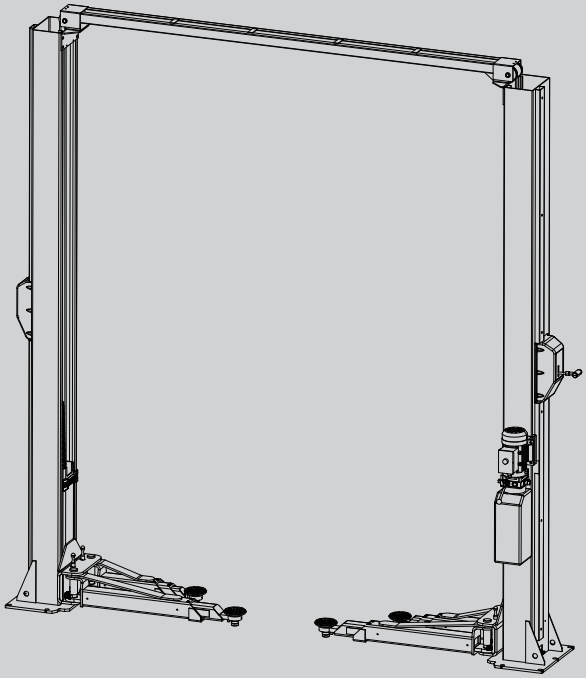
SATA®

4 吨单边手动解锁龙门举升机
4T 2 Post Lift Clear Floor

AE5106/AE5106-3



使用说明书 \ User's Manual

中文 EN

目 录

第一章　　安全注意事项

- 当您使用举升机时，必须保证您已经完全阅读了此说明书，包括安装，操作，安全等相关内容。
- 发现举升机有任何异常问题，停止使用。
- 不要超载使用举升机，本产品额定负载 4000KG.
- 当车辆准备开往上车位置前，先将四个托臂摆开，保证车辆通道没有任何障碍，不要用脚踹托臂，这样会损坏托臂齿。
- 只有接受过培训的人才可以操作举升机，禁止让汽车客户或者没有操作经验的人随意操作举升机。
- 举升机托臂的橡胶托盘必须与车辆的支撑点接触，否则会损坏车辆底盘。（不清楚支撑点位置的情况下，建议电话咨询车辆生产厂家）
- 举升车辆前，必须确保所有托臂齿成功啮合。
- 必须使用 4 个托臂同时举升汽车，禁止使用少于 4 个托臂举升汽车。
- 当举升完汽车后，必须执行机械落锁动作，禁止在没有机械落锁的情况下，在车辆下方工作。
- 当需要拆装汽车部件或者需要前后推动车辆时，车辆重心会偏离，为了保证安全，需要使用四个独立的支架来加强车辆稳定性。
- 举升机周边必须干净，整洁，任何油污等障碍物都是安全隐患。
- 禁止在车内有人员的情况下将车辆举起。
- 下降车辆前，确保下方没有任何障碍物。
- 车辆驶出举升机前，先将托臂摆回初始位置，确保不会与车辆干涉。
- 在液压系统有压力的情况下，禁止拆卸任何液压件。
- 不要将手放入任何危险的点，例如保险块，钢丝绳，滑台与立柱间隙，链条，电气连接点等。
- 本产品只适用在室内，禁止在室外使用。
- 短托臂安装在前方，长托臂安装在后方。（一般汽车前置发动机）
- 保险绳必须牢固，当拉动保险手柄时，主副立柱保险块必须同时完全同步打开。
- 操作人员必须穿戴安全鞋操作举升机。

第二章　　产品特性和参数

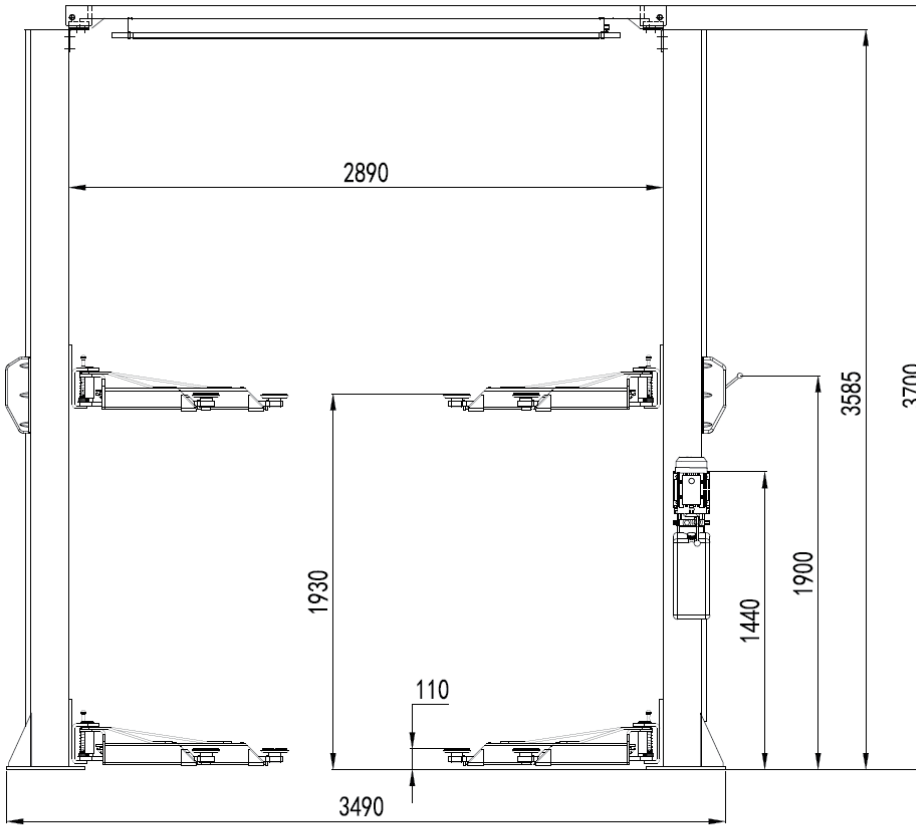
2.1 产品特点

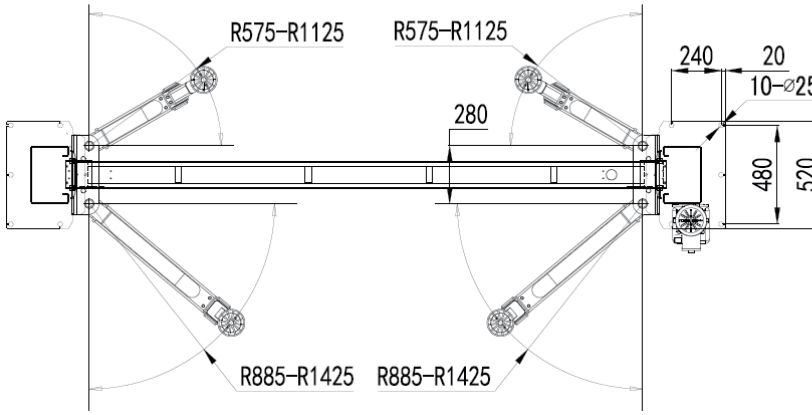
- 3 节托臂设计，适应车型广泛
- 单边手动解锁，安全可靠
- 托盘高度螺纹调节，可调高度 75mm
- 最低举升高度 110mm, 适应低底盘汽车

2.2 产品技术参数：

额定举升重量		4000KG
立柱内宽		2890mm
整机高度		3700mm
举升最低高度		110mm
托盘调节高度		75mm
举升最高高度		1930mm
二节短托臂伸缩范围		575mm-1125mm
二节长托臂伸缩范围		885mm-1425mm
电机参数	AE5106	1PH,220VAC,2.2KW, 铁壳电机
	AE5106-3	3PH,380VAC,2.2KW, 铁壳电机
液压油类型		ISO 46# 抗磨液压油

