



Portable Lifter

PL series

PL-430 / PL-490

Patented



V4 05/20

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1.Functions and Features

The Portable Lifter is designed to lift heavy objects, such as air-conditioning equipment, indoor units, electric roll-up doors, installation of decoration items, lamps, and suspension of stage lightings, etc.

Characteristics of the portable lifter is as follow:

1. Body

1-1 The lifter is light and can be carried by a single person.

1-2 Safe and reliable with lightweight aluminum alloy steel body.

2. Supporting Legs

2-1 The lifter has 4 supporting legs and a lifting cylinder of a total five points that assure a high stability.

2-2 Double-layer expansion and contraction, the length of the supporting legs can be adjusted at any time depending on the working environment.

2-3 The Portable Lifter provides wheels and a handle, so it can be easy to move around.

2-4 The bending design of the foot bracket makes the supporting legs more compact and can be easily folded to save space.

2-5 The top panel can be settled closer to the wall with quick release plugs on two of the supporting legs.

3. The stop button and switch button

3-1 Power failure and emergency stop device

3-2 Switching to manual mode or power drill mode.

4. Up and down speed can be adjusted by stepless speed switch.

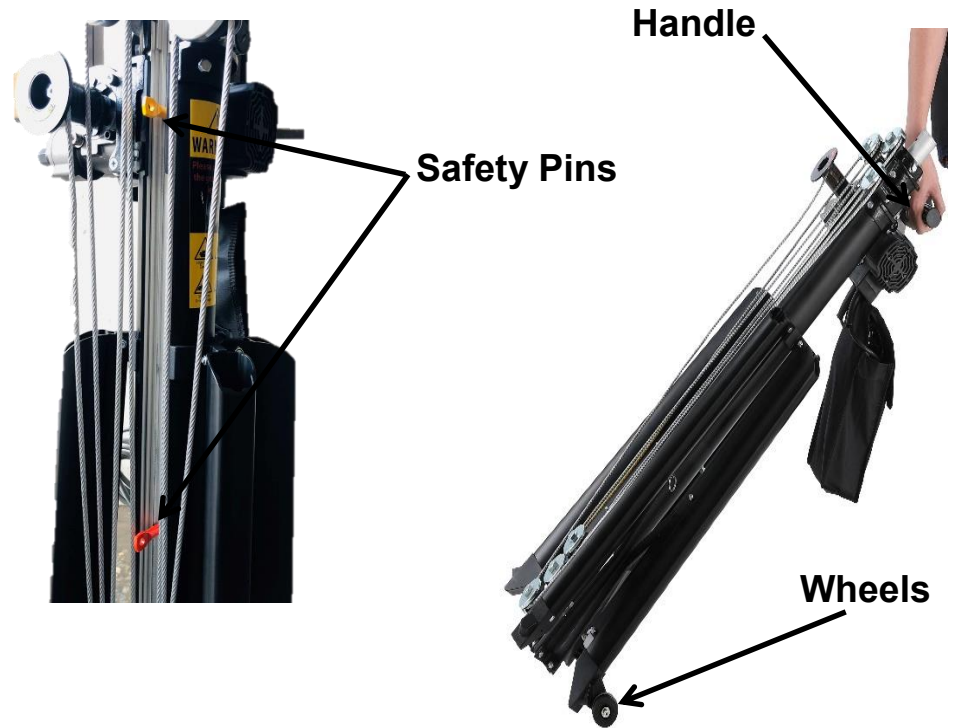
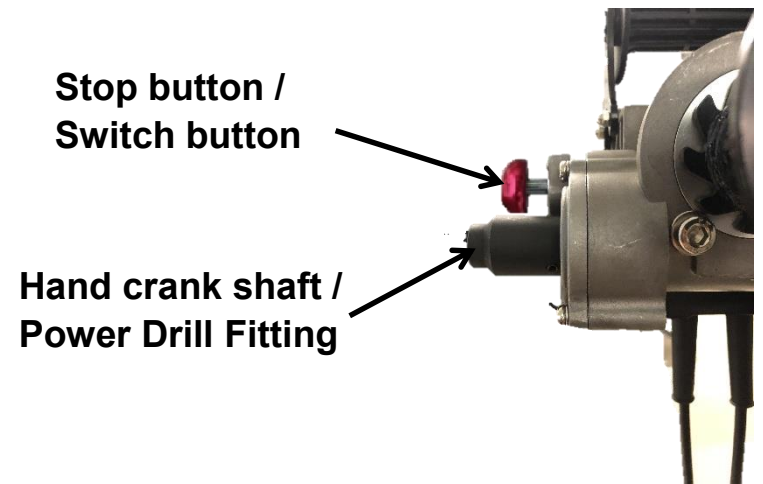
5. Clutch Device

