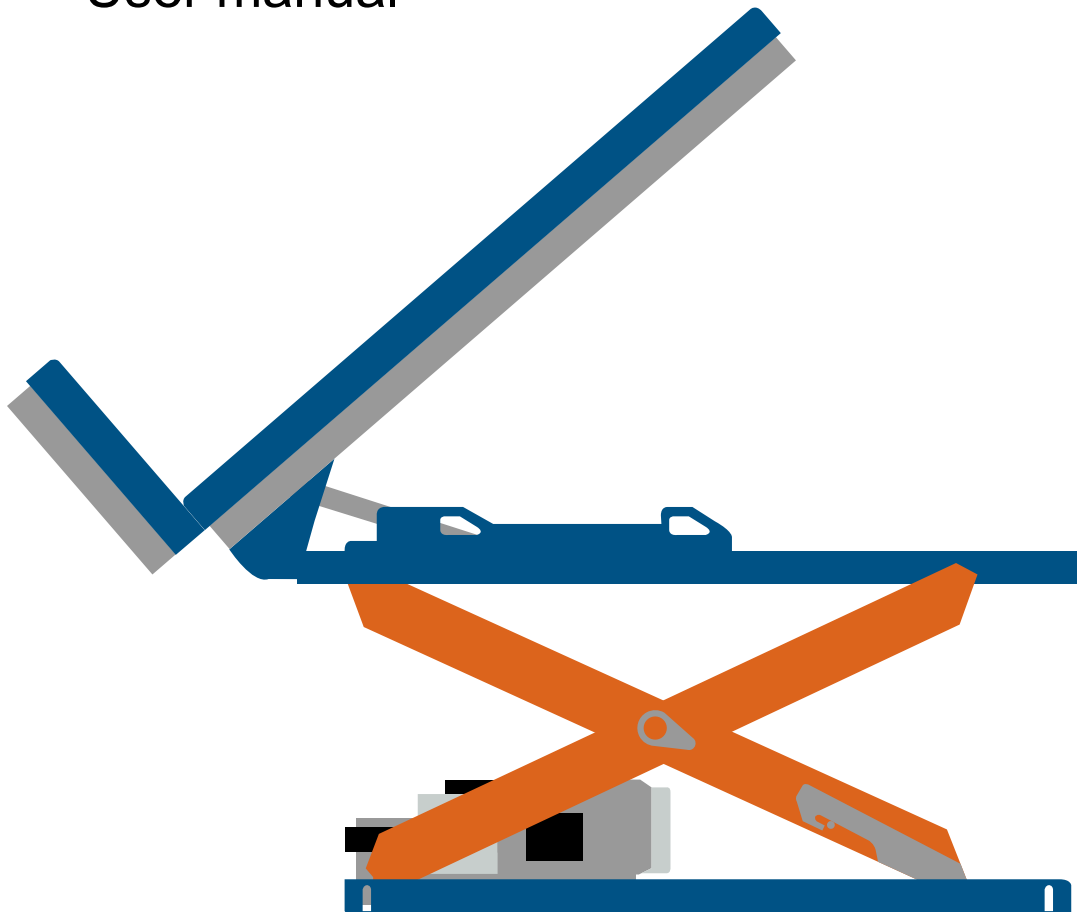




LIFT TABLE WITH TILT FUNCTION

- User manual



Translation of original user manual
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1 Important information

Before you start using your EdmoLift product, it is important that you read and understand the content of this user manual in its entirety.

The user manual contains important safety and maintenance information and describes any problems that may occur during use. The user manual is also intended to teach you about the product's functions and properties and how to best use them.

Print the user manual and keep it near to the product, as important information regarding use, safety and maintenance may be required. Information can also be obtained from www.edmolift.com

All information, as well as images, illustrations and specifications are based on the product information that was available at the time of publication of this user manual. Images and illustrations found in the user manual are type examples, they are not intended to be exact depictions of different parts of the product. We retain the right to make changes to the product without prior information.

1.1 Technical support

For support or service, please contact your EdmoLift sales representative. Always state the serial number and machine type as per the machine plate, see section 9.5 *Machine plate*, page 47.

1.2 Spare parts and accessories

Visit www.edmolift.com/installation for more information and then contact your EdmoLift sales representative.

1.2.1 General

Only EdmoLift original spare parts may be used. Use of other parts invalidates the product warranty.

EdmoLift stocks all spare parts for standard products. It may sometimes be appropriate to hold some recommended spare parts in your own stock. We can suggest the appropriate stock for your specific conditions.

1.2.2 Ordering

When ordering spare parts, always state the serial number and machine type as per the machine plate. The machine plate is usually located on the crossmember at the lower arm mountings, see section 9.5 *Machine plate*, page 47.

State the part numbers of the spare parts according to the available spare parts information on www.edmolift.com/installation and state the required quantity. Also state the operating voltage regarding electrical components.

1.3 Recycling

This product is manufactured from recyclable materials or materials that can be reused. Specialised companies handle worn out products, dismantle them, and recycle materials that can be reused.



Caution

Spilled or used hydraulic oil must be handled as hazardous waste.



Caution

Electrical material and packaging is handled according to local regulations.

1.4 Warranty

This product is supplied with a warranty in accordance with the applicable agreement, which is stated in the order specification. The warranty covers material and manufacturing faults that may occur during the warranty period during normal use.

The warranty does not cover:

- Normal wear.
- Faults caused by insufficient maintenance.
- Faults caused by incorrect or careless use.

NB!

The seals on electrical equipment may not be broken, if they are, the warranty is deemed invalid.

Warranty repairs must first be approved by EdmoLift AB. Repairs must then be carried out by EdmoLift AB or a contracted partner or in accordance with the agreement made with your EdmoLift sales representative.

1.4.1 Returns

Always contact EdmoLift AB or your EdmoLift sales representative regarding any returns to obtain a return number. The return must be marked with your name, address and telephone number.

NB!

Returns without a return number will be destroyed upon receipt.

Worn, damaged or unusable parts must be returned within 30 days of receipt of the replacement part, if the fault is deemed to fall within the warranty conditions.

1.5 Product approval

This product can be used in a large number of different applications. This means the product is covered by many laws and regulations, issued for the whole EEA area (The EU countries as well as Norway, Iceland, Switzerland and Lichtenstein) and nationally.

This product is constructed according to standard EN 1570–1, lift tables that serve up to 2 fixed stop levels, which is a standard that gives approval under the Machinery Directive, when applied in full.

For this product we usually supply an EC declaration of conformity with the Machinery Directive, a 2A-declaration, based on EN 1570–1.

In some cases, additions of accessories or to composition of an installation are made by a party other than EdmoLift, e.g. a machine installation or lift builder, or by the customer themselves. In such cases, EdmoLift issues a 2B-declaration, Declaration of incorporation of partially completed machine, and then the person or company responsible for completion must issue a 2A Declaration of Conformity.

NB!

This product can be used in applications not covered by the Lift table standard EN 1570–1 without any other standard. Other use, not covered by a standard may also be considered. In such cases, an individual risk assessment and CE marking must be made according to the Machinery Directive.

2 Safety regulations

2.1 General

It is important to read and follow the instructions and safety precautions in this user manual before using the product.

EdmoLift AB is not responsible for any damage to product or property or personal injury, caused by the user or another person not following the recommendations, warnings and instructions contained in this user manual. EdmoLift AB accepts no responsibility for accidents or injuries caused by ill judgement.

2.2 Pay attention!

The user manual contains "warnings", which are intended to draw your attention to conditions that can lead to unwanted problems, incidents, personal injury or damage to the product etc.



Warning

Pay particular attention. Risk of personal injury as well as damage to the product and its surroundings.



Caution

Pay attention.

2.3 Applications



Warning

Use of this product for other applications or loading cases not described in this user manual is not permitted and invalidates the product warranty.

2.4 External safety measures



Warning

In addition to the product's built-in safety details, additional safety measures may be required on or next to the product. Discuss appropriate measures with EdmoLift AB or your EdmoLift sales representative, safety officer, inspector or equivalent. A risk assessment must be undertaken for the work area. Also see section 2.8.6 *Risks during use*, page 13.

2.5 Product selection

Warning

Choosing the right product starts with EdmoLift AB's loading conditions that apply to each application. Inclined loading, point loads or horizontal loads are only permitted within the specified values according to EN 1570-1, unless stated as permitted for the relevant case.

2.6 Installation

Warning

Do not install the product in such a way that amplifies the noise it generates.

Never let the moving parts come into contact with surrounding objects. Ensure that applicable regulations and norms regarding safety distances are met.

Do not install the product in a potentially explosive environment if it is not specially adapted for it.

Ensure that the product is anchored by bolts or equivalent on a secure, flat and horizontal base before use.

The base must have sufficient bearing capacity for the product including a load, as well as a strength class corresponding to concrete C12/15 or greater.

When installing fixed control devices, position the control device so that the operator has a clear view of the product's dangerous areas and load.

Minimise crushing risks when installing next to other equipment and ensure that required safety distances are met according to applicable norms and local regulations.

Check that the product's specified voltage corresponds to the mains voltage, and that a sufficient conducting area and fuse are used.

More than one emergency stop may be required for the product to achieve overall safety at the worksite. In cases where the only operator location is on the platform, at least one additional emergency stop must be installed, easily accessible in connection to the product. Attention must always be drawn to the additional emergency stops by clear labelling.

Warning

The electrical installation must be performed by an authorised electrician and other installation work performed by skilled personnel with the required knowledge in order that the work is carried out in a professional manner. Risk of personal injury.

2.7 Prior to use



Warning

Before each shift, check that the product is in good working order and that all safety devices are intact. Any faults must be rectified before the product is used.

The operator must have a clear view of the lift table and work area during operation. Risk of personal injury.

2.8 Operation

2.8.1 General



Warning

This product should only be used by authorised trained personnel for its intended use. Remember that you, as the user, have responsibility for anyone being injured!

This product must be operated gently, carefully and attentively. This increases safety and reduces maintenance costs and the risk of operational stoppages.

The product must not be overloaded, this can cause a risk of accidents resulting in personal injury and/or property damage.

Do not raise the platform if the space above it is not clear of obstructions.

The platform must not be moving during loading and unloading.

Never insert parts of your body or objects under the platform unless it is in the service position according to section 4.4 *Locking lowering motion*, page 30.

Do not lower the platform if the area beneath it is not clear of people or other obstacles

Do not use the product in connection with welding, if it is not especially adapted for it. The surface finish of the product can produce hazardous gases during welding or grinding. Use suitable protection and work methods.

This product must not come into direct contact with food unless specially adapted.

When used in public environments, especially where people can enter the machine's work area, the operator must take appropriate actions to prevent people entering the risk area. A risk assessment according to the Machinery Directive must be established for the relevant work situation.

There must not be any load on the platform during inspections, servicing and repair work. Inhibit the scissor and tilt construction using the maintenance chocks, according to section 4.4 *Locking lowering motion*, page 30.

Do not let any part of your body come into contact with hydraulic oil, as it can cause allergic reaction.

2.8.2 Carriage of persons

Warning

This product is not intended for the carriage of persons on the platform. If this is permitted, it must be clearly stated with corresponding product markings and CE declaration.

In cases where it is permitted to ride on or stay on a raised platform:

Do not climb down from a raised platform!

Never operate the product from the platform before the installation is complete and the necessary safety devices are in place.

Always stand with both feet on the platform and always keep within the platform. Do not sit or climb on handrails or gates!

2.8.3 Protective equipment

Warning

Use protective footwear and other necessary protective equipment required for the work tasks.

2.8.4 Centre of gravity

Warning

Always try to distribute the load evenly on the platform in order to avoid instability. Avoid loads that extend beyond the platform and always make sure that the load is firmly positioned and, if necessary, is also securely fastened.

This product should not be used for handling free-swinging loads.

Under no circumstances must the rated load be exceeded, as this creates a personal injury risk and damage risk to the product and its surroundings. See section 10.2 *Permitted load distribution*, page 48.

2.8.5 Surroundings



Warning

The standard version of the product is designed for indoor use in environments with normal humidity and temperatures of +5 to +40°C.

When working close to machines there are usually crushing risks. Observe caution, there is a risk of personal injury and property damage!

Never let the moving parts come into contact with surrounding objects. Ensure that applicable regulations and norms regarding safety distances are met.

Do not use the product in a potentially explosive environment if it is not specially adapted for it.

EdmoLift products are not insulated against electrical currents and do not give any protection against contact with live objects and cables.

Always keep a safe distance from live objects and cables.

2.8.6 Risks during use

This section states some risks and examples of measures to prevent them. Certain accessories that increase safety or contribute to increased efficiency can be found in “Examples of measures”.

NB!

The list does not consist of all possible risks and is only intended for use as a guide when establishing an individual risk assessment.

	Risk	Example of measure
General risks	Unauthorised use.	• Training. • Instructions. • Clear labelling. • Lockable main switch. • Lockable control device. • Separate the work area.
		• Clear labelling. • Protective mesh or protective bellows. • Cordon off the work area.
	Overloading.	• Training. • Instructions. • Clear labelling. • Adjust the load.
	Operation error.	• Training. • Instructions. • Clear labelling.
	Applicable laws and regulations not met.	• Perform a risk assessment. • Check applicable laws and regulations for the installation.
	Diminished performance. Shortened service-life.	• Adjust the usage intensity. • More frequent service intervals and inspections.