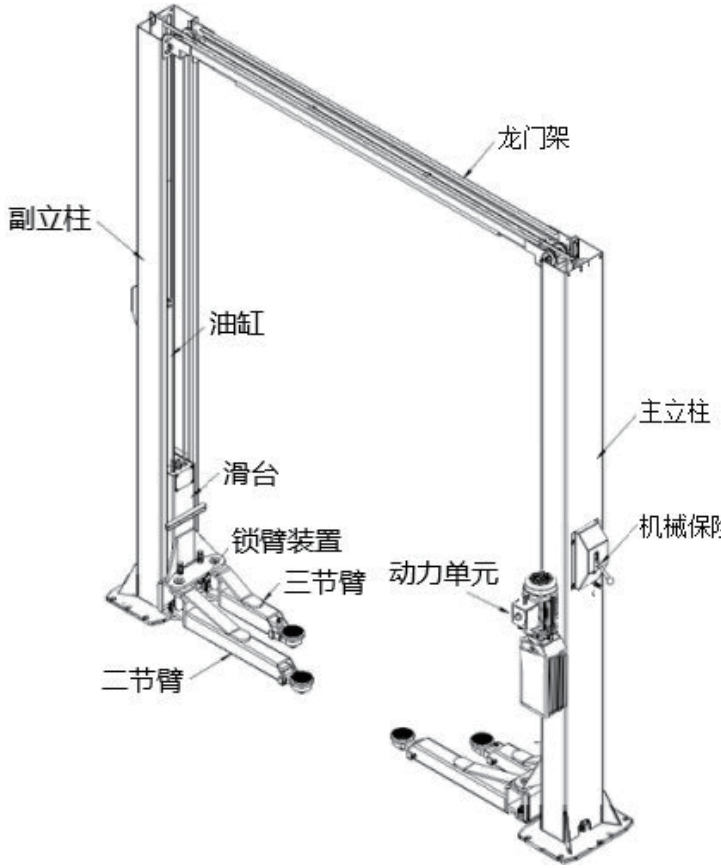
产品示意图（单位：mm）


2890
3585
3700
1930
1440
1900
110
3490


R575–R1125
R575–R1125
240
20
10–⌀25
280
480
520
R885–R1425
R885–R1425

主要部件简介：

- 本机主要由主立柱，副立柱，滑台，托臂，锁臂装置，托臂锁，机械锁，油缸，动力单元，龙门架等组成。（看下图）



立柱：基础部件，用于安装滑台，油缸等驱动装置

滑台：举升部件，装在立柱内，上下滑动

托臂：举升部件，与滑台安装在一起，与汽车支撑点接触，举升汽车

锁臂装置：安全部件，锁止托臂，使其无法转动

机械锁：安全部件，油压泄油，保险块上顶保险条，滑台静止

油缸：传动部件，液压站工作，将高压油打入油缸下腔，活塞杆上升，带动滑台上升

动力单元：动力部件，电机工作，带动泵工作，通过过滤网吸油，推出高压油

龙门架 / 横梁：过桥部件，平衡钢丝绳，油管，保险绳通过龙门架从主立柱到副立柱，同时减轻了两立柱的内倾

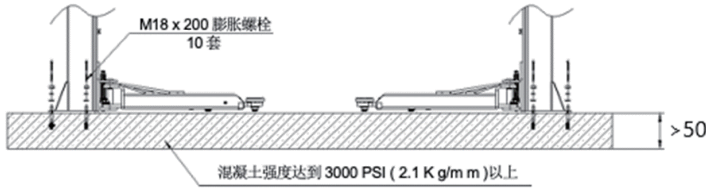
第三章 安装准备

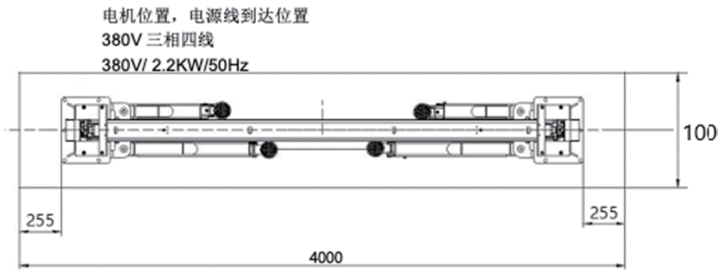
3.1 拆卸包装

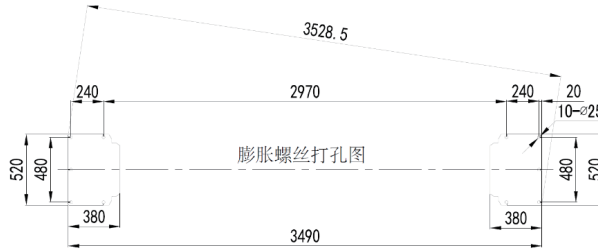
- 将包装箱拆开，去掉周围的包装材料，检查机器有无在运输中受损，对照装箱单检查主、配物件是否齐全。将包装材料远离儿童放置，以免造成危险；若包装材料会造成污染，应将其妥善处理。

3.2 地基

- 用户有责任确保地基的稳固，混凝土的最小厚度为 500mm, 最小强度为 21MPa, 混凝土必须在安装日 15 天之前完成。与膨胀螺栓相距 350mm 内不允许有其它任何地基设备以免破坏地基强度。用户有责任提供安全的电源，气源，以及电源连接线等连通部件。







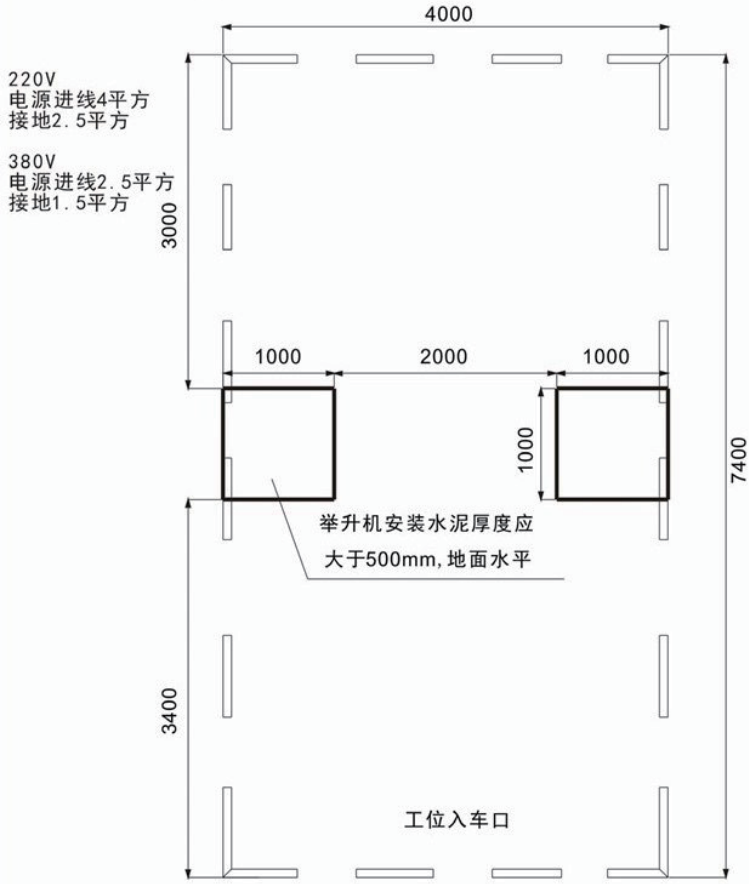
工具

- 5m 卷尺
- 石粉笔
- 合适的冲击钻和钻头（膨胀螺栓 M18X200mm）
- 锤子
- 合适的扳手
- 1.2m 的水平尺
- 撬棍
- 4m 高扶梯
- 合适的螺丝刀
- 100mmx100mm 的木砌（用于平放立柱，保护油漆表面）

第四章　　安装指导

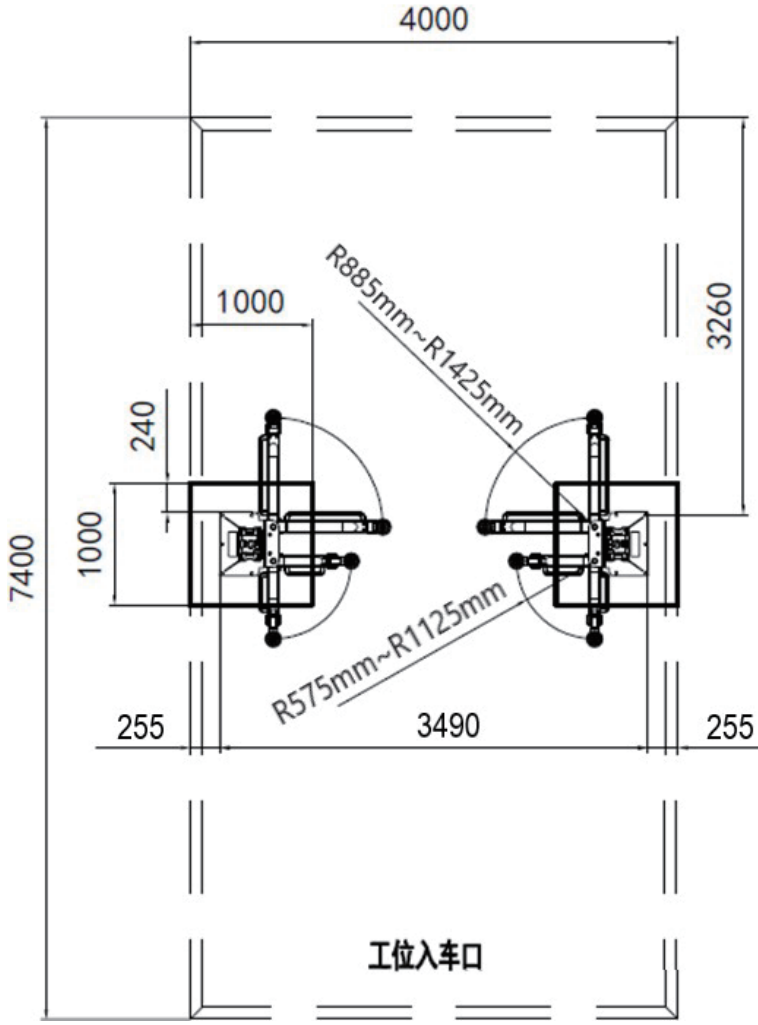
- 首先选择好要安装的区域，尽量靠墙，离电源近的地方
- 清理干净安装举升机区域，地面不可以有任何油污
- 产品安装空间尺寸图供参考

产品地基图：

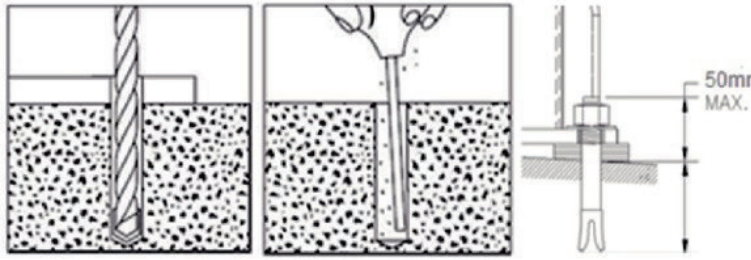


注：

1. 加强混凝土厚度应大于500mm，抗压强度不低于25MPa，地基混凝土大于C25级。
2. 举升机工位建议留7400mm长度。


4000
1000
R885mm~R1425mm
3260
240
1000
7400
R575mm~R1125mm
255
3490
255
工位入车口

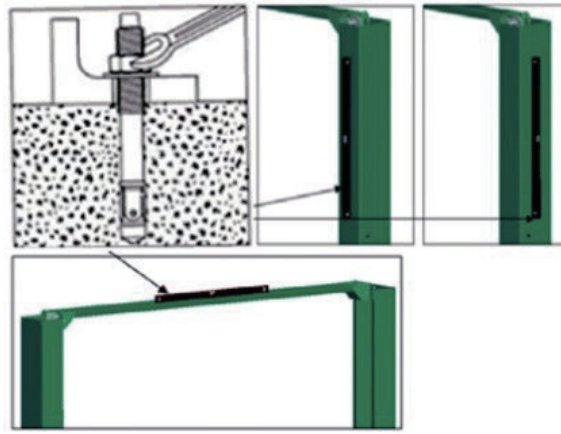
- 将主立柱放置好，用冲击钻打孔，将螺栓孔内残余的灰尘用吸尘器清理干净，用锤子将膨胀螺栓敲入孔内，膨胀螺栓露出地面高度不可大于 50mm, 螺母不要拧紧。



- 将副立柱固定，方法参照主立柱，同时确认两立柱底板对角线距离差在 3mm 以内。
- 两边立柱各准备好扶梯推车，用吊带拴好龙门架两边，将龙门架吊起，固定好连接螺栓。

