

SIGMA-50

User Manual-English



1. INTRODUCTION

Dear client, Thank you for trust on **block&block** at the time of purchasing your new **SIGMA-50** lifting tower. Prior to handling, read fully and carefully this manual and follow the safety instructions to obtain the best result using your new tower.

Use only original replacements from block&block. To do so, you should always buy from an authorized distributor. If non-original pieces were used or modifications to the tower were made the user would lose their guarantee rights. For any other repair or inquiry you must always indicate the serial number of your lifting tower.

To guarantee maximum security in the usage of **SIGMA-50** lifting tower, you should carry out an annual revision in an authorized service centre by **block&block**, where they will check the state of the tower in general and the wires, the winch and the lock-security in particular.

BLOCK&BLOC K reserves the right to modify the specifications and the pieces of this product without previous notice.

2. TECHNICAL INFORMATION

SIGMA-50 telescopic lifting tower has been designed to lift trusses at different heights. On those trusses lighting and sound systems can be hanged.

2.1- SIGMA-50 lifting tower

2.2- Designed to lift vertically lighting and sound systems at different heights.

2.3- Maximum load: 120 kg (264 lb).

2.4- Minimum load: 25 Kg (55 lb).

2,5- Maximum height: 5 m (16.40ft).

2.6- Minimum height: 1,9 m (6.23ft).

2.7- Base area: 2,06 x 2,06 m (6,75x6,75ft).

2.8- Tower weight: 35 kg (77.16 lb).

2.9- Insertion diameter: Ø 35 mm

2.10- Construction material: Steel Profile of carbon type S-275-J0H manufactured according to EN 10219 and EN10305.5 standards.

2.11- System composed of three telescopic profiles powered manually by a winch with a steel wire of 4mm and guided by steel pulley with ball bearing.

- 2.12-** Winch: 350 kg of maximum load with automatic brake of load holding. Declaration of conformity CE, applied standards harmonized DIN EN 13157, EN 12100 I and II, machine directive 2006/42/CE.
- 2.13-** Galvanized steel wire of 6x19+1 type manufactured according to EN 13414-1:2004 standards, 1770 N/mm² resistance. Wire diameter: 4 mm.
- 2.14-** Safety mechanical triggers to block the section at different heights.
- 2.15-** Safety triggers in the base to anchor the legs.
- 2.16-** Stabilizer legs adjustable by means of threaded rod and steel plates with base of anti-slipping rubber.
- 2.17-** Antioxidant protection, priming with paint made of resins of epoxy and stove-finished.
- 2.18-** Bubble level to adjust the verticality of the tower.
- 2.19-** Directional wheels to transport the lift folded.
- 2.20-** Power supply ground terminal

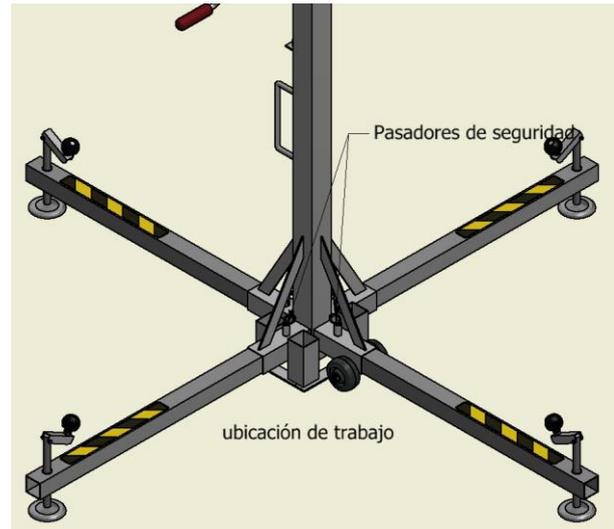
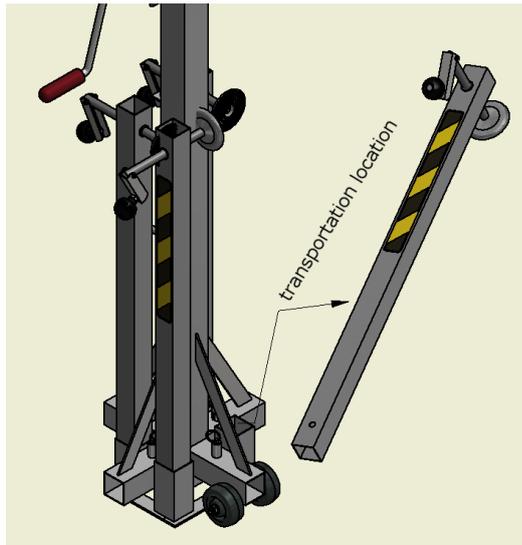
3. SAFETY INSTRUCTIONS