	Risk	Example of measure
		• Perform a risk analysis for the installation. Ensure clear view.
	The installation is not CE labelled.	• Establish action plan to CE label the installation.
	Crushing risk.	• Training. • Instructions. • Clear labelling. • Check that the necessary safety distances are met according to the applicable standards.
	Material can fall off.	• Securing devices. • Location of work place. • Prevent access to risk area.
	Instability.	• Training. • Instructions. • Clear labelling. • Observe load distribution. • Check attachment. • Note lateral forces and stabilize as necessary.
Surroundings	Extreme ambient temperatures.	• Use correct type of oil. • Equip with free-standing hydraulic power pack in adapted space. • Heat/cool the area.
	Fire risk.	• Use correct type of oil. • Equip the hydraulic power pack with oil cooler. • Equip with free-standing hydraulic power pack in adapted space.

	Explosion risk.	Equip with EEx equipment according to the ATEX directive.
	Environmental impact.	- Biodegradable oil. - Oil collection receptacle.
	Foodstuff impact.	- Foodstuff approved oil. - Adapt the cleaning agent according to surface treatment.
	Moisture impact.	- Control moisture content. - Adapt corrosion protection. - Equip with free-standing hydraulic power pack in adapted space.
	Dust impact.	- Control dust content. - Equip with bellows around mechanism. - Equip with free-standing hydraulic power pack in adapted space.
	Weather impact.	- Protect from rain. - Adapt corrosion protection. - Equip with free-standing hydraulic power pack in adapted space. - Equip with bellows around mechanism. - Note lateral forces and stabilize as necessary.
	Collision with persons or other objects. Uneven surfaces cause overturning. Material falls off.	Movement must occur carefully and with a clear view of the surroundings.

2.9 Maintenance



Warning

Regular inspection, maintenance and cleaning is important to maintain low maintenance costs, a high level of safety as well as a long service life for the product.



Warning

No load should be on the platform during inspection and service work. Risk of personal injury.

During inspection and service work under the platform, the maintenance chocks must always be positioned in the locked position, see section 4.4 *Locking lowering motion*, page 30. Risk of personal injury.



Caution

Spilled or used hydraulic oil must be handled as hazardous waste.

3 Design and function

3.1 General

EdmoLift lift table can be used in a large number of different applications. In its primary design, it is mainly intended for lifting, lowering and tilting loads that are distributed across the entire platform, e.g. on Euro pallets, shipping pallets or pallet cages box.

EdmoLift lift table with tilt function provides the opportunity to lift and tilt the platform and thus also the load. It provides improved ergonomics, productivity and quality for the tasks performed. However, tilting brings the risk that the load carrier and the load may fall, which can cause damage to persons and equipment that are in the danger area. It is therefore very important:

- to position the lift table with tilt function so that people are not in the danger area when tilting occurs.
- to perform tilting in such a way that the load carrier or load cannot fall off
- to use load carriers (pallets, pallet collars, pallet cages, fixtures and similar) that are suitable for the goods being handled.

3.2 Scope of delivery

EdmoLift lift tables with tilt function are supplied test operated with standard hydraulic oil according to ISO 32 (see order specification regarding alternatives).

The control system is 24V DC powered.

In standard form the product is painted in the following colours:

- Blue = RAL 5002
- Orange = RAL 2010
- Black = RAL 9005
- Grey = RAL 7035

3.3 Mechanical construction

The EdmoLift lift table with tilt function consists of two or more scissor arms, with one or more hydraulic cylinders and one upper and lower tilt frame, mechanically connected to each other in the tilt function's joint/bearing. The lift and lower movements of the scissor arms are synchronised by being mechanically joined. The scissor package's bearings are sliding bearings as standard. Extreme movement with a heavy load, high speed, a demanding environment or in multiple work shifts may require HD equipment, i.e. stronger bearings than those used in the standard version.

The lifting force is obtained by one or more single acting hydraulic cylinders that achieve the lifting movement by the arm pairs pushing.

The tilting power is achieved by means of single or double action hydraulic cylinders.

Each hydraulic cylinder has a mechanical hose burst valve in combination with an electrical lowering valve that is directly on or pipe-mounted between the hydraulic cylinders. The electrical hose burst valve only opens when the down button on the control device is pushed. In addition, there is a flow control valve in the hydraulic power pack, which is set for a suitable lowering speed (Max. 60 mm/s) on delivery.

If a different lowering speed is required, see section 7.2 *Setting the flow control valve - Lowering speed*, page 41.

To protect against clamping, the lift table with tilt function is equipped with safety frames under both platforms' outer edges. This interrupts the lowering movement upon activation. To start lowering again, the platform must be raised to reset the safety frame.

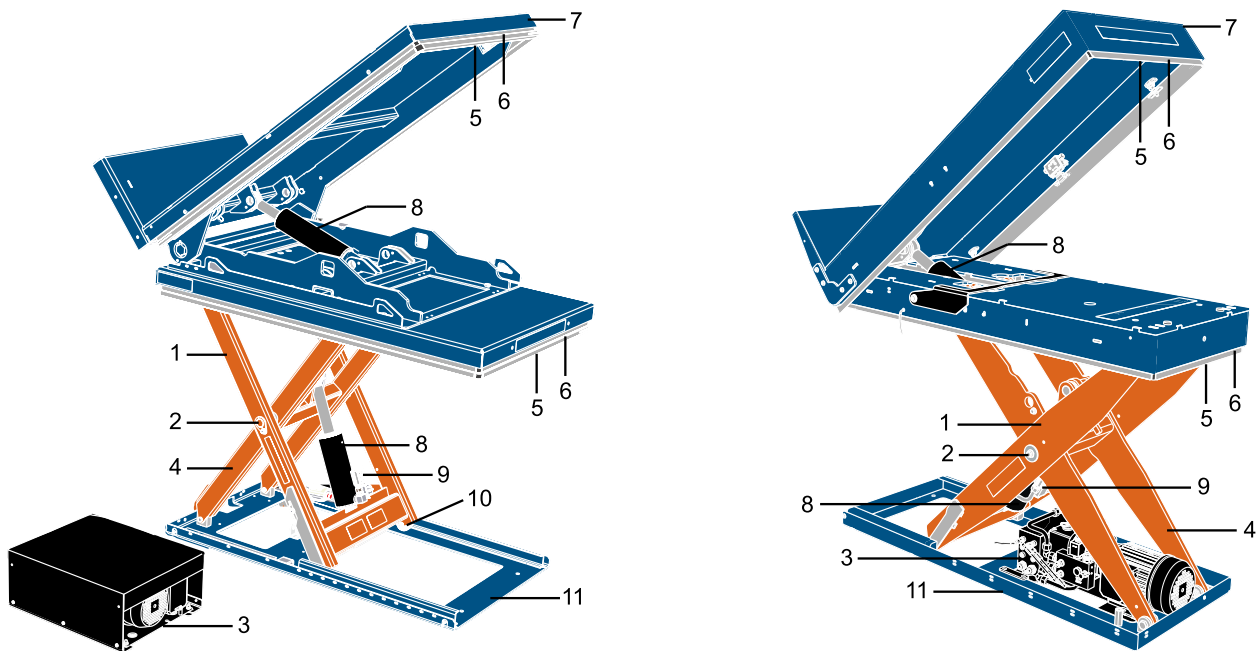


Image 1 Overview

- | | |
|----------------------------|------------------------------|
| 1. Outer scissor | 6. Safety frame |
| 2. Bearing kit | 7. Platform |
| 3. Hydraulic power pack | 8. Hydraulic cylinder |
| 4. Inner scissor | 9. Electrical lowering valve |
| 5. Switch for safety frame | 10. Wheel |
| | 11. Base frame |

3.4 Control device

3.4.1 General

Control device consists of control buttons for control as well as an emergency stop button.

1. Emergency stop
2. Up
3. Down
4. Tilt up
5. Tilt down

3.4.2 Emergency stop

There is an emergency stop on the control device. This is red, clearly marked and used in emergencies to stop all electrically powered functions.

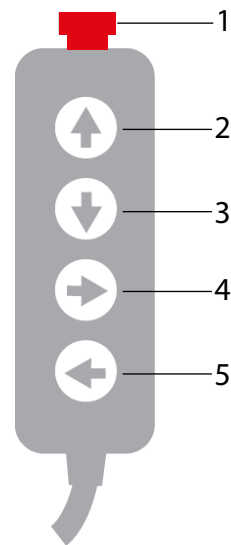


Image 2 Control devices

3.4.3 Control buttons

The control device has four control buttons, up, down, tilt up and tilt down. The buttons have a dead man's grip function, i.e. when you release the control button, the platform movement stops in the current position.

3.5 Hydraulic system

EdmoLift lift tables with tilt function can have an internal or external single or double-acting hydraulic system. Due to the product's wide range of use, the hydraulic system is usually adapted individually. The relevant hydraulic and wiring diagrams are enclosed on delivery.

In order for the hydraulic system to work optimally, it is important to use the correct type of hydraulic oil and ensure a high level of cleanliness.

3.5.1 Hydraulic pump

The hydraulic pump supplies the product's hydraulic cylinders with oil, via hoses and/or pipes as well as valves, and powers the hydraulic functions.

3.5.2 Valve package

The hydraulic power pack's valve package controls the flow of the hydraulic oil to the hydraulic cylinders. They are operated by one or more solenoids that receive signals from the product's control system. The valve package contains a pressure-compensated, constant flow valve that can regulate the lowering speed. It must always be set so that the peripheral speed when lowering fully laden does not exceed 60 mm/s. Type of valve varies depending on model and configuration. Certain models have several constant flow valves for controlling the speed of several functions.

1. Solenoid
2. Overflow valve
3. Flow control valve, adjustable
4. Tema 100 output for manometer (Pressure gauge)

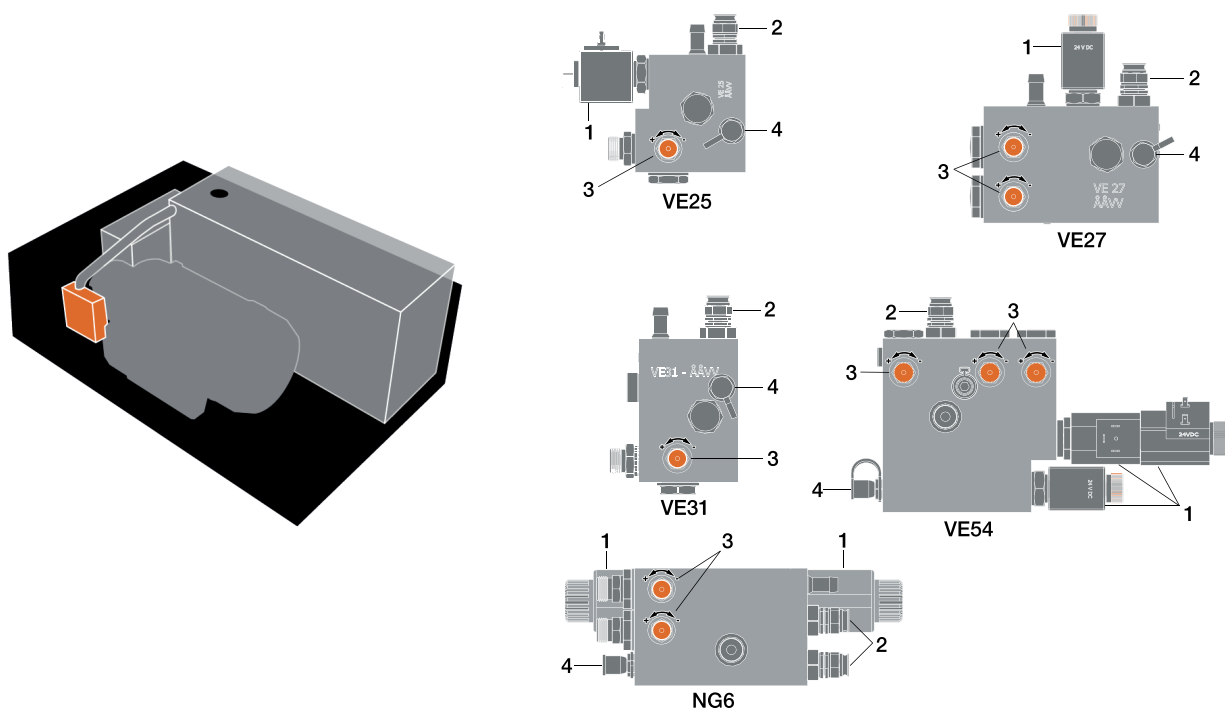


Image 3 The valve package is mounted on the hydraulic power pack

3.5.3 Lowering valve - hydraulic lock

EdmoLift lift tables with tilt function are equipped with cylinder mounted, electrically-operated lowering valves.

The electrically-operated valve prevents the platform from being lowered, except when the down button is pressed (3).

The lowering valve reduces hydraulic deflection and provides an anti-drop function, which locks the platform at the relevant level.

There is an LED on the solenoid that lights when the platform is being lowered.

