MADE in ITALY

ARMANNI®

Manuale di istruzioni
Instruction manual
Betriebshandbuch
Manuel d'instructions
Manual de instrucciones

CE

TAVOLA SPECIALE TR/16

Contents

CHAPTER 1 General information

1.1 Available documentation

1.1.1 This handbook

- Handbook data.
  - Use and maintenance handbook of the Lifting table
  - Edition: 1.0
  - Version: 1.0
  - July 2017
  - TE/10-09-95-E code

- Consignees.
  - Carrier
  - Installer
  - User
  - Maintenance operator

1.2 Information ownership

ARMANNI states that all information of this handbook is in compliance with the technical and safety specifications of the machine handbook. ARMANNI declines all responsibilities for direct or indirect damages to persons, things or domestic animals due to the use of this documentation or of the machine in conditions different from the ones suggested.

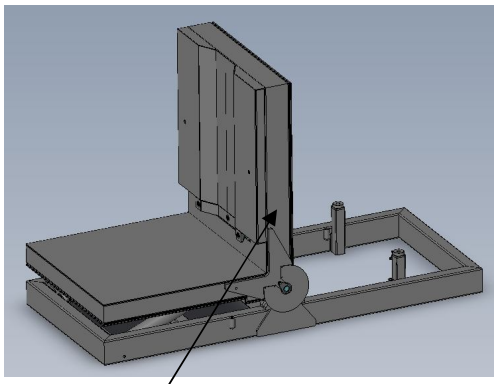
ARMANNI has the right to change or improve this handbook and ARMANNI machines without any advance notice, even the machines commercialised with the same nameplate as the one of this handbook but with a different serial number. The information of this handbook particularly refers to the machine described in 1.4 "Machine identification data".

1.3 Manufacturer's identification data

ARMANNI CARRELLI ELEVATORI srl
Via Serio, 15
24021 ALBINO (BG)
Tel. 035/752909

1.4 Machine identification data

- Denomination: LIFTING TABLE
- Model: TAVOLA SPECIALE TR/16
- Serial number: 72866
- Construction year: 2019



IDENTIFICATION NAME PLATE POSITION

Fig. 1.1 Identification name plate position

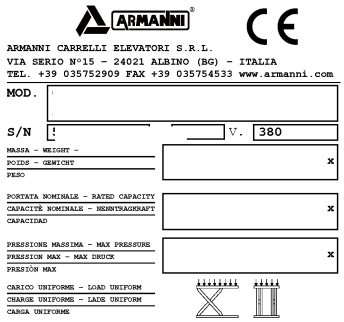


Fig. 1.2 Identification name plate

1.5 CE conformity statement

See enclosure: *CE conformity statement*

1.6 General safety instructions

During the design and construction of this machine methods and precautions have been adopted in order to meet the essential safety demands in compliance with the CE Directive and subsequent changes and with applicable norms. In particular, during the design and construction phases precautionary measures have been adopted in order to prevent risks for the operators during installation, use, maintenance, disassemble and deactivation of the machine. The complete documentation of the safety measures is included in the technical brochure of the machine.

Thanks to the accurate examination of the risks carried out by the manufacturer most risks in relation to the expected and foreseeable conditions of the machine use have been eliminated. The possible protections to eliminate completely the fall risk of the load from the platform would seriously compromise the functionality and versatility of the machine. Consequently, the residual fall risks of the load from the platform are described in this manual.

ARMANNI recommends to read carefully the instructions, procedures and suggestions of this handbook and follow the safety norms in force and the use of the protection equipment, both those supplemented in the machine and the individual ones.

NOTE ARMANNI declines all responsibilities for possible damages to persons or things due to the non-observance of the safety norms and recommendations included in the documentation.

1.6.1 Passive safety devices

DEFINITION

Such devices are the devices or precautions that eliminate or reduce the risks for the operators without any active intervention from the operators.
Microswitches: the presence of the limit switch reduces the movable table movement between the two positions of minimum or maximum height.
The movable perimetrical frame positioned around the table is a passive safety device.
The contact with an external object locks the movable parts of the table.
An important passive safety device is the parachute valve situated in the connection between the hydraulic plant and the cylinder. In case of a sudden leakage or a break inside the hydraulic circuit, it locks the load movement in a very short time and avoids the abrupt descent to the ground.

1.6.2 Active safety devices

DEFINITION

Such devices are the devices or precautions that eliminate the risks for exposed operators or persons or that reduce the risks that can not be eliminated during the design. Such devices require active and aware interventions from the operator.
The continuous action push-buttons fort the table lifting/lowering are active safety devices; in case of intentional release, they cause the table movement stop.

The movable perimetrical frame position around the table can work as an active safety device as it can be controlled also by means on an intentional manoeuvre. In this case the perimetrical frame can work as emergency stop.

1.6.3 Personnel qualification

The machine working is safe when used by qualified personnel in accordance with the recommendations and instructions of this handbook. All installation, use and maintenance operations of the machine shall be carried out only by authorised and qualified personnel after having acquired the instructions supplied by this handbook.

NOTE ARMANNI declines all responsibilities for possible damages to persons, things or domestic animals due to the use of the machine from unqualified operators.

1.6.4 Danger zones

DEFINITION

A danger zone is any zone inside or near the machine in which the presence of an exposed person represents a risk for the health and safety for that person.

1.6.5 Danger zones of the machine during use and maintenance

ZONES WITH RESIDUAL RISKS

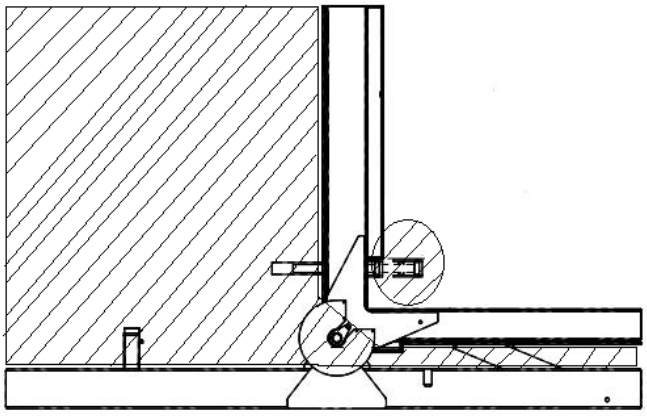


Fig. 1.3 Danger zones of the machine during use and maintenance

IT IS FORBIDDEN TO ACCESS THE INSIDE OF THE MACHINE WHILE IT IS IN USE AND BEFORE SECURING THE MACHINE.

DANGER

Each operator shall carry out the operations for which he has been appropriately instructed.

- During installation, use and maintenance operations use appropriate means of personal protection.

The non-utilisation of adequate protection means may be a danger for the operator.

NOTE ARMANNI declines all responsibilities for possible damages to persons or things due to the non-observance of the safety norms and recommendations included in the documentation supplied.

1.6.6 Personal protections

The utilisation of protective gloves and safety steel-toed shoes is foreseen for the machine use

1.7 Uses foreseen

1.7.1 Operations foreseen

- Rotation of a coil at a time up to maximum 90°.

1.7.2 Installation modalities foreseen

To install the machine, the following conditions will be necessary:

- Placement at a safety distance from other machines or work stations (See *3.3 Placement* in *Chapter 3 Installation*).
- A flat surface.
- Premises with sufficient lighting.

- When using the controls, it is necessary to work at a minimum distance of 3 metres from the tilting platform.
- Make sure that the operator has full view of the entire machine from the position where he/she controls the platform.

1.7.3 Operation modalities foreseen

- The machine is fed by external electrical energy, which is converted into mechanical, hydraulic and movement energy for the uses foreseen.
- One single operator is foreseen for the safe use of the machine.

1.7.4 Safety norms and driving suggestions

To use the coil-tilting platform in safety conditions, some behavioural rules must be followed, that is:

- Only qualified personnel are authorised to use the platform.
- To prevent accidents caused by the accidental falling of the load, all people should stay at a minimum distance of 5m from the range of action of the platform.
- During the use, always keep a correct manoeuvring position.

To be able to work in safe conditions, the coil must have the following overall dimensions:

- MAXIMUM coil diameter Ø = 1219 mm;
- MINIMUM coil diameter Ø = 1016 mm;
- MAXIMUM coil height H = 1830 mm;

- The centre of gravity (G) of the coil must be positioned on the longitudinal axis of the platform.
- The coil must lean on the horizontal supporting surface, as well as on the specific cradle (see the following image), so that the coil does not slide during the tilting operation.

