ALH-3024
ALH-5024

ISSUED 08-06-04

ALH-3024

- **ELECTRO-HYDRAULIC LIFT**

ALH-5024

Industrieterrein IJsselveld, Vlasakker 11, 3417 XT MONTFOORT, The Netherlands
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Disclaimer Of Warranties And Limitations Of Liabilities

Whilst the staff of Autec - SUN / VLT Equipment have taken due care in the preparation of this manual nothing contained herein modifies or alters in any way the standard terms and conditions of the Autec purchase, lease or rental agreement under the terms of which the Equipment to which this manual relates was acquired or increases in any way Autec - SUN / VLT Equipment liability to the customer or to third parties.

To The Reader

Whilst every effort has been made to ensure that the information contained in this manual is correct, complete and up-to date Autec - SUN / VLT Equipment reserves the right to change any part of this document at any time without prior notice

BEFORE OPERATING THIS UNIT, PLEASE READ THIS MANUAL CAREFULLY, PAYING EXTRA ATTENTION TO THE SAFETY WARNINGS AND PRECAUTIONS.

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1. GENERAL INFORMATION

1.1 Introduction

Installation of the lift may only be carried out by a representative of the manufacturer or supplier and therefore no installation instructions are included in Operators Manual. Arrangements for the installation of the lift must be made with the manufacturers or suppliers representative.

The lift has been designed and manufactured to the highest standards to give many years of reliable and safe operation if used and maintained in accordance with the safety, operational and maintenance instructions contained in this manual.

1.2 Use of this manual

This manual is intended for use by workshop technicians in charge of the lift (operators) and routine maintenance technicians (maintenance operators). The operating instructions are considered to be an integral part of the machine and must remain with it for the whole of its useful life. Read every section of this manual carefully before operating the lift since it contains important information concerning the:

- safety of people
- safety of the lift
- safety of lifted vehicles

THE COMPANY IS NOT LIABLE FOR ANY POSSIBLE PROBLEMS, DAMAGE OR ACCIDENTS ARISING FROM FAILURE TO FOLLOW THE INSTRUCTIONS.

1.3 Contained in this manual

The following is recommended for the proper use of this manual:

- keep the manual in an easily accessible place near the lift;
- keep the manual in an area protected from damp;
- use this manual properly without damaging it
- do not make changes to the manual; changes and updates may only be made by the manufacturer;

This manual is an integral part of the lift and should be given to the new owner if and when the lift is resold.

1.4 Safety

Every effort has been made to make this lift as safe as possible however, as with all lifting equipment, it is important that safe working practices are followed.

General safety information is to be found in the chapter "Safety Precautions" and specific safety warnings and cautions are printed where applicable this through out the text. All personnel working with or in the vicinity of this lift must be familiar with the warnings and cautions contained in this manual.

SAFETY MESSAGES ARE PRINTED IN BOLD CAPITALS.

2 SAFETY PRECAUTIONS

2.1 Safety Notice

FOR YOUR SAFETY, READ THIS MANUAL AND THE SAFETY PRECAUTIONS THOROUGHLY BEFORE OPERATING THE LIFT.

THE LIFT IS INTENDED FOR USE BY PROPERLY TRAINED PERSONNEL ONLY. THE SAFETY MESSAGES PRESENTED IN THIS MANUAL ARE INTENDED AS REMINDERS TO TRAINED OPERATORS TO EXERCISE CARE WHEN USING THE UNIT.

2.2 General

The lift is supplied in a safe condition. In order to keep it in a safe condition and to ensure safe operation of the Equipment, the operating and maintenance instructions contained in this manual must be followed and the safety warnings & cautions must be observed.

2.3 General Warnings

General Warnings, giving instructions for the prevention of injury to people, are given in the following list. Further specific warnings are printed where applicable before the appropriate subject.

BEFORE USING THE LIFT, MAKE SURE THAT THE MAIN POWER SUPPLY CABLE IS CONNECTED TO A MAIN POWER SUPPLY OUTLET OF THE CORRECT VOLTAGE WITH A PROTECTIVE EARTH CONTACT. (REFER SERIAL NUMBER PLATE ON THE UNIT FOR MAIN POWER REQUIREMENTS). VOLTAGES HIGHER THAN SPECIFIED MIGHT DAMAGE THE UNIT AND MAKE IT UNSAFE.

THE USE OF MAIN POWER SUPPLY EXTENSION CABLES IS NOT RECOMMENDED. IF ONE HAS TO BE USED, IT SHOULD HAVE CONDUCTORS WITH A DIAMETER OF AT LEAST 1.5 mm. AND A PROTECTIVE EARTH CONTACT.

ONLY APPLY FUSES WITH THE FUSE RATING INDICATED NEAR THE FUSE HOLDER. THE USE OF INCORRECTLY RATED FUSES CAN DAMAGE THE UNIT OR THE POWER CABLE AND MAKE THESE ITEMS UNSAFE.

DO NOT OPERATE THE UNIT BEFORE CONTACTING THE SERVICE CENTRE OF THE MANUFACTURER/SUPPLIER, WHEN THE UNIT:

- SHOWS VISIBLE DAMAGE
- FAILS TO OPERATE
- HAS BEEN SUBJECTED TO PROLONGED STORAGE UNDER UNFAVORABLE CONDITIONS
- HAS BEEN SUBJECTED TO SEVERE TRANSPORTATION STRESSES.
  IT IS POSSIBLE THAT THESE CONDITIONS CAN MAKE THE UNIT UNSAFE.

