TWO POST LIFT

MM Superlift 4000 UC (007935018175)

USERS MANUAL

INSTRUCTION & MAINTENANCE MANUAL

Read this entire manual carefully and completely before installation or operation of the lift

TWO POST LIFT INSTRUCTION MANUAL

Index **Page**

1. Packing, transport and storage

All packing, lifting, handling, transport and unpacking operations are to be performed exclusively by expert personnel.

1.1 Packing

Standard configuration	1＃carton
Power unit and accessories	1pcs

Standard configuration	2＃carton
Main and sub column	1set
Extendable column	1set
top beam	1pcs
Lifting arm	4pcs
Control box	1pcs
Accessory	1pcs

Table 1

1.2 Transport

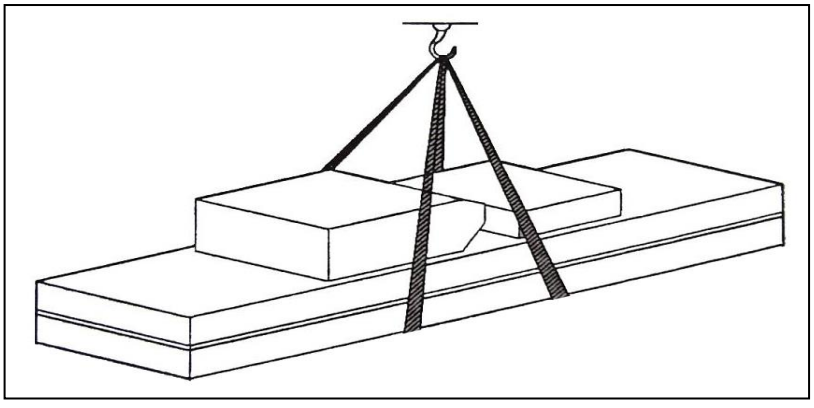
Packing can be lifted or moved by lift trucks, cranes or bridge cranes. In case of slinging, a second person must always take care of the load, in order to avoid dangerous oscillations.

During loading and unloading operation, goods must be handled by vehicles or ships.
At the arrival of the goods, verify that all items specified in the delivery notes are included. In case of missing parts possible defects or damage may due to transport operations.

If finding missing parts, possible defects or damage due to transport, one should examine damaged cartons according to **<<Accessories Packing List.>>** to verify the condition of damaged goods and missing parts, also the person in charge or the carrier must be immediately informed.

The machine is heavy goods! Don't take manpower load and unload and transporting way into consideration, the safety of working is important.

Furthermore, during loading and unloading operation goods must be handled as shown in the picture. (**Picture 1**)



Picture 1 （Goods-lifted）

1.3 Storage

-The machine equipment should be stocked in the warehouse, if stocked outside should do the disposal well of waterproof.

-Use box truck in the process of transport, use container storage when shipping.

-The temperature for machine storage : -25ºC-- 55ºC

2. Manual introduction

This manual has been prepared for workshop personnel expert in the use of the lift operator and technicians responsible for routine maintenance fitter.

Workers should read the **<<Instruction & Maintenance Manual>>** carefully before carrying out any operation with the lift. This manual contains important information regarding:

-The personal safety of operators and maintenance workers.

-Lift safety.

-The safety of lifted vehicles.

Several tips should be done by the operator as follow:

1. Well conserving the manual. Manufacturer owns the right to make little change for the manual owing to the improvement of technology.
2. Good disposal the used oil.
3. The machine must be demolished by authorized technicians, just like for assembling

Important safety instructions

2.1 . Important notes

We provide a 24-month warranty for the entire device, during which any malfunctions of the lift will be properly repaired. However, we do not accept any liability for any negative effects resulting from improper assembly and operation, work with overload or the influence of ground conditions that do not meet the requirements.

This two-post lift connected at the top has been specially designed for lifting motor vehicles whose weight falls within its maximum lifting capacity (4000 kg). Users may not use it for other purposes. Otherwise, the manufacturer, as well as the distributor, shall not be liable for any accidents or damage to the lift, and any accompanying damage. Pay special attention to the lifting capacity plate on the lift and never attempt to lift vehicles of a different weight.

Before starting work with the device, read this manual carefully to avoid financial damage and accidents caused by incorrect operation. Without expert advice, the user may not make any changes to the controller or any mechanical component.

2.2 User qualifications

2.2.1 Only suitably trained, qualified personnel may operate the lift.

2.2.2 The electrical connection must be carried out by a qualified electrician.

2.2.3. Unauthorised persons may not be present in the lifting area.

2.3 Hazard information

2.3.1 Do not mount the lift on any asphalt surface or loose ground

2.3.2 Read and understand all safety warnings before operating the lift.

2.3.3 The lift, unless specially designed at the customer's request, is not suitable for outdoor use.

2.3.4 Keep limbs away from all moving parts. Watch your feet when lowering the lift.

2.3.5 Only suitably trained persons may operate the lift.

2.3.6 Do not wear ill-fitting clothing (e.g. loose clothing, frills, ties, etc.) that could get caught in the moving parts of the lift.

2.3.7 To prevent accidents, the area around the lift must be tidy and free from unnecessary objects.

2.3.8 The lift is designed to lift vehicles with a maximum weight within the lifting capacity (4000 kg).

2.3.9 Before starting work near or under the vehicle, ensure that the safety locks are engaged.

2.3.10 Ensure that the lift arm pads are set in the positions recommended by the vehicle manufacturers and that when gradually raising the vehicle to the desired height, operators should ensure that the vehicle does not tilt, tip or slide off the lift.

2.3.11 Always check the condition of the lift to ensure that the moving parts are in good working order and operating properly (synchronisation of operation is ensured). Carry out regular maintenance and in case of any irregularities immediately stop using the lift and contact our service for assistance.

2.3.12 At the end of work with the lift, lower it to the lowest position and remember to turn off the power.

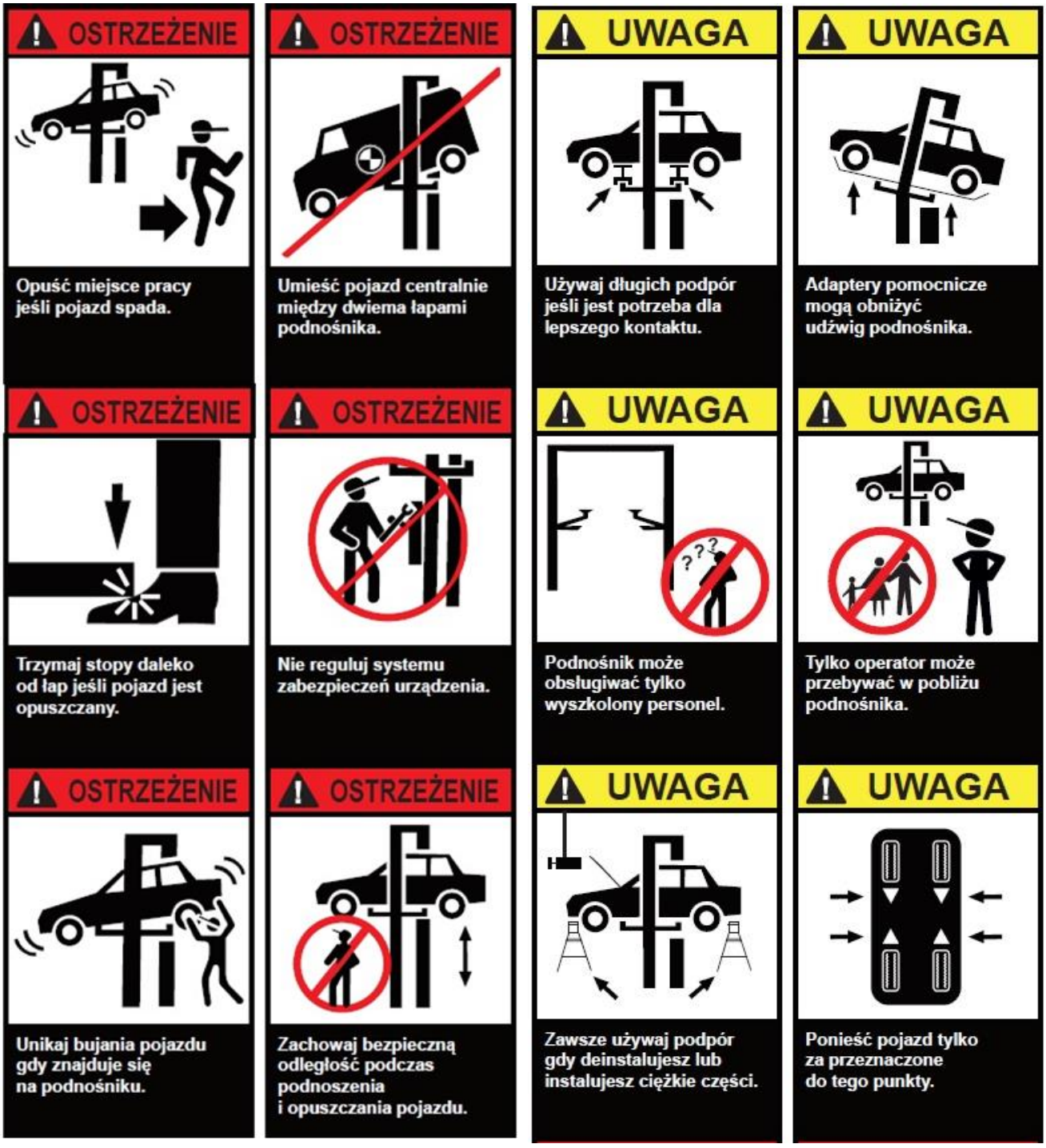
2.3.13 Do not modify any parts of the lift without seeking advice from the manufacturer.

2.3.14 If the lift is not to be used for a long time, users should:
a) Disconnect the power supply;
b) Empty the oil tank;
c) Lubricate the moving parts: Lubricate with a special PTFE rope grease that protects, acts anti-corrosion and prevents dust from sticking. Do not use bearing grease (e.g. ŁT 43 type), the use of which causes faster wear of the ropes.

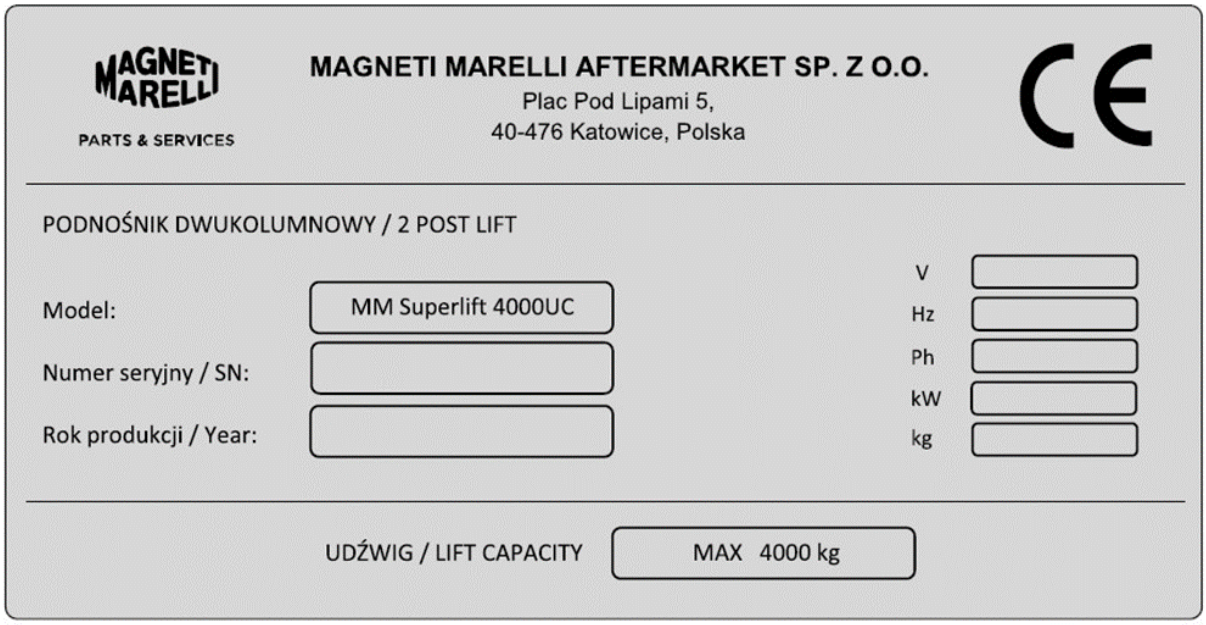
2.4 Training
Only properly trained persons may operate the lift. If necessary, we can provide professional training for users.

Note: To protect the environment, dispose of used oil properly.

2.5. Warning signs
All warning labels on the machine are intended to draw the user's attention to safety issues. Labels must be kept clean and replaced if they become detached or damaged. Carefully read and remember the meaning of each label.


OSTRZEŻENIE
Opuść miejsce pracy jeśli pojazd spada.
OSTRZEŻENIE
Umieść pojazd centralnie między dwiema łapami podnośnika.
UWAGA
Używaj długich podpór jeśli jest potrzeba dla lepszego kontaktu.
UWAGA
Adaptery pomocnicze mogą obniżyć udźwig podnośnika.
OSTRZEŻENIE
Trzymaj stopy daleko od łap jeśli pojazd jest opuszczany.
OSTRZEŻENIE
Nie reguluj systemu zabezpieczeń urządzenia.
UWAGA
Podnośnik może obsługiwać tylko wyszkolony personel.
UWAGA
Tylko operator może przebywać w pobliżu podnośnika.
OSTRZEŻENIE
Unikaj bujania pojazdu gdy znajduje się na podnośniku.
OSTRZEŻENIE
Zachowaj bezpieczną odległość podczas podnoszenia i opuszczania pojazdu.
UWAGA
Zawsze używaj podpór gdy deinstalujesz lub instalujesz ciężkie części.
UWAGA
Ponieść pojazd tylko za przeznaczone do tego punkty.

Nameplate



3. Description of the machine

3.1 Machine Application

Two post lift can lift each kind of vehicle whose weight is less than 4000kg, suitable for use in vehicle tests, maintenance and tyre mounting/demounting.

Lifts are designed and built to lift vehicles and hold them in the elevated position in an enclosed workshop. All other uses of the lifts are unauthorized. In particular, the lifts are not suitable for:

-Washing spray work;

-Use in outdoors;

-Creating lifting personnel;

-Use to lift loose-packed and fractured goods

-Use as elevator;

-Use to lift the titled vehicles.

The manufacturer is not liable for any injury to persons or damage to vehicles and other property caused by the incorrect and unauthorized use of the lifts.

3.2 Structure Features

- Electrical lift oil tube is fully hidden, good-looking appearance.
-The international standard of mechanical safety device and electrical unlocking device are totally united as one.
-Double insurance self-locking protection device, safe and easy operation.
-Using two wire ropes synchronous connection, forcing two slider moving simultaneously, effectively prevent the vehicle tilting
-The lowest lifting height is 110mm, adapted to high-grade car maintenance.
-Equipped with high precision to the lifting arm rotating angle locking device to prevent accidents.
-Heavy loading chain, safe and reliable.

The lift consists of 2 columns, 2 extension columns, 2 trolleys, 4 lifting arms, upper beam, unit, control box. The engine drives a gear pump, which pumps hydraulic oil through a one-way valve and the oil hose supplies it to the lower space of the oil cylinder. In this way, the piston rod is pushed by the oil pressure to the oil cylinder, which drives the lifting arm synchronously with the steel cable and the wheel and chain. After completing the vehicle lifting operation to the desired height, we press the "Lock" button. The lower solenoid valve is activated and the trolleys are locked. When the lift is lowered down, the arms are raised up for 2-3 seconds and then the arms move down. The vehicle weight and the lift pump the hydraulic oil into the oil tank.

3.3 Equipment

-Machine basement (The position and space of equipment installation)
-Machine frame (The main structure of lift and insurance institution)
-Power unit（Hydraulic control part）
-Control box (Machine-controlled part)

Base structure

-Make of cement concrete structure.

3.4 Frame

-Make of column , lifting arm, and top beam.

Power unit

- Make of hydraulic pump、pump motor and oil box.

3.5 Control box

- Under the control box is hydraulic oil tank and hydraulic pump, valve and other control system. On the control box is electrical system.

Function of each valve on the power unit	
Name	Function
Gear pump	Extract hydraulic oil and provide high pressure.
Connecting block	Connect the motor and the gear pump.
Motor	Provide power for the gear pump.
Overflow valve	Adjust oil pressure.
Pressure-compensated valve	Control the speed of falling.
Lowering solenoid valve	Control flow of the hydraulic oil.
One-way valve	Control the one-way flow of hydraulic oil.
Ball valve	Debugging and control the returned oil.