1. Solenoid
2. Hydraulic hose connection
3. Hydraulic cylinder connection

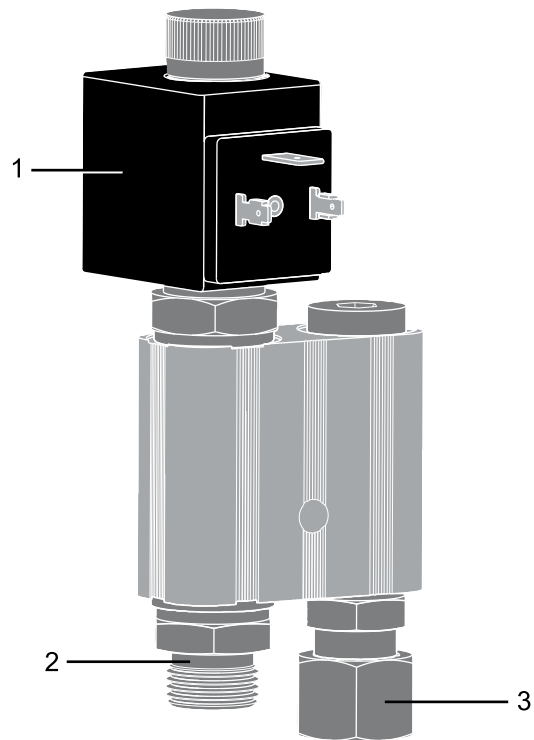


Image 4 Electrically-operated lowering valve

3.5.4 Hydraulic cylinder

EdmoLift lift tables with tilt function are equipped with one or more hydraulic cylinders that power the different functions. The standard hydraulic cylinders are single acting.

3.6 Electrical and control system

The UC-60 control system makes it possible to easily program desired functions such as, for example, retrofitting of upper and lower limit position switches for limiting the movement of the platform. Limit position switches and auxiliary control devices are easily connected to the control system.

The main switch and motor protection relay are not included in EdmoLift's delivery, but must be installed by the installer. The feed cable is connected to the main power switch's terminal blocks.

Wiring diagrams for standard products can be found in section 11 *Wiring diagrams*, page 49.

The electrical system is individually adapted, the relevant wiring diagram is then included in the delivery.

To see which electrical diagram applies to your product, see section 11.1 *Identifying applicable wiring diagram*, page 49.

4 Operation

4.1 General

After use, the platform must be lowered to the bottom position and the current switched off at the main power switch.

In the event of risk of unauthorised use, the main power switch can be locked in the off position. The control device can also be locked.



Warning

This product should only be used by authorised trained personnel for its intended use. Remember that you, as the user, have responsibility for anyone being injured!

This product must be operated gently, carefully and attentively. This increases safety and reduces maintenance costs and the risk of operational stoppages.

The product must not be overloaded, this can cause a risk of accidents resulting in personal injury and/or property damage.

Do not raise the platform if the space above it is not clear of obstructions.

The platform must not be moving during loading and unloading.

Never insert parts of your body or objects under the platform unless it is in the service position according to section 4.4 *Locking lowering motion*, page 30.

Do not lower the platform if the area beneath it is not clear of people or other obstacles

Do not use the product in connection with welding, if it is not especially adapted for it. The surface finish of the product can produce hazardous gases during welding or grinding. Use suitable protection and work methods.

This product must not come into direct contact with food unless specially adapted.

When used in public environments, especially where people can enter the machine's work area, the operator must take appropriate actions to prevent people entering the risk area. A risk assessment according to the Machinery Directive must be established for the relevant work situation.

There must not be any load on the platform during inspections, servicing and repair work. Inhibit the scissor and tilt construction using the maintenance chocks, according to section 4.4 *Locking lowering motion*, page 30.

Do not let any part of your body come into contact with hydraulic oil, as it can cause allergic reaction.

4.2 Prior to use

The function of the safety frame must always be checked before use, see section 4.5 *Checking the function of the safety frames*, page 32. If the safety frame is activated, the cause of the stoppage must be investigated and rectified. Thereafter, the up or down button (depending on which safety protection stopped the function) must first be pressed briefly, for resetting, before the product can be used normally again.



Warning

Before each shift, check that the product is in good working order and that all safety devices are intact. Any faults must be rectified before the product is used.

The operator must have a clear view of the lift table and work area during operation. Risk of personal injury.



Warning

Always try to distribute the load evenly on the platform in order to avoid instability. Avoid loads that extend beyond the platform and always make sure that the load is firmly positioned and, if necessary, is also securely fastened.

This product should not be used for handling free-swinging loads.

Under no circumstances must the rated load be exceeded, as this creates a personal injury risk and damage risk to the product and its surroundings. See section 10.2 *Permitted load distribution*, page 48.

4.3 Control

EdmoLift lift tables with tilt function must be moved gently, carefully and attentively! The control functions occur with a dead man's grip function, i.e. when a control button is released the platform stops in its current position. After use, the platform must be lowered to the bottom position and the current switched off at the main power switch. In the event of risk of unauthorised use, the main power switch can be locked in the off position. The control device can also be locked.

Check that there is no risk of injuring anyone or damaging anything when lowering the platform. Pay particular attention so that the platform does not extend over an object, on which it can be suspended.

1. Emergency stop
2. Up
3. Down
4. Tilt up
5. Tilt down

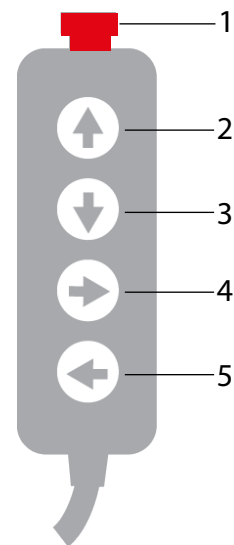


Image 5 Control devices

4.3.1 Emergency stop

4.3.1.1 Activation

Depress the emergency stop to stop all electrical functions.



Image 6 Activation of emergency stops.

4.3.1.2 Resetting

Turn the emergency stop clockwise to reset.



Warning

Emergency stops may only be reset after the cause of the emergency stop has been established and operation can be restarted safely.

NB!

Resetting emergency stop only allows movement to restart, no function is activated automatically at reset of the emergency stop.

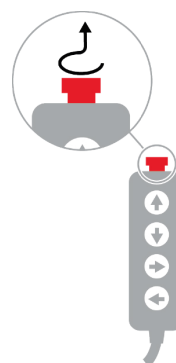


Image 7 Resetting emergency stops.

4.3.2 Up

Press and hold up to raise the platform. The movement is stopped as soon as the control button is released.

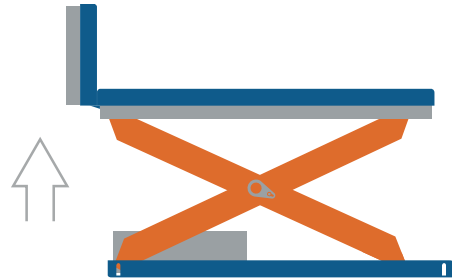


Image 8 Up

4.3.3 Down

NB!

If the safety frame is activated, the cause of the stoppage must be investigated and rectified. Then, up must be pressed briefly first, before the lowering can be started again.

Press and hold down to lower the platform. The movement is stopped as soon as the control button is released.

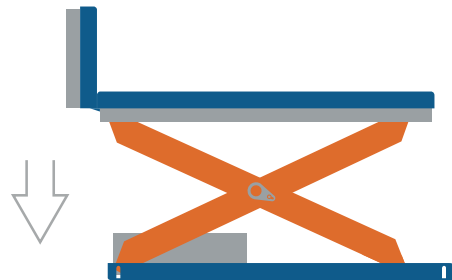


Image 9 Down

4.3.4 Tilt up

NB!

If the safety frame is activated, the cause of the stoppage must be investigated and rectified. Then, tilt down must be pressed briefly first, so-called reset, before tilt up can be started again.

Press and hold tilt up for the platform to tilt up. The movement is stopped as soon as the control button is released.

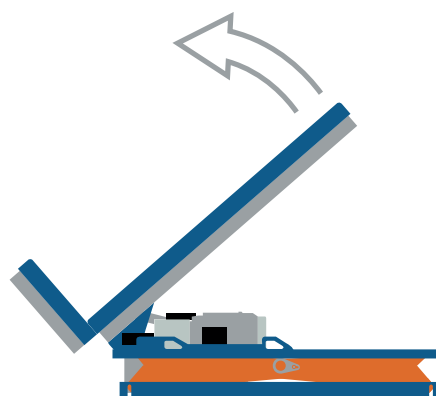


Image 10 Tilt up

4.3.5 Tilt down

NB!

If the safety frame is activated, the cause of the stoppage must be investigated and rectified. Then, tilt up must be pressed briefly first, so-called reset, before tilt down can be started again.

Press and hold tilt down for the platform to tilt down. The movement is stopped as soon as the control button is released.

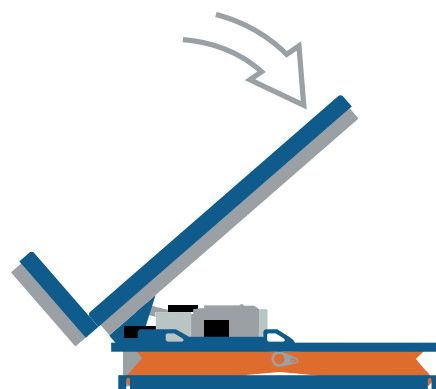


Image 11 Tilt down

4.4 Locking lowering motion



Warning

No load should be on the platform during inspection and service work. Risk of personal injury.

During inspection and service work under the platform, the maintenance chocks must always be in the locked position. Risk of personal injury.

Always cut the operating voltage before starting service work. Risk of personal injury.

NB!

If a limit position exists, this may have to be removed so that the necessary height can be achieved in order for the maintenance chocks to be placed in the locked position.

4.4.1 Activating maintenance chock

1. Raise the platform unloaded until the chocks can be placed in the locked position.
2. Place the maintenance chocks in their locked position.



Warning

Always lock on both sides and using all maintenance chocks. Risk of personal injury!

3. Carefully lower the platform until it rests on the maintenance chocks.

4.4.2 Deactivating maintenance check

1. Raise the platform unloaded until the chocks can be released from the locked position.
2. Place the maintenance chocks in their unlocked position.
3. Lower the platform to its lowest position. Then run a complete lift cycle without load.

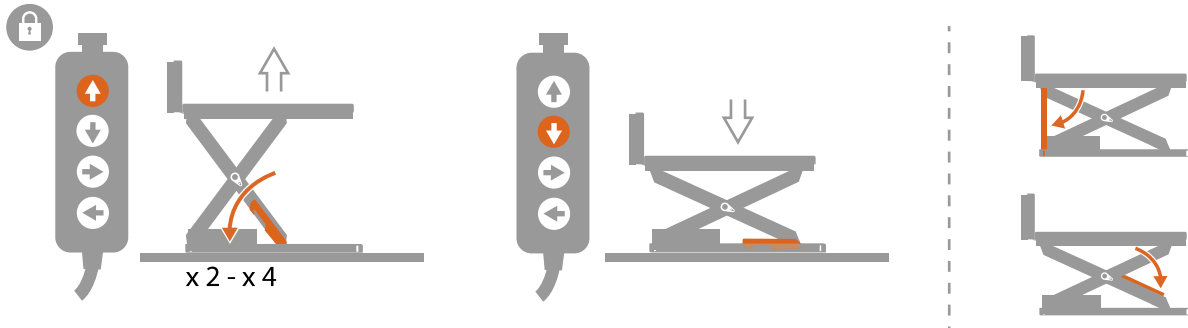


Image 12 Activate/Deactivate maintenance check for lift function.

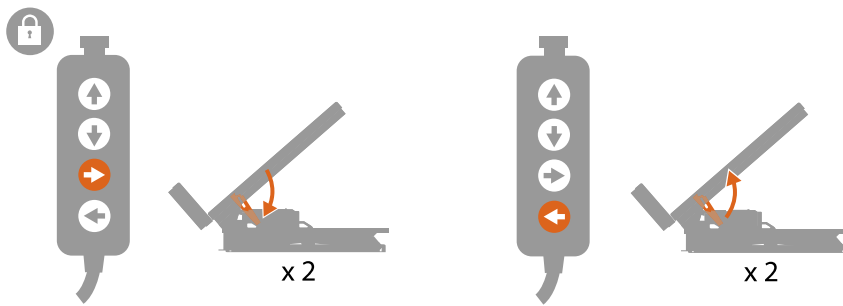


Image 13 Activate/Deactivate maintenance check for tilt function.

4.5 Checking the function of the safety frames

Before each work shift, check that all safety frames are working.

1. Run the platform up to a suitable height and ensure that there is no risk of causing crushing.
2. Lower the platform and activate the safety frame by pressing it up by hand. Repeat the checks on all sides of the platform to ensure the function of the safety frame.

If adjustment is necessary, see section 7.1 *Safety frame's switch*, page 40.

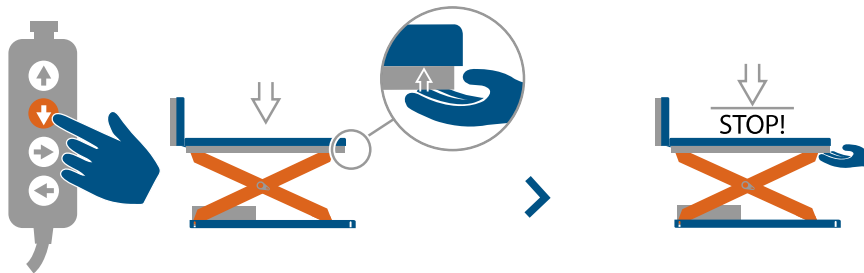


Image 14 Checking the function of the safety frame.

3. Tilt the platform up to a suitable height and ensure that there is risk of crushing.
4. Tilt the platform down and activate the platform's safety frame by pushing it upwards with your hand; the platform should now stop.
5. Reset the safety frame by tilting the platform up.
6. Repeat the function test on all sides of the platform to ensure the function of the safety frame.
7. Reset the safety frame by tilting up.
8. Repeat the function test on all sides of the load restraint to ensure the function of the safety frame. Then tilt the platform up and activate the safety frame. Reset by tilting down.