- 3.1-** The ground of installation for the tower must be solid and flat.
- 3.2-** Check the legs are firmly placed on the base by means of automatic triggers.
- 3.3-** Level the machine before lifting. You should level it using the leg stabilizer and check the levelling with the bubble level included in the tower pack.
- 3.4-** Before loading the lift, check that all the sections are folded and blocked by means of lock-security.
- 3.5-** Before lifting and to assure the proper function of the winch brakes, check the tower always holds a minimum load of 25kg.
- 3.6-** Do not exceed the rated load capacity. See load capacity in the Characteristics Sheet.

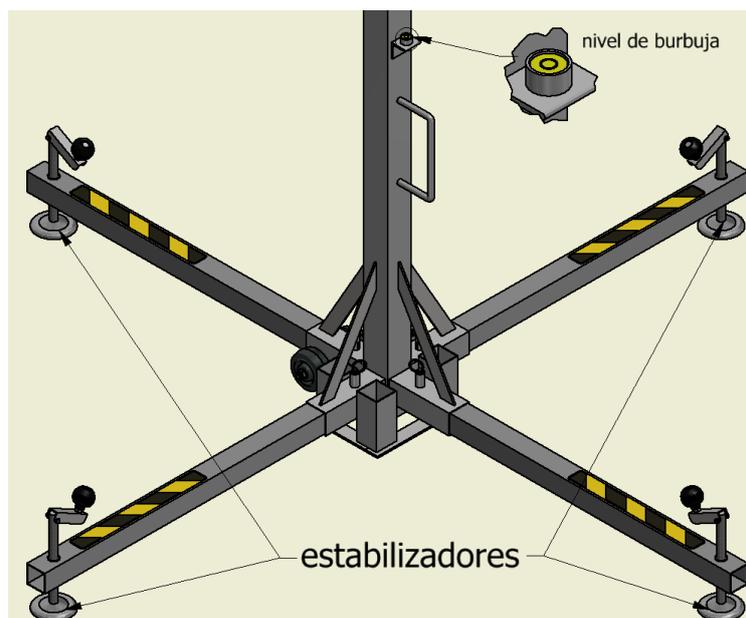
- 3.7-** Never install the lifting tower under power lines.
- 3.8-** Plug the tower to the power supply ground terminal of the installation to prevent possible electrical contact.
- 3.9-** Do not use the tower to lift persons or animals.
- 3.10-** In case of installing the tower outside with winds superior to 10 Km/h, it should be fastened with steel braces of at least 6 mm to avoid possible oscillations.
- 3.11-** Do not place ladders and scaffolding against any part of the machine.
- 3.12-** Do not try to move the tower once loaded and lifted.
- 3.13-** Never transport the tower with any of its parts unfolded.
- 3.14-** Prior to any installation check the good condition of the wire and the winch.
- 3.15-** Do not place yourself under to load.
- 3.16-** Distribute uniformly all the load among the holders to avoid possible overturns and leverage effect.
- 3.17-** Never lubricate the braking mechanism of the winch.
- 3.18-** Do not locate anything on the legs or the tower mast.
- 3.19-** Under normal conditions this equipment does not make noises higher than 75dB.
- 3.20-** Prior to any use check the good condition and lack of hits in the bubble level.
- 3.21-** Do not touch the wire or the winch coil while the tower is lifting or lowering as entrapments or important damages could occur. Take special care of the long hair or loose clothes during this manoeuvre as they could get trapped in the winch coil.
- 3.22-** If a wire broke, the tower would be blocked by lock-security avoiding the load to fall off the ground. Faced with this unusual situation you should unload the tower by auxiliary means (such as crane or mobile lifting). You should also hand the out of order tower in an official service of blockandblock to get it repaired.