Table 2

4. Specifications

4.1 Main technical parameter

Machine type	4T
Machine weight	670kg
Lifting capacity	4000kg
Machine lift height	1910mm
Platform initial height	110mm
Machine height	3750mm
Machine width	3420mm
Machine lifting time	≤45s
Machine descent time	about 45s
Standard power supply	3/N/PE~380V, 50Hz,10A
Whole machine power	2.2kw
Hydraulic oil	8L corresponds to wearable hydraulic oil
Working temperature	5-40℃
Working humidity	30-95%
Noisy	< 70db
Storage temperature	-25℃~55℃

Table 3

Requirements

-Concrete type 425#, the period of desiccation is 15 days

-Clean the basic layer, thickness of concrete≥150mm, the leveling of whole length≤10mm

Power unit：

Voltage……380V,50Hz

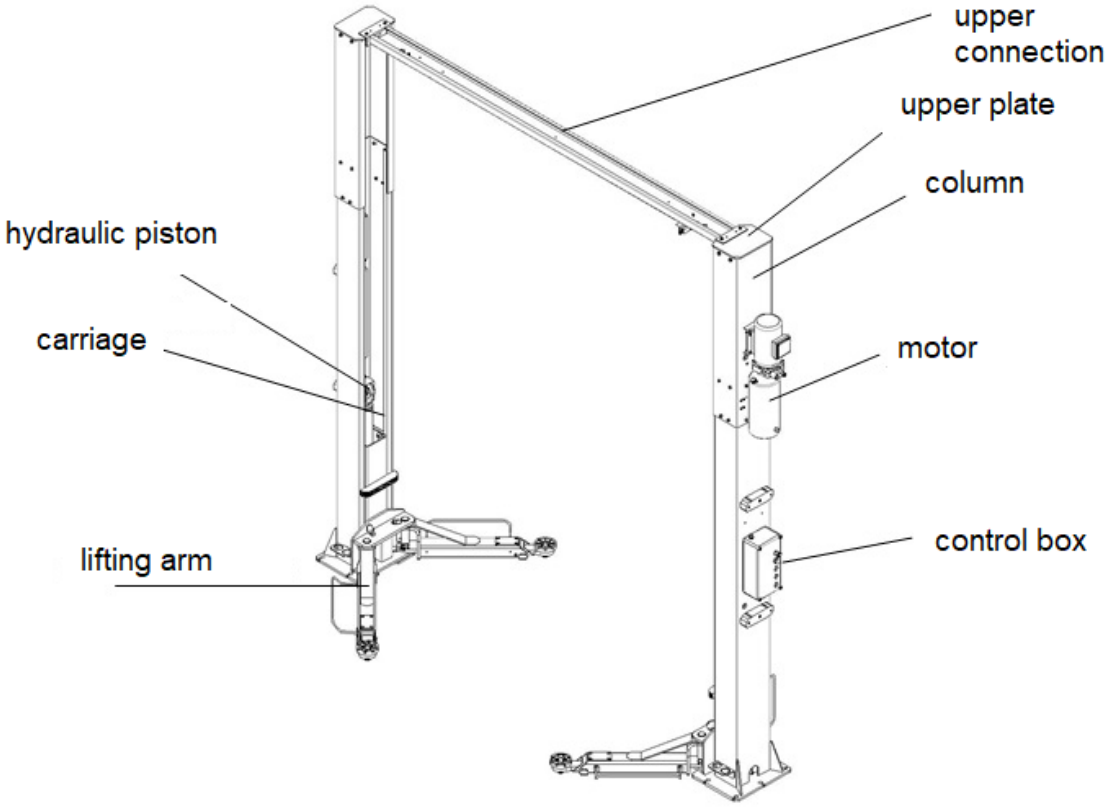
Model……gear pump

Max flux……2.7cc/r

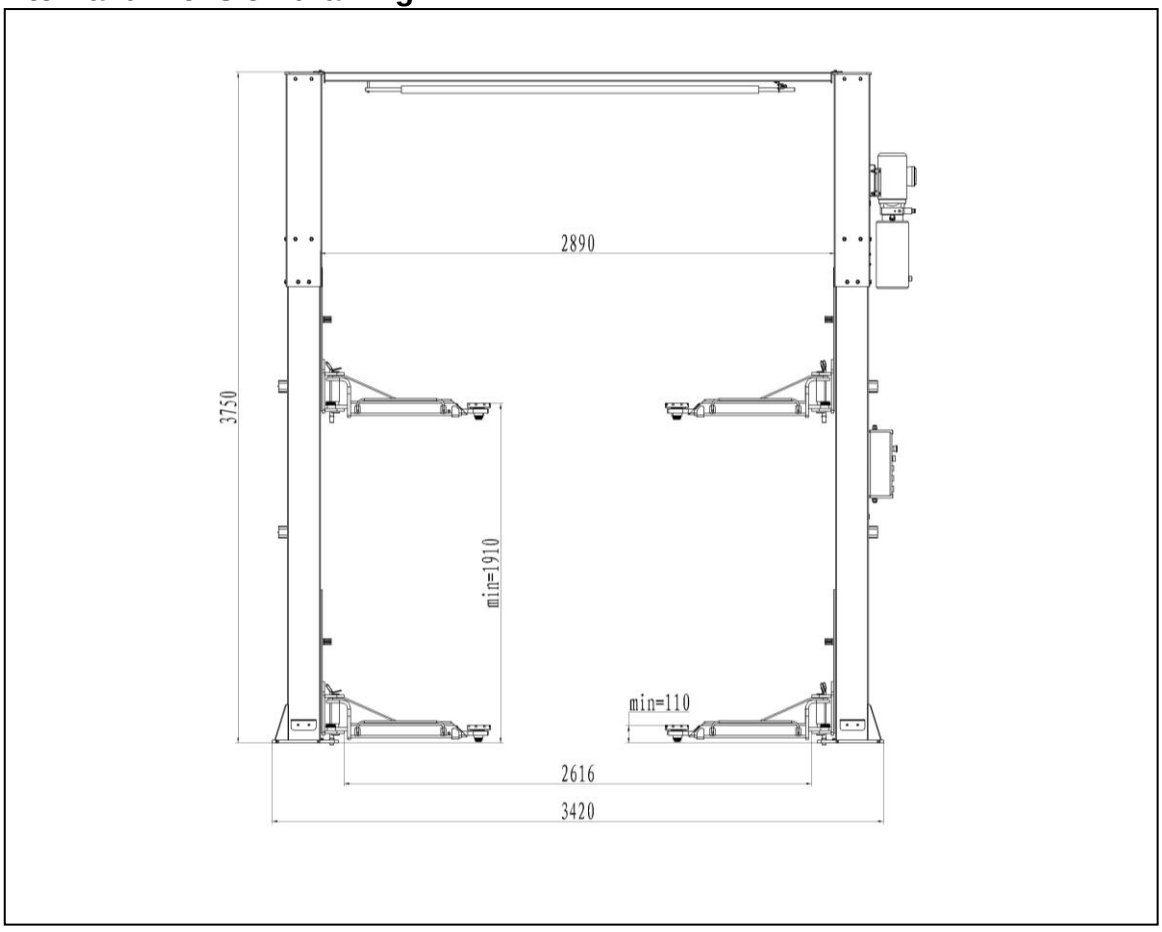
Max working pressure……18Mpa

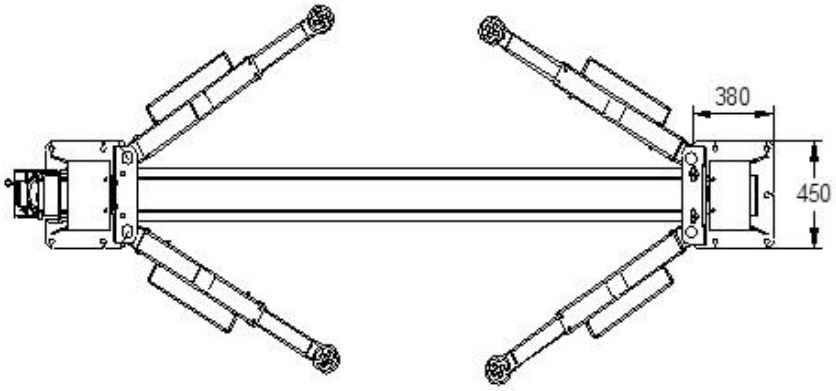
Hydraulic oil：use N32# hydraulic oil in winter

use N46# hydraulic oil in summer



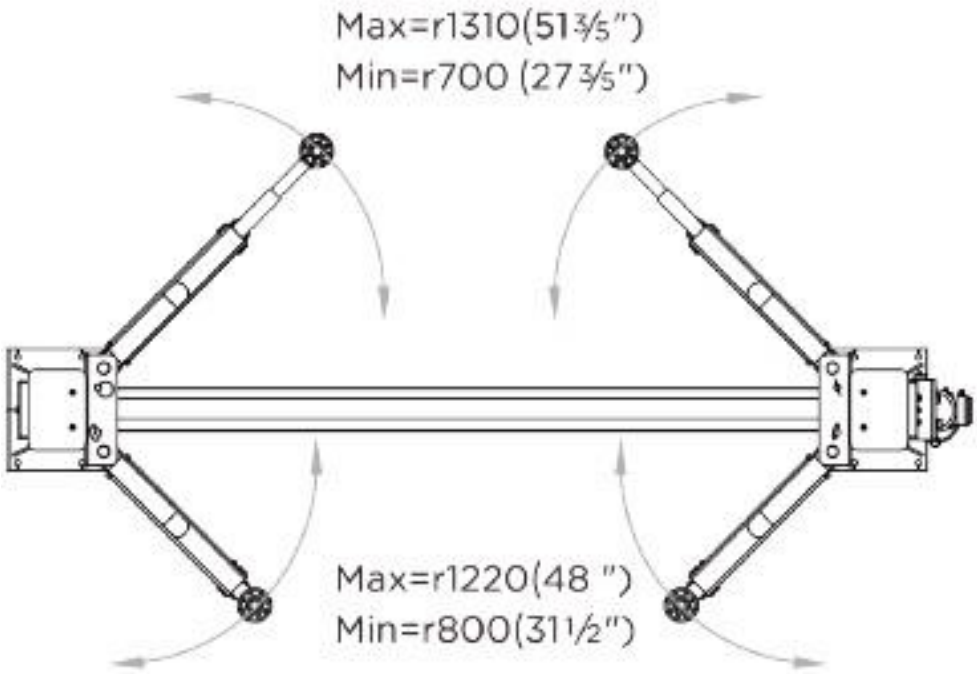
4.2 External dimension drawing





Picture 2 (Lift dimension picture)

4.3 Lifting arm dimension drawing



4.4 Suitable for types of vehicles (For reference only)

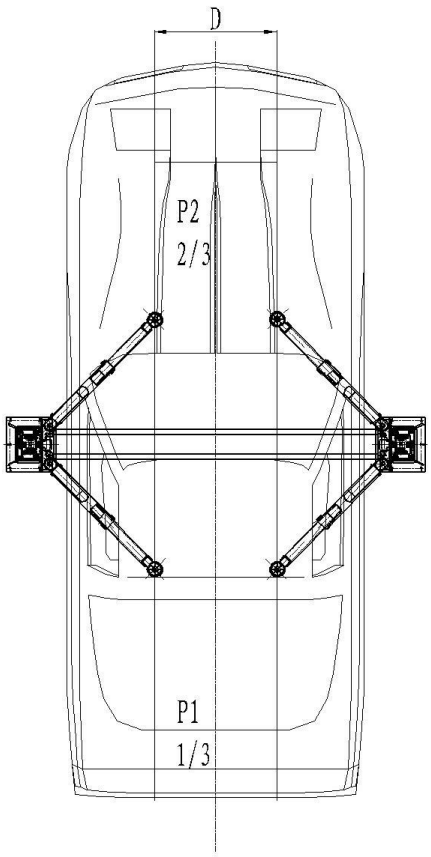
This lift is suitable for virtually all vehicles with total weight and with dimensions not exceeding the below data. Maximum weight not exceed than 4000kg

The dimension of vehicle:

The following diagrams illustrate criteria used to define the operating limits of the lift.

- Pay attention to warning signs

-Each kind of automobile differs in centre-of-gravity position. Centre-of-gravity position of automobile shall be understood at first. When automobile enters the lifter, the center of gravity shall get close to plane formed by both vertical columns. The rocker arm shall be adjusted to allow bearing point to be on bearing surface of car.



Picture3

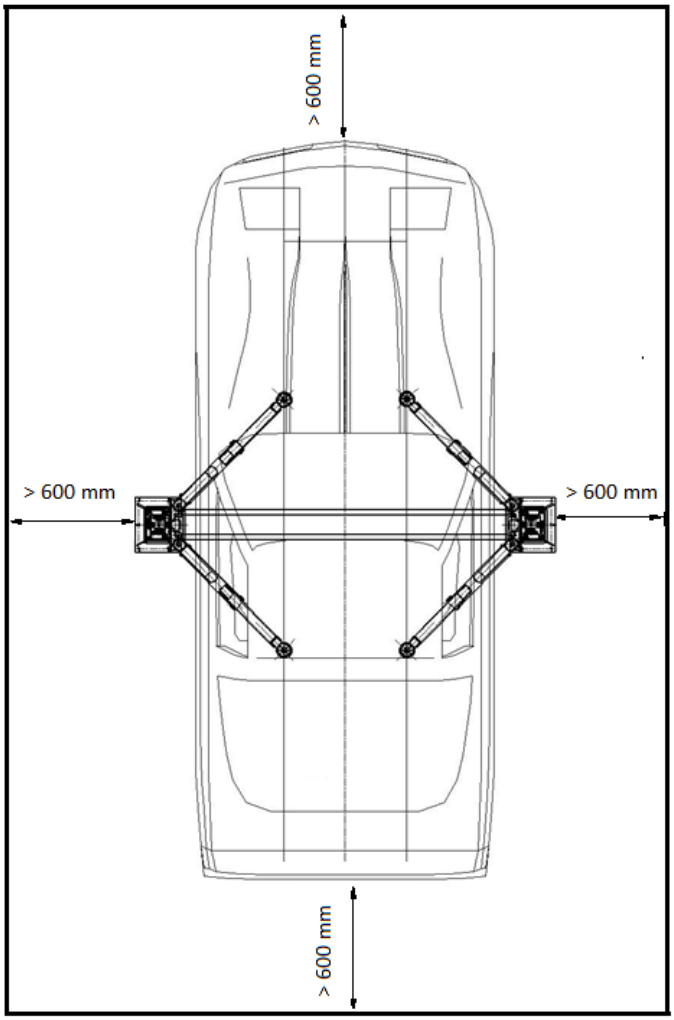
Lift	D(mm)	P2(kg)	P1(kg)	C=P1+P2(kg)
4T	710	2100	1040	3140
	800	2250	1120	3370
	900	2400	1200	3600
	1000	2650	1350	4000

Table 4

The centre-of-gravity position of each kind of vehicle is different. First know about the centre-of-gravity of vehicles. Make the centre-of-gravity close to the plane formed by the two columns when the vehicle drive into the lift. Adjust the lifting arm, make the bearing point support the bearing surface of vehicles.

Room dimension requirements

The lift should be installed in accordance with the requirements of GHO regulations, maintaining appropriately wide communication routes around the workplace. The clearance between the lift columns and the adjacent walls of the room should be no less than 60 cm.



5. Safety notes

5.1 General precautions

Workers should read the **<<Instruction & Maintenance Manual>>** carefully before carrying out any operation with the lift

The manufacturer is not liable for any injury to persons or damage to vehicles and other property caused by the incorrect and unauthorized use of the lifts.

The operator and the maintenance fitter are required to observe the prescriptions of safety regulation in force in the country of installation of the lift.

Furthermore, the operator and maintenance fitter must:

-Always work in the stations specified and illustrated in this manual;

-Never remove or deactivate the guards and mechanical, electrical, or other types of safety devices;

-Read the safety notices placed on the machine and the safety information in this manual.

In the manual all safety notices are shown as follows:

Warning: indicates following operations that are unsafe and can cause minor injury to persons and damage the

lift, the vehicle or other property.

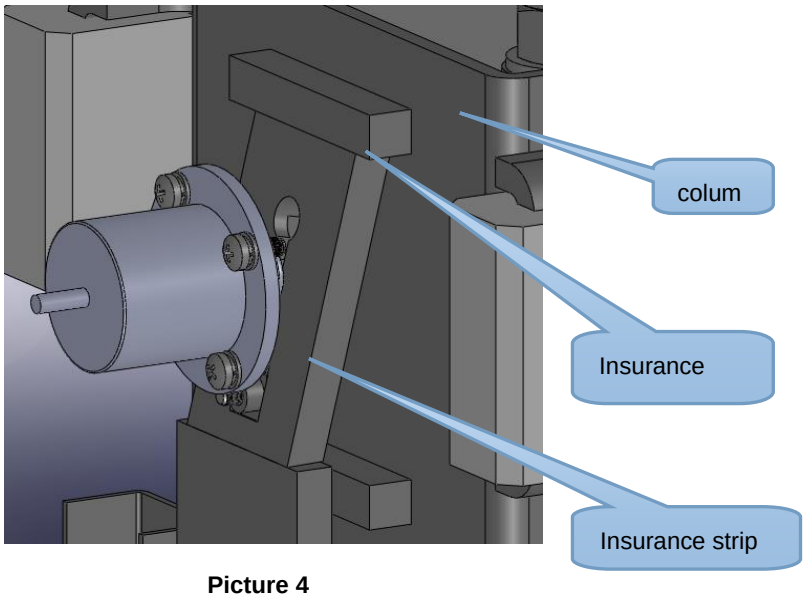
Risk of electric shock: a specific safety notice placed on the lift in areas where the risk of electric shock is particularly high.

5.2 protection devices

The safety protection devices use to protect the operator in case of overload or machinery failure:

-In the case of overload, the overflow valve of the pump will open, the hydraulic oil will return to the oil tank.

-The mechanical insurance works automatically to prevent the carriage from falling off when the oil cylinder loose pressure.



Picture 4

-Operators will hear the sound when the insurance claw falls on the insurance strip in the case of normal use. If not, this machine is prohibited to use. Operator can check the insurance device by opening the decorated box. If the insurance device is blocked, adjust the screw on the insurance claw till the sound can be heard when the insurance claw falls on the insurance strip.

-Only press "LOCK" button after the machine is lifted, vehicle maintenance can be permitted.

-If the two carriages are not in the same plane, adjust the nut on steel cable to keep them in the same plane. Tighten the steel cable, or the two carriages can not be synchronous.

-Locking devices are installed in each lifting arm, it can lock automatically when lifting arm rotate to any needed angle. When the carriage in the lowest position, the lifting arm can rotates freely. In order to prevent the lifting tray from falling, we adopt the adjustable thread lifting tray to make it more safe and convenient

Risk for extrusion

During up and down operations, personnel leave the said area without following the rule and instruction.

During up and down operations, no person is admitted to work beneath the movable parts of the lift, should work in the safe zone.

Risk of impact

Before the operator begins up and down movements, make sure that there are no personnel inside the danger

zone. When, due to operational reasons, the lift is stopped at relatively low elevations (lower than 1.75m above the ground) personnel must be careful to avoid impact with parts of the machine not marked with special colors.

Risk of falling (vehicle)

This hazard may arise in the case of incorrect positioning of the vehicle on the lifting arms, overweight of the vehicle, or in the case of vehicles of dimensions that are not compatible with the capacity of the lift.

When the lifting arm is being tested, the vehicle engine can not be turned on.

There is nothing should be placed on the lift-lowering area and the movable parts of the lift.

Risk of slipping

The floor caused by lubricant contamination of around the lift. The area beneath and immediately surrounding the lift and also the platforms must be kept clean. Remove any oil spills immediately.(**Picture 14**)

Risk of electric shock

Risk of electric shock in areas of insulated and shattered electric equipments

Do not use jets of water, steam solvents or paint next to the lift, and take special care to keep such substances clear of the electrical control panel.

Risks related to appropriate lighting

The operator and the maintenance fitter must be able to assure that all the areas of the lift are properly and uniformly illuminate compliance with the laws in force in the place of installation.

During up and down operations, the operator should continually observe the lift and can operate it only in the position of operator. When lifting and lowering the vehicle, the cushion needs being put in the bottom of chassis.

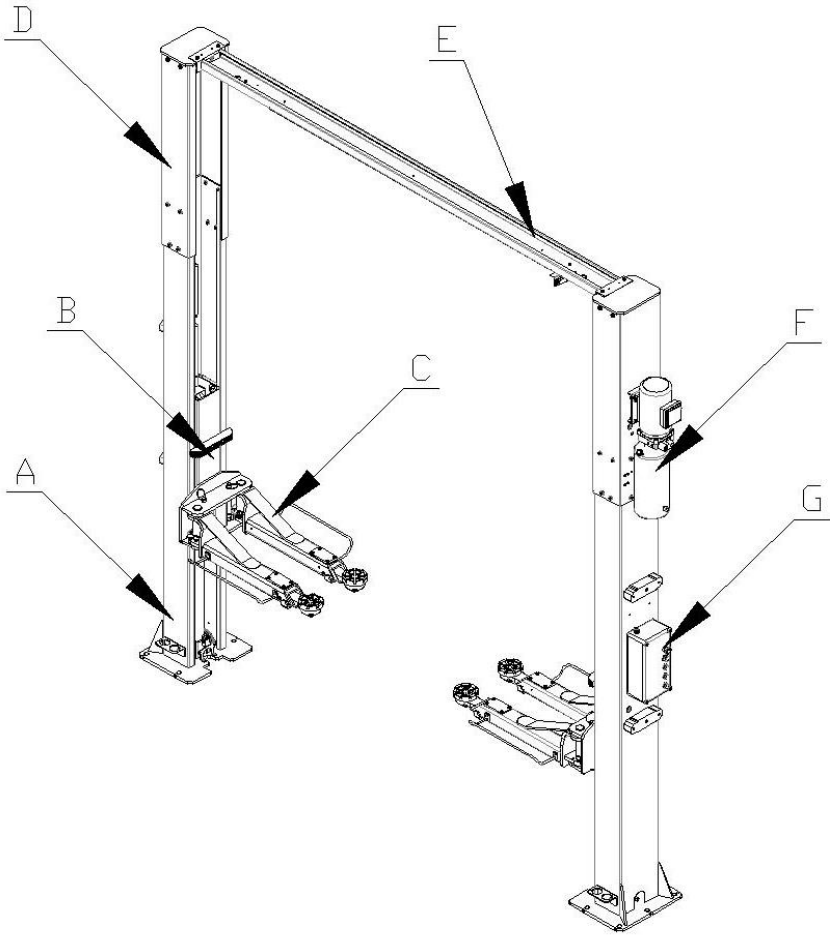
The handling of safety devices is strictly forbidden. Never exceed the maximum carrying capacity of the lift, make sure the vehicles to be lifted have no load.

