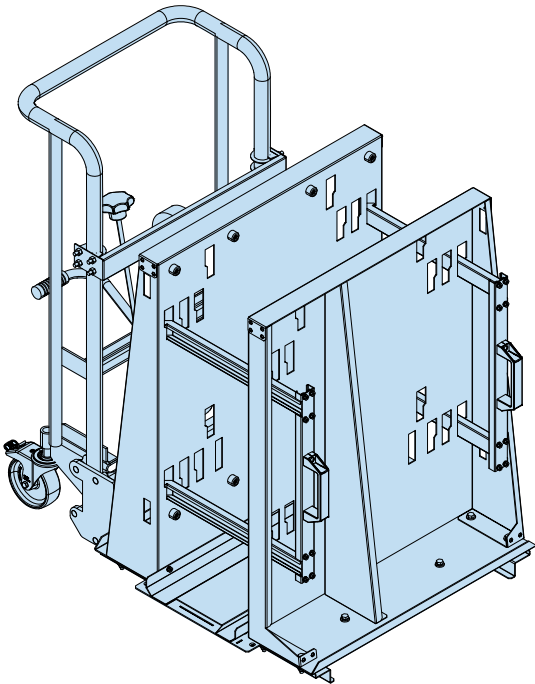


Lifter for air-cooled drive modules

User’s guide



Introduction

This User's guide applies to the product “Drive module lift air cooled”. Verify from the type label on the unit to make sure that you have the correct document.

In this document, the unit is referred to as the drive module lifter.

Safety instructions

Read the safety instructions in *Safety instructions for ACS880 multidrive cabinets and modules* (3AUA0000102301).

WARNING! Obey these safety instructions to prevent physical injury or death, or damage to the equipment. If you are not a qualified electrician, do not do electrical installation or maintenance work.

- When you install the drive, make sure that dust does not go into the drive.
- When the drive or connected equipment is energized, do not do work on the drive, motor cable, motor, control cables or control circuits.
- After you disconnect the input power, wait for 5 minutes to let the intermediate circuit capacitors discharge.
- Make sure that the equipment is not energized.

WARNING! Obey these safety instructions to prevent physical injury or death, or damage to the equipment.

- Read and make sure that you understand the operating instructions before you operate the unit.
- Use personal protective equipment, such as, safety shoes and gloves when you use the drive module lifter.
- Do not go under or put anything under the lifting platform.
- Do not lift persons with the drive module lifter.
- Use the drive module lifter to lift only the ABB modules listed.
- Do not exceed the rated lifting capacity.
- Make sure that the wheel brakes are on whenever the unit is not moved.
- Use the drive module lifter to move drive modules only on a level surface.
- Make sure that the load is in the center of the lifting platform.

Routine inspections

WARNING! Do not use the drive module lifter if it has a defect or a malfunction. Contact the supplier for assistance.

- Examine the drive module lifter for normal operation before each use:
- Visually examine the warning labels on the drive module lifter. Make sure that they are clean, easy to read and fully in position.
 - Visually examine the condition and position of the height-limiting beam and its mounting.
 - Examine the drive module lifter for scratches, bending or cracks in the frame or in its components.
 - Examine the lifting cylinder for oil leaks.
 - Make sure that the spring-loaded lowering knob closes automatically.
 - Make sure that the wheels of the drive module lifter operate smoothly.
 - Make sure that the wheel brakes operate correctly.

Device description

The drive module lifter is a device to assist in drive module installation and maintenance tasks. Use the drive module lifter to lift, lower and move a drive module to install it in or remove it from a cabinet.

Applicability

- The drive module lifter is compatible with the ABB Drives frequency converter modules that follow:
- ACS800-104 R8i
 - ACS800 ALCL
 - ACS880-104 R8i
 - ACS880-304 D8T
 - ACS880 BLCL
 - ACS880 BDCL
 - ACS880 BL

At your own risk, you can use the drive module lifter to lift other modules that are equivalent in size and weight.

Do not use the drive module lifter to lift other types of equipment.

