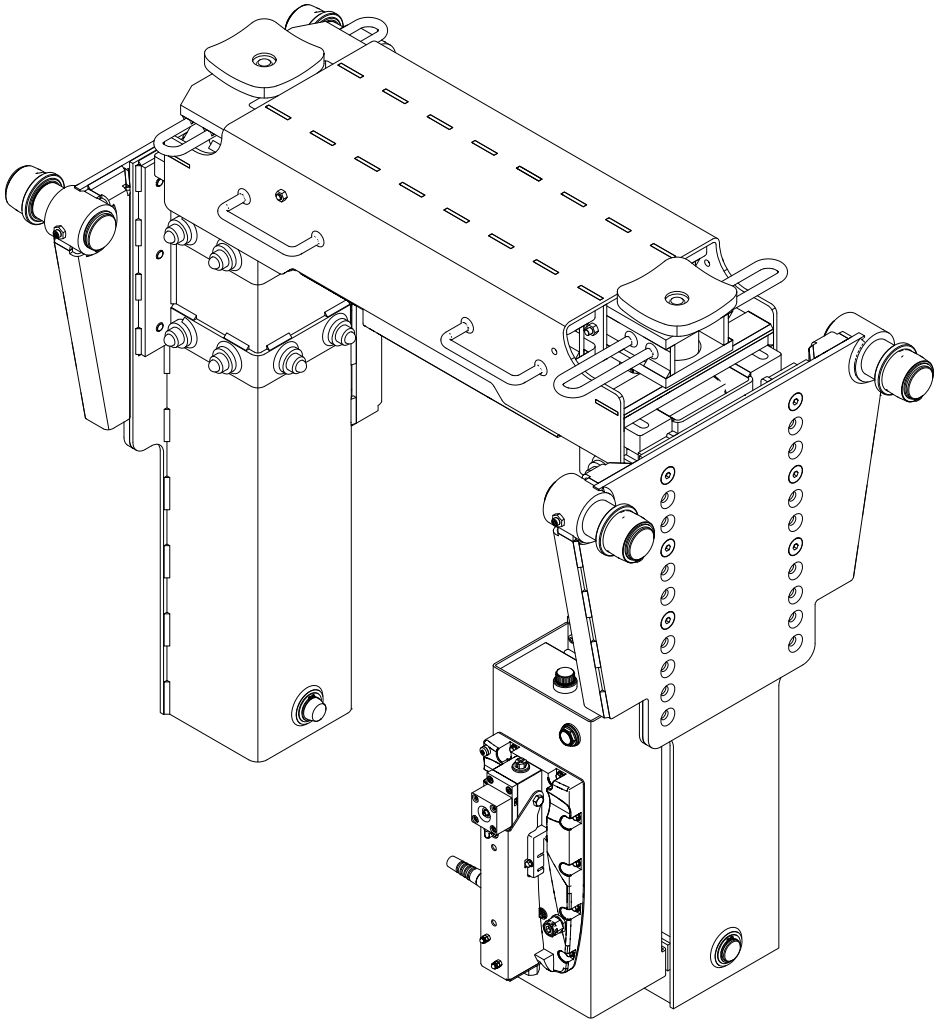
PORTAL LIFT 17 VARIO

Hydraulic/Pneumatic-hydraulic lift

USER AND MAINTENANCE MANUAL



TRANSLATION OF THE ORIGINAL INSTRUCTIONS

0450-M001-0 | Rev. n° 1 (08-2024)

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CHAP. 0 INTRODUCTION

0.1 Purpose of the instruction manual

CAUTION!

- This manual forms an integral part of the product and must accompany the lift throughout its service life.
- For this reason, it should be kept where it is readily accessible so it can be consulted whenever required.
- The lift may only be operated by suitably trained personnel who have read and understood this manual.
- Any damage resulting from failure to comply with the instructions set out in this manual and from improper use of the lift shall exempt the Manufacturer from any liability.

MANUAL CONTENTS
70 pages (including covers)

0.2 General safety regulations

CAUTION

The lift may only be used by trained, authorised personnel who have read and fully understood this manual. The operator must be authorised by the plant supervisor.

CAUTION

The lift and its safety devices may not be altered or modified nor the safety devices by-passed in any way. In they are, the manufacturer shall not be liable for resulting damage.

The User must also ensure the following instructions are adhered to:

- The installation procedure must be carried out by authorised, qualified personnel;
- Make sure the vehicle handbrake is engaged;
- Check that no hazardous conditions arise while raising and lowering the vehicle; in this case, immediately stop the lift and remove the cause of the emergency;
- Before raising the vehicle, make sure that the distribution of the load on the axles corresponds to the lift specifications;
- After raising the vehicle, set the switch to "0";
- Never attempt to raise a vehicle when there is any one sitting inside it or if there are hazardous or explosive materials aboard.

CHAP. 1 SYMBOLS USED IN THIS MANUAL

1.1 Symbols used in the manual

	SYMBOLS
	Caution!
	Caution! Electricity hazard
	Caution! Suspended loads hazard
	Caution! Handle using fork-lift or pallet truck
	Caution! Hand crushing hazard
	Caution! Moving parts hazard
	No access to unauthorised personnel
	Mandatory. Operations or activities that MUST be performed
	Refer to instruction manual/booklet
	Disconnect before carrying out maintenance or repairs
	Wear protective clothing
	Wear work gloves
	Wear work shoes
	Wear safety goggles
	Wear ear defenders
	Specialised personnel
	Lift from above

1.2 Editorial symbols

In the Instruction Manual, some symbols are used to draw the reader's attention to particularly important aspects.
Safety-related information is identified by the use of the appropriate term (DANGER, WARNING, CAUTION) together with the associated safety symbol describing the severity of the risk.
The following table describes the meaning of the symbols that have been adopted, in compliance with ISO 3864-2 and EN ISO 7010.

SYMBOL	DESCRIPTION
PERICOLO	Indicates an imminent risk situation that, if not avoided, may result in death or serious injury
AVVERTENZA	Indicates a potentially hazardous situation that, if not avoided, may result in death or serious injury
ATTENZIONE	Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injuries
IMPORTANTE	Obligation to behave in a certain way or perform a certain activity in order to guarantee safe machine management or provide personnel with the necessary information
	Obligation for the personnel in charge (user and/or maintenance technician) to read the documentation supplied with the machine.

A specific symbol appears to the left of the mandatory notes, in compliance with the ISO 3864-2 standard. It may also be used to warn against improper use of the system.

Supplementary information is provided as follows:

SYMBOL	DESCRIPTION
NOTA -	These descriptions may constitute additional information for the operator and maintenance technicians, or indicate references to additional documentation, such as the attached instruction manuals, technical documents or other sections of this manual.

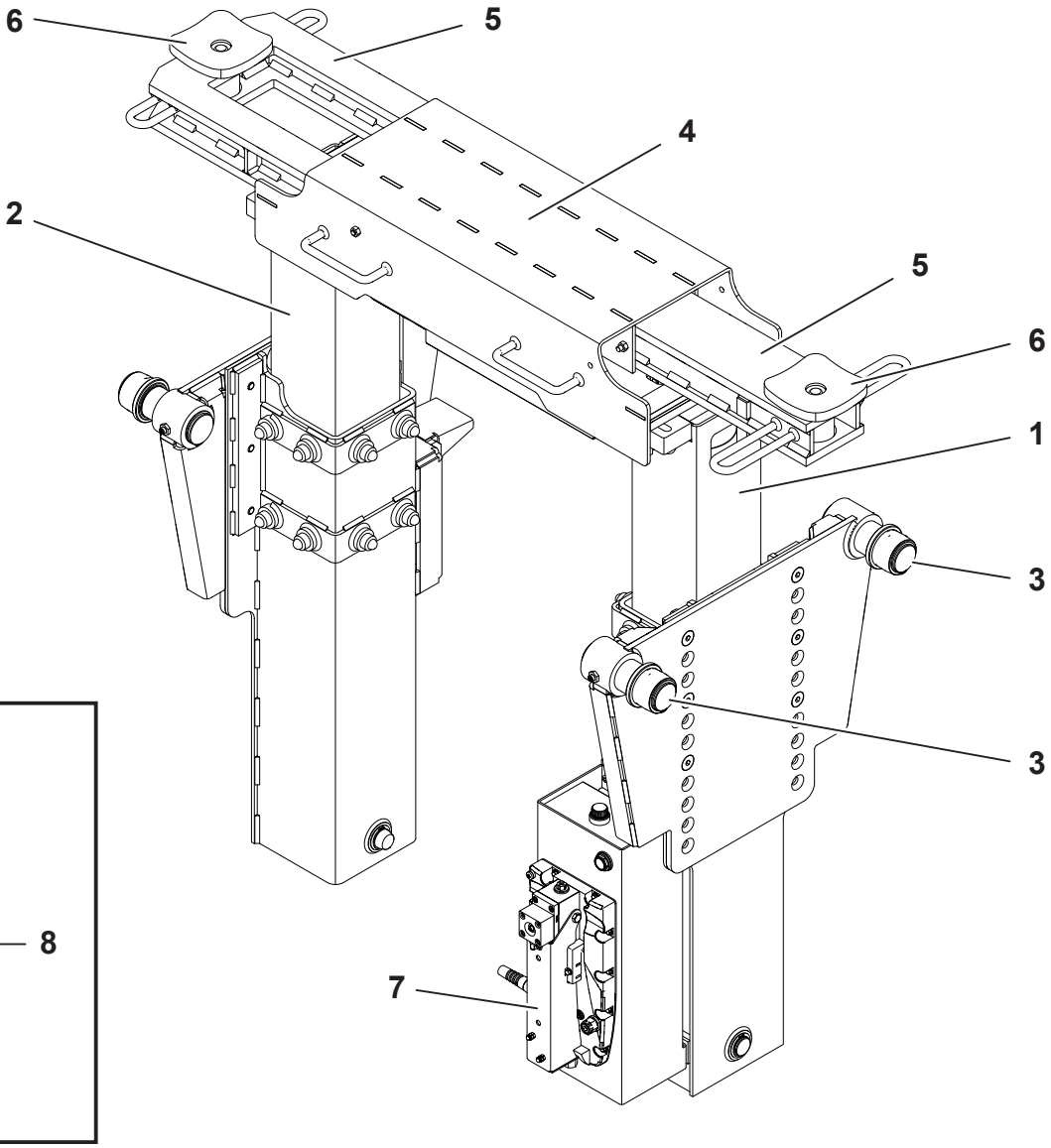
CHAP. 2 PRESENTATION OF THE LIFT

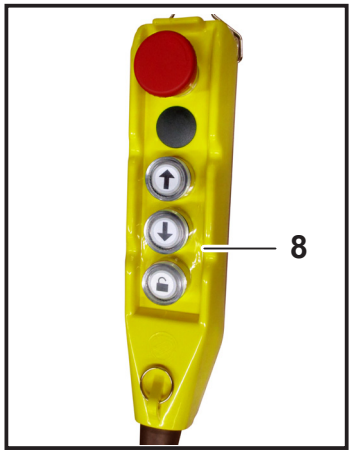
2.1 Description of the lift

Product name:	Lift for commercial motor vehicles
Product description:	Two-column hydraulic/pneumatic-hydraulic lift

The lift consists of the following elements:

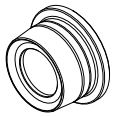
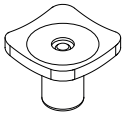
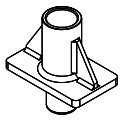
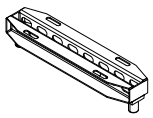
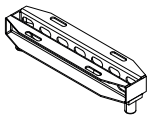
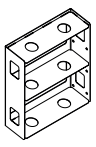
(1) Master column
(2) Slave column
(3) Sliding carriages
(4) Crossbeam
(5) Lifting arms
(6) Pads
(7) Pneumatic-hydraulic control unit
(8) Control push-button panel





2.2 Description of the lift

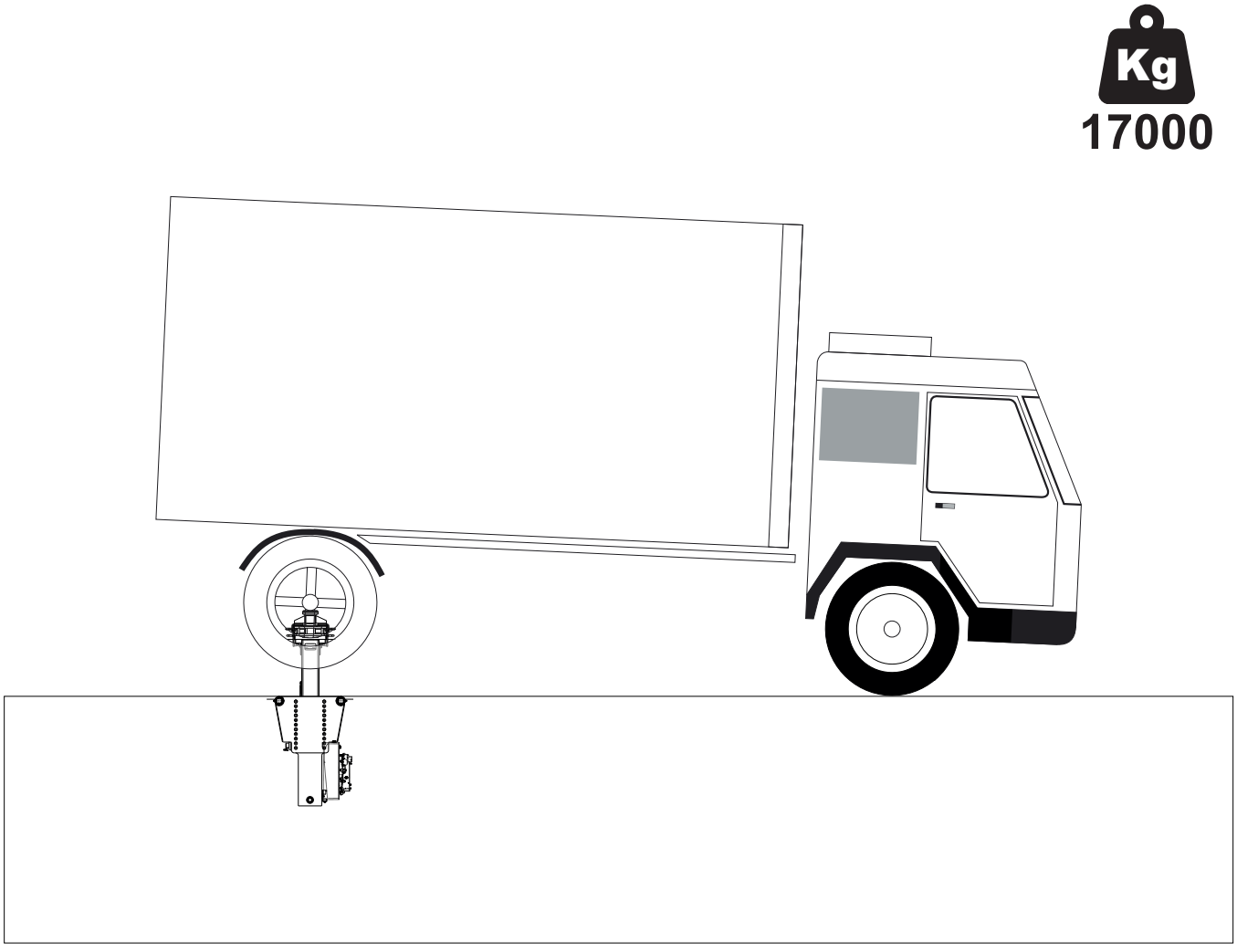
By referring to the table, it is possible to identify the types of accessories that may be used with this lift:

ACCESSORIES INCLUDED IN THE SUPPLY		
Rollers Ø59.5 (Only used for bus pits)	114588	
Rollers Ø75	33253311	
Rubber pads	3364001	
ACCESSORIES NOT INCLUDED IN THE SUPPLY		
Steel pad	04501024P	
Spacer	045011050P	
Long frame for central loading	04501111P	
Short frame for central loading	04501113P	
Accessory holder	04501116P	

2.3 Intended use

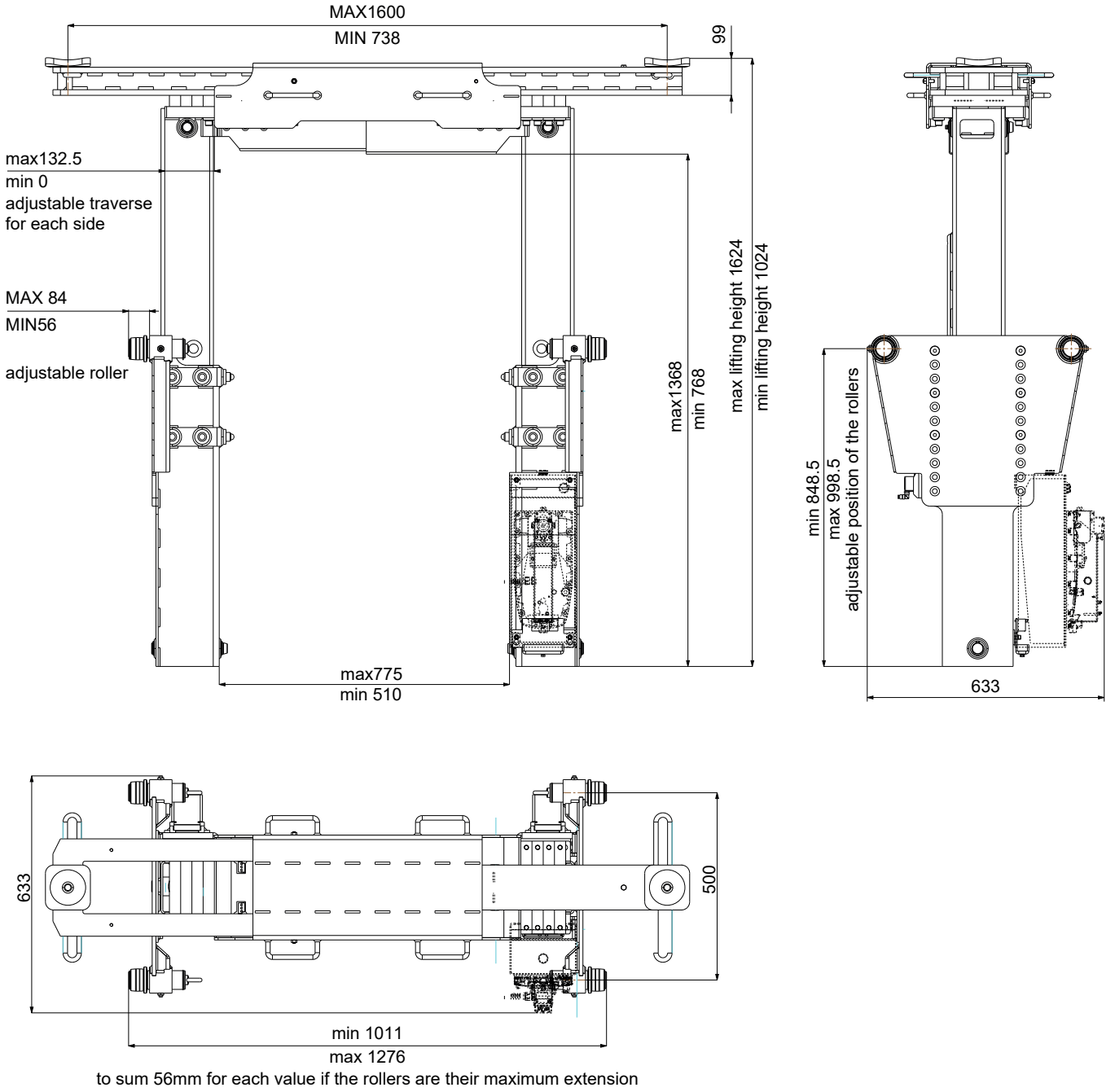
The product is intended for raising commercial vehicles in accordance with the applicable regulation, Machinery Directive 2006/42/EC; the lifting capacity is indicated on the serial number plate (17,000 kg). The lift has been designed for indoor use where it is protected from the effect of the wind.

It may be used to raise vehicles that meet the following requirements:
- Weight not exceeding the lift capacity (see fig. A) as required by EN 1494:2000+A1:2008.
- Load bust be distributed equally between the arms.
- Minimum distance of lifting points: 738mm (Fig. B). If the distance of lifting points is lower than 738mm, an accessory must be used.