6. Machine structure and drive principle

6.1 machine structure：

-This machine is made of column, carriage, lifting arm, spindle parts, safety lock device, oil cylinder, power unit, oil hose, control box and electric wire. mechanical lock and hydraulic lock double safety device ensure its security.

Instruction of each part



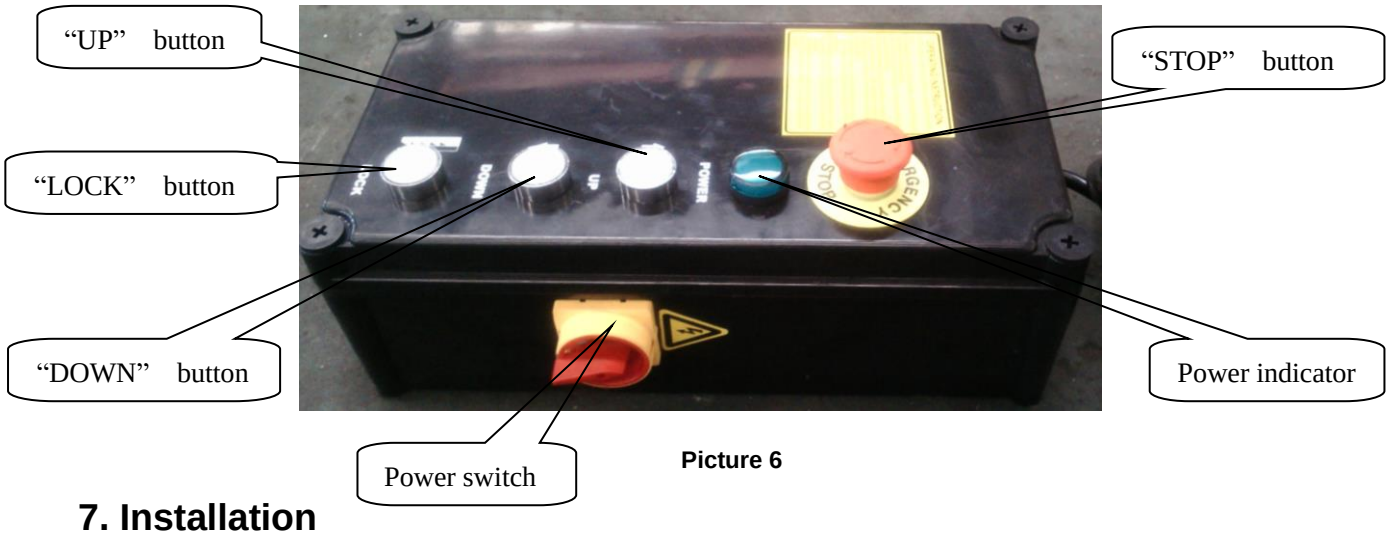
A	Column
B	Carriage
C	Lifting arm
D	Extendable column
E	Top beam
F	Power unit
G	Control box

Table 5

6.2 Drive principle：

-Press button "UP", the contactor and motor work. Motor drives the gear pump, the hydraulic oil goes through the one-way valve, oil hose finally reach the in the downward cavity of oil cylinder. The piston rod is pushed by the oil pressure. The oil cylinder drives the lifting arm synchronously with the steel cable and roller wheel and chain.

. When do the vehicle maintenance, operators press the "LOCK" button, the lower solenoid valve works and the electromagnets do not work when the carriages is locked. When lower the lift, press the "DOWN" button, the time relay works, the lift raises for 2-3 seconds and lower solenoid valve works at the same time. The weight of vehicle and lift extrude the hydraulic oil into the oil tank. Finish the lowering operation.



Picture 6

7. Installation

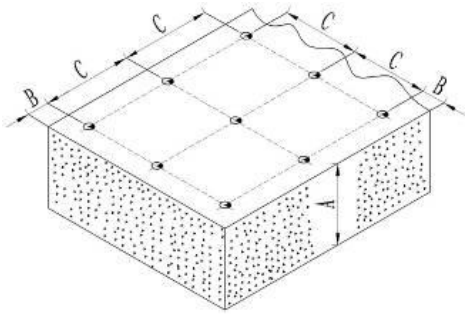
7.1 Installation requirement

-Two post lift must keep install under the safe distance requirement from the wall, column and other equipment. Minim distance from wall is 800mm, consider the urgency situation and convenience work, the distance of exit passageway should considered having enough rooms.

Please make sure there is power supply for the control unit.

The indoor height should not be less than 4500mm.

Indoor ground is available for installation, only the ground level meets the installation requirement and have enough endurance capacity (concrete intensity must be higher than 21MPa, concrete thickness must reach 300mm and above), otherwise, please pour concrete 1200 *4000mm in installation space, thickness must reach 300mm and above.



Picture 7

A	Concrete thickness must reach 300mm and above
B	Side- hole to the concrete edge must reach 150mm
C	Machine baseboard installation distance

Table 6

Make sure there is enough and gentle light when install the machine, to ensure a safe work and machine adjustment, do not provide strong light and get eyestrain.

7.2 Base requirement

The lift should be installed on a smooth and hard concrete base with the following parameters:

• Concrete class: B25 (currently C20/25) or higher; strength above 210 kg/cm2

• Top and bottom reinforcement of the foundation slab recommended using electrically welded wire mesh ϕ 4 x 150 mm or similar, with mesh not exceeding 250 mm. Reinforcement permitted below the line of drilling holes (200 mm).

• The concrete layer between the top of the foundation and the reinforcing mesh should not exceed 25 mm

• Level tolerance (surface flatness) below 5 mm

• Dimensions: 1500 x 4000 x 300 mm

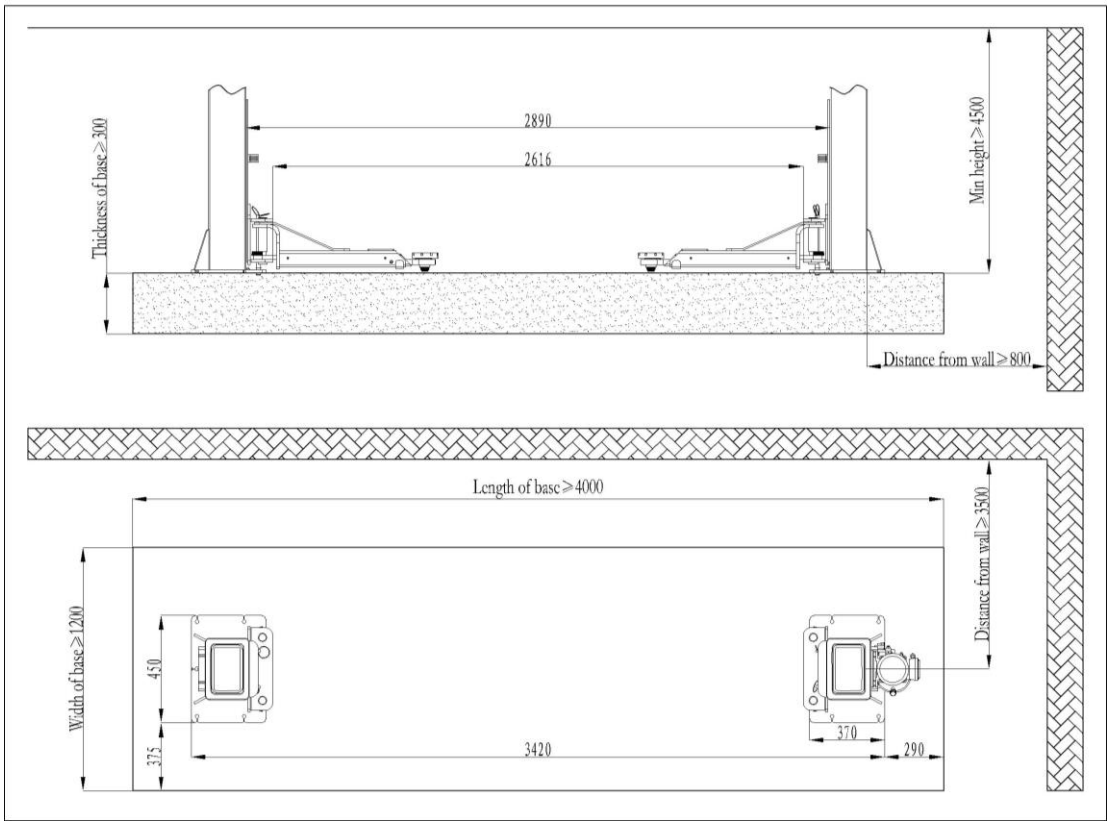
• Freshly poured reinforcement concrete base must be subjected to at least 28 days of seasoning and hardening. • The lift must be attached to the floor using mechanical anchor bolts, or using chemical anchors M12 or similar, with a rod with M12 thread made of steel class 8.8 or higher.

• In the case of using additional finishing layers on the floor (terracotta, tiles, etc.), longer anchors should be used. Power supply for control unit (380V or 220V15A)

ATTENTION!!!

• It is not allowed to mount lifts on floors less than 15 cm thick, above basement rooms, where the thickness of the ceiling does not meet the requirements of the foundation slab, or on unhardened, cracked substrates

Foundation drawing



Picture 8

Only the trained and qualified technician is allowed to install the machine, please careful read and follow below instruction before installation, in order to avoid any damage or personal safety.

Examination before installation

Foundation drying period and concrete strength must meet the requirement.

Completeness of the machine (refer to the "packing list")

Power supply connects with the control unit.

Hydraulic oil is qualified

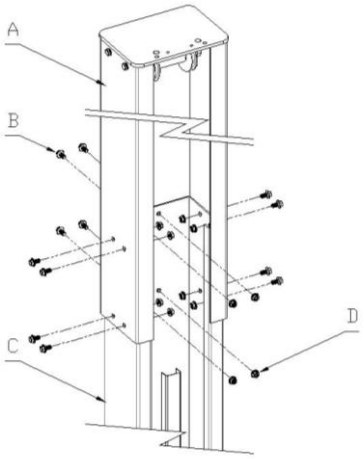
7.3 Installation

Column installation

a. Install the extendable column

Take the extendable column A, slide it from column D till the position as picture shows, aim at the screw holes.

Locking the holes with screw M10 *20 the hex flange bolts B and then fasten them with the M10 hex flange nuts (refer below picture).



A	extendable column
B	M10×20 hex flange bolt
C	column
D	M10hex flange nut

Picture 9

b. Set up the column

set up the installed main and sub columns on the concrete foundation, with distance at 2680mm which is suitable to install the oil hose cover plate, make sure the two columns are in same level.(refer below picture).

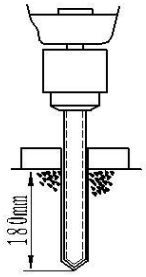
c. Install the expansion bolt

The expansion bolt must work after finished the maintenance of the concrete foundation, otherwise, it will affect the locking quality.

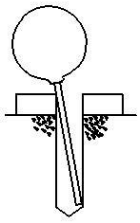
-Adjust the position & vertical degree of the two columns.

-Use a hammer clip with φ18mm impact bit(the length of the bit ≥180mm)drill the hole from the base plate hole till depth 180MM, and clean the hole with dust cleaner

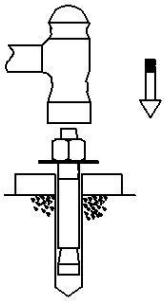
- Use the light hammer to knock the expansion bolts to the 10 holes (no need to insert the center expansion nail, fix it after finished the level adjustment)



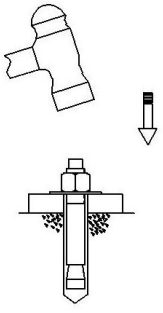
Picture 10



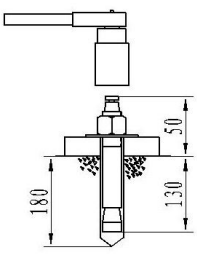
picture 11



picture 12



Picture 13



picture 14

d. Level adjustment

- Use a transparent horizontal tube or gradienter to exam the all around level of the master & vice column, if level degree is no problem, insert the center expansion nail, heavy hammer knocks the center expansion nail, tighten the nuts after finished to install the top beam and the master & vice column is still in level degree.

If the concrete foundation is under the maintenance, please do not knock in the center expansion bolt. The space between the base plate and ground must fill with cement mortar after adjust the level degree.

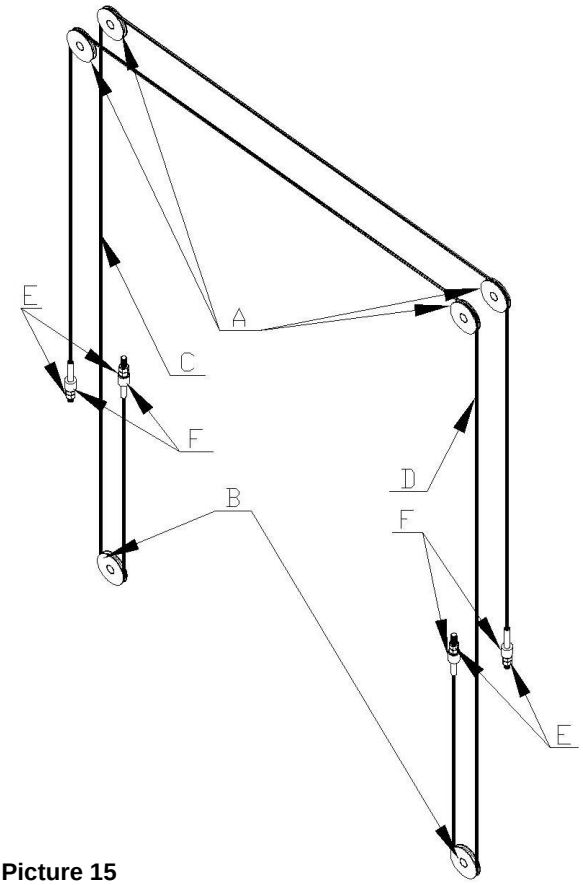
Steel cable installation.

- After pull the synchronous steel cable 1 (that draw from the lifting carriage of main vertical column) pass the bottom of column steel cable pulley roller B, through the bottom of sub column steel cable pulley roller B, upward through the sub column top beam pulley roller A , then fix the steel cable by M16 nut in the hole of the fixed plate E ,which on the carriage of deputy vertical column. Similarly to draw the steel cable 2 from the lifting carriage of deputy vertical column , and fixed it in the hole of the fixed plate E , which on the main vertical column carriage.

-Check the left carriage and the right carriage, watch if they are at the same height. If not, please loose the nut that located on the hole of fixed plate C, which on the main vertical column. And then make the carriage of main vertical column drop down. Or tighten up the nut that located on the hole of fixed plate C, which on the deputy vertical column. And then make the deputy vertical column lift up. Similarly, when the carriage of main vertical column is lower than the one of deputy vertical column, reversed adjustment

The adjustment is required to both reach to the same height, two carriage (left and right) must be in the same height, the steel cable must be tighten up, not allow any loose, moreover, the steel cable must be inside the skating slot of steel cable roller, parallel to each other, not allow any cross, otherwise, two carriages can't have synchronization effect. Please as per following photo：

A	Top beam pulley
B	Base plate pulley
C	Steel cable 1
D	Steel cable 2
E	Wire rope boom seat post
F	M16 nut

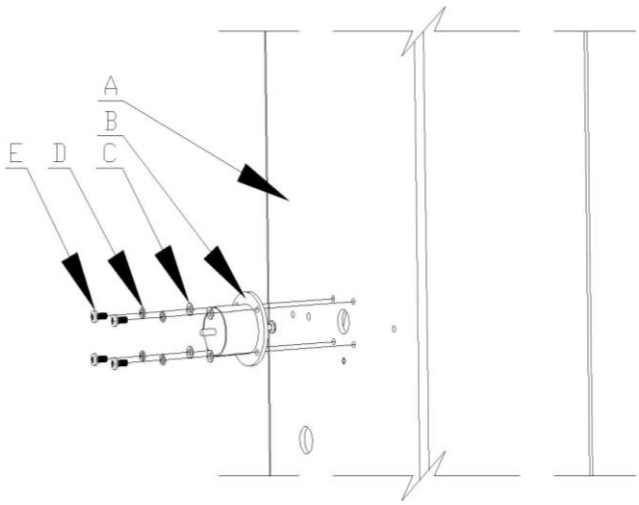


Picture 15

Install the complete insurance device assembly

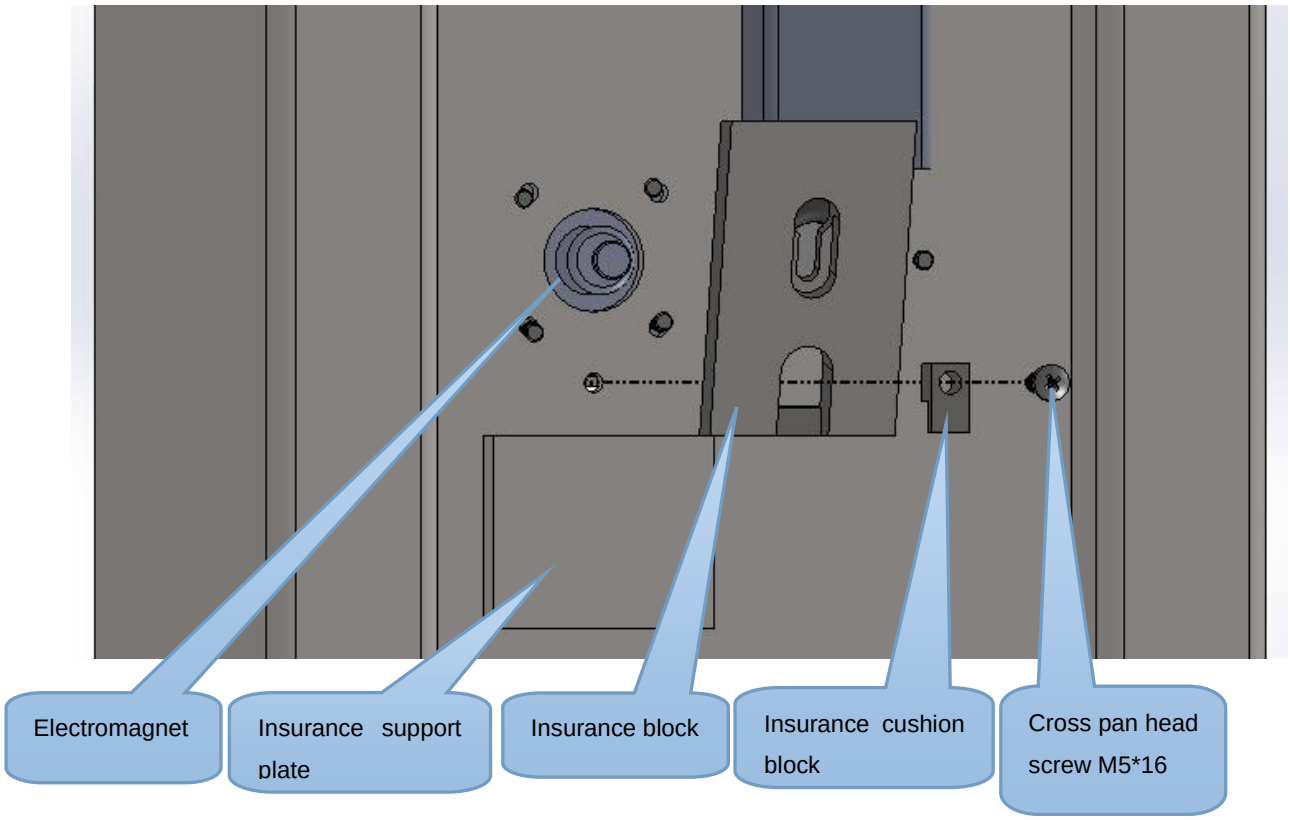
- Install the insurance electromagnet assembly on the column.
- Insurance block set on the electromagnet assembly on the inside of column.