Target audience

This manual is intended for personnel that are qualified and approved to install and service drive modules and to use the drive module lifter.

Package contents

- Content of the drive module lifter package:
- Drive module lifter
 - Loading ramp
 - Side support rails for the loading ramp (2 pcs.)
 - Stopper bars (2 pcs.)
 - Bridge plate sets (2 pcs.)
 - Documentation (User's guide)

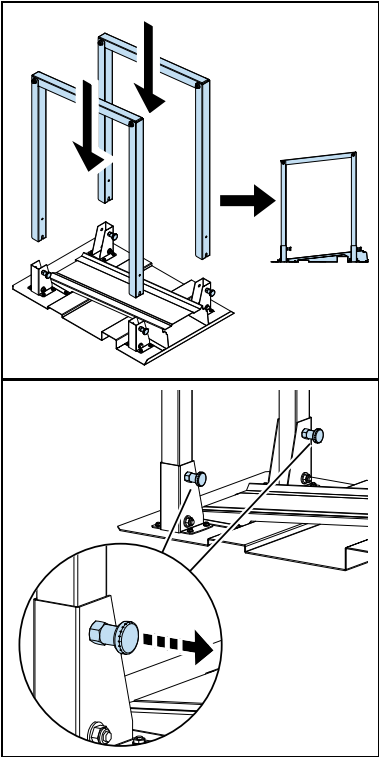
Assembly instructions

The drive module lifter is fully assembled.

Attach the side support rails to the loading ramp before use. You can remove the side support rails when the loading ramp is not in use.

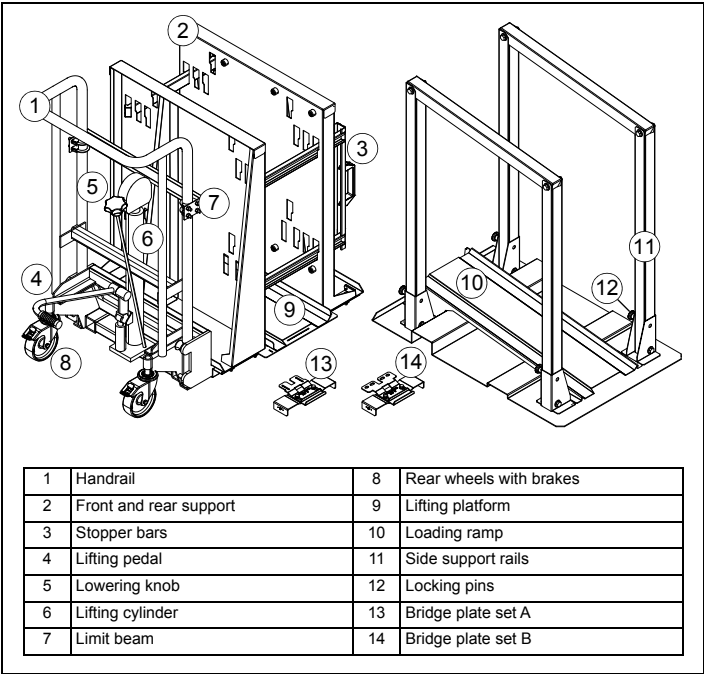
To attach the side support rails to the loading ramp:

1. Slide the legs of each side support rail into the brackets on the ramp plate. Note that the legs of the side support rails are not equal in length. Install the side support rails so that you put the longer legs where the ramp is higher. Refer to the illustration.
2. On each leg, pull the spring-loaded locking pin and push the leg to the bottom of the bracket. Make sure that the locking pin locks fully into the hole on the leg.
3. Make sure that the side support rails are fully in position and cannot be pulled out of the ramp plate.



Hardware overview

Overview of the parts and controls of the drive module lifter.