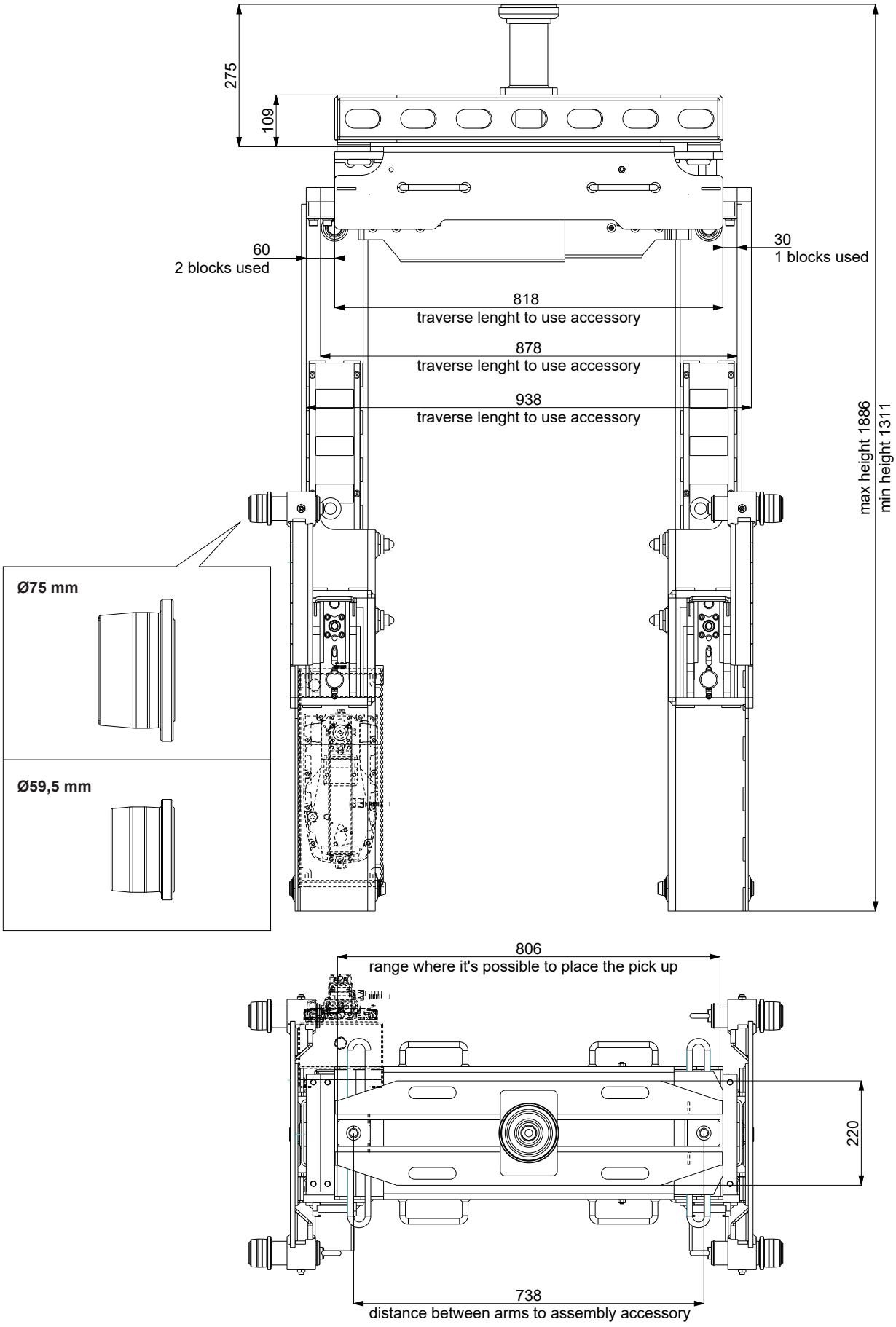


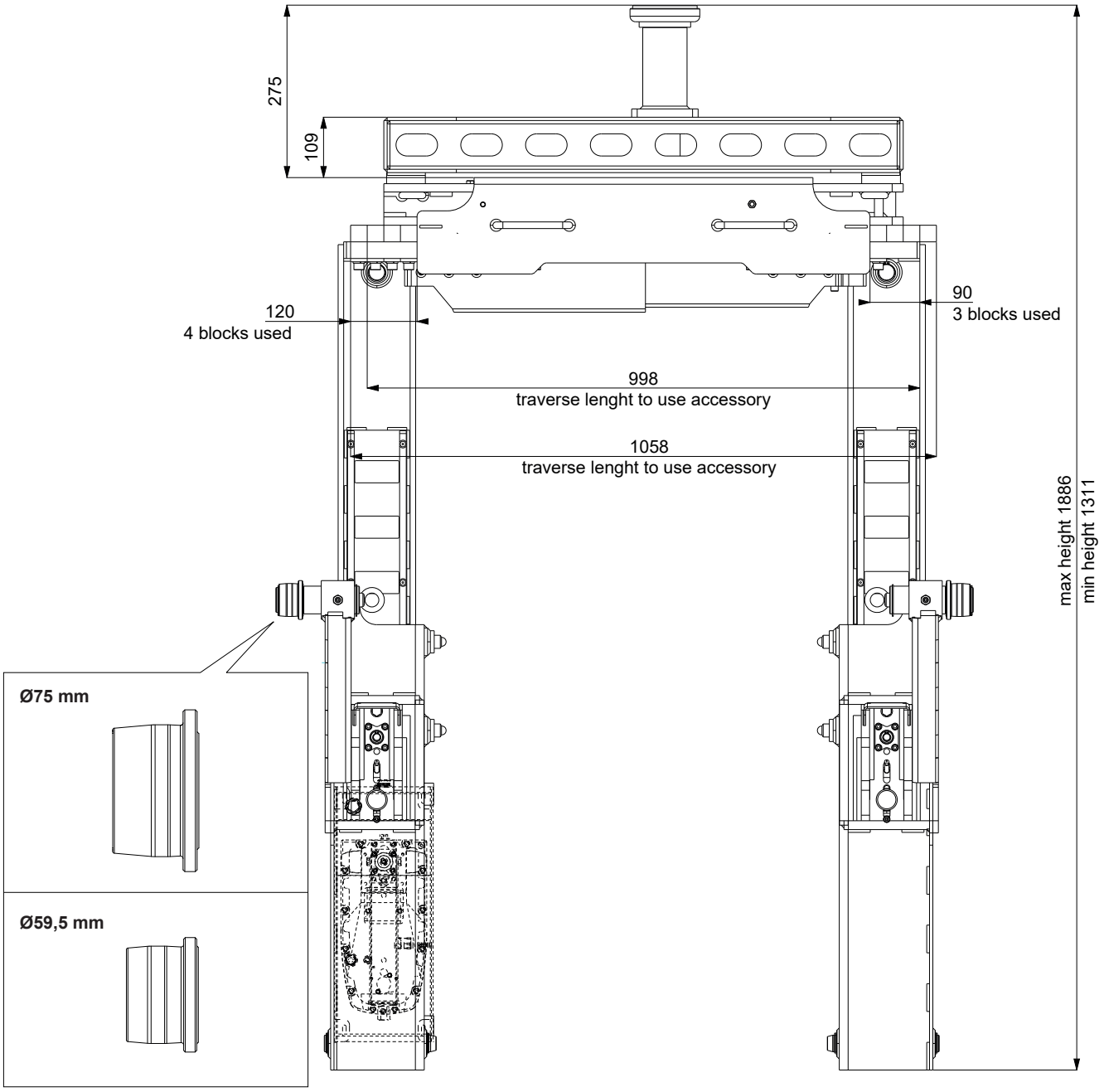
CHAP. 3 TECHNICAL DATA

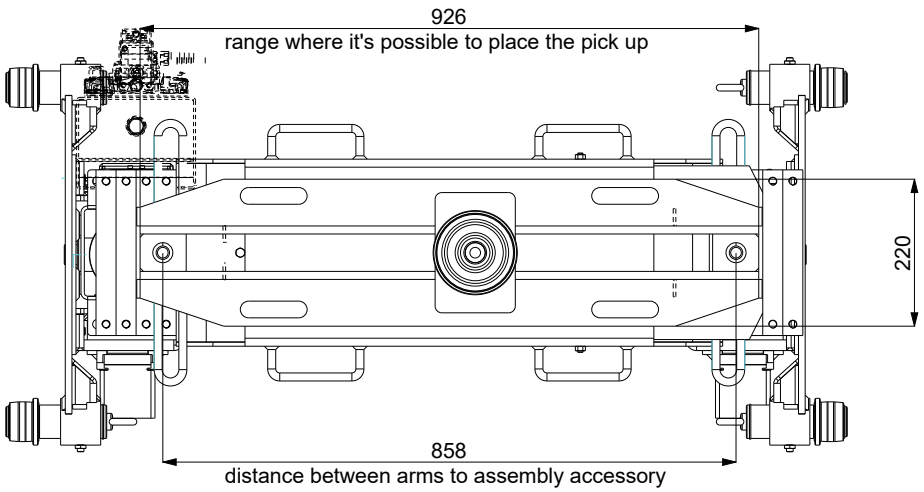
3.1 Outline and dimensions



to sum 56mm for each value if the rollers are their maximum extension


275
109
60
2 blocks used
30
1 blocks used
818
traverse lenght to use accessory
878
traverse lenght to use accessory
938
traverse lenght to use accessory
max height 1886
min height 1311
Ø75 mm
Ø59,5 mm
806
range where it's possible to place the pick up
220
738
distance between arms to assembly accessory


275
109
120
4 blocks used
90
3 blocks used
998
traverse lenght to use accessory
1058
traverse lenght to use accessory
max height 1886
min height 1311
Ø75 mm
Ø59,5 mm


926
range where it's possible to place the pick up
220
858
distance between arms to assembly accessory

3.2 Technical specifications

TECHNICAL SPECIFICATIONS	
Lifting capacity (kg)	17000
Lift ascent time (s) (unladen) Ø10	145
Lift descent time (s) (unladen) Ø10	172
Lift ascent time (s) (with maximum load) Ø10	240
Lift descent time (s) (with maximum load) Ø10	172
Weight (kg)	450
Air pressure (bar)	Min.8 - Max.10
Hydraulic control unit max. oil pressure (bar)	250

3.3 Acoustic data

ACOUSTIC DATA					
Noise level					
	Ref.	**Distance**	**Lp dB(A)**	**Lpk dB(C)**	**U dB**
	1	1' 31/32 (ft) 0.6 (m)	≤ 70 dB(A)	≤ 130 dB(C)	5
	2	3' 9/32 (ft) 1 (m)	≤ 70 dB(A)	≤ 130 dB(C)	

3.4 Machine identification data

The lift identification plate, which may be found on the Slave column, bears the following information:

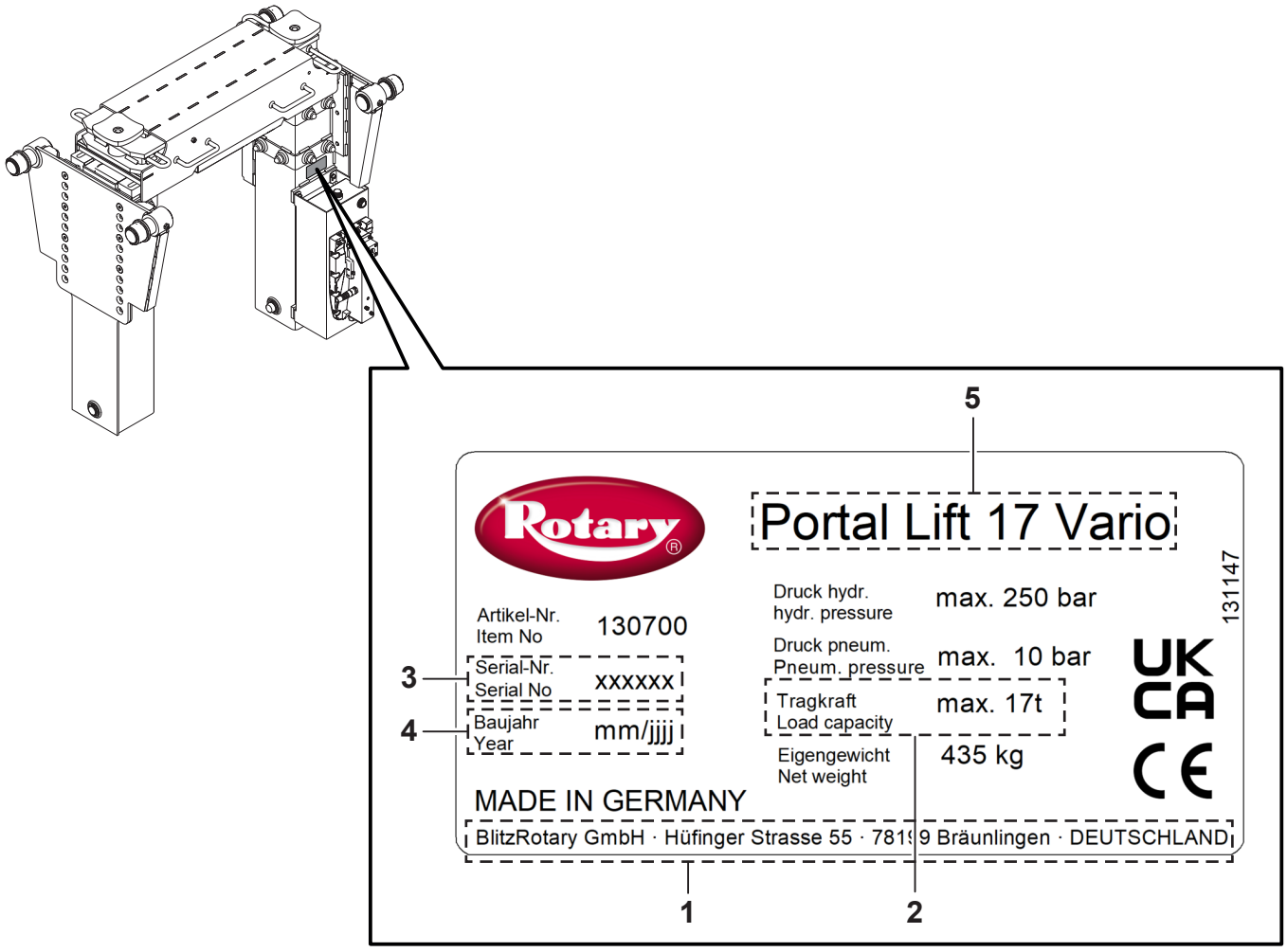
(1) Manufacturer
(2) Lifting capacity
(3) Serial number
(4) Year of manufacture
(5) Model

CAUTION

Under no circumstances tamper with, engrave, alter in any way or attempt to remove the machine identification plate; do not cover this plate with temporary panels, etc., as it must always be clearly visible.

N.B.: Ensure the plate is kept clean from grease or dirt in general at all times.

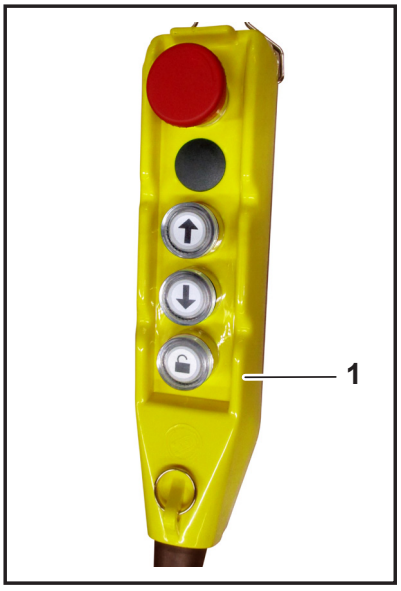
N.B.: In the event that the identification plate is accidentally damaged in some way (detached from the machine, damaged or even partially illegible), notify the manufacturer immediately.

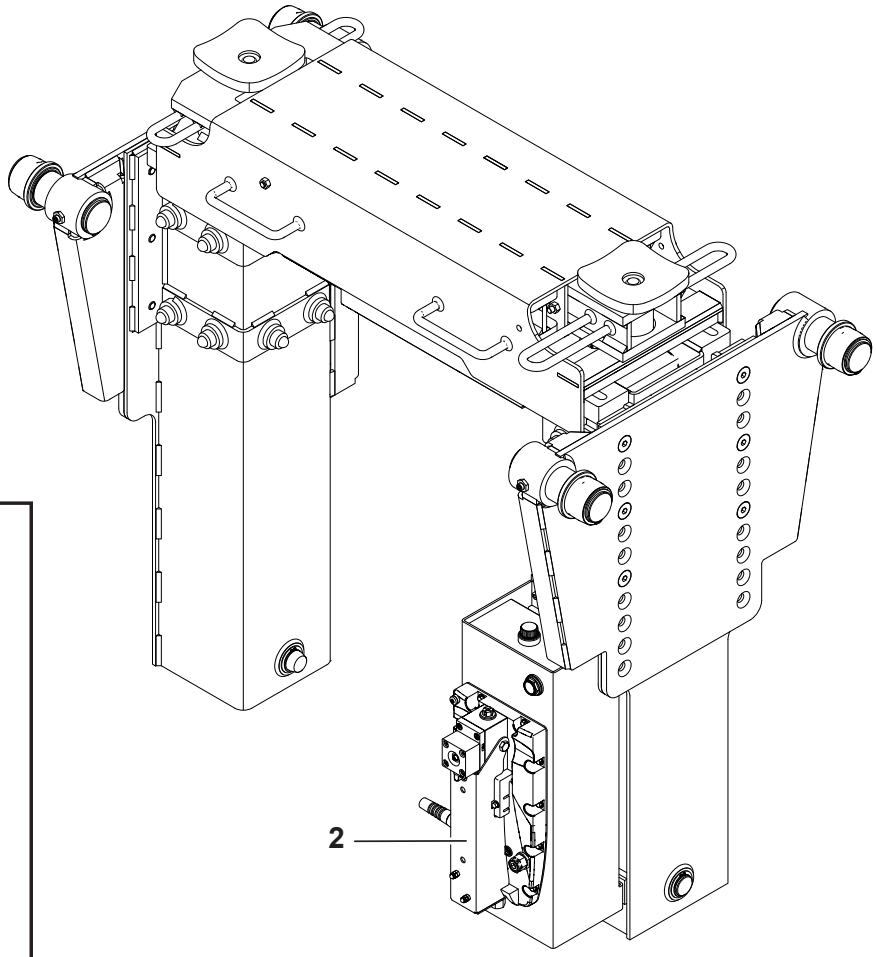


3.5 Main lift controls

The machine is equipped with control and indicator devices, which must be used to ensure correct machine operation and monitoring during use.
The machine, settings and formats are managed by operators by means of a set of devices:

(1) Control push-button panel
(2) Pneumatic-hydraulic control unit

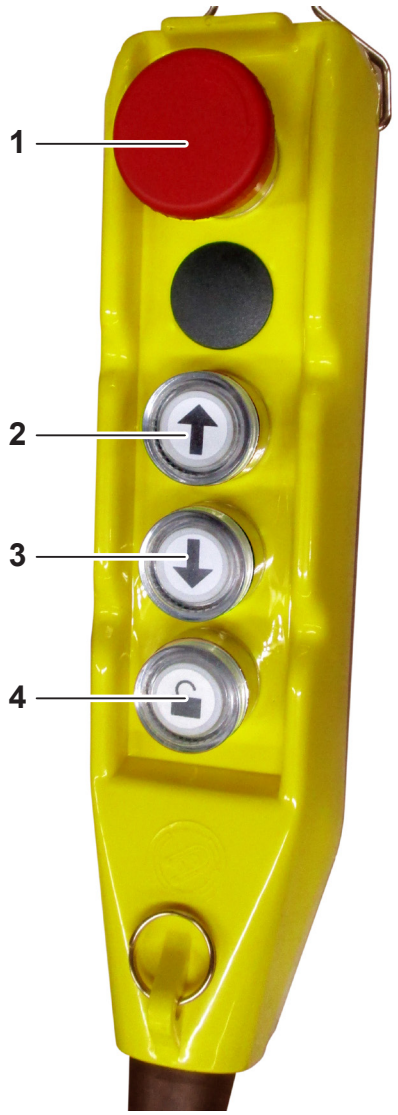




3.5.1 Control push-button panel

The push-button control panel consists of the following buttons:

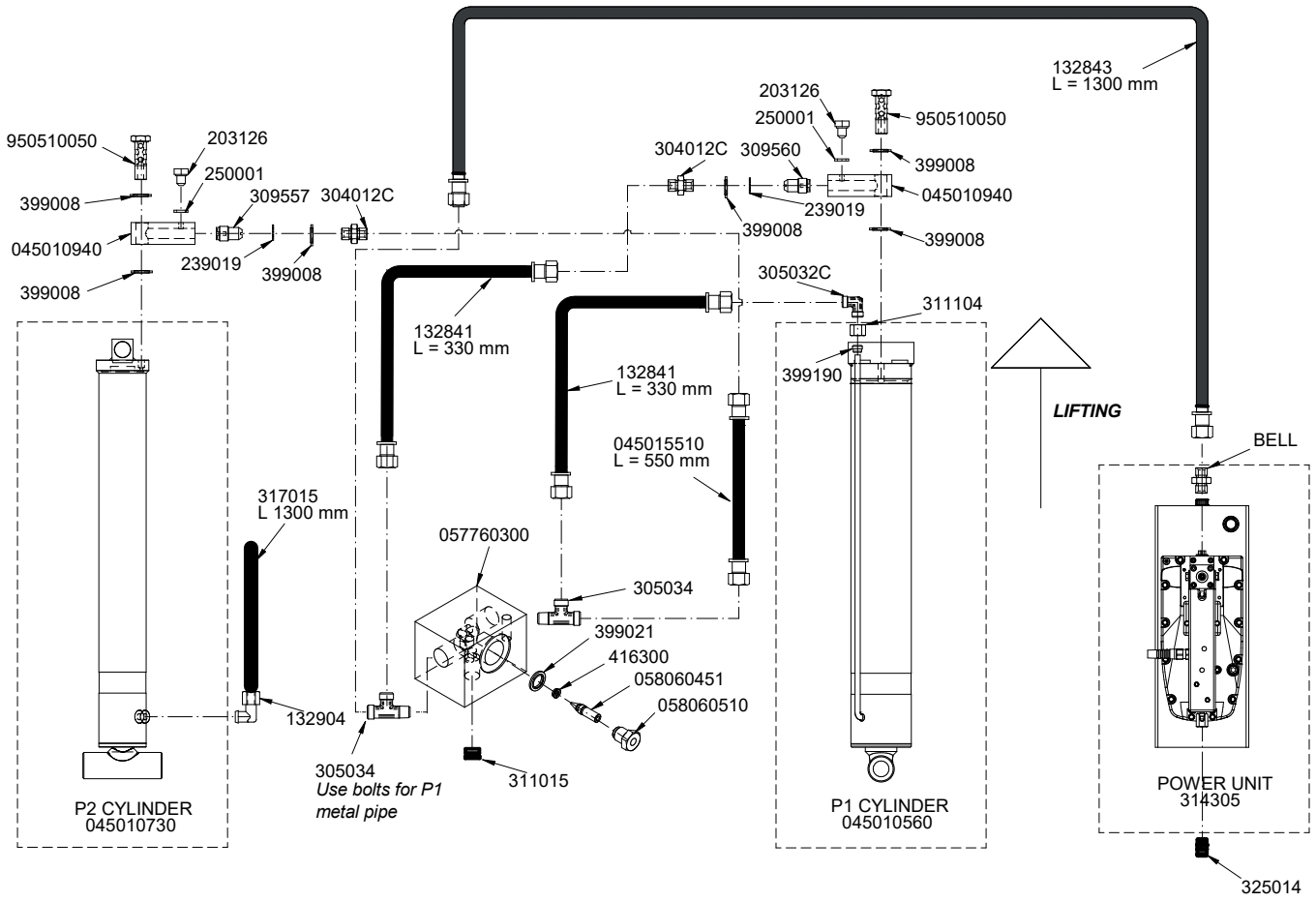
(1) Emergency stop pushbutton;
(2) Up button;
(3) Down button;
(4) Jack release button.