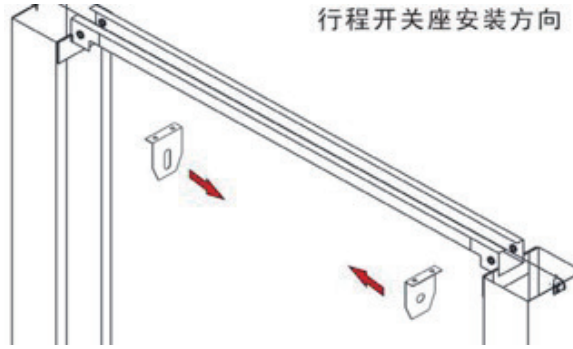
注意：安装龙门架时，举升机周围不可以有其他人员。

- 拧紧膨胀螺栓（参考扭力 203N.m），同时用水平尺确认立柱的垂直，如有必要，用垫片塞入立柱底部，调整水平，龙门架上表面也用水平尺确保水平。



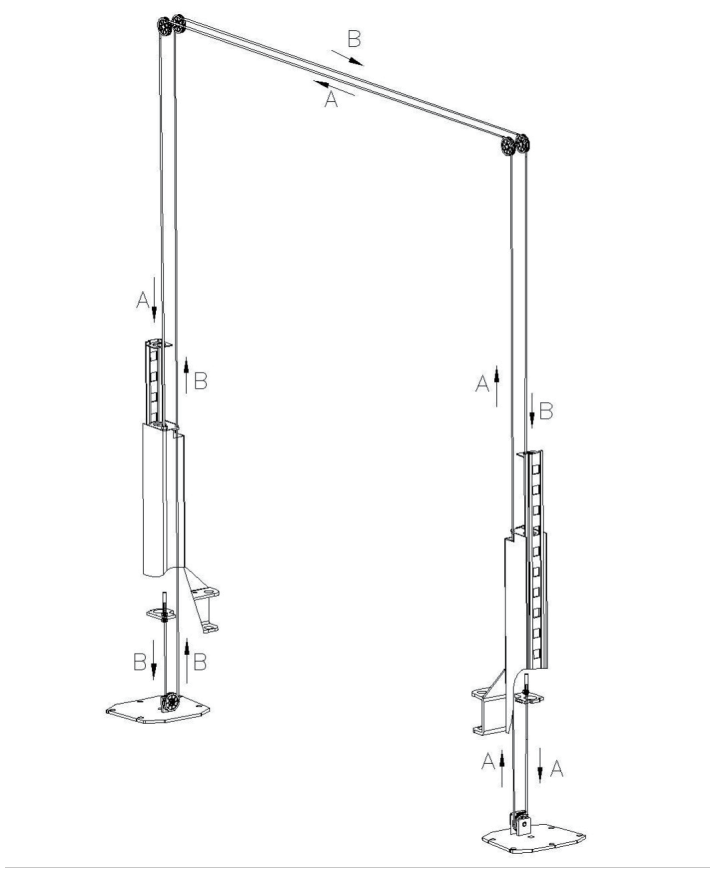
注意：如果拧紧膨胀螺栓的时候无法达到 203N.m，应该重新确认混凝土的强度。

- 安装车顶防撞限位杆，并连接好限位开。



- 安装平衡钢丝绳

保证左右两边滑台在第一档保险处，将平衡钢丝绳按图示轨迹安装好。先不要拧紧螺母，等调试同步性的时候，再调整两根钢丝绳的松紧。注意：单边钢丝绳螺杆必须拧紧，调节时必须确保两边滑台锁在同一高度的锁上。



- 保险绳安装

首先安装好保险轮，确认左右两个滑台在同一档保险，按图示安装好保险绳。调节好保险绳的松紧，确保左右两边保险块可以同时打开和落锁。

- 托臂安装

通过销轴将四个托臂装入滑台，前端用二节短臂，后端用二节长臂。（注意：车头方向使用三节托臂，每个托臂轴需要装好卡簧）

- 动力单元装配

将动力单元安装于主立柱电机板上，用螺栓螺母固定。安装好限位开关，连接电线。

- 液压系统连接

a. 拧开油箱盖，倒入 10L---46# 抗磨液压油。（首选 46# 抗磨液压油，温度 -10° C 以下，考虑 32#）

b. 连接好液压接头，将油管连接于主副油缸出油口接头处。

安装解锁钢丝绳

解锁钢丝绳如下图所示安装：

- 注意：
  a. 要求钢丝绳调节至主副立柱上的保险张合一致。
  b. 保险与轴之间应加注通用锂基润滑脂（GB7324-87），正常使用时保证保险安全可靠，如保险不能复位，应立即停机，不得举升作业，待问题排除后方可使用
  c. 保险钢丝绳除两固定端、绳轮外，不得与立柱中任何静止或运动的件相接触。
- 空载测试调整
  a. 清理场地，地面不可以有油污，举升机空载。
  b. 接通电源，按上升按钮，滑台上升，任意位置停止上升，按回油手柄，将左右滑台落入同档保险
  c. 拧紧平衡钢丝绳螺母，使两根平衡钢丝绳松紧度基本一致。
  d. 按上升按钮，使滑台上升一段距离，脱离保险，左手拉保险手柄，右手按回油手柄使滑台下降到最低处。
  e. 按上升按钮，全程举升，任意位置触动限位开关，电机停止运转，达到极限位置时溢流阀打开，液压系统回油，滑台停止上升，举升过程观察左右滑台托臂同步性，如果有明显差异，继续调整平衡钢丝绳螺母松紧达到左右滑台同步性。
  f. 安装车门防撞橡胶垫。
- 负载测试调整
  a. 将四个托臂完全打开，确保车道空间无任何障碍。
  b. 将汽车驶入举升机，左右居中，以立柱连线做参考，车辆前后放置距离比大致 2:3（前置发动机车辆），当车辆吨位大于 3.5 吨时，适当向后移动车辆。
  c. 将托臂托盘旋转至汽车底盘支撑点。
  d. 按上升按钮，托臂上升，确认四个托臂锁完全落锁。
  e. 继续点动上升，观察如果有任一橡胶托盘接触到底盘支撑点，停止上升，然后将余下的橡胶托盘逆时针旋转，与支撑点接触。
  f. 按上升按钮，汽车慢慢被提起，当汽车轮胎离地时，停止上升。轻推汽车尾部，确认汽车安全稳固，托臂锁完 全落锁。

g. 按上升按钮，汽车继续上升，观察汽车举升过程前后左右是否平稳，当滑台上升到第三或者第四档保险的时候，停止上升，按回油手柄，液压站回油，滑台落锁。观察汽车前后左右是否平稳。（如果左右高低差明显，则调 节平衡钢丝绳螺母）。

h. 继续上升至最高一档保险，停止上升，按回油手柄，回油落锁。观察举升机是否平稳无颤动。

i. 点动上升，滑台脱离保险，左手拉住保险手柄，右手按回油手柄。汽车下降。

j. 中间任意位置，松开左手手柄，保险自动回弹，滑台落锁，停止下降。

k. 点动上升，滑台脱离保险，左手拉住保险手柄，右手按回油手柄，中间任意位置释放左手手柄，保险自动回弹，滑台落锁，停止下降。这样的动作循环三次以上，确认机械保险安全而可靠。