ONLY USE THE LIFT IF YOU ARE QUALIFIED TO WORK WITH IT.

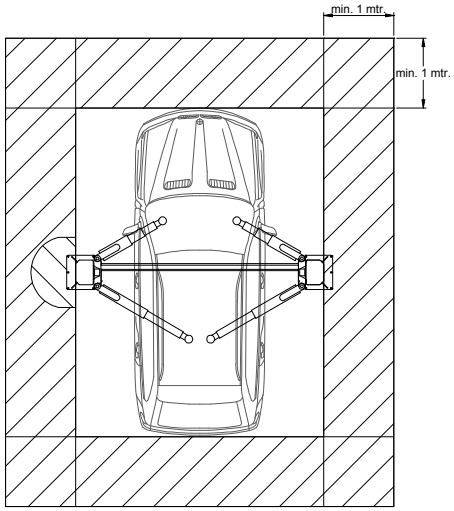
KEEP PERSONS AND ANIMALS AWAY FROM THE LIFT WHILST IN OPERATION.

ENSURE THAT THE VEHICLE CANNOT MOVE DURING LIFTING. ALWAYS SET THE GEAR SELECTOR IN NEUTRAL, SET THE PARKING BRAKE AND PLACE WHEEL CHOCKS IN FRONT AND AT THE REAR OF THE DRIVE WHEELS BEFORE LIFTING A VEHICLE.

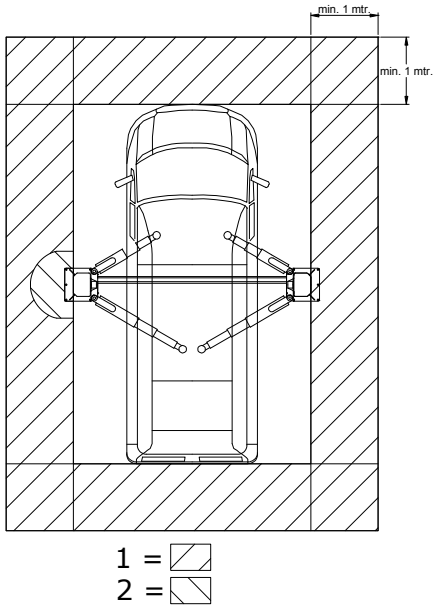
THE LIFT HAS BEEN DESIGNED FOR LIFTING VEHICLES AND HOLDING THEM AT ANY HEIGHT WITHIN THE WORKING PARAMETERS OF THE MACHINE IN AN ENCLOSED ENVOIRONMENT. ANY OTHER USE IS FORBIDDEN INCLUDING BUT NOT LIMITED TO:

- THE WASHING OF VEHICLES;
- THE LIFTING OF PERSONS OR USE AS SCAFFOLDING;
- EXERTING PRESSURE;
- LOADING.

THE PRESENCE OF PERSONS INSIDE THE DANGER ZONE (fig. 1 pos. 1) IN THE SAME FIGURE IS STRICTLY PROHIBITED. THE PRESENCE OF PERSONS BENEATH THE VEHICLE DURING OPERATIONS IS PERMITTED ONLY WHEN THE VEHICLE IS PARKED IN THE ELEVATED POSITION.



ALH-3024



ALH-5024

fig. 1

The safety zone **(fig. 1 pos. 2)** is to some extend determined by the dimensions of the vehicle to be lifted.

IT IS POSSIBLE THAT THESE CONDITIONS CAN MAKE THE UNIT UNSAFE.

ONLY USE THE LIFT FOR ITS DESIGNED PURPOSE. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY INJURY OR DAMAGE TO PEOPLE, VEHICLES OF ANY OTHER OBJECTS RESULTING FROM IMPROPER OR UNAUTHORIZED USE OF THE LIFT

FOLLOW ALL APPLICABLE HEALTH REGULATIONS AND SAFETY STANDARDS WHEN WORKING WITH THE LIFT.

2.4 The weight of the vehicle

The maximum loading capacity may be exceeded.

MAX. 3.000 kg for ALH-3024 and MAX. 5.000 kg for ALH-5024.

2.5 Pictograms on lift (fig. 2)

IN THE EVENT OF THESE PICTOGRAMS BEING DAMAGED, THEY MUST BE REPLACED BY NEW ONES AVAILABLE FROM Autec - SUN / VLT Equipment.

1	OB-904	7	OB-901-3000
2	OB-904-10/10A	8	OB-900-002
3	OB-904-07	9	OB-I901-ENSKA
4	OB-904-09	10	OB-901-DFSPI
5	OB-903-002	11	OB-904-08
6	OB-905-EDNL	12	OB-904-06

Control unit.