3.6 Hydraulic system

3.6.1 Hydraulic system assembly diagram

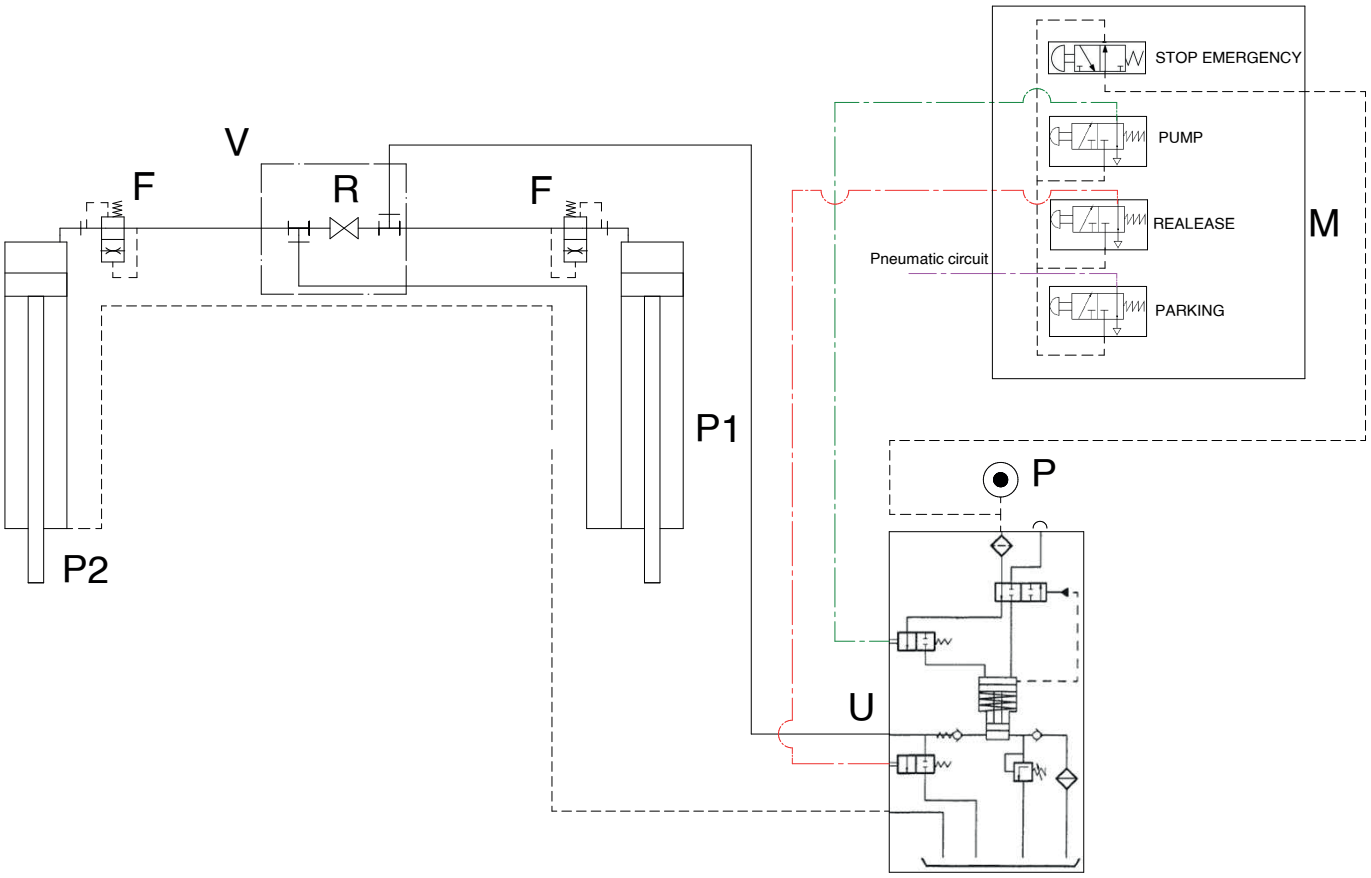
System code: 0450004010



Code	Description	Q	Code	Description	Q
314305		1	399190	TIGHTENING RING TN88-10LS	1
311015	PLUG HEXAGONAL RECESSED WITH SEAL 1/8	1	416300	GASKET CSC 6 11	1
203126	HEX-HEAD M6X8 5739 ZN	2	045010560		1
239019	SERRATED VENTED WASHER EXT. 6,4 6798A ZN	2	045010730		1
250001	COPPER WASHER 10X6X1.5	2	045010940		2
305034	SIDE T-JOINT TN127-10LR 1/4	2	045015510		1
305058	SWIVEL L-JOINT 1/4M X 8/6 M.154	1	132843		1
309557	DESCENT CTR VALVE STF14 I.3	1	132841		2
309560	DESCENT CTR VALVE STF14 I.4	1	057760300	TAP BLOCK	1
311104	TIGHTENING NUT TN81-10L	1	058060451	ADJUSTMENT SCREW	1
317015	POLYURETHANE TUBE EXTRAFLEX 8X6 BLACK	1.3	058060510	RING NUT FOR TAP	1
325014	STRAIGHT FIX QUICK COUPLING 1/4X10	1	950510050	PIERCED BOLT 1/4 -see 399213	2
399008	BONDED WASHER S.1/4-12-13 PP45B	6	304012C	STRAIGHT JOINT BODY ONLY 1/4MX10PM	2
399021	BONDED WASHER S.16-3/8 PP45C	1	305032C	L-JOINT BODY ONLY IN118-10L	1

3.6.2 Hydraulic system diagram

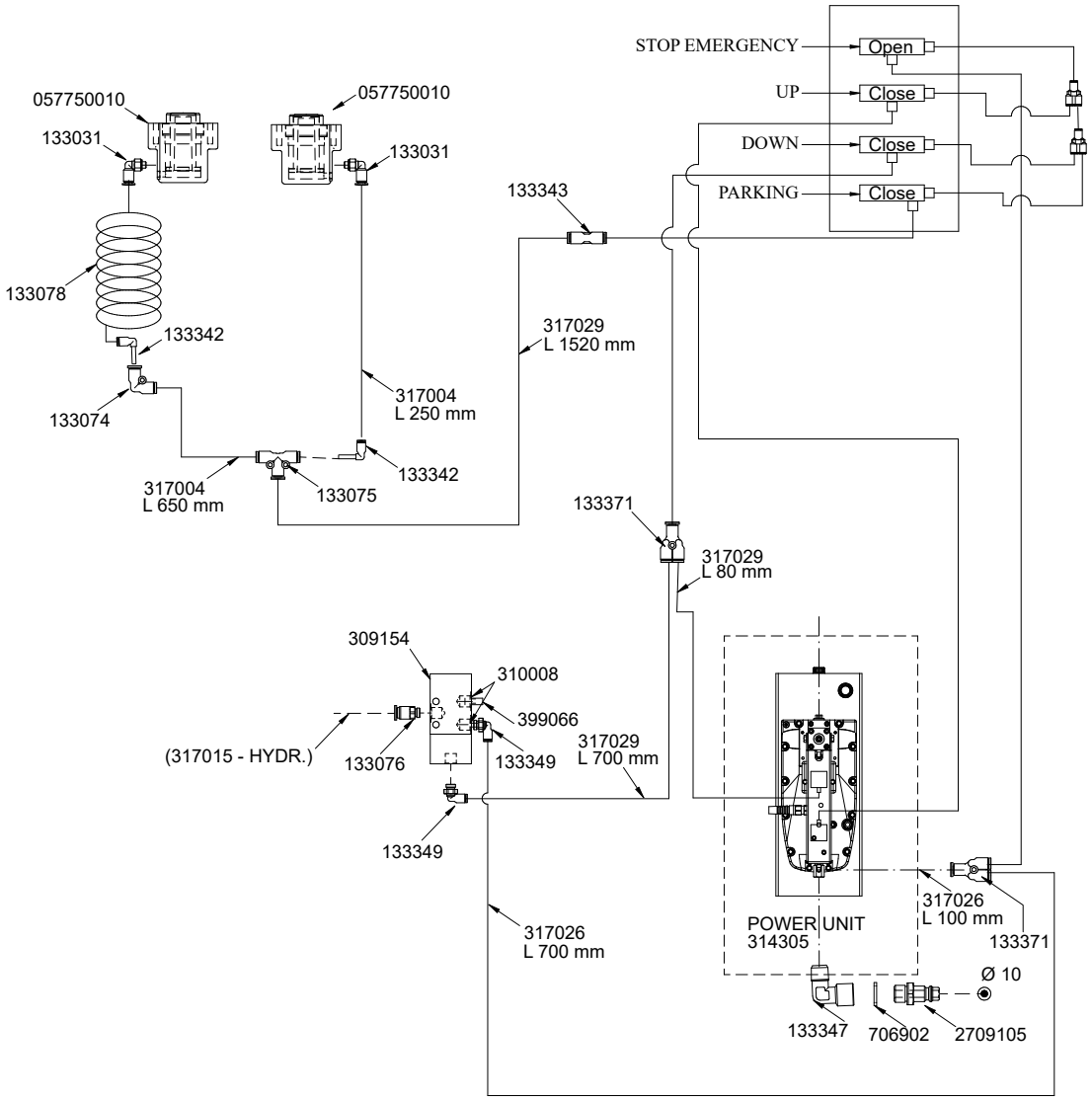
System code: 0450004010



Ref.	Description	Ref.	Description
S	Tank	P2	Cylinder p2
P	Air inlet	F	Self-compensating flow rate adjustment valve
U	Oil delivery	V	Alignment valve
M	Control panel	R	Shut-off valve
P1	Cylinder p1		

3.7 Pneumatic system

System code: 045004020_02



Code	Description	Q	Code	Description	Q
310008	REDUCTION 1/4 M X 1/8 F	2	317043	SPIRAL HOSE 4X2 De50 Di42	1/2
309154	MONOSTABLE 3/2 VALVE G1/8,G1/	1	325014	STRAIGHT FIX QUICK COUPLING 1/4X10	1
317004	RILSAN HOSE 4X2 PA12 S40 GR	0.25	325030	REVOLVING QUICK COUPLING L M5X4	2
317004	RILSAN HOSE 4X2 PA12 S40 GR	0.65	325053	L REVOLVING FITTING 1/8X8	1
317026	RILSAN HOSE 4x2.7 BLACK	0.1	325130	SWIV.JOINT L 1/8Mx4 CYL+OR	2
317026	RILSAN HOSE 4x2.7 BLACK	0.7	325132	STRAIGHT MIDDLE JOINT 4	2
317029	RILSAN HOSE 4x2.7 WHITE	0.7	325142	Y JOINT 4	4
317029	RILSAN HOSE 4x2.7 WHITE	0.08	399066	NYLON MUFFLER 1/8	1
317029	RILSAN HOSE 4x2.7 WHITE	1.52	057750010	HOOK RELEASE CYL. ASS.	2
317043	SPIRAL HOSE 4X2 De50 Di42	1/2			

CHAP. 4 GENERAL SAFETY REGULATIONS

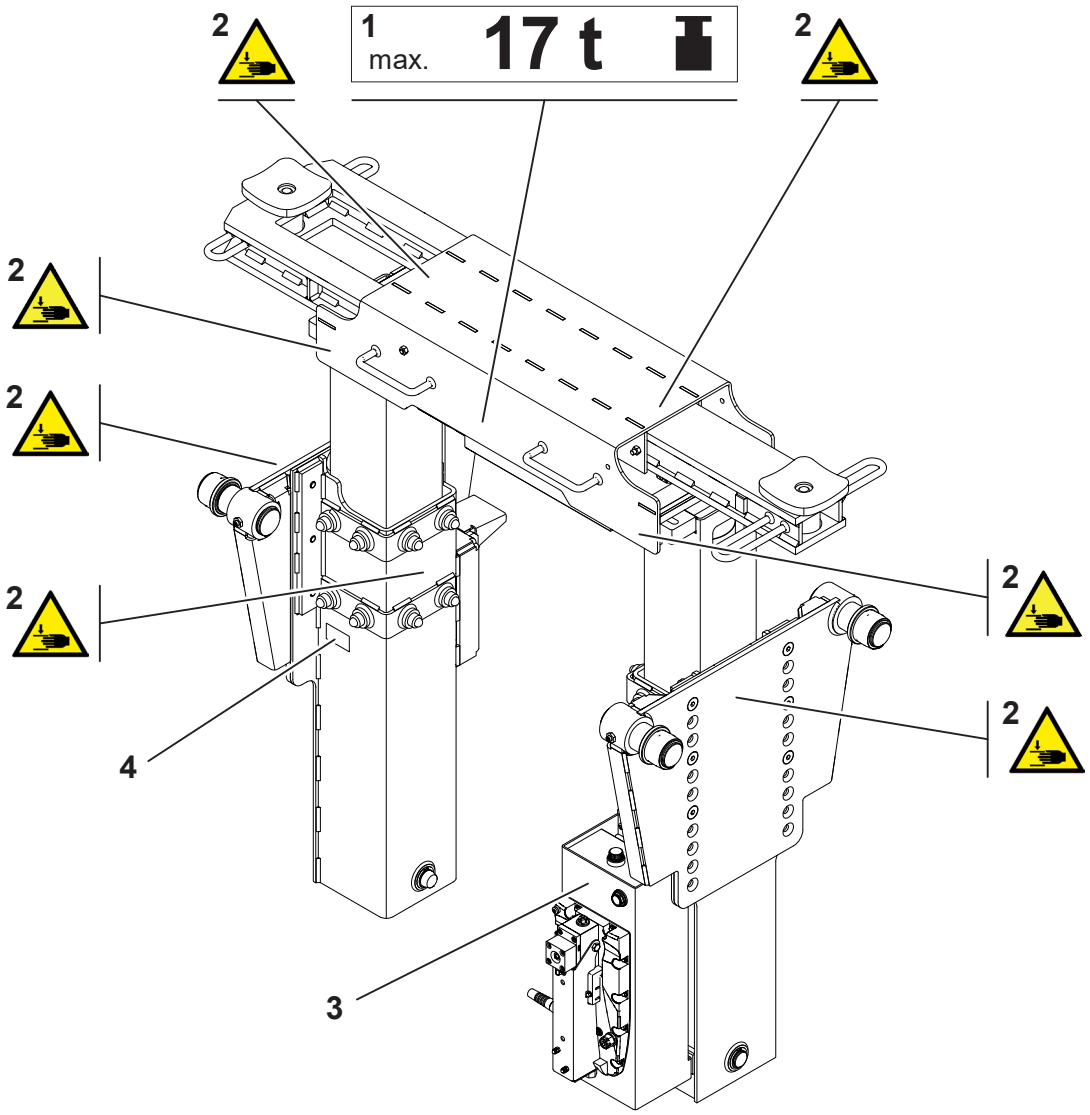
4.1 Indication of residual risks

Our lift has been designed and built to the highest standards, ensuring compliance with the requirements set out in the applicable directives.
A thorough risk analysis has been carried out and the hazards have been eliminated, wherever possible.
Any residual risks are highlighted in this manual and on the machine by means of warning symbols.

4.2 Safety plates and/or labels

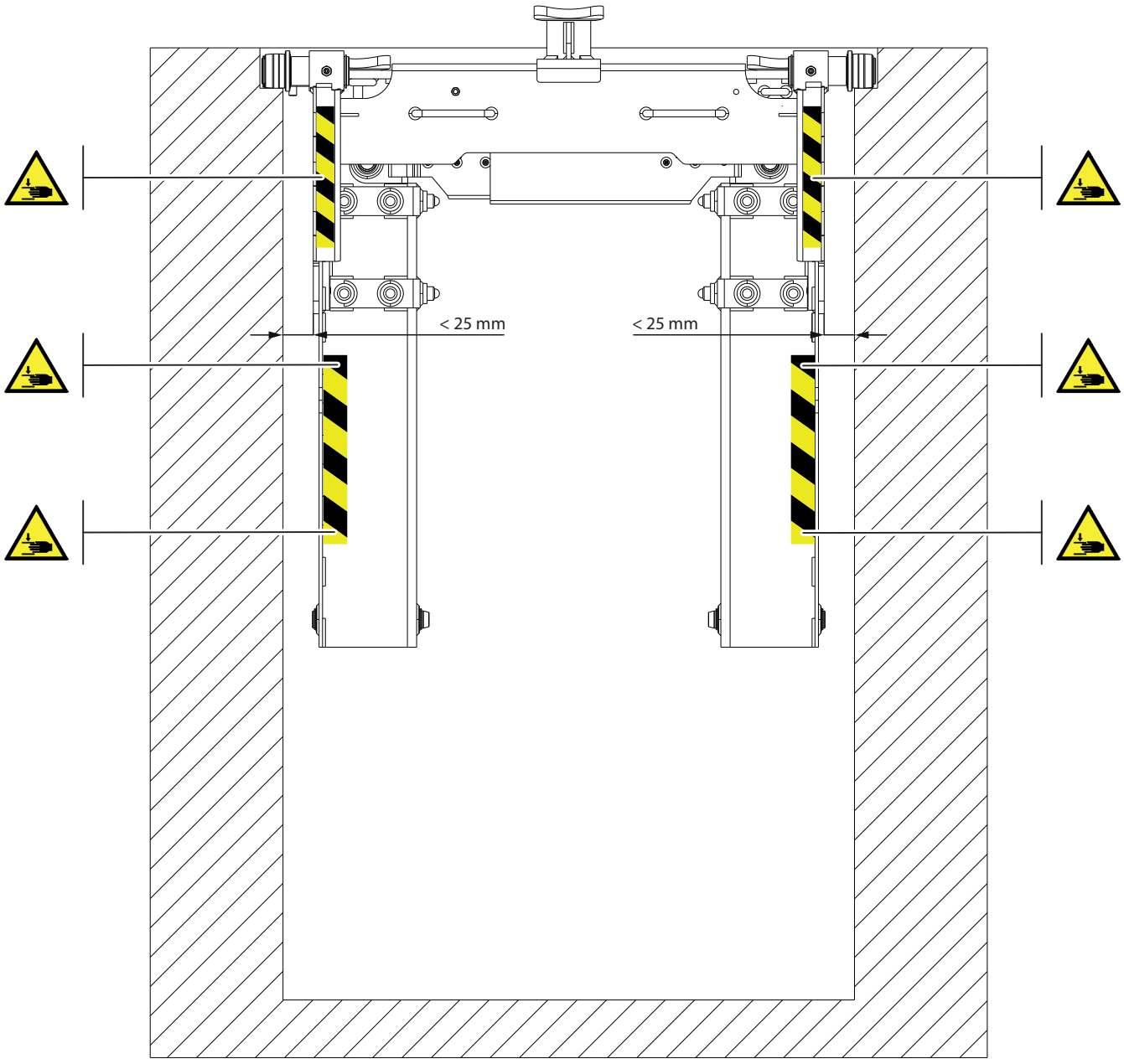
The lift includes plates and labels used to identify the machine, capacity, instructions and electrical system.
If these symbols are damaged, replace them by requesting them from the manufacturer.

Labels and other hazard warning devices		
Ref.	**Code**	**Description**
1	131247	Lifting capacity kg 17000 plate
2	999912630	Hand crushing hazard
3	99990726_01	Oil plate
4	999921570	Serial number plate



4.2.1 Additional safety labels

If the minimum safety distance of 25mm between the walls of the pit and the columns of the lift cannot be ensured, the "Danger of hand crushing" symbol must be applied on the lift.



4.3 Suitability for use

This product has been manufactured in compliance with the European Directive 2006/42/EC. Pursuant to standard EN 1494, the coefficients used for the tests are as follows:

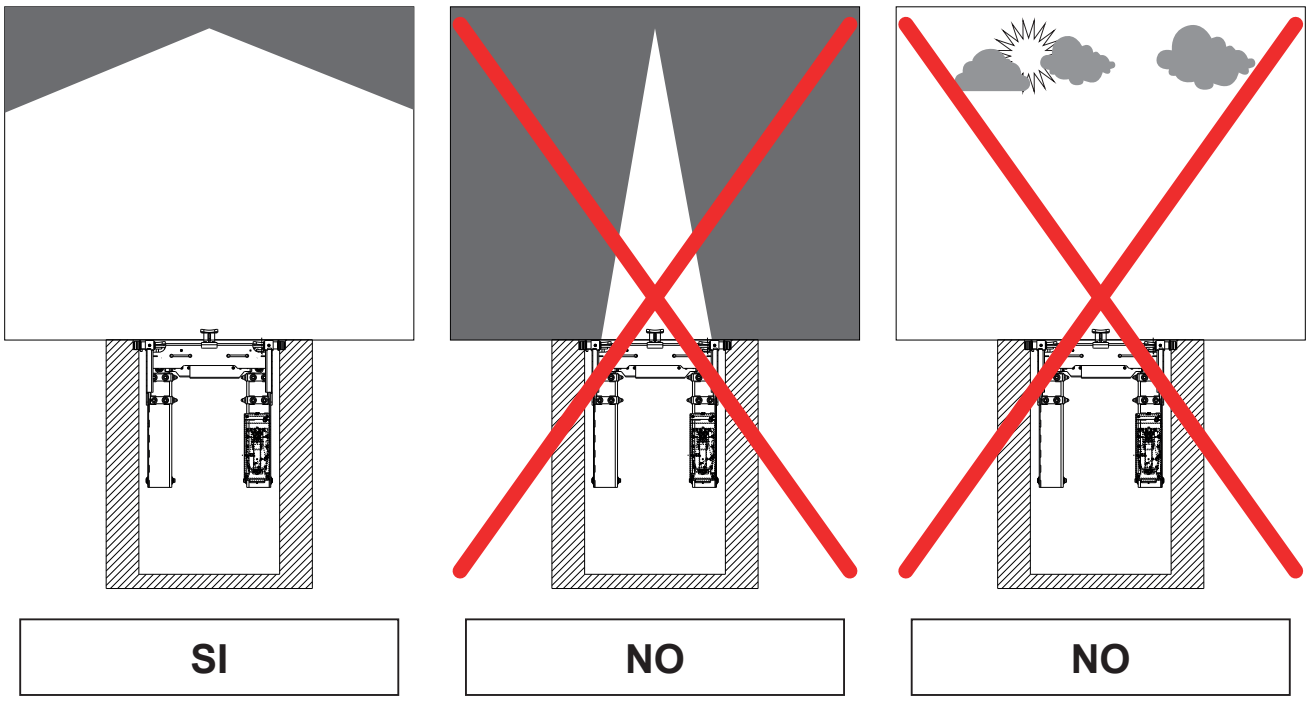
- 1.5 for the static test;
- 1.25 for the dynamic test.