When the lifter is overloaded, the built-in clutch device will be activated and create a da-da-da sound. It will prevent the lifter to raise objects exceeding the weight limitation.

6. Safety Pins

Safety Pins are to ensure users understand the weight limits for raising the panel to different heights.





2. General Safety Regulations

WARNING Do not attempt to operate until you have read all instructions contained in this manual thoroughly.



The portable lifter should not be used to lift people



Safety Regulation

- ⚠ All users should read these warnings and instructions before operating, so to understand the usage, limitations and any possible dangers of the lifter.
- ⚠ Keep children and bystanders away from the lifter while operating.
- ⚠ Wear hearing protection when necessary. Exposure to noise can cause hearing damage.
- ⚠ The power plug must match the socket, and it must not be modified in any ways.
- ⚠ It is forbidden to operate the lifter with unstable posture. The body must keep balanced at any circumstances during the operation.
- ⚠ Do not remove Safety Pins before you read the manual carefully.
- ⚠ Do not operate the portable lifter during strong winds. This will result in insufficient balance of the lifter.
- ⚠ Do not operate the portable lifter while you are tired or under the influence of drugs, alcohol, or medication.
- ⚠ If the lifter is damaged, have the lifter repaired before use.
- ⚠ Dress properly – keep clothing, gloves and hair away from all moving parts.
- ⚠ Store the unused portable lifter out of reach of the children and do not allow anyone who isn't familiar with the lifter to operate.





- ⚠ Only professional maintenance personnel from manufacturer can repair or replace spare parts. Use only original spare parts and accessories to ensure the safety of the lifter.
- ⚠ The portable lifter should not be used as a people lifting platform, and people are absolutely forbidden to stand on the top panel.
- ⚠ Before use, please confirm whether the power supply matches the rated voltage.
- ⚠ The portable lifter cannot be moved while it is under operation.
- ⚠ Never operate the portable lifter in a moving environment, such as a moving car.
- ⚠ When the lifter rises, focus on the top panel and watch out for obstacles which might appear above the load.
- ⚠ Do not use the portable lifter in damp or wet locations or expose in the rain.
- ⚠ Do not remove or alter warning labels and replace any signs that may cause confusion.
- ⚠ **MUST NOT** use the lifter on soft ground in order to prevent the lifter from tilting.
- ⚠ The load is always placed at the center of the top panel.
- ⚠ Don't place the lifter on a slope or uneven ground.
- ⚠ No people and any objects can be on the path of the lifting way.
- ⚠ Do not force the lifter to raise the load over 90kgs when the cable rolls to the red indicator section which is above 4 meters high.




Warranty

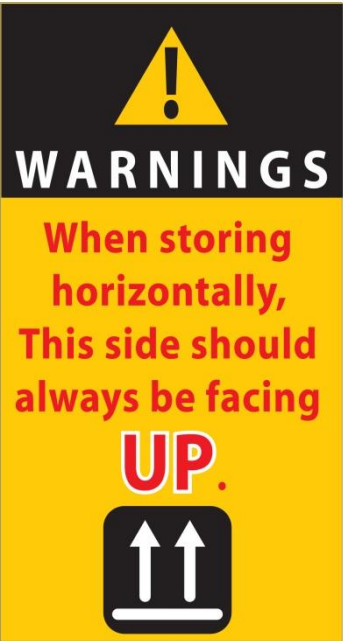

If any parts are proved to be defective within **ONE YEAR** from the purchase date, then the manufacturer or distributor shall repair or provide the replacement. The manufacturer or distributor shall have no obligation to repair or replace the parts due to operator carelessness and misuse.