1	Handrail	8	Rear wheels with brakes
2	Front and rear support	9	Lifting platform
3	Stopper bars	10	Loading ramp
4	Lifting pedal	11	Side support rails
5	Lowering knob	12	Locking pins
6	Lifting cylinder	13	Bridge plate set A
7	Limit beam	14	Bridge plate set B

Operation

- Use the drive module lifter to:
- Lift a drive module to the correct height for cabinet installation.
 - Remove a drive module from a cabinet that is 90 mm to 580 mm from the floor.
 - Move a drive module to a new location with the lifting platform lowered.

To move a drive module to a cabinet:

1. Attach the assembled loading ramp to the drive module lifter. To attach the loading ramp, refer to [Loading ramp](#).
2. Install the first stopper bar on the side opposite from which you will load the drive module. Select the position of the stopper bar based on the size of the drive module.
3. Carefully move the drive module onto the lifting platform of the drive module lifter.
4. Install the second stopper bar to hold the drive module on the lifting platform. Adjust the positions of the stopper bars to make sure that the drive module is balanced and centered on the lifting platform.
5. Release the loading ramp from the drive module lifter. Refer to [Loading ramp](#).
6. Release the wheel brakes and carefully move the drive module lifter to the drive cabinet.
7. Engage the wheel brakes.
8. Attach the correct bridge plate set to the drive cabinet. Refer to [Bridge plates](#).
9. Lift the lifting platform to 20 mm above the cabinet floor height, move the drive module lifter to the correct position, and lower the lifting platform to lock it to the bridge plate. Make sure that the drive module lifter attaches securely to the bridge plate. Refer to [Bridge plates](#).
10. Remove the stopper bar on the side facing the drive cabinet.
11. Carefully move the drive module into the drive cabinet. Make sure that the drive module is securely in the drive cabinet before you continue.
12. Lower the lifting platform to the bottom position.
13. Remove the bridge plate from the drive cabinet and the drive module lifter.
14. Release the wheel brakes and remove the drive module lifter.

Wheel brakes

WARNING! Make sure that both of the brakes are on when you lift or lower the lifting platform, and when the drive module lifter is not moved.

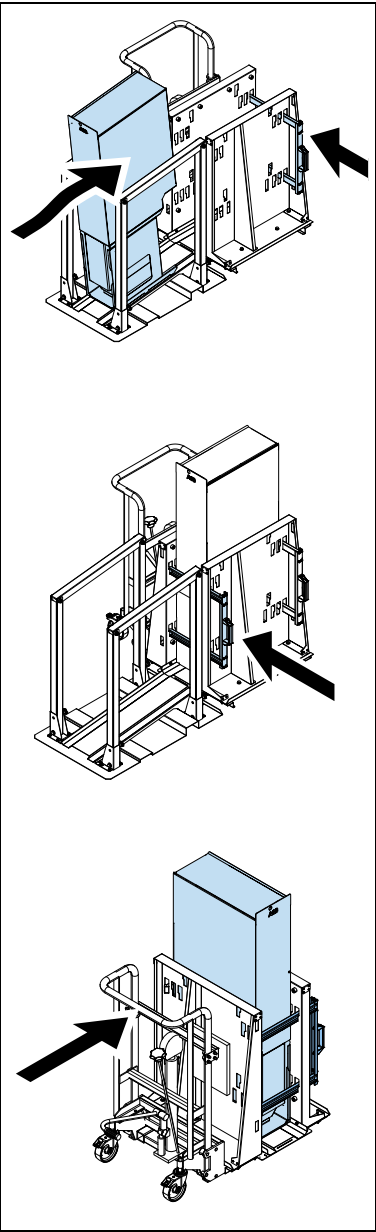
The drive module lifter has wheel brakes on the two rear castor wheels.

To engage the wheel brakes, push the brake pedal down on both rear castor wheels.

To release the wheel brakes, lift the brake pedal up on each castor wheel.

When you use the brakes, always use both of them.

Note that the operation and appearance of the wheel brakes can differ from this presentation. Before you use the drive module lifter, make sure that you know how the wheel brakes operate.



Lifting

WARNING! Make sure that the load is not heavier than the rated lifting capacity on the data plate of the drive module lifter. Make sure that the load is as balanced and centered on the lifting platform as possible. The load must be distributed on a minimum of 80 % of the lifting platform area. Do not lift the lifting platform higher than 600 mm. Do not move the drive module lifter to the side when it is loaded. Make sure that both of the brakes are on when you lift or lower a drive module.