l. 举升汽车过程中，观察是否有异响，钢丝绳与其它部件是否有摩擦干涉。

第五章　　保养指导

- 每日检查项目

  检查所有液压接头，油管，油缸是否存在漏油。

  检查所有电气连接线是否有破损。

  检查所有运动部件是否有过劳磨损。

  清理橡胶托盘上的油污，观察橡胶托盘是否有过渡磨损。

- 每 2 个月检查项目

  更换立柱滑道内的润滑脂

  更换托臂销轴的润滑脂

  检查并锁紧膨胀螺栓螺母

- 每 6 个月检查项目

  更换链条钢丝绳润滑脂

  调节平衡钢丝绳，保险绳

  检查钢丝绳是否有毛刺

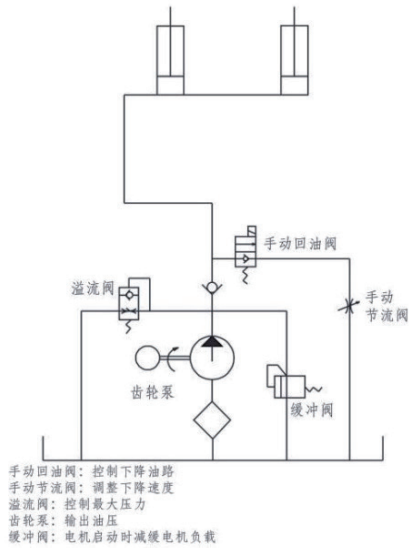
- 每 2 年检查项目

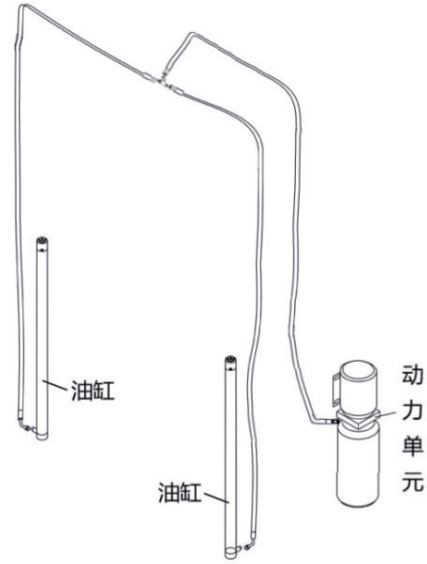
  更换液压油

第六章 常见问题

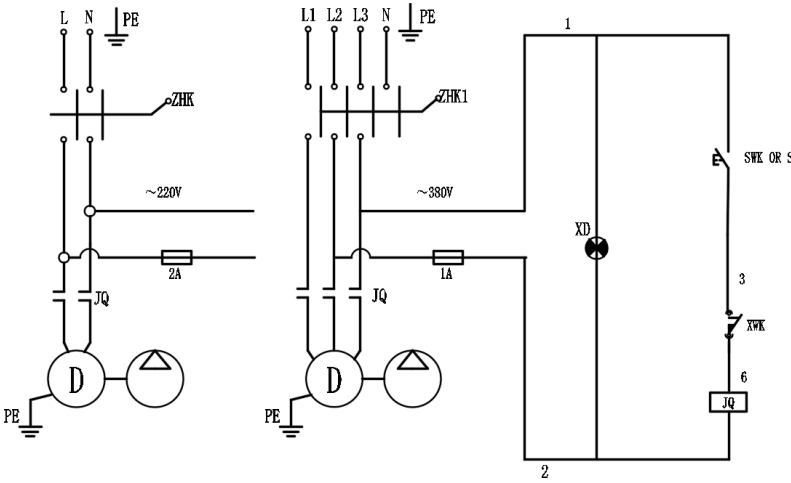
序号	常见问题	解决方案
1	按钮无法工作	更换按钮
2	接触器通电不吸合	更换接触器
3	接触器无法得电吸合	检查按钮与限位开关
4	液压系统连接处漏油	更换接头或者油管
5	油缸漏油	更换密封圈，严重者直接更换油缸
6	托臂齿啮合不好	调节托臂齿位置
7	保险绳松动	调整锁紧保险绳锁扣
8	平衡钢丝绳严重毛刺	更换钢丝绳
9	左右滑台无法落入同档保险	调整平衡钢丝绳螺母，使滑台同步
10	自动回油下降	更换回油阀或者下降调速阀
11	三相电机旋转不出油	电机反转，更换相邻两根电源相线（俗称火线）
12	三相电机异响无力	电机缺相，万用表检查电源进线 380VAC
13	负载情况下将速度过慢	检查回油阀，下降速度阀是否有异物堵住
14	工作时颤抖	立柱滑道涂刷润滑脂，检查液压站输出压力是否足够稳定，检查油缸活塞杆是否有爬升现象。（更换）

第七章　　液压系统图、油管接法图

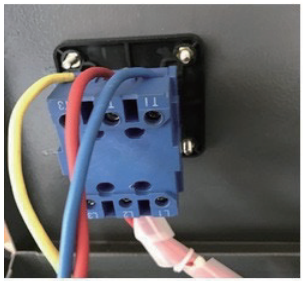




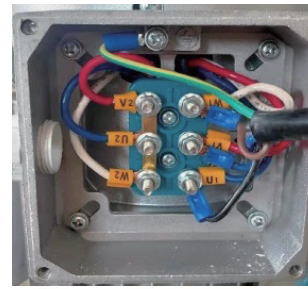
第八章　　电气原理图



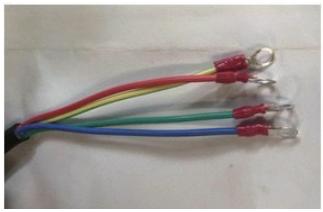
注意：电源入口 U V W，请用 2.5 平方以上的电源线
电机接口 X Y Z，
行程开关 J E 请接入 C63 空气漏电开关。



电源接入线安装方式

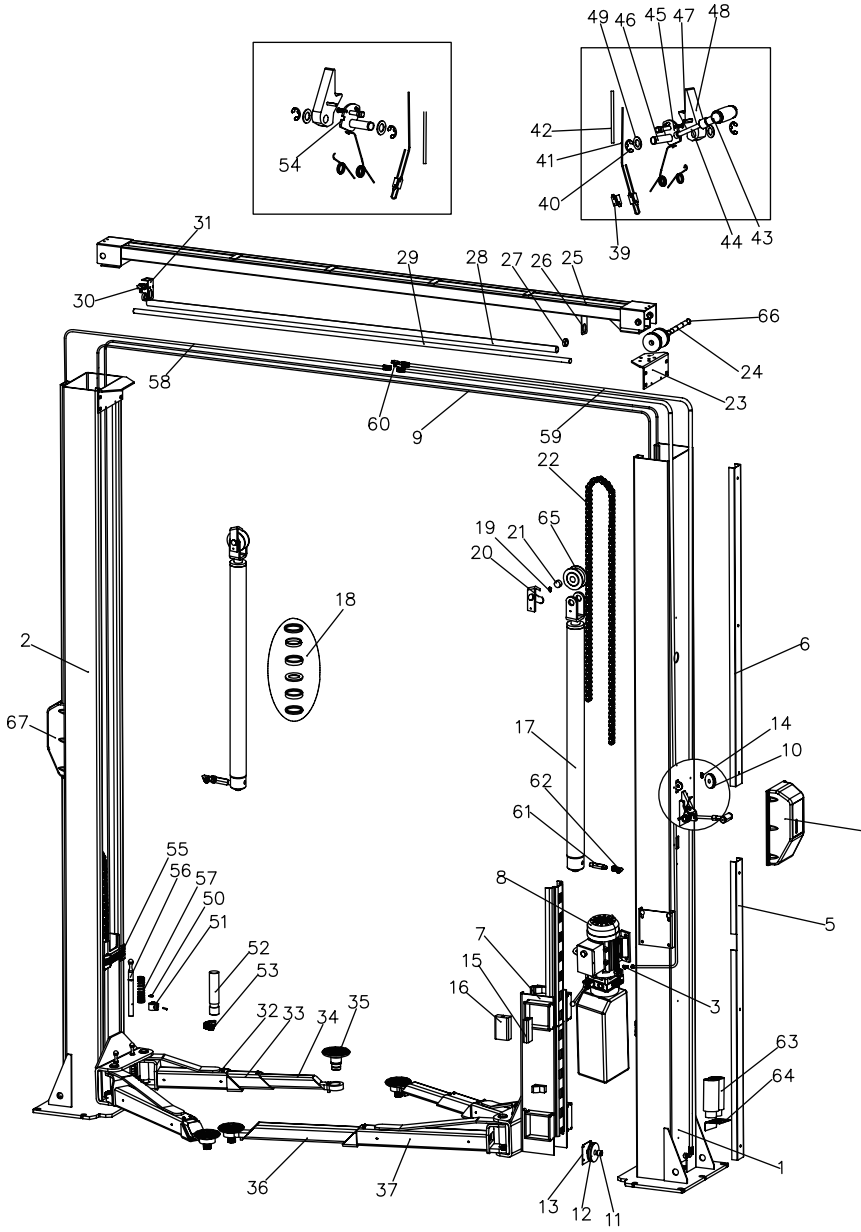


电机线安装方式



电机线接线方式（此线已留于线控盒外）：
红、蓝、绿为 3 条火线，
黄色为地线，箭头为接地线位置。

第九章 爆炸图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序号	世达编号	零部件名称	数量
1	PAE5106-1	主立柱焊接组件	1
2	PAE5106-2	副立柱焊接组件	1
3	PAE5106-3	直角接头	2
4	PAE5106-4	罩壳 A	1
5	PAE5106-5	油槽板底	2
6	PAE5106-6	油槽板顶	2
7	PAE5106-7	龙门滑台焊接组件	2
8	PAE5106-8	220V 动力单元	1
	PAE5106-9	380V 动力单元	1
9	PAE5106-10	钢丝绳组件	2
10	PAE5106-11	钢丝绳小滑轮	2
11	PAE5106-12	钢丝绳轮无油轴承	6
12	PAE5106-13	龙门钢丝滑轮	6
13	PAE5106-14	大架底板钢丝轮罩	2
14	PAE5106-15	钢丝绳小滑轮卡簧	2
15	PAE5106-16	滑块 A	8
16	PAE5106-17	滑块 B	8
17	PAE5106-18	主油缸	1
18	PAE5106-19	油缸密封件组件	2
19	PAE5106-20	链轮轴卡簧	4
20	PAE5106-21	链轮轴	2
21	PAE5106-22	链轮无油轴承	4
22	PAE5106-23	链条	2
23	PAE5106-24	立柱连接块	2
24	PAE5106-25	横梁滑轮轴	2
25	PAE5106-26	横梁焊接组件	1
26	PAE5106-27	限位开关固定架 A	1
27	PAE5106-28	限位杆固定套	2
28	PAE5106-29	泡棉套管	1
29	PAE5106-30	限位杆	1
30	PAE5106-31	微动开关	1
31	PAE5106-32	限位开关固定架 B	1
32	PAE5106-33	短摇臂柱 A	2
33	PAE5106-34	短摇臂柱 B	2

序号	世达编号	零部件名称	数量
34	PAE5106-35	短摇臂柱 C	2
35	PAE5106-36	托盘组件	4
36	PAE5106-37	长摇臂柱 B	2
37	PAE5106-38	长摇臂柱 A	2
39	PAE5106-40	8 字锁线器	2
40	PAE5106-41	E 型卡	4
41	PAE5106-42	解锁钢丝绳	1
42	PAE5106-43	细钢丝绳皮套	1
43	PAE5106-44	把手	1
44	PAE5106-45	手动拉杆	1
45	PAE5106-46	拉杆活动件 A	1
46	PAE5106-47	手动保险齿轴	2
47	PAE5106-48	弹性圆柱销	7
48	PAE5106-49	保险齿	2
49	PAE5106-50	平垫圈 18	4
50	PAE5106-51	保险齿拉杆轴卡簧	4
51	PAE5106-52	小齿轮	4
52	PAE5106-53	保险齿固定轴	4
53	PAE5106-54	大齿轮	4
54	PAE5106-55	拉杆活动件 B	1
55	PAE5106-56	防撞橡胶垫	2
56	PAE5106-57	保险齿拉杆轴	4
57	PAE5106-58	拉簧	4
58	PAE5106-59	短油管	1
59	PAE5106-60	长油管	2
60	PAE5106-61	油管三通	1
61	PAE5106-62	防爆阀接头	2
62	PAE5106-63	活动管接头	2
63	PAE5106-64	增高套	4
64	PAE5106-65	增高套支架	2
65	PAE5106-66	链轮	2
66	PAE5106-67	横梁滑轮轴卡簧	4
67	PAE5106-68	罩壳 B	1

No.