3.Warning Signs

This portable lifter has warning symbols attached on it as shown below to ensure proper and safe operation.

	Graphic	Name of Warning sign	Meanings
1		High Voltage Danger	Do not use the portable lifter in damp or wet locations or expose in the rain in order to prevent the electric shock.
2		Crushing Danger / Steel Wire Danger / Clamp risk	Do not touch the lifter or any moving parts during operation in order to prevent any incidents from crushing, steel wires (cable), and clamp risks.
3		Level Sign	Make sure the portable lifter is leveled before use. Shake the lifting cylinder to make sure the bubble is ALWAYS in the circle. If the bubble is too far from the circle, please check the supporting legs are fully extended.
4		Center Sign / Weight Limit Notice	Users must always put the load at the center of the top panel. And do not raise the load over 90kgs when the cable rolls to the red indicator section which indicates the height is above 4 meters.

	Graphic	Warning name	Meanings
5		Up and Down	When operating the lifter, always make sure the spinning direction is correct.
6		Broken Threads	It is recommended to replace the cable when finding more than 5 broken threads. The cable MUST be replaced immediately when finding 10 or more broken threads.
7	 Usage of Safety Pins		Users should only remove safety pins if they need to operate the Portable Lifter beyond 3.6 or 4.0 meters high. Also, users should not load over 120 kgs. When raising over 4 meters high, the maximum weight is 90 kgs and make sure the load is centered.

	Graphic	Warning name	Meanings
8		The motor side up	When storing horizontally, the motor side should always be facing up and the cable side should be facing down. Otherwise, It will cause damage to the lifter if the gear side with the hex nut or the motor side is facing down.
9		Do not use Impact Drills	Please do not use Impact Drills, use standard Power Drills only. Using Impact Drills will cause damage to the internal gears and other components.

4. Before Using

- The Portable Lifter has had a rigorous functional test before the shipping; beside the quality inspection, please follow these steps after receiving the goods.
 - Check if the model is correct. Check the label on the motor and check whether the model and specification are all correct.
 - Check if the portable lifter is damaged due to transportation.
 - Check in detail whether the portable lifter has the necessary tools attached, such as the hand crank.
 - Place each component neatly and keep them in a safe place.

- **Power Supply Requirement**

Determine the required power supply by the specification of the lifter, transformer and users' local electric power supply. Please refer to electrical specification marking on the lifter and be sure it complies before connecting.

Insufficient voltage from the power source may affect the performance of the motor and the function of the controller. It is important to connect the lifter to the correct power source. Use only an independent power source.

If the power supply is not within the specification range below, damage may be caused to the lifter.



Table of Power Supply Requirements:

Model	kW	Voltage	Current	Wire size
PL Series	800~1300 kW	100-120V	10A	1.25mm
	800~1300 kW	220-240V	5A	1.25mm

● **Safety Pins**

Safety Pins will stop the panel from raising when it reaches the height limits. Before removing Safety Pins to raise the panel higher, please refer to the table below.

Table of Safety Pin and Height/ Weight Limit:

Safety Pins	Height Limit	Weight Limit
With Both Yellow and Red Pins are in place 	PL-430:Max. Height: 3.6 Meters	Max. Weight: 120 KGS
Yellow Pin removed, Red Pin remaining. 	PL-430:Max. Height: 4.0 Meters PL-490:Max. Height: 4.0 Meters	Less than 120 KGS
Both Yellow and Red pins are removed.	PL-430:Max. Height: 4.3 Meters PL-490:Max. Height: 4.9 Meters	Less than 90 KGS

- * It is recommended that beginners should operate the lifter with Safety Pins.
- * Must follow the criteria above, and place the load accurately at the **CENTER**.