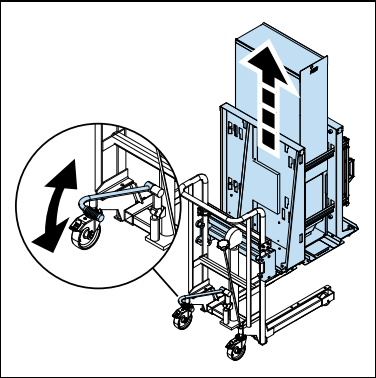
The maximum permitted height of the lifting platform is 600 mm. The usable cabinet height is up to 580 mm from the floor.

The lifting mechanism of the drive module lifter operates like a hydraulic jack. It has a lifting pedal to pump pressure into the lifting cylinder and a lowering knob to operate the release valve.

Before you start to lift the lifting platform of the drive module lifter, turn the lifting pedal from the top position to the horizontal position.

To lift the lifting platform and its load, push the lifting pedal down several times to reach the correct height.

Note that the lifting platform can lower slightly after it reaches the highest position.

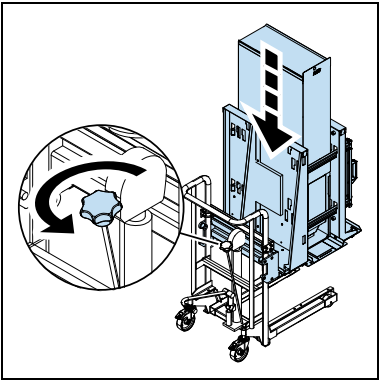


Lowering

WARNING! Do not go under or put anything under the lifting platform or the load.

The lowering knob is used to release the pressure in the lifting cylinder and lower the lifting platform. The lowering knob is spring loaded and closes the release valve automatically.

To lower the lifting platform and its load, turn the lowering knob slowly and carefully counterclockwise until the load lowers. Make sure that you control the lowering speed and that there are no obstacles under the lifting platform.

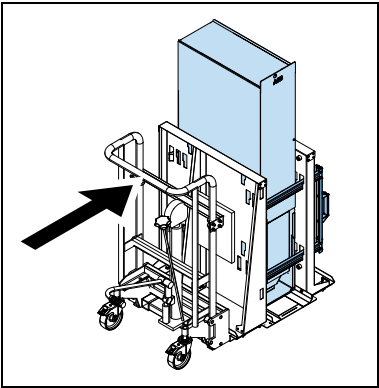


Moving

WARNING! Move the drive module lifter only when the lifting platform and load are in the lowest position. When you move the drive module lifter, hold the handrail with both hands. Engage the wheel brakes on both castor wheels when you stop and before you release the handrail.

To move the drive module lifter:

1. Make sure that the lifting platform is in the lowest position.
2. Hold the handrail to prevent unwanted movement and release the castor wheel brakes.
3. Move the drive module lifter carefully, especially if there is a heavy load on the lifting platform. Note that you can steer the drive module with the rear castor wheels. The front wheels do not turn.

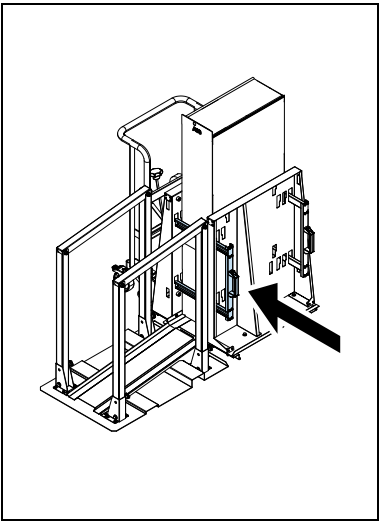


To adjust for drive module size

To adjust the lifting platform for the size of the drive module, the drive module lifter is supplied with stopper bars. The stopper bars slide into slots on the front and rear supports of the drive module lifter.