Date

Chapter I Safety precautions

- Read the instructions before using the lift, including installation, operation, safety and other related content.
- In case of any problem with the lift, stop using it.
- Do not overload the lift, which has a rated load of 4000KG.
- When driving the lift to the vehicle loading position, first lay out the four corbels, to ensure that there is no obstacle in the passage, do not kick the corbels to avoid damage to the gear of the corbels.
- Only people who have received training can operate the lift. It is forbidden to let car customers or people without operating experience operate the lift at will.
- The rubber tray of the corbel of the lift must be in contact with the support point of the vehicle, otherwise it will damage the chassis of the vehicle. (If you do not know the position of the support point, it is recommended to consult the vehicle manufacturer by phone)
- Before lifting the vehicle, ensure that all corbel gears are engaged successfully.
- All 4 corbels must be used to lift the car at the same time. Otherwise, it cannot be used to lift the vehicle.
- When the car is lifted, the mechanical locking action must be performed. It is forbidden to work under the vehicle without mechanical locking.
- When parts need to be removed or the vehicle needs to be pushed back and forth, the center of gravity of the vehicle will deviate. To ensure safety, four independent supports are needed to strengthen the stability of the vehicle.
- The perimeter of the lift must be clean and tidy, and any obstacles such as oil pollution are safety hazards.
- It is forbidden to lift a vehicle with a person inside.
- Make sure there are no obstacles below before lowering the vehicle.
- Before the vehicle drives out of the lift, swing the corbel back to the initial position to ensure that it will not interfere with the vehicle.
- Do not remove any hydraulic components when the hydraulic system is under pressure.
- Do not place your hands in any dangerous spots, such as safety blocks, wire ropes, gaps between slides and posts, chains, electrical connections, etc.
- This product can only be used indoors rather than outdoors.
- The short corbels are installed at the front and the long corbels are installed at the rear. (Front engine for common vehicle)
- The safety rope must be firm. When pulling the safety handle, the main and auxiliary column safety blocks must be fully opened simultaneously.
- The operator must wear safety shoes to operate the lift.

Chapter II Product Characteristics and Parameters

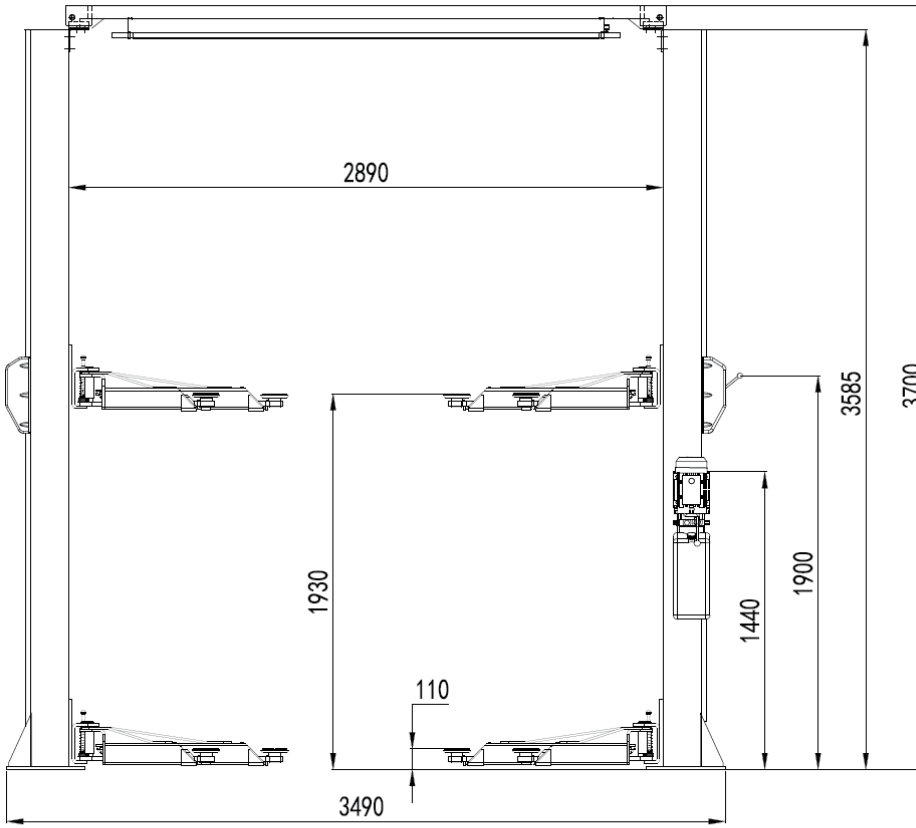
Product features:

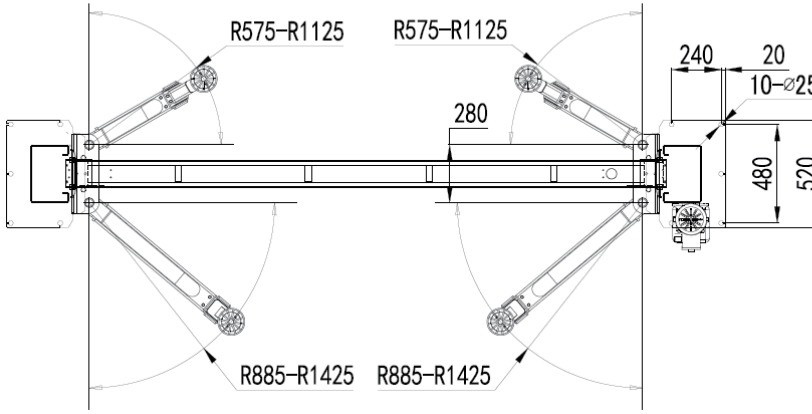
- 3-section corbel design for a wide range of models
- Unilateral manual unlocking, which is safe and reliable
- The tray height is adjusted by thread, and the adjustable height is 75mm
- The minimum lifting height is 110mm, suitable for low-chassis cars

Technical parameters:

Rated lifting weight		4000KG
Column inner width		2890mm
Overall height		3700mm
Min. lift height		110mm
Tray adjusting height		75mm
Max. lift height		1930mm
Stretching range of 3-section corbel		575mm-1125mm
Stretching range of 2-section corbel		885mm-1425mm
Motor parameters	AE5106	1PH, 220VAC, 2.2KW, iron-housing motor
	AE5106-3	3PH, 380VAC, 2.2KW, iron-housing motor
Hydraulic oil type		ISO 46# anti-wear hydraulic oil

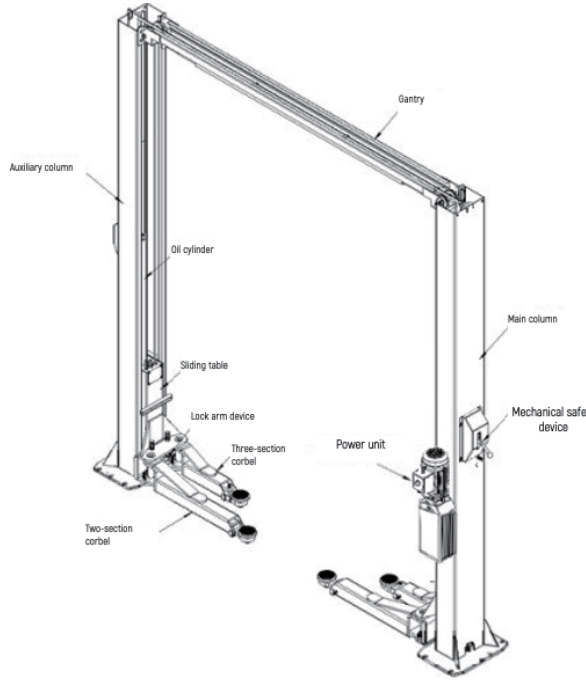
Product schematic diagram (Unit: mm)





Major component introduction:

- This machine is mainly composed of main column, auxiliary column, sliding table, corbel, lock arm device, corbel lock, mechanical lock, oil cylinder, power unit, cross beam and so on. (See the figure below)



Column: Basic components: Used to install sliding table, oil cylinder and other driving devices

Sliding table: Lifting parts: installed in the column for sliding up and down

Corbel: Lifting parts: mounted together with the sliding table to contact with the car support point and lift the car

Lock arm device: Safety component: Lock the corbel so that it cannot rotate

Mechanical lock: Safety components: In case of oil pressure leakage, safety block lifts the safety bar to stop the sliding table

Oil cylinder: Transmission parts: Working in the hydraulic station to drive the high-pressure oil into the lower chamber of the cylinder, and the piston rod rises to drive the sliding table up

Power unit: Power parts: Use the motor to drive the pump to work, absorb the oil through the filter, and push out the high-pressure oil

Beam: Bridge components: Pass the balance wire rope, tubing and safety rope through the gantry from the main column to the auxiliary column, while reducing the two column inclination

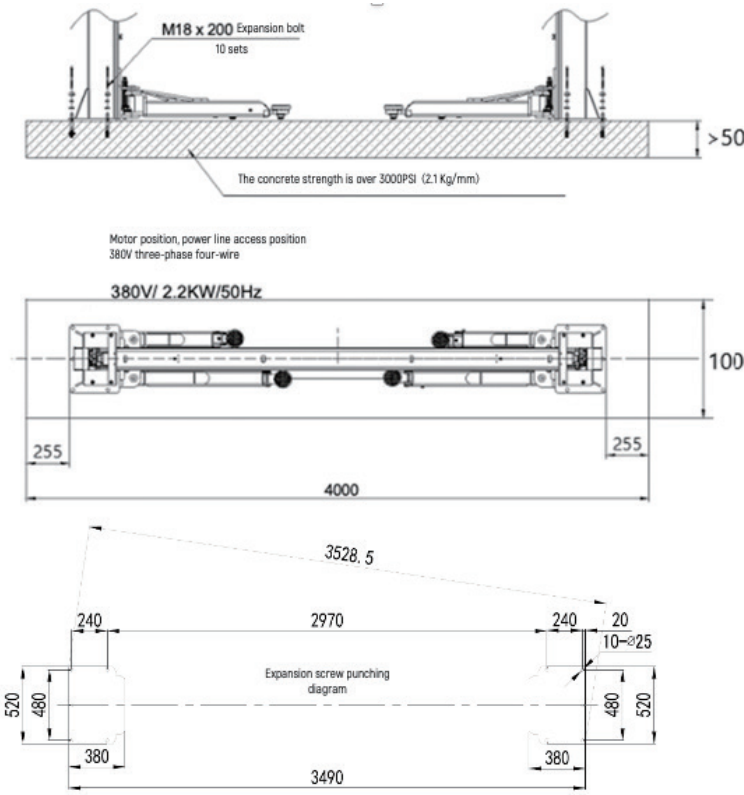
Chapter III Installation preparation

Unpacking

- Open the packing case and remove the surrounding packing materials. Check whether the machine is damaged during transportation. Check whether the main and accessories are complete according to the packing list. Keep packing materials away from children to avoid danger; If the packing materials will cause pollution, they should be properly disposed of.