If you comply with the above-mentioned rules, you will assure that the load is placed correctly and that the weight is uniformly distributed over the supporting surface. As a consequence, load balance will be very stable, thus minimising the risk of accidents caused by the accidental falling of the load.

- Never overload the platform.
- Keep the coil centred on the platform and leaning against the specific cradle, so that its centre of gravity is on the longitudinal axis of the platform.
- Pay attention to fires and explosions, especially in premises that may be characterised by gas fumes, fuels and others. The platform is not explosion-proof.

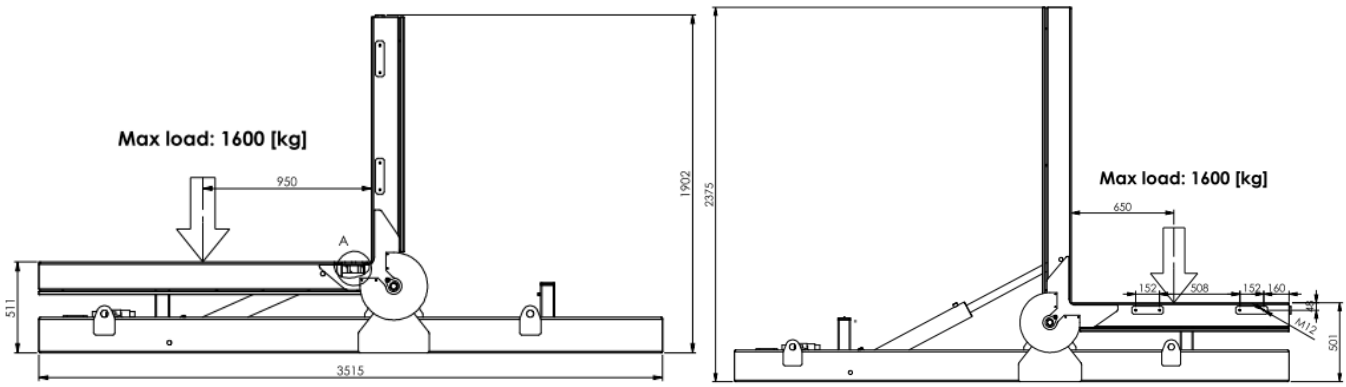


Fig. 1.4 Load position

1.8 Uses not foreseen

The uses not foreseen are the uses that are not expressly specified in 1.7 *Uses foreseen*, and in particular:

- The use of the elevating table as an elevator for the rise or descent of persons.

DANGER

If, due to the features of the platform or of the load (for example, in the presence of lubricating grease on the platform or the load that is incorrectly positioned other than the above-mentioned correct method), the load tends to slide and/or to capsize, such movement must be prevented by suitably restraining the coil to the supporting surface.

1.9 Guarantee

For the general conditions of guarantee refer to *Certification of guarantee*, in the *3 Enclosure.*

1.10 Assistance

The supplier places at his own clients' disposal an Assistance Service

1.10.1 Demand for assistance interventions

In case of problems during the machine use, it is advisable to read this handbook. Contact the Assistance Service to solve the problems not mentioned in the handbook or if the problem persists even after your intervention.

Assistance Service

In case of necessary interventions:

During the guarantee period please contact:

ARMANNI manufacturer

Once the guarantee period is expired, address to:

ARMANNI if the jobber or the assistance centre is unknown.

For spare parts address to:

ARMANNI if the jobber or the assistance centre is unknown.

1.11 How to use the available documentation

1.11.1 Use of the handbook

Before using the machine and carrying out any maintenance operation, read carefully the conditions given by this handbook.

Table 1.1 How to use the documentation

If you want to:	Read
Transport, move, load, unload and operate the machine	Chapter 3 Installation
Set and equip the machine	Chapter 4 Use
Use the machine already installed and set	Chapter 4 Use
Carry out regulations during the use	Chapter 4 Use
Solve the use problems	Chapter 4 Use
Estimate and carry out maintenance	Chapter 5 Maintenance
Deactivate or dismantle completely the machine	Chapter 6 Dismantling

1.12 Handbook preservation

This handbook and the whole documentation shall be preserved for all the technical duration of the machine. In case of sale of the machine used, the machine shall be sold along with the documentation supplied.

1.13 Conventions

1.13.1 Typographical conventions

- Italics text: it refers to the title of a chapter, a section, a sub-section, a paragraph, a table or a figure of this handbook or another reference pubblication.

NOTE The notes contain important information, highlighted outside the text they refer to.

ATTENTION

The attention references indicate those procedures whose non or partial observance can cause damages to the machine or its equipment.

DANGER

The danger references indicate those procedures whose non or partial observance can cause physical damages to the operator.

CHAPTER 2 Description

2.1 Machine description

2.1.1 MACHINE FUNCTION

The coil-tilting platform is used to tilt the coils between 0° up to maximum 90°, that is, to move the coil position from vertical to horizontal axis.

2.1.2 WORKING PRINCIPLE

- Tilting of the coil supporting surface.

- The surface can be turned between 0° up to maximum 90° compared with the horizontal position.

The above-mentioned operation is carried out by hydraulic cylinders.
The main structural components of the machine are as follows:

2.1.3 Structure

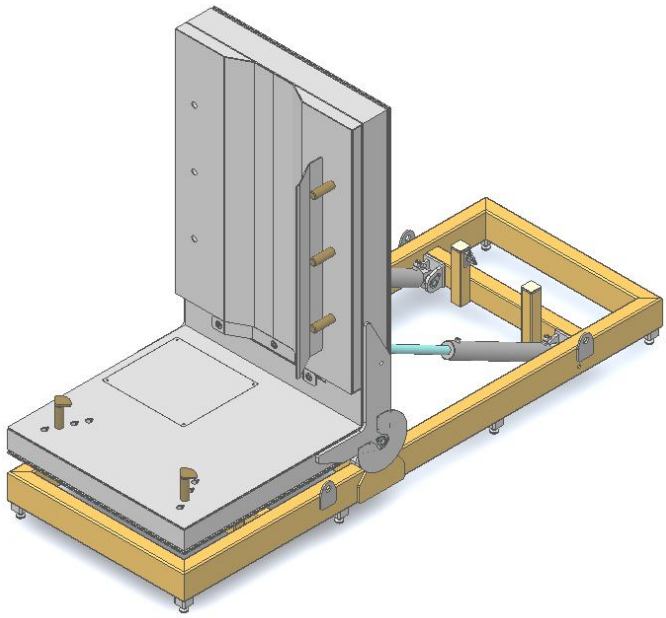


Fig. 2.1 Picture of the machine

The main structural elements of the machine are the following:

Mechanical structure:

- Supporting structure, which is a framework formed by various structural components with tubular cross-section.
- Movable platform, which is a half-framework hinged on one side of the supporting structure.
- Cylinder-stem assembly.

Wiring system:

- Printed circuit board
- Switches:
  - Limit switch for the lifting movement.
  - Pressure switch.

Hydraulic system:

- Hydraulic pump.
- Built-in tank in the pump.
- Electrical board.
- Filter.
- Flow compensator valve to control the oil flow from the cylinder.
- Parachute valve to stop the oil flow, and so the lowering of the load in case of hydraulic system failure.
- Unions.
- Plastic pipes.

Control device :

- Lifting button (to increase tilting).
- Lowering button (to reduce tilting).
- Emergency stop button (red button).

2.2 Properties

2.2.1 Noise

The parameter values of the aerial noise caused by the machine are within the limits in accordance with the 89/392/CEE European Directive.

- The weighted continuous equivalent level A of the acoustic pressure is under 70 dB (A)
- The maximum value of the weighted instantaneous acoustic pressure C is under 63 Pa

2.3 Responsibilities

NOTE ARMANNI declines all responsibilities for possible inconvenience, failures or malfunctioning due to the non-observance of the feed values supplied.

CHAPTER 3 Installation

The instructions of this section shall be followed during the periods of temporary storage of the machine that can occur in the following situations:

- Machine installation not immediately after its supply
- Machine disassemble and storage awaiting its re-collocation

In case of non-observance of these instructions, ARMANNI declines all responsibilities for possible damages to the machine or subsequent performance not in compliance with the technical specifications supplied.