CHAP. 5 INSTALLATION REQUIREMENTS

5.1 Minimum requirements for installation site

Check that the area where the machine is to be installed meets the following requirements:
- The lift may only be operated in closed environments, where there is no danger of explosion or fire.
- The lift is not suitable for use involving washing vehicles.
- Sufficient lighting (but without glare or excessively bright lights). Reference standard EN 12464-1;
- Environment not exposed to the elements;
- Environment with adequate air change rate;
- Pollutant-free environment;
- Noise level lower than the applicable regulatory requirements ≤70 dB;
- Room temperature: min. 5°C - max. 55°C;
- Not subject to hazardous movements caused by other machines being operated in the same environment;
- Environment not used for storing explosive, corrosive and/or toxic material;
- The installation layout should be planned so that the operator can see all the equipment and the surrounding area from the operating position. The operator must prevent unauthorised persons and potentially dangerous objects from entering this area.
- While installing the lift, tighten the structural screws M12 class 8.8 with a tightening torque of 92Nm.

All installation work involving connections to external power supplies (especially electrical power supplies) should be performed by professionally qualified staff.
The system must be installed by authorised personnel, in accordance with any special instructions that may be included in this booklet; in case of doubt, consult the authorised service centres or the manufacturer technical assistance

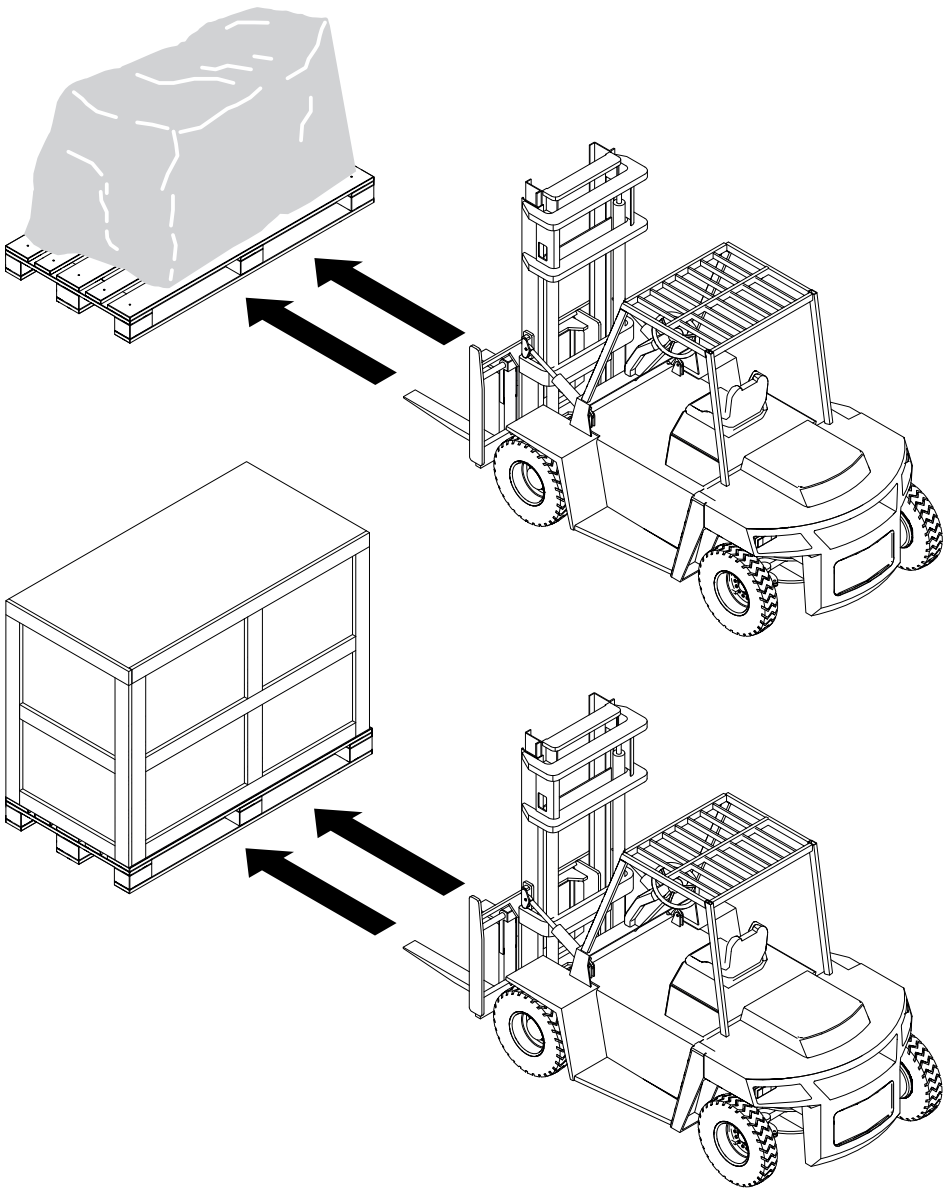


CHAP. 6 TRANSPORT AND HANDLING

6.1 Handling and moving the packaging

The centre of gravity of the package is identified on the package by the relevant symbol.
The centre of gravity is calculated each time by the relevant personnel during packaging.

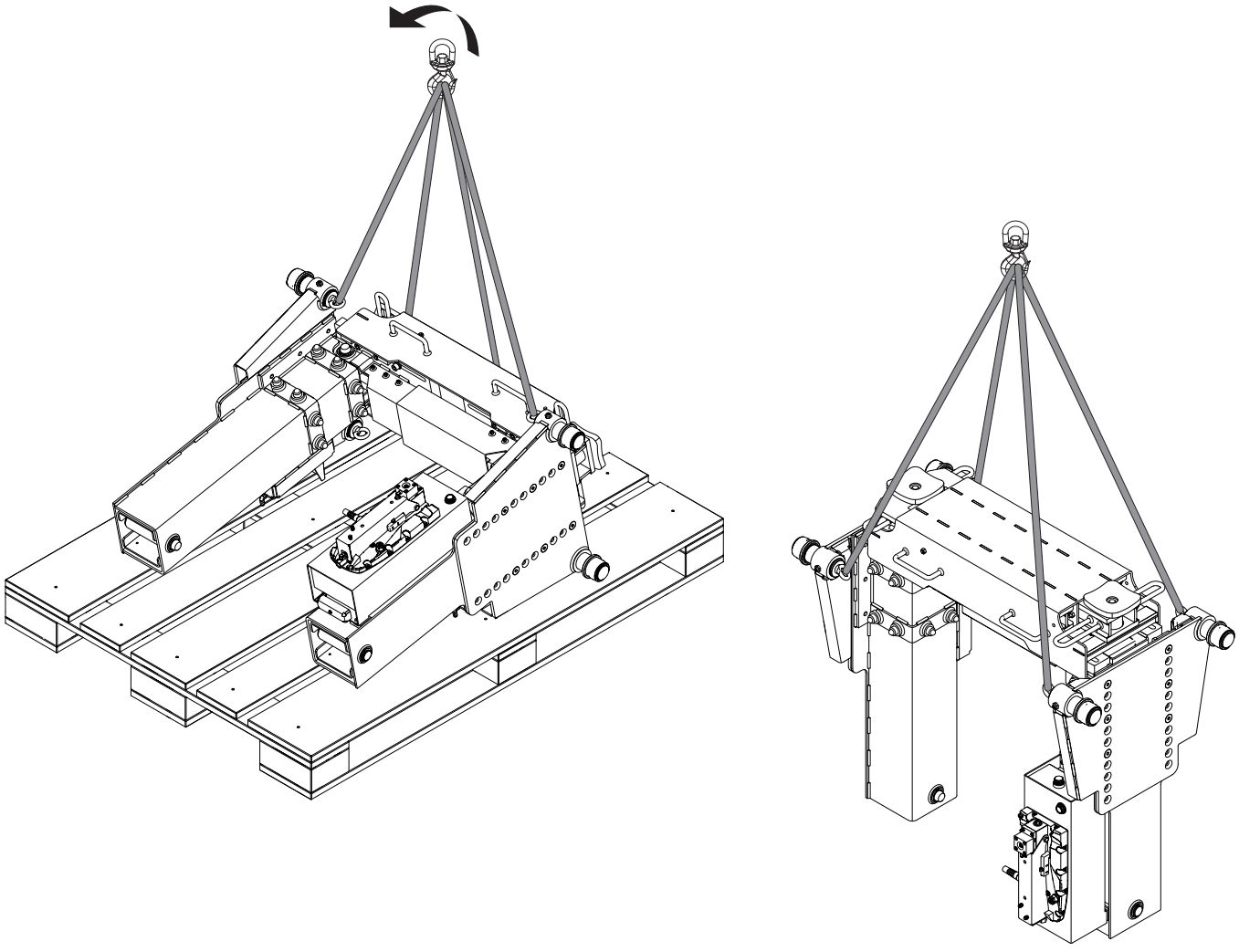
Procedure to be applied to all crates:
- Slowly approach the lift truck to the package.
- Identify the centre of gravity of the package.
- Place the forks to the appropriate width.
- Insert the forks in the relevant gaps under the frame so they are at equal distance from the centre of gravity.
- Fully insert the forks until they protrude on the opposite side of the package.



6.2 Handling the lift

When transferring the lift to the selected installation point (or when repositioning it at a later date), make sure to:

- Lift it carefully, using suitable load bearing equipment, ensuring it is in good working order, and coupling it to the designated lifting points (see figure).
- Avoid sudden jolts and jerks, and allow for any ramps, bumps, holes, etc.;
- Pay the utmost attention to protruding parts: obstacles, difficult passages, etc.;
- Wear suitable clothing and personal protective equipment;
- After removing the various parts of the packaging, store them in designated areas where they are inaccessible to children and animals until they can be disposed of;
- Upon taking delivery, check the packaging for damage and, after unpacking the equipment, check that there are no damaged parts.



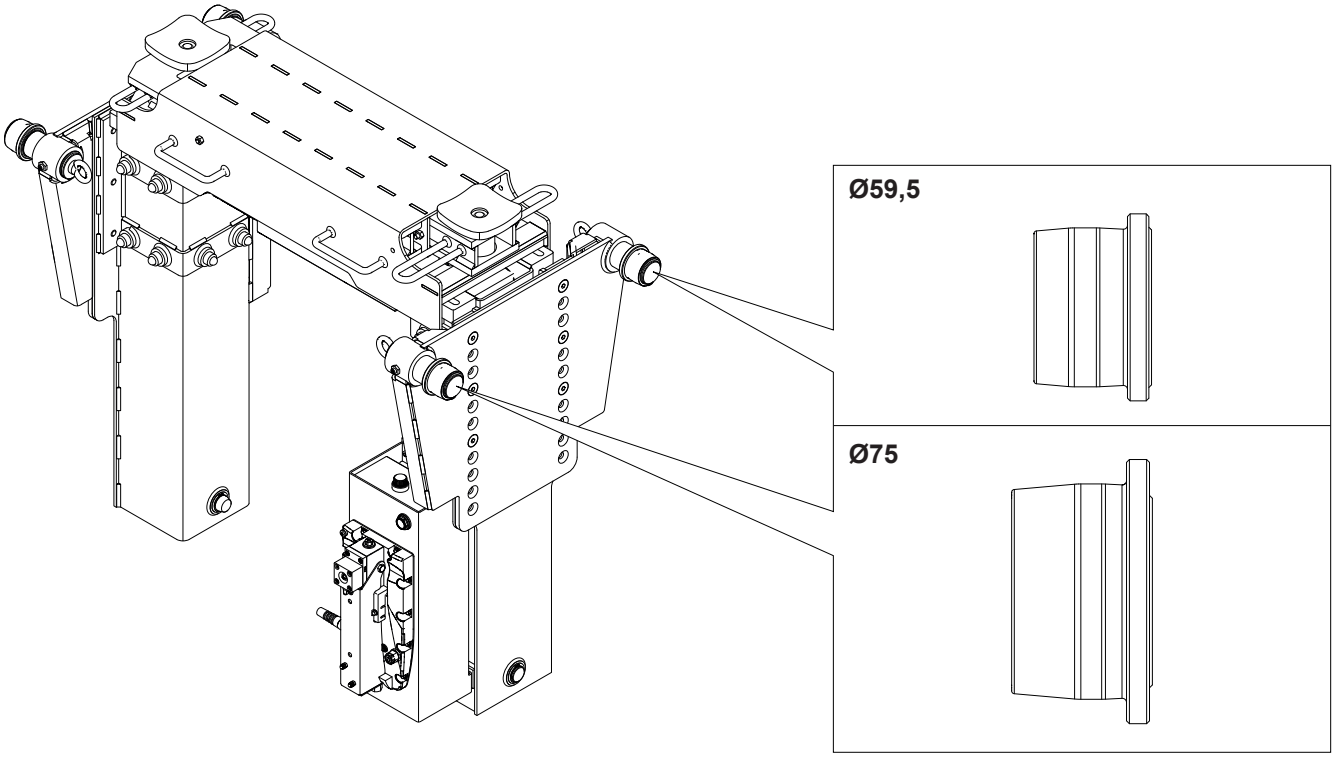
CHAP. 7 INSTALLATION

7.1 Instructions for installation

The lift is supplied with both types of rollers for installation in a pit:

- Ø59.5 mm
- Ø70 mm

The **Ø59.5** rollers are assembled on the machine at shipping.
While installing the lift in the pit, if the guides have a height higher than 70mm, the **Ø59.5** rollers can be removed and the **Ø70** rollers can be installed to facilitate improved sliding of the lift within the guides.

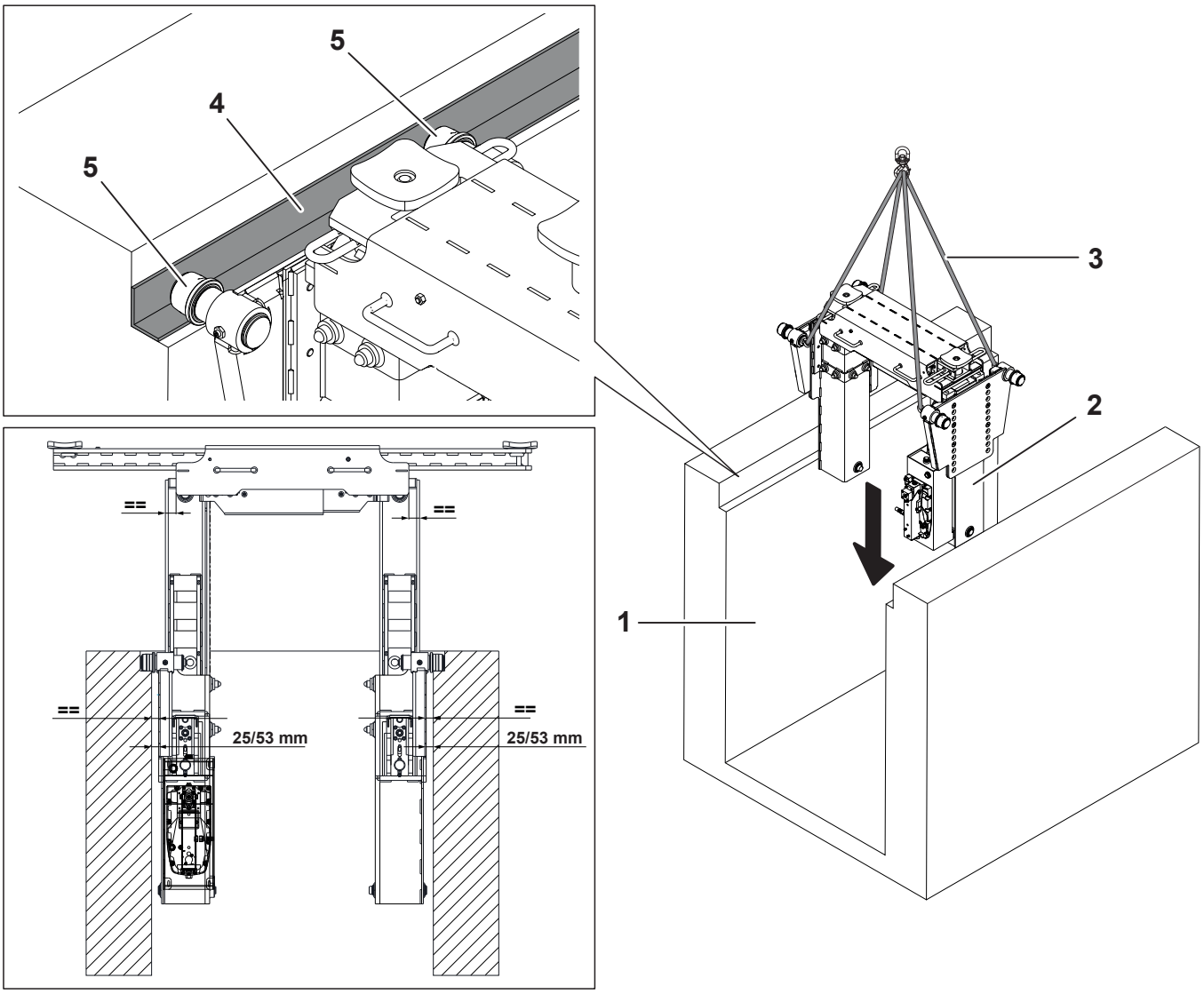


7.1.1 Floor-level sliding carriages - Installation on L-guide

Proceed as follows to install the lift:

- Identify the dimensions of the pit (1) where the lift has to be installed.
- Check the dimensions of the roller sliding guides (4) of the pit. If necessary, disassemble the Ø59.5 rollers (5) and replace them with Ø75 rollers.
- Lift the lift (2) using the appropriate lifting devices (3).
- Position the lift (2) within the pit (1).
- Position the sliding carriages (5) against the L-guide (4) installed on the pit.
- If, while installing the lift, there are gaps between the walls of the pit and the columns of the lift, the distance must be adjusted (minimum 25mm, maximum 53mm) by means of the sliding carriages (5).
- Adjust the same distance on both sides of the pit.
- Remove the lifting devices (3).

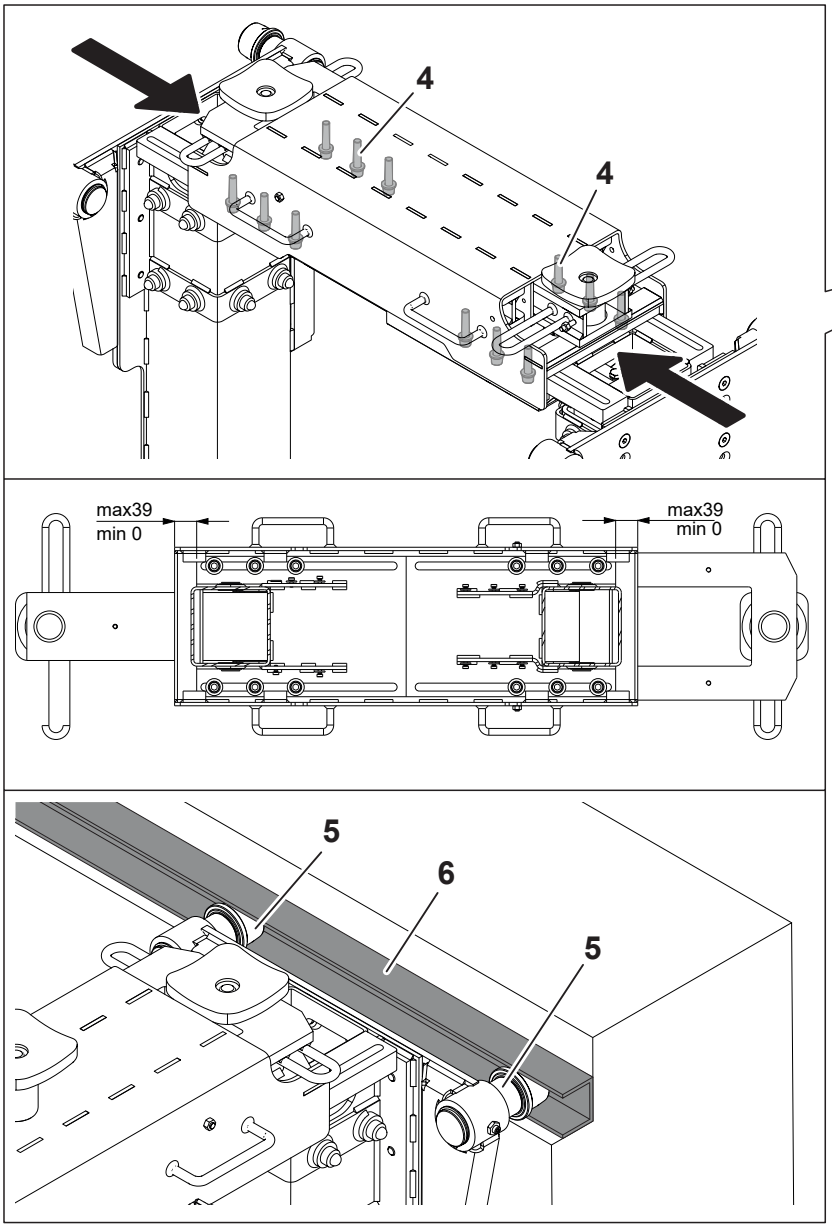
NOTE - The guides installed within the pit are not supplied by the manufacturer

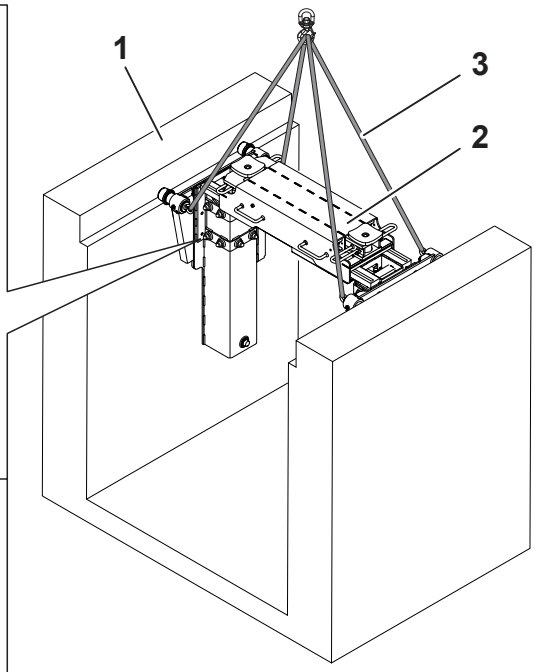


7.1.2 Floor-level sliding carriages - Installation on C-guide

Proceed as follows to install the lift:

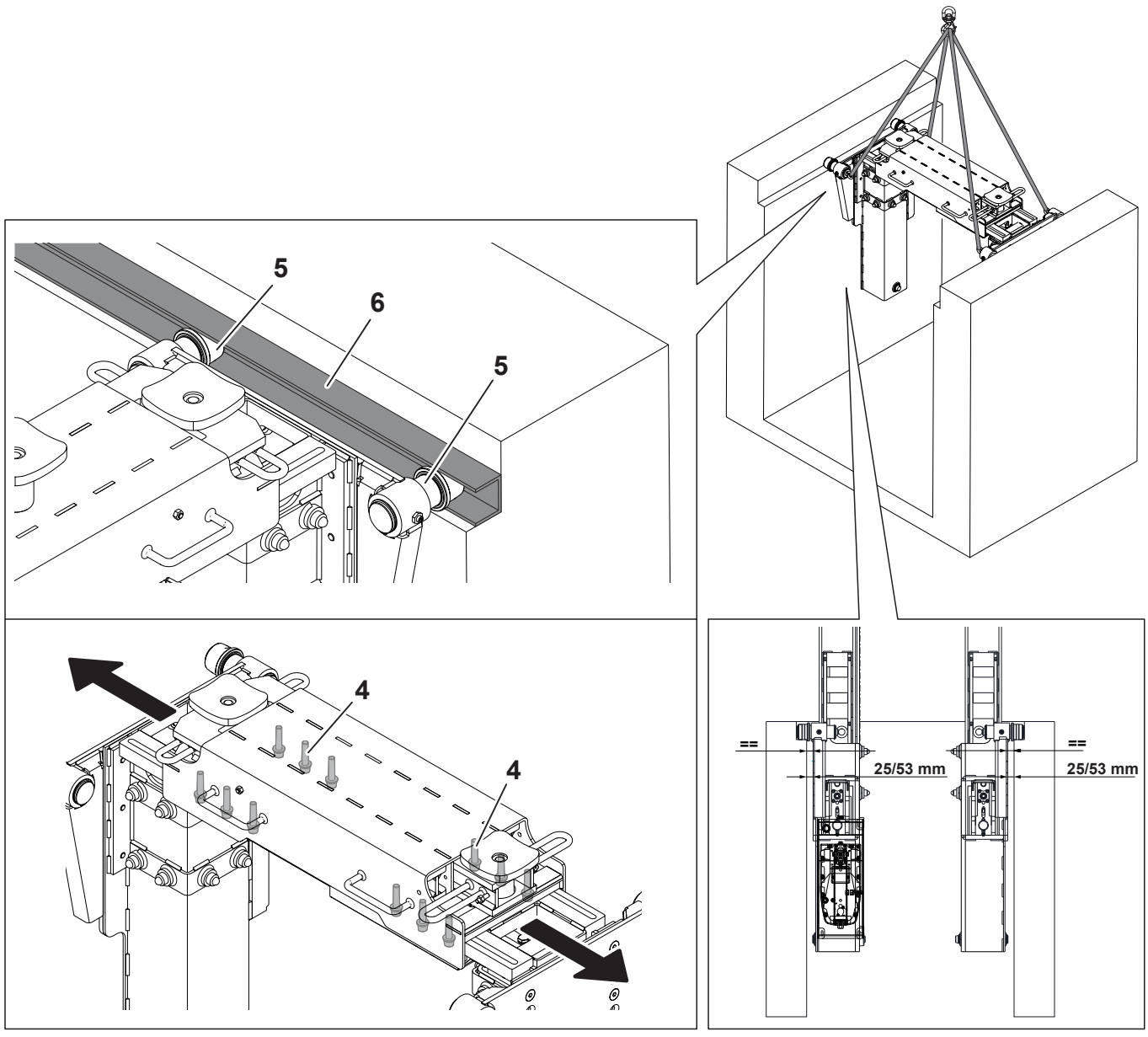
- Identify the dimensions of the pit (1) where the lift has to be installed.
- Check the dimensions of the roller sliding guides (6) of the pit. If necessary, disassemble the Ø59.5 rollers (5) and replace them with Ø75 rollers.
- Lift the lift (2) using the appropriate lifting devices (3).
- Position the lift (2) within the pit (1).
- Operate on the fastening devices (4) to adjust the width of the lift, observing the distance between **0 and -39 mm** shown in the drawing. If it is not sufficient, adjust the rollers at their minimum adjustment to facilitate the gate entering the pit.





- Position the sliding carriages (5) within the C-guide (6) installed on the pit.
- Operate on the fastening devices (4) to adjust the width of the lift until the sliding carriages are within the C-guide on the opposite side.
- If, while installing the lift, there are gaps between the walls of the pit and the columns of the lift, the distance must be adjusted (minimum 25mm, maximum 53mm) by means of the sliding carriages (5).
- Adjust the same distance on both sides of the pit.

NOTE - The guides installed within the pit are not supplied by the manufacturer



- Operate on the fastening devices (4) and adjust the width of the crossbeam, observing the distances **0 and +132 mm** as shown in the drawing.
- Install the required spacers (7) using the relevant fastening devices (8).
- Tighten the fastening devices (4).
- Remove the lifting devices (3).

CAUTION

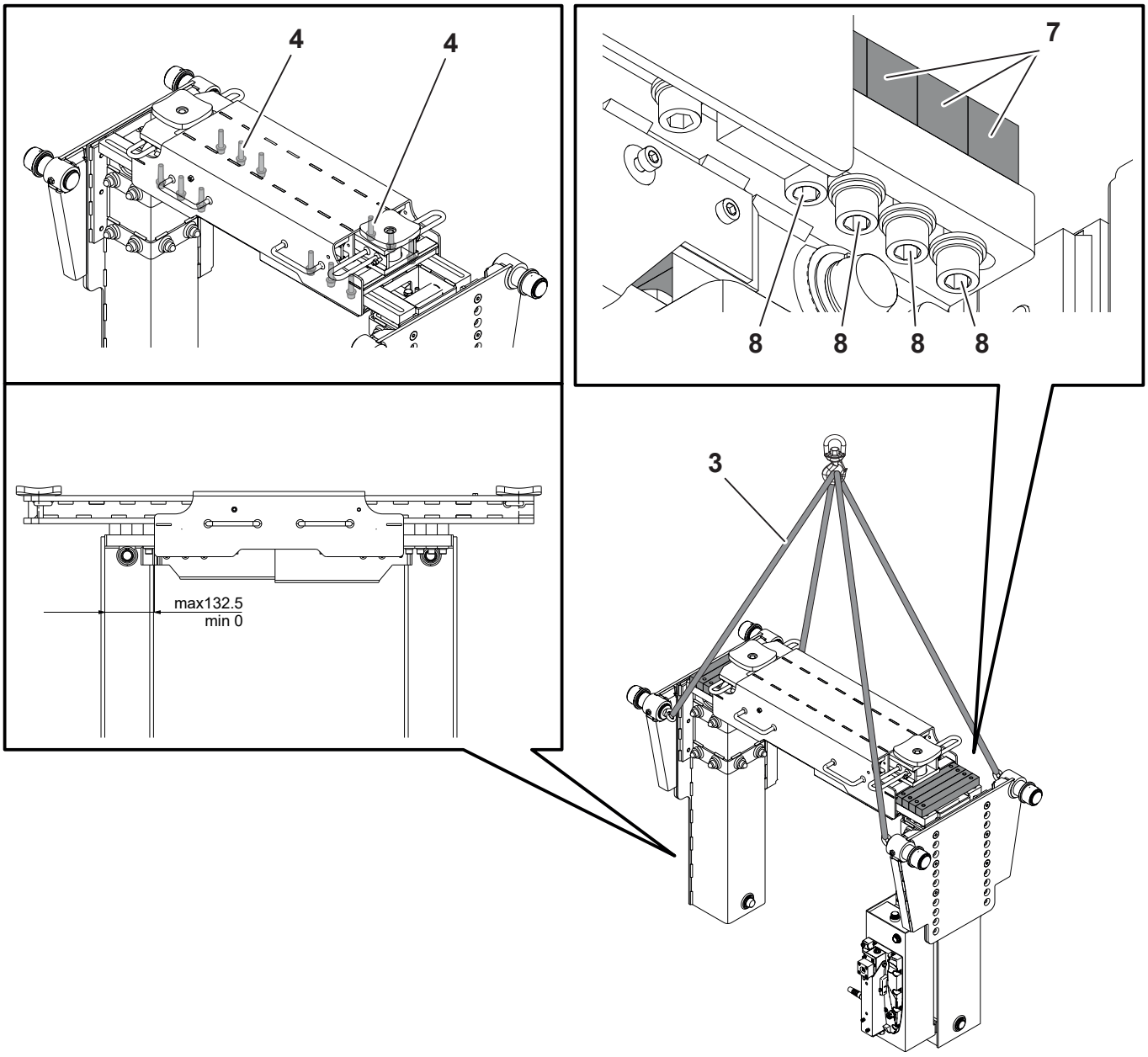
If the carriages are not flush with the floor, see the "Sliding carriages not flush with the floor" paragraph

CAUTION

The crossbeam of the lift must be flush with the floor, see layout in Chapter 3.

CAUTION

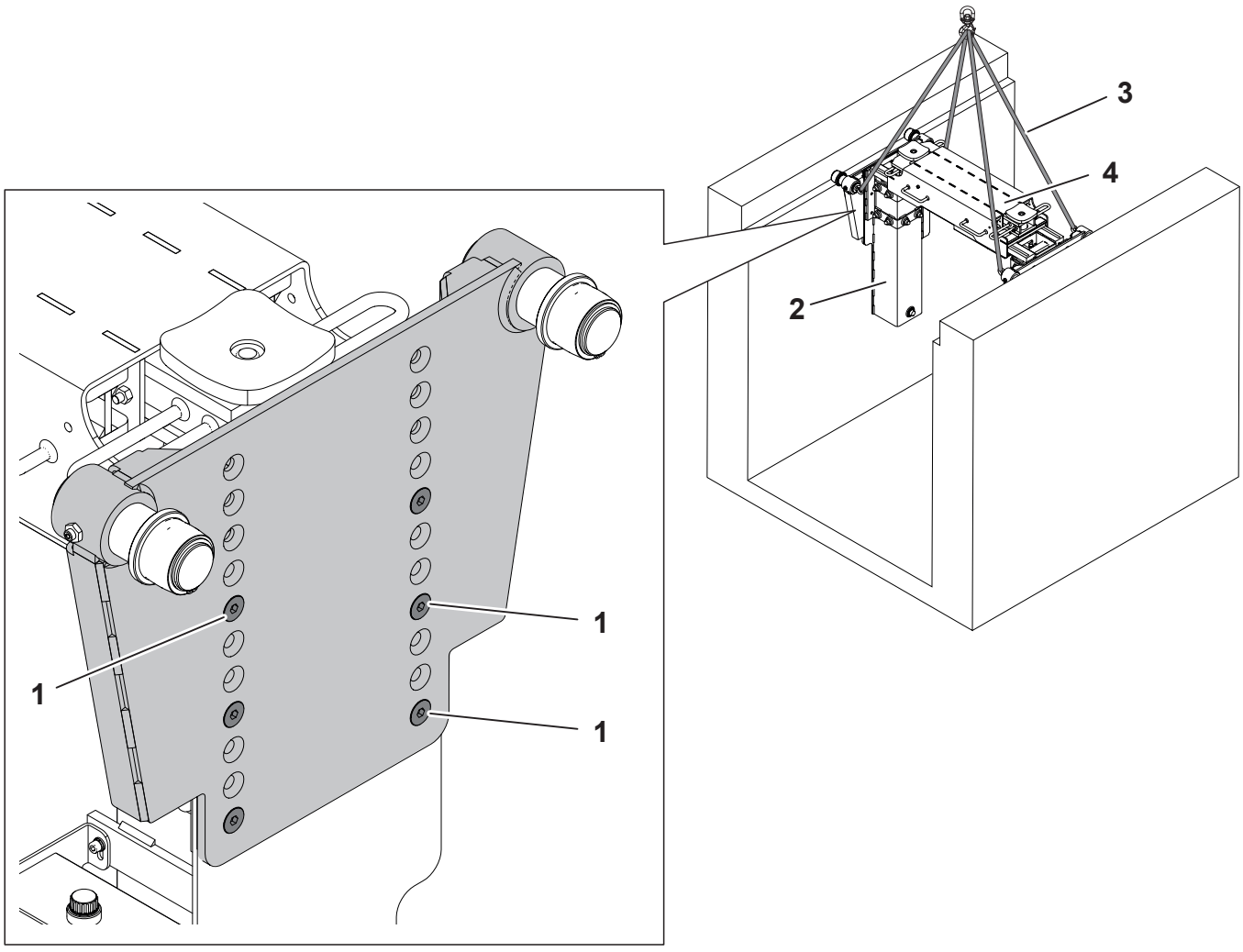
The distance must not be lower than zero after installation in order to have proper operation.



7.1.3 Crossbeam not flush with the floor

Proceed as follows to install the lift:

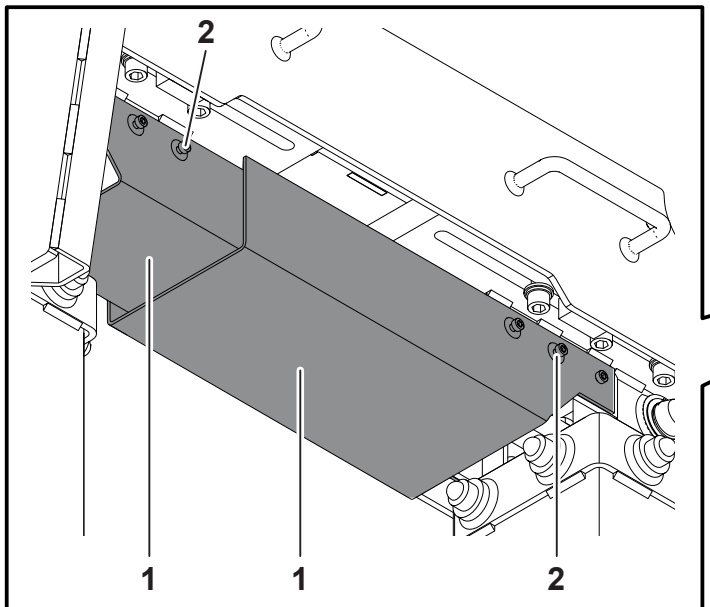
- Remove the fastening screws (1).
- Lift the lift (2) using the appropriate lifting devices (3).
- Bring the crossbeam (4) flush with the floor.
- Secure the fastening devices (1).

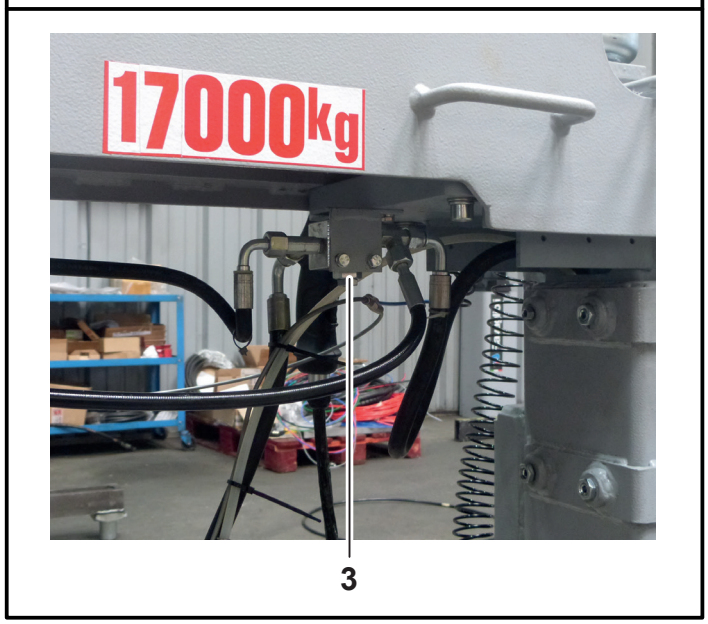


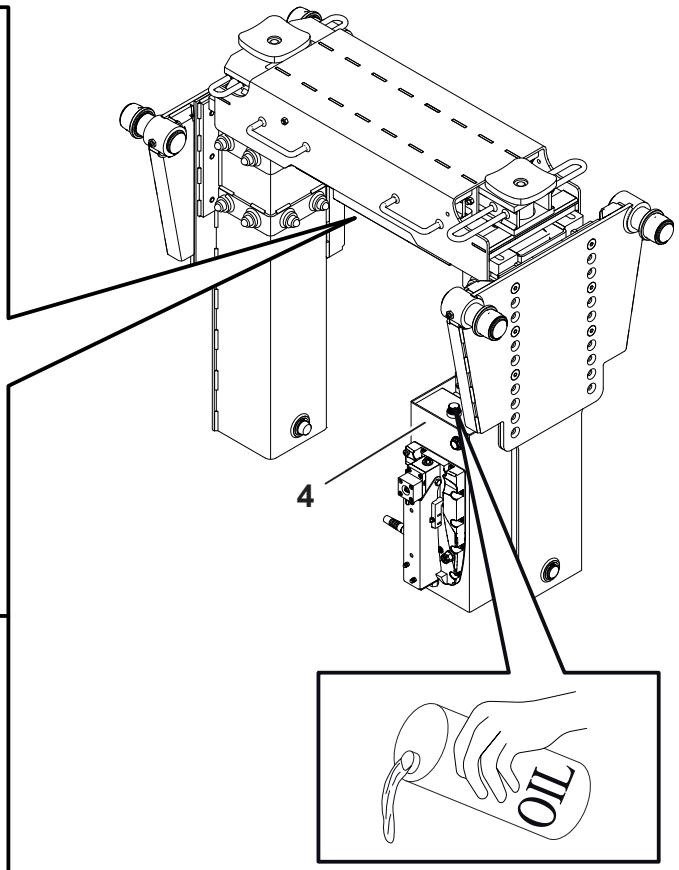
7.2 Filling the hydraulic circuit

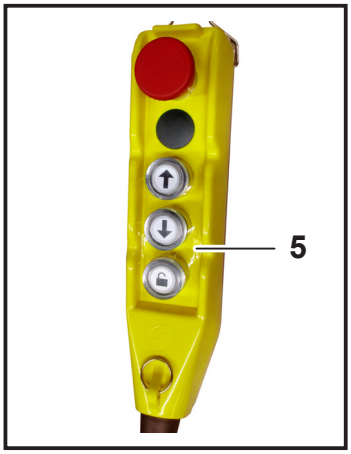
Proceed as follows to fill the hydraulic circuit:

- -Remove the fixed guards (1) by means of the fastening devices (2).
- Open valve (3) to bypass the Master Slave branch.
- Fill the tank of the pneumatic-hydraulic control unit (4).
- Start lifting the lift from the control pushbutton panel (5).
- After pumping of oil into the circuit is concluded, close valve (3).





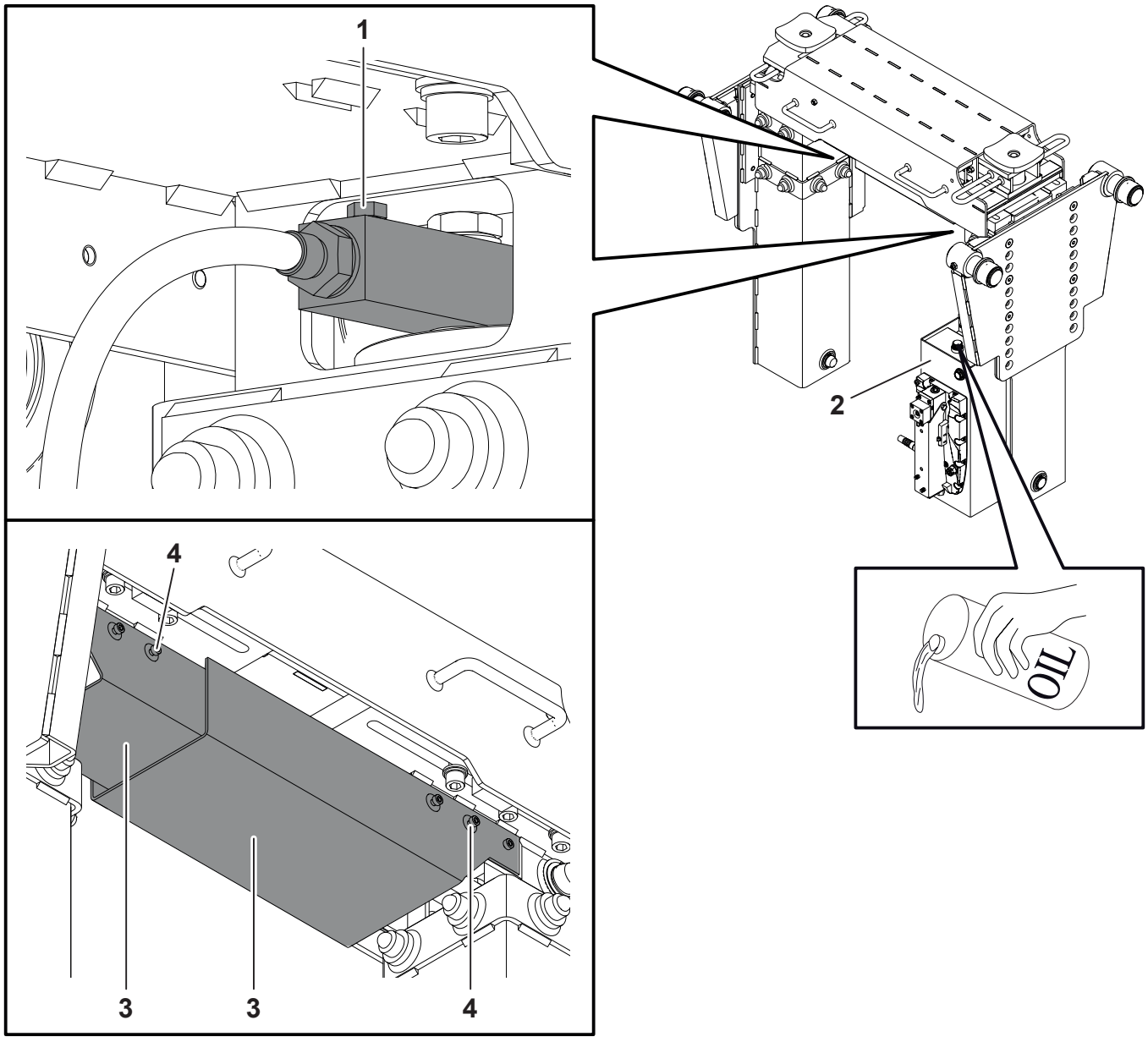




7.2.1 Venting air from the hydraulic circuit

Proceed as follows to remove air from the hydraulic circuit:

- Bring the lift to the maximum height.
- Open the valves (1).
- After venting air, close the valves (1).
- Top up the tank of the pneumatic-hydraulic control unit (2).
- Assemble the fixed guards (3) by means of the fastening devices (4).