Foundation

- The user is responsible for ensuring the stability of the foundation. The minimum thickness of the concrete is 500mm, the minimum strength is 21MPa, and the concrete must be completed 15 days before the installation date. No other foundation equipment is allowed within 350mm of the expansion bolt, so as not to damage the foundation strength. It is the user's responsibility to provide safe power supply, air supply, and electrical connection lines and other connecting components.

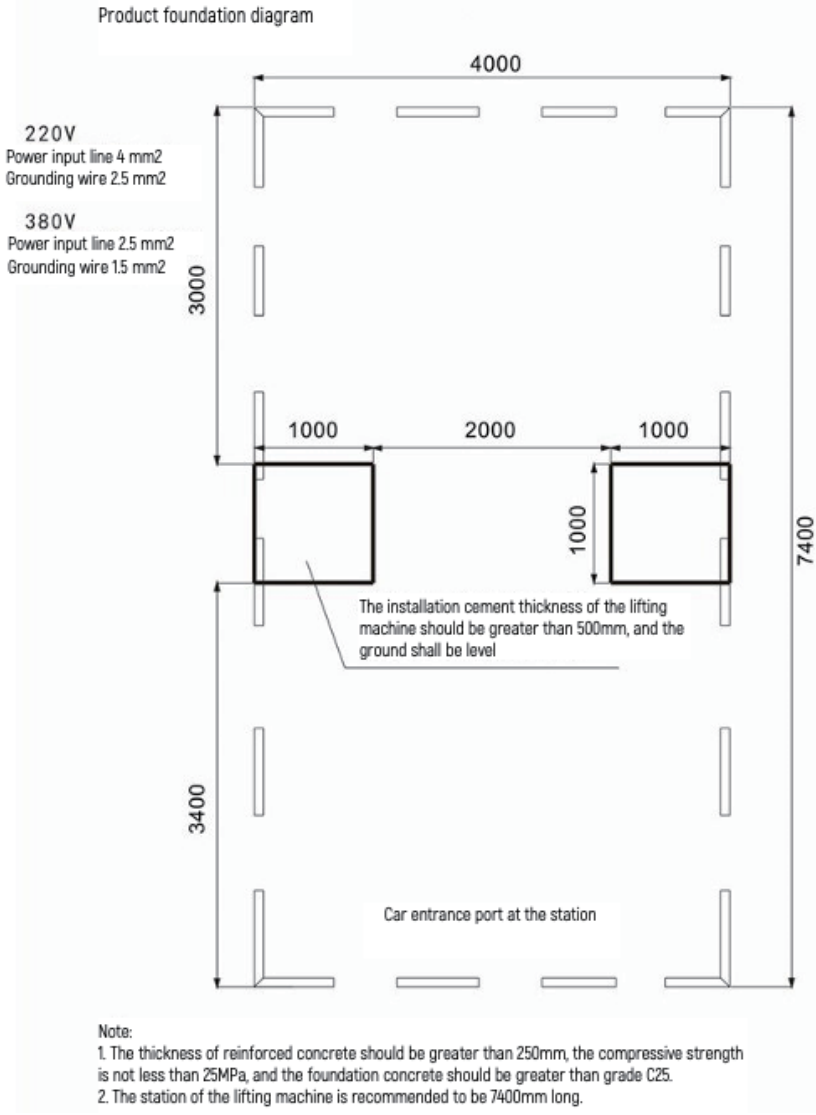


Tool

- 5m measuring tape, graphite powder chalk, appropriate impact drill and drill (expansion bolt M18X200mm), hammer, appropriate wrench, 1.2m level, crowbar, 4m escalator, appropriate screwdriver, 100mmx100mm wood lining (for laying down posts to protect painted surfaces)

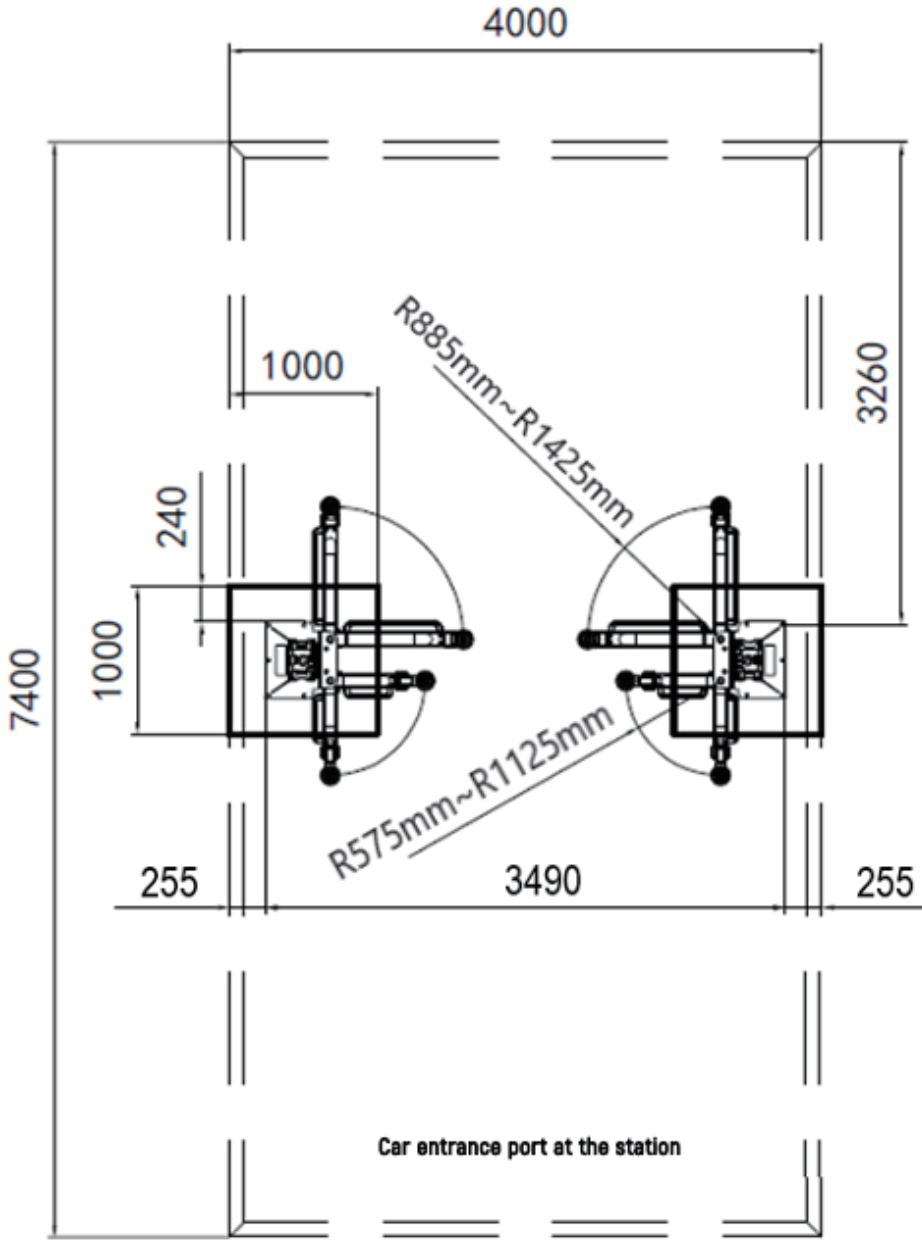
Chapter IV Installation Guidance

- First of all, select the area to be installed, try to T wall, close to the power supply.
- Clean up the hoisting machine installation area, without oil stain on the ground
- The product installation space size diagram is for reference

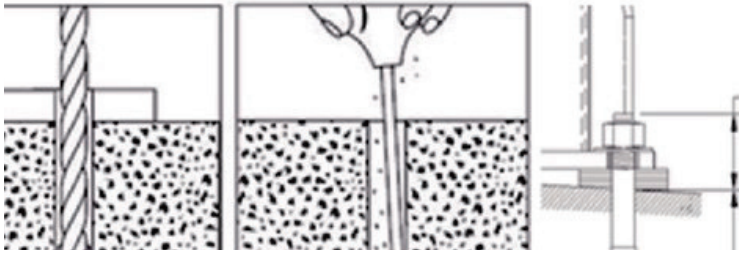


Note:
1. The thickness of reinforced concrete should be greater than 250mm, the compressive strength is not less than 25MPa, and the foundation concrete should be greater than grade C25.
2. The station of the lifting machine is recommended to be 7400mm long.

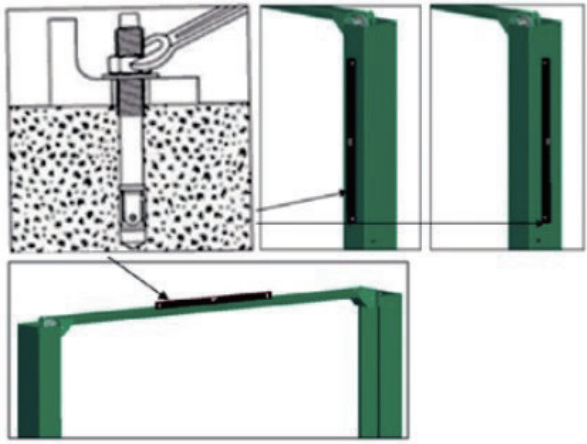
Space diagram:



- Place the main column, drill holes with a hammer drill, clean up residual dust in the bolt holes with a vacuum cleaner, and hammer the expansion bolts into the holes

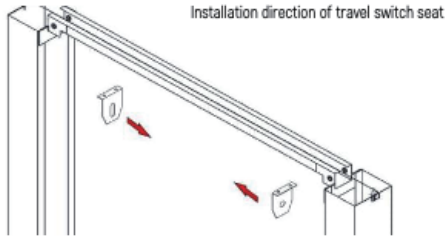


- The height of the expansion bolts above the ground cannot be greater than 50mm. Do not tighten the nuts.
- Fix the auxiliary column by referring to the main column, and confirm that the diagonal distance difference between the bottom plate of the two columns is within 3mm.
- Prepare escalator carts on both sides of the columns, tie both sides of the gantry with slings, lift the gantry, and fix the connecting bolts. Note: When installing the gantry, there should be no other personnel around the lifter.
- Tighten the expansion bolts (reference torque: 203N.m), and use a level to ensure the vertical of the column. If necessary, insert spacers into the bottom of the column and adjust the level. Use a level to ensure the upper surface of the gantry is level as well.