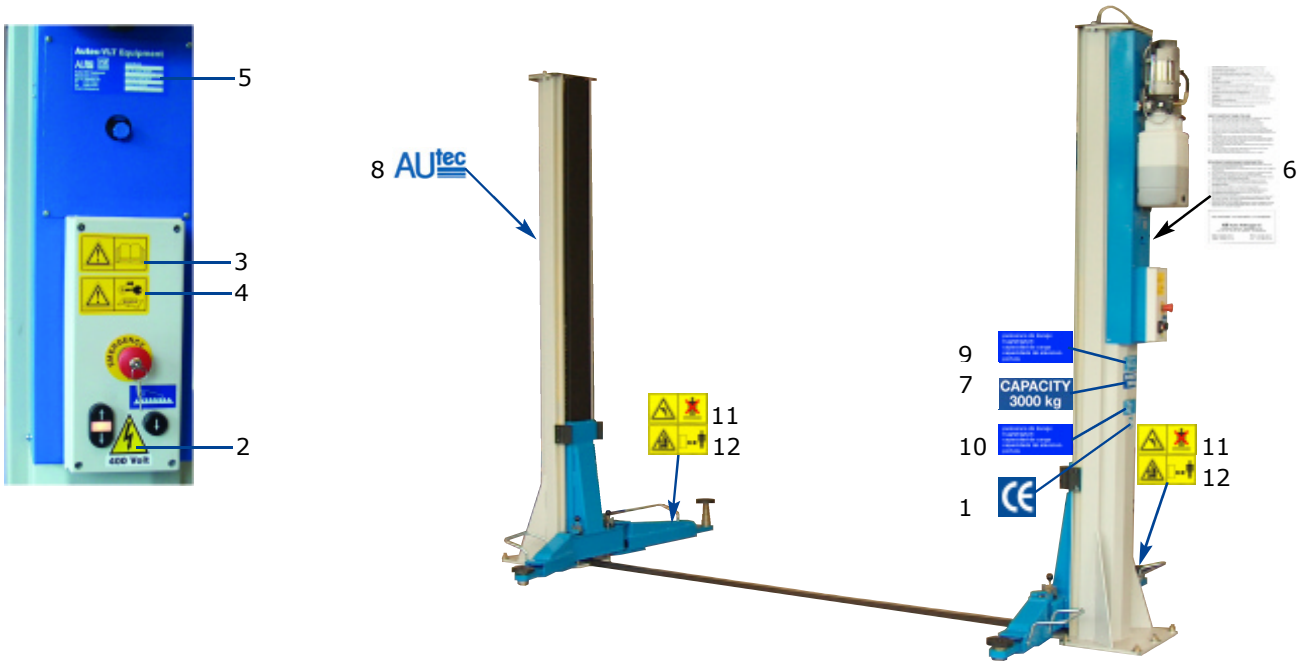


fig. 2

3 SAFETY DEVICES

- Microswitches
- Leakage / fracture protection
- Electrical protection
- Foot-protection
- Lift locking

WARNING:

THE LIFT IS DESIGNED AND CONSTRUCTED TO LIFT VEHICLES AND TO HOLD THEM IN A CERTAIN POSITION IN A COVERED WORKING PLACE. ANY OTHER FORM OF USE IS NOT PERMITTED. IN SHORT, THE LIFT IS NOT SUITABLE FOR THE FOLLOWING PURPOSES:

- Washing and spraying work.
- To be used as a device for applying force.
- To be used as a goods lift.
- To be used as a jack or for lifting vehicles for changing wheels.

The manufacturer hereby refuses entertain any claims for damages arising in connection with injury to persons or damage to vehicle or other property caused due to incorrect and/or unauthorized use of the lift.

During lifting- and lowering movements, the operator must be within the zone of operation (2), as shown in **fig. 1**. The presence of any person in the safety zone (1) is strictly forbidden. The presence of persons under the vehicle is only permitted if the vehicle is parked in the lifted position.

USE THE LIFT ONLY IF ALL THE SAFETY ARRANGEMENTS ARE WORKING PROPERLY. IF THESE RULES ARE NOT FOLLOWED, SERIOUS INJURY COULD BE CAUSED TO PERSONS AS WELL AS IRREPARABLE DAMAGE TO THE LIFT AND THE VEHICLE ON THE LIFT.

3.1 General precautions:

- The operator is bound to follow the regulations which apply in the country in which these lifts are installed. In addition, the operator must :
- Always work in the operators area as designated in the manual.
- Never remove the protective guards or dismantle or shut down the mechanical, electrical or other types of safety arrangements.
- Read the safety regulations relating to the lift and note of the safety information provided in this manual.

The following terms have been used in this manual to describe the various types of risk :

DANGER: there is a direct possibility of danger which could lead to serious injury or death.

WARNING: this indicates situations and/or actions which are unsafe and could lead to injuries of various types except death.

CAUTION: this indicates situations and/or actions, which are unsafe and could lead to light injuries to persons and/or damage to the lift, the vehicle or other properties.

3.2 Risk of damage due to electricity

Special safety arrangements have been made on the lift in places where the risks are very high.

3.3 Risk and protective media

The risks to which the operator is exposed when the vehicle is in a raised position, together with the protective media which have been installed, in order to limit the possible dangers.

3.4 Hazards associated with lifting of a vehicle

The following provisions have been made to avoid damage from excessive weight:

1. In case of impact with an obstacle during lowering, the lift will stop its descenting.
2. Leakage and breakage protection: a pipe-breakage valve has been fitted in the cylinder head that will in the event of pipe breakage reduce the rate of descent of the tracks.
3. Acoustic signal: the lift will during its descend produce an acoustic signal during the lowest 400 mm area.
4. Lifting bridge locking: next to the catch bar in each column a locking mechanism has been installed. This consists of a strip in which grooves have been cut at regular intervals and with them slide locks that are shot into them by a spring when the raising/lowering button is released.
5. Thermal protection: the electric motor is fitted with thermal protection, which guards the motor from over heating.

3.5 Risk for persons

This paragraph describes the risks to which the operator or any other person near the working area where the lift is in operation, in case the lift is not used in the appropriate manner.