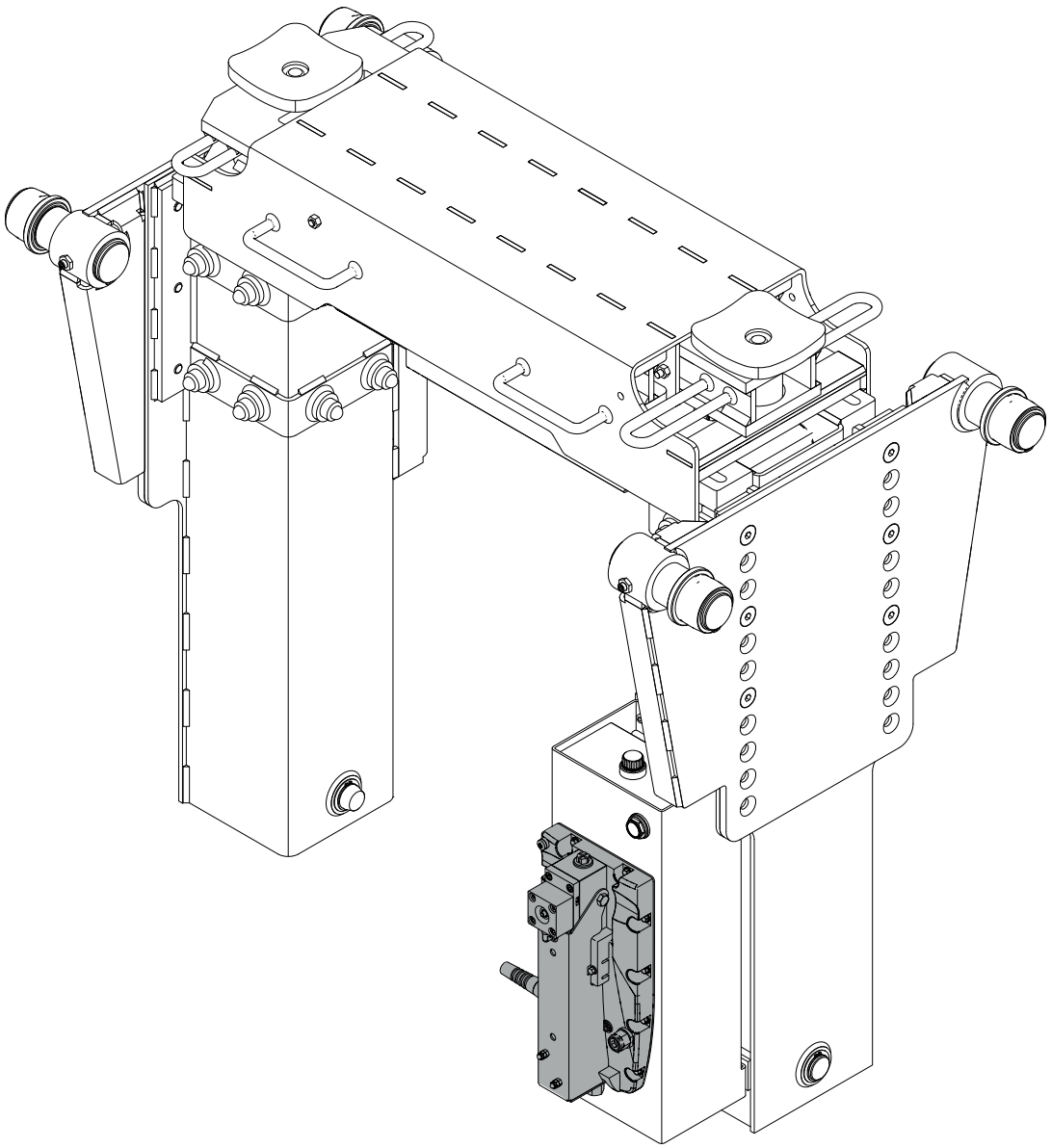
7.3 Pneumatic connection

The pneumatic connection is performed by connecting the supply pipe (not supplied) to the relevant fitting.

The main supply pneumatic duct must be created with piping having the characteristics described in the pneumatic diagram.

NOTE: We recommend using compliant piping, designed to withstand the operating pressure of the functional unit, see the pneumatic diagram (see the ENCLOSURES chapter).

NOTE - The guides installed within the pit are not supplied by the manufacturer



CHAP. 8 USING THE LIFT

8.1 Prohibited use

The following is strictly forbidden:
- Using the beam for a purpose other than the purposes described in this manual;
- Using the lift to raise people or animals;
- Raising vehicles with people on board;
- Raising vehicles loaded with potentially hazardous materials (explosive, corrosive, flammable, etc.);
- Raising vehicles resting on support points other than those recommended by the vehicle manufacturer.
- Allowing untrained personnel to operate the lift.

The Manufacturer cannot be held responsible for any damage caused by improper, incorrect and/or unreasonable use.

8.2 Reasonably foreseeable misuse

THE FOLLOWING IS NOT ALLOWED:
- Using non-genuine spare parts or spare parts that were not recommended by the manufacturer.
- Assigning maintenance and repair operations to personnel who has not been trained.
- Using equipment, tools and accessories that are not suitable during maintenance.
- Performing temporary repairs or improvised restorations that are not compliant with instructions.
- Changing the functional/performance characteristics of the equipment and/or its components.

8.3 Use of accessories - Accessories supplied as standard

The lift may be used with a series of accessories to facilitate the activities of the operator. Only original accessories supplied by the manufacturer should be used.

8.4 Training of assigned personnel

The machine may only be operated by specially trained and authorised personnel. To guarantee optimal machine management and safe, efficient operation, the personnel assigned to use it must be properly trained and provided with the necessary information, so as to ensure that it is operated in line with the instructions provided by the manufacturer.

For any questions relating to the use and maintenance of the machine, consult the instruction manual and, where appropriate, the authorised service centres or the Manufacturer’s technical assistance service

8.5 Operating precautions

The operator must also observe the following safety procedures:

- Check that no hazardous situations arise while work is being carried out. Stop the machine immediately if any malfunctions are observed and contact the technical service department of your authorised dealer.
- Check that the working area around the machine is free of potentially hazardous objects and no oil (or other slippery material) has been spilled on the floor as this could constitute a potential hazard for the operator.
- The operator must wear suitable work clothing, safety goggles, gloves and mask to avoid damage caused by dust or impurities. Dangling objects, such as bracelets or similar items must not be worn, long hair must be tied back, footwear must be suitable for the work being done.
- Check that dismantling any part of the vehicle does not alter the load distribution beyond pre-defined acceptable limits.
- Ensure the vehicle rests stably on the supporting elements as soon as the platform start rising;
- Ensure no conditions arise that could expose persons or equipment to hazards while raising and lowering the vehicle;
- Stop the lift immediately in the event of a malfunction and contact authorised maintenance personnel;
- Do not tamper with the safety equipment and devices;

Always adhere scrupulously to the applicable accident-prevention regulations.

8.6 Identification of controls and relevant functions

CAUTION

Position the load centring the gate with respect to the pad supports.

CAUTION

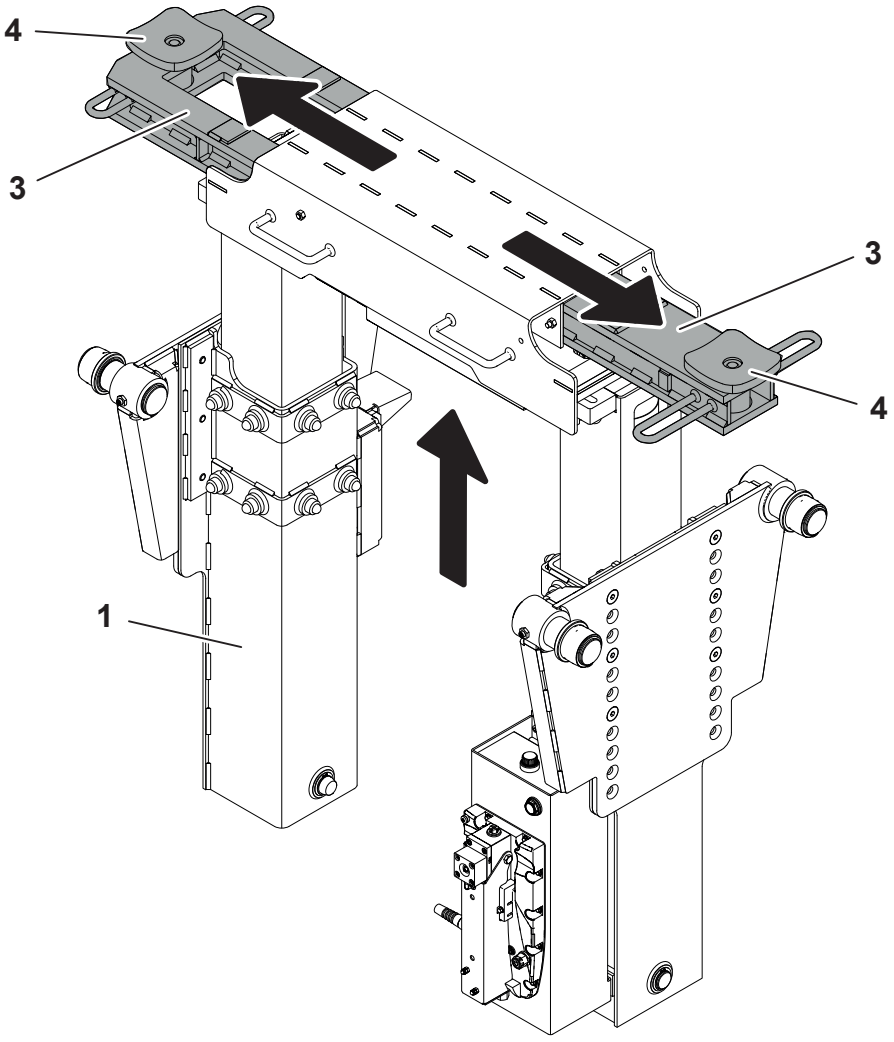
During the raising/lowering operations, the operator must stand so as to have full visibility over the lift and the load.

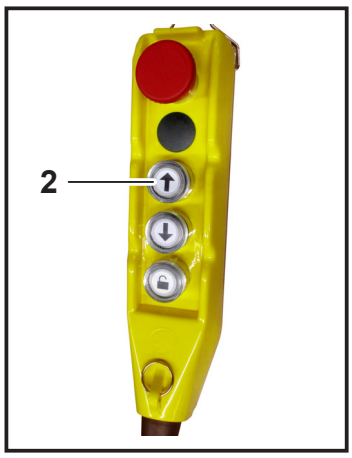
IMPORTANT

When operating on vehicles, make sure the supports are properly positioned under the lifting points.

Lifting:

- Position the lift (1) under the vehicle to be lifted;
- Press the button (2) on the pushbutton panel to raise the lift and allow the arms (3) to open.
- If necessary, extends the arms (3);
- Position the pads (4) under the vehicle lifting points;
- Press the button (2) on the pushbutton panel to raise the lift.





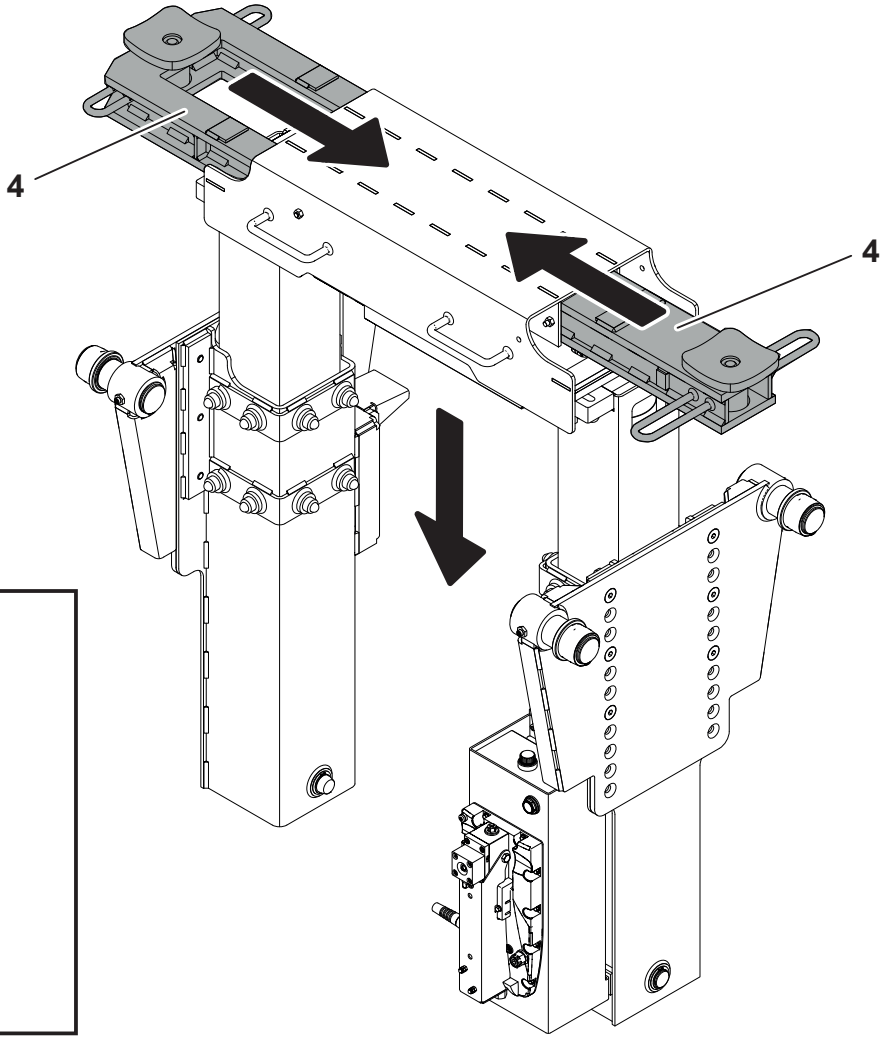
Parking:
- During the lifting phase, the mechanical safety device will lock on the support.

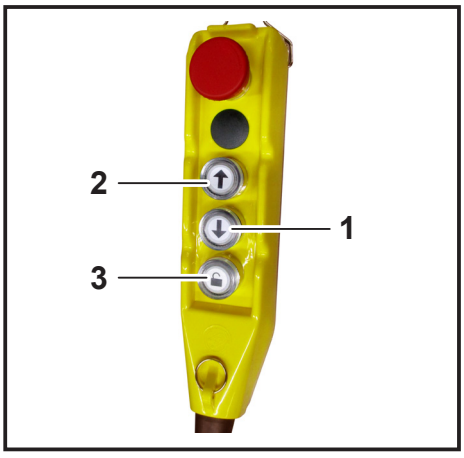
Lowering:
- Press button (1) to lower the lift.

CAUTION

If the lift does not lower, it means that it is against the mechanical safety device.

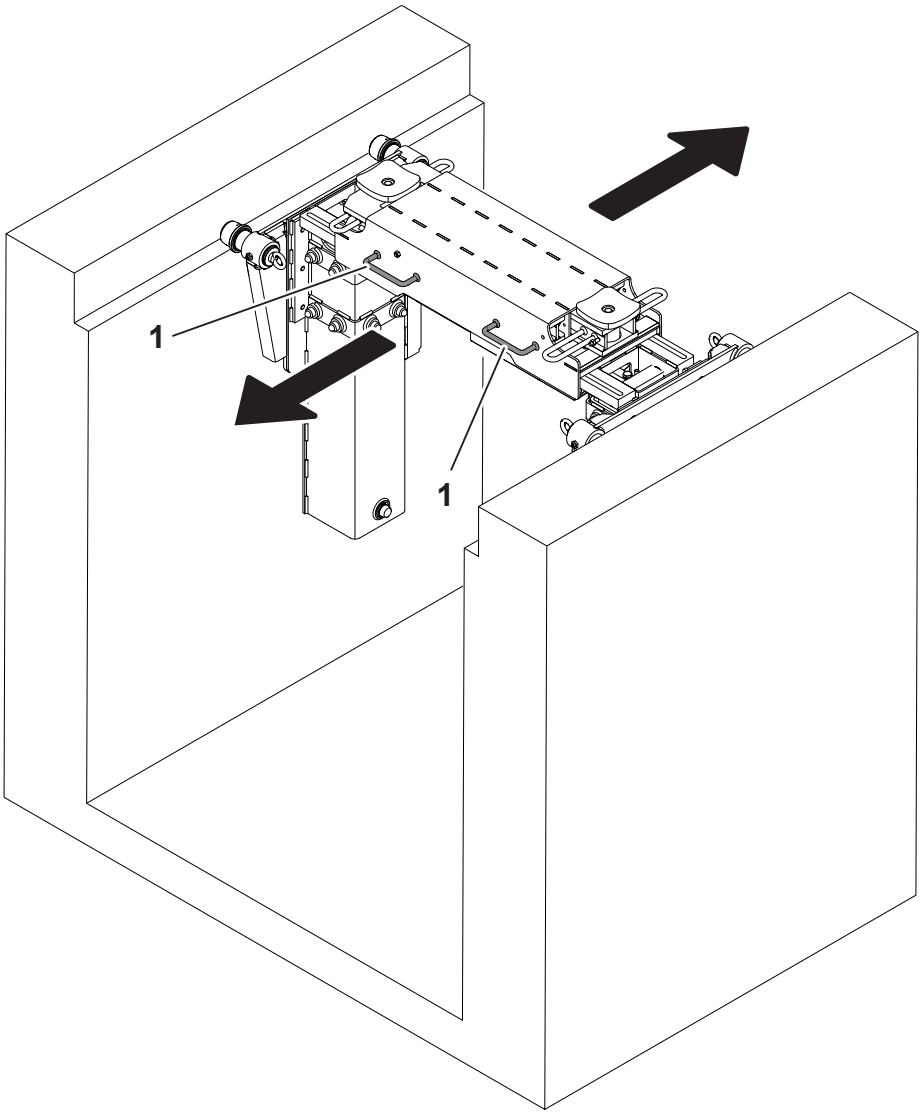
- Press button (2) to lift it briefly and remove the bridge from the mechanical support.
- Keep the back button (3) of the control pushbutton panel pressed at the same time of button (1) of the pushbutton panel.
- Withdraw the arms (4).





Handling:

- Operate on the grip handles (1) to move the lift along the guides located in the pit.



CHAP. 9 SAFETY DEVICES

9.1 General warnings

The safety components described in this paragraph are designed to guarantee optimal, safe machine operation. Therefore, we recommend inspecting them at regular intervals, checking that they are clean and that they operate correctly (where possible).

Safety functions have been implemented pursuant to EN ISO 13849-1:2015.

CAUTION

Unless authorised in advance, any tampering or modification of the equipment shall exempt the manufacturer from any liability regarding damage deriving from or attributable to the such actions.

CAUTION

Removing or tampering with the safety devices constitutes a violation of European safety standards

9.2 Safety devices

The lift is equipped with the following safety devices:

Accidental descent prevention device
The lift is equipped with automatically activated devices that prevent the lift from descending inadvertently.
These devices prevent the lift from descending by more than 100 mm in the event of a defect or leak in the hydraulic lifting circuit.
The devices are pneumatically disengaged when a descent manoeuvre is to be performed.

Manned controls
The bridge is fitted with a "manned" operating system, so that the ascent and descent movements are interrupted immediately if the operator releases the respective buttons.

Descent speed control valve.
Automatic valve located at the inlet of each cylinder, which controls the quantity of oil that flows.

Overload device
The lift is fitted with a valve that prevents overloading above the rated capacity.

CHAP. 10 MAINTENANCE

10.1 Maintenance activities

IMPORTANT

After the lift has been in service for 10 years, a residual service life assessment should be conducted by a qualified technician, preferably authorised the manufacturer.

10.1.1 Every 50 operating hours

Control unit oil level check

Check the tank of the control pneumatic-hydraulic pump of the lift and restore it as follows:
- Completely lower the lift.
- Remove the plug. The oil level must match the edge of the tank.
- If necessary, top up with **HLP22** oil or equivalent.

CAUTION

Always use oil with the same chemical characteristics; it is prohibited to use different types of oil, even just to top-up.

10.1.2 Monthly

Safety devices
Check proper operation of safety devices.

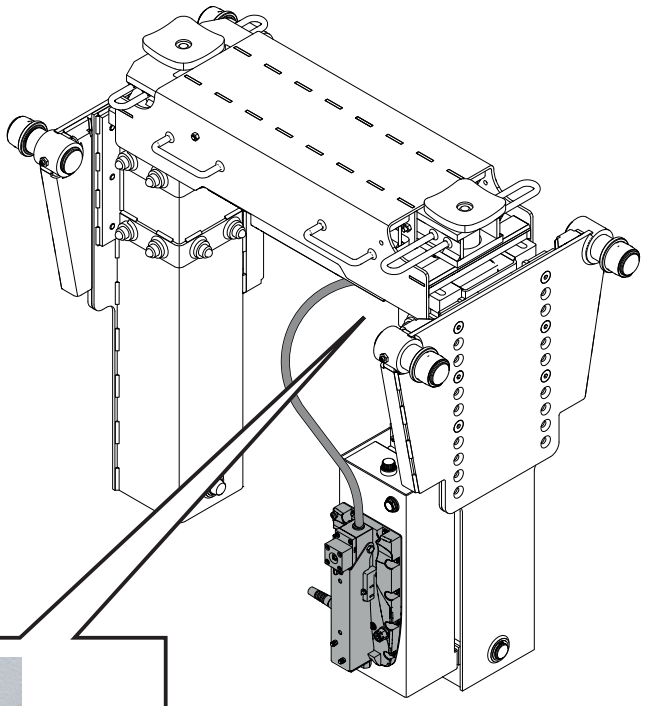
10.1.3 Every 300 operating hours

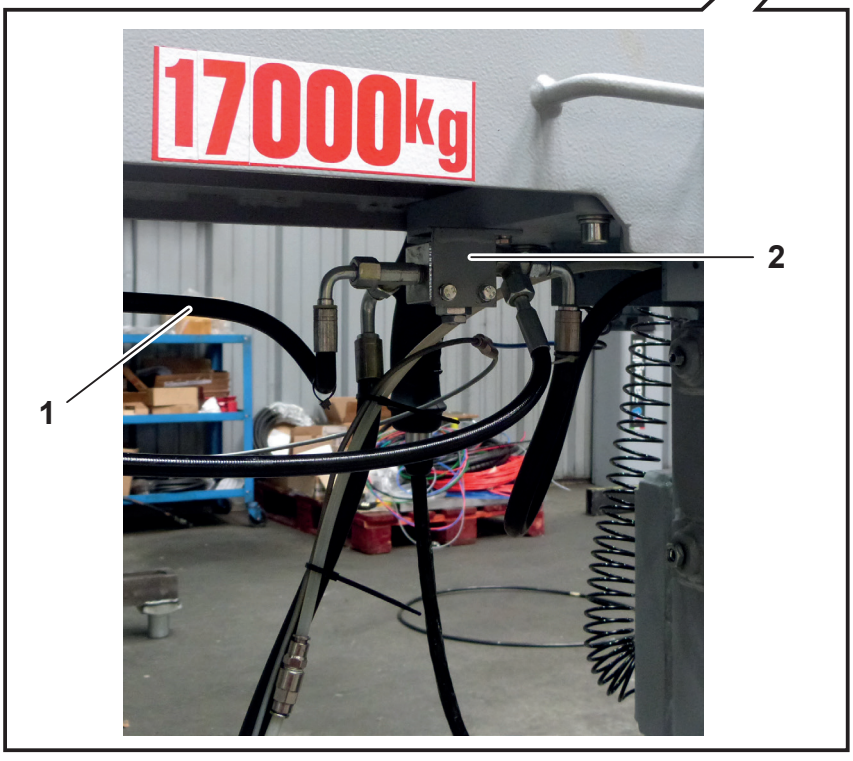
Changing the control unit oil

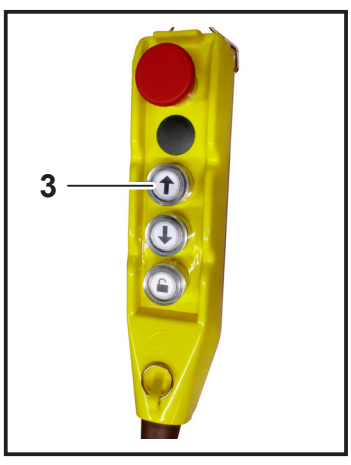
- Completely lower the lift.
- Disconnect the oil delivery pipe (1) from the distribution block (2).
- Insert pipe (1) into an appropriate container to collect oil.
- Operate the lifting command by pressing button (3) on the pushbutton panel.
- Oil is transferred from the tank of the lift into the relevant container.
- Load new oil into the lift tank.