- **Connect Power Source Wires**

1. Before connecting the power wires, make sure the voltage of the lifter is corresponding to the power source.
2. The portable lifter must be properly grounded to prevent possible injury from electrical shock.
3. Connect the power wires according to the connector type.
4. Qualified electrical personnel should perform all electrical connections.
5. Check Connection of Power Wires.
6. After the power wires have been connected, it is necessary to check if the power wires are connected to the correct connection points.

⚠ Please assure the input voltage matches the motor's rated voltage.

PORTABLE LIFTER

MODEL: PL TYPE: PL430

AC 220V~240V 50/60Hz MAX. 1100W

Load Capacity: 4M↓: 120kg / 4M↑: 90kg

Lifting Height: 427cm

Weight: 25.6 kg



5. Operation Procedure

1. Release the screw to unfold the supporting legs.



2. When the supporting legs are fully extended, tighten the screw on the cylinder to fix the supporting legs.



3. Press the handle to allow supporting legs extend to the ground.



4. There's a gradienter over the lifting cylinder. Supporting legs should be adjusted to ensure the lifter is horizontal.

* Shake the lifting cylinder to make sure the bubble is ALWAYS in the circle. If the bubble runs out of the circle, please check if the supporting legs are fully extended.

* Most of the time, it's necessary to pull out the legs to make sure it's firmly planted on the ground.



5. Install the top panel on the lifting cylinder, fix the screw and unfold the top panel for operation.



6. When users need the portable lifter to get closer to the wall, supporting legs can be adjusted. Plugs are set in supporting legs. Pull the plugs out from the supporting legs and move the support frame to upper hole and connect the holes with the plug.



- * Always remember to put the support frame back to the original position. The original position of supporting legs has a wider supporting area which gives a better stability.

- The portable lifter is closer to the wall.
* Gaps shall exist to avoid collision!



7. When users need to operate the Portable Lifter beyond 3.6 meters high, the yellow pin should be removed. If operating above 4 meters high is needed, remove the red pin after you fully understand the manual, especially the weight limit at different height.

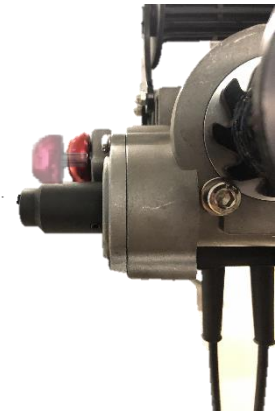


- * Before removing ALL Safety Pins, users should read and understand every detail in PL-430 manual.

A. Operation of Raising and Lowering

I. Remote-Control Mode

- a) Make sure the Stop Button is pulled out.
- b) Before operation, make sure the power cable is firmly inserted and the voltage matches.
- c) If the STOP button cannot be pulled out successfully, lightly press the trigger to slowly activate the motor, and pull out the stop button at the same time to engage the internal gears.



- d) Before operating with the Remote-Control Mode, make sure there's nothing mounted on the hand crank shaft and the power drill fitting.
- e) Before lifting, make sure the lever is switched to the UP position.
Please refer to the next page.



1. Up: Switch the Up/Down Switch Lever to the left and press the Trigger to lift.
2. Down: Switch the Up/Down Switch Lever to the right and press the Trigger to lower.
3. The switch is a stepless speed changing switch. The harder you press, the faster it lifts.



Note:

Switch the Up/Down Switch Lever to the correct direction according to the label on the remote control.

II. Power Drill Mode / Manual Mode

- *Power Drills should not be used as the main source of power, only during a power outage.
- *In case of motor failure or power outage, you can switch to Power Drill Mode or Manual Mode.
- *Please do not use Impact Drills, use power drills only or operate manually with hand crank.
- *Operator should pay extra attention when using a power drill, ensure the load is centered and the cylinder is not tilted.

Make sure the Stop Button is pushed in.

a) When operating with the power drill, 18V power drill is recommended.

a-1 Lift: Spin "COUNTERCLOCKWISE" to lift.

a-2 Lower: Spin "Clockwise" to lower.

b) When operating manually, please make sure to mount the hand crank onto the shaft firmly.