A	column
B	Electromagnet
C	Φ5 flat washer
D	Φ5 spring washer
E	M5×12 cross pan head screw



Picture 16

Blocking insurance installation schematic



Picture 17

Test the flexibility of insurance device after installation, any phenomenon of blocking insurance device is not allowed

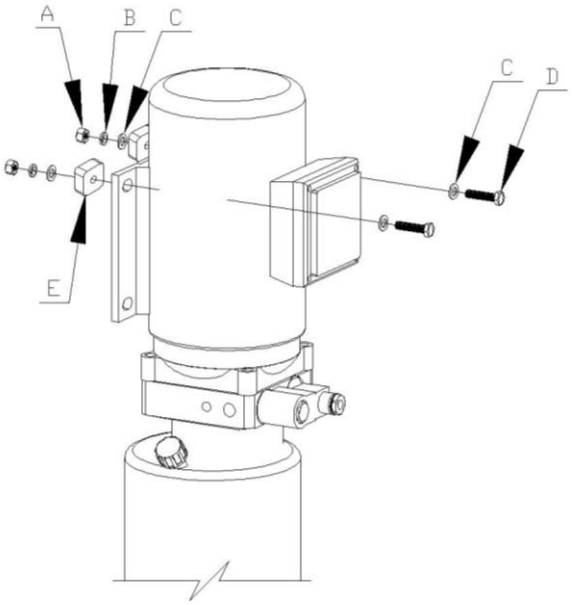
Install the power unit.

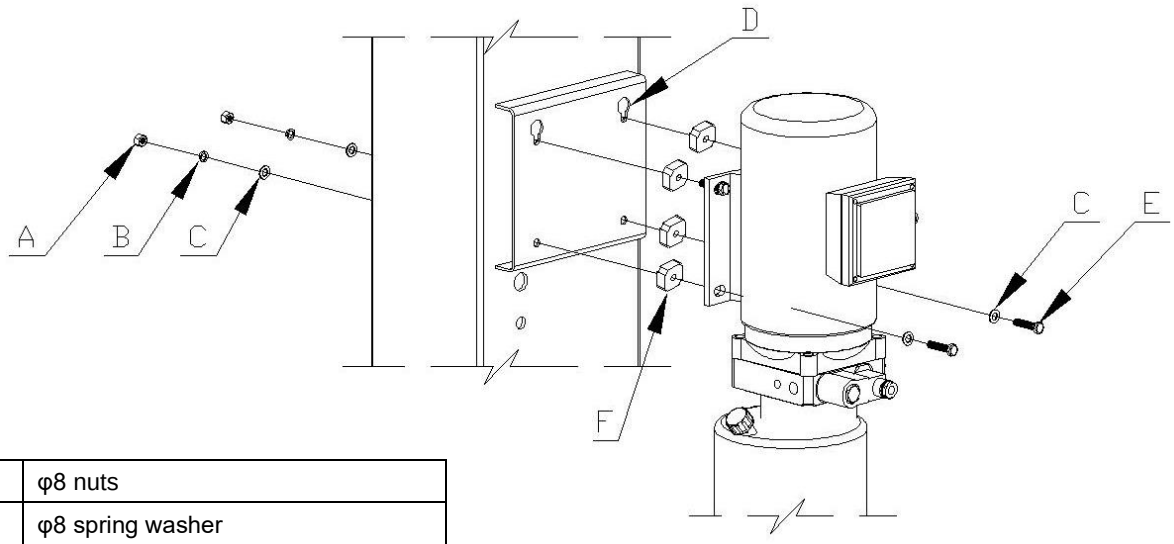
-Install the two bolts on the power unit, do not locking, there should be a certain gap

-Then installing the power unit from the motor hanging hole D to the main column

-Install the two remaining bolts from the holes of power unit

A	φ8 nuts
B	φ8 spring washer
C	φ8 flat washer
D	M8×45 full thread hex flanges bolt
E	motor cushion





A	φ8 nuts
B	φ8 spring washer
C	φ8 flat washer
D	Motor hanging hole
E	M8×45 full thread hex flanges bolt
F	motor cushion

Picture 18

Lifting bracket arm installation

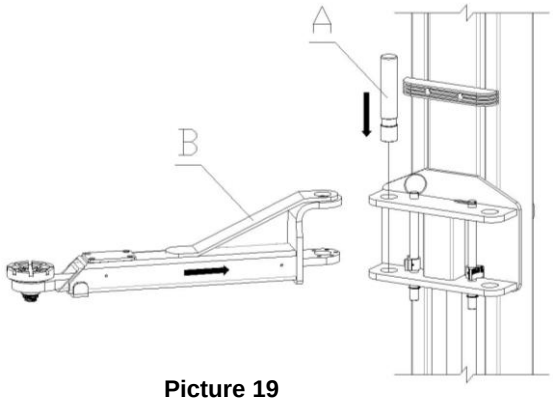
-Two post lift equips symmetric arm, which are installed on the main carriage and sub carriage.

Bracket arm installation steps:

-First, take down the semi-circle block and arm bolt which installed on the lifting bracket, put aside.

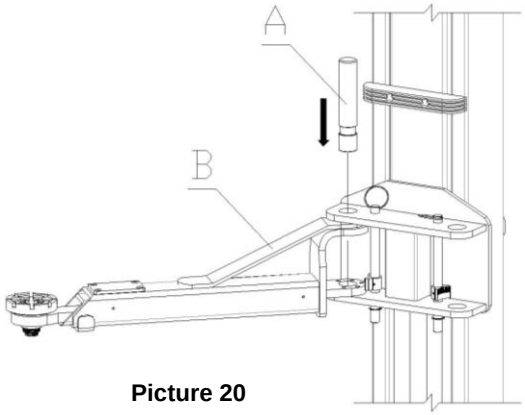
-Then, install the lifting bracket arm B on the carriage's support lug, insert arm bolt A , make the downside slot of both arm bolt and arm support lug just on the same level. Please as per below photo:

A	Arm bolt
B	Lifting bracket arm



Picture 19

Aligning the hole, arm bolt needs vertical align with the hole to install



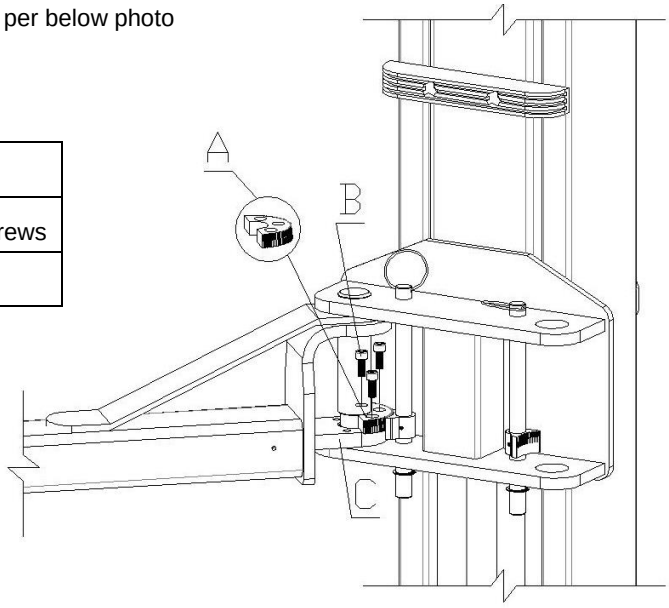
A	Bracket arm bolt
B	Long bracket arm

Picture 20

There are five mounting holes in the downside arm support lug, it can adjust semi-circle block and teeth block meshing well

And then, put into the semi-circle block , semi-circle block bottom B should joint with the downside arm support lug C, make the semi-circle block just into the slot of bracket arm bolt, align all holes, tightened and locked by M8×25 inner six angle cylinder head screws, please as per below photo

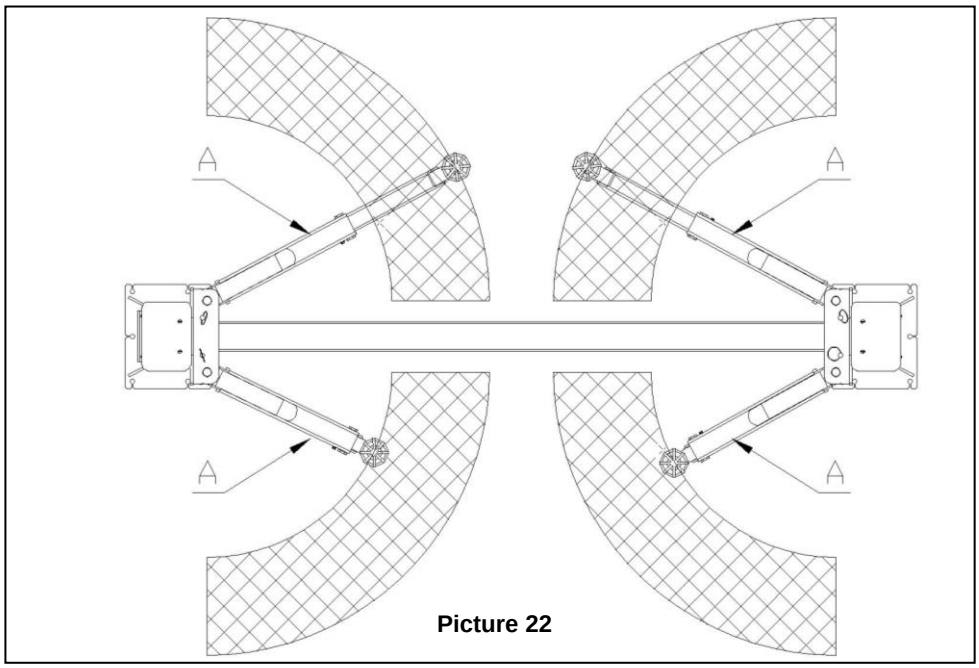
A	Semi-circle block
B	M10×25 inner six angle cylinder head screws
C	Downside arm support lug



Picture 21

Lifting arm assembly diagram

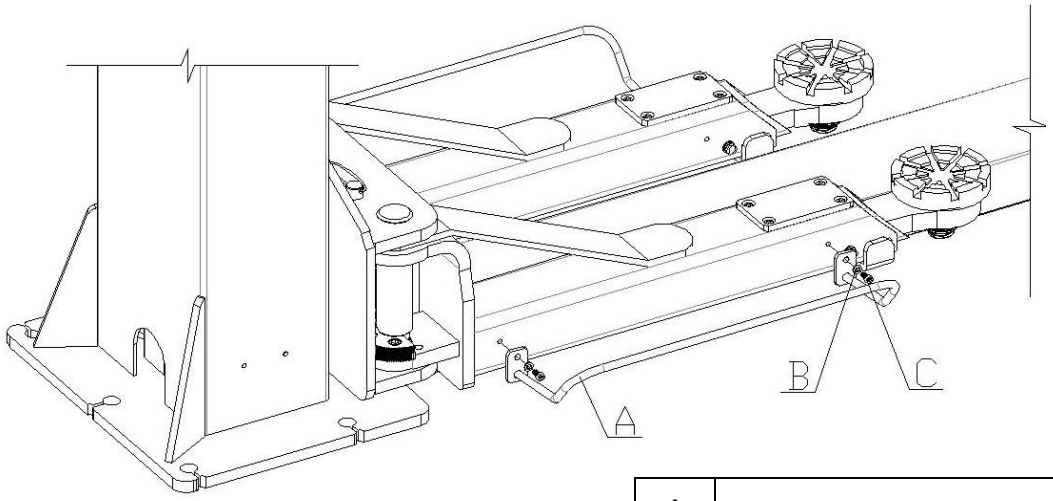
A	Lifting bracket arm



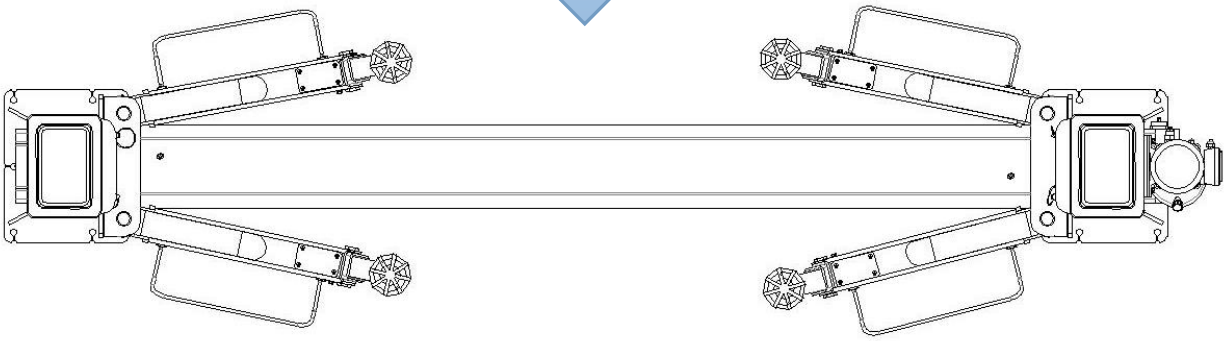
Picture 22

Anti pin assembly step

- **The anti - pressure foot assembly mounting hole corresponding to the mounting hole on the bracket**
- **Lock with M6 * 12 internal six angle cylinder head screws, as shown in the following diagram:**

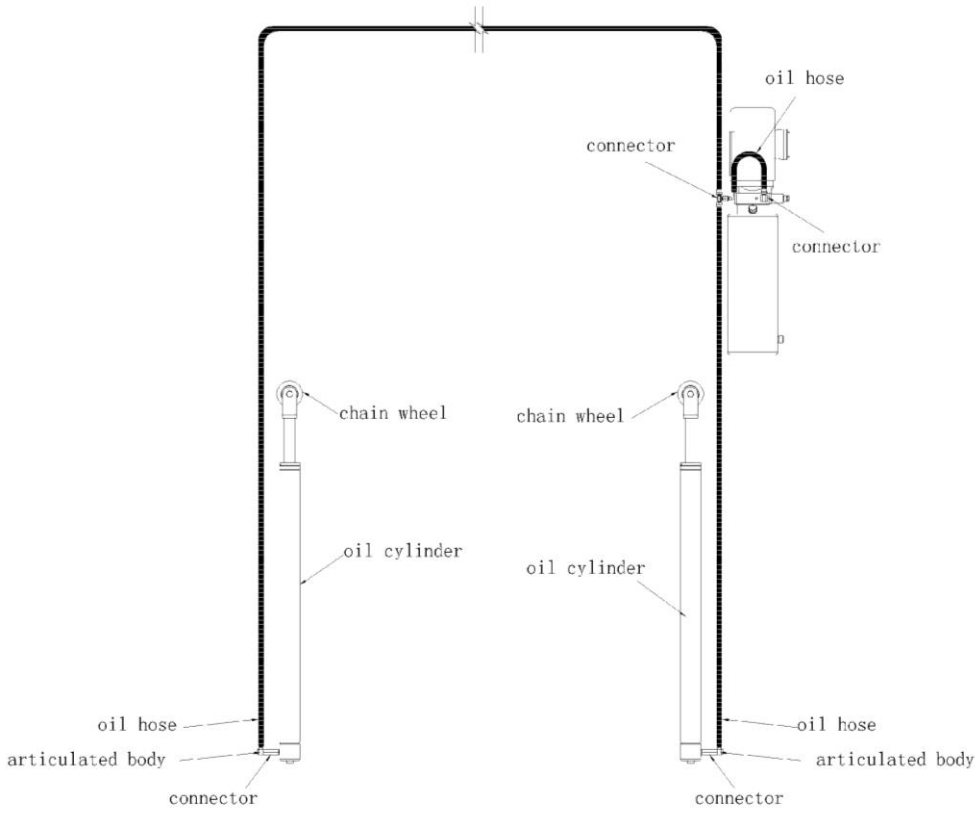


A	Anti pin component
B	Φ6 flat washer
C	M6×12 inner six angle cylinder head screws



Hydraulic oil hose clamp installation

Hydraulic connection:



Picture 23

Oil hose clamp installation schematic diagram

Only the trained and qualified technician is allowed to install the machine,

Please pay more attention oil hose clamp connection protection, in order to prevent foreign body into the oil tube failure.

- High pressure tubing from the pump outlet connected to the 90 ° bend clapboard connector(Please refer to above hydraulic connection)
- High pressure tubing from the 90 ° bent bulkhead connector from the hose connector on the master cylinder
- Finally main oil cylinder with sub oil cylinder connect the high pressure oil tube
-Tightening the oil connector, to avoid it oil leaking
- When connecting tubing, attention to the oil connector protection, prevents foreign bodies from entering the hydraulic circuit

7.4 Electrical Circuit Connection:

Electrical circuit should be connected in accordance with the wire diameters and line numbers specified in the Electrical Wiring Diagram.

Only electrical professionals are qualified in the operation of electrical installation work.

- As per the wire diameters and line numbers specified in the Electrical Schematic Diagram, connect the electrical circuit.

-Make sure the power switch is off and hang the warning sign "DON'T TURN ON THE POWER".
-For 380V, wire the 4×2.5mm^2 cable of the control box to the power input terminals.
-For 220V, wire the 3 × 2.5mm^2 cable to the power input terminals.
-Connect bicolor ground wire to the grounding bolt.
-**Circuit connection for safety electromagnet:** Insurance electromagnets mounted on the column, wires from the slot through 4 insurance in electric magnet in parallel connected to the control box Terminal
-**Circuit connection for limit switch:** The limit switches are installed the top of the main column, wires from the slots on the cross on the control box Terminal
- **Decreased solenoid valve coil connection:** Decreased power unit solenoid valve coil wires from the column slot through terminals in the control box

8. Commissioning

8.1 Fill hydraulic oil

After the hydraulic and electric circuits have been connected as instructed, operate as per the below steps:
-Fill 8L wear-resistant hydraulic oil N32 or N46 (supplied by the user) into the oil tank.