3.1 Storage

3.1.1 Characteristics of the storage area

The machine shall be collocated in a space having the following characteristics:

Dimensions

Besides the overall dimensions of the machine, it is necessary to provide for the appropriate circulation and manoeuvre spaces so as to allow the personnel to carry out safely and comfortably the machine sling and lifting.

Protection from environmental and external agents

The storage area shall be covered and protected by the action of the atmospheric precipitations and is accessible to authorised personnel only.

LEVELLING

The elements of the machine shall be positioned on flat surfaces. The plane inclination shall not be over 1%

Supporting plane capacity

The floor shall assure a whole capacity (G) equal to:

$$G = \frac{P.K.9{,}81}{1000} = \frac{Kg \,.\, 1{,}1 \,.\, 9{,}81 \text{ m/s}^2}{1000} = ...KN$$

Where: G = whole capacity referred to the whole storage area, expressed in (KN)
P = machine weight, expressed in (kg)
K = fixed increased coefficient, in order to include the packaging weight in the calculation
9,81 = gravity acceleration expressed in (m/s²)
And consequently a unit load (C) equal to:

$$C = \frac{G \cdot 1000}{S} = \frac{KN \cdot 1000}{m^2} = ...N/m^2$$

Where: C = minimum unit load, expressed in (N/m²)
S = support surface, expressed in (m²)

3.1.2 Environmental characteristics of the storage area

- Temperature admitted: from 0° C to 40° C+/-5° C.
- Relative humidity admitted: from 30% to 90% +/-5%

3.2 Transport

3.2.1 Transport conditions

The machine shall be transported in the following conditions:
- Lower the movable table
- Fasten the movable table to the support structure by means of 4 vertical bolts that are threaded on the support structure by creating a single group.
- Cover completely the truck with a plastic covering to protect the machine from atmospheric agents.

The machine is normally delivered wrapped in a cellophane cloth and rested on a pallet or wooden brackets.

- The bolts and any other material supplied with the machine shall be put into plastic bags.

Total weight

See technical specifications

3.2.2 Transport

The cellophane- covered machine is transported on pallets or wooden brackets. During the transport avoid crashes or turnovers.

3.2.3 Lifting
Lifting equipment

For the lifting of the machine components use:

- Cranes or lift trucks with suitable minimum capacity.
- Chains with 4 adjustable-length connectors.
- Sling fittings with four connectors.

Procedures

- Sling the machine in the specific holes that are to be found in the lower part of the framework, as it is shown in the following image.
- The machine is ready to be lifted.

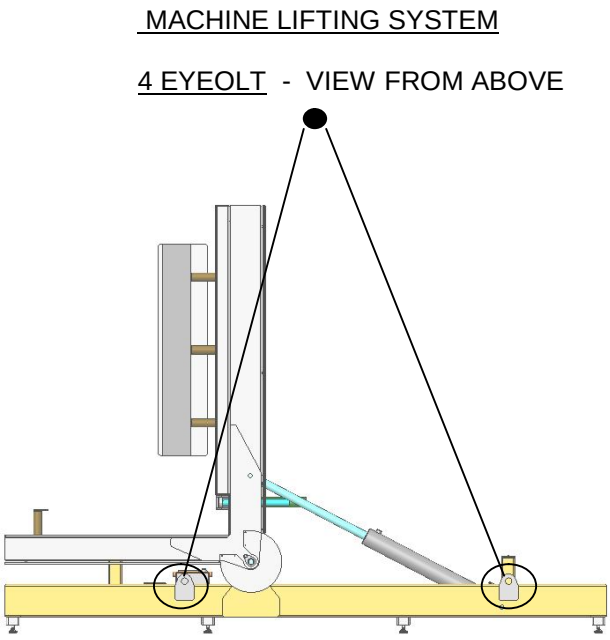


Fig. 3.1 Machine lifting points

3.2.4 Preliminary operations

Unpacking

- Remove the plastic wrapping covering the machine.
- Unscrew and remove the eyebolts

Preservation of the transport accessories

Keep the locking bolts of the movable table and the lifting eyebolts for the next machine transports.

Verification of the damages occurred during transport

Before installing the machine check the presence of possible damages occurred to the machine components during transport.

Check in particular the condition of the following components:

- Lifting stem and cylinder of the movable table
- Limit switches
- Emergency switches
- Motor feed cables
- Hydraulic pump

Machine cleaning

Remove the machine dust an dirt sue to the transport. Use a rag or compressed air.

In case of damages

Before using the machine, it is necessary to check its conditions.
The damages due to transport are attributed to the carrier and immediately communicated to the supplier.

3.3 Collocation

The physical characteristics and pre-arrangement procedures of the collocation areas of the truck are described as follows:

3.3.1 Physical characteristics of the collocation area

Space requirements

Besides the overall dimensions, which are to be found in the *Technical specifications,* you must provide for at least 2m space around the machine on every side.
The above-mentioned space is useful during maintenance operations, as well.

The machine is installed on a flat surface.

Levelling

Carry out a longitudinal and transversal levelling, with an admitted tolerance of 6 mm/m
Rest the level on the table

Flooring

The floor shall assure a whole work capacity (GL) equal to:

$$GL = \frac{(P + Q) \cdot 9{,}81}{1000} = \frac{(Kg + Kg) \cdot 9{,}81\ m/s^2}{1000} = ...KN$$

Where: GL = whole work capacity expressed in (KN)
P = machine weight expressed in (Kg)
Q = machine capacity expressed in (kg)
9,81 = gravity acceleration expressed in (m/s^2)

Consequently, a work unit load (CL) equal to:

$$CL = \frac{GL \cdot 1000}{S} = \frac{KN \cdot 1000}{m^2} = ...N/m^2$$

Where: CL = minimum work unit load, expressed in (N/m^2)
S = machine support surface, expressed in (m^2)

In addition, the floor shall assure a whole capacity of 20 KN/m^2 referred to the whole storage surface and a minimum unit load of 20 KN/m^2.

Lighting

In order to carry out safely and correctly the working and maintenance operations of the machine a good lighting is necessary. The machine is not equipped with a built-in lighting system.

A room lighting having a normal value allows any operation without any risks due to shadow areas.

DANGER

The use of the machine is authorised to one single operator. Never position the machine near a work or passage area of other persons. Refer to *1.6.4. Danger zones*

Protection from atmospheric agents

The machine shall be collocated in a covered place protected from the direct contact with atmospheric agents.

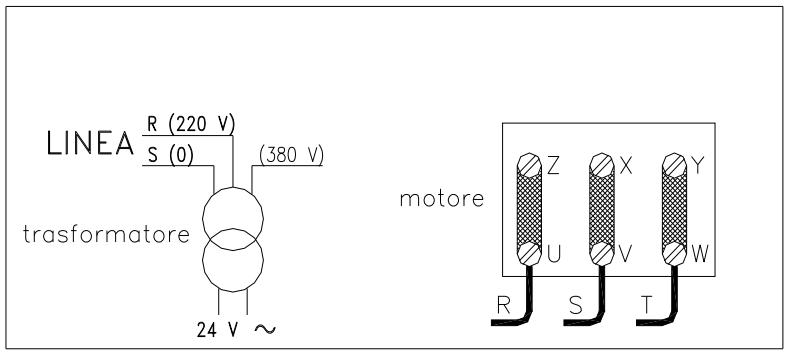
3.3.2 Environmental characteristics of the collocation area

- Temperature admitted: from 5° C to 40° C +/- 5° C
- Relative humidity admitted: from 30% to 90% +/- 5%

3.3.3 Electrical connections

The machine has only the connection cable of the external electric network. on the cable, the phases for a correct connection to the electric network are indicated. The feed tension is prearranged on the machine by the constructor dependin on the client's requests. There are elevating tables working at 220 V and thos using lines of 380 V.
Data admitted for electrical feed.
Tension : 220/380 V
Frequency : 50 Hz
Power absorbed by the motor : See technical Specifications

In case of connections to a 220 V tension network the motor and transformer connections, inside the electric station, are indicated in *Fig 3.2. 220 V Connections.*