CAUTION

Always use oil with the same chemical characteristics; it is prohibited to use different types of oil, even just to top-up.







10.1.4 Every three months

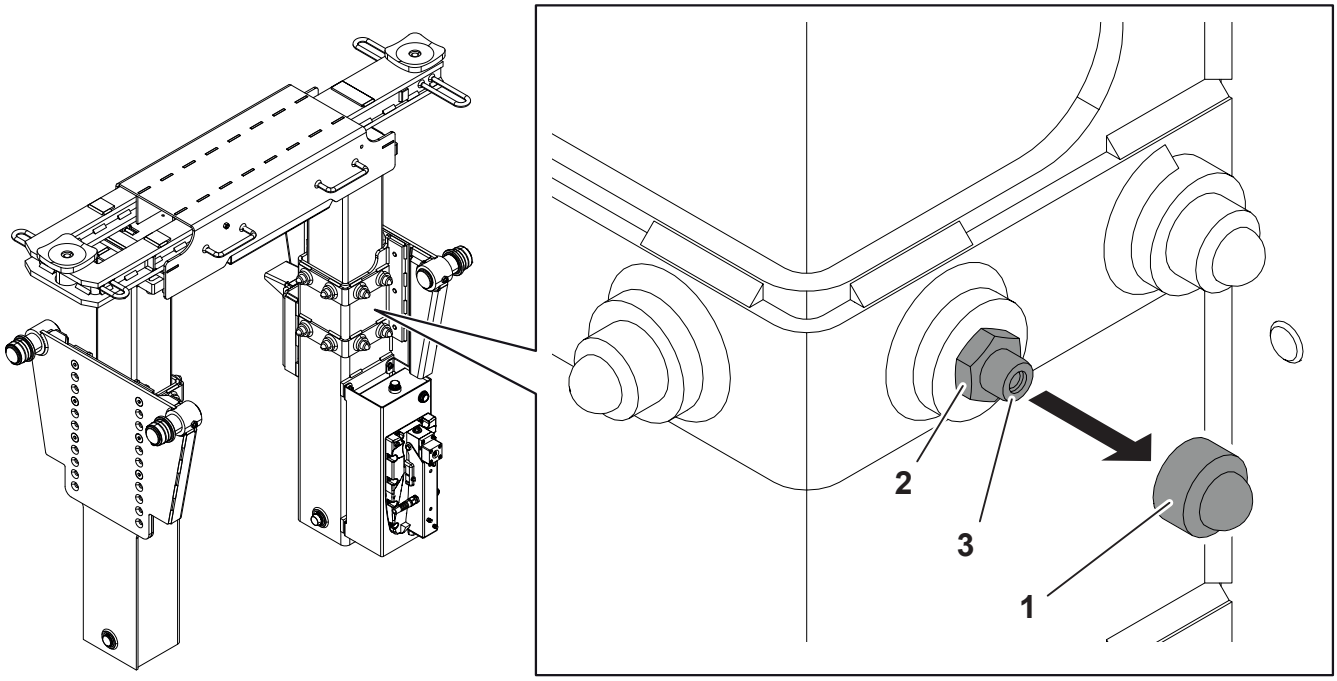
Sliding guides

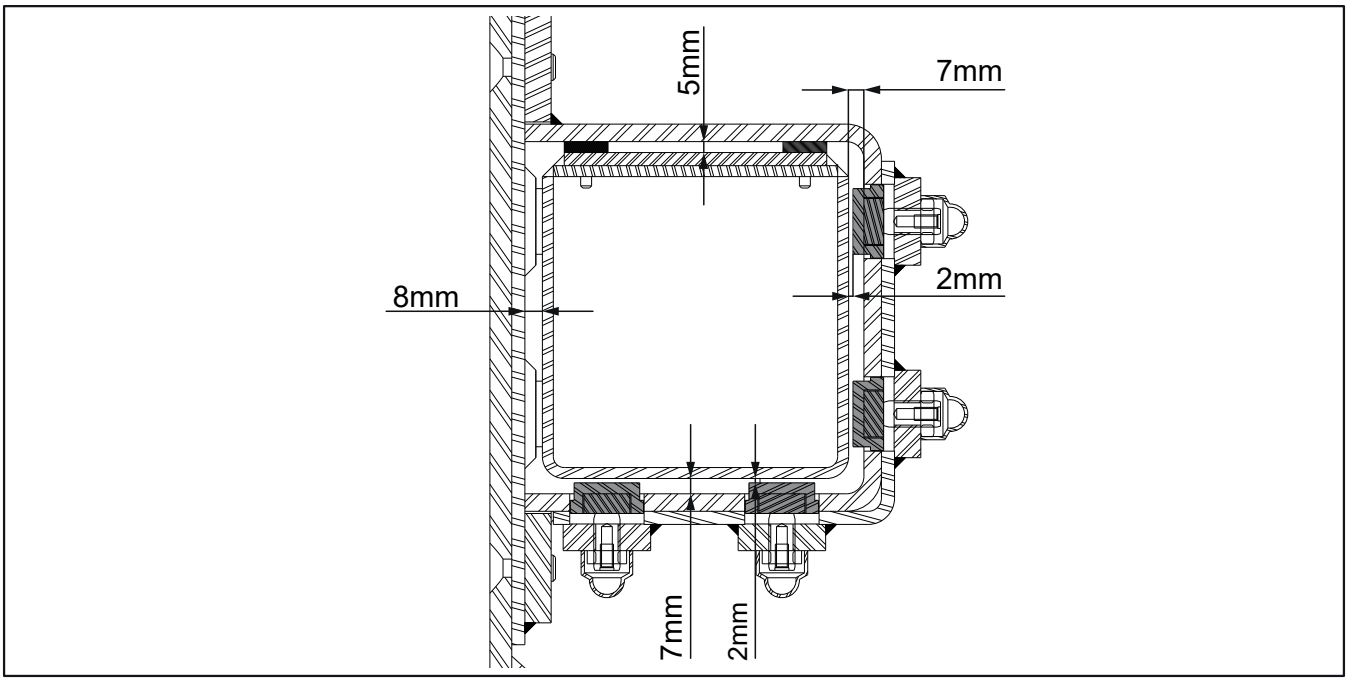
Lubricate the shoe sliding guides using grease.

10.1.5 Adjusting sliding shoes

The following is the procedure to adjust the sliding shoes:

- Completely lift the lift.
- Remove the plug (1).
- Loosen the fastening device (2).
- Operate on the fastening device (3) to adjust the distance of the shoe (4) from the internal column.
- Use an appropriate tool (calliper) to check the proper adjustment of the shoe.
- Tighten the fastening device (2).
- Reposition the plug (1).
- Lower the lift.





10.2 Scheduled maintenance plan

TIME interval	Type of MAINTENANCE	MAINTENANCE plan	POSITION*	CRITICALITY
DAY	STICKERS	Check and replace any damaged or illegible safety stickers.	On column On arm support	MEDIUM
	ARMS	Check the condition, wear or damage of pads and replace if necessary.	Arms	LOW
QUARTER	SLIDING GUIDES	Lubricate the shoe sliding guides with grease (without suspended solids).		HIGH
YEARLY	PAINTING	Check damages and abrasions on painted surfaces and sand and paint again if necessary, in order to prevent rust damage.		MEDIUM
	WELDING	Check any damage or cracks in the welding. Clean the area and repair the welding if necessary.		HIGH
	FASTENING SCREWS	Check the tightening of all fastening screws. Tighten with a torque wrench if necessary.		
	SHOES	Check shoes for damage and wear. Adjust or replace the shoes if necessary.		MEDIUM

10.3 Troubleshooting

The following is a list of some of the potential malfunctions that may occur when operating the bridge. The Manufacturer declines all and any responsibility for damage to people, animals and property attributable to use of the lift by unauthorised personnel. In the event of a malfunction, please contact the technical service department promptly to receive advice about how to carry out and repairs and/or adjustments in maximum safety, thus avoiding the risk of damage to people, animals and property.

Issues	Cause	Operation
Lift hard to slide and unstable load.	a) Improper standing of the sliding rollers (one of the rollers does not stand properly on the guides).	a) Check the support points and adjust the stopping screws of the extensions (see the procedure in the "INSTALLATION" paragraph).
The pump operates but does not deliver oil.	a) Low oil level.	a) Restore the oil level.
The lift operates when unladen but not when loaded.	a) Excessive load on the lift. b) Piston gaskets damaged. c) Improper seal of the overflow valve.	a) Check. b) Replace the gaskets. c) Contact the authorised technical support.
The pump reaches the maximum pressure but does not remain pressurised.	a) Check the hydraulic fittings. b) Check the ball of the overflow valve. c) Oil leaks from connected equipment.	a) Tighten if necessary. b) Clean or replace. c) Repair and check the sealing.
The pump does not start or stops during operation (before reaching the stall pressure)	a) Return spring broken. b) Air leak, check the sealing of the piston.	a) Replace. b) Replace if defective.
The pump operates but does not deliver oil	a) Low oil level. b) The pump does not prime.	a) Restore the oil level b) Operate the "RELEASE" control at the same time on the pushbutton panel and the air valve to start the motor. - Vent air - Pressurise the tank WARNING, MAX PRESSURE 0.5 Bar (7 P.S.I.) - Disassemble and clean
Low flow rate	a) Tank not ventilated b) Insufficient air flow rate c) Hydraulic reasons: - Check oil filter clogging - Air in the hydraulic circuit - Check the operation of the ball of the suction valve.	a) Ventilate the tank by means of the screw on the plug. b) The flow rate must be 250l/minute as a minimum. c) - Clean or replace - Vent the circuit - If necessary, add a copper washer or replace the fitting if the seat is damaged.
The pump does not reach maximum pressure	a) Check air pressure. b) Defective or dirty valve or gaskets.	a) 7 Bar are required (100 P.S.I.). b) Clean or replace.

Issues	Cause	Operation
The pump reaches the maximum pressure but does not remain pressurised	a) Check the hydraulic fittings.	a) Tighten if necessary.
	b) Check the ball of the delivery valve.	b) Replace the gaskets.
	c) Leaks from connected equipment.	c) Repair and check the sealing.
Excessive oil leaks from the air vent	a) Defective gaskets	a) Replace.
The oil tank pressurises with oil and air leaks from the valve	a) Air leaks from the gaskets.	a) Replace the gaskets.
	b) Tank too full of oil.	b) Check the level.
The pump continues pumping even after releasing the command from the pushbutton panel.	a) Defective gaskets.	a) Replace.
	b) Air valve spring broken or too weak	b) Replace.
The pump does not start after a period of inactivity	a) Defective gaskets.	a) Replace.
Difficult unladen descent	a) Improper operation of the 3/2 valve, the connections and the gaskets of the slave cylinder.	a) Check the condition of the 3/2 valve, the connections and the gaskets of the slave cylinder. b) Replace the 3/2 valve, the connections or the gaskets of the slave cylinder.
	b) Improper adjustment of the sliding shoes between columns.	c) Adjust the sliding shoes.

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CHAP. 11 SPARE PARTS

11.1 How to order spare parts

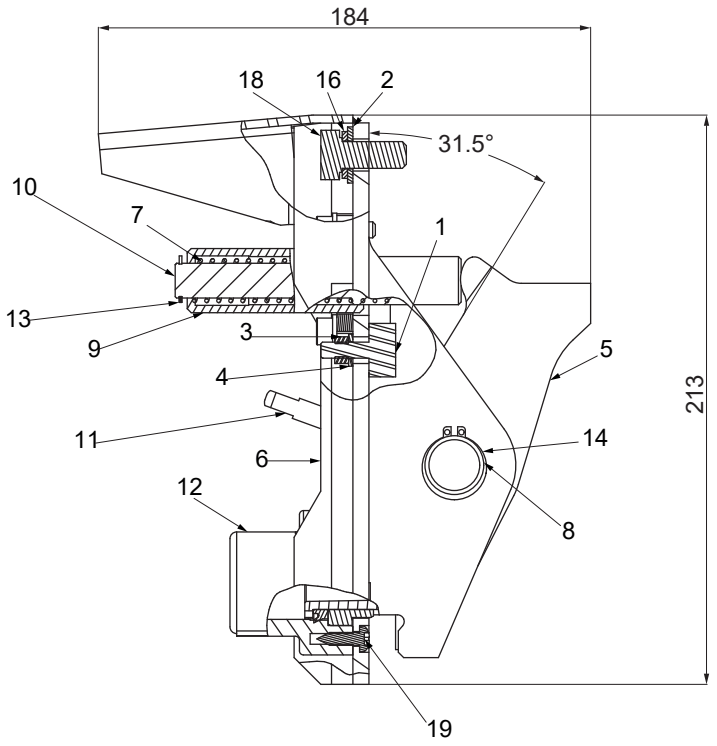
Indicate the following to receive the desired spare parts:

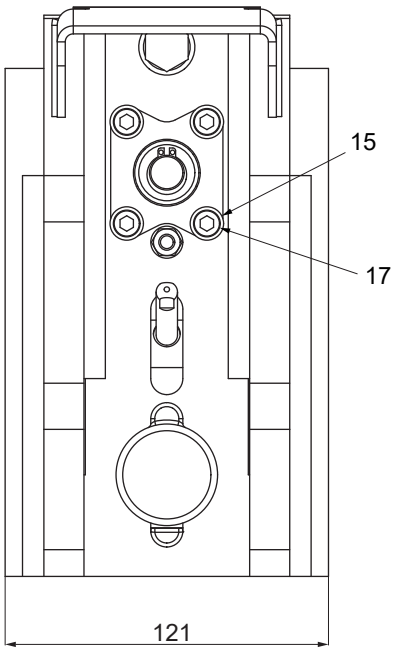
- Machine model
- Year of manufacture
- Serial number

On the first page of the manual:
0450-M.....-....

- Table number
- Reference number of the spare part.

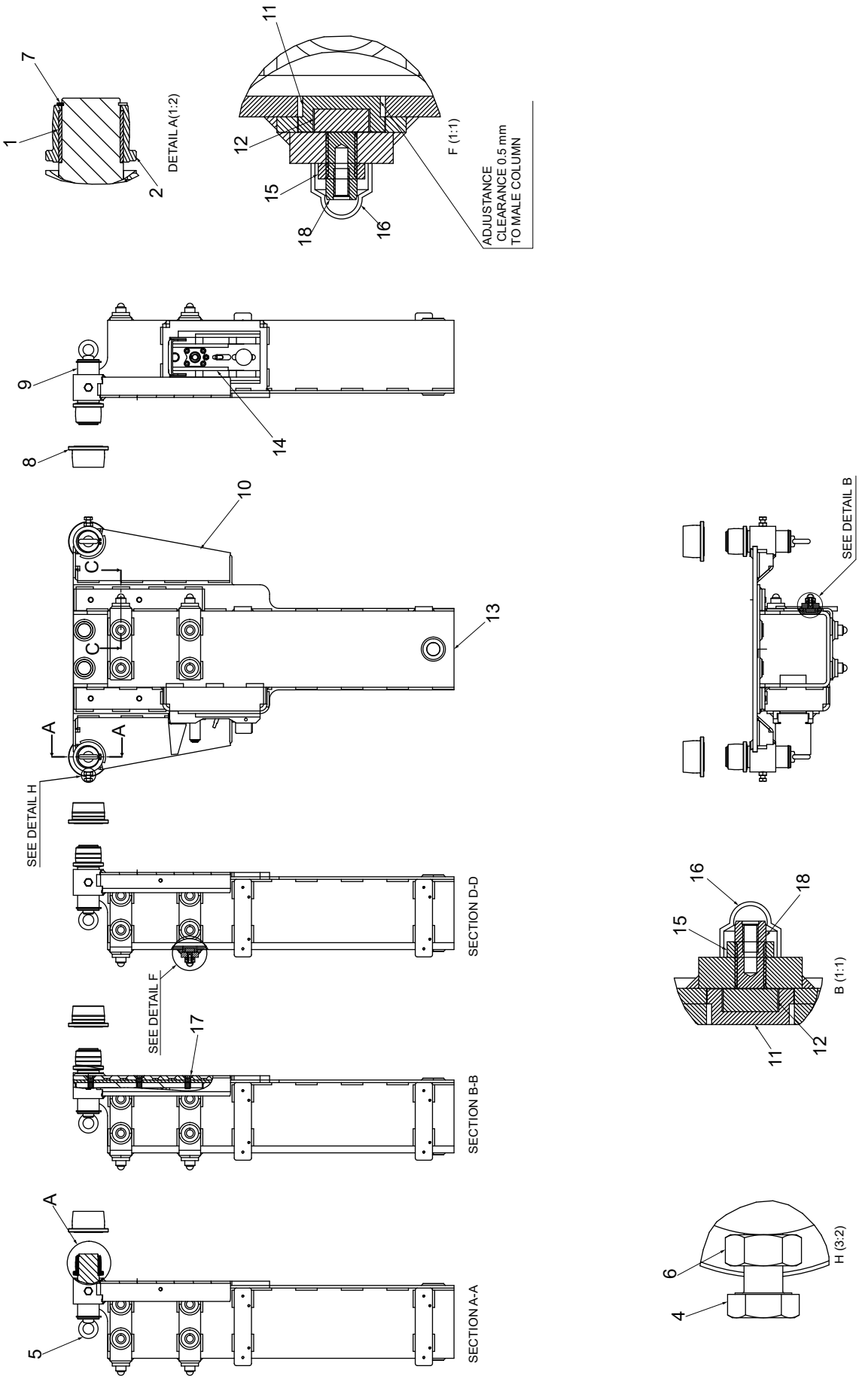
ASSEMBLY, ARREST MECHANICAL





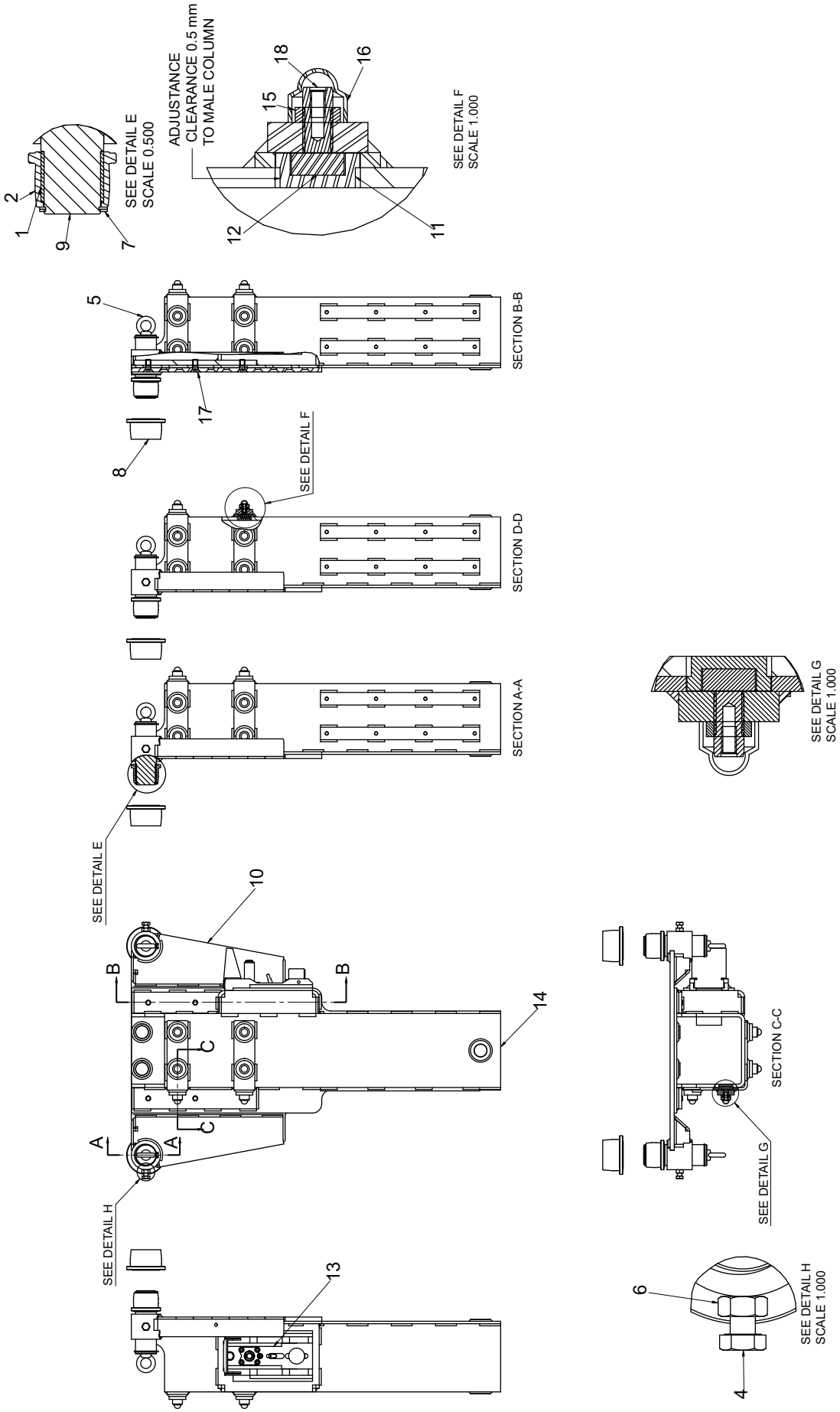
REF	CODE	DESCRIPTION	QTY
1	133352	BUFFER GN 352-20-10-M6-S-55	1
2	236007	FLAT WASHER 10,5X21X2 6592 ZN FOR M10	1
3	703101	HEXAGONAL NUT M6	1
4	703410	FLAT WASHER M6	1
5	045010720	HAMMER	1
6	04501083P	COMBINED HAMMER SUPPORT	1
7	045010890	SHORT TOOTHED STOP SPRING ZNT DIEDROGENATE	1
8	052613020	HAMMER PIN	1
9	052613191	SPRING SUPPORT	1
10	052613221	SPRING STEM	1
11	052613820	HAMMER LEVEL	1
12	057750010	MTG PISTON	1
13	243042	SEEGER EST.13 7435	1
14	243011	SEEGER EST.22 7435	2
15	236004	FLAT WASHER 6,4 6592 ZN FOR M6	4
16	238007	ELASTIC WASHER 10.5 1751 ZN	1
17	206019	V-TCEI M6X16 5931 ZN	4
18	203058	TE M10X25 5739 ZN	1
19	220010	TCB AUT. 4.8X16 6954AB DIN 79	2

