



# TW 242 A

2 post lift

Manual Release

Lifting capacity: 4200 kg

twinbusch.de



## Installation, Operation and Parts Manual



Read this entire manual carefully before installation or operation of the lift.  
Follow the instructions strictly.

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# Index

<b>1. Important safety instructions</b>	<b>4-5</b>
1.1 Safety Warnings	
1.2 Qualified personnel	
1.3 Safety	
1.4 Warning signs	
<b>2. Overview of the lift</b>	<b>6</b>
2.1 General descriptions	
2.2 Technical data	
2.3 Construction of the lift	
<b>3. Installation instructions</b>	<b>7</b>
3.1 Preparations before installation	
3.2 Precautions for installation	
3.3 Installation	
3.4 Items to be checked after installation	
<b>4. Operation instructions</b>	<b>8-9</b>
4.1 Precautions	
4.2 Flow chart for operation	
4.3 Operation instructions	
<b>5. Trouble shooting</b>	<b>10</b>
<b>6. Maintenance</b>	<b>11</b>
<b>7. Annex</b>	<b>12-26</b>
Packing list	
Overall diagram	
Floor plan	
Hydraulic working system	
Wiring diagram	
Explosion drawings	
Spare parts list	

# 1. Safety warnings



## 1.1 Important notice

The manufacturer will take no responsibility for improper installation, improper usage, overloading or non-suitable ground for mounting the lift.

This model is specially designed for lifting vehicles up to the specified weight. The manufacture or the dealer for accidents or damage will not cover usage for other purposes. (Weight distribution see diagram page 31)

Pay careful attention to the approved weights! The warning stickers on the lift show the specifications. Never attempt to lift vehicles above the specified weight!

Always read the manual carefully to avoid damage or accidents through misuse.

**(Weight, wheel base and vehicle sizes, see Diagram page 43)**

## 1.2 Qualified personnel

1.2.1 Only qualified and trained staff should be allowed to operate the lift.

1.2.2 The electrical connections should be carried out by an electrician.

## 1.3 Safety warning

1.3.1 Never mount the lift on asphalt or other soft surfaces.

1.3.2 Read the safety warnings thoroughly before using the lift.

1.3.5 Only qualified trained personnel are allowed to operate the lift.

1.3.7 The lift and surrounding area should be kept clean to avoid accidents

1.3.9 **Make sure that all safety locks are engaged before any attempt is made to work under or near the lift.**

Never remove any safety related components from the lift and do not use if such parts are damaged or missing.

1.3.10 Do not rock the vehicle or cause excessive weight displacement by removal of heavy parts when working on the lift.

1.3.11 All moving parts of the lift should be regularly maintained and checked. Should any parts be damaged, work on the lift should be stopped immediately and you should contact the service partner for advice.

1.3.12 When not in use the lift should be lowered completely to the floor and the electric turned off.

1.3.13 The lift is only to be operated in a dry indoor area.

1.3.14 If the lift is not used for a longer period of time, it is recommended to:

- a) Disconnect the power source.
- b) Empty the oil tank.
- c) Lubricate the moving parts with grease.

## 1.4 Warning signs

All safety warning signs attached on the machine are for the purpose of drawing the user's attention to safety operation. The labels must be kept clean and need to be replaced when they are worn-out or missing. Read the explanations of the labels carefully and try to memorize them.

 <p>Please read the instruction manual and safety warnings before using!</p>	 <p>Use of the lift by qualified personnel only!</p>	 <p>Use only the vehicle manufacturer's recommended lifting points!</p>	 <p>Check vehicle for security shortly after lifting!</p>
 <p>Repairs and maintenance only by qualified personnel, do not tamper with lift safety devices!</p>	 <p>Only qualified personnel are allowed within the lift working area!</p>	 <p>Never exceed the recommended lifting capacity!</p>	 <p>Attention when removing heavy vehicle parts!</p>
 <p>Always keep escape routes free!</p>	 <p>No persons under the lift (when lifting or lowering)!</p>	 <p>Never try to lift using only one side of the lift!</p>	 <p>Protect the lift against damp, especially the electrical connections!</p>
 <p>Always take care of your feet when lowering!</p>	 <p>Never climb on the lift!</p>	 <p>Avoid excessive shaking of the vehicle!</p>	 <p>ATTENTION! Danger of shock!</p>

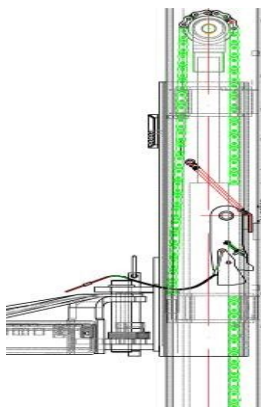
## 2. Overview of the lift

### 2.1 General descriptions

This floor plate two posts lift is composed of posts, carriages, lifting arms, cylinders and motor unit, etc. It is driven by an electro-hydraulic system. The gear pump delivers hydraulic oil to the oil cylinders and drives the piston. The piston drives the chain to raise the carriage and the lifting arms. During lifting process, the safety latch will automatically lock.

This system will prevent the lift from dropping in the case of cable or hose breakages.

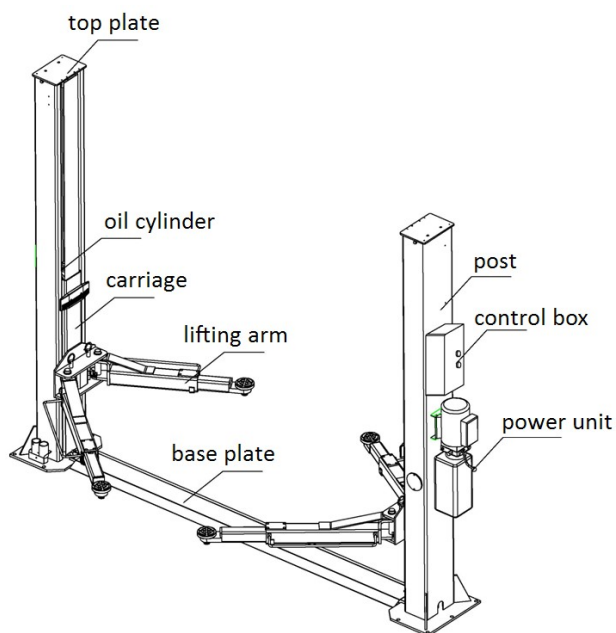
### Safety structure



### 2.2 Technical data

Model	Lifting	Full rise	Full rise	Height	Width	Inside
TW 242 A	4200 kg	50 Sec	1930 mm	2824 mm	3436 mm	2850 mm

### 2.3 Construction of the lift



## 3. Installation instructions

### 3.1 Preparations before installation

#### 3.1.1 Tools and equipment needed

- ✓ Appropriate lifting equipment
- ✓ Anti-abrasion hydraulic oil. HLP 32
- ✓ Rotary Hammer Drill with 3/4" (18mm) drill bit.
- ✓ Chalk and tape measure, magnetic plump, 8 meters  $\Phi 15$  level pipe.
- ✓ Sockets and open wrenches, a set of inside hex wrenches, cross and straight screw drivers.
- ✓ Hammer, 4pounds, sharp nose pliers,  $\Phi 17$ ,  $\Phi 19$ ,  $\Phi 22$  socket spanners.

#### 3.1.2 List of parts (Packing list)

Unpack the package and check if any parts are missing Annex 1. Do not hesitate to contact us in case of any missing parts. If you do not contact us and insist installing upon the lack of parts, Twin Busch as well as our dealers will not bear any responsibility for this and will charge for any parts subsequently demanded by the buyer.

#### 3.1.3 Ground conditions

The lift should be fixed on a smooth and solid concrete ground with its strength more than 3000psi, tolerance of flatness less than 5mm and minimum thickness of 200 mm. In addition, newly built concrete ground must cure for more than 28 days.

### 3.2 Precautions for installation

- 3.2.1 Make sure the two posts stand parallel and are vertical to the ground. Avoid slanting.
- 3.2.2 Joints of oil hose and steel cable must be firmly connected in order to avoid leakage.
- 3.2.3 All bolts should be firmly fixed.
- 3.2.4 Do not place any vehicle on the lift when testing.

### 3.3 Installation

To make installation as simple as possible for our customers we have made a video showing you step by step how to install your lift.