4. USAGE INSTRUCTIONS

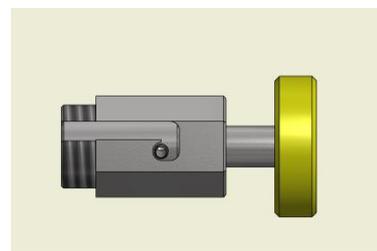
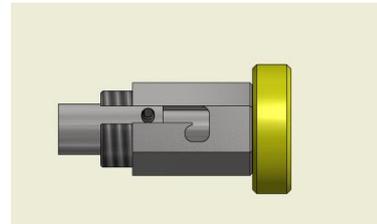
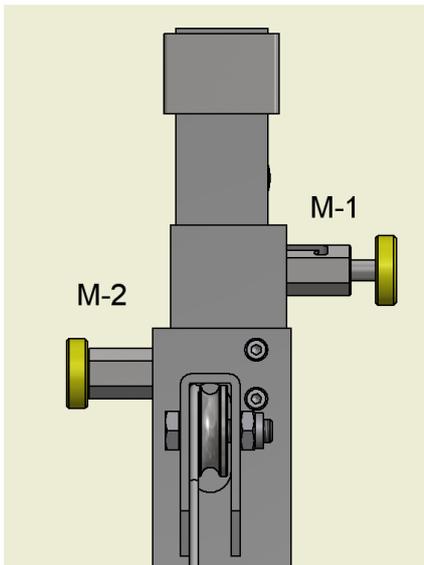
4.1- Once placed the lifting tower where it is going to be installed, unfold the legs from the travel location and insert them into the base. Make sure that they are perfectly anchored with the lock-security.



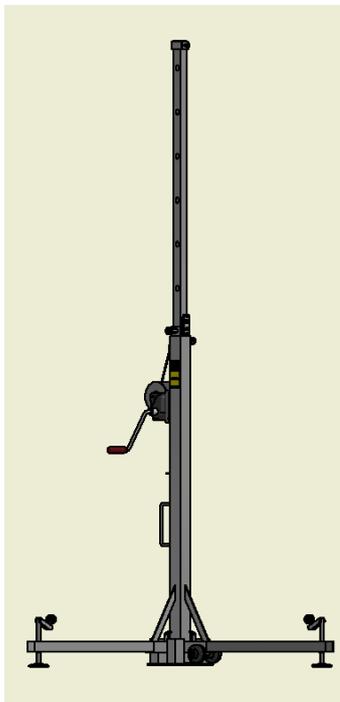
4.2- Afterwards, level the tower using the stabilizer. The stabilizers are located in the legs. In addition, check the verticality with the bubble level that the tower includes until it is completely vertical.



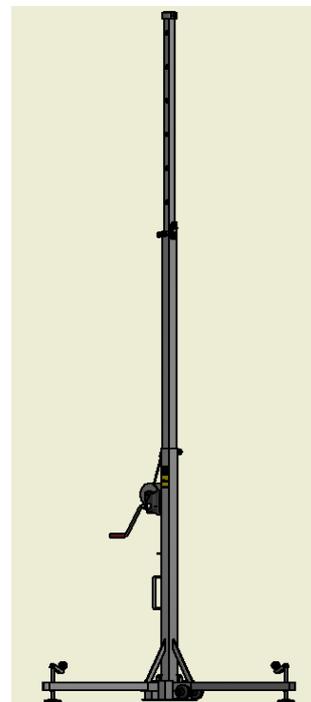
4.3- Once stabilized and checked the tower, we will unblock the M-1 lock-security to be able to lift the bar until desired height. After, we will activate the M-1 lock-security again to make sure that the first bar is firmly anchored.



4.4- After we will do the same with the M-2 lock-security: having deactivating it, lift the second bar at the desired height. We will also anchor the lock-security again.