Before filling, ensure the hydraulic oil is clean, in order to prevent any impurities from entering the oil-way and causing it rough.

8.2 Commissioning

Check Phase Sequence：

-Turn on the power switch on the control box and the power indicator lights. Press the UP button to see if the lifting slipways go up or not. If not up, cut off the power and adjust the power phase sequence to enable the oil pump to supply oil normally. Then check if the joints between the oil pipe and the oil cylinder leaks oil or not. If yes, check if the joints loosen or not.

After the power is turned on, there is a possibility of high voltage electric shock in the control box. Thus this operation should be engaged by authorized professionals with qualifications and experience in electric operation, to avoid the risk of electric shock.

No-load Test：

- Press the UP button SB1, and observe if the main and auxiliary carriages are in the same height or not, while the lift carriages and arms are rising. At the same time, listen to the safety block's sound and judge the position of slipways is high or low. Readjust the steel cable correctly to make the safety blocks' position in the same height. That is, the main and auxiliary slipways are in the same height.
- Press the DOWN button SB2. The oil pump works, the carriages rise first, the time relay is electrified, the mechanical lock and the drop solenoid valve open in 2-3 minutes, and the hydraulic oil inside the oil cylinder is pressed back to the oil tank by the weight of working table. Then the decline completed.

- Press the LOCK button SB3. The drop solenoid valve is electrified, and the mechanical lock is not energized. Then the slipways decline and the mechanical lock reset under the mechanical spring force to lock the slipways. The Locking completed and next operation can start safely.

During no-load test, observe if the host lifting is stable or not, the mechanical lock is properly placed or not, and the oil-way leaks oil or not.

Load test:

-lubricating grease shall be applied to each lubricating point and surface. In addition, the inspection on whether oil leakage phenomenon exists in oil-way or whether the foot margin assembly is fasten. After the above is normal, the load test can be carried out.

-Drive the vehicle that weighs within its outmost lifting capacity between two posts, persons shall not approach the vehicle, put pads on lifter arm.

-Press UP button SB1, rise the carriage, observer whether the vehicle rise steady or not.

- Press DOWN button SB2,observer whether the vehicle lower steady and smooth or not.

-Check whether the rack and pump station got abnormal noise or not, press LOCK button SB3, observer the insurance assembly works well or not.

Make sure the safety lock of the lift is engaged before start working under the vehicle and no people under the vehicle during lifting and lowering process.

The testing vehicle weight can not exceed the maximum weight of the lifting capacity.

Check whether oil leakage phenomenon exists, stop using the machine when find abnormal situation, test the machine after trouble is shot.

After load test, the length of steel cable will be slightly extended. Thus, the leveling shall be carried out once again. The machine can be put into use after step 7.3.2 is repeated.

9. Operation

Only these qualified people, who have been properly trained, can operate the lift.

Please inspect the machine according to the following cautions before operating the machine.

9.1 Pre-commissioning:

-The barriers around lifter and people inside of vehicle shall be removed before work.

-Observer whether the two carriage up-and-down smooth and synchronization or not;

-Whether the machine's insurance claw works flexible and reliable or not;

-Whether the oil tank, oil pipe, connector leaks or not;

-Whether the running sound of motor, pump is normal or not.

-The weight of vehicle capacity can never be beyond lift capacity of the lifter.

9.2 Operating process:

-Drive the vehicle that weighs within its outmost lifting capacity between two posts, speed should be kept in 5 km/h.

-Stop the car, the manual brake of car shall be well pulled, adjust the arm and pad, make sure the supporting point support the surface supporting of the vehicle.

-Press UP button, lift the vehicle 200~250MM upper from the ground, check whether two carriage are synchronous and if there is other abnormal situation or not.

-Continue pressing UP button, lift the vehicle to the desired height

-Observer whether the two carriage are synchronous or not, and if there is other abnormal situation, stop using the lifter, reuse it after trouble is shot

-It's required to "LOCK" the machine when care and maintenance the lifter, and make sure the two carriage are locked at same height, the vehicle maintenance can be carried out after the lifter is locked.

-Before lowering the lifter, observer whether there are foreign matter or person around lifter, carriage or inside of vehicle or not.

-Press DOWN button, time relay electrified, the mechanical lock and decline solenoid valve open 2~3 seconds later, then the carriage is lowering. when insurance claw trip out from the hole of insurance rack, otherwise the lifter can not descend.

- Lower the carriage to its lowest position and do remember to cut off the power source when service finishes.

9.3 Electrical operation instructions:

Lift raising

-Press UP button SB1, motor drives the gear pump work, cylinder piston drives the platform move up, the carriage is raised

-Loosen SB1, the cylinder stop working and carriage stop rising.

Lift lowering:

- Press DOWN button SB2, oil pump work and carriage rise at first, time relay electrified, the mechanical lock and decline solenoid valve open 2~3 seconds later, then the carriage is lowering.

-Loosen SB2, the mechanical lock and decline solenoid valve are shut off, the carriage stop lowering.

Lift locking：

- Press LOCK button SB3, the carriage is lowering, when insurance claw fall over to hole of insurance rack, the carriage stop lowering and locked.

10. Maintenance and care

Skilled personnel only is allowed to perform the operations
Daily checking items:

The user must perform daily check. Daily check of safety system is very important – the discovery of device failure before action could save your time and prevent you from great loss, injury or casualty.

·Always wipe clean, keep the machine clean.

·Clear barriers and ground oil, keep the working condition clean.

·Check the integrity of each safety devices, ensure the motion is flexible and reliable.

·Check the reliability of limit switch motion.

·Check whether oil/air leakage of the machine exist.

Weekly checking items

·All bearings and hinges on this machine must be lubricated once a week by using an oiler

·Check the working conditions of safety parts.

·Check the amount of oil left in the oil tank. Oil is enough if the carriage can be raised to highest position. Otherwise, oil is insufficient.

·Check whether the expansion bolts well anchored.

Monthly checking items

·The safety gear, the upper and lower sliding blocks and other movable parts must be lubricated one month.

·Check whether the foundation bolts well anchored.

·Check the abrasion and leakage of oil/air hose.

Yearly checking items

·The hydraulic oil must be replaced one time each year. The oil level should always be kept at upper limit position.

·.Check abrasion and damage of all the active parts.

·.Check the lubrication of roller. Lubricate it if drag phenomenon exist.

The machine should be lower to the lowest position when replace hydraulic oil, then let the old oil out, and should be filtering the hydraulic oil.

-Each team checks the agility and reliability of pneumatic safety equipment.

Storage after use

When the machine does not use for a long time:

·.Cut off the power supply and air source.

·.Lubricate all the active parts.

·.Drain the hydraulic oil of oil cylinder, oil hose and oil tank.

·Sheathe the machine with dust-proof cover.

11. Trouble shooting table

Skilled personnel only is allowed to perform the operations

Failure Phenomena	Cause and Phenomena	Resolutions
The motor does not run in lifting operation.	①Power supply is abnormal	Check and correct wire connection
	②There is a short in the AC contactor in the circuit	Check the wire of AC contactor
	③The limit switch is broken	Check the limit switch, wires and adjust or replace the limit switch.
The motor has noise but can not run	Motor phase loss	Stop run the motor and check the wire
In lifting operation, the motor runs, but there is no lifting movement.	①The motor turns reverse.	Change the phases of the power supply wires.
	② The amount of hydraulic oil is not enough.	Add hydraulic oil.
	③There is some air in the pump due to the transport, causing the air block-up	Dismount the one-way valve and raise the lift a little(pay attention to the oil). Mount the one-way valve if the oil outflow from the hole.
	④ Pressure-compensated valve is out of order	Check the valve element and seal rings of pressure-compensated valve , clean the valve element and replace the seal rings
	⑤Some block in the valve element of oil return solenoid valve	Clean the valve element
	⑥Seal rings in the oil pump outlet are damaged	Demount the gear pump and replace the seal rings
	⑦Motor runs heavily. Out net of oil filter blocks seriously	Clean the oil filter
The lift raises slowly	Seal rings in the oil pump outlet are damaged	Demount the gear pump and replace the seal rings
The lift trembles in the lifting operation	①There is some air in the oil hydraulic circuit	Raise the lift up and down to exhaust the air
	②Air leakage on the upper connector of absorbing oil hose	Check the absorbing oil hose of oil pump
	③The oil filter blocks	Clean the oil filter
The lift can raise but can not fall	①The button is out of order	Replace with hydraulic oil in accordance with the instruction book.
	②The insurance claw is not divorced from the insurance plate	Check the electromagnet, replace it if it is damaged. If not, adjust the insurance to make it normal

12. Warranty

DEFINITIONS

Guarantee and Sales Guarantee - this statement, which specifies the obligations of the Guarantor and the rights of the Customer and Consumer, in the event that they purchased the Goods from the Guarantor, and the Goods have a physical defect that was present at the time of purchase and did not result from improper use.
Guarantor - the entity granting this Guarantee, defined as MMAM (Marelli Aftermarket Poland Sp.z o.o.).
Customer - a natural person, legal person or organizational unit without legal personality, but with the capacity to perform legal acts, who purchases the Goods from MMAM for a purpose related to their business or professional activity.
Consumer - a natural person purchasing the Goods from MMAM for a purpose unrelated to their business or professional activity.
Use environment - the operating conditions of the Goods, which fall within the parameters specified for a given Goods, and for the provision and maintenance of which the Customer or Consumer is responsible.
Goods - a movable item offered for sale by MMAM, purchased by the Customer or Consumer. Unless otherwise indicated in the Guarantee, the Goods covered by the guarantee shall be considered to be items purchased as new, previously unused.
Authorized Service Center (ACS) - an entity that has concluded an appropriate agreement with MMAM and, after verifying its competence, has obtained authorization from MMAM to perform repairs under this Guarantee.
Seller - an entity selling Goods directly to the Customer or Consumer, independent of MMAM, which may enter the MMAM distribution system.
Spare Part - Goods that are used to repair another movable item, becoming its permanent, inseparable part after repair, and are not consumable parts.
Consumable Part - Goods that are used to use another movable item, and the user of this movable item is obliged to replace it in periods determined by the manufacturer, with its service life generally being much shorter than the service life of this movable item. The wear and tear of such Goods depends on the intensity of use of the movable item and does not constitute a defect.
Service - general term for a group of entities performing repairs under this Warranty, including both entities authorized by MMAM and entities with which MMAM has other agreements for the provision of repair services for Goods.

Place of repair - geographical location where the repair of Goods is performed, under this Warranty.

MMAM - Magneti Marelli Aftermarket Parts & Services S.P.A., operating in Poland through Marelli Aftermarket Poland Sp. z o.o., with its registered office in Katowice (40-476 Katowice), Plac Pod Lipami 5., tel. +48 32 60 36 107, fax +48 32 60 36 108, e-mail: wyposazenie@marelli.com .

GENERAL PROVISIONS

1. This Guarantee constitutes a general guarantee statement of the Guarantor and applies to Goods that have not been excluded from the terms of the Guarantee in the text of this Guarantee or when sold to the Customer or Consumer. If special guarantee terms are attached to the Goods, they take precedence over this

Guarantee, in particular in terms of the duration of the guarantee and exclusion of the Guarantor's liability. In these cases, this Guarantee is of an auxiliary nature to the extent not regulated by special terms.

2. The Customer and the Consumer are responsible for the use, maintenance and any inspections of the Goods and the software provided by MMAM with due diligence. If the above activities require the Customer's expertise, they are responsible for having such knowledge. For this reason, Goods intended for the professional market should not be purchased or used by the Consumer, who in such cases, within the meaning of this Guarantee, acts at their own risk.

3. Failure to exercise due diligence, lack of specialist knowledge regarding the handling of the Goods, failure to familiarize oneself with the terms of service and technical parameters of the Goods, and in particular the attached operating or maintenance instructions, may result in the exclusion of the Guarantor's liability under this Guarantee, including for any damage resulting therefrom.

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WARRANTY DURATION

1. The Guarantor grants a 24-month Guarantee for defects in the Goods, counted from the date of sale of the Goods.

2. Defects in the Goods, within the meaning of the Guarantee, include defects existing in the Goods themselves at the time of purchase of the Goods by the Customer or Consumer and do not include defects resulting from improper use of the Goods or use that is inconsistent with specialist knowledge, service conditions and technical parameters. The entity competent to determine the defectiveness of the Goods is the Service. In cases of dispute, such competences are held successively by the Authorized Service Center (ACS), MMAM and an external expert. The costs of engaging an expert or the costs related to the travel of a Service employee, as well as the costs of sending the Goods, in the event of an unjustified complaint, are borne by the party filing the complaint under the Guarantee.

3. In a situation where the Goods are installed and started up by Service employees at the Customer's or Consumer's premises, the duration of the Guarantee is counted from that moment.

4. The duration of the guarantee:
- starts anew for the Goods replaced with new ones in their entirety,
- is not extended by the repair period,
- the replaced spare parts end with the expiry of the Guarantee for the entire Goods.

TERRITORIAL SCOPE OF THE GUARANTEE

The territorial scope of the Guarantee is limited to the territory of the Republic of Poland.

CUSTOMER AND CONSUMER OBLIGATIONS

1. Upon receipt of the Goods, the Customer should check whether the product or its packaging has any defects visible to the naked eye. If the Customer notices such defects, they should report them to the carrier or courier upon receipt. In the case of defects invisible to the naked eye and which may arise during transport, the Customer should notify MMAM within 5 days of receipt of the Goods, so that MMAM can formulate a claim against the carrier or courier and 7 days have not passed from the date of delivery, in accordance with the Transport Law. In the case of a courier, it will be possible to request that the Goods be unpacked and their condition determined in the presence of the Courier, resulting from the terms of this service.

2. The Customer and the Consumer release MMAM and the Seller from any liability for any damage resulting from improper use of the Goods by the Customer and as a result of using the Goods in a manner inconsistent with the recommendations and sequence of operations given in the programs and in the user manual.
3. The Customer should use all data and information obtained from MMAM or the seller directly or through programs and user manuals, being aware that they may not be exhaustive and should be used as a supplement to one's professional knowledge.

RIGHTS IN THE EVENT OF FINDING A DEFECT

1. Under this Guarantee, the Customer or Consumer is entitled to a claim for the restoration of the proper functioning of the Product, through replacement or free repair.

2. The Service decides on the choice of the method of restoring the proper functioning of the Product.

3. Replaced parts and materials become the property of MMAM.

GENERAL EXCLUSIONS FROM THE GUARANTEE

1. The Guarantor's liability under the warranty for sales to Customers, as specified in the Civil Code, is excluded. The Guarantor does not exclude the Consumer's rights under the warranty, as provided for in the Civil Code.

2. The warranty does not cover defects or improper functioning of the Product caused by:
a) improper use or improper maintenance of the Product and incorrect or improper adjustments;
b) use of software, interface, parts or consumables not supplied by the official MMAM sales and service network;
c) unauthorized changes or improper use;
d) use of products in an environment that does not fall within the parameters specified for the Product;
e) incorrect preparation or maintenance of the use environment

SUBJECT EXCLUSIONS FROM THE WARRANTY

1. The software is excluded from the warranty provided by MMAM. If MMAM has an appropriate warranty from the software manufacturer, it will inform the Customer or Consumer of such warranty and may apply to the manufacturer on their behalf, if the conditions of such warranty have been met, the manufacturer's liability has occurred and the warranty period has not expired.

2. Although MMAM has taken all measures to ensure the accuracy of the information contained or displayed, it does not guarantee that the software or any information contained or displayed therein is not free from errors. Data and material (in various forms) contained in programs or in archives to which the Customer or Consumer has access may come from various sources, including, among others: original materials distributed by various manufacturers and materials provided to MMAM by companies specializing in preparing this type of information.

3. The warranty also does not cover any problems related to software conflicts if it has been installed on a hardware platform other than that produced or indicated by MMAM (e.g. PC, notebook, tablet, smartphone). As an example of such situations, which does not exhaust all possible cases, problems caused by incompatibility between MMAM programs and software environments that have inappropriate requirements or are protected by antivirus systems that prevent their correct installation and correct operation; environments damaged by the presence of viruses, environments supported by inappropriate hardware resources are excluded.
4. Liability for legal defects of the software is excluded, as well as for damage that the software may cause to the IT infrastructure or individual computers of the Customer.
5. The Guarantor's liability for defects of air conditioning stations is excluded if the Customer did not use Magneti Marelli operating fluids in these stations.
6. Consumable Parts are excluded from the Warranty. However, a defect of a Consumable Part may be recognized by the Service if the Service determines that the parts wear out abnormally quickly in relation to their equivalents. The decision in this respect is made by the Service.
7. The Warranty for Spare Parts covers only their defects, resulting from the manufacturer's fault, which will be removed by repair or replacement. In no case may the Customer make claims based on the Guarantee regarding the costs of assembly, disassembly or other damages incurred in this respect. The proper functioning of spare parts is largely influenced by the efficiency and proper use of the entire device in which these parts are installed.

PLACE OF EXERCISE OF WARRANTY RIGHTS

1. The exercise of the Customer's or Consumer's rights under this Guarantee, subject to other written or direct agreements with the Service or MMAM, are performed at the Authorized Service Center or the indicated Service.

2. Damage caused during transport or damage caused by the use of improper packaging, in the case of Goods sent to the Service, is excluded from the Guarantee.

3. In the absence of other written agreements, the costs of shipping the Goods for repair or replacement, from the Customer's headquarters to the Authorized Service Center or the indicated Service and/or the costs of delegation of Service personnel to the customer, are the responsibility of the Customer.
4. Before selling the Goods to the Customer or Consumer, MMAM and the seller shall carry out a technical acceptance of the Goods. The Customer or Consumer loses the Warranty if they have not performed all periodic inspections until the defect occurs, as specified in the operating instructions attached to the product. The above also applies to air conditioning service stations. 5. The addresses of Authorized Service Centers and independent Service Centers constitute an annex to the Warranty. Justified comments on the operation of the Service Centers should be sent to MMAM.

RESPONSE DEADLINE AND REPAIR DEADLINE

1. The Service will make every effort to take a position on the validity of the complaint within 14 days of delivery of the Goods, informing the Customer or Consumer about this.

2. The Service will repair the Goods as soon as possible, within a period not exceeding 30 days, subject to point 3.

3. If the repair of the Goods within the period specified in point 2 is not possible due to a particularly complex defect, lack of spare parts, inability to quickly diagnose the fault, etc., the Service will repair within a period that takes into account the possibility of solving the above problems.

4. MMAM is excluded from liability for any damage resulting from the exclusion of the Goods from use during repair, including an extended repair period, for the reasons specified in point 3.

CONSUMER STATEMENT

This Guarantee does not exclude, limit or suspend the rights of the buyer, who is the Consumer, and they result from the provisions on warranty for defects in sold goods, specified in the Civil Code.