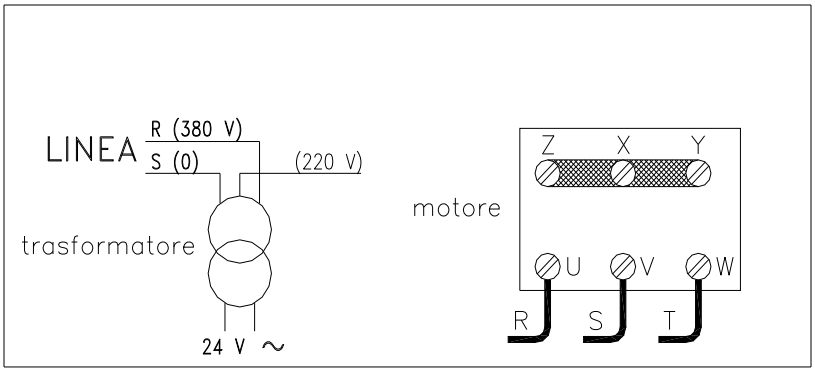
LINE

TRANSFORMER

MOTOR

Fig. 3.2 220v THREE PHASE connections

In case of a connection to a 380 V tension network the motor and transformer connections, inside the electric station, are indicated in *Fig 3.3 380 V Connections*



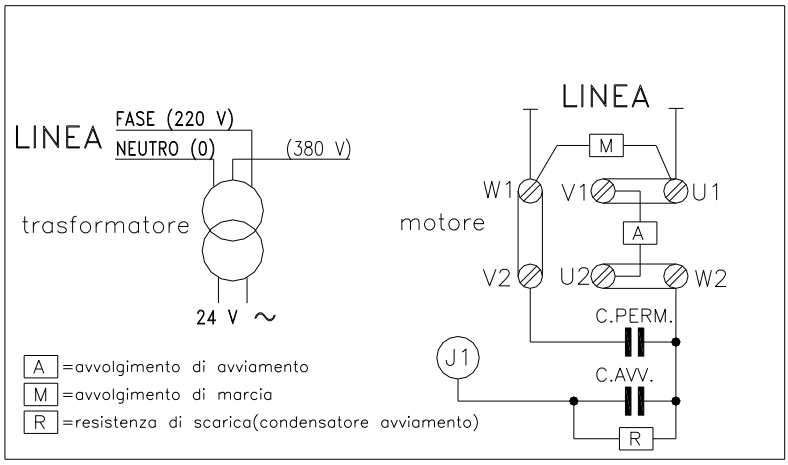
LINE

TRANSFORMER

MOTOR

Fig. 3.3 380 V THREE PHASE connections

The machine has the feed cable having a lenght of about 3 meters.



LINE

TRANSFORMER

MOTOR

A= starting winding
M=running winding
R= Discharge resistance (starting condense)

Fig. 3.4 220 v SINGLE PHASE connections

3.4 Test

The machine is tested by the constructor before going out of the factory. The test includes the static and dynamic tests to guarantee that the machines have been produced and assembled correctly.
The tests carried out are:

- General inspection of the lifting table in order to find possible assemble errors.
- Test without load so as to check the correct working of the hydraulic and mechanical systems and control devices.
- Fully laden static test in rise and descent
- Check test of the safety frame efficiency

CHAPTER 4 Use

This chapter describes the use functions and modalities of the machines.

4.1 Operator's qualification

The machine can be used by one single operator in order to eliminate the risks due to movements and the table movement along with the load. For the table use, no specialised qualification is required.

4.2 Danger zones

Definition

The danger zones are the zones inside and near the machine in which the presence of an exposed person represents a risk for the health and safety of that person.

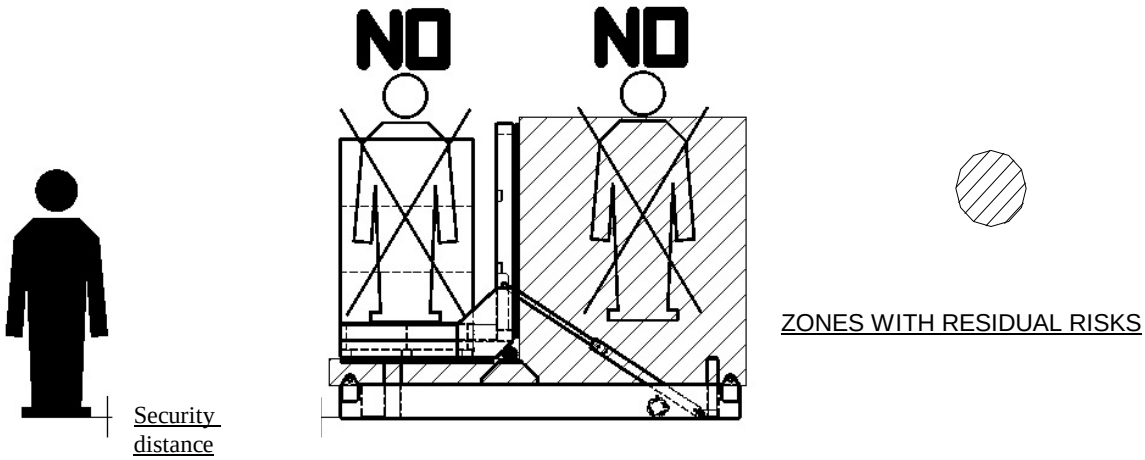
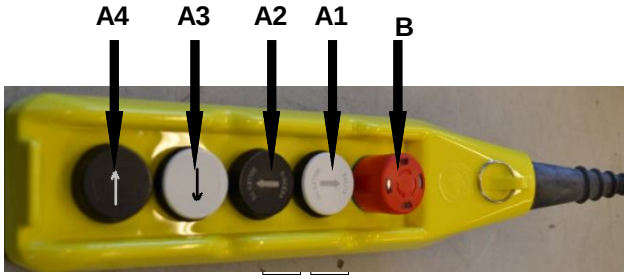


Fig. 4.1 Operator's position and danger zones of the machine during its use.

4.3 Drives and signals



A1 :RISE PUSH-BUTTON - A2: DESCENT PUSH BUTTON
A3: PUSHER-OUT BUTTON – A4: PUSH-IN BUTTON
B : EMERGENCY STOP

Fig. 4.2 Panel control

4.3.1 Drives

General switch of elevating table starting: OFF shows that the machine is off, ON shows that the machine is ON. The general switch is on the electric station.

The rise push-button (A1) is a continuous action switch. By using this push-button the movable table is lifted.

The descent push-button (A2) is a continuous action switch. By using this push-button the movable table is lowered.

The pusher-out button (A3) is a continuous action switch. By using this push-button the mechanical pusher push the load toward the center of the pallet.

The pusher-in button (A4) is a continuous action switch. By using this push-button the mechanical pusher returns in initial position.

The emergency stop is a rectangular framework which limits the lower part of the movable platform. When the framework finds and obstacle along its path or is intentionally controlled, the emergency signal will be triggered to interrupt lowering movement and control the lifting movement for a time of 3 seconds.

Signals

Signal of machine ON. If the general switch ON/OFF of the current is in ON position, the red pilot light is lighted.

4.4 Working

4.4.1 Machine setting and ignition

- Connect the machine to the mains by introducing the plug.
- Switch ON the machine by turning the key to “ON.” When you supply power, the red warning light will turn ON.
- Make sure that the coil supporting surface is in horizontal position and that the retainer is completely open (see the following image).

4.4.2 Working modalities

Lifting (to increase tilting)

- Press the “Lifting” button in the control device. To tilt the load as desired, keep the “Lifting” button pressed until the movable platform reaches the desired position.

- If you want to take the load to the maximum tilting position (90°), keep the “Lifting” button pressed without stopping. When you reach the extreme position, a limit switch will prevent the movable platform from moving further.

Lowering (to reduce tilting)

- Press the “Lowering” button in the control device. To tilt the load as desired, keep the “Lowering” button pressed until the movable platform reaches the desired position.
- If you want to take the load to the minimum tilting position (0°), keep the “Lowering” button pressed without stopping. When you reach the extreme position, a mechanical stop will prevent the movable platform from moving further.