ASSEMBLY, FEMALE FIXED COLUMN FOR MASTER CYLINDER



REF	CODE	DESCRIPTION	QTY
1	110864	BEARINGS GSM-4550-40	2
2	114588	ROLLER 45/59.5/35 - BALL, GL	2
3	243022	SEEGER EST.50 7435	2
4	700211	SCREW HEXAGONAL HEAD M10X25	2
5	702882	EYEBOLT M10 DIN 580	2
6	703103	NUT M10X1.5	2
7	704028	RING ROLLER	2
8	33353311	ROLLER UNIVERSAL FOR RIGID CHASSIS D75	2
9	04501006P	GUIDE PIN D50X151	2
10	04501015P	WA.VERTICAL VARIO	1
11	04501025P	SLIDER	10
12	04501033P	THICKNESS SLIDER	10
13	04501035P	WA, FEMALE COLUMN MASTER	1
14	045010480	ASSY, ARREST MECHANICAL	1
15	226015	HEXAGONAL LOW NUT UNI5589 M12	8
16	TPD12	NUTS AND BOLTS PROTECTIVE CAP M12	8
17	209072	UNI 5933 M12X30 SCREW TSPEI	6
18	210186	SCREW STEI BLACK BURNISHED UNI5923 M12X25	8

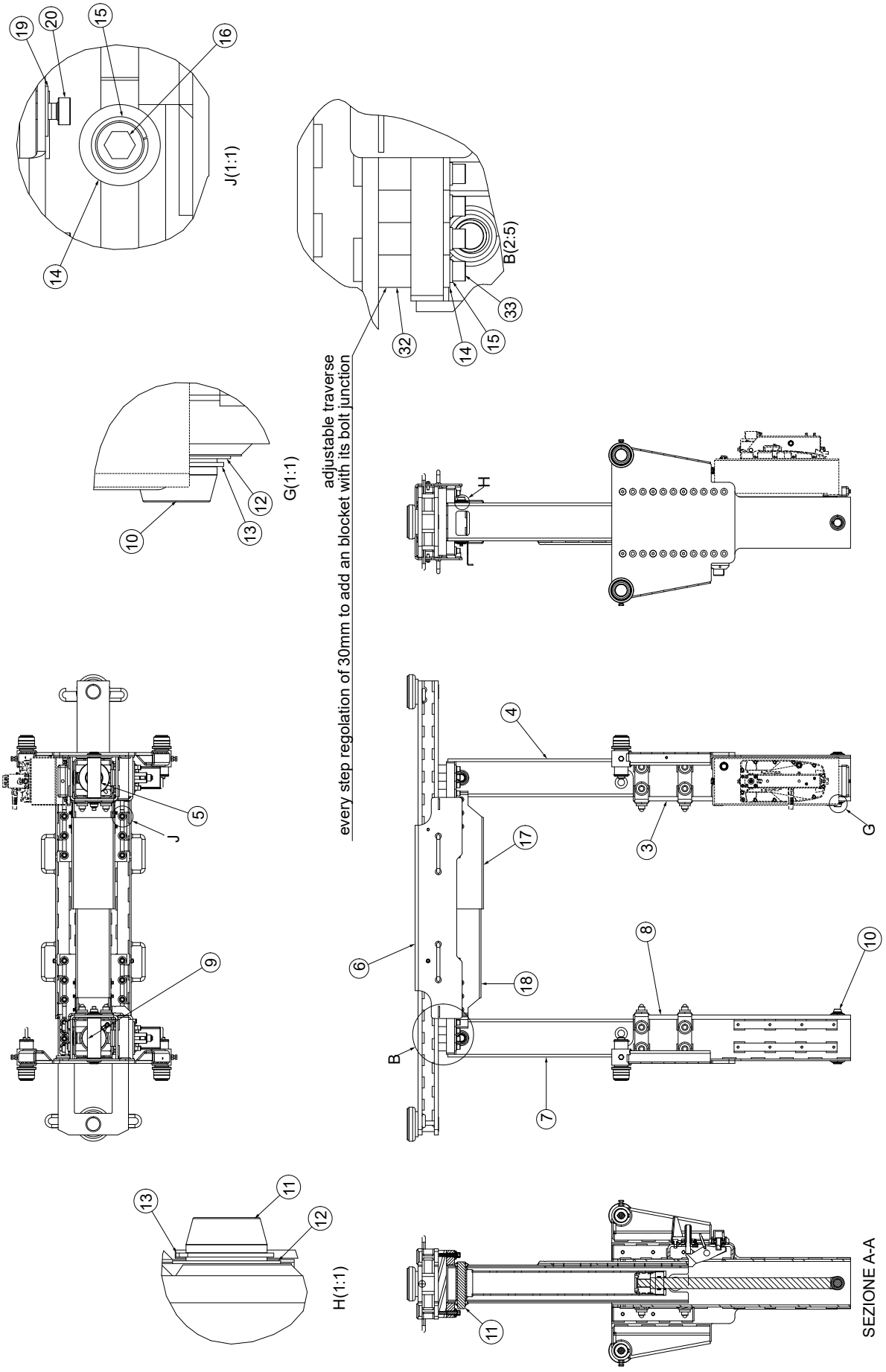
ASSEMBLY, FEMALE FIXED COLUMN FOR SLAVE CYLINDER



REF	CODE	DESCRIPTION	QTY
1	110864	BEARINGS GSM-4550-40	2
2	114588	ROLLER 45/59.5/35 - BALL, GL	2
3	243022	SEEGER EST.50 7435	2
4	700211	SCREW HEXAGONAL HEAD M10X25	2
5	702882	EYEBOLT M10 DIN 580	2
6	703103	NUT M10X1.5	2
7	704028	RING ROLLER	2
8	33253311	ROLLER UNIVERSAL FOR RIGID CHASSIS D75	2
9	04501006P	GUIDE PIN D50X151	2
10	04501015P	WA.VERTICAL VARIO	1
11	04501025P	SLIDER	10
12	04501033P	THICKNESS SLIDER	10
13	045010480	ASSY, ARREST MECHANICAL	1
14	04501070P	WA, FEMALE FIXED COLUMN FOR SLAVE CYL.	1
15	226015	HEXAGONAL LOW NUT UNI5589 M12	8
16	TPD12	NUTS AND BOLTS PROTECTIVE CAP M12	8
17	209072	UNI 5933 M12X30 SCREW TSPEI	6
18	210186	SCREW STEI BLACK BURNISHED UNI5923 M12X25	8

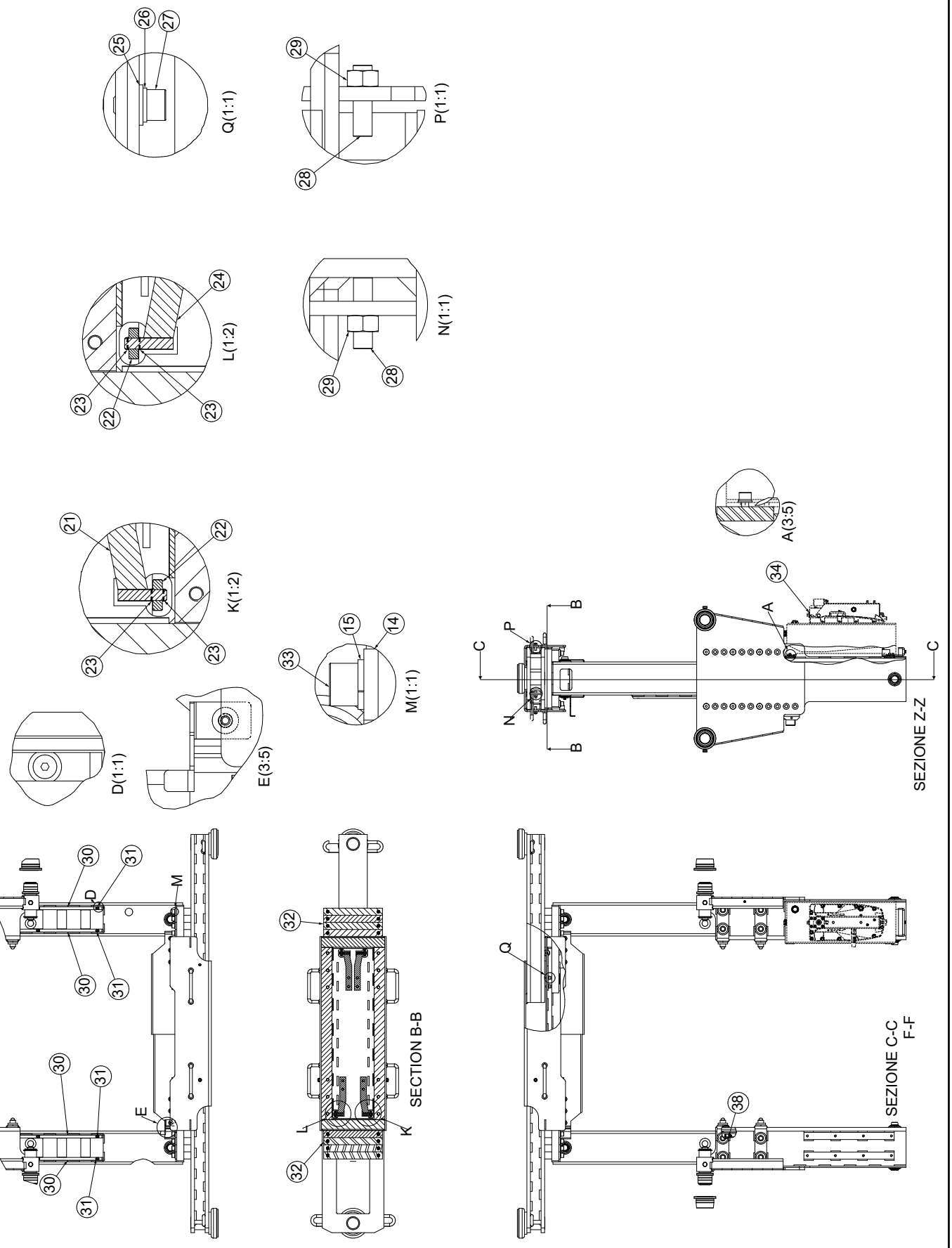
PORTAL LIFT ASSEMBLY

1/3



REF	CODE	DESCRIPTION	QTY
3	04501034P	ASSY, FEMALE FIXED COLUMN FOR MASTER CYL.	1
4	04501049P	WA.MALE COLUMN MASTER	1
5	04501056P	MTG. MASTER CYLINDER P1	1
6	04501000P	CROSSBAR WITH ARMS	1
7	04501068P	WA.MALE COLUMN SLAVE	1
8	04501069P	ASSY, FEMALE FIXED COLUMN FOR SLAVE CYL.	1
9	04501073P	MTG. CYLINDER SLAVE P2	1
10	04501065P	LOWER PIN	2
11	04501066P	UPPER PIN	2
12	237522	FLAT WASHER M30x42x1 DIN988	8
13	243016	SEEGER EST.30 UNI 7435	8
14	101914	FLAT WASHER M12 De30 ZN	28
15	238011	UNI 1751 M12 ELASTIC WASHER	28
16	206299	TCEI M12X55 UNI 5931	12
17	04501029P	MASTER CARTER	1
18	04501040P	SLAVE CARTER	1
19	236004	FLAT WASHER UNI6592 M6	13
20	206188	SCREW TCEI M6X12 UNI5931	12

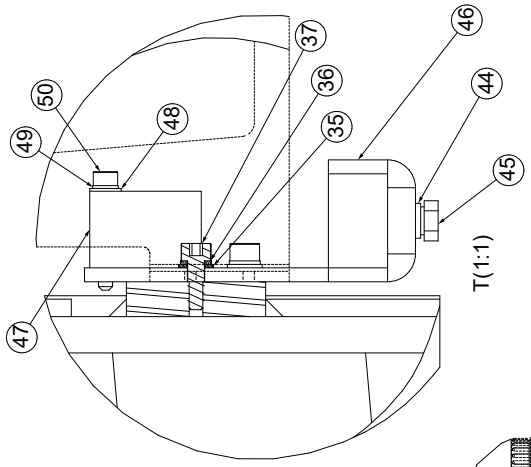
PORTAL LIFT ASSEMBLY	2/3

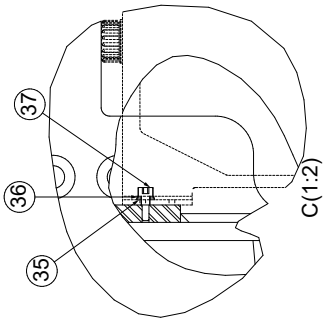


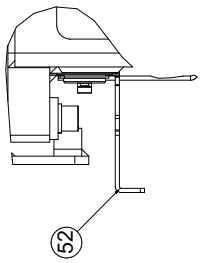
REF	CODE	DESCRIPTION	QTY
21	04501041P	WA.SX ROLLERS GUIDE FOR ARM	2
22	603030	RADIAL BEARING 6000 2Z	4
23	242003	ELASTIC RING UNI 7437 M10	8
24	04501047P	WA.DX ROLLERS GUIDE FOR ARM	2
25	236006	FLAT WASHER UNI 6592 M8	8
26	238006	ELASTIC WASHER UNI 1751 M8	8
27	206031	SCREW TCEI M8X14 UNI 5931	8
28	210040	UNI 5923 SCREW STEI M8X30	4
29	224009	HEXAGONAL NORMAL NUT UNI 5588	4
30	04501086P	SLIDER	4
31	209208	TPSEI M5X20 5933 ZN	12
32	04501087P	SUPPORT KIT	8
33	206359	SCREW TCEI M12X65 UNI 5931	16
34	314305	POWER UNIT BELL	1
35	236026	FLAT WASHER M5 UNI6592	6
36	238026	ELASTIC WASHER UNI1751 M5	6
37	206007	SCREW UNI5931 8.8 M5X14	6
38	132904	FITTING L 1/8	1
39	399008	WASHER BONDED S.1/4-12-13 PP45B	6
40	04501094P	DELIVERY MANIFOLD	2
41	950510050	BOLT DRILLED 1/4	2

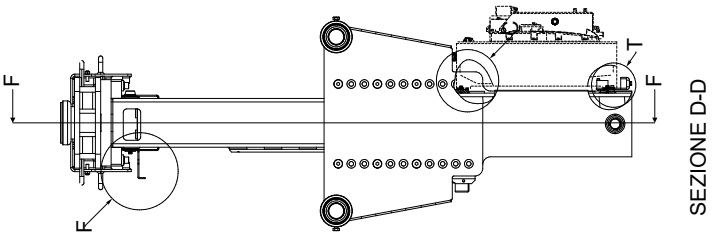
PORTAL LIFT ASSEMBLY

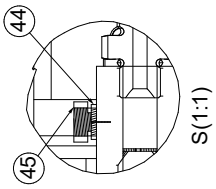
3/3

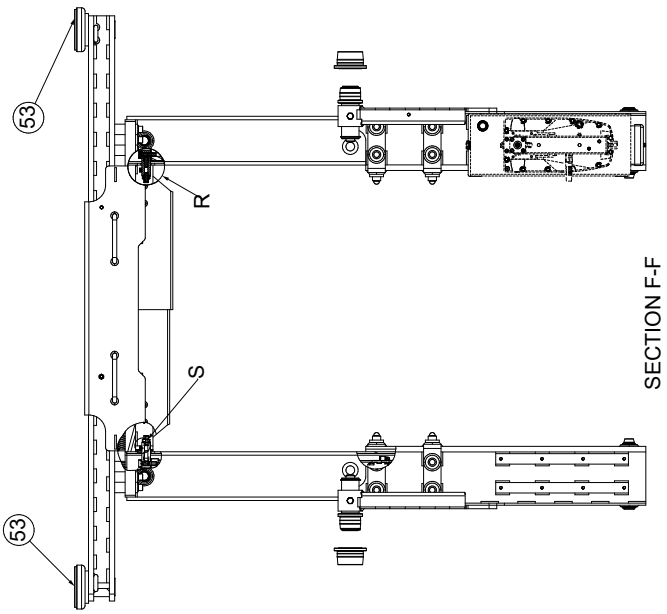


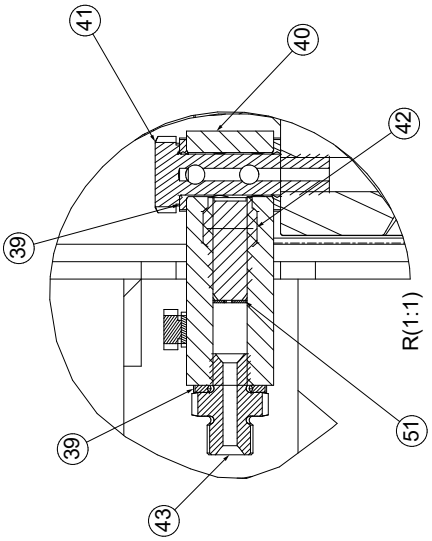












REF	CODE	DESCRIPTION	QTY
42	309546	VALVE CTR LOWERING STF14 L.6	**2**
43	312113	NIPPLES 1/4M X 1/4M A.001702	**2**
44	250001	WASHER COPPER 10X6X1.5	**3**
45	203126	TE M6X8 5739 ZN	**3**
46	04501097P	OIL RECOVERY TANK WELDED	**1**
47	309154	3/2-WAY VALE, G1/8 OR G1/4 CAMOZZI 338-035	**1**
48	236025	FLAT WASHER UNI 6592 M4	**2**
49	238025	ELASTIC WASHER UNI 1751 M4	**2**
50	206356	SCREW TCEI UNI5931 M4X30	**2**
51	239019	TOOTHED WASHER E.6,4 6798A ZN M6	**2**
52	133019	SUPPORT FOR PNEUM.FITTING	**1**
53	3364001	RUBBER PAD LIFT	**2**

CHAP. 12 DISPOSAL-SCRAPPING

12.1 DISASSEMBLY

The lift should only be disassembled by authorised specialised personnel.

(1) Drain the oil tank. Dispose of the hydraulic oil and operating fluids as described in chapter 11.3.
(2) Eliminate any grease and other chemicals. Dispose of as described in chapter 11.3
(3) The lift should be disassembled by repeating the assembly procedure in reverse order (see chap. 7).

12.2 STORAGE

- When storing the lift for extended periods, disconnect the power sources, drain the tank(s) containing the operating liquids and protect those parts that could be damaged if exposed to build-ups of dust.
- Grease any parts that might be damaged if they become too dry.
- Before re-starting the lift, replace the seals indicated in the spare parts section.

12.3 DISPOSAL

Environmental procedures for disposal

Prevention of environmental risks.
Avoid contact with or inhalation of toxic substances, such as hydraulic fluid.
Oils and lubricants are water pollutants as defined by the terms of the WGH water management law. Always dispose of these ecologically in compliance with the locally applicable regulations.
Mineral oil-based hydraulic oil is both combustible and a water pollutant. Refer to the safety data sheet for disposal information.
Make sure that no hydraulic oil, lubricants, or cleaning materials contaminate the soil or are disposed of in the sewage system.

Packaging
Do not dispose of packaging as household waste! The package contains some recyclable materials, which should not be disposed of as household waste.

(1) Dispose of packaging materials in accordance with the locally applicable regulations.

Oil, grease and other chemicals.

(1) When working with oils, greases and other chemicals, always comply with the applicable environmental regulations.
(2) Dispose of oil, fats and other chemicals in accordance with the locally applicable regulations.

Metals
Such materials should always be disposed of properly by a certified company.

CHAP. 13 DECLARATION OF CONFORMITY

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INSTALLATION REPORT	
CHECK PERFORMED **TO BE COMPLETED BY THE INSTALLER**	
Lift model_____	**Serial number**_____
Check the floor is suitable	☐
Ascent and descent command	☐
Checking the tightening torque	☐
Checking proper sliding of the arms	☐
Check proper insertion and disconnection of mechanical stopping devices	☐
Checking lubrication of sliding guides	☐
Checking the presence and location of stickers	☐
Capacity	☐
Warnings	☐
Serial number	☐

Signature and stamp of the installation technician

Installation date

_____ _____

PERIODIC INSPECTION										
Check performed	**date**	**signature**	**date**	**signature**	**date**	**signature**	**date**	**signature**	**date**	**signature**
Ascent and descent command	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Checking the tightening torque	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Checking proper sliding of the arms	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Check proper insertion and disconnection of mechanical stopping devices	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Checking lubrication of sliding guides	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Checking the presence and location of stickers	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Checking that lifting pads are undamaged	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Capacity	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Warnings	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Serial number	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

UNSCHEDULED MAINTENANCE AND REPAIRS