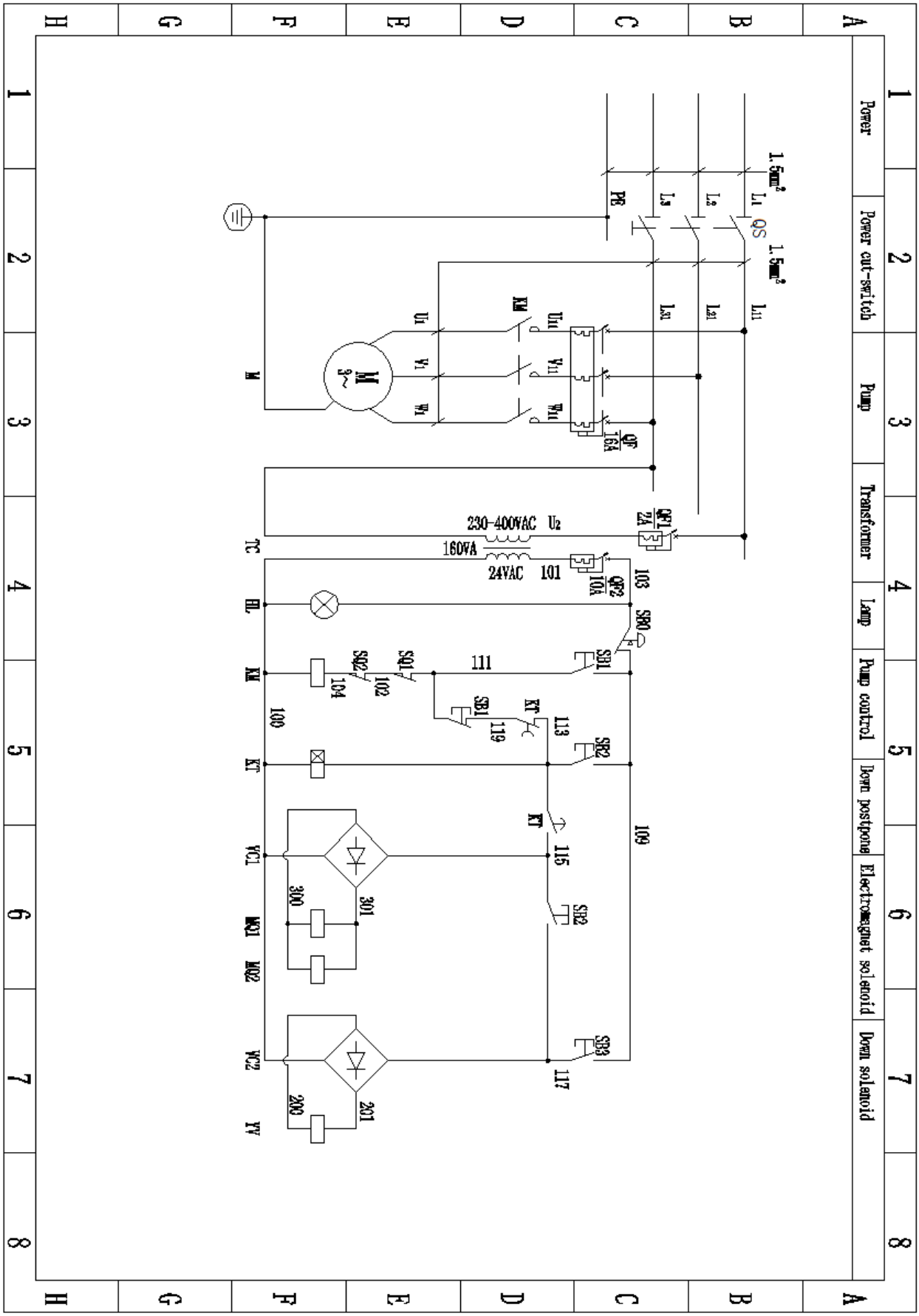
PERSONAL DATA

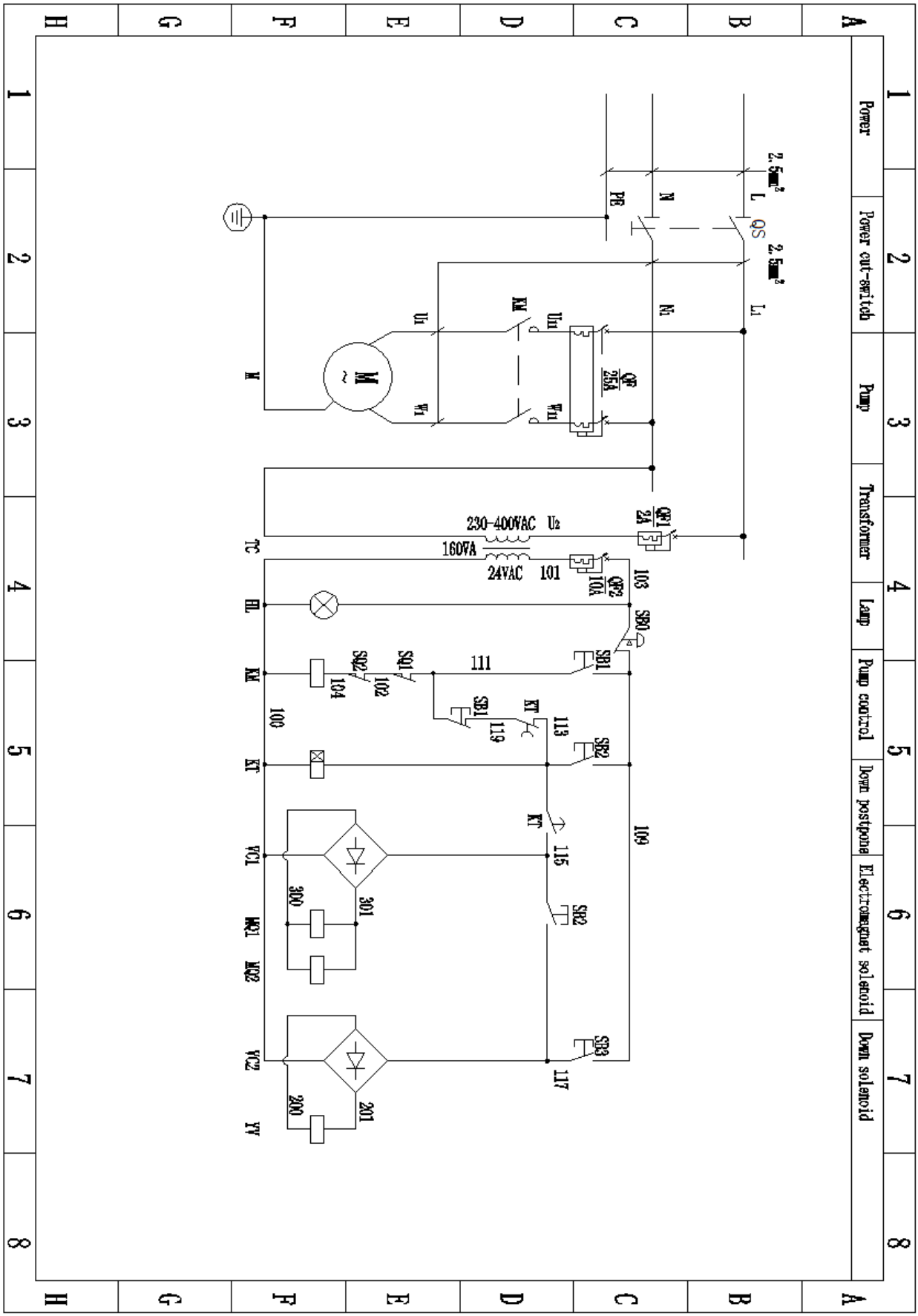
I consent to the processing of my personal data in the personal database, the administrator of which is MMAM. Personal data will be processed for the purpose of exercising the rights under the Guarantee. The person providing personal data has the right to access the content of their data and correct it. Personal data processing is carried out on the basis of the provisions of the Act of 29 August 1997 on the protection of personal data.

Signature of the customer/Consumer……

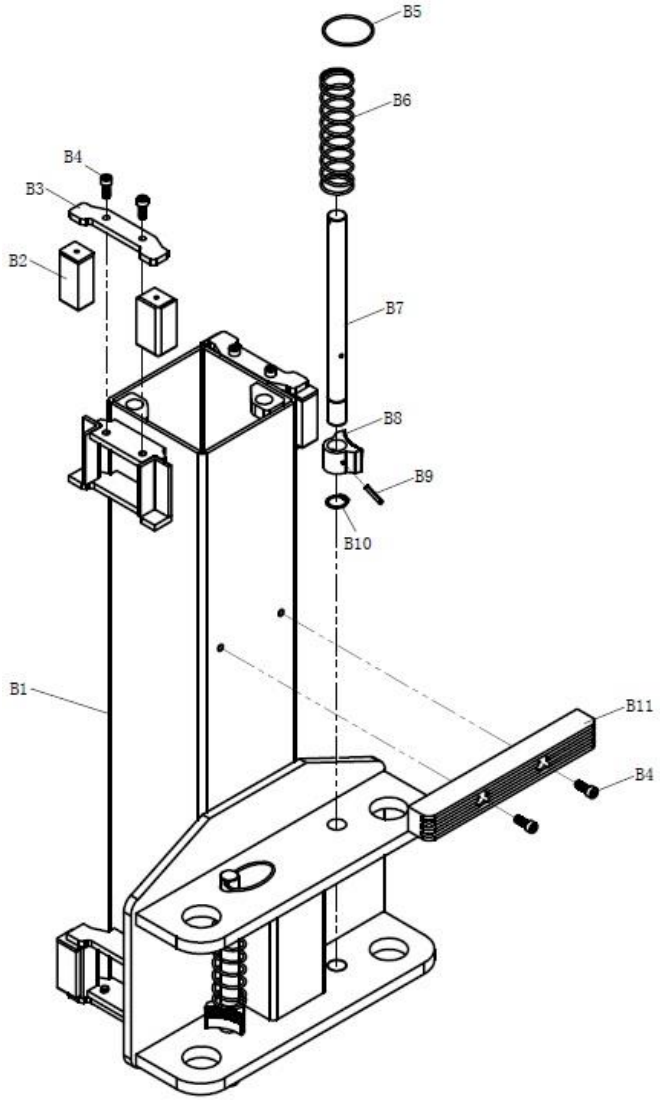
Date …….

13. Circuit diagram



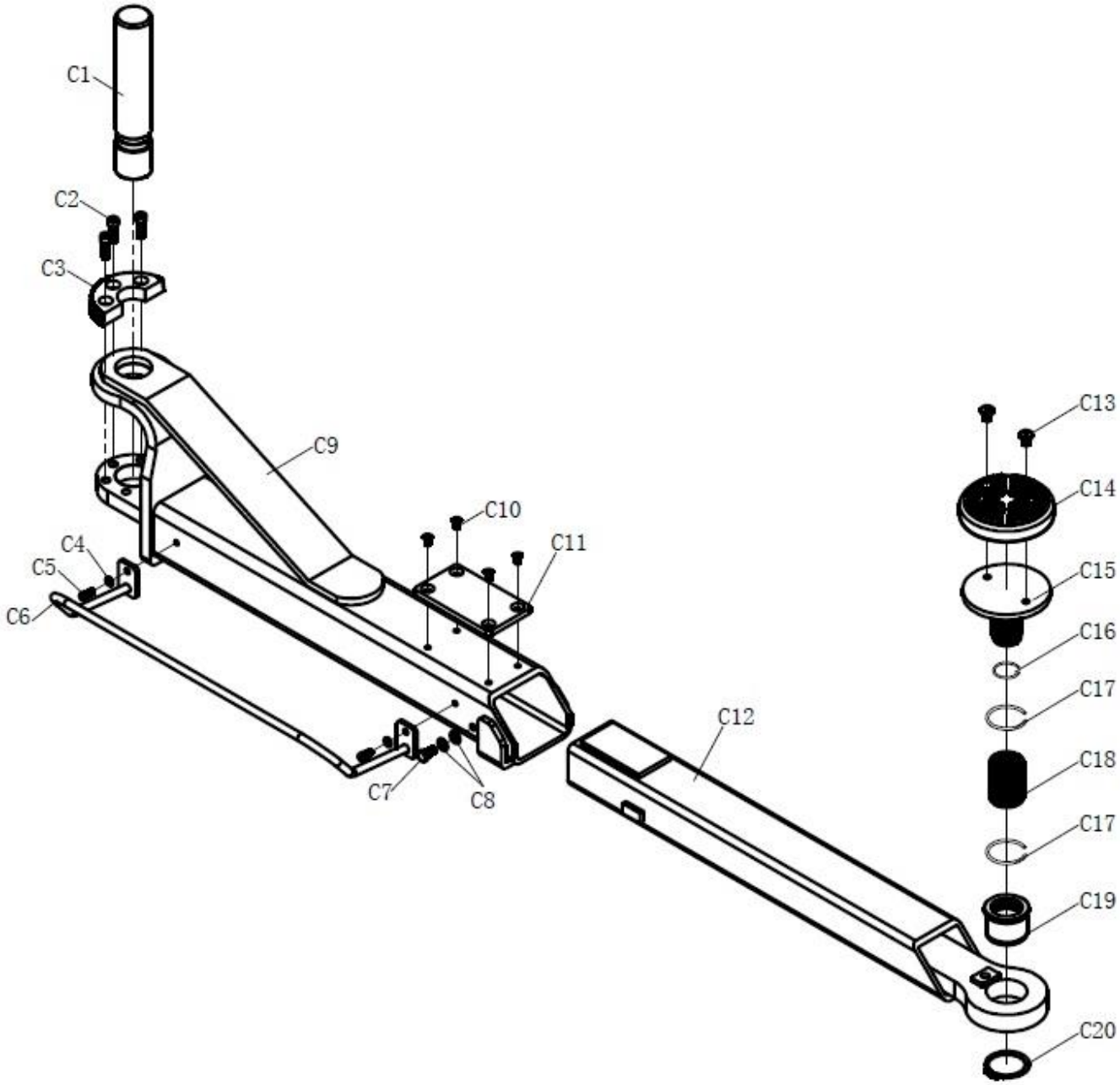

Power
Power cut-switch
Pump
Transformer
Lamp
Pump control
Down postpone
Electromagnet solenoid
Down solenoid
2.5mm²
L
N
PE
QS
2.5mm²
L1
N1
KM
U1
U11
W1
W11
M
QF
25A
230-400VAC U2
160VA
24VAC
101
QF1
2A
QF2
10A
TC
HL
KM
KT
YC1
YC2
YV
MC1
MC2
103
SB0
SB1
SB2
SB3
SQ1
SQ2
111
104
102
100
119
113
115
117
109
300
301
200
201

13. Explosion drawing



Symbol:	Kod:	Nazwa:
B1	007935018895	zespół wózka
B2	007935018900	ślizgacz
B3	007935018905	płytka dociskowa ślizgacza
B4	007935018910	śruba z łbem walcowym z gniazdem sześciokątnym M8×20
B5	007935018915	pierścień
B6	007935018920	sprężyna wałka blokującego
B7	007935018925	wałek blokujący
B8	007935018930	blok półokrągły (mały)
B9	007935018935	sworzeń prosty sprężynowy Ø5×35
B10	007935018940	pierścień zabezpieczający wałka Ø22
B11	007935018945	mata ochronna gumowa

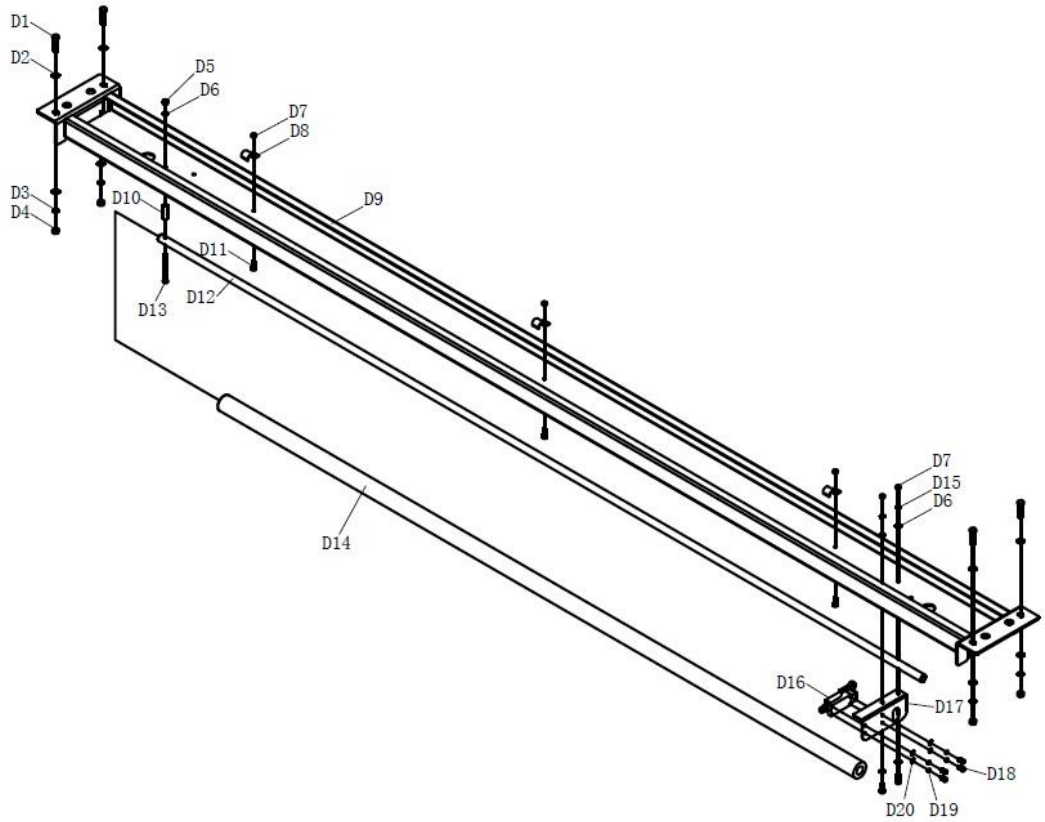
Załącznik 6, Rysunek złożeniowy.