To adjust for the size of the drive module:

1. Put one stopper bar into position on the side opposite from which you are loading the drive module.
2. Adjust the position of the stopper bar to make sure that the weight of the drive module is centered on the lifting platform.
3. When the drive module is on the lifting platform, put the other stopper bar into position.
4. Before you move the drive module lifter, make sure that the stopper bars are fully in position and that they prevent the movement of the drive module.

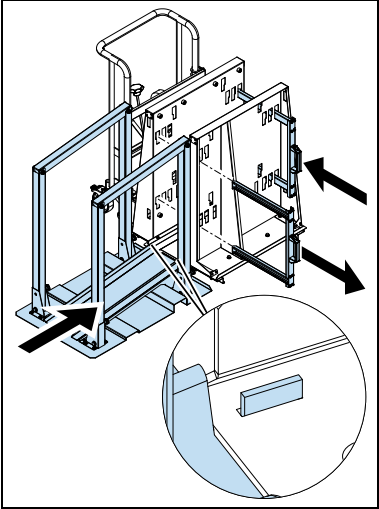


Loading ramp

Use the loading ramp to load or unload a drive module onto the drive module lifter. Before you use the loading ramp, make sure that it is correctly assembled and safe. Refer to [Assembly instructions](#).

To use the loading ramp:

1. Lift the lifting platform of the drive module lifter slightly.
2. Move the loading ramp to the correct position next to the drive module lifter.
3. Lower the lifting platform and make sure that the two tabs on the sides of the loading ramp go into the slots on the lifting platform.
4. Before you use the loading ramp, make sure that it is securely attached to the lifting platform.
5. Move the drive module to or from the lifting platform.
6. To remove the loading ramp, lift the lifting platform slightly to disengage the locking tabs. Move the loading ramp away from the drive module lifter.



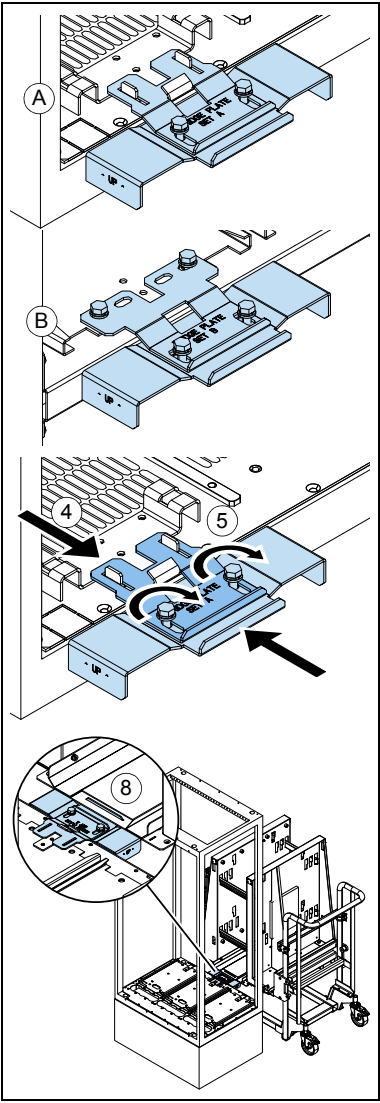
Bridge plates

Use a suitable bridge plate to attach the drive module lifter to the drive cabinet. The drive module lifter is supplied with these bridge plates:

- Bridge plate set A for cabinets with a hook on the floor.
- Bridge plate set B for cabinets without a hook.

To attach a bridge plate set:

1. Select the correct bridge plate for the cabinet type.
2. Loosen the locking bolts on the bridge plate to allow for adjustment.
3. **For Bridge plate set A**, put the adjustment plate into position on the hook in the cabinet floor. **For Bridge plate set B**, attach the adjustment plate to the cabinet floor. Use the bolts in the cabinet.
4. Slide the support plate of the bridge plate set firmly against the cabinet frame.
5. Tighten the locking bolts to attach the bridge plate set to the cabinet.
6. Lift the lifting platform of the drive module lifter approximately 20 mm above the bridge plate set.
7. Carefully adjust the position of the drive module lifter to correctly position the slot in the lifting platform with the tab on the bridge plate set.
8. Carefully lower the lifting platform until the tab of the bridge plate set engages in the slot of the lifting platform.
9. Before you move a drive module over the bridge plate, make sure that it is securely in position.