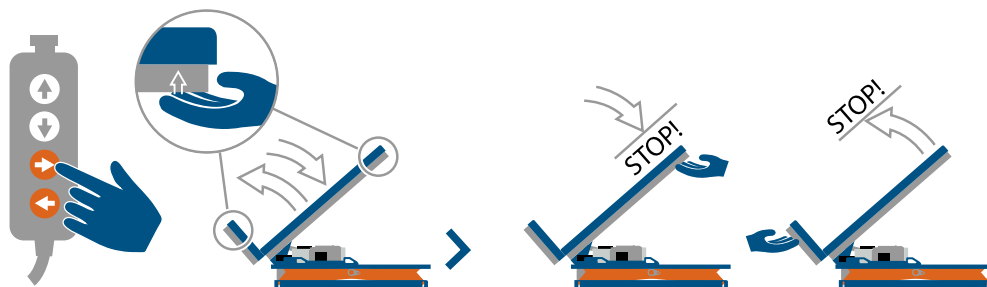


Image 15 Checking the function of the safety frame.

5 Maintenance

The following maintenance must be performed regularly, approx. 4 times/year or at intervals of 1000 lift cycles if this occurs first. Certain types of operating conditions and work environments can require shorter service intervals. Discuss the appropriate service interval with your EdmoLift sales representative.

All inspection, servicing and repair work must be performed by skilled personnel with the required knowledge, in order that the work is carried out in a professional manner. Always replace defective and damaged parts.

Only EdmoLift original spare parts may be used. Use of other parts invalidates the product warranty.

For detailed information about repairs, contact an EdmoLift sales representative.



Warning

Regular inspection, maintenance and cleaning is important to maintain low maintenance costs, a high level of safety as well as a long service life for the product.



Warning

No load should be on the platform during inspection and service work. Risk of personal injury.

During inspection and service work under the platform, the maintenance chocks must always be positioned in the locked position, see section 4.4 *Locking lowering motion*, page 30. Risk of personal injury.



Caution

Spilled or used hydraulic oil must be handled as hazardous waste.

5.1 Hydraulic system

- Check that oil reservoirs, pipes, hoses, couplings and hydraulic cylinders are not damaged or leaking. Rectify any leaks and replace damaged parts.
- Check the fluid level. Top up if necessary.

If the oil is dirty, it must be changed.

This product is supplied with standard hydraulic oil according to ISO 32 (see order specification regarding alternatives).

NB!

Maximum oil volume in the tank is reached when the platform is in the bottom position.

5.2 Electrical equipment

- Ensure that all electrical equipment works as intended.
- Function test all emergency stops, see section 4.3.1 *Emergency stop*, page 27.
- Function test the safety frame, see section 4.5 *Checking the function of the safety frames*, page 32.
- Inspect all cables. Check that they are not loose or pinched. Rectify as required. Replace any damaged cables.

5.3 Mechanical equipment

- Check that wheels and pins are properly secured.
- Check that there is no excessive bearing play.
- Check for fractures or bursts.
- Check that the safety frame's profiles and mountings are intact.
- Check that the lift table is securely anchored to the base.
- Check that all warning signs are present and legible, see section 9 *Labels and signs*, page 45.

5.4 Lubrication points

Bearing points must be relieved at lubrication!
See section 4.4 *Locking lowering motion*.

1. Hydraulic cylinder and piston rod bearing
2. Upper scissor mounting*
3. Centre shaft*
4. Lower scissor mounting*

*Only found on products with HD (High intensity drive) option.

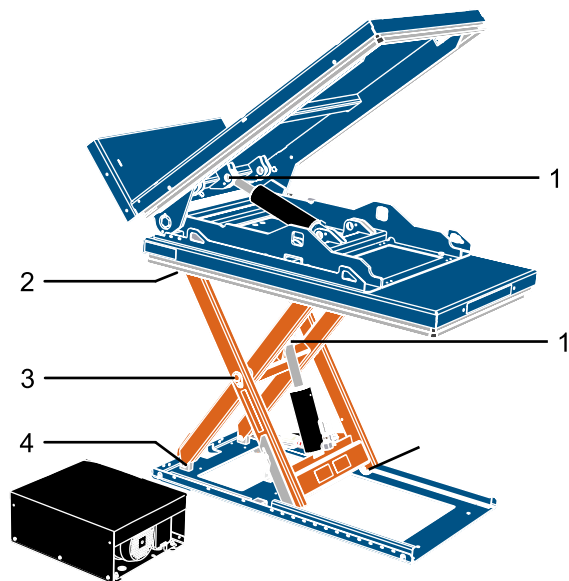
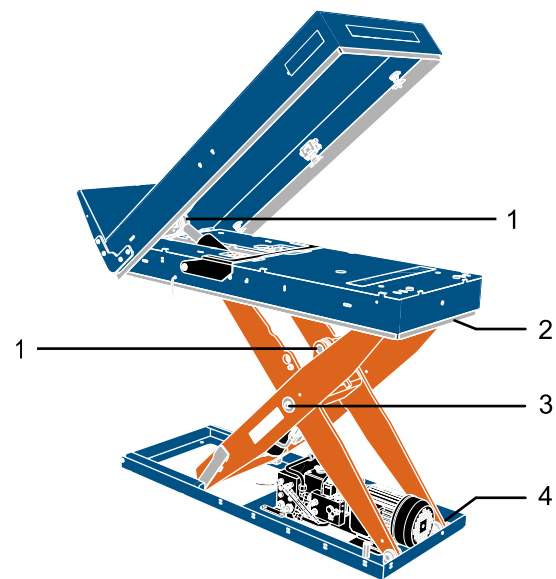


Image 16 Lubrication points

6 Installation

Simplified installation instructions with illustrations accompany the delivery. If missing, they can be downloaded from www.edmolift.com/installation.

NB!

Check the product for transport damage. The electrical cable for connection is under the platform.

Do not lift by the safety frame, it can become damaged resulting in malfunctions. (the platform can be raised but not lowered.)

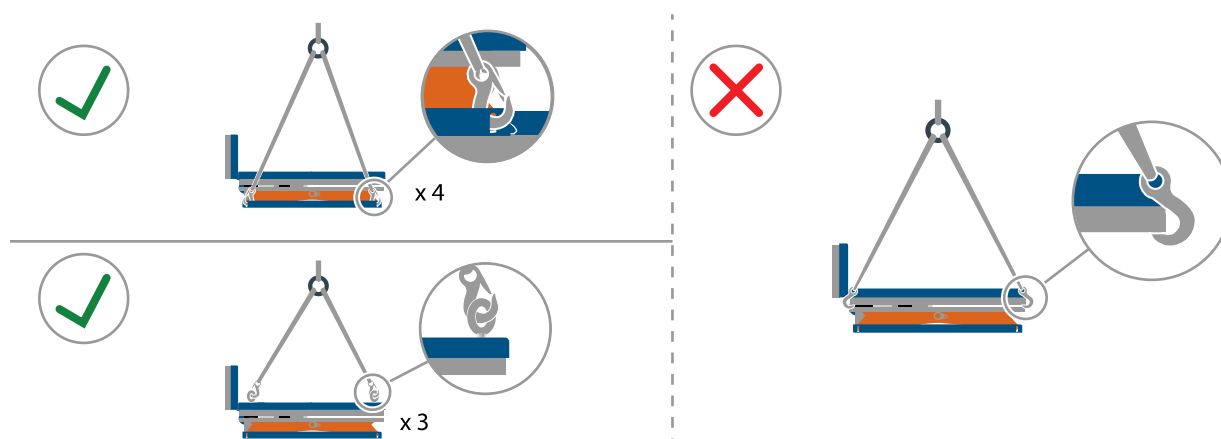


Image 17 Do not lift by the safety frame.

Warning

Do not install the product in such a way that amplifies the noise it generates.

Never let the moving parts come into contact with surrounding objects. Ensure that applicable regulations and norms regarding safety distances are met.

Do not install the product in a potentially explosive environment if it is not specially adapted for it.

Ensure that the product is anchored by bolts or equivalent on a secure, flat and horizontal base before use.

The base must have sufficient bearing capacity for the product including a load, as well as a strength class corresponding to concrete C12/15 or greater.

When installing fixed control devices, position the control device so that the operator has a clear view of the product's dangerous areas and load.

Minimise crushing risks when installing next to other equipment and ensure that required safety distances are met according to applicable norms and local regulations.

Check that the product's specified voltage corresponds to the mains voltage, and that a sufficient conducting area and fuse are used.

More than one emergency stop may be required for the product to achieve overall safety at the worksite. In cases where the only operator location is on the platform, at least one additional emergency stop must be installed, easily accessible in connection to the product. Attention must always be drawn to the additional emergency stops by clear labelling.

Warning

The electrical installation must be performed by an authorised electrician and other installation work performed by skilled personnel with the required knowledge in order that the work is carried out in a professional manner. Risk of personal injury.

NB!

The seals on electrical equipment may not be broken, if they are, the warranty is deemed invalid.

1. Position the lift table in a prepared location, the base must be flat and have sufficient bearing capacity.

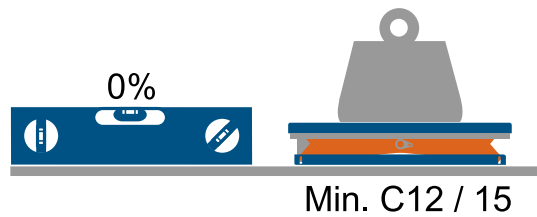


Image 18 Place the lift table on a flat base with sufficient bearing capacity.

2. Connect the electrical connection to operate the lift table. The feed cable is a 4-core cable, 3 phases (black, blue, brown) and ground (green-yellow). Neutral cable is not used. CEE connector, motor protection and main power switch are not usually included with the delivery. Unless otherwise requested, the product is supplied for connection to 3 phase/400 V/50 Hz. (For 380-420V). Actual voltage stated in the order specification.

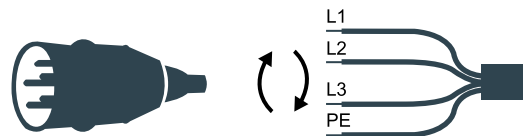


Image 19 Electrical connection.

3. Switch on the main power switch.
4. Press the control device's button to raise the platform. Release the button when the platform is at the required height or after approx. 10 seconds if the platform does not raise. If the platform does not raise, the electric motor is probably rotating in the wrong direction, cut the current and switch two of the electrical connection phases (see image 19) and then make a new attempt to raise the platform.

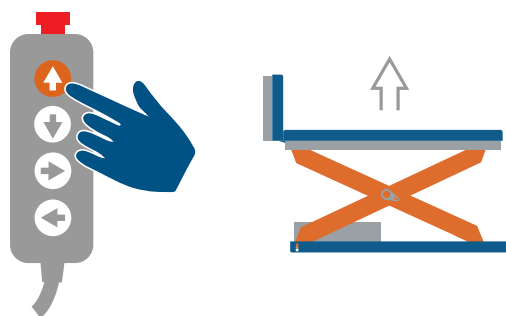


Image 20 Press the control device's button to raise the platform.

5. Lock the lift table, see section 4.4 *Locking lowering motion*, page 30.

6. Anchor the lift table to the base using at least four expander bolts. Visit www.edmolift.com/installation for more information.

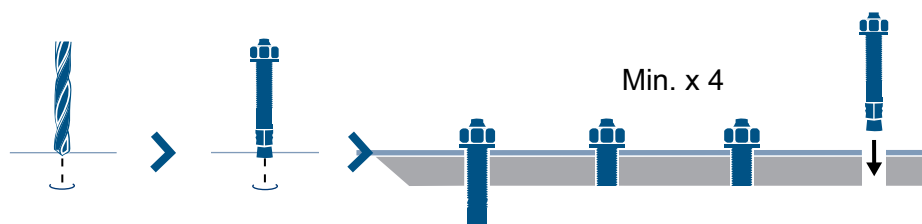


Image 21 Anchor the lift table to the base using at least four expander bolts.

7. If necessary, install extra emergency stops in suitable positions. Label extra emergency stops clearly.
8. Deactivate the platform's chocks, see section 4.4.2 *Deactivating maintenance chock*, page 31.
9. Check that all control device functions, including emergency stops, work.
10. Check that the safety frame works, see section 4.5 *Checking the function of the safety frames*, page 32.
11. Check that all labels and signs are intact and in their correct position, see section 9 *Labels and signs*, page 45.

7 Settings and checks

7.1 Safety frame's switch

7.1.1 Checks

Ensure that there is a play of 0.5–1.5 mm between the platform and the switch, see image 22.

7.1.2 Setting

The distance between the safety frame and the switch is adjusted by changing the position of the safety frame, see image 22.

1. Place the lift table in the service position, see section 4.4 *Locking lowering motion*, page 30.
2. Adjust the safety frame position by turning the mounting nuts.



Warning

Ensure that all safety frame mountings are equally adjusted, so that the safety frame is parallel with the platform. Risk of personal injury.