Overload working

The avoid the overloads, the maximum pressure valve is calibrated for a pressure value little superior to the maximum load admitted. In case of an overload, the movable table will behave as follows:

Rise

- **During the application of the load on the movable table, the pressure in the hydraulic circuit will exceed the maximum value admitted. The maximum pressure valve will unload the oil into the tank and the movable table is standstill. The load is not moved.**

Descent

- **During the application of the load on the movable table, the pressure in the hydraulic circuit will exceed the maximum value admitted. The balancing valve of the flow will keep constant the descent speed of the movable table. The load is moved.**

DANGER

It is advisable not to exceed the load limits foreseen for the machine so as to avoid machine stresses that could seriously compromise the technical life and safety of the user.

Emergency stop

When, during the load descent, the table has an obstacle on its path or when the safety frame is controlled manually, the emergency switch disconnects the current. The electrovalve on the hydraulic gearcase locks the oil downflow from the cylinder to the tank

Restarting after emergency stop

To move the table again, it is necessary to press the "Rise" and "descent" push-buttons according to the movement desired.

4.5 Working problems

4.5.1 The movable table does not move

The problems may be:

Electric

- First of all, check that there is electric current in the firm
- The delivery of the electric energy is lacking
- Remedies:
  - Connect the plug
  - Rotate the general switch of electric energy on ON
  - Check that the fuse are not burnt
  -Change the fuses if necessary
- Reversal of the phases of the electric motor
- Remedies:
  - Check that the rotation direction of the electric motor correspond with the on of the arrow on the electric motor cap. If it does not correspond do what follows:
  - Section the machine from the rest of the electric installation

DANGER In case of reversal of the phases without having sectioned the machine the operator gets an electric shock

- Open the connection box of the motor
- Reverse the connection of two line phases
- Close the connection box of the motor
- Connect the machine with the rest of the electric installation

Hy*draulic system.*

- The platform does not move. There is an overload.

- Remedies:
  - Remove the load. Place a load that is suitable for the capacity of the coil-tilting platform.

- The platform does not move, the pressure of the coil retainer dropped.

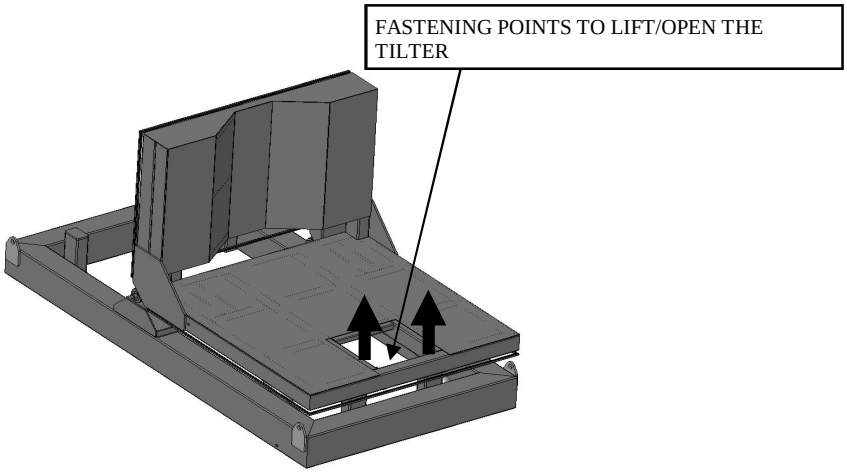
- Remedies:
  - Press the closing button again to provide new pressure to the retainer driving circuit.

PROBLEM: THE TILTER IS COMPLETELY STUCK

If the tilting platform gets stuck for reasons other than the above-mentioned ones, carry out the following manual unlocking operation to service the driving components:

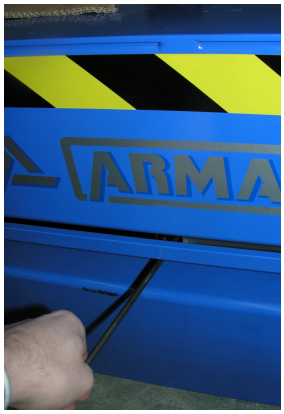
- Remove the inspection hatch that is to be found on the platform of the tilter.

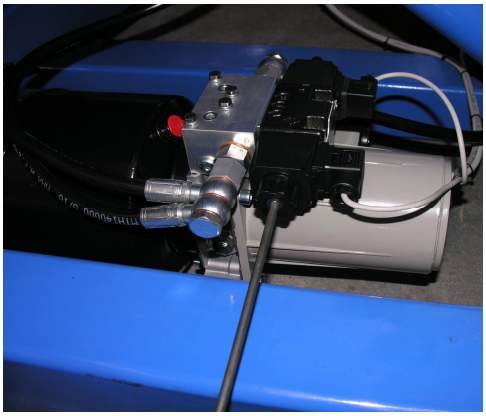
- Sling the platform to a suitable and safe lifting system, in the framework where the inspection hatch was removed (e.g. bridge crane, crane, etc…);



FASTENING POINTS TO LIFT/OPEN THE TILTER

- Before lifting, you must manually activate the solenoid valve to be able to open the oil circuit and allow the tilting platform to be opened (see the following images).





- Keep the solenoid valve open in a manual way, and then slowly and carefully lift the tilting platform in order to carry out the desired opening;

- Lower the 2 levers that are hinged onto the bearing beams in horizontal position and bottoming on the vertical wall of the fixed structure. This way, the movable platform will mechanically lock in maximum height position.

- Lift the levers.

- With the help of the crane, lift the movable platform until the safety levers are loaded.

- Move the machine to destination.

CHAPTER 5 Maintenance

5.1 Maintenance obligations

The lifting table maintenance is very important since it is aimed at preserving the operating and safety characteristics defined by the constructor in the design.

Consequently, the routine maintenance and above all the repairs shall be carried out by specialised technical personnel authorised by the constructor by using original spare parts.

The maintenance periodicity is fixed by the constructor (ARMANNI suggests every 160 working hours).

Only the specialised or authorised personnel must carry out, once a year at least, the safety device check so as to ascertain working and good state.

Check what follows:

1. Frame
2. Table
3. Masts
4. Wheels
5. General screw and bolt tightening
6. Pipelines
7. Hydraulic valves
8. Brakes
9. Safety protections
10. Identification nameplates of table (capacity and lifting graphics), drives and equipment.

5.2 Periodical maintenance, checks and technical advice

Hydraulic system
Check the seal of all pipes, pipe fittings, gaskets and oleodynamic cylinder.
Check the oil level, when the table is completely lifted, by removing the cap placed on the pump tank; with the help of a scaled rod check that the oil level is at three cm from the bottom. If the oil level does not reach this value, carry out an oil topping up with LI 32 oil so as to reach the optimum value.

Nut and screw tightening check
Check all table screws, nuts and particularly lifting group.
Check the pivots on the various joints.

Greasing
Grease the masts where pulleys run.
Grease the pivots by the appropriate greasses.

Electric parts
Check the insulation of the electric installation
Check the battery and the terminal oxidation (water level)
Check the tightening of the power cables in the anchor points

5.3 Danger zones

In order carry out any kind of maintenance, the machine is provided with a safety device able to eliminate all zones with residual risks, allowing the operator to work safely. This device consist in a iron plate that, positioned according to the indications then given, reduces the descent stroke of the table and locks it at a definite height.

Modalities of the safety device connection

- Lift the table up to the maximum height
- Rotate, as in Fig. 5.1, the plate downwards up to the contact with the support structure
- Lower the table, so that the safety device rests on the surface A.
- Disconnects the machine from the electric distribution network

Modalities of the safety device connection

- Reconnect the machine to the electric network
- Lift the machine up to the maximum height
- Rotate the plate in the direction opposed to the one represented in fig. 5.1 by bringing in to the initial position

DANGER Carry out all maintenance operations when the machine is disconnected. The operations described above shall be carried out at the minimum safety distance, the operator must never be under the table plane.

ZONES WITH RESIDUAL RISKS

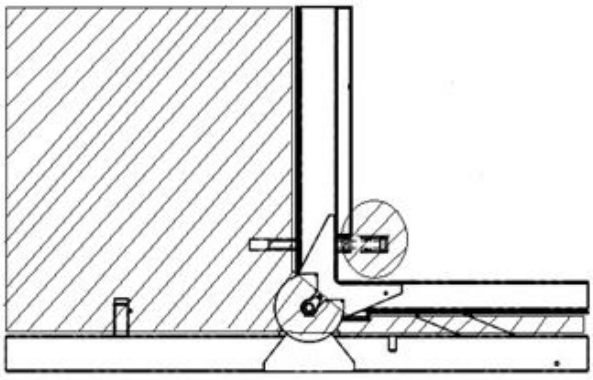


Fig. 5.1 Danger zones of the machine

5.4 Routine (periodical and preventive) maintenance

The routine maintenance operations are all those operations that are carried out at regular intervals so as to keep the machine always efficient.