Moving a drive module to and from a cabinet

WARNING! Obey these safety instructions to prevent physical injury or death, or damage to the equipment.

- Before you move a drive module, make sure that the brakes of the drive module lifter are on.
- Make sure that the bridge plate is securely attached to the drive module lifter and to the drive cabinet.
- When you move the drive module, make sure that it cannot tip or fall from the lifting platform.
- Lower the lifting platform to the lowest position before you release the wheel brakes and move the drive module lifter.

Carefully push or pull the drive module to or from the cabinet. The drive module is heavy and has a high center of gravity.

Maintenance

Do the routine inspection before each use of the drive module lifter. Refer to [Routine inspections](#).

Make sure that you do the maintenance in a suitable area. Do not do maintenance on the drive module lifter when there is a load on the lifting platform.

Once per month, apply grease to the following parts:

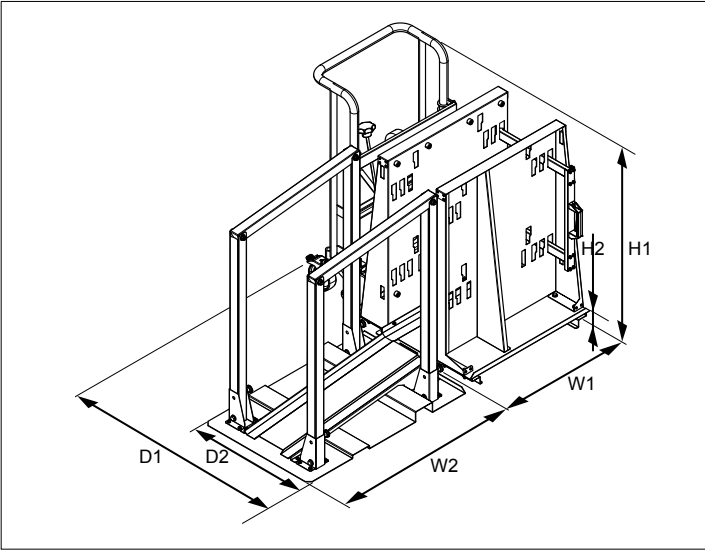
- Wheel axles and wheel bearings
- Links and axles
- Lifting pedal connection point
- Chain roller
- Grease nipples

Make sure that you do the waste disposal according to the local regulations.

Technical data

Lifting capacity	320 kg
Dimensions (LxWxH)	1100 x 780 x 1075...1730 mm
Lifting platform height range	90...600 mm (practical range up to 580 mm)
Empty weight	145 kg (including the loading ramp)
Front wheel diameter	75 mm
Rear castor wheel diameter	127 mm

Dimensions



Dimensions and weights											
D1		D2		W1		W2		H1		H2	
mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
1100	43.3	600	23.6	780	30.7	900	35.4	1075... 1730	42.3... 68.1	90	3.5

Certifications

The applicable certifications are shown on the product's type label.



Declaration of conformity

EU Declaration of Conformity

Machinery Directive 2006/42/EC

We
Manufacturer: ABB Oy
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Declare under our sole responsibility that the following product:
Drive Module Lift, Air Cooled
is in conformity with all the relevant requirements of the EU Machinery Directive 2006/42/EC.

The following harmonized standard has been applied:

EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
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The following other standard has been applied:

ISO 12100:2010	Safety of machinery -- General principles for design -- Risk assessment and risk reduction
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Helsinki, 9th of November, 2018
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Drives Service

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Related documents

Document	Code (English)
Safety instructions for ACS880 multidrive cabinets and modules	3AJA0000102301

Manufacturer

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