3.5.1 Risk for the operator.

This risk arises in cases where the operator is not standing at the appointed place at the control cabinet; when the lift with the vehicle is being lowered, it is not permissible for the operator to stand below the descending system and its load to any extent. It is imperative that the operator must be standing in the operating zone during the lifting and lowering operation. **(fig. 3)**

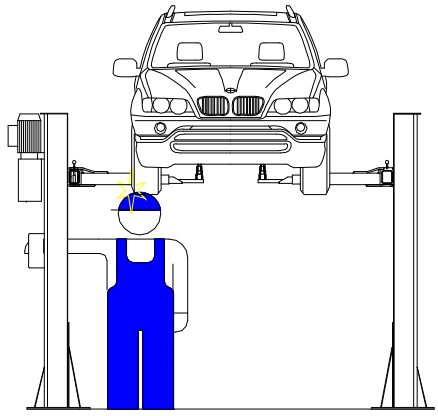


fig. 3

3.5.2 Risk for personnel

When the lift with the vehicle is descending, it is not permissitted for any of the personnel to enter the room or walk under the (downwards) moving parts of the lift.**(fig. 4)**
The operator should not start the motion of the lift until he has assured himself that there are no persons within the danger zone.

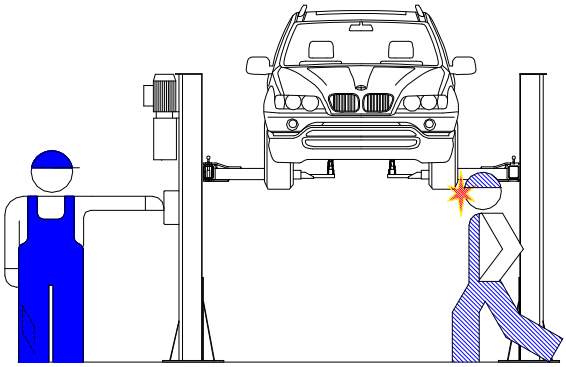


fig. 4

3.5.3 Risk for impact

Caused by parts of the lift or the vehicle that are positioned at head height. When, due to operational reasons, the lift is immobilized at relatively low elevations (less than 1.75 m from the ground) personnel must be careful to avoid impact with parts of the machine not marked with special hazard colour. **(fig. 5)**

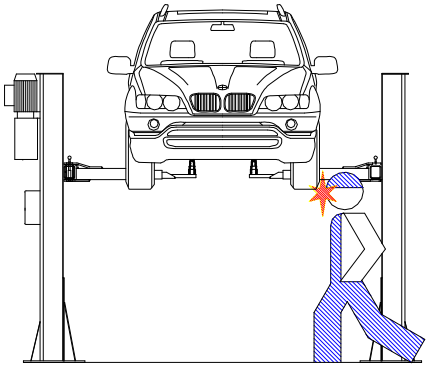


fig. 5

Never enter the vehicle or start the motor when the vehicle is on the lift **(fig.6)**

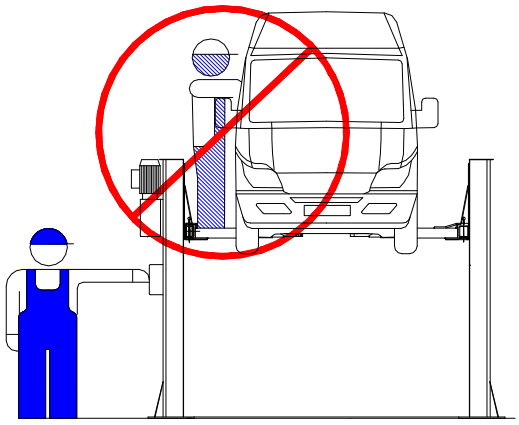


fig. 6

Never rest any fittings or other objects against the platform and never place such objects under the platform when it has a load mounted on it, since this can impede the lowering operations and may cause the vehicle to fall off the platform **(fig. 7)**

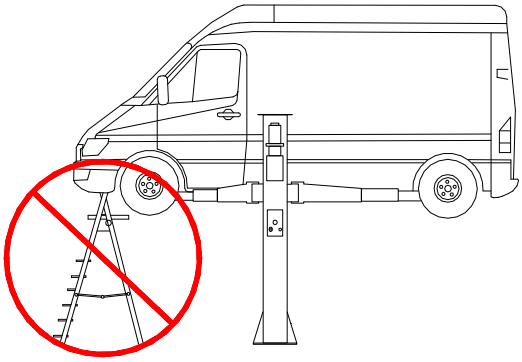


fig. 7

3.5.4 Risk of the vehicle falling from the lift.

Vehicle falling from the lift can be caused when the vehicle is improperly placed on platforms, and when its dimensions are incompatible with the lift or by excessive movement of the vehicle. In this case, keep immediately away from the working area.

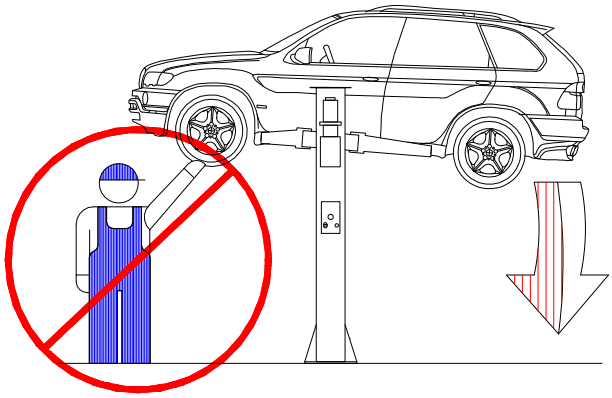


Fig. 8

3.5.5 Risk for sliding out.

This risk can be overcome by avoiding the spillage of oil or grease in the area surrounding the lift **(fig. 9)**. Apart from that, any oil spillage which may occur should be thoroughly removed from the spot.