5.4.1 Operator's qualification

- The routine maintenance operations can be carried out by the user in safe conditions after having read carefully all recommendations and instructions of this section.
- It is advisable for the machine user to take care of the machine maintenance as well.
- The maintenance operations can be carried out by using normal mechanical tools.

5.4.2 Cleaning

Cleaning products and tools

For the machine cleaning it is necessary to have:
- Plastic spatula
- Sponge or cloth
- Compressed air gun
- Protective glasses

Cleaning products

For the cleaning operations a normal detergent and non-potable water are sufficient.

Cleaning procedures

Prepare the machine for the cleaning.

- Lower the movable table up to lower position
- With a plastic spatula, a sponge or a clean wet cloth remove the residual materials on the table.
- Lift the table up to the maximum height position
- Disconnect the electric plug
- Lower the levers of the load bearing traverses in horizontal position
- Clean the remainder of the table.

DANGER

Do not use any solvents since they damage the painting.

ATTENTION

Do not use a bolt of current water. The water could reach the motor and damage it.

5.4.3 Periodical inspections

Table 5.1 Periodical inspections of the lift truck

Parts to be inspected	Inspection frequency
Oil level	3 months
Lubrication of pivots	1 month
Oil filter change	1 year
Oil replacement	1 year
Safety check	Every day
Battery acid level	Every day

Oil level check

Check the oil level only when the table has been completely lifted (by following 5.1 *Danger Zones Modalities of the safety device connection Chapter 5 Maintenance).*
Unscrew and remove the cap on the tank; with the help of a scaled rod check that the oil level is at about 3 cm from the bottom. If the level does not reach this value carry out an oil topping up so as to define the optimum value.

Oil replacement

In order to drain the oil from the tank, follow the instructions of the deactivation procedures in Chapter 6 concerning the oil drain. For the supply of the new oil refer to the previous paragraph.

5.4.4 Special maintenance

The special maintenance includes all interventions specialised in mechanical, hydraulic or electric parts.

Contact the Technical Assistance for the repairs and supply of the spare parts.

NOTE The failures caused by a wrong maintenance or repairs carried out by unauthorised personnel are not included in the guarantee.

CHAPTER 6 Dismantling

6.1 Machine deactivation

ARMANNI machines are designed and produced according to duration and flexibility criteria that allow their utilisation for several years. At the end of its technical and operating life, the machine shall be deactivated. The disability and deactivation of all the functions for which the machine had been designed and manufactured must allow the re-utilisation of its raw materials.

It is necessary to carry out a safe deactivation and dismantling of the machine so as to eliminate the following risks:

- Impact or squashing risks due to the presence of movable parts and stored energies (oil under pressure, forks in high position).
- Poisoning or environmental pollution risks due to the presence of oil in the hydraulic circuit.

NOTE ARMANNI declines all responsibilities for damages to persons or things due to the re-utilisation of single parts of the machine for functions or assemble operations different from the original ones.

6.2 Deactivation procedures

In order to deactivate completely the machine do what follows:

- Lower the movable table up to the lower position
- The table is in the position in which it had been transported
- Assemble the four eyebolts passing through the movable table and are threaded in the support structure
- Disconnect the plug of electric energy delivery
- Sling the eyebolts and lift the machine by means of a crane

---

DANGER Firmly keep hold the lifted table. The screwing and unscrewing of the oil drain cap requires two operators in order to be carried out safely.

- Unscrew the oil drain cap and pour all the oil into a tank.

DANGER

Give the oil to the Body in charge of the dismantling of residual oils.

- Reassemble the oil drain cap
- Remove the tank and put down the table on the ground
- Disassemble the four eyebolts from the fixed structure where they were threaded and assemble with the help of 4 nuts on the table
- Sling the eyebolts and lift the movable table by means of a crane up to the maximum height of the table stroke
- Lower the two levers hinged on the load bearing traverses in horizontal position and rested on the vertical wall of the fixed structure. Thus, it mechanically locks the movable table in the position of maximum height.
- Disassemble and remove the pump, the electric motor and the electric station with the wires from the supporting structure.
- Assemble on the movable table the 4 eyebolts with the help o 4 nuts
- Sling the eyebolts and lift just a little the movable table until the safety levers are loaded
- Lift the levers
- With the help of the crane, lift the movable table until the safety levers are loaded
- Assemble the 4 eyebolts that pass through the movable table and are threaded in the supporting structure
- Transport the machine to destination

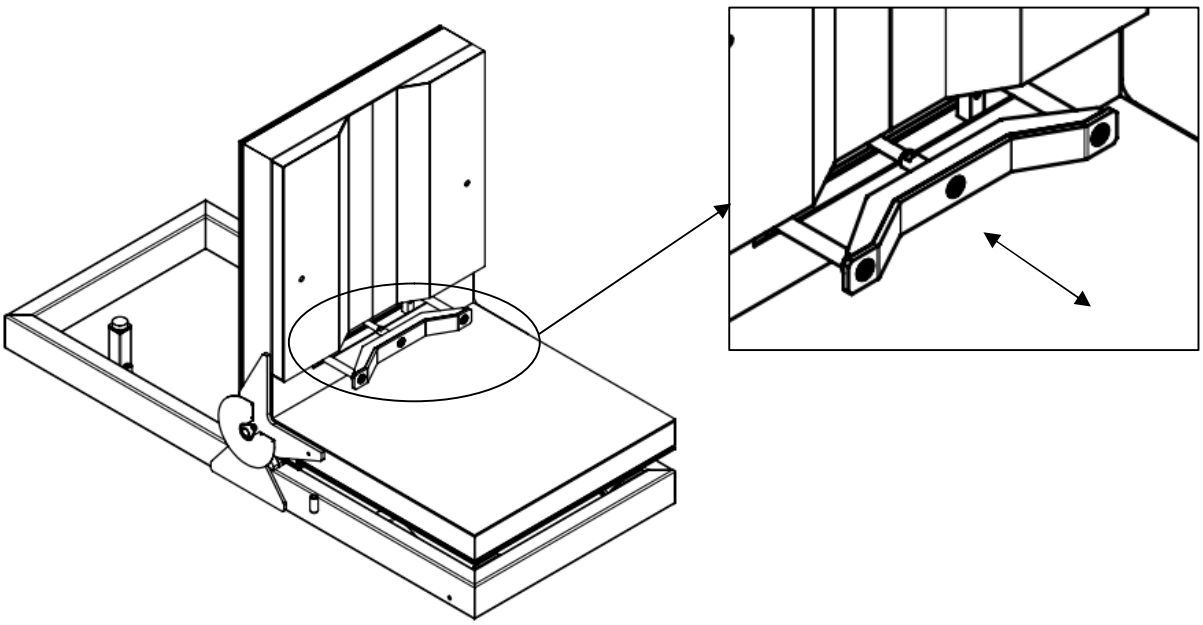
ATTENTION

The deactivation and dismantling operations of the machine shall be carried out only by personnel adequately trained and equipped.

6.3 Hazards solved after the machine deactivation

If the machine deactivation procedure of this instruction handbook is followed accurately, all movable parts will be stopped; this will cause no residual risk.

Attachments for Pusher

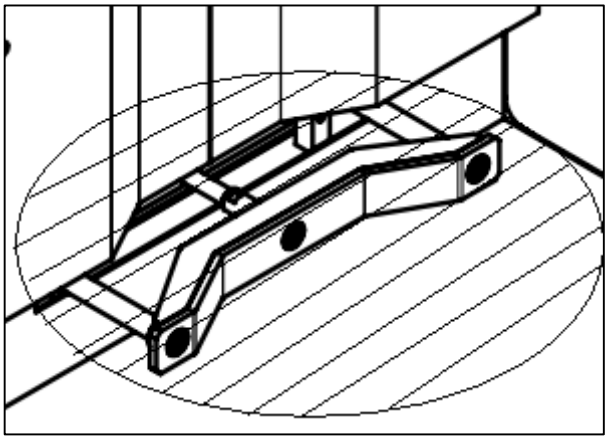


The hydraulic upender is equipped with a hydraulic pusher with button control.