**This can be found on youtube under:**

(Assembly of the TW 242 A - 2 post lift from TWIN BUSCH)

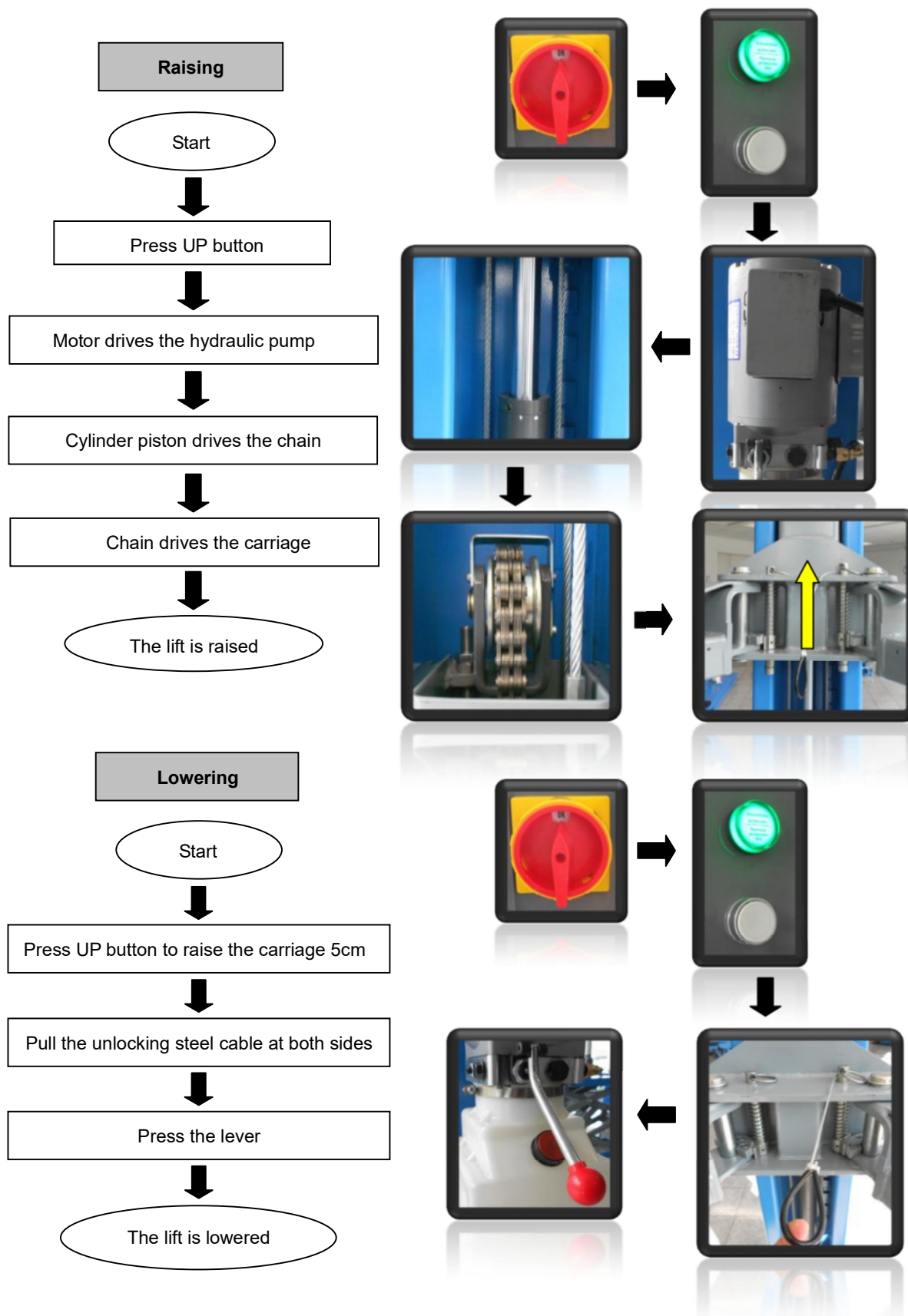
or [https://www.youtube.com/watch?v=0Jh\\_UmyiqHw&list=PLS-GV4X56PWdq9-W0A5iWwoe68kOvrhOv](https://www.youtube.com/watch?v=0Jh_UmyiqHw&list=PLS-GV4X56PWdq9-W0A5iWwoe68kOvrhOv)

### 3.4 Items to be checked after installation

S/N	Check items	YES	NO
1	Are the posts vertical to the floor?		
2	Are the two posts paralleled?		
3	Is the oil hose well connected?		
4	Is the steel cable well connected?		
5	Are all lifting arms well fixed?		
6	Are electrical connections right?		
7	Are the rest joints firmly screwed?		
8	Are all items need lubricating added with grease?		

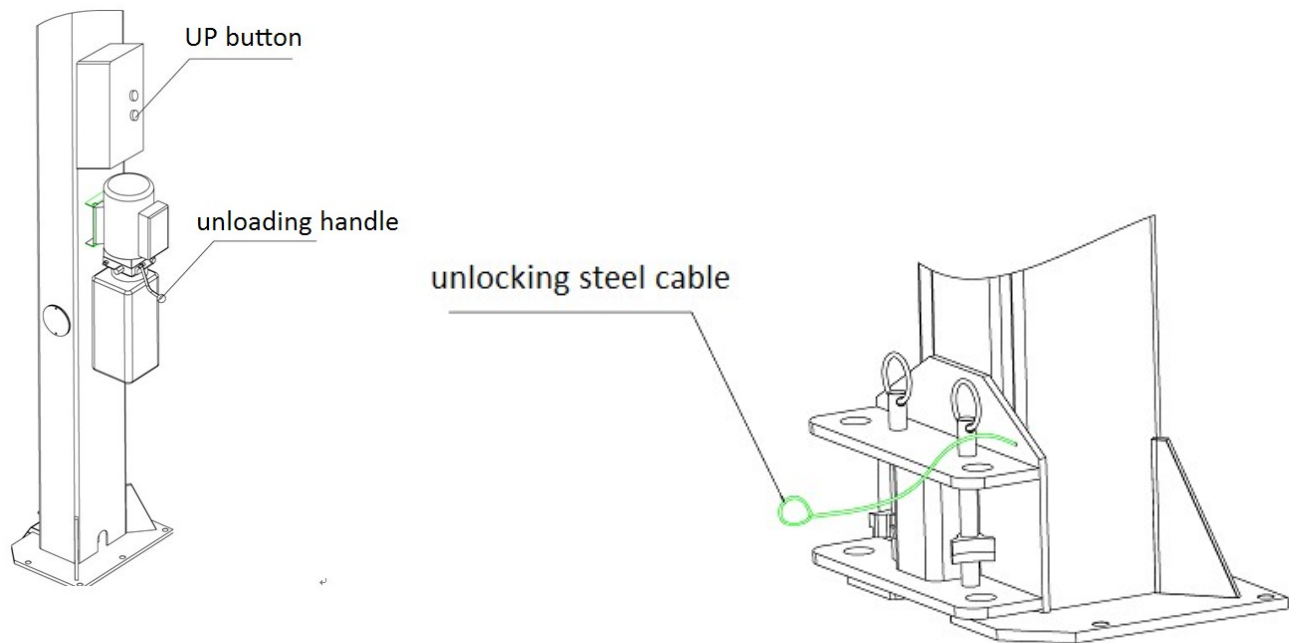


## 4. Operation instructions





### 4.3 Operation instructions



#### Raise the lift

1. Make sure that you have read and understand the operation manual before operation.
2. Park the vehicle between two posts.
3. Position the arms under the vehicle at the lifting points making sure that the vehicle is evenly balanced.
4. Turn on the power supply.
5. Press the "UP" button until the pads touch the vehicle.
6. Stop and check the vehicle for stability.
7. Raise the vehicle to the desired height, lower and engage the safety, first then perform maintenance or repair work underneath the vehicle.

#### Lower the lift

1. Press the "UP" button on the control box to raise the lifting arms until the safety catch is clear.
2. Pull the unlocking steel cable at both sides to release the safety locks.
3. Press the lever to lower the arms.
4. After completely lowering, pull them out from under the vehicle and clear up all the obstacles.
5. Drive the vehicle away.

## 5. Trouble shooting

**ATTENTION:** If the problem cannot be fixed by yourself, please do not hesitate to contact us for help.  
We will offer our service at the earliest time we can.