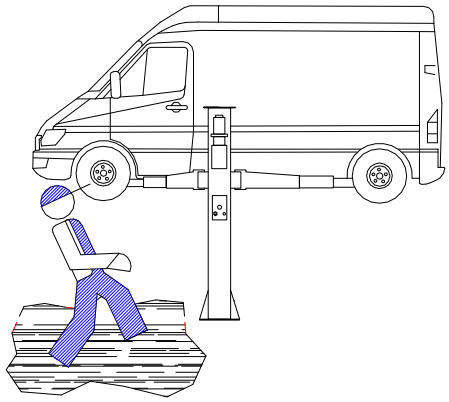


fig.9

3.5.6 Risk for electrocution.

Never spray water or steam or solvents or paint in the area immediately surrounding the platform and the control cabinet **(fig.10)**

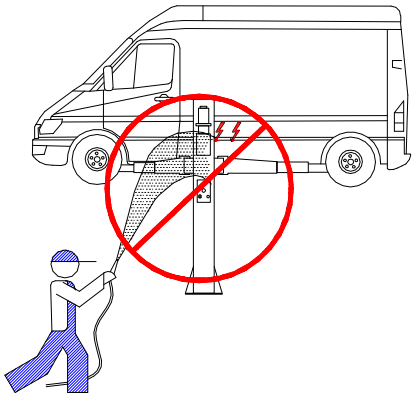


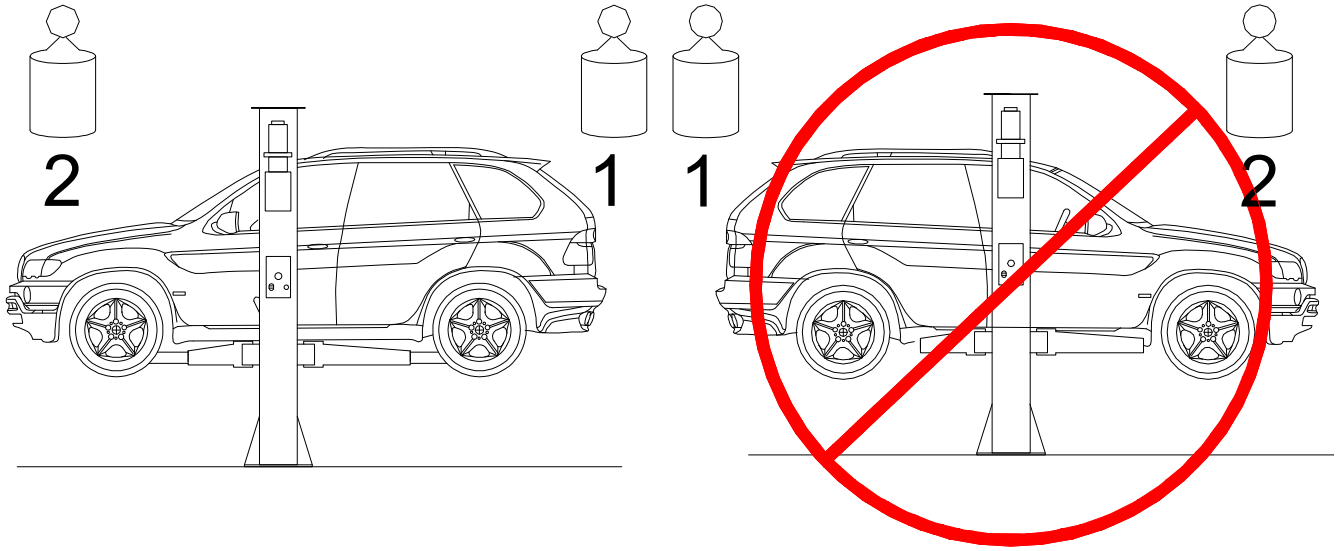
fig.10

3.5.7 Risk due to insufficient lighting

The area surrounding the lift must be properly lighted according to the legal requirements applicable in the place of installation.

3.5.8 Risk of use/maintenance

Autec uses material of the highest quality in its lift. These must be used according to the standard specified, and maintenance must be carried out regularly.



Any unauthorized modifications or tempering with the equipment excludes the manufacturers responsibility for the damages caused by or related to the above mentioned acts.The removal of or tempering with safety devices constitutes an infringement of European Safety Regulations.

Any other use which differs from that provided by the manufacturer of the machine is strictly forbidden.

USE OF NON GENUINE PARTS MAY CAUSE DAMAGE TO PEOPLE OR OBJECTS.

The lift has been designed and built as required by:
European Directives: 89/392 EEC, 93/44 EEC, 93/68 EEC

TECHNICAL RULES:
European rules: EN 291/1992, EN 292/1992

ELECTRICAL SYSTEM:
Italian rules: UNI 9584, UNI EN 60204 CEI/8

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4. PACKING, TRANSPORT AND STORAGE

Every action involving the operation, transportation or unpacking of the equipment must only be done by trained personnel who have a proper knowledge of the lift, and who are familiar with the contents of this operating manual.

