CE

Power Climber

OPERATING INSTRUCTIONS Titan HOIST

Models: **Single phase: TITAN 501 and TITAN 651 hoist with Central Control box**
Three phase: TITAN 503 and TITAN 653 hoist with Central Control box
Conform to EN 1808 (1999) and Machine Directive 2006/42/ EC

WARNING:

- All persons operating this equipment must read and completely understand this manual.
- All persons must be thoroughly trained in the use of the equipment, its operational and safety features, and they must also be capable of carrying out the daily checklist.
- Only authorized and physically fit persons shall operate the equipment.
- Any operation in violation of these instructions is at the operatorís own risk and may result in serious injuries.
- Keep this manual with the hoist at all times.
- Only use spare parts and steel wire rope from POWER CLIMBER,
- It is not allowed to put the machinery into service until the machinery into which it is incorporated or of which it is to be a component, has been found and declared to be in conformity with the provisions of Directive 98/37/EC and with national implementing regulation.
- On platforms with only ONE hoist on ONE walk-through stirrup, an Overspeed safety device is compulsory, in addition to the standard slack rope safety device.

Manufacturer: **Power Climber b.v.b.a, Satenrozen 7, B-2550 Kontich BELGIUM**

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		TITAN Single Phase		TITAN Three Phase	
MODEL		**TITAN 501**	**TITAN 651**	**TITAN 503**	**TITAN 653**
Working Load Limit (W.L.L.)		5000N (**500 kg**)	6500N (**650 kg**)	5000N (**500 kg**)	6500N (**650 kg**)
Power Supply		230V / 50Hz + E		3 x 400V / 50Hz + N + E	
Amperage at W.L.L.	**RUN**	5.0 A	6.0 A	2.5 A	2.5 A
	START	20.0 A	24 0A	7.5 A	7.5 A
Motor Power		0.76 kW	1.00 kW	0.76 kW	1.00 kW
Wire Rope	**Diameter**	8.4 mm			
	Breaking Strength	40 kN	52 kN	40 kN	52 kN
Hoisting Speed		8.0 m/min			
Noise level	**UP**	60 dBA			
	DOWN	64 dBA			
IP-Rate		IP 54			
Self-weight of hoist		45kg		45 kg	

Top limit switch
Upper carrying handle
Suspension rope
Safety rope
Slack rope lever
Electrical Box and Motherboard
Electric supply cable

No Power emergency descent
Nameplate (serial no.)
Electric motor
Lower carrying handle

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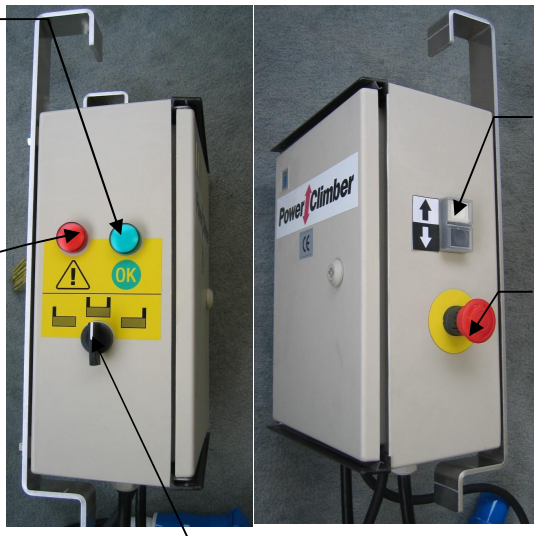
OK light
GREEN light is ON when power is ON.
Three phase only:
Light is OFF when phase are reversed.