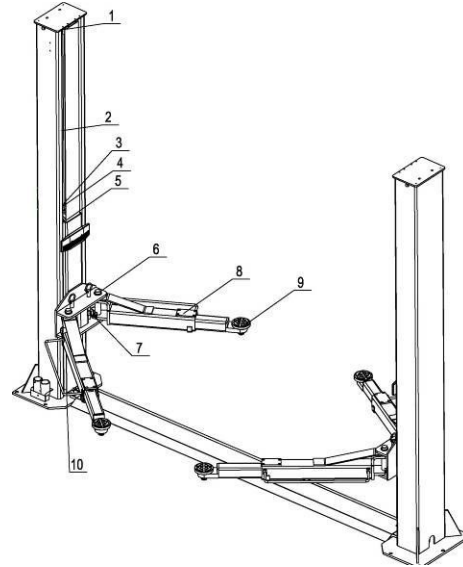
TROUBLES	CAUSE	SOLUTION
Abnormal noise	Abrasion exists on inside surface of the posts.	Grease the inside of the post.
	Obstruction in the post.	Clear the obstruction
Motor does not run and will not rise	The wire connection is loose.	Check and reconnect.
	The motor is defect.	Replace it.
	The limit switch is damaged or the wire connection is loose.	Reconnect or replace the limit switch.
Motor runs but will not raise	The motor turns the wrong way	Check the wire connection.
	Overflow valve is loose or jammed.	Clean or adjust it.
	The gear pump is damaged.	Replace it.
	Oil level is too low.	Add oil.
	The oil hose is loose	Tighten it.
	The cushion valve is loose or jammed.	Clean or adjusts it.
Carriages descends too slow	The oil hose leaks.	Check or replace it.
	The oil cylinder is not tightened.	Replace the seal.
	The single valve leaks.	Clean or replace it.
	Solenoid valve fails to work well.	Clean or replace it.
	Steel cable is loose or not with same tightness.	Check and adjust the tightness.
Raising too slow	The oil filter is jammed.	Clean or replace it.
	Oil level is too low.	Add oil.
	The overflow valve is not adjusted to the right position.	Adjust it.
	The hydraulic oil is too hot (above 45°).	Change the oil.
	The cylinder is damaged.	Replace the seal.
	Inside surface of the posts is not lubricated.	Add grease.
Lowering too slow	The throttle valve is jammed.	Clean or replace.
	The hydraulic oil is dirty.	Change the oil.
	The anti-surge valve jammed.	Clean it.
	The oil hose jammed.	Replace it.

## 6. Maintenance

Easy and low cost routine maintenance can ensure the lift works normally and safely. The following requirements are for routine maintenance. Frequency of routine maintenance is determined by working conditions.

The following parts need to be lubricated.

S/N	Description
1	Pulley
2	Steel cable
3	Chain wheel
4	Chain
5	Sliding block
6	Pin
7	Arm block
8	Lifting arm
9	Tray
10	Down pulley



### 6.1 Daily Check

The user must perform a daily check. Daily checks of safety lock systems are very important, the discovery of device a failure could save time and prevent great loss, injury or casualty.

- Before operation, check whether the safety locks are working.
- Check for leaks.
- Check the connections of chain and steel cable and check the power unit.
- Check whether expansion bolts are tight.
- Check if the arm lock works.

### 6.2 Weekly Check

- Check the flexibility of moving parts.
- Check the working conditions of safety parts.
- Check the amount of oil left in the oil tank.
- Check whether expansion bolts are tight.

### 6.3 Monthly Check

- Check whether expansion bolts are tight.
- Check the tightness of the hydraulic system.
- Check the abrasion of axial pins, carriages, lifting arms and related parts. (replace if needed)
- Check the steel cables.

### 6.4 Yearly Check

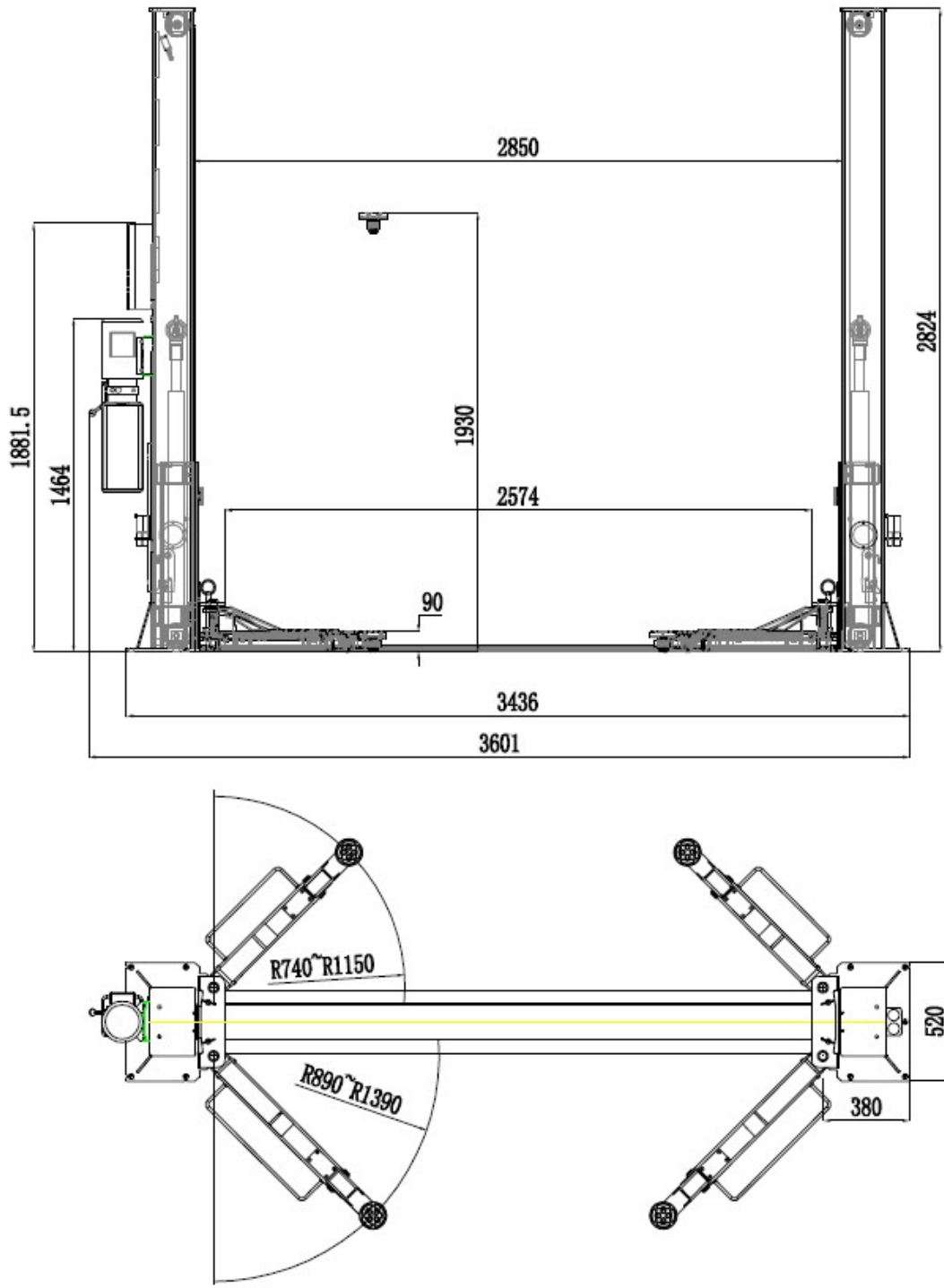
- Empty the oil tank and check the quality of hydraulic oil, replace when needed.
- Replace the oil filter.