6. Notice & Danger



During the lifting operation, always keep an eye on the lifter. If it shows any sign of tilting, it means the load is too heavy and unbalance. STOP the lifting operation immediately and lower the lifter back to the starting position. Redistribute the load as center as possible or reduce the weight before lifting again.

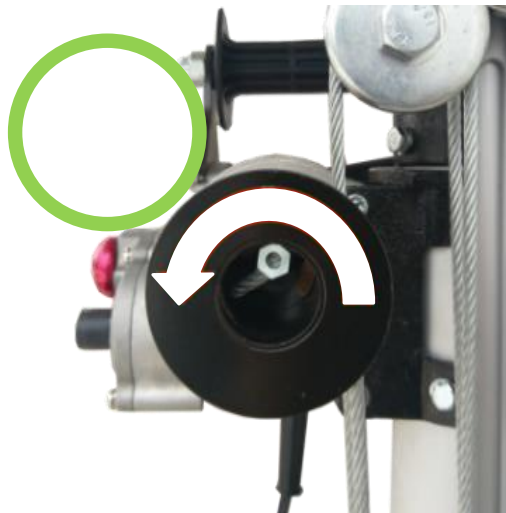
!! Notice !!

Make sure the rotating direction is corresponding to the label.

Make sure the Up/Down switch lever has switched to the up position when operating the lifter. If the Up/Down switch lever is not switched to the up position, the portable lifter will fail to carry the designed load capacity.

Designed Load Capacity:

3.5 Meters~ 4Meters: 90~120 kgs ; Above 4 Meters: 90 kgs or less



Correct direction



Wrong direction

7. Troubleshooting

Item	Anomalies	Possible causes and Checking	Troubleshooting
1.	The lifter cannot be controlled with the remote control, but the motor is still running	Motor idling, check if stop button is pulled up.	If the stop button cannot be pulled up successfully, the remote control can be lightly pressed after plugging in, so that the motor can be slowly rotated, and at the same time, the stop button can be pulled out, and the reset can be successfully completed.
2.	The motor does not operate	Check if the plug is not plugged in	If the plug is plugged in, but it still cannot be powered, please contact the manufacturer
3.	The steel cable on the cable pulley is not properly set	When the lifter rises, the switching up and down shift lever does not switch to the up position, resulting in twisted steel cables.	Stop the rising operation immediately, first to reduce the height of the lifter, switch the lever to the up position again, and continue to operate.
4.	Fail to operate with Power Drill Mode or Remote-Control Mode		Make sure the STOP BUTTON is pushed in.