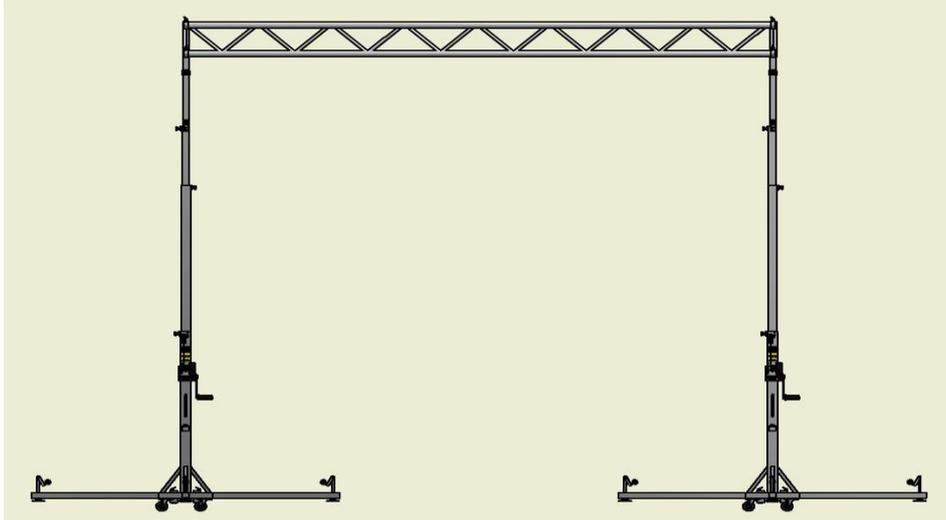
First section lifted



Second section lifted

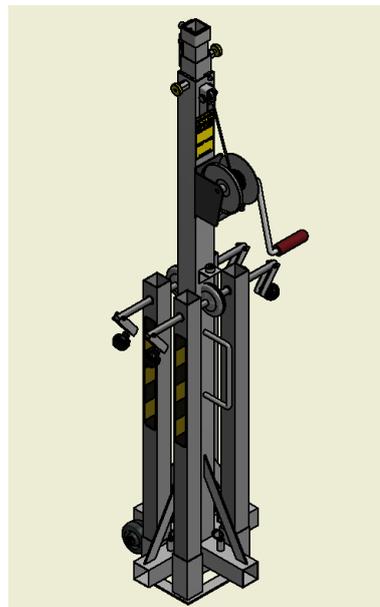
4.5- To lift any of the bars you should turn the lever of the winch clockwise and to lower turn it anti-clockwise.

4.6- Heavier loads can be lifted using several towers. To do so, you should distribute uniformly the load among the towers. While lifting and lowering you should keep the load as horizontal as possible. To do so, you should operate the different towers simultaneously.



4.7- To lower the lifting tower, you should first turn slightly the level of the winch clockwise to deactivate the M-2 lock-security. Once deactivated, turn the level anti-clockwise and the second bar will lower until its rest position. Then, do the same with the M-1 lock-security to lower the first bar.

4.8- To transport the tower is necessary that all the bars are gathered to the minimum height. To unfold the base legs deactivate manually the safety triggers and place the legs in its transport location.



*Lift in
travelling
position*

4.9- Never exceed the maximum load of the lifting tower, specified in the Characteristics Sheet. **For SIGMA-50 the maximum load is 120 Kg.**

4.10- To ensure the proper functioning of braking system of the tower winch it should always carry a **minimum load no inferior to 25kg.**

5. WINCH INFORMATION

5.1- The winch included with the SIGMA- 50 tower is a 351 PLUS type from the brand AL-KO. The maximum pull force is 3500N (357kg). The minimum to assure the proper functioning of the brake is 25kg.

5.2- SAFETY WARNINGS

- **ATTENTION! Danger of brake slip.** The brake is triggered by the weight of the load and if shaken can become loose. Do not use the wire rope to fasten the loads. Do not remove the handle when it is loaded.

- Danger of dying! Never stand or work under suspended loads..

- Danger of accident! The braking system may overheat in case of prolonged usage and lowering. Make pauses to ensure the system refrigeration. Maximum duration of lowering from 2 to 5 minutes (it may depend on the load).

-Only use ropes whose karabiner hooks are attached with a pressed rope loop. End connections acc to EN13411-3 with thimbles acc to 13411-1. Unless specified in the EN standards already mentioned, the final connections of the wire must hold a minimum breaking strength of 85%

- Sharp edges. Danger of bruising, crushing or cuttings. Use always with protections gloves.