**If users follow the above maintenance requirements, the lift will keep in a good working condition.**

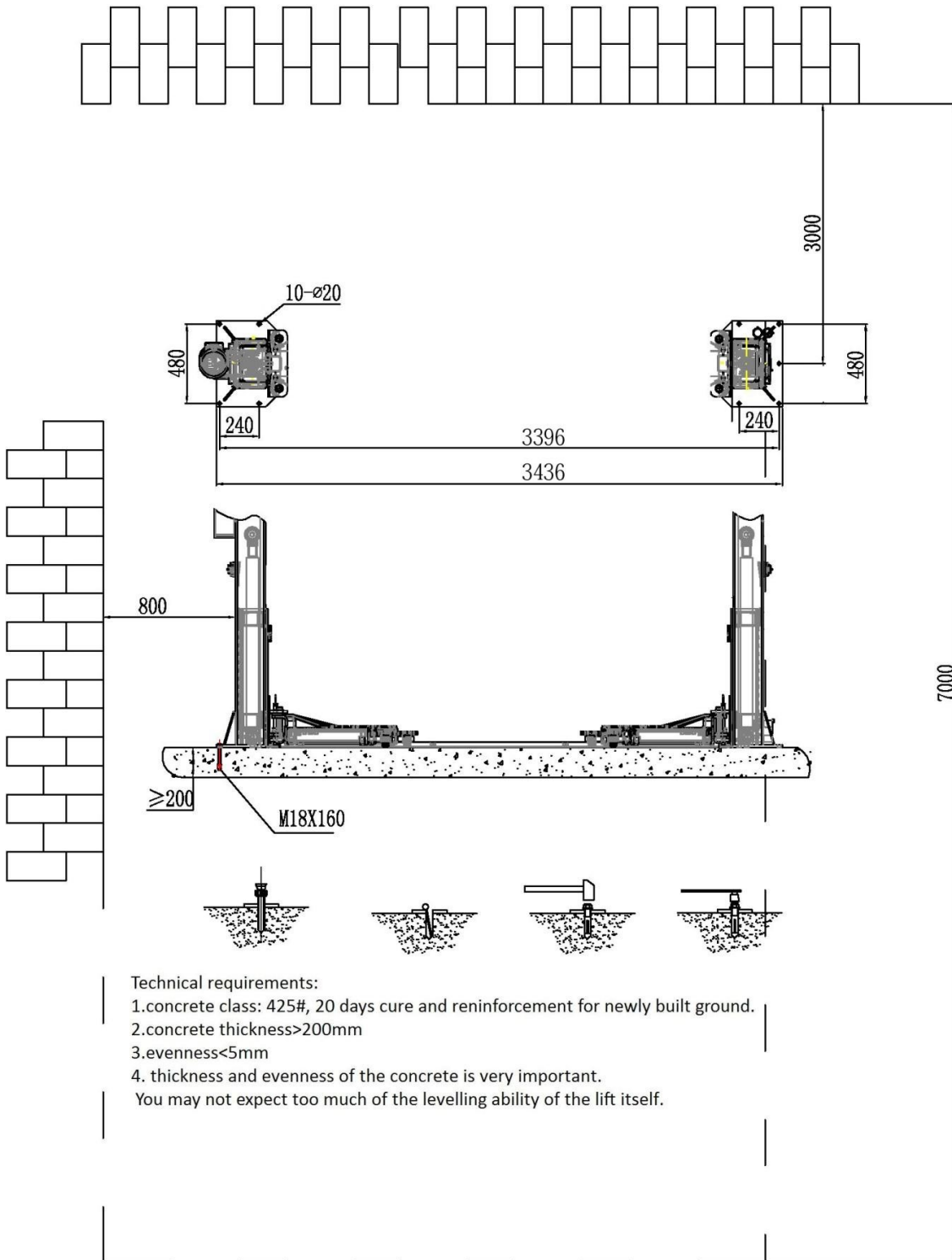
## Packing List

S/N	Name	Drawing#	Property	Qty
1	Power-side post	FL-8224T-A1	Assembly	1
2	Post	FL-8224T-A2	Assembly	1
3	Carriage	FL-8224T-A3	Assembly	2
4	Long arm	FL-8224T-A7	Assembly	2
5	Short arm	FL-8224T-A8	Assembly	2
6	Oil cylinder	FL-8224T-A4-B2	Assembly	1
7	Drive oil cylinder	FL-8224T-A4-B3	Assembly	1
8	Power unit		Assembly	1
9	Base cover plate	FL-8224T-A10	Q235A	1
12	Control box		Assembly	1
13	Steel cable	FL-8224-A6 L=8820mm	Assembly	2
14	Power unit package	825*225*312mm		1
15	The carton includes the following	850*340*130mm		1
16	Protection rubber pad	FL-8224-A3-B7	Rubber	2
17	Rubber oil hose	L=1300	Assembly	1
18	Rubber oil hose	L=2900	Assembly	1
19	Rod of the chain protection cloth	FL-8224-A13	Zinc-plating	4
20	Lifting tray	FL-8224-A7-B3	Assembly	4
21	Long arm fender	FL-8224T-A7-B4	Powder-coating	2
22	Short arm fender	FL-8224-A8-B3	Powder-coating	2
24	Shaft	FL-8224-A12	Zinc-plating	4
27	Oil pipe cover	FL-8224-A16		1
28	Hex head full swivel screw	M6*30	Standard	4
29	Hex socket button head screw	M6*10	Standard	8
30	Hex socket button head screw	M8*12		
31	Cross socket flat head screw	M8*20	Standard	4
32	Cross socket cap head screw	M6*12	Standard	4
33	Class C flat washer	M6	Standard	8
34	Hex socket full screw	M8*35		
35	Class C flat washer	M8	Standard	4
36	Spring washer	M8	Standard	4
37	Hex nut	M8	Standard	4
38	Hex nut	M6	Standard	8
39	Circlip	38	Standard	4
40	Expansion bolt	M18*180		10

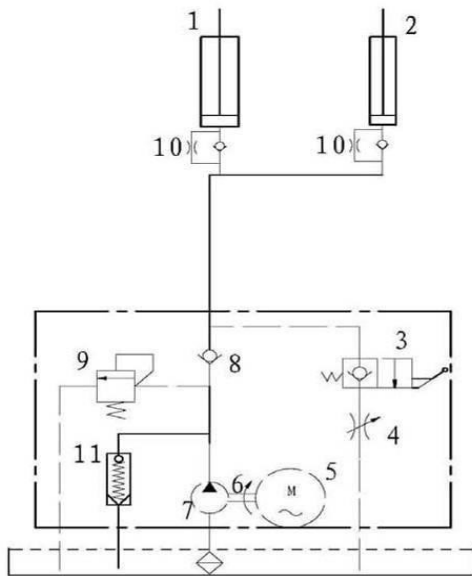
Overall diagram



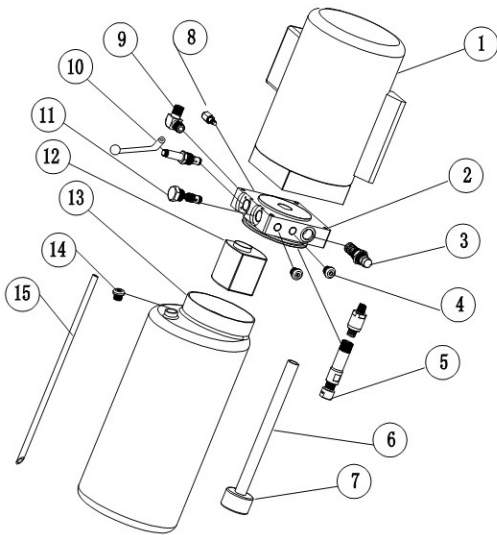
## Floor plan



## Hydraulic System



1. Main oil cylinder
2. Assistant oil cylinder
3. Manual unloading valve
4. Throttle valve
5. Motor
6. Coupling
7. Gear pump
8. Single –way valve
9. Over-flow valve
10. Anti-surge valve
11. Cushion valve