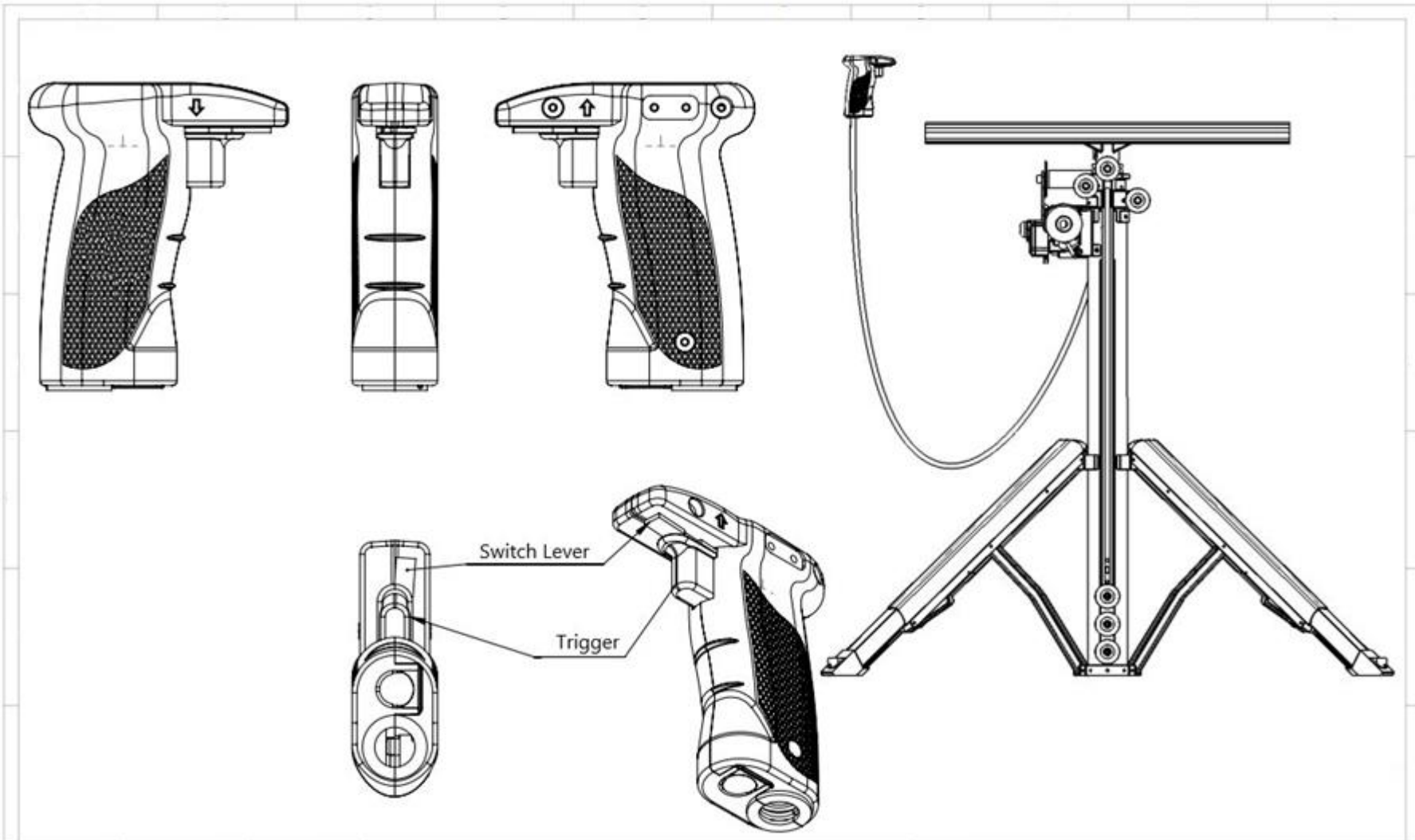
8.Storage and Maintenance

Item	Check list	Check item	Tools	Test result	Disposal method
1	Lifting Cylinder	Lubrication	<ol style="list-style-type: none"> 1. Brush 2. DT-40 3. High velocity motor oil 	<p>After some uses, the lifting cylinders might cover with dust or debris. In order to prevent them from jamming, please lubricate the cylinders with oil.</p>	<p>Step1. Wipe out the dust or debris with DT-40.</p> <p>Step2. Lightly brush the Cylinder with high velocity motor oil.</p>
2	Steel cable	Tearing, slitting		Find 5 to 10 or more broken threads throughout the entire cable.	Cable replacement is required.
3	Storage			<ol style="list-style-type: none"> 1. When storing horizontally, the motor side should always be facing up and the cable side should be facing down. Otherwise, It will cause damage to the lifter if the gear side with the hex nut or the motor side is facing down. 2. The lifter should be kept in a dry place. 3. Please lay down the lifter carefully so it doesn't hit the ground by accident. 	