3. Check the play according to section 7.1.1.

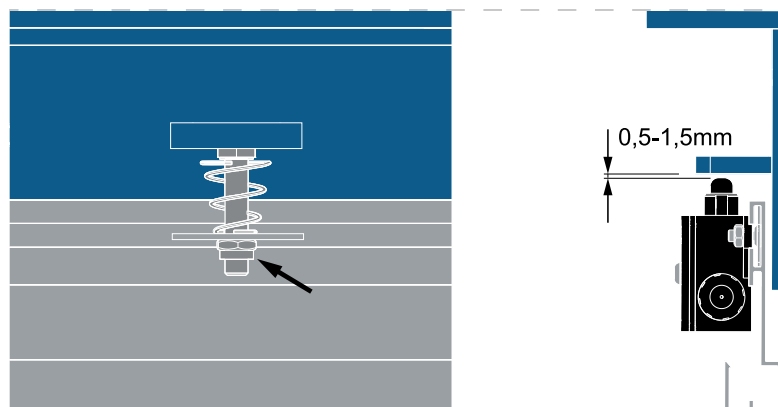


Image 22 Setting the safety frame.

7.2 Setting the flow control valve - Lowering speed

The lowering speed can be adjusted using the flow control valve knob.



Warning

High speed increases the risk of instability. The lowering speed may not exceed 60 mm/s.

1. The valve package is mounted on the hydraulic power pack, see image 23.
2. Release the knob by loosening the lock nut.
3. There are different types of valve package depending on the product and its configuration. Identify which type of valve package your product has and which knob belongs to the function to be adjusted. Adjust the speed using the knob. Turn clockwise to reduce the speed. Turn anticlockwise to increase the speed.
4. Lock the knob by tightening the lock nut.

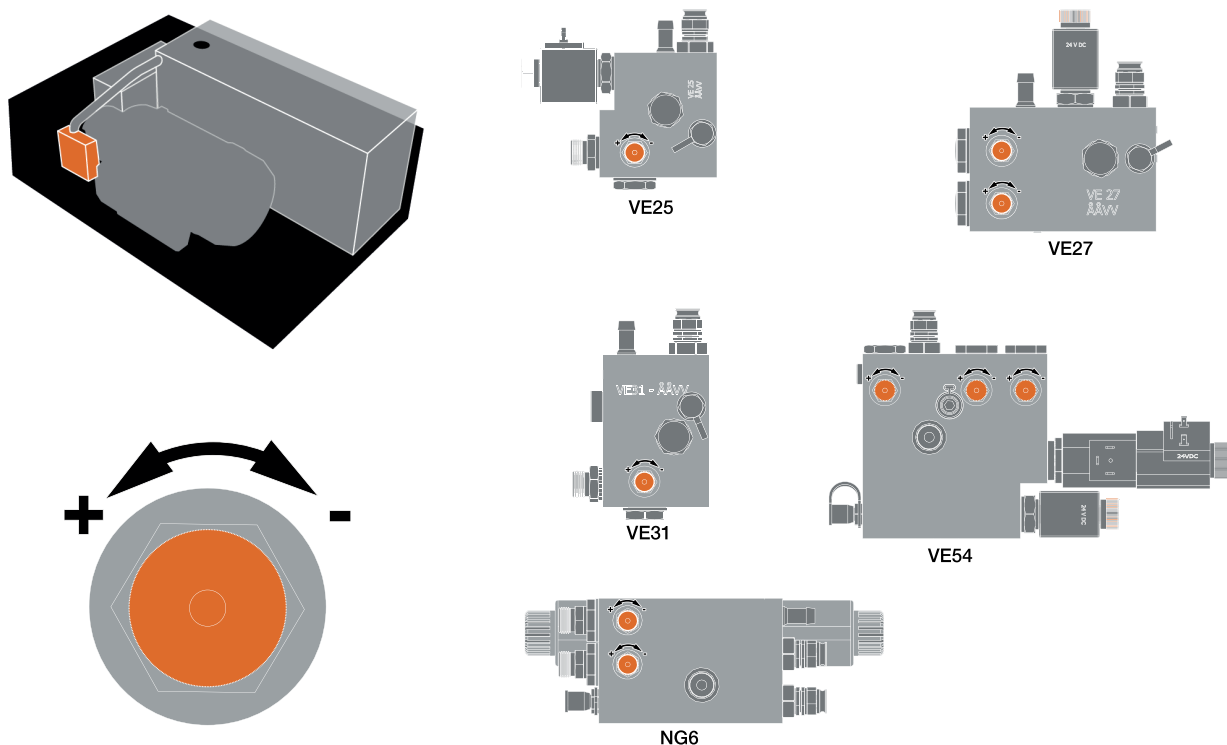


Image 23 The valve package is mounted on the hydraulic power pack. Identify the type of valve package your product has. Adjust the lowering speed using the flow control valve knob.

7.3 Checking the hydraulic system pressure

The valve package is mounted on the hydraulic power pack and is equipped with an output of the Tema 100 type for the connection of a pressure gauge.

NB!

If the product has a limit position, this may have to be removed so that the platform can be operated up to the mechanical stop.

Correct pressure is stated on the machine plate, see section 9 *Labels and signs*, page 45.

1. There are different types of valve package depending on the product and its configuration. Identify which type of hydraulic package your product has, see image 24.
2. Connect suitable pressure gauge to the output, see pos. 4 image 24. The output is equipped with a protective cover that must be removed before connection.
3. Raise the platform to the top position, read off the hydraulic system's pressure on the previously connected pressure gauge when the lift function hits the mechanical stop.
4. Remove the pressure gauge after completing the check.
5. Replace the protective cover on the output.

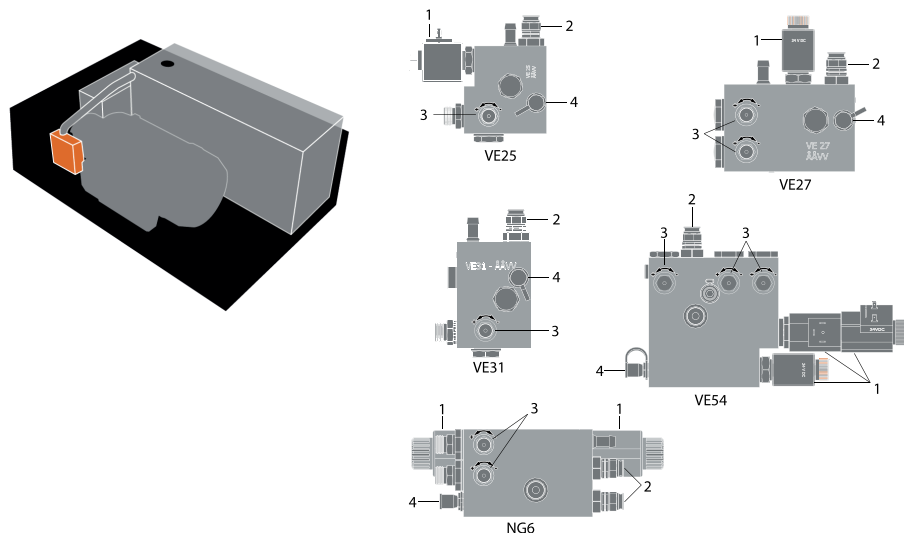


Image 24 The valve package is mounted on the hydraulic power pack. There are different types of valve package depending on the product and its configuration

- | | |
|--|--|
| 1. Solenoid | 3. Flow control valve for lowering speed |
| 2. Adjustment of max. working pressure | 4. Output for pressure gauge |

8 Troubleshooting

This section contains a troubleshooting guide that describes a number of errors and events that may arise when using your product as well as corrective action suggestions. Note that this guide does not describe all the problems and events that may arise. If in doubt, you should always contact an EdmoLift representative.

Symptom	Possible cause	Solution
Motor will not start.	Main power switched off.	Switch on the switch.
	No voltage.	Check supply voltage.
	Emergency stop depressed.	Turn emergency stop clockwise. See section 4.3.1.2 <i>Resetting</i> , page 27.
	Blown fuse.	Check cause and reset.
No lifting motion.	Incorrect direction of rotation of motor.	Swap two phases. Warning! Check that the main power switch is off before starting work! See section 6 <i>Installation</i> , page 36.
	Incorrect electrical connection.	Check the connection.
	The pressure relief valve opens.	The platform is overloaded. Remove the excess load.
	Other causes.	Contact EdmoLift.
Maximum lift movement not reached.	Insufficient fluid.	Top up with fluid, not more than the top position. Too much fluid can cause fluid to flow out of the tank during lowering.
	The pressure relief valve opens.	The platform is overloaded. Remove the excess load.
Jerky lift or lowering movement.	Air in the hydraulic system.	Check the fluid level. Run the product 2-3 times at 5 minute intervals. When the platform reaches the bottom position - hold the DOWN button for 30 seconds.

Symptom	Possible cause	Solution
Platform does not lower.	Incorrect electrical connection.	Check the connection.
	Emergency stop depressed.	Turn emergency stop clockwise.
	Safety frame activated.	Remove the object that activated the safety frame. Briefly press up, then down again. See 4.3 <i>Control</i> , page 26.
	Blown fuse.	Check cause and reset.
	Lowering valve does not open.	Check the power supply. Necessary replacement of valve cartridge and solenoid.
The platform lowers without down being pressed.	Dirt in the hydraulic system.	1. Run the product a few times to remove any particles from the valve seats. 2. Remove the lowering valve cartridge and clean. 3. Replace lowering valve cartridge and change fluid.
Lowering speed is faster or lower than desired.	Incorrectly adjusted flow control valve.	Adjust the constant flow valve to max. 60 mm/s. See section 7.2 <i>Setting the flow control valve - Lowering speed</i> , page 41.

9 Labels and signs

Regularly check that the labels and signs on the product on delivery are intact, legible and in the correct language. Damaged or illegible labels must be replaced with new ones.

In special cases, other locations than those shown here may apply. In addition, further labels may be applied in connection with certain accessories or usage situations.

The following signs must be installed:

1. EdmoLift labels, 2 x. See section 9.1.
2. Max. load labels, 2 x. See section 9.2.
3. Maintenance labels, 3 x. See section 9.3.
4. Warning label, 1 x. See section 9.4.
5. Machine sign, 1 x. See section 9.5.

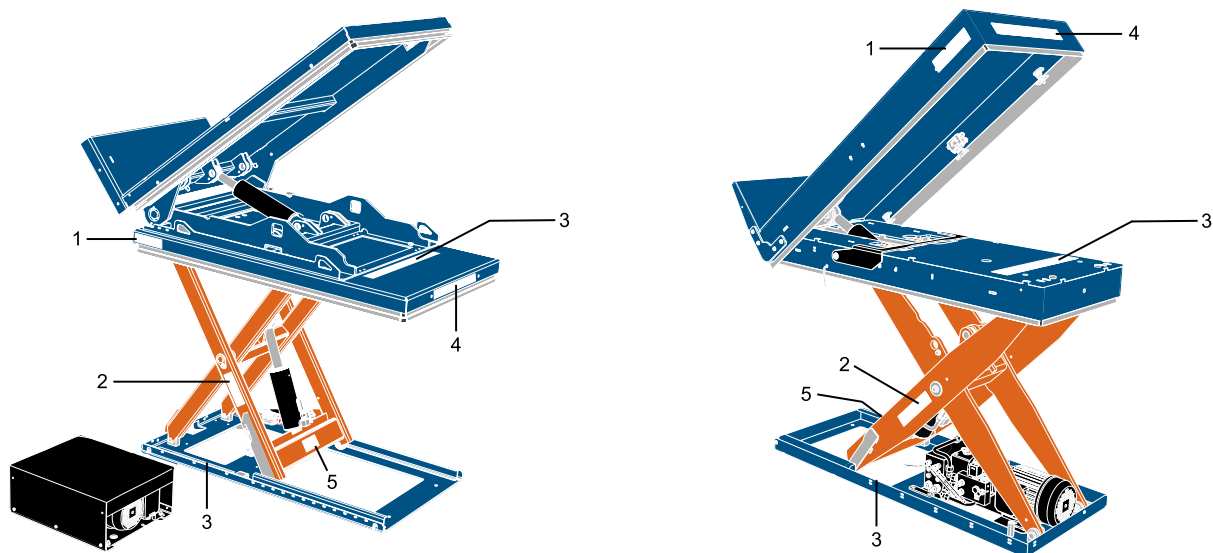


Image 25 Labels and signs

9.1 EdmoLift label

Label with logo and web address.



Image 26 EdmoLift label

9.2 Max. load label

The label indicates the maximum permitted load for the product. The label must be positioned so that it is clearly visible from all operating locations.



Image 27 Max. load label

9.3 Maintenance label

The label indicates that work inspection under the platform is not permitted unless the maintenance chocks are in the maintenance position.



Image 28 Maintenance label

9.4 Warning label

The label provides information about load distribution, permitted or non-permitted carriage of persons, the position of the maintenance chocks and encourages reading of instructions before use and service work.



Label for non-permitted carriage of persons

Label for permitted carriage of persons

Image 29 Warning label

9.5 Machine plate

The machine plate contains the following information:

1. Product type
2. Year of manufacture
3. Hydraulic pressure
4. IP class
5. Serial number
6. Max. load
7. Dead weight

					
TYPE		MAN YEAR		PRESSURE	
SERIAL NO.		MAX. ED LOAD		DEAD WEIGHT	
EdmoLift AB				Tel. no +46 (0)611 837 80	
Härnösand, Sweden				b2b@edmolift.se	

Image 30 Machine plate

9.6 User plate

The user plate contains product specifications as well as information about operation and safety. This plate must be sited alongside the operator's operating position, if local regulations so require. User plates are supplied when stated in the order specification.

10 Technical data

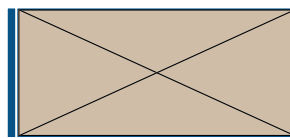
10.1 Specifications

For technical specifications, see order specification.