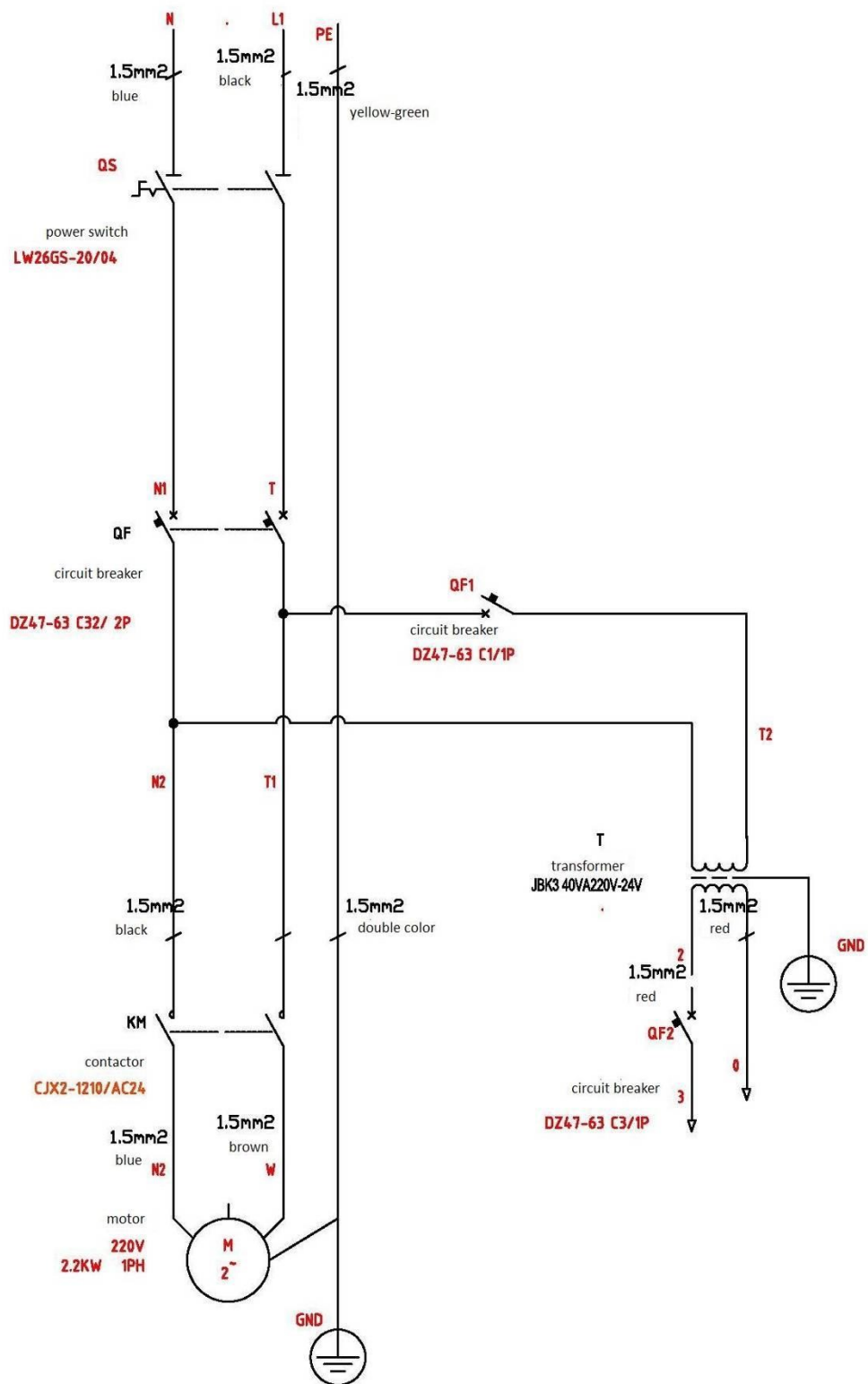


S/N	Name	Qty
1	Motor	1
2	Hydraulic block	1
3	Overflow valve	1
4	Removable plug	2
5	Cushion valve	1
6	Oil absorbing pipe	1
7	Oil filter	1
8	Throttle valve	1
9	Oil pipe tie-in	1
10	Unloading valve	1
11	One-way valve	1
12	Gear pump	1
13	Plastic oil tank	1
14	Oil tank cover	1
15	Oil back pipe	1