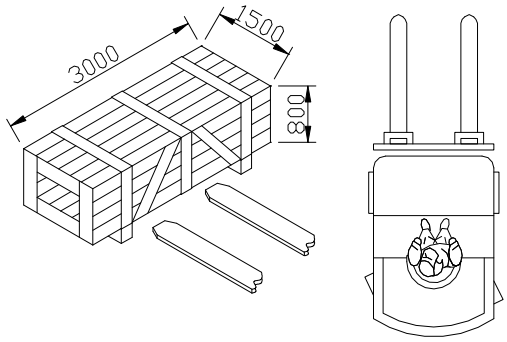

fig.11

4.1 Lifting and moving the packing

The boxes must be lifted and moved with the help of a fork lift truck or crane
The equipment chosen must be capable of lifting and moving the equipment safely, keeping in mind the dimensions of the vehicle, the weight, the centre of gravity and projecting and fragile parts.

4.2 Storage

The packed lift must always be placed in a covered area at a temperature between -10 °C and + 40 °C and may not be exposed to direct sunlight.

4.3 Opening the crates and boxes

Check whether the machine has been damaged during transportation, and whether all the components as mentioned in the packing list are physically present.

- avoid sudden jolts and tugs, be careful of uneven surfaces, bumps etc...;
- be extremely careful of exposed parts: obstacles, difficult through ways, etc...;
- wear suitable and protective clothing;
- after having removed the various packing, place them in special waste collecting areas which are inaccessible to children and animals where they will then be disposed of;
- on arrival, check that the packing has not been opened and, once unpacked check that nothing has been damaged.

4.4 Product Identification

The identification data of the machine are shown in the label placed on the frame of the machine **(fig. 11)** and indicated in the declaration of conformity. Use this data both to order spare parts and when getting in touch with the manufacturer.

fig. 12

THE REMOVAL OF THIS LABEL IS STRICTLY FORBIDDEN.

Machines may be updated or slightly modified in appearance and, as a consequence, may present features different from those shown without prejudice to what is described on it.

4.5 Warranty

The warranty is valid for a period of 12 months starting from the date of the purchase invoice.
The warranty will be automatically invalidated if unauthorized modifications to the machine or parts there off are carried out. The Manufacturer's authorized personnel must verify defects in workmanship or materials.

4.6 Servicing

For all servicing and maintenance operations not specified or shown in these instructions, contact the Dealer where the machine was purchased or the Manufacturer's Commercial Department.

4.7 Technical Specification

SIZE AND MAIN FEATURES	**ALH-3024**	**ALH-5024**
Lifting capacity main lift	3.000 kg	5.000 kg
Lifting time	40 sec	40 sec
Descending time	40 sec	40 sec
Total weight	480 kg	720 kg
Working temperature	-10 oC / +40 oC	-10 oC / +40 oC
Working environment	Covered	Covered
Dimensions	fig.5.	fig.5.
CE number	390 150X 0116 11 96	390 150X 0116 11 96
Notified Body	Bureau Veritas	Bureau Veritas
Noise level	70dB (A) / 1 m	70dB (A) / 1 m
Maximum lifting height	2000 mm	2000 mm
Minimum pick up height	80 mm	100 mm
Maximum pick up height	230 mm	250 mm
Widt inside arms	2350 mm	2950 mm

ELECTROMOTOR		
Motor power	2,6 KW	2,6 KW
Voltage	230V/400V(3-Ph). +/- 10%	230V/400V(3-Ph). +/- 10%
Frequency	50/60 Hz	50/60 Hz
Amperage	400 V / 50 Hz / 3Ph	400 V / 50 Hz / 3Ph
No. of wires	4	4
Speed	1400 Rpm	1400 Rpm
Motor enclosure type	B14	B14
Insulation class	IP 54	IP 54

PUMP		
Type	Gear pump	Gear pump
Flow rate	3,7 cm^3/g	8 cm^3/g
Continuous working pressure	150 bar	150 bar
Discontinuous working pressure	160 bar	160 bar
Peak pressure	180 bar	180 bar

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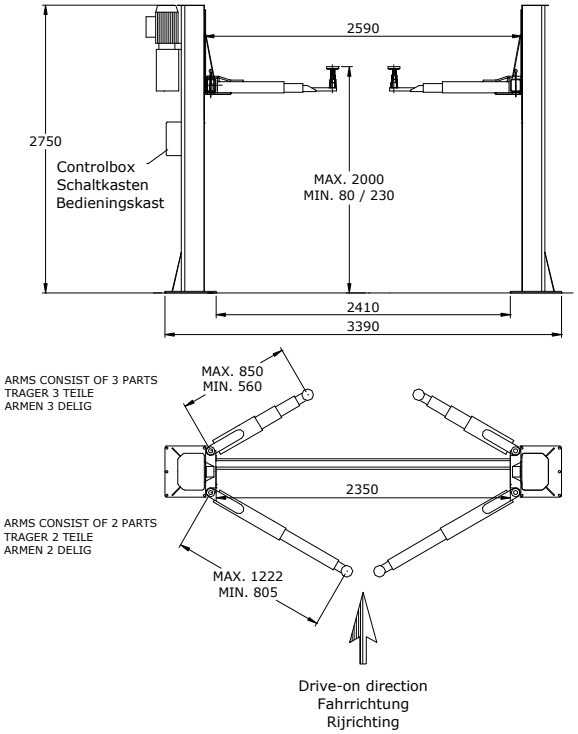