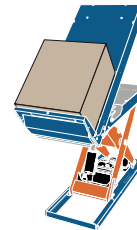
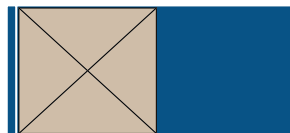
10.2 Permitted load distribution

Max. load stated in the technical specifications regards loads evenly distributed across the entire platform. EdmoLift lift tables with tilt function meet the requirements according to the lift table standard SS-EN 1570-1, where the basic requirement for max. load is defined as follows:

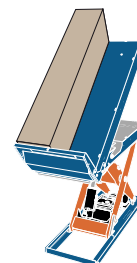
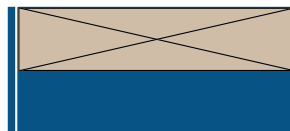
100 % of the max. load distributed across the entire platform.



or 50 % of the max. load distributed across half the platform longitudinally.



or 33 % of the max. load distributed across half the platform laterally.



10.3 Max. lateral loading

Max. permitted lateral force on the platform is 5% of the max. load stated in the technical specifications.

NB!

It is very difficult to estimate the size of the actual lateral force, so utmost care must always be taken.

11 Wiring diagrams

11.1 Identifying applicable wiring diagram

This section shows the wiring diagrams for standard products. The electrical system is individually adapted, the relevant wiring diagram is then included in the delivery but can also be obtained from www.edmolift.com/installation.

To see which electrical diagram applies to your product, see the electrical equipment's label. The correct wiring diagram can be identified using part no. and DIP.

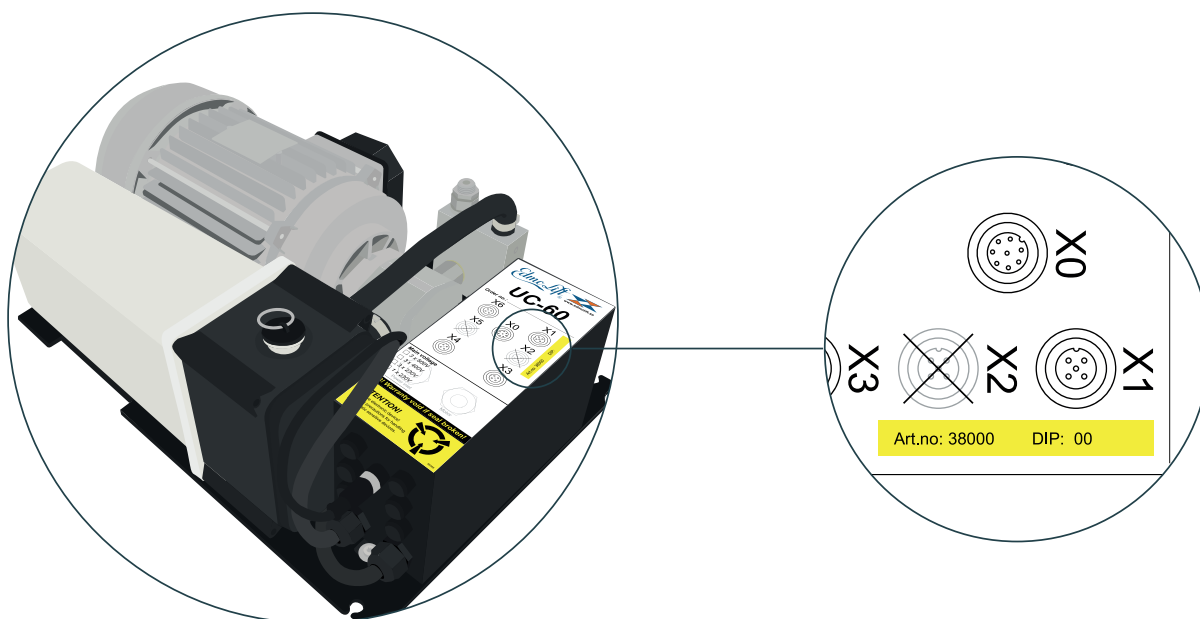
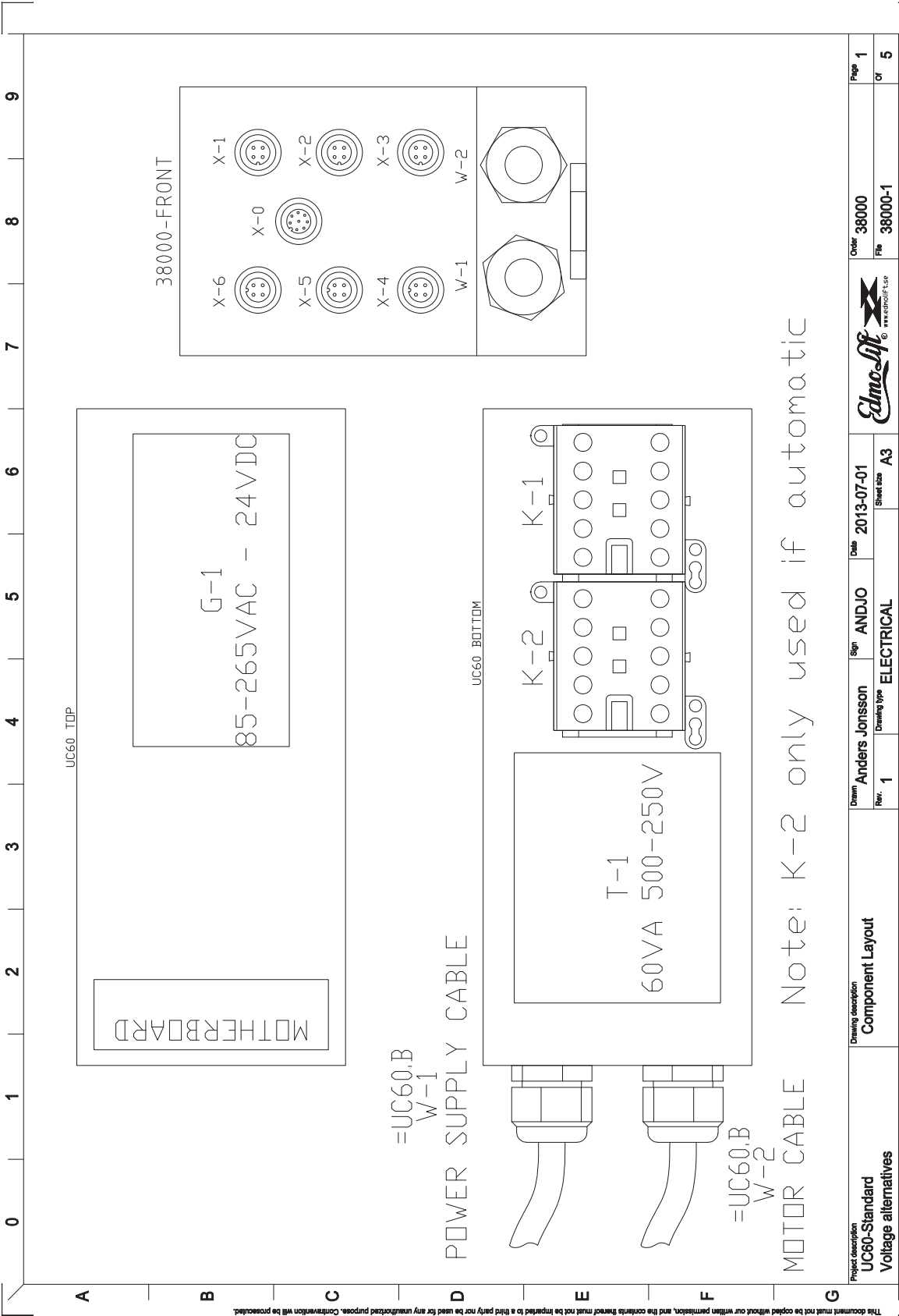


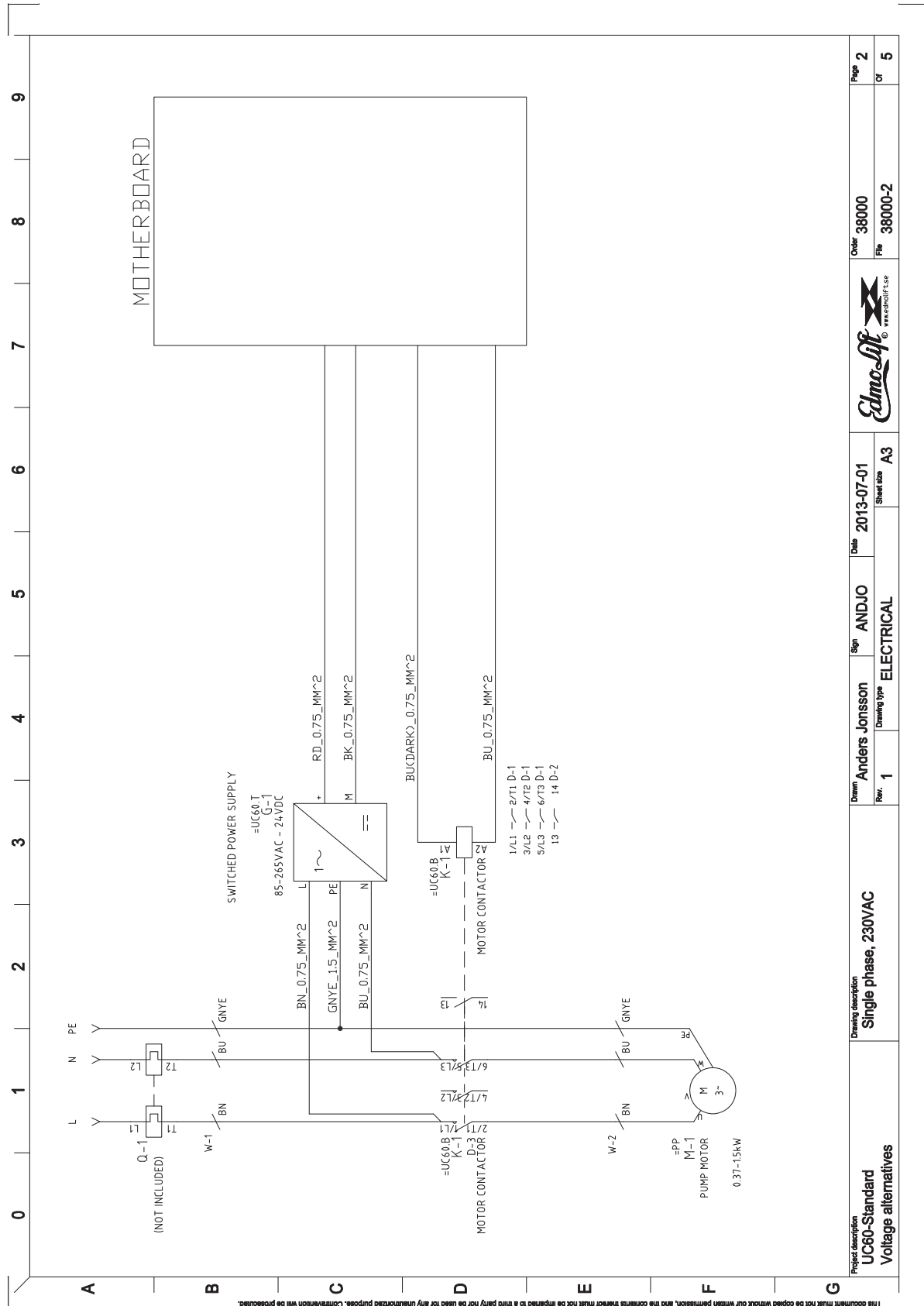
Image 31 Identifying applicable wiring diagram, in the chapter 38000–A0