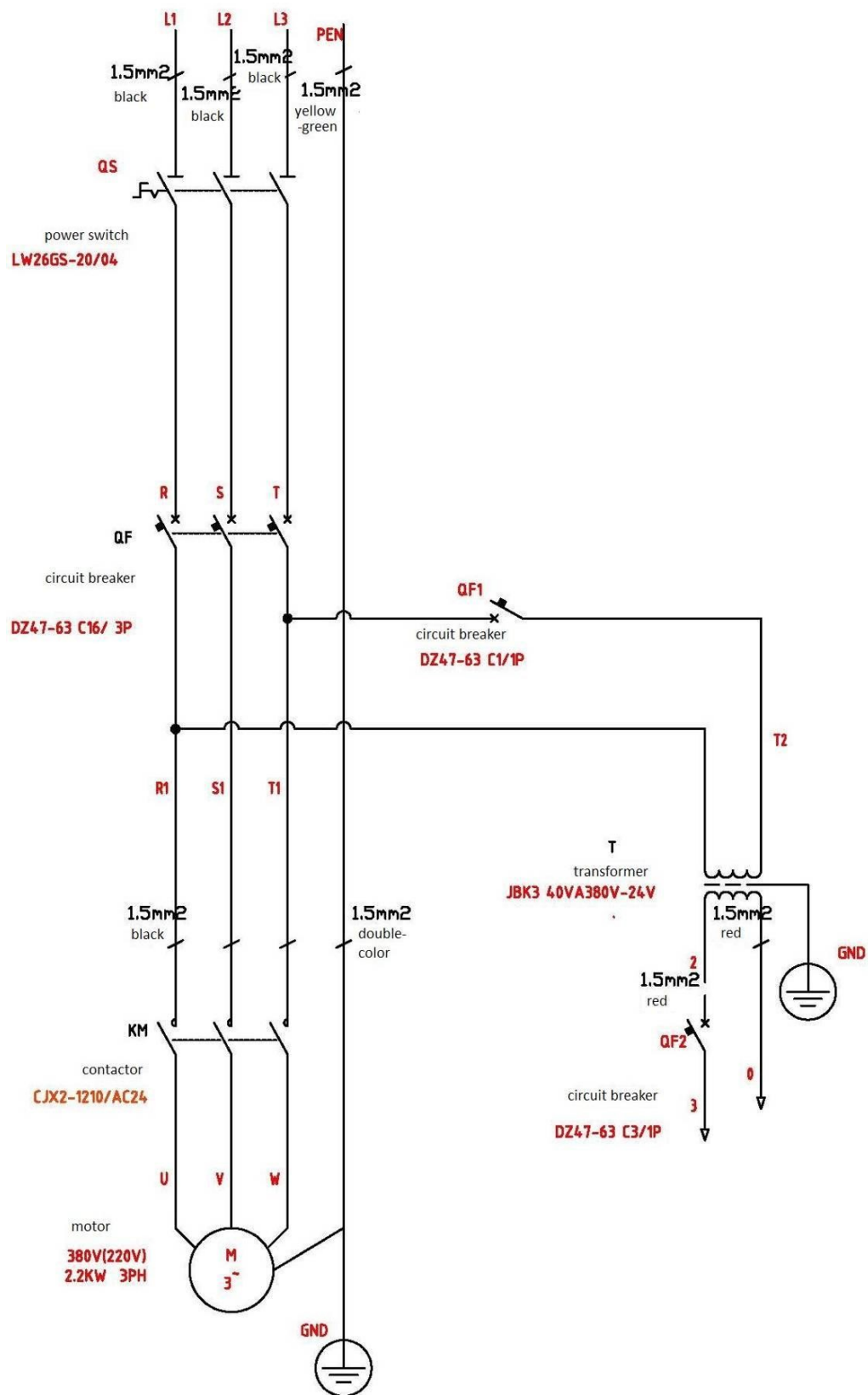


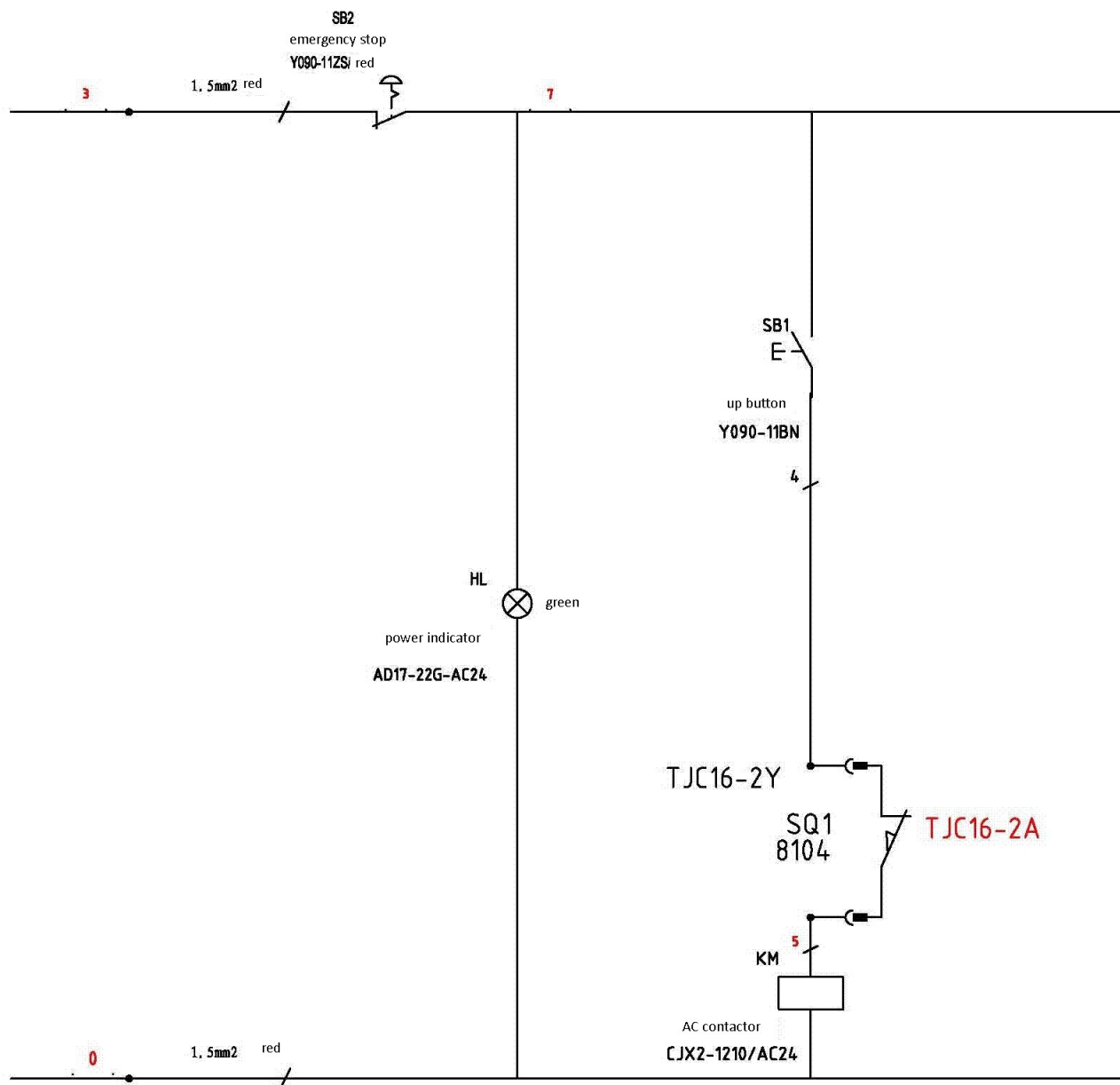
# Wiring diagram

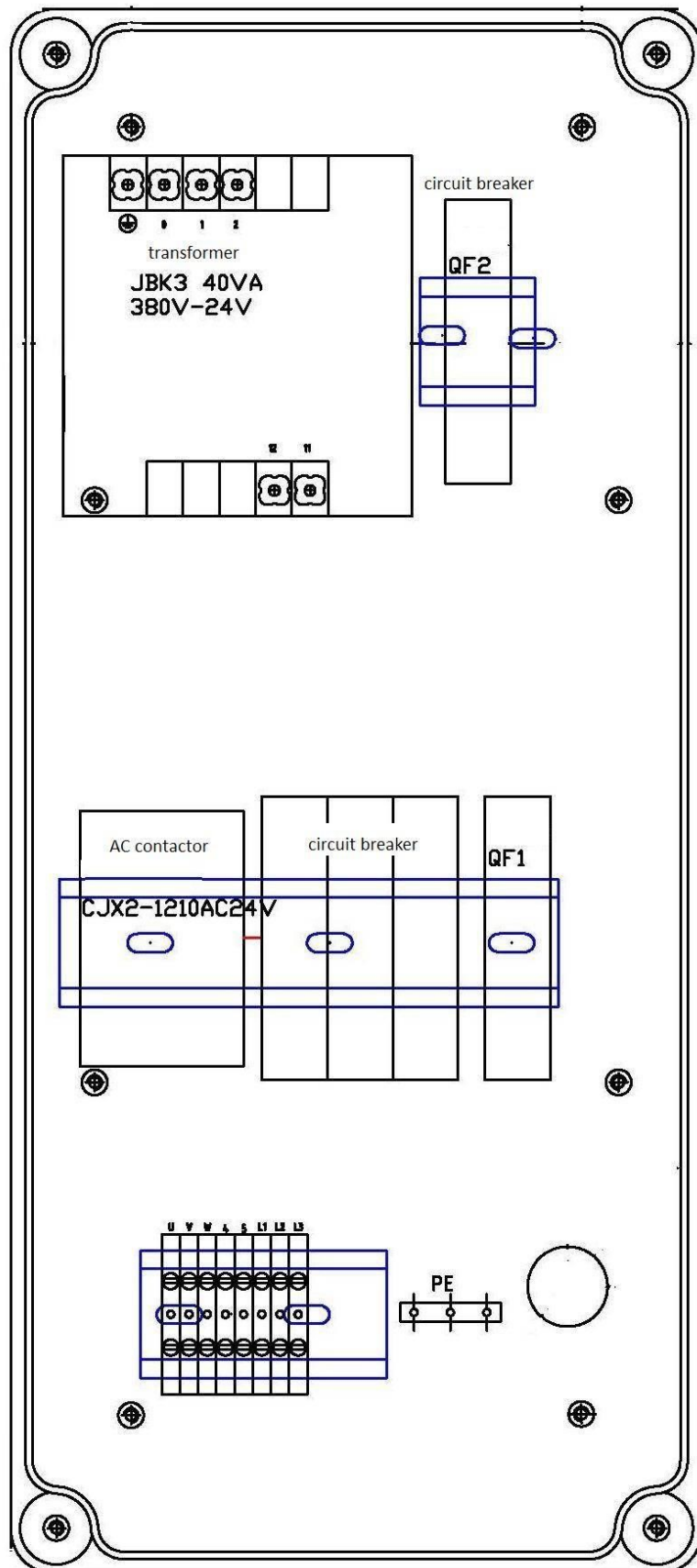
## Single phase



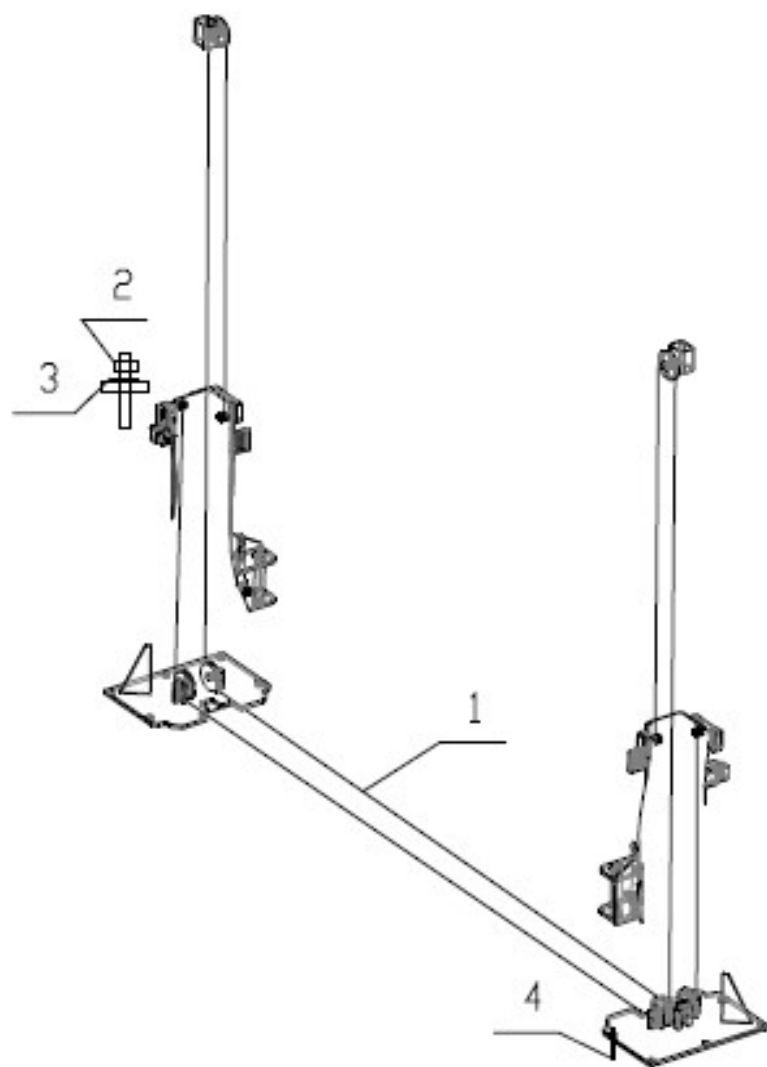
## Three phase



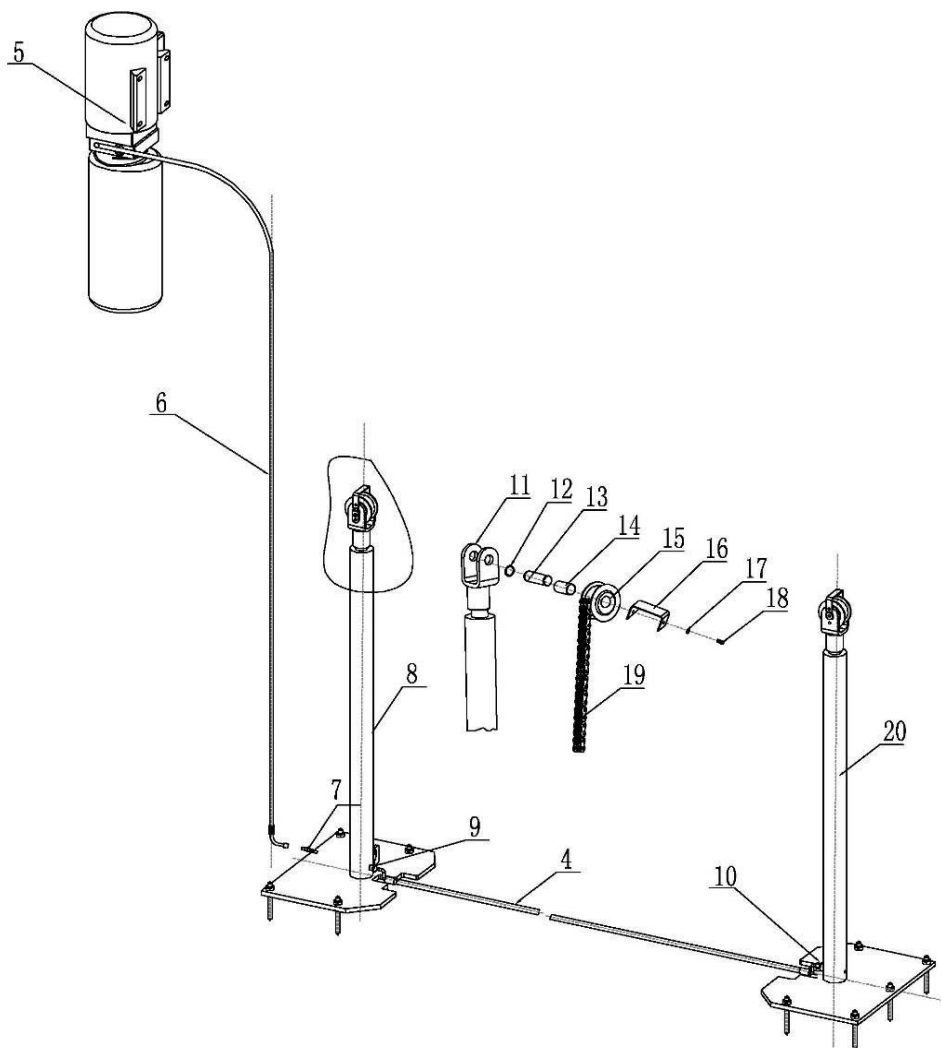




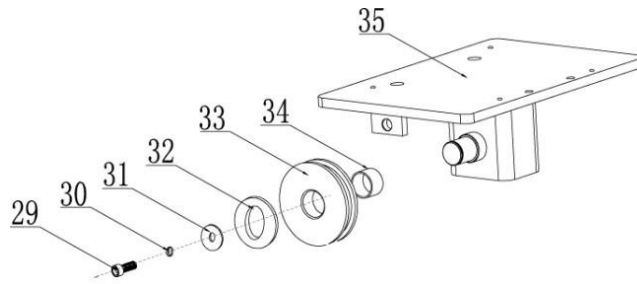
Explosion drawings for the lift



S/N	Name	Drawing#	Qty	Property	Note
1	Steel cable L=8820mm	FL-8224-A6	2	Assembly	
2	Hex nut M16	GB/T6170-2000	8	Standard	
3	Class C flat washer M16	GB/T95-1985	4	Standard	
4	Expansion bolt M18*180		10	Standard	

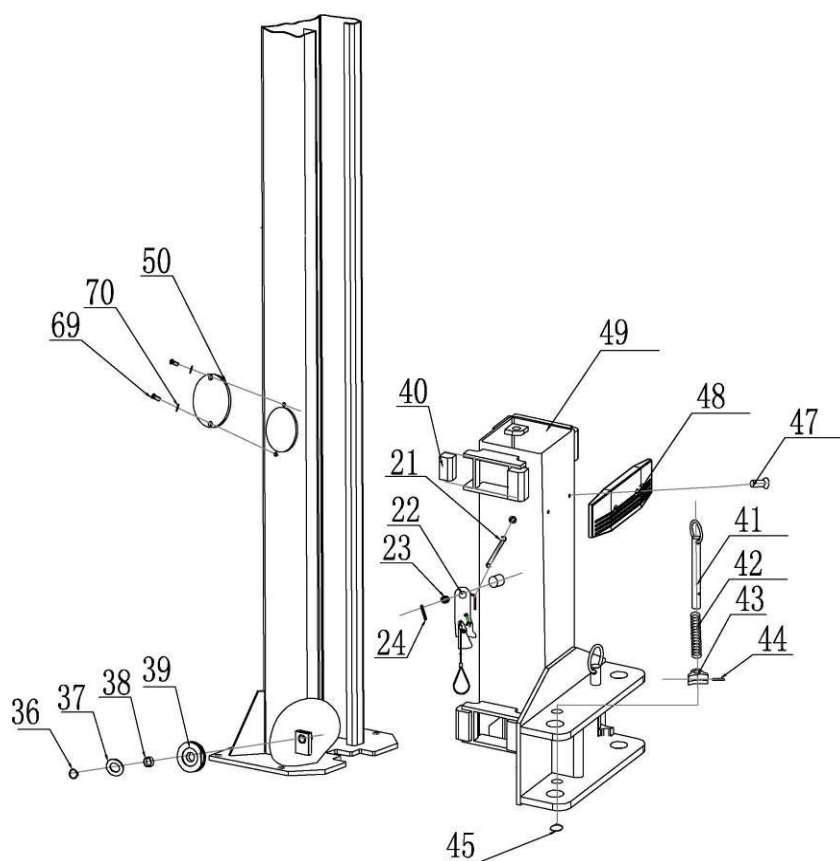


S/N	Name	Drawing#	Qty	Property	Note
4	Rubber oil hose L=2900		1	Assembly	
5	Power unit		1	Assembly	
6	Rubber oil hose L=1300		1	Assembly	
7	Long connector		2	Assembly	
8	Drive oil cylinder	FL-8224T-A4-B2	1	Assembly	
9	Main connector		1	Zinc-plating	
10	Short connector		1	Zinc-plating	
12	Type B circlip 25	GB/T894.2-1986	4	Standard	
13	Chain wheel shaft	FL-8224-A4-B11	2	Zinc-plating	
14	Bearing 2548	SF-1	2	Standard	
15	Chain wheel	FL-8224-A4-B10	2	Zinc-plating	
16	Retaining plate	FL-8224-A4-B12	2	Zinc-plating	
17	Spring washer M6	GB/T93-1987	4	Standard	
18	Hex socket cylinder head screw	GB/T70.1-2000	4	Standard	
19	Chain	LH1234-127LGB/6074-1995	2	Standard	
20	Oil cylinder	FL-8224T-A4-B3	1	Assembly	