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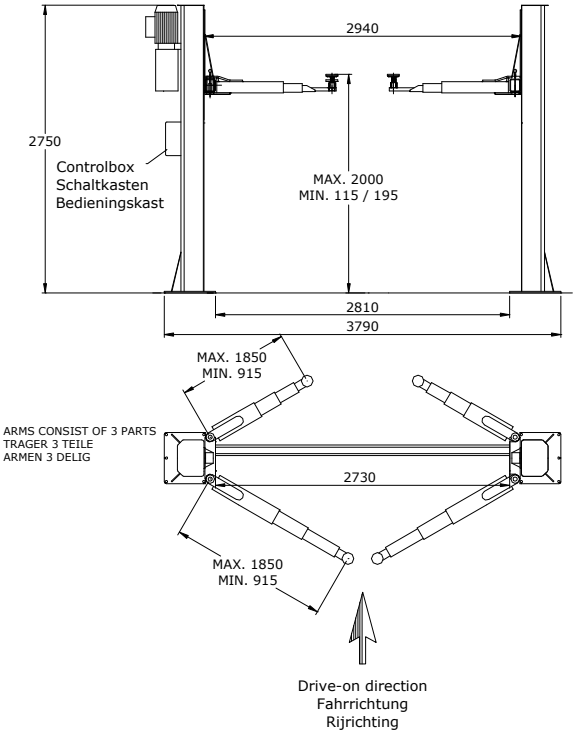


5. DESCRIPTION OF THE LIFT

5.1 Lift

The lift has been designed to lift motor-vehicles and make them stand at any level within the minimum and maximum height.

The maximum lifting weight, including any additional load on the vehicle, is 3000 kg for ALH-3024 and 5000 kg for the ALH-5024.

All mechanical frames, such as arms and columns, have been built in pressure bent sheet steel to make the frame stiff and strong.

This chapter describes the lift showing all parts it is made of, so allowing the user to be familiar with the machine.

As shown in figure 2, the lift is composed of two columns; the column 1 (1) and the column 2 (2) bolted to the floor ans two sets of two of arms (3) (one long and one short, for ALH-3024.) fixed to the carriage (4) with means of pins 11).

Telescopic arms are equipped (3) , with adjustable supports (6) on outside ends, for correct positioning of the vehicle.

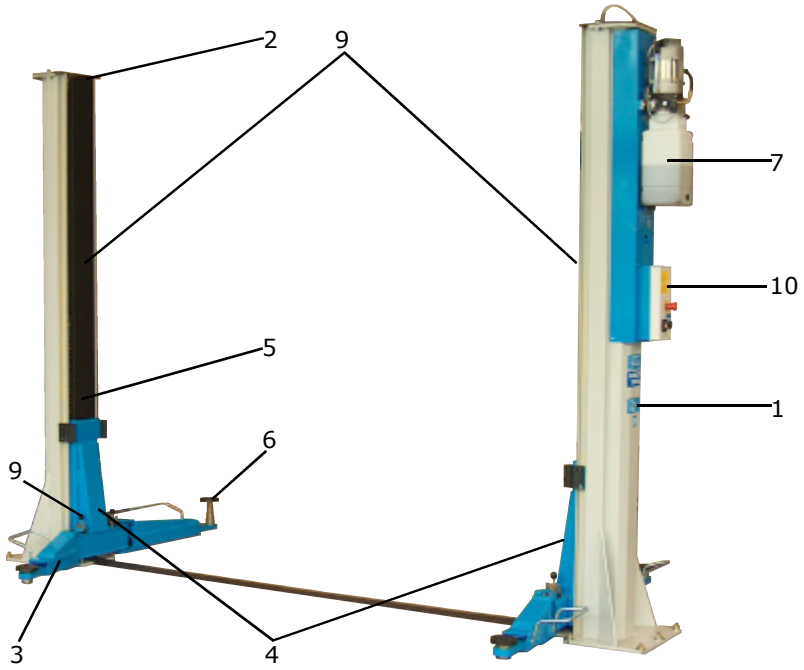
Hydraulic cylinders (5), fixed inside and resting on the bottom of columns (1) push the carriages up (4).

On top of the columns is place a pneumatic cylinder (9) which allows the unlocking of mechanical safety. If it is not operated, during the lowering, the slider makes the safety devices be operated, so the accidental lowering of arms is not allowed.

The carriage (4) slides along the vulkolan by means sliding blocks to allow lowering and lifting movement.

The engine and the hydraulic control box (7)are placed on column 1.