11.2 Wiring diagram for UC60 Standard

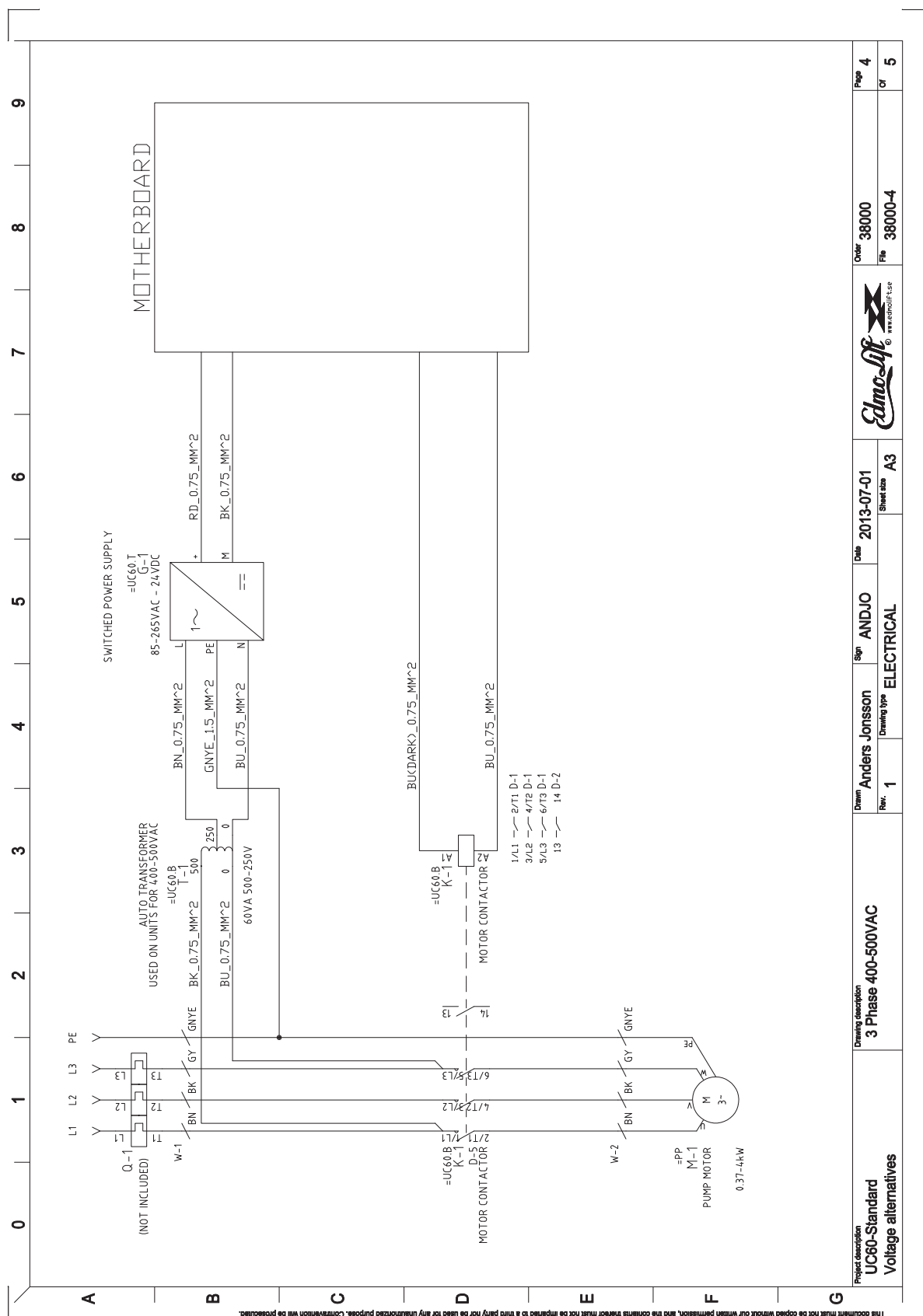
11.2.1 Component layout



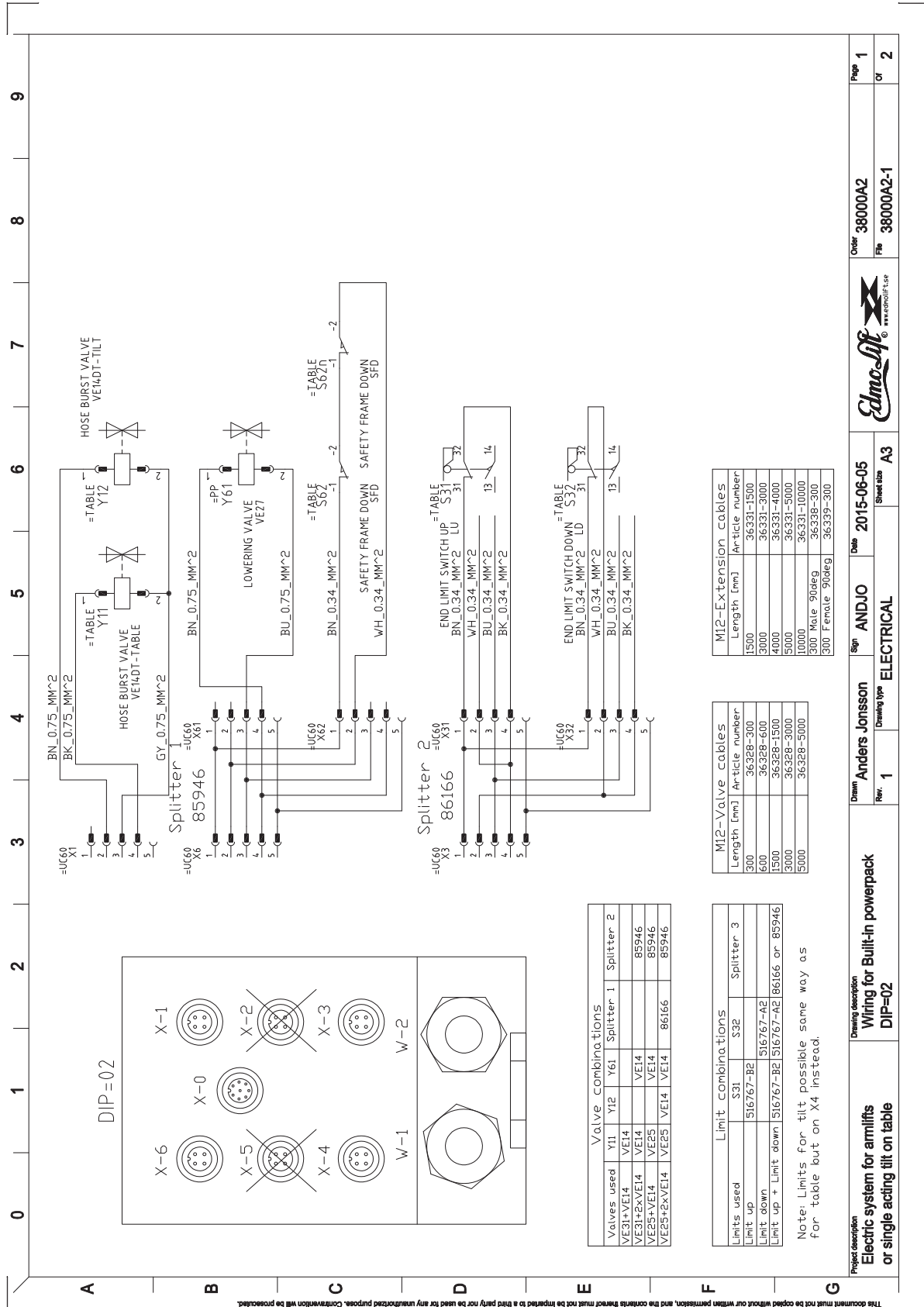
11.2.2 Wiring diagram 1~230VAC



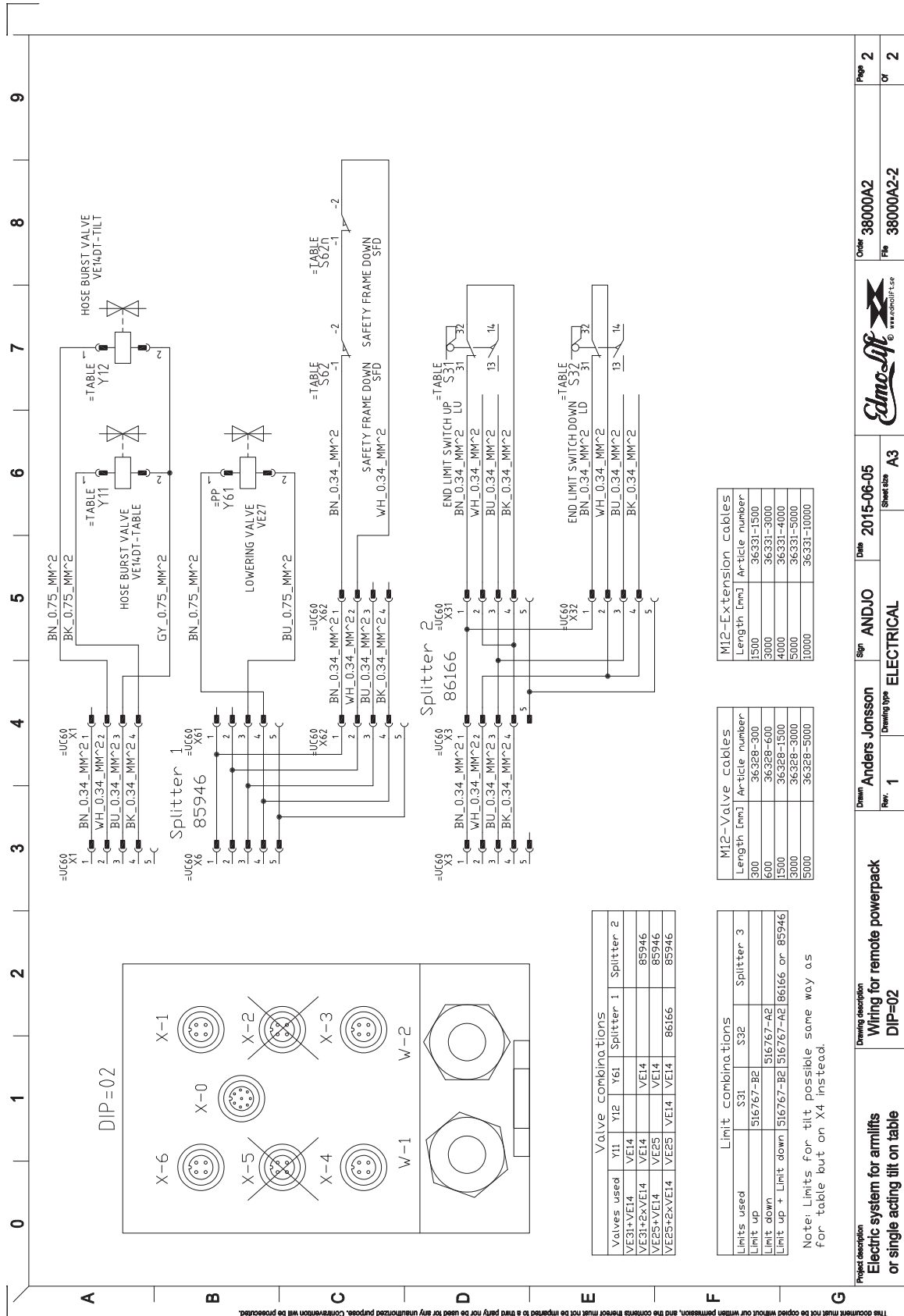
11.2.4 Wiring diagram 3~400-500VAC



11.2.6 Integrated hydraulic power pack



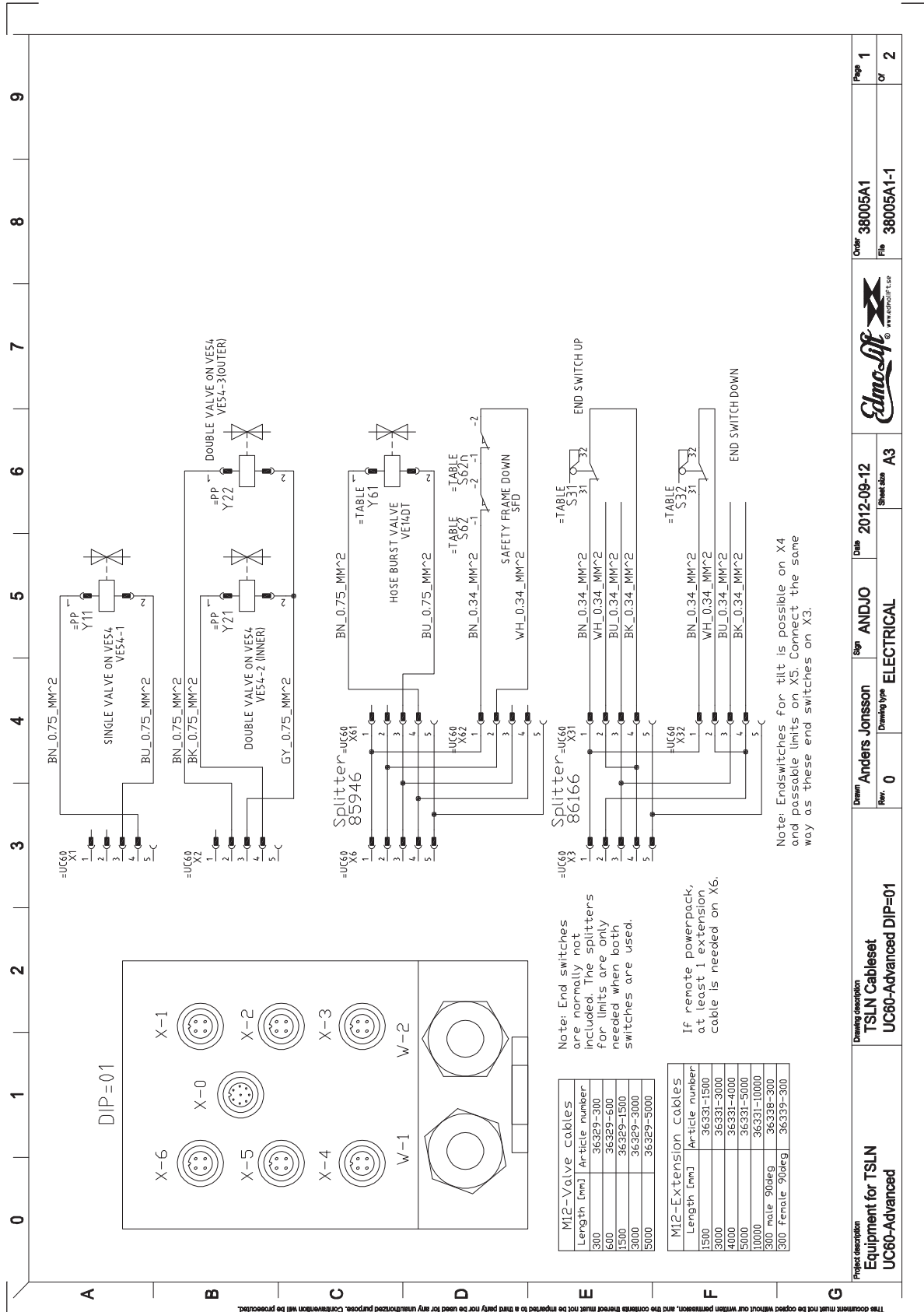
11.2.7 Freestanding hydraulic power pack