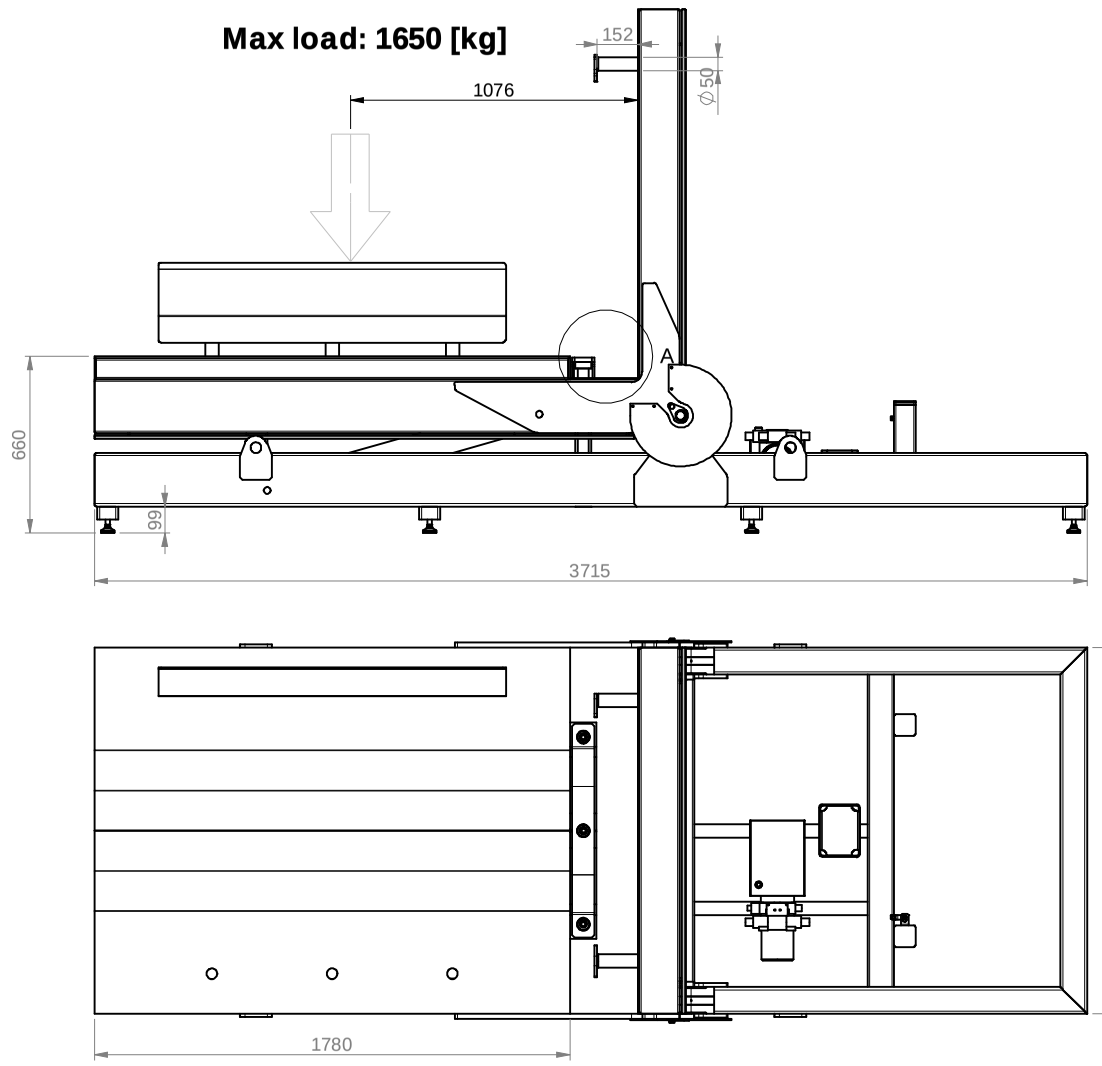
The pusher helps to push the small rolls to the center of the pallet.

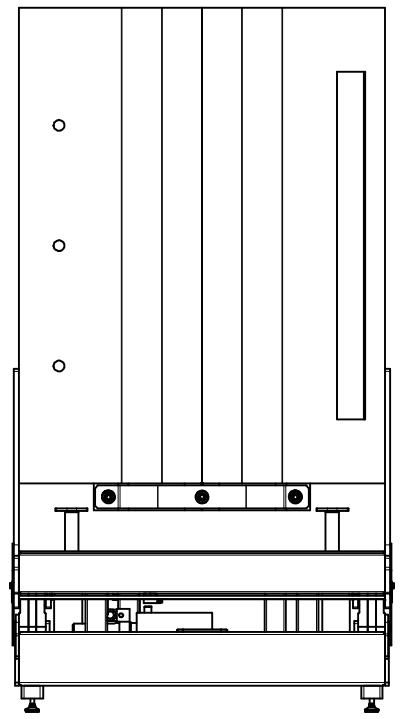
DANGER

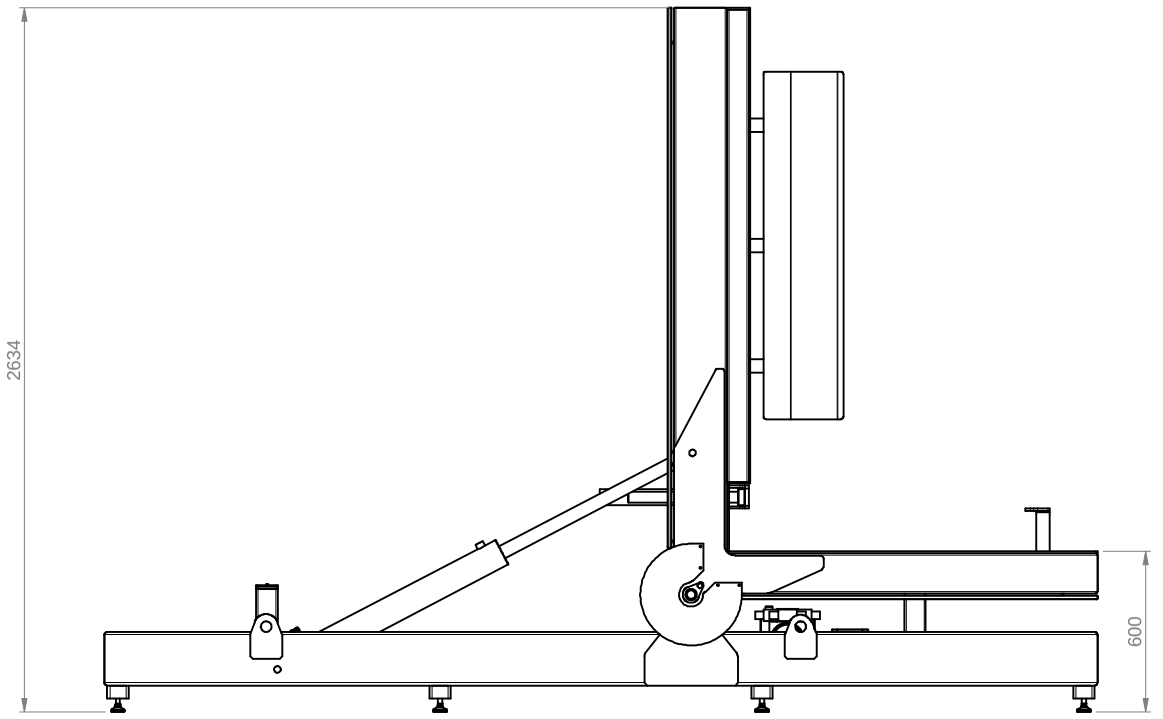
Since the pusher has no protections, it could be a risk of crushing during its movement phases.