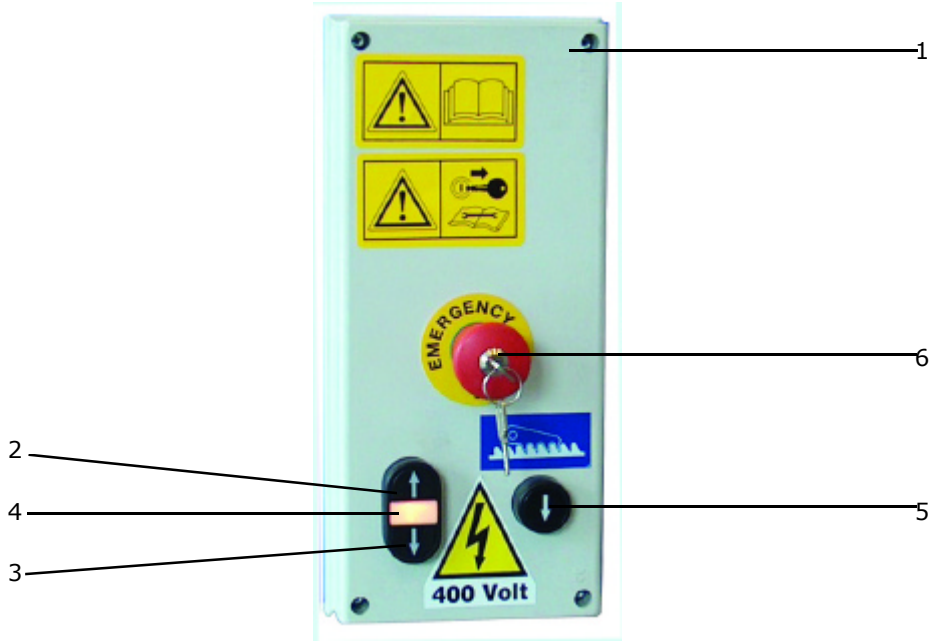
The lifting and the lowering of the lift are carried out by means of a control box (10) placed on the column 1.



5.2 Commands

The control desk, placed on the column 1 is composed of a metal box (1) on which the following buttons can be found:

three sector buttons with lifting (2), lowering (3) and pilot lamp (4) and safety buttons (5) emergency push button (6).



5.3 OPERATION

Arms lifting is carried out by the hydraulic unit which acts upon the hydraulic cylinders.

Lowering, even though electrically controlled, is carried out by the weight of the arms and the load lifted.

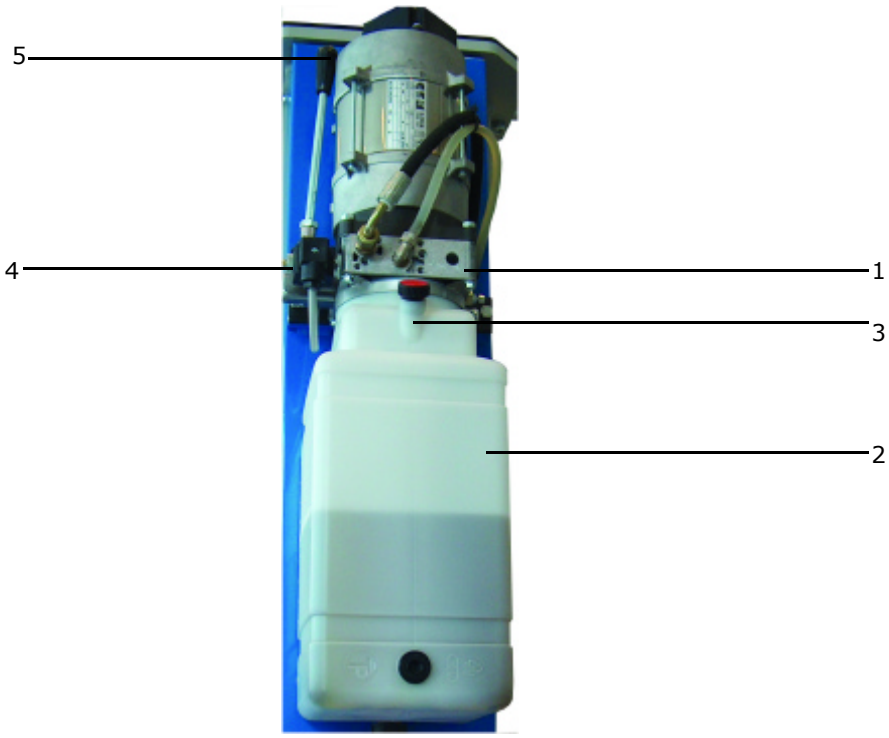
The hydraulic system is protected by a max. pressure control valve thus preventing pressure from exceeding the maximum fixed safety limit.

Lifting and lowering motion of the lift is controlled by the push button on the electric box acting as control panel

5.4 Hydraulic unit

The hydraulic unit is equipped with a central valve block (1), assembled on the oil tank (2).

A connection for oil delivery (3), one lowering valve (4) for the lowering of the arms, operating both by electric pulses and manually, a manual pump (5).



5.5 Oil

Use wearproof oil for hydraulic drive, in conformity with ISO 6743/4 rules (HM class). Fina HYDRAN TS 32 or equivalent oil with features similar to those shown in the table is recommended

TEST STANDARDS	FEATURES	VALUE
ASTM D 1298	Density 20 °C	0.8 kg/l
ASTM D 445	Viscosity 40 °C	32 cSt
ASTM D 445	Viscosity 100 °C	5.43 cSt
ASTM D 2270	Viscosity index	104 N°
ASTM D 97	Pour point	~ 30 °C
ASTM D 92	Flammable point	215 °C
ASTM D 644	Neutralization number	0.5 mg KOH/g

In cases where the average temperature differs from standard, contact your local specialist oil supplier to find a suitable substitute.

6. CONFORMITY

AUTEC Hefbruggen b.v.
Vlasakker 11
NL 3417 XT Montfoort
The Netherlands
Declares hereby that lifttype:

ALH-3024
ALH-5024

has been manufactured in accordance with the specifications:
98/37/CEE - 73/23CEE - 93/68 CEE - 89/366

It also declares that the following european rules have been respected:
EN 292.1- EN 292.2- EN294-EN 349- EN 1050- EN 60204-1. ETS 300-683 EN 55022B - EN 1493.