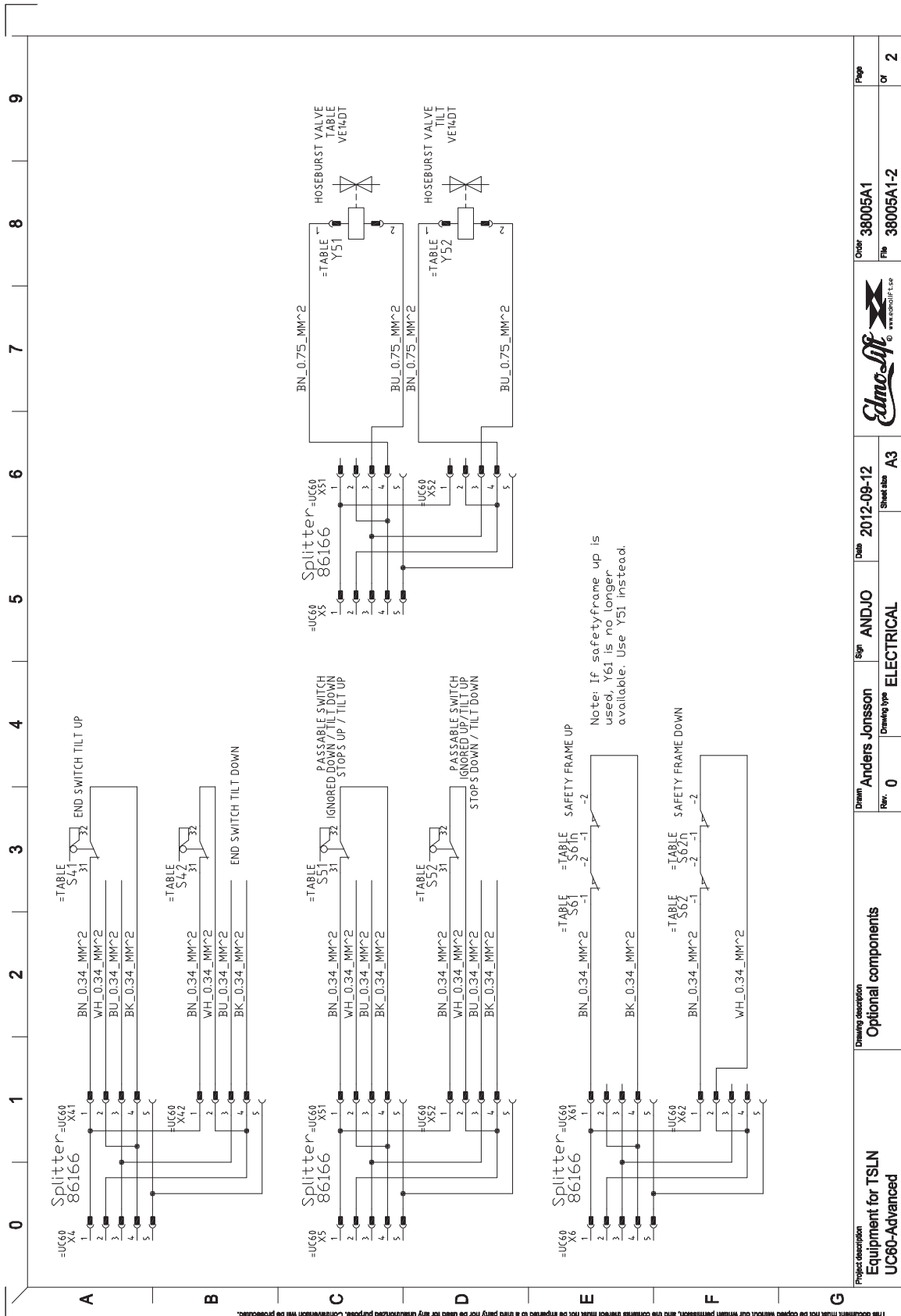


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Project description Electric system for arm lifts or single acting tilt on table	Drawing description Wiring for remote powerpack DIP=02	Drawn Anders Jonsson	Sign ANDJO	Date 2015-06-05	Sheet size A3	Order 38000A2	Page 2
						File 38000A2-2	Of 2

11.2.8 Optional components





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Project description Equipment for TSUN UC60-Advanced	Drawing description Optional components	Drawn Anders Jonsson Rev. 0	Sign ANDJO	Date 2012-09-12	Sheet size A3	Order 38005A1	Page Of 2

12 Hydraulic diagrams

12.1 Single acting hydraulic system, VE14 + VE27

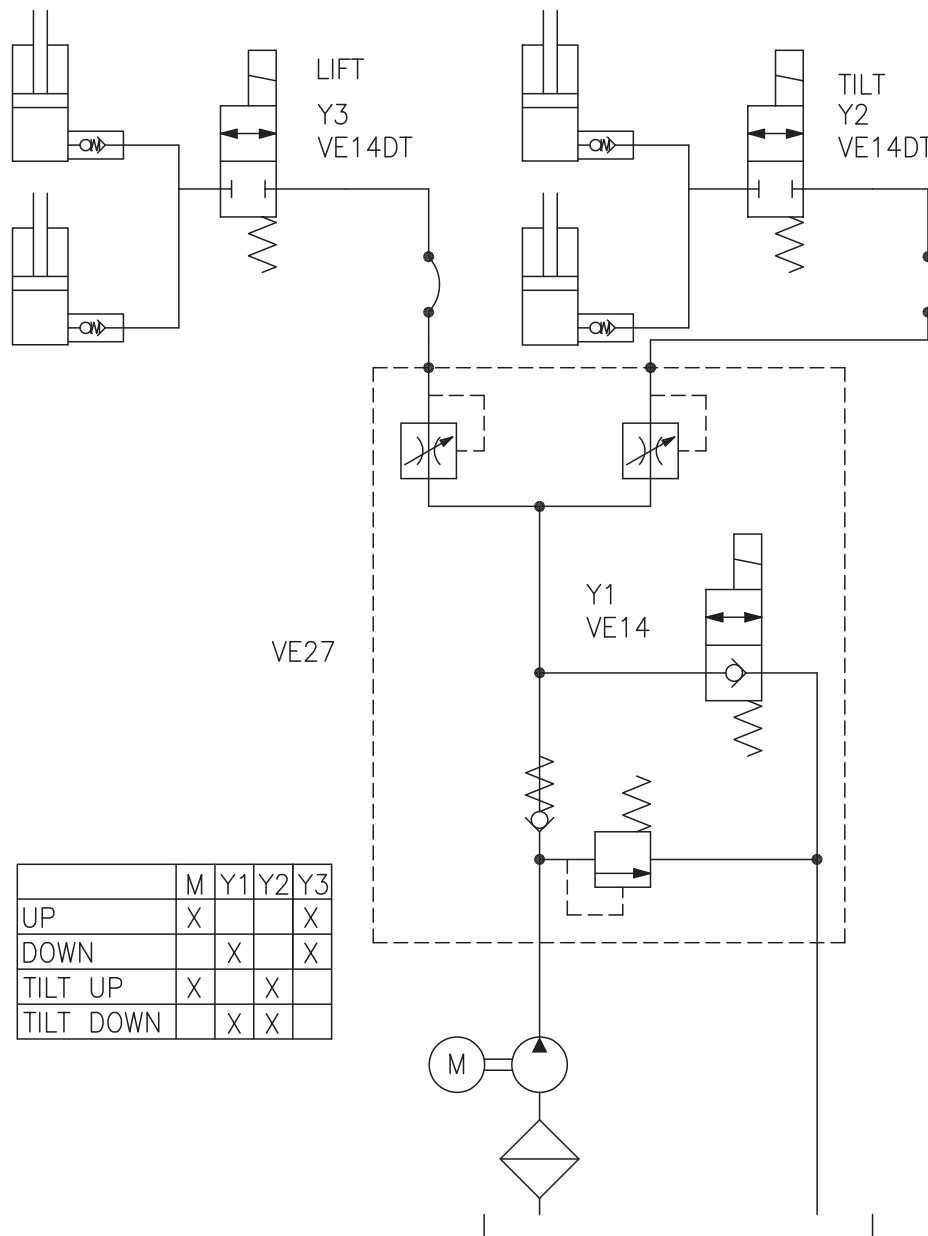


Image 32 Single acting hydraulic system, VE14 + VE27 (Part no. 515439)

12.2 Double acting hydraulic system VE54 + VE14 + Overcentre valve

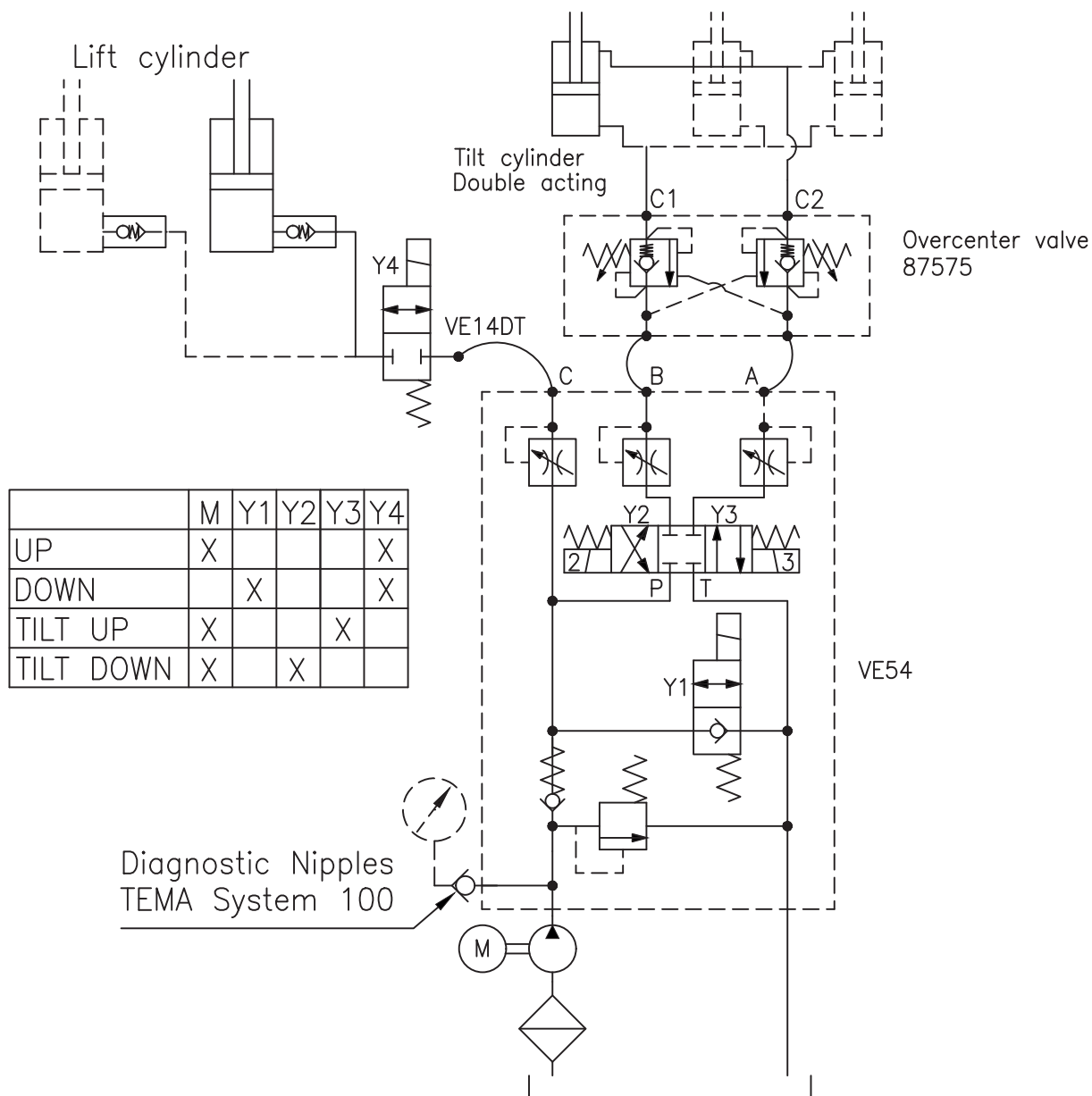


Image 33 Double acting hydraulic system VE54 + VE14 + Overcentre valve (Part no. 611751)

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About EdmoLift

EdmoLift is one of the worlds largest manufacturers of scissor lift tables, pallet handling products and tools for materials handling. We have successfully supplied lift tables and solutions for materials handling for over 50 years. The largest customer category is industrial companies, but our lift solutions are also available within distribution, healthcare, service and trade.

Our mission is to be the most competitive supplier on the market. EdmoLift must also mean added value and high quality so that our products meet requirements, give the best functionality and stand the test of time. Our products are mostly sold via dealers and subsidiaries in more than 60 countries around the world.

EdmoLift was founded in 1964 by Torbjörn Edmo. The company is located in beautiful Härnösand on the High Coast of Sweden, where we have modern premises for production, development, sales and servicing. Our experienced and skilled staff can provide a rapid response and excellent service.

Our aim is to offer you the best and most ergonomic, cost-effective solution for your lifting and handling needs.

World class from Sweden!