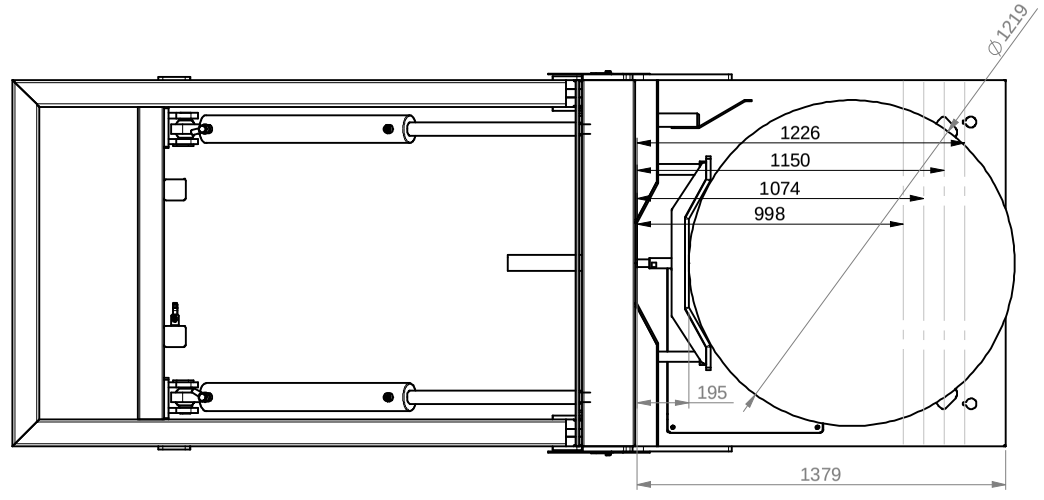


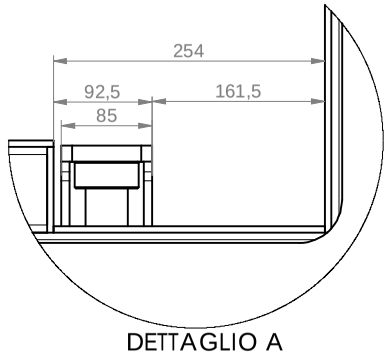
ZONES WITH RESIDUAL RISKS



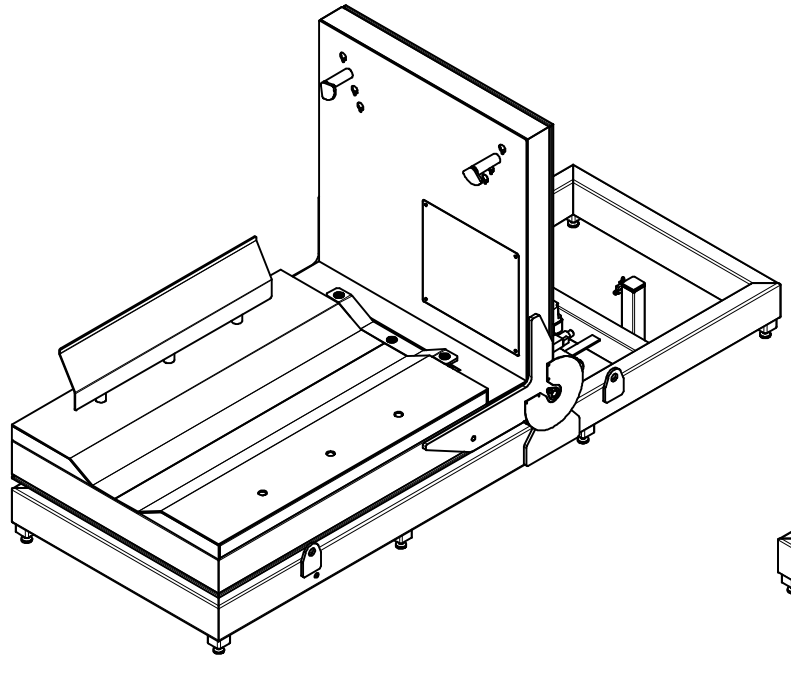


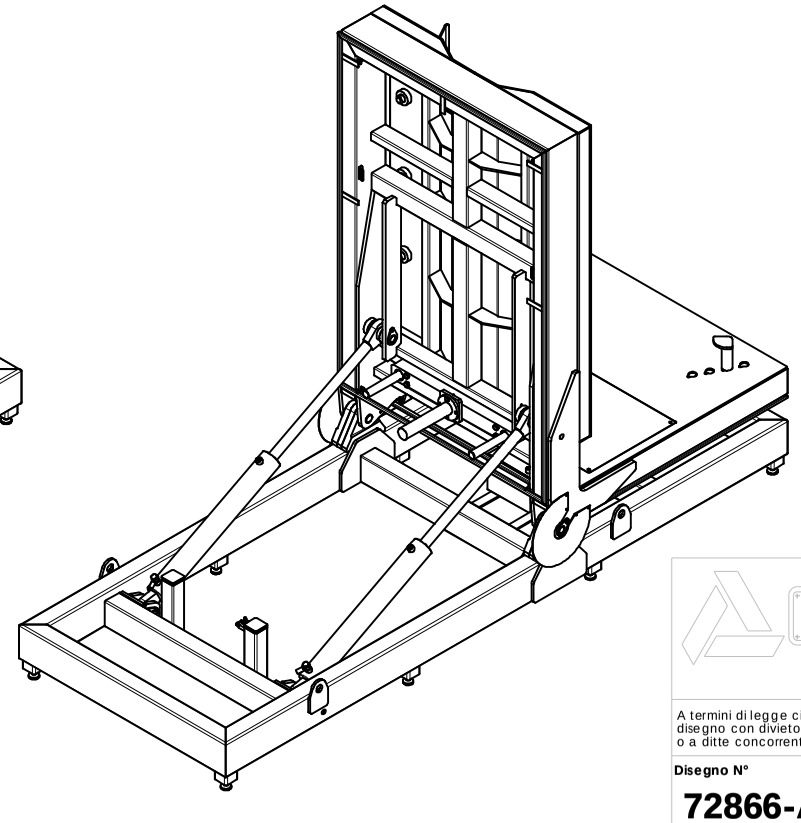






DETTAGLIO A
SCALA 1 : 5





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Codice: /
A2
Scala: 1:20 (1:2)

Dichiarazione CE di conformità
EC declaration of conformity
Déclaration CE de conformité
EG-Konformitätserklärung
Declaración CE de conformidad

Secondo allegato II, punto 1, parte A della direttiva 2006/42/CE
In accordance with part 1, section A of annex II of the 2006/42/EC Directive
Conformément à l'annexe II, partie 1, section A à la directive 2006/42/CE
Gemäß Anhang II Teil 1 Abschnitt A ausstellen der Richtline 2006/42/EG
Con arreglo al anexo II, parte 1, sección A a la Directiva 2006/42/CE

Versione originale
Original instructions
Notice originale
Originalbetriebsanleitung
Manual original

Il fabbricante:
The manufacturer:
Le fabricant:
Der Hersteller:
El fabbricante:

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www.armanni.com

Dichiara che la macchina:
Declares that the machinery:
Declare que la machine:
Erklaert dass, die Maschine:
Declara que la maquina:

TAVOLA ELEVATRICE - TABLE ELEVATRICE - LIFTING TABLE - MESA ELEVADORA - HUBTISCH

Denominazione - Type - Denomination - Bezeichnung - Denominación

TAVOLA SPECIALE TR/16

Modello - Model - Modele - Modell - Modelo

72866

Matricola - Serial number - Numéro de série - Seriennummer - Matricula

2019

Anno di costruzione - Year of construction - Année de fabrication - Baujahr - Año de fabricación

è conforme a tutte le disposizioni pertinenti delle seguenti direttive:
Direttiva macchine 2006/42/CE - Direttiva compatibilità elettromagnetica 2014/30/UE

fulfils all the relevant provisions of the following Directives:
Machinery Directive 2006/42/EC - Electromagnetic compatibility Directive 2014/30/UE

est conforme à l'ensemble des dispositions pertinentes des directives suivantes:
Directive machines 2006/42/CE - Directive compatibilitè électromagnètique 2014/30/UE

allen einschlägigen Bestimmungen die folgenden Richtlinien entspricht:
Maschinenrichtline 2006/42/EG - Elektromagnetische Vereinbarkeitsrichtlinie 2014/30/UE

cumple todas las disposiciones aplicables de las siguientes Directivas:
Directiva maquinaria 2006/42/CE - Directiva compatibilidad electromagnética 2014/30/UE

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Albino 26.07.2019

ARMANNI MARCELLO

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