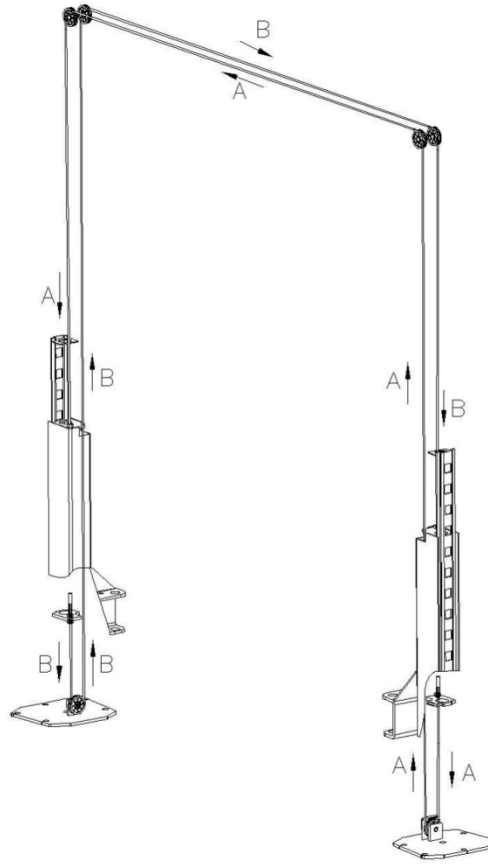
Note: If the expansion bolts cannot be tightened to 203N.M, the strength of the concrete should be reconfirmed.

- Install the roof anti-collision limit pole and connect the limit switch



Install the balance wire rope

- Ensure that the left and right sliders are at the first safety gear, and install the balance wire rope according to the indicated track. Do not tighten the nut first, and then adjust the tightness of the two wire ropes when adjusting the synchronization. Note: The screw of the single wire rope must be tightened, and the two sliding tables must be locked on the lock at the same height when adjusting.



Installation of safety rope

- First, install the safety wheel, make sure the left and right sliders are in the same safety gear, and install the safety rope as shown in the figure. Adjust the tightness of the safety rope to ensure that the left and right safety blocks can be opened and locked at the same time.

Corbel installation

- Install the four corbels into the sliding platform through the pin shaft, with three corbels at the front end and two corbels at the back end. (Note: three-section corbels are used in the front direction, and the snap ring should be installed on each corbel shaft)

Power unit assembly

- Install the power unit on the motor plate of the main column and fix it with bolts and nuts. Install the limit switch and connect the wire.

- Hydraulic system connection

c.Unscrew the oil tank cover and pour in 10L-- 46# anti-wear hydraulic oil. (46# anti-wear hydraulic fluid is preferred, and 32# is considered when the temperature is below -10° C)

d.Connect the hydraulic connector, and connect the oil pipe to the oil outlet joint of the main and auxiliary cylinders.

Install unlock wire rope

- The unlock wire rope is installed as shown in the figure below:

Note:

d.The wire rope is required to be adjusted until the safety tensioning on the main and auxiliary posts is consistent.

e.Universal lithium base grease (GB7324-87) should be added between the safety block and the shaft to ensure the safety and reliability of the safety block during normal use. If the safety block cannot be reset, it should be stopped immediately without lifting operation, and can be used until the problem is eliminated

f.he safety wire rope shall not contact with any stationary or moving parts in the column except the two fixed ends and the rope

No load test adjustment

g.Clean up the site, the ground shall be free of oil stain, and the lifter should have no load.

h.Turn on the power, press the up button to rise the sliding table, stop rising at any position, and press the oil return handle to let the left and right sliding tables fall into the same safety gear

i.Tighten the balancing wire rope nut to let the two balancing wire rope have basically the same tightness.

j.Press the Up button, make the sliding table rise for some distance to leave the safety block; Pull the safety handle with your left hand and press the oil return handle with your right hand to lower the sliding table to the bottom.

k.Press the Up button to lift all the way, and touch the limit switch at any position. When the motor stops running, the relief valve opens when the limit position is reached, the hydraulic system returns oil, and the sliding table stops rising. During the lifting process, observe the synchronicity of the left and right sliding table corbels. If there is a significant difference, continue to adjust the tightness of the balancing wire rope nut to achieve the synchronicity of the left and right sliding tables.

l.Install door anti-crash rubber pads.

Load test adjustment

e.Open the four corbels completely to ensure that the lane space is free of any obstacles.

f.Drive the car into the lifter, center the left and right by taking the column connection as a reference; the distance between the front and back of the vehicle is about 2:3 (for front-engine vehicle). When the vehicle tonnage is greater than 3.5 tons, appropriately move the vehicle backward.

g.Rotate the corbel tray to the vehicle chassis support point.

h.Press the "Up" button to lift the corbel and make sure the four corbel locks are fully locked.

m.Continue to inch up, observe that if any rubber tray touches the chassis support point, stop rising, and then turn the remaining rubber tray counterclockwise to contact the support

n.Press the Up button, and the car is slowly lifted; when the car tires leave the ground, stop rising. Push the rear of the car to make sure the car is safe and stable, and the corbel lock is completely locked.

o.Press the Up button, and the car continues to rise; observe whether the car lifting process is stable on all sides; when the slide table rises to the third or fourth safety gear, stop rising, and press the oil return handle, and the hydraulic station returns oil, and sliding table is locked. Observe whether the front, rear, left and right sides of the car are level. (If the difference between left and right height is obvious, adjust the balance wire rope nut).

p.Continue to rise to the highest safety gear, stop rising, press the oil return handle to return oil and lock. Observe whether the lift is stable without vibration.

q.Inch up to make the sliding table leave the safety block, hold the safety handle with your left hand, and press the oil handle with your right hand. The car drops.

r.Release the left handle at any position during the process, the safety block automatically springs back, the sliding table is locked, and the descent is stopped.

s.Inch up to make the sliding table leave the safety block, hold the safety handle with your left hand, and press the oil handle with your right hand. Release the left handle at any position during the process, the safety block automatically springs back, the sliding table is locked, and the descent is stopped. Repeat this action more than three times to confirm that the mechanical safety device is safe and reliable.

t.In the process of lifting the car, observe whether there is abnormal sound, whether there is friction interference between the wire rope and other parts.

Chapter V Maintenance Guidance

- Items to be checked daily

e.Check all hydraulic joints, tubing, and cylinders for oil leakage.

f.Check all electrical connections for breakage.

g.Check all moving parts for wear and tear.

h.Clean up the oil on the rubber tray and observe whether there is excessive wear on the rubber tray.

-Items to be checked every 2 months

d.Replace the grease in the column guide rails

e.Replace grease on corbel pin shaft.

f.Check and tighten the expansion bolt nuts

-Items to be checked every 6 months

d.Replace the chain wire rope grease

e.Adjust balance wire rope, safety rope

f.Check the wire rope for burrs

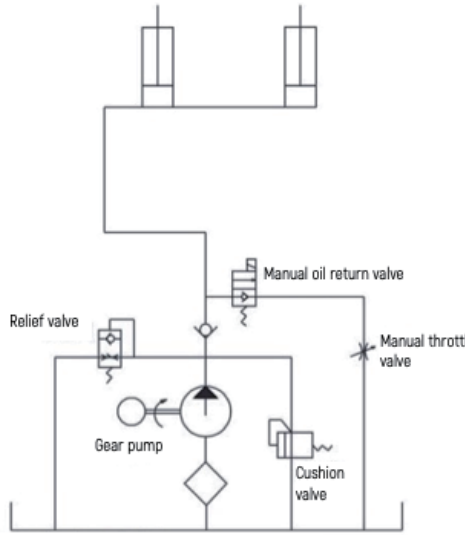
-Items to be checked every 2 years

a.Replacement the hydraulic oil

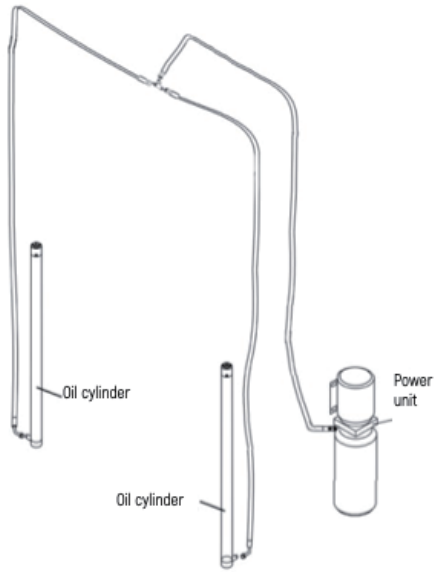
Chapter VI FAQ

S/N	FAQ	Solutions
1	The button doesn't work	Change the button
2	The contactor cannot be actuated when energized	Change the contactor
3	The contactor cannot be energized for actuation	Check the button and limit switch
4	Oil leaks from hydraulic system connections	Replace the joint or tubing
5	Oil cylinder leaks	Replace the sealing ring; if serious, replace the cylinder directly
6	The corbel threads do not match well	Adjust the position of corbel threads
7	Loose safety rope	Adjust the safety rope locking latch
8	Balancing wire rope with too many burrs	Replace the wire rope
9	The left and right sliding tables cannot fall into the same safety gear	Adjust the balance wire rope nut to synchronize the sliding table
10	Automatic oil returning and dropping	Replace the oil return valve or drop the speed control valve
11	Three-phase motor rotates without oil	Reverse the motor, replace the two adjacent power supply phase lines (commonly known as live lines)
12	Three-phase motor runs poorly with abnormal noise	Motor is out of phase; check the power supply line with a multimeter, which shall be 380V AC
13	Under load, the descent speed is too slow	Check whether the oil return valve and the descent speed valve are blocked
14	Work with vibration	Apply grease to the column guide rail, and check whether the output pressure of the hydraulic station is stable enough, and whether the piston rod of the cylinder is climbing. (Replace it)

