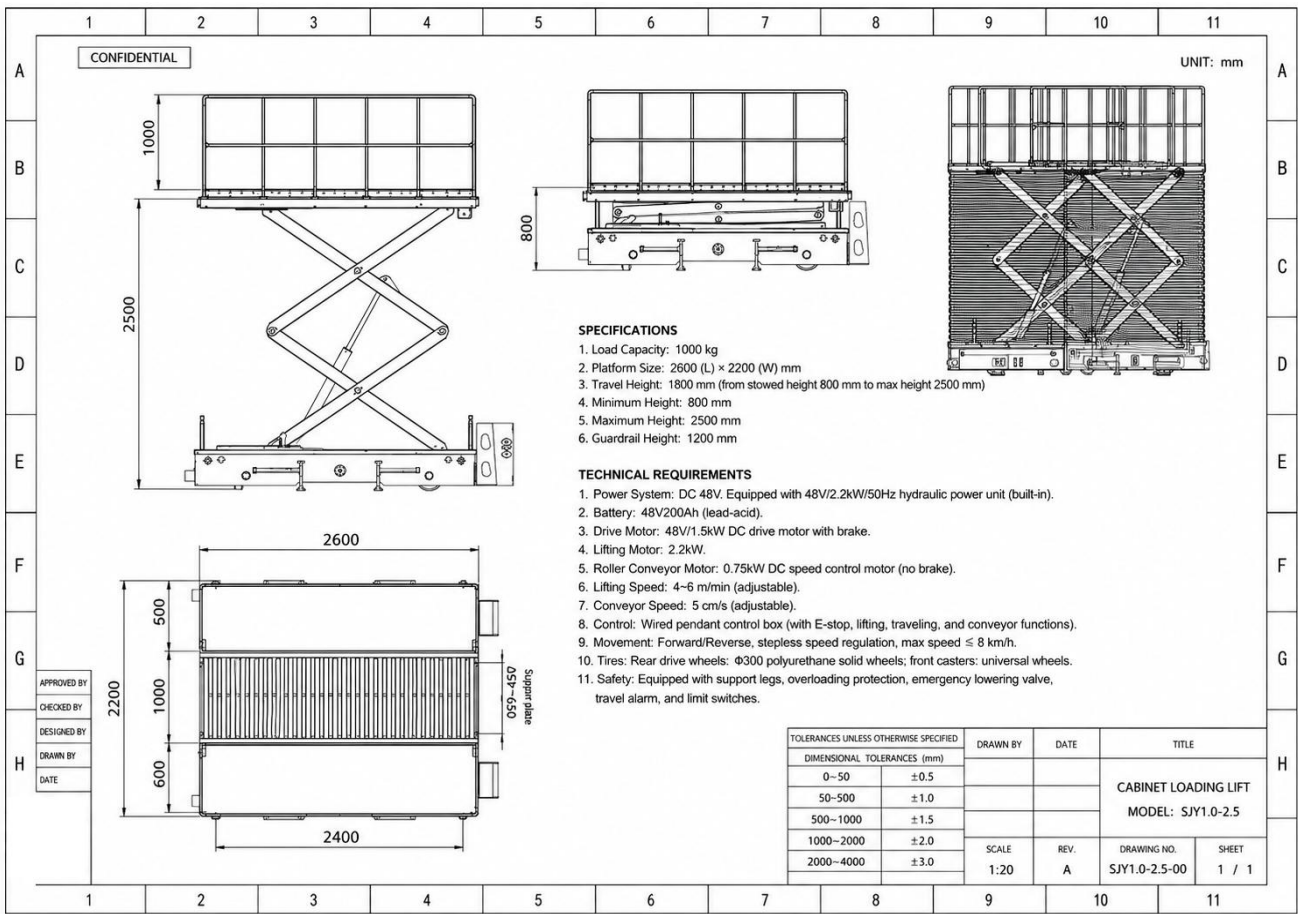
Designed specifically for confined vehicle cabin loading environments with precise docking requirements.

Application Scenario

The equipment is mainly used for loading and unloading military communication cabinets, electronic equipment cabinets, server racks, and heavy modular devices into military shelters, mobile command cabins, and transport vehicle compartments.

By replacing unstable crane-only loading methods, the platform significantly improves loading precision, efficiency, and operational safety.

Engineering Drawing



Manufacturer: Gradin Machinery Co., Ltd.
Project Type: Military Cabinet Loading Lift Platform
Equipment Model: SJY1.0-2.5