- Do not tie the wires/tape.

- Do not overload. See loads in the technical data

5.3- HANDLING AND OPERATION

- Control the braking function of the winch; a click must be heard while turning towards the “elevation” direction”

- Check if the wire is damaged and replace it if necessary.

- Do not guide the wire through the sharp edges.
- To wind the wire without load, keep a slight tension. For the proper functioning of braking is required a **minimum load of 25kg**
- Wind the wire without load until the space left in the exterior part of the pulley is 1.5 times the diameter of the wire.

-HANDLING THE WINCH

Lifting, tightening the load

1. Turning the handle clockwise

Keep the load

1. Put down the handle. The load will stop in the pertinent.

Lowering the load

1. Turn the crank handle anti-clockwise. The built in brake stops the crank handle from flying back.

- AUTOMATIC ROLLING MECHANISM

CAUTION! When under load, the crank handle must always be attached to the drive shaft.

1. Turn the crank handle anti-clockwise. Without turning the rope drum
2. Pull out the safety button
3. Remove the crank handle and place it on the holder designed for this purpose.
4. The rope/strap rolls out quickly

5.4 MAINTENANCE AND CARE

CAUTION! Sharp edges. Risk of abrasion, crushing or cuts. Use always with protections gloves.

CAUTION! Risk due to wear. The winch user must check the cables/straps before every use (DIN ISO 4309/GBR 500). Immediately renew damaged cable/straps!

- Only qualified persons can carry out the maintenance and the check of the winch.

- The brake system is treated by the manufacturer with special grease (Wolfra-coat 99113). It is not allowed to use other oils or greases.

Checking the winch

A check by a qualified is required in the following cases:

- The first usage
- After every new assembly
- Once year. According to the Ordinance on Industrial Safety and Health (BetrSinchV), qualified persons are persons who due to industrial training, work experience and recent work activity possess the technical knowledge to check the work equipment.

Maintenance intervals

- In case of continuous work at up to 100% of the rated load: raise and lower after 100m
- In case of continuous work at up to the 50% of the rated load: raise and lower 200m.

During these intervals carry out the following works:

- Monitoring work
- Lubricating

Inspections work

- Check that the crank handle turns smoothly.
- Check the locking function of the pawl.
- Raise and lower after 100m, check the brake disks and the brake pads for wear. The brake pads must be at least 1.5 mm thick.

Grease points and lubrication

The winch is already lubricated when delivered. Periodically the following points must be lubricated again:

- Drum hub
- Sprocket/Gear teeth
- Bearing sleeve of the drive shaft
- Locking sleeves.

Recommended oil by AL-KO:

- OMV Multi-purpose grease
- Staburags NBU12K multi-purpose grease

6. MAINTENANCE

6.1- Check periodically the wire condition. If in the wire there are broken threads, or crashed/flattened areas, it must be replaced with a new one immediately. Do not use the lifting if the wire is in bad conditions.

6.2- Do not use grease nor lubricate the braking winch system. The lifting tower is supplied with a special greasing system from factory and the mixture with other products could produce negative effects on the braking system.

6.3- The lifting tower should be inspected annually by an **official service blockandblock** to ensure proper functioning and maximum security in its usage.

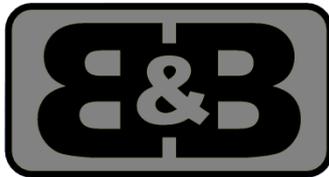
6.4- Do not use non-original replacements from **blockandblock** because the tower safety could be affected. Furthermore, you could lose your guarantee rights.

6.5- To order replacement pieces or eventual repairs for your **SIGMA-50** tower contact to an official **blockandblock** distributor. You can do it through our web www.blockandblock.es but always indicating the serial number included in your lifting tower.

7. GUARANTEE

The guarantee period of your **SIGMA-50** lifting tower lasts two years. It starts on the purchase date of the product and it will cover both the workforce and the possible manufacturing faults. This guarantee does not cover the damaged caused by a misuse. If manipulation, repair or replacement made by alien staff to blockandblock were detected the buyer would lose all their guarantee rights.

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