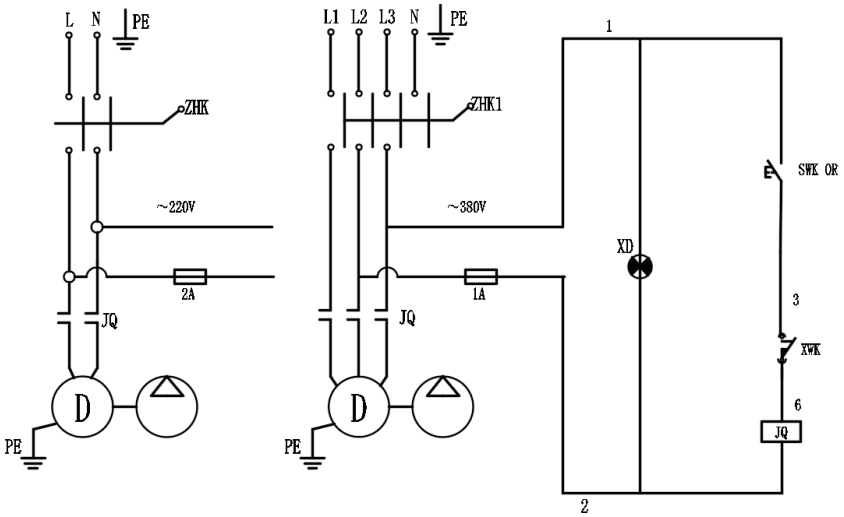
Chapter VII Diagram of hydraulic system and tubing connection



Manual oil return valve: control drop oil circuit
Manual throttle valve: Adjust descent speed
Relief valve: Control maximum pressure
Gear pump: output oil pressure
Cushion valve: Reduce motor load when starting



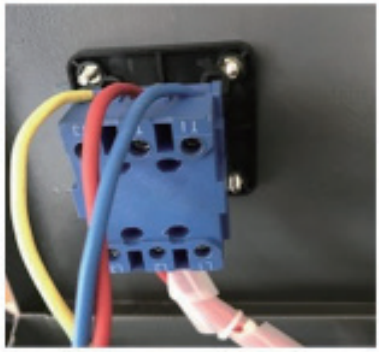
Chapter VIII Electrical diagram



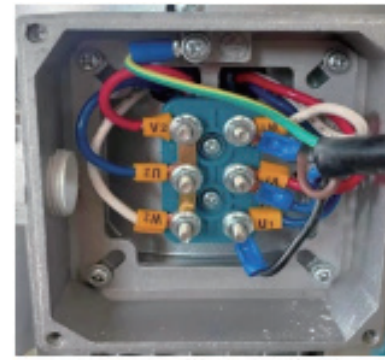
Note: For power inlet U V W, please use power cable of over 2.5 mm2

For motor interface X Y Z,

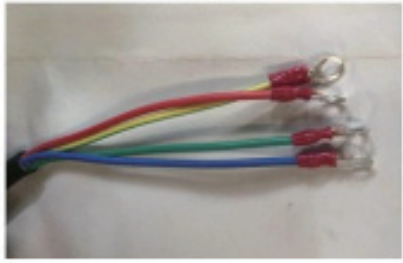
connect the travel switch J E to the C63 air leakage switch.



Installation mode of the power access cable



Installation mode of motor wire

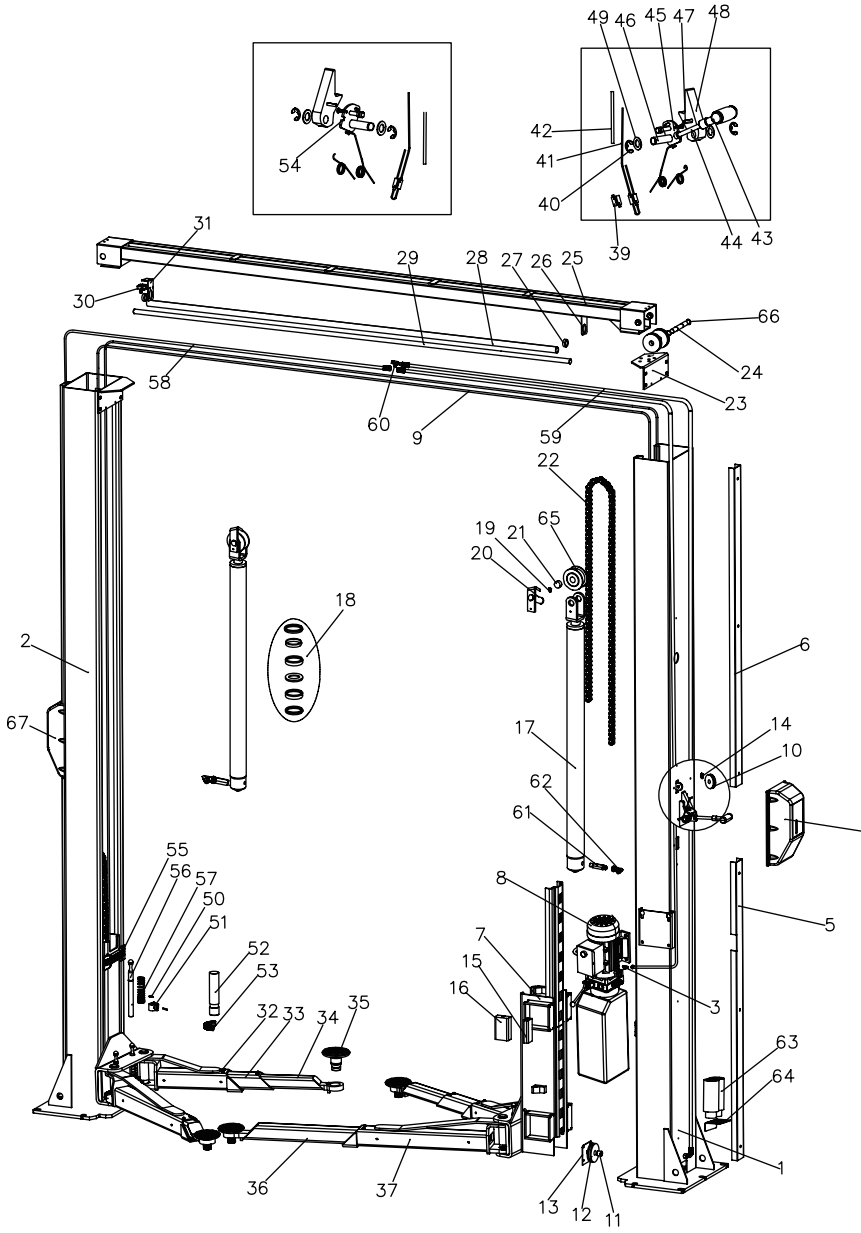


Wiring mode of motor wire (this wire has been left outside the wire control box) :

Red, blue and green wires are live.

The yellow wire is for grounding, and the arrow indicates the position of the ground wire.

Chapter IX Explosive view



No.	SATA No.	Part name	Quantity
1	PAE5106-1	Main column welding components	1
2	PAE5106-2	Auxiliary column welding components	1
3	PAE5106-3	Right-angle connector	2
4	PAE5106-4	Housing A	1
5	PAE5106-5	Bottom of oil groove plate	2
6	PAE5106-6	Top of oil groove plate	2
7	PAE5106-7	Gantry sliding table welding assembly	2
8	PAE5106-8	220V power unit	1
	PAE5106-9	380V power unit	1
9	PAE5106-10	Wire rope component	2
10	PAE5106-11	Wire rope small pulley	2
11	PAE5106-12	Wire rope wheel oil-free bearing	6
12	PAE5106-13	Gantry wire pulley	6
13	PAE5106-14	Steel wire wheel cover for large frame bottom plate	2
14	PAE5106-15	Wire rope small pulley snap ring	2
15	PAE5106-16	Slider A	8
16	PAE5106-17	Slider B	8
17	PAE5106-18	Main oil cylinder	1
18	PAE5106-19	Oil cylinder seal assembly	2
19	PAE5106-20	Sprocket shaft snap ring	4
20	PAE5106-21	Sprocket shaft	2
21	PAE5106-22	Oil-free sprocket shaft	4
22	PAE5106-23	Chain	2
23	PAE5106-24	Column connecting block	2
24	PAE5106-25	Beam pulley axis	2
25	PAE5106-26	Beam welding assembly	1
26	PAE5106-27	Limit switch holder A	1
27	PAE5106-28	Limit rod fixing sleeve	2
28	PAE5106-29	Foam drivepipe	1
29	PAE5106-30	Limit rod	1
30	PAE5106-31	Micro switch	1
31	PAE5106-32	Limit switch holder B	1
32	PAE5106-33	Short rocker arm column A	2
33	PAE5106-34	Short rocker arm column B	2

No.	SATA No.	Part name	Quantity
34	PAE5106-35	Short rocker arm column C	2
35	PAE5106-36	Tray component	4
36	PAE5106-37	Long rocker arm column B	2
37	PAE5106-38	Long rocker arm column A	2
39	PAE5106-40	8-shaped wire rope clip	2
40	PAE5106-41	E-type buckle	4
41	PAE5106-42	Unlocking wire rope	1
42	PAE5106-43	Small wire rope leather sheath	1
43	PAE5106-44	Handle	1
44	PAE5106-45	Manual pull rod	1
45	PAE5106-46	Pull rod movable part A	1
46	PAE5106-47	Manual safety gear shaft	2
47	PAE5106-48	Elastic cylindrical pin	7
48	PAE5106-49	Safety gear	2
49	PAE5106-50	Flat washer 18	4
50	PAE5106-51	Guard gear tie rod shaft snap ring	4
51	PAE5106-52	Small gear	4
52	PAE5106-53	Safety gear fixing shaft	4
53	PAE5106-54	Big gear	4
54	PAE5106-55	Pull rod movable part B	1
55	PAE5106-56	Anti-collision rubber pad	2
56	PAE5106-57	Guard gear tie rod shaft	4
57	PAE5106-58	Tension spring	4
58	PAE5106-59	Short oil pipe	1
59	PAE5106-60	Long oil pipe	2
60	PAE5106-61	Oil pipe tee	1
61	PAE5106-62	Anti-explosion valve connector	2
62	PAE5106-63	Flexible pipe connector	2
63	PAE5106-64	Raised sleeve	4
64	PAE5106-65	Raised sleeve support	2
65	PAE5106-66	Sprocket wheel	2
66	PAE5106-67	Beam pulley shaft snap spring	4
67	PAE5106-68	Housing B	1

No.

Date

适用型号 / Model: **AE5106/AE5106-3**

版本号 / Version No: **V-AE-5106-2305**

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