9.Specification Table

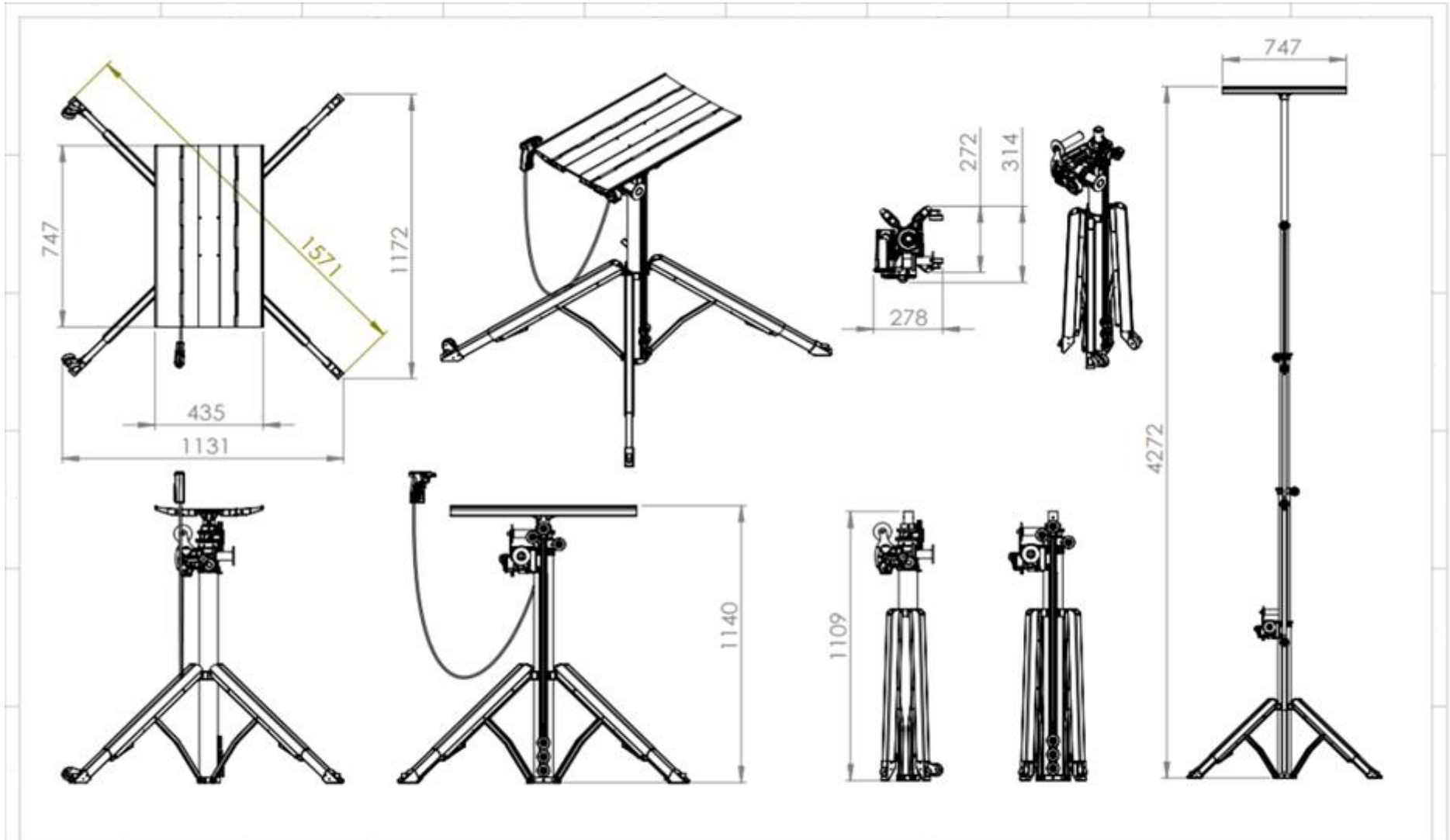
Model	PL430/PL490	Portable lifter Size	25 x 27 x 113 cm
Weight/Mast Weight	25.6KG / 28.5KG	Length and Width of Supporting Legs	115 x 116cm
Weight Platform Weight	4.6KG	Rated Voltage	100V~120V /220V~240V
Dimension Platform	75 x 45cm	Maximum Power	1100W
Rated Load Weight	Above 4 meters: 90KG Under 3.5 meters:120KG	Frequency	50/60Hz
Portable lifter Height	114cm / 122cm	Control Line Length	4m / 5m
Ascension Maximum Height	427 cm / 488cm	Power Cord Length	2.8m

Control Panel



Approved	Checked	Drawn	Title Control Panel		
Unit mm	Page Date	1	Portable Lifter	Model PL	Type 430
				Note	

Machine Dimension



Approved	Checked	Drawn	Title Machine Dimension Drawing		
Unit mm	Page 1	Date	Portable Lifter	Model PL	Type 430
				Note	