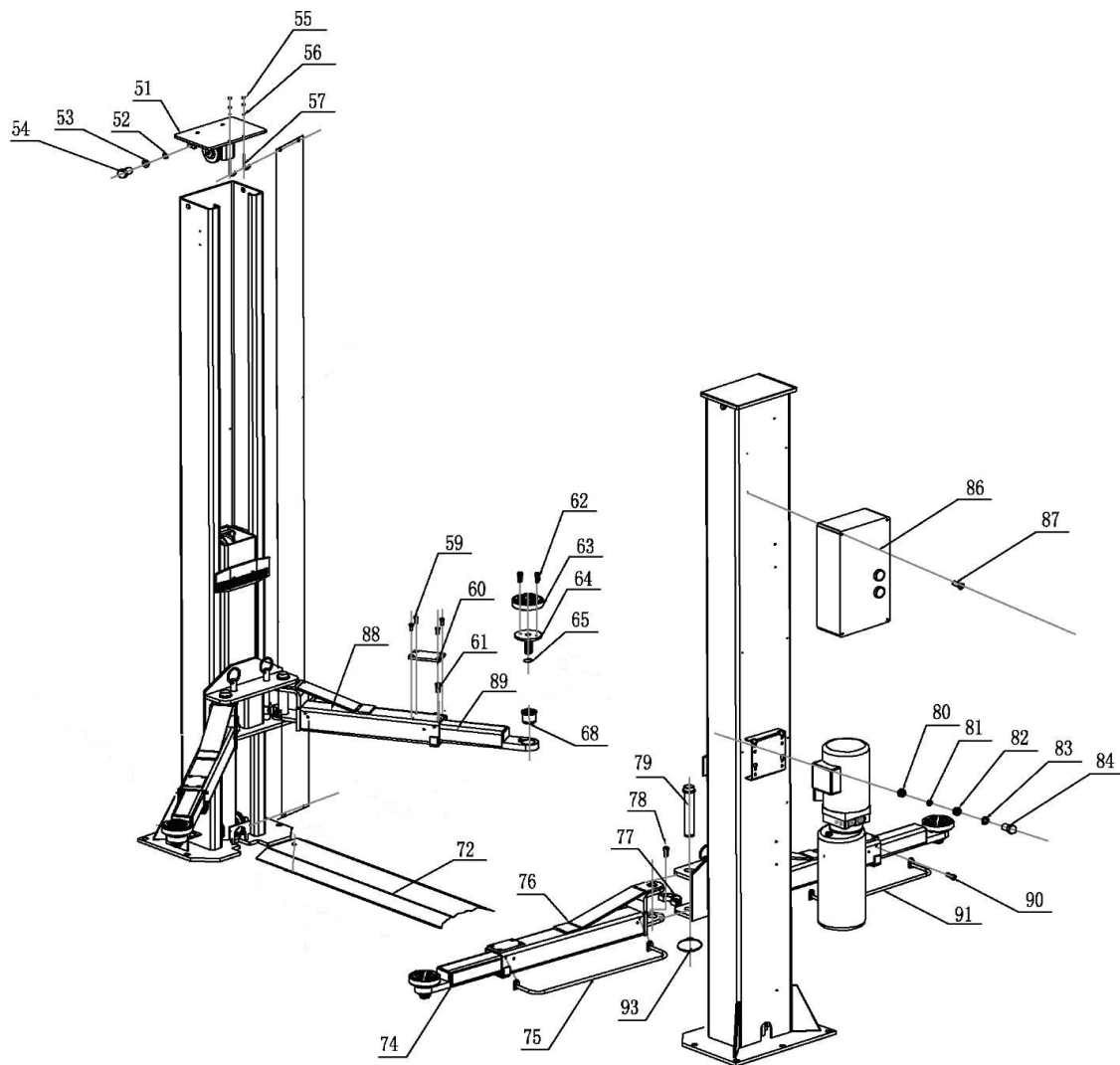


S/N	Material #	Name	Drawing#	Qty	Property	Note
29		Hex socket button head screw	GB/T70.2-2000	2	Standard	
30		Spring washer M8	GB/T93-1987	2	Standard	
32		Washer	GB/T894.2-1986	2	Zinc-plating	
33		UP pulley	FL-8224T-A1-B2	2	Zinc-plating	
34		Bearing 2516	SF-1	2	Standard	
35		Top cover	FL-8224-A1-B3-C1	2	Welded	





S/N	Name	Drawing#	Qty	Property	Note
21	Tension spring	FL-8224-A3-B8	2	65Mn	
22	Safety lock assembly	FL-8224-A3-B3	2	Assembly	
23	Sheath			Q235A	
24	Cotter pin 3*45	GB/T879.1-2000	2	Standard	
36	Type B circlip 25	GB/T894.2-1986	4	Standard	
38	Bearing 2516	SF-1	4	Standard	
39	Down pulley	FL-8224-A1-B3	4	Q235A	
40	Slider	FL-8224T-A3-B2	16	Nylon 1010	
41	Pulling rod	FL-8224-A3-B2	4	Welded	
42	Pressure spring	FL-8224-A3-B5	4	Zinc-plating	
43	Teeth block	FL-8224-A3-B4	4	Q235A	
44	Elastic cylindrical pin 5*35	GB/T879.1-2000	4	Standard	
45	Type B circlip 25	GB/T894.2-1986	2	Standard	
47	Cross socket sunken head screw	GB/T819.1-2000	4	Standard	
48	Protection rubber pad	FL-8224-A3-B7	2	Rubber	
49	Carriage	FL-8224-A3-B1	2	Assembly	
50	Cover plate	FL-8224-A1-B5	2	Q235A	
69	Cross socket cap head screw M6*8	GB/T818-2000	4	Standard	
70	Class C flat washer M6	GB/T95-1985	4	Standard	



S/N	Name	Drawing#	Qty	Property	Note
51	Top plate	FL-8224T-A1-B3	2	Assembly	
52	Class C flat washer M12	GB/T95-1985	4	Standard	
53	Spring washer M12	GB/T93-1987	4	Standard	
54	Hex head full swivel screw M12*20	GB/T5781-2000	4	Standard	
55	Hex nut M6	GB/T6170-2000	8	Standard	
56	Class C flat washer M6	GB/T95-1985	4	Standard	
57	Rod of chain protection cloth	FL-8224-A13	4	Standard	
59	Cross socket flat head screw M5*10	GB/T819.1-2000	16	Standard	
60	Square lifting pad	FL-8224-A7-B6	4	Rubber	
61	Cross socket flat head screw M8*10	GB/T819.1-2000	4	Standard	
62	Hex socket flat head screw M8*20	GB/T70.3-2000	8	Standard	
63	Round lifting pad	FL-8224-A7-B3-C4	4	Rubber	
64	Lifting tray	FL-8224T-A7-B3-C1	4	Welded	
65	Type B circlip 22	GB/T894.2-1986	4	Standard	
68	Inside swivel sheath	FL-8224-A7-B3-C3	4	Q235A	
72	Base cover plate	FL-8224-A10	1	Q235A	
74	Long tensile arm	FL-8224-A7-B1	2	Welded	
75	Long fender	FL-8224-A7-B4	2	Welded	
76	Long arm	FL-8224-A7-B2	2	Welded	
77	Teeth block	FL-8224-A7-B5	4	Q235A	
78	Hex socket cylinder head	GB/T70.1-2000	12	Standard	
79	Pin	FL-8224-A12	4	Welded	
80	Hex nut M10	GB/T6170-2000	4	Standard	
81	Spring washer M10	GB/T93-1987	4	Standard	
82	Anti-shock pad	FL-8224-A14	4	Rubber	
83	Class C flat washer M10	GB/T95-1985	4	Standard	
84	Hex head full swivel screw M10*35	GB/T5781-2000	4	Standard	
86	Control box		1	Assembly	
87	Cross socket cap head screw M5*10	GB/T818-2000	4	Standard	
88	Short arm	FL-8224-A8-B1	2	Welded	
89	Short tensile arm	FL-8224-A8-B2	2	Welded	
90	Hex socket button head screw M8*12	GB/T70.2-2000	8	Standard	
91	Short fender	FL-8224-A8-B3	2	Welded	

## Annex 7, Spare parts list

S/N	Name	Spec.	Qty	Pic.	Note
1	Power switch	LW26GS-20/04	1		
2	Button	Y090-11BN	3		
3	Power indicator	AD17-22G-AC24	1		
4					
5					
6					
7	Transformer	Bk160VA110V—24V— 60HZ	1		
8					
9					
10	AC contactor	CJX2-3210- AC24V	1		
11	Circuit breaker	DZ47-63 C16 /3P	1		
12	Circuit breaker	DZ47-63 C32 /2P	1		
13	Circuit breaker	DZ47-63 C1 /1P	1		
14	Circuit breaker	DZ47-63 C3 /1P	1	Same as item 13	
15	Limit switch	TZ8108	1		
16	Control box	Big	1		

## Spare parts list---mechanical parts

S/N	Name	Drawing#	Qty	Property	Note
1	Slider	FL-8224T-A3-B2	16	Nylon 1010	
2	Rubber lifting pad	FL-8224-A7-B3-C4	4	Rubber	
3	Y-shape seal ring	23.6*3.55	1		
4	O-shape seal ring	KD 63*48*10	1		
5	Anti-dust ring	DHS 40*48*5/6.5	1		



The company

**Twin Busch GmbH | Amperestr. 1 | D-64625 Bensheim**

declares hereby, that the

**2-post vehicle lift**

**TW 242 A | 4200 kg**

serial no.

in the configuration placed on the market by us, meets the relevant safety and health requirements, as required by the following EC directive(s) in it's/their current version(s).

EC-directive(s)

**2006/42/EC machinery**

**2006/95/EC low voltage**

Applied harmonized standards and regulations

**EN 1493:2010 Car lifts**

**EN 60204-1:2006/A1:2009 Safety of machinery - Electrical equipment of machines**

CE Certificate

**N8M 15 04 87411 014**

date of issue: 20.04.2015

**M6A 15 04 87411 013**

place of issue: München

technical file no.: 646821 400902

Certification body

TÜV Süd Product Service GmbH,

Ridlerstraße 65,

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Notified Body Appointment No. 0123

**Any alteration to the equipment, improper use or installation void this declaration.**

Authorized person to compile technical documentation is: Michael Glade (address as below)



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