Symbol:	Kod:	Nazwa:
C1	007935018950	szpilka ramienia

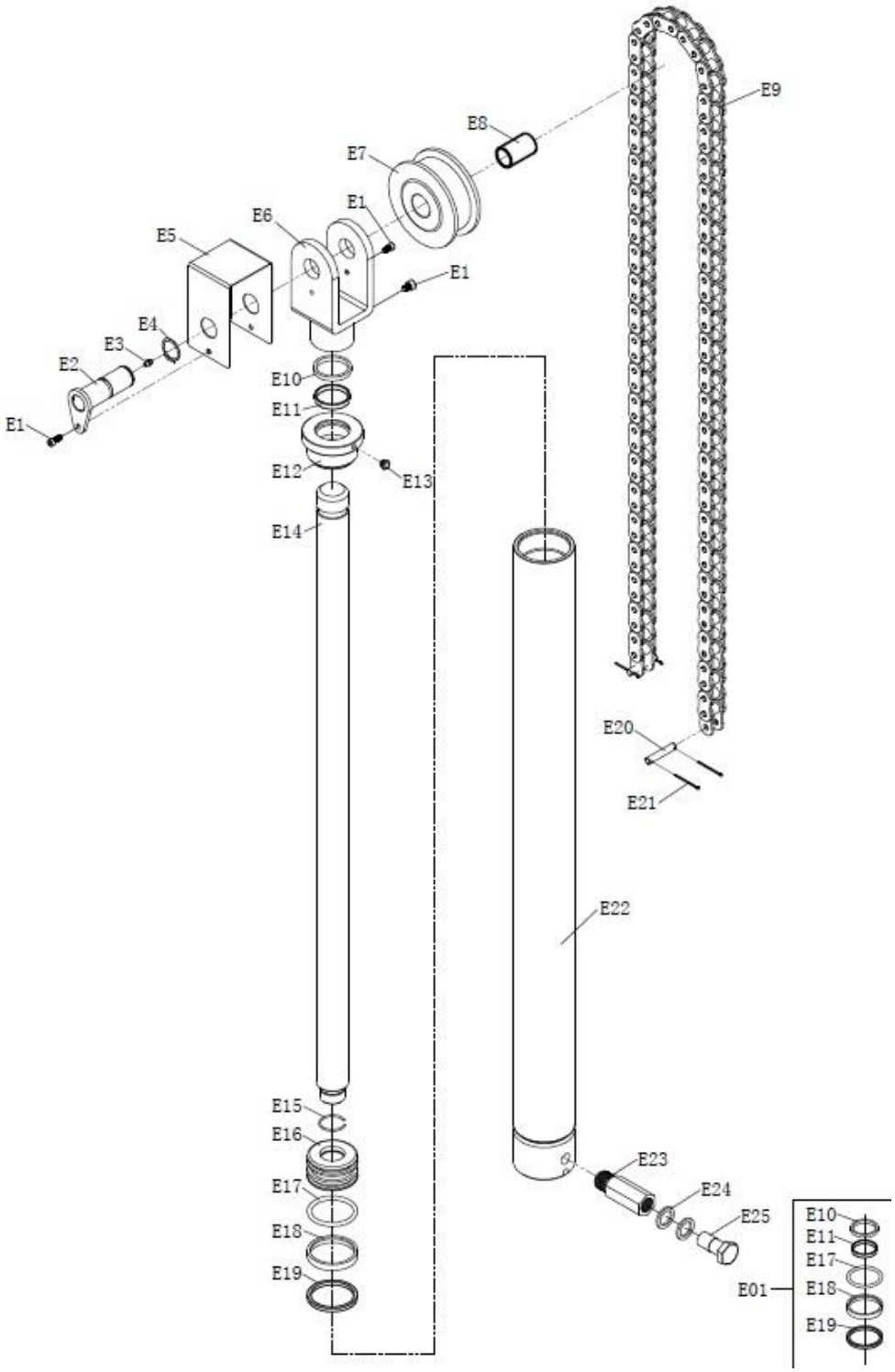
C2	007935018955	śruba z łbem walcowym z gniazdem sześciokątnym M10×25
C3	007935018960	blok półokrągły (duży)
C4	007935018965	podkładka płaska Ø6
C5	007935018970	śruba z łbem walcowym z gniazdem sześciokątnym M6×12
C6	007935018975	zespół barierki ochronnej ramienia podnoszącego
C7	007935018980	śruba z łbem sześciokątnym pełny gwint M8×16
C8	007935018985	podkładka płaska Ø8
C9	007935018990	zespół ramienia podnoszącego zew.
C10	007935018995	śruba z łbem stożkowym z gniazdem krzyżakowym M6×10
C11	007935019935	gumowa nakładka ramienia
C12	007935019005	zespół ramienia podnoszącego wew.
C13	007935019940	śruba z łbem kulistym z gniazdem sześciokątnym M8×12
C14	007935019015	gumowa nakładka
C15	007935019945	pręt gwintowany nakładki nośnej
C16	007935019025	linka stalowa wałka Ø25
C17	007935019950	linka stalowa wałka Ø35
C18	007935019035	tuleja gwintowana nakładki nośnej
C19	007935019955	gniazdo śruby nakładki nośnej
C20	007935019045	pierścień zabezpieczający wałka Ø50

Załącznik 7, Rysunek złożeniowy.



Symbol:	Kod:	Nazwa:
D1	007935019960	śruba z łbem sześciokątnym pełny gwint M8×35
D2	007935019055	podkładka płaska Ø8
D3	007935019965	podkładka sprężynowa Ø8
D4	007935019065	nakrętka sześciokątna M8
D5	007935019975	nakrętka sześciokątna blok. M6
D6	007935019075	podkładka płaska Ø6
D7	007935019980	nakrętka sześciokątna M6
D8	007935019085	karta jednostronna
D9	007935019985	zespół belki górnej
D10	007935019095	tuleja położenia dźwigni granicznej
D11	007935019970	śruby z łbem walcowym z gniazdem sześciokątnym M6×16
D12	007935019105	pręt dźwigni krańcowej belki górnej
D13	007935019110	śruba z łbem sześciokątnym M6×70
D14	007935019115	rura piankowa belki górnej
D15	007935019120	podkładka sprężynowa Ø6
D16	007935019125	wyłącznik krańcowy
D17	007935019130	wspornik wyłącznika krańcowego
D18	007935019135	śruba z łbem walcowym i gniazdem krzyżakowym M5×12
D19	007935019140	podkładka sprężynowa Ø5
D20	007935019145	podkładka płaska Ø5

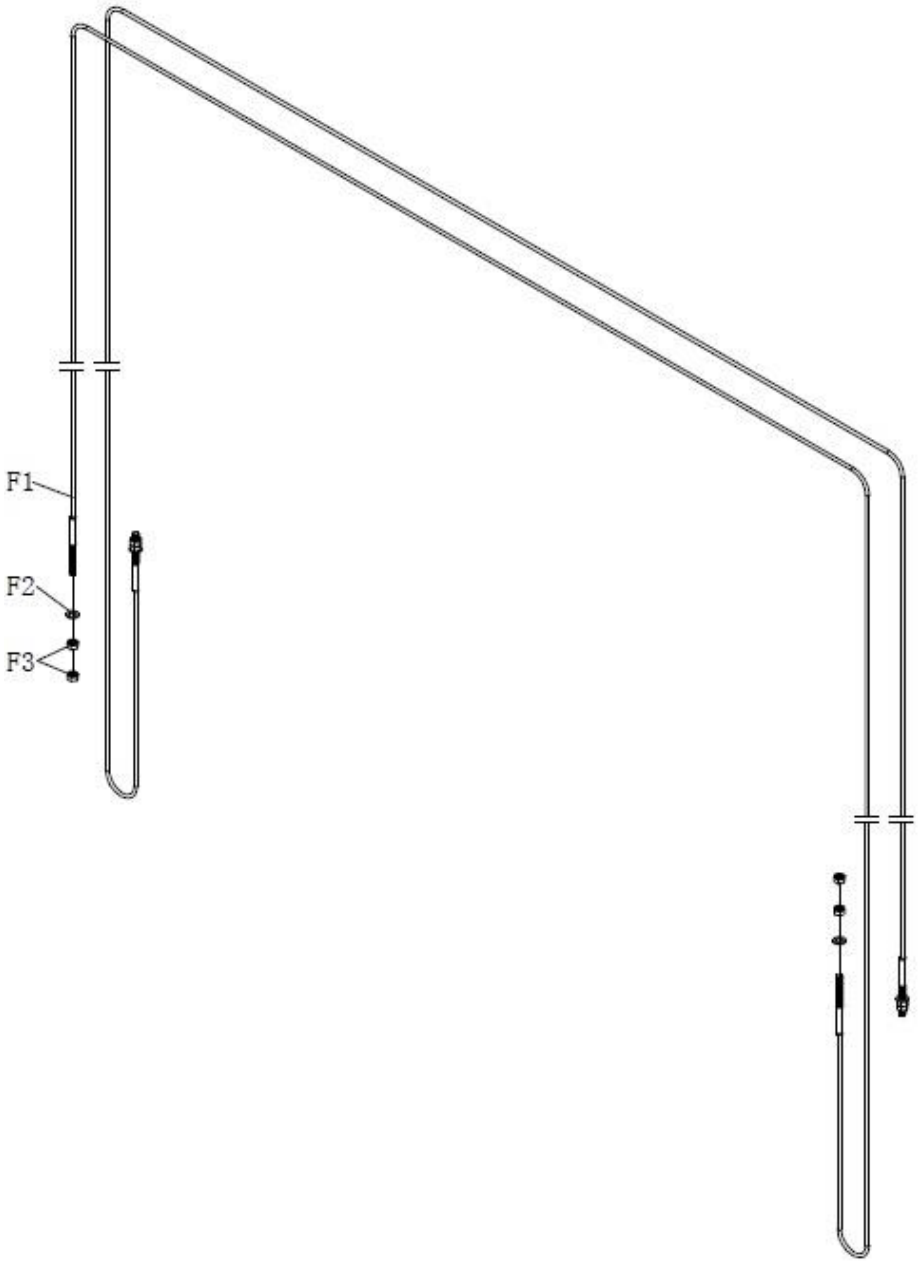
Załącznik 8, Rysunek złożeniowy.



Symbol:	Kod:	Nazwa:
E1	007935019150	śruba z łbem walcowym z gniazdem sześciokątnym M6×12
E2	007935019155	zespół wałka rolki łańcuchowej

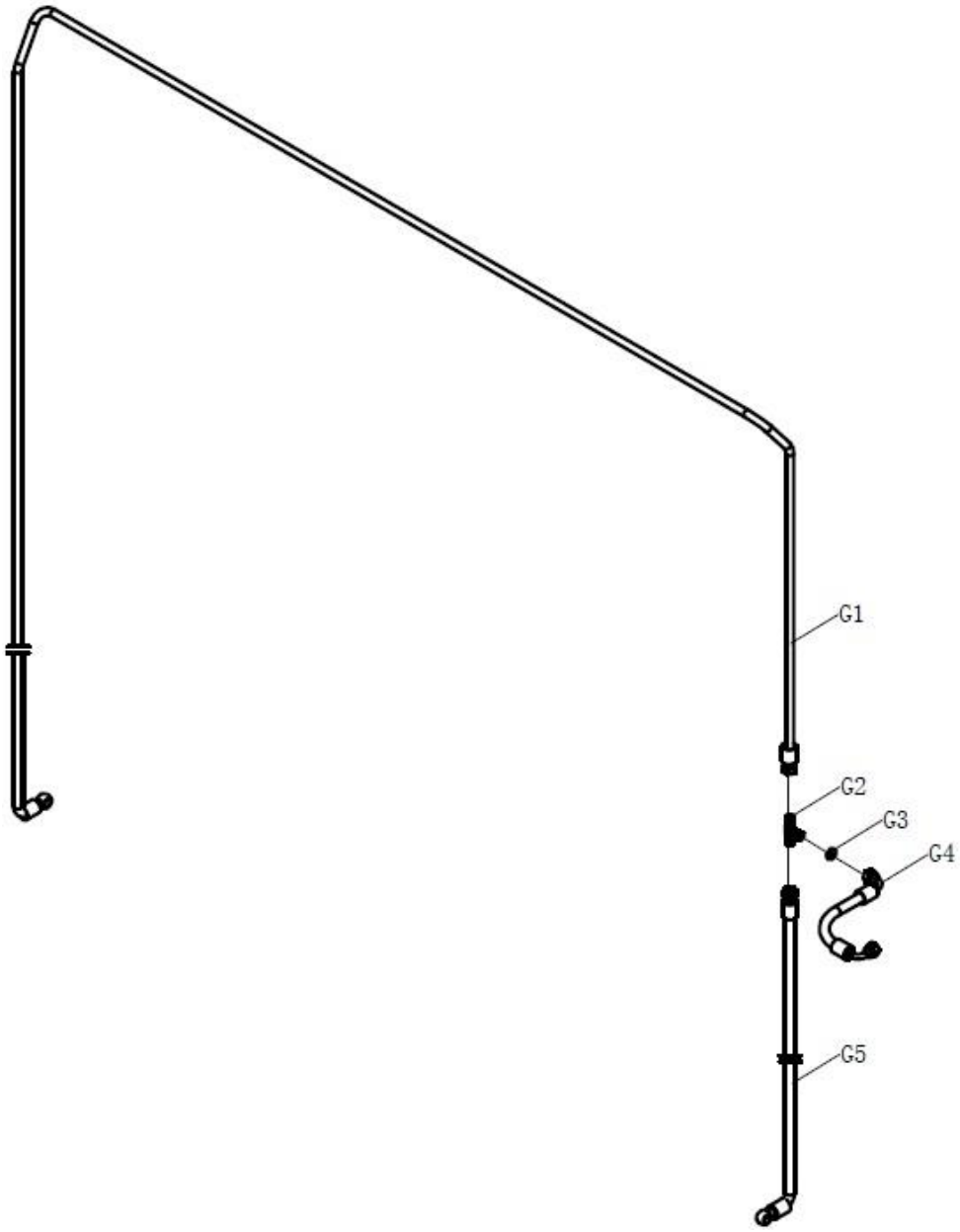
E3	007935019160	smarowniczka M6
E4	007935019165	pierścień zabezpieczający wałka Ø25
E5	007935019170	element odchylający łańcucha
E6	007935019175	zespół wspornika rolki łańcuchowej
E7	007935019180	rolka łańcuchowa
E8	007935019185	tuleja stalowa wału 282545
E9	007935019190	łańcuch płytkowy
E10	007935019195	pierścień pyłoszczelny Ø38×46×6,5
E11	007935019200	pierścień ślizgowy Ø38×6×2
E12	007935019205	osłona siłownika olejowego
E13	007935019210	tłumik
E14	007935019215	tłoczysko
E15	007935019220	pierścień do linek stalowych do otworu Ø30
E16	007935019225	tłok
E17	007935019230	O-ring Ø63×5,7
E18	007935019235	pierścień ślizgowy Ø63×10×2,5
E19	007935019240	Pierścień U Ø63×53×6
E20	007935019245	kołek mocujący łańcucha
E21	007935019250	zawleczka Ø2,5×40
E22	007935019255	zespół siłownika olejowego zależnego
E23	007935019260	złącze zaworu bezpieczeństwa gwint wewnętrzny G1/4--R3/8 57mm
E24	007935019265	łączona podkładka uszczelniająca Ø14
E25	007935019270	śruba zawiasowa G1/4
E01	007935019275	zestaw uszczelnień siłownika olejowego

Załącznik 9, Rysunek złożeniowy.



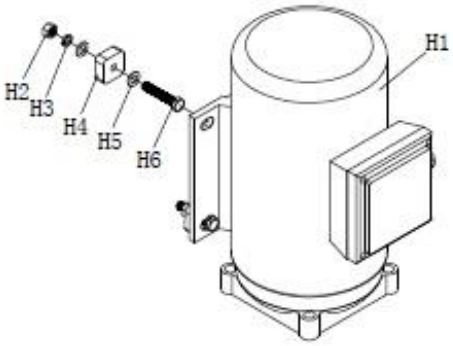
Symbol:	Kod:	Nazwa:
F1	007935019280	zespół linek stalowych
F2	007935019285	podkładka płaska Ø16
F3	007935019290	nakrętka sześciokątna M16

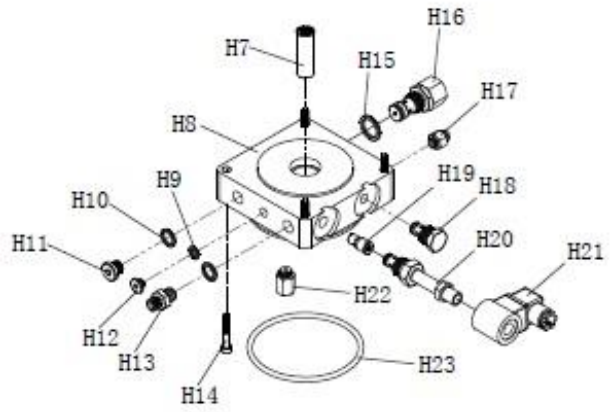
Załącznik 10, Rysunek złożeniowy.

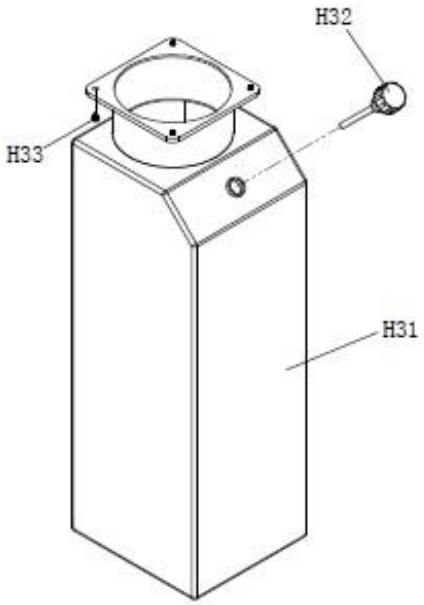


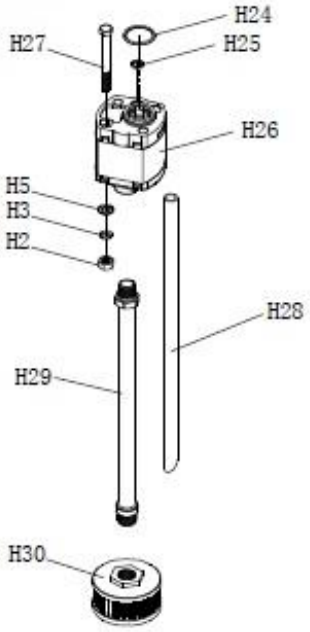
Symbol:	Kod:	Nazwa:
G1	007935019295	wysokociśnieniowy przewód olejowy 7370mm
G2	007935019300	element odchylający przew. Olej., trójdrożny stożek wewnętrzny 3-G1/4
G3	007935019305	nakrętka elementu odchylającego G1/4
G4	007935019310	wysokociśnieniowy przewód olejowy 300mm
G5	007935019315	wysokociśnieniowy przewód olejowy 2860mm

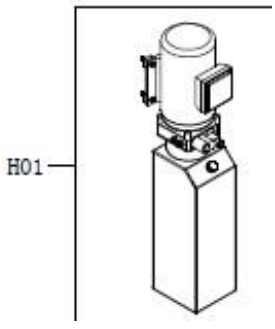
Załącznik 11, Rysunek złożeniowy.







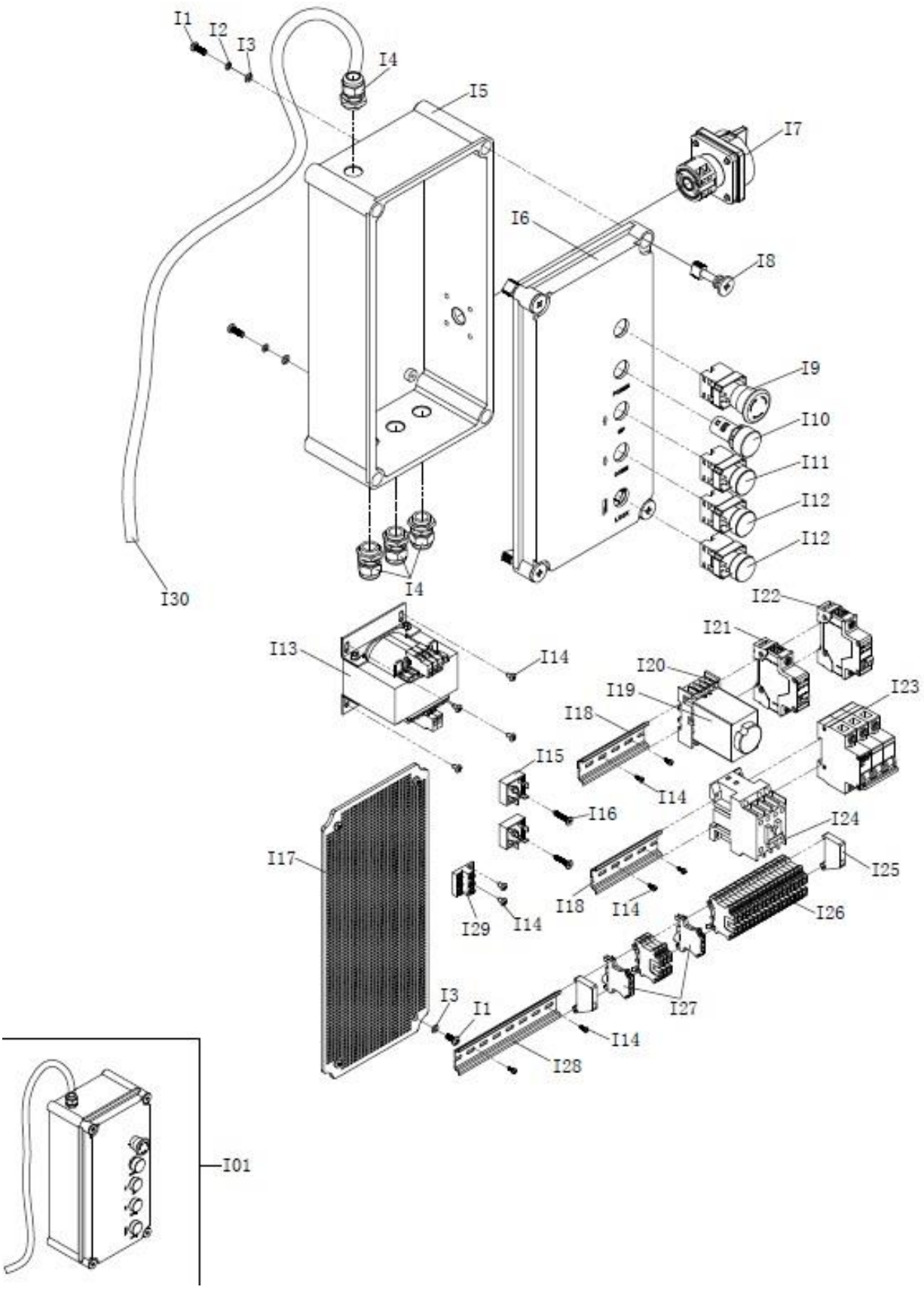




Symbol:	Kod:	Nazwa:
H1	007935019320	silnik 3-fazowy
H1(optional)	007935019325	silnik 1-fazowy (zabezpieczenie 25A)

H2	007935019330	nakrętka sześciokątna M8
H3	007935019335	podkładka sprężynowa Ø8
H4	007935019340	poduszka silnika
H5	007935019345	podkładka płaska Ø8
H6	007935019350	śruba z łbem sześciokątnym pełny gwint M8×45
H7	007935019355	sprzęgło
H8	007935019360	gniazdo zaworu centralnego
H9	007935019365	łączona podkładka uszczelniająca Ø8
H10	007935019370	łączona podkładka uszczelniająca Ø14
H11	007935019375	zaślepka G1/4
H12	007935019380	zaślepka M8×1
H13	007935019385	przewód olejowy złącze proste stożek wewnętrzny G1/4 - końcówka G1/4
H14	007935019390	śruby z łbem walcowym z gniazdem sześciokątnym M6×40
H15	007935019395	łączona podkładka uszczelniająca Ø20
H16	007935019400	zawór przelewowy
H17	007935019405	zaślepka G3/8
H18	007935019410	zawór jednodrożny
H19	007935019415	zawór równoważący
H20	007935019420	element zaworu elektromagnetycznego normalnie zamkniętego
H21	007935019425	cewka zaworu elektromagnetycznego normalnie zamkniętego
H22	007935019430	zawór tłumiący
H23	007935019435	O-ring Ø109×5,3
H24	007935019440	O-ring Ø32×2,4
H25	007935019445	prostokątna uszczelka Ø9,5×1,7
H26	007935019450	pompa zębata
H26(optional)	007935019455	pompa zębata
H27	007935019460	śruby z łbem walcowym z gniazdem sześciokątnym M8×80
H28	007935019465	przewód powrotny
H29	007935019470	przewód ssawny
H30	007935019475	filtr
H31	007935019480	zbiornik oleju
H32	007935019485	korek zbiornika na olej
H33	007935019490	śruba z łbem sześciokątnym z kołnierzem M5×18
H01	007935019495	zespół agregatu
H01(optional)	007935019500	zespół agregatu

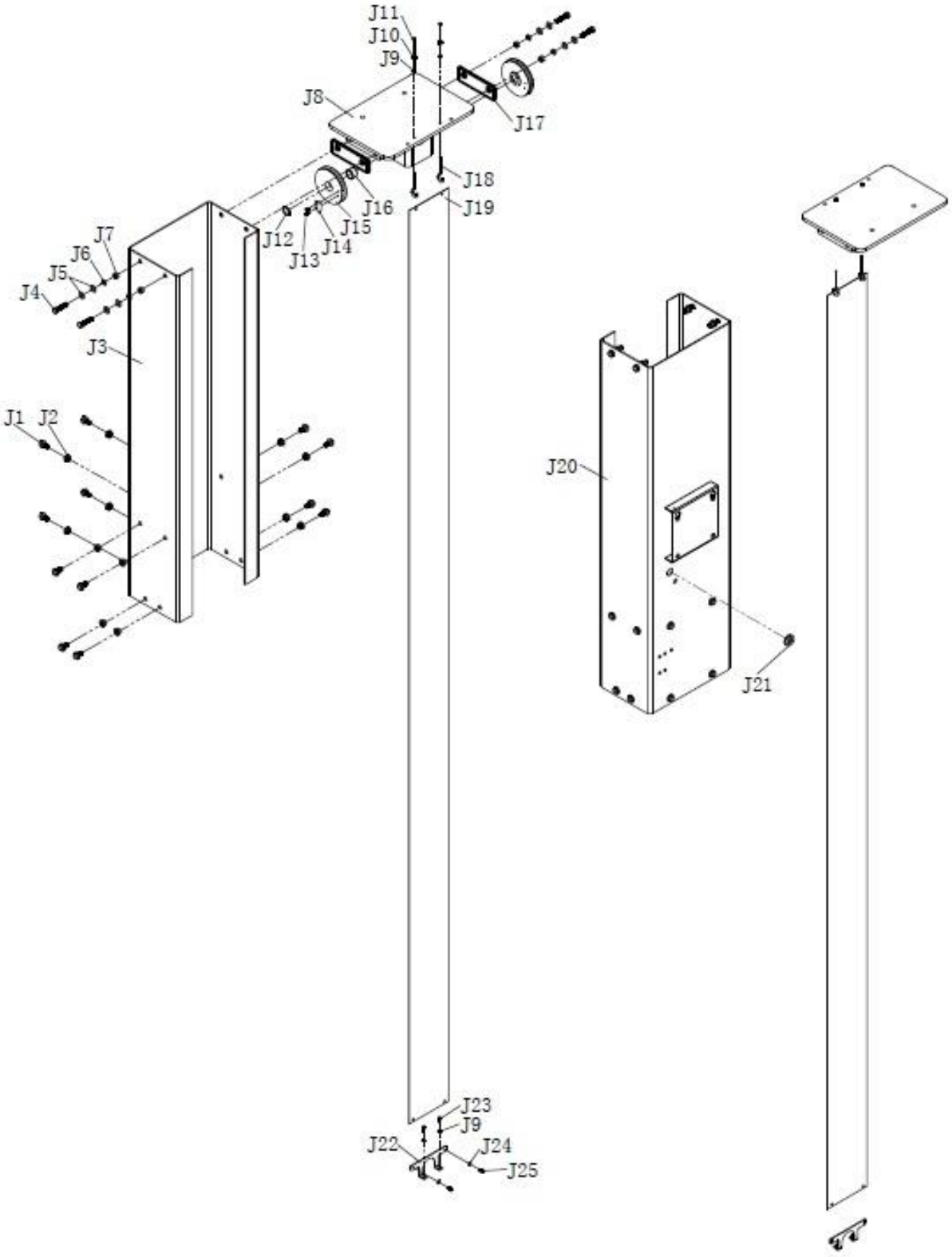
Załącznik 12, Rysunek złożeniowy.



Symbol:	Kod:	Nazwa:
I1		śruba z łbem walcowym i gniazdem krzyżakowym M5×12

I2		podkładka sprężynowa Ø5
I3		podkładka płaska Ø5
I4		złącze śrubowe liny
I5		obudowa skrzynki sterowniczej
I6		pokrywa skrzynki sterowniczej
I7		przełącznik zasilania
I8		śruba blokująca
I9		włącznik zatrzymania awaryjnego
I10		sygnał
I11		przełącznik klawiszowy 1NO1NC
I12		przełącznik klawiszowy 2NO
I13		transformator
I14		śruba gwintująca z łbem walcowym z gniazdem krzyżowym ST4,2×9,5
I15		mostek prostownika
I16		śruba gwintująca z łbem stożkowym z gniazdem krzyżakowym ST4,2×25
I17		panel zasilania
I18		szyna prowadząca
I19		przekaźnik czasowy
I20		gniazdo przekaźnikowe
I21		wyłącznik
I22		wyłącznik
I23		wyłącznik 3-fazowy
I23(optional)		wyłącznik 1-fazowy
I24		Stycznik AC
I25		zacisk stały
I26		zacisk Phoenix
I27		zacisk uziom
I28		szyna prowadząca
I29		listwa uziemiająca
I30		trójfazowy przewód zasilający
I30(optional)		jednofazowy przewód zasilający
I01		skrzynka sterownicza kompletna

Załącznik 13, Rysunek złożeniowy.



Symbol:	Kod:	Nazwa:
J1		śruba z łbem sześciokątnym z kołnierzem M10×20

J2		nakrętka sześciokątna z kołnierzem M10
J3		zespół kolumny zależnej podnośnika
J4		śruba z łbem sześciokątnym pełny gwint M10×35
J5		podkładka płaska Ø10
J6		podkładka sprężynowa Ø10
J7		nakrętka sześciokątna M10
J8		płyta górna
J9		podkładka płaska Ø6
J10		podkładka sprężynowa Ø6
J11		nakrętka sześciokątna M6
J12		pierścień zabezpieczający wałka Ø25
J13		śruba z łbem sześciokątnym pełny gwint M5×10
J14		tłumik drgań liny stalowej
J15		rolka
J16		tuleja wałka 282515
J17		element odchylający
J18		wieszak na osłonę gumową
J19		osłona gumowa wnętrza kolumny
J20		zespół głównej kolumny podnośnika
J21		cewka 26
J22		płyta mocująca osłony gumowej
J23		śruba z łbem walcowym z gniazdem sześciokątnym M6×12
J24		podkładka płaska Ø5
J25		śruba z łbem walcowym i gniazdem krzyżakowym M5×6

A T40EB/ 201901	A1	main column assembly
	A2	sub column assembly
	A3	roller
	A4	shaft sleeve 282515
	A5	circlip for shaft Ø25
	A6	steel cable damper
	A7	hexagon head bolt full thread M5×10
	A8	hexagon nut M6
	A9	plain washer Ø6
	A10	higher column support
	A11	cup head square neck bolt with large head M6×20
	A12	higher column 70mm
	A13	cross recessed pan head screw M5×12
	A14	unilateral card
	A15	limit switch
	A16	plain washer Ø5
	A17	spring washer Ø5
	A18	cross recessed pan head screw M5×20
	A19	cross recessed pan head screw M5×16
	A20	small insurance block
	A21	insurance block
	A22	electromagnet MQZ2-10
	A23	decorate box

	A24	coil 26
B T40EB/ 201901	B1	carriage assembly
	B2	slider
	B3	slider press plate
	B4	hexagon socket head cap screw M8×20
	B5	key ring
	B6	locking shaft spring
	B7	locking shaft
	B8	semi-circle block（small）
	B9	spring-type straight pin Ø5×35
	B10	circlip for shaft Ø22
	B11	protection rubber mat
C T40EB/ 201901	C1	arm pin
	C2	hexagon socket head cap screw M10×25
	C3	semi-circle block（big）
	C4	plain washer Ø6
	C5	hexagon socket head cap screw M6×12
	C6	lifting arm guardrail assembly
	C7	hexagon head bolt full thread M8×16
	C8	plain washer Ø8
	C9	outside lifting arm assembly
	C10	cross recessed countersunk head screw M6×10
	C11	arm rubber mat
	C12	inside lifting arm assembly
	C13	hexagon socket button head screw M8×12
	C14	rubber mat
	C15	support cushion screw rod
	C16	steel cable for shaft Ø25
	C17	steel cable for shaft Ø35
	C18	support cushion screw sleeve
	C19	support cushion screw seat
	C20	circlip for shaft Ø50
D T40EB/ 201901	D1	hexagon head bolt full thread M8×35
	D2	plain washer Ø8
	D3	spring washer Ø8
	D4	hexagon nut M8
	D5	hexagon locking nut M6

	D6	plain washer Ø6
	D7	hexagon nut M6
	D8	unilateral card
	D9	top beam assembly
	D10	limit lever position sleeve
	D11	hexagon socket head cap screw M6×16
	D12	top beam limit lever rod
	D13	hexagon bolt M6×70
	D14	top beam foam pipe
	D15	spring washer Ø6
	D16	limit switch
	D17	limit switch support
	D18	cross recessed pan head screw M5×12
	D19	spring washer Ø5
	D20	plain washer Ø5
E T40EB/ 201901	E1	hexagon socket head cap screw M6×12
	E2	chain roller shaft assembly
	E3	grease nipple M6
	E4	circlip for shaft Ø25
	E5	chain baffle
	E6	chain roller support assembly
	E7	chain roller
	E8	shaft steel sleeve 282545
	E9	plate chain
	E10	dust-proof ring Ø38×46×6.5
	E11	wear ring Ø38×6×2
	E12	oil cylinder cover
	E13	muffler
	E14	piston rod
	E15	steel cable circlip for hole Ø30
	E16	piston
	E17	O-ring Ø63×5.7
	E18	wear ring Ø63×10×2.5
	E19	U-ring Ø63×53×6
	E20	chain fixing shaft
	E21	split pin Ø2.5×40
	E22	sub oil cylinder assembly
	E23	safety valve joint inner thread G1/4--R3/8 57mm
	E24	combined sealing washer Ø14
	E25	english hinged bolt G1/4
	E01	oil cylinder seal kit
F	F1	steel cable assembly

T40EB/ 201901	F2	plain washer Ø16
	F3	hexagon nut M16
G T40EB/ 201901	G1	high-pressure oil pipe 7370mm
	G2	oil hose baffle three-way inner cone 3-G1/4
	G3	baffle nut G1/4
	G4	high-pressure oil pipe 300mm
	G5	high-pressure oil pipe 2860mm
H T40EB/ 201901	H1	3ph motor
	H1(optional)	1ph motor
	H2	hexagon nut M8
	H3	spring washer Ø8
	H4	motor cushion
	H5	plain washer Ø8
	H6	hexagon head bolt full thread M8×45
	H7	coupling
	H8	center valve socket
	H9	combined sealing washer Ø8
	H10	combined sealing washer Ø14
	H11	plug G1/4
	H12	plug M8×1
	H13	oil pipe straight union inner cone G1/4--end face G1/4
	H14	hexagon socket head cap screw M6×40
	H15	combined sealing washer Ø20
	H16	overflow valve
	H17	plug G3/8
	H18	one-way valve
	H19	balance valve
	H20	normally closed solenoid valve element
	H21	normally closed solenoid valve coil
	H22	cushion valve
	H23	O-ring Ø109×5.3
	H24	O-ring Ø32×2.4
	H25	rectangle seal ring Ø9.5×1.7
	H26	gear pump
	H26(optional)	gear pump
	H27	hexagon socket head cap screw M8×80
	H28	return tube

	H29	suction tube
	H30	filter
	H31	oil tank
	H32	oil tank cap
	H33	hexagon flange bolt M5×18
	H01	power unit assembly
	H01(optional)	power unit assembly
I T40EB/ 201901	I1	cross recessed pan head screw M5×12
	I2	spring washer Ø5
	I3	plain washer Ø5
	I4	cable screw joint
	I5	control box body
	I6	control box cover
	I7	power switch
	I8	locking screw
	I9	emergency stop switch
	I10	signal
	I11	button switch 1NO1NC
	I12	button switch 2NO
	I13	transformer
	I14	cross recessed pan head tapping screw ST4.2×9.5
	I15	rectifier bridge
	I16	cross recessed countersunk head tapping screw ST4.2×25
	I17	power panel
	I18	lead rail
	I19	time relay
	I20	relay socket
	I21	circuit breaker
	I22	circuit breaker
	I23	circuit breaker 3phase
	I23(optional)	circuit breaker 1phase
	I24	AC contactor
	I25	fixed terminal
	I26	phoenix terminal
	I27	earth terminal
	I28	lead rail
	I29	grounding strip
	I30	three-phase power wire
	I30(optional)	single phase power wire
	I01	control box complete
J T40EB/	J1	hexagon flange bolt M10×20
	J2	hexagon flange nut M10

201901	J3	auxiliary elevation column assembly
	J4	hexagon head bolt full thread M10×35
	J5	plain washer Ø10
	J6	spring washer Ø10
	J7	hexagon nut M10
	J8	top plate
	J9	plain washer Ø6
	J10	spring washer Ø6
	J11	hexagon nut M6
	J12	circlip for shaft Ø25
	J13	hexagon head bolt full thread M5×10
	J14	steel cable damper
	J15	roller
	J16	shaft sleeve 282515
	J17	baffle
	J18	dust cloth hanger
	J19	dust cloth
	J20	main elevation column assembly
	J21	coil 26
	J22	dust cloth fixed plate
	J23	hexagon socket head cap screw M6×12
	J24	plain washer Ø5
	J25	cross recessed pan head screw M5×6

MARELLI

CE CONFORMITY DECLARATION

005/2021

As manufacturer:

Marelli Aftermarket Poland Sp. z o.o.
Plac pod Lipami 5
40-476 Katowice, Polska

declares, under its own responsibility, that the product:

product:	Two post vehicle lift.
type/model:	MM Superlift 4000UC
product code:	007935018175
serial number:	
year of production:	

complies to the requirements of:

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2014/30/EU

Applicable standards:

EN ISO 12100:2010
EN 1493:2010
EN 60204-1:2006+A1:2009
EN 61000-6-2:2005
EN 61000-6-4:2007/A1:2011

Tile responsible person defined above least responsibility for ensuring that all future serial manufacture of the machinery conforms the specification detailed in the technical documentation referenced above.

A CE marking should not be fixed on the equipment until the requirements of all relevant directives have been met.

Katowice 30/10/2021

Stefano Sancassani
SVP Aftermarket Division President

Przemysław Treliński
Person authorized to prepare and store technical documentation

Notifying body: TÜV SÜD Product Services GmbH ; ID number: 0123
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