Warning light
RED light is ON in case of the following:
Overload detector activated
Top limit switch activated
Emergency stop activated
One/Both hoist(s) not plugged in
Thermal protector activated

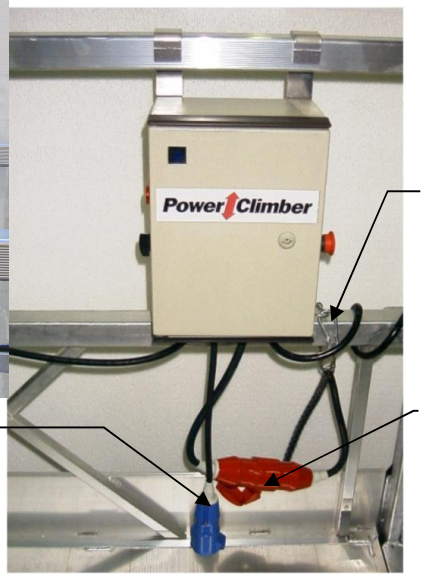


Hold-to-Run Up/Down Push Buttons

Emergency Stop Button
Press to cut ALL power.
To reset, twist the knob in the direction of the arrow on the top of the knob.

Hoist Selector Switch (Left / Both / Right)
Allows operation of individual hoist for reeving /de-reeving or leveling.

Connection plug to hoist: 10 pole plug



Cable retainer

Male CEE plug for incoming main power supply.
Phase reversing plug on three phase models

Female CEE plug outlet for power tools single phase (230V/50Hz/16 Amp)

The TITAN hoist is a self-reeving traction hoist, powered by an electric motor.
The hoists and the central control box (CCB) are mounted on Temporary Suspended Platforms (TSP) and suspended with steel wire ropes from a suspension system.
The strength of the platform and the suspension system used in combination with the hoists must be in relation to the Working Load Limit (WLL) of the hoist.

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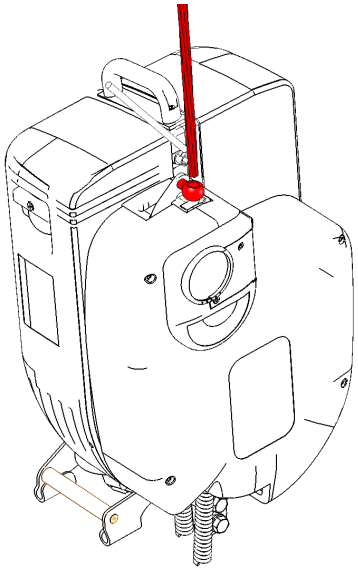
A. Install CCB and connect Power Supply

1. Install CCB on the rear platform guardrail away from the working area.
2. Connect the control cables from the CCB to each TITAN hoist.
3. Connect the main power supply cable to the male plug on the CCB, and secure it to the mid-rail of the platform using the cable retainer.
   Note: Both hoists have to be connected to the CCB for either hoist to operate.

B. Reeve the suspension ropes in the TITAN hoist

At roof level, uncoil the suspension ropes and lay them on the roof surface. Attach the suspension ropes to the suspension system with the safety hooks fitted to the ropes and lower the ropes to the ground. Verify that the rope is long enough.



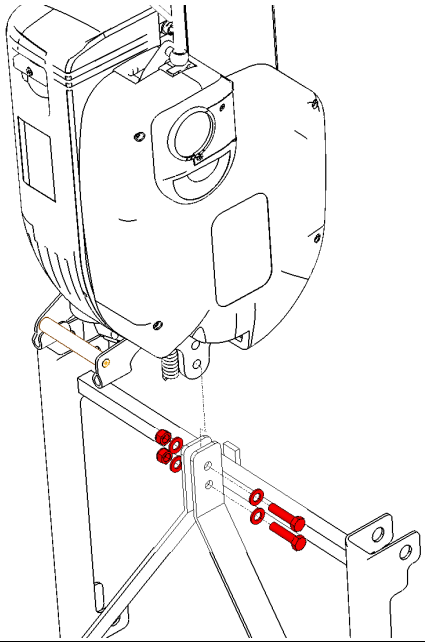
1. Push back the slack rope lever and insert the suspension rope through the eye of the slack rope lever and into the hoist until it stops.
2. Push the ôupô button on the CCB and the steel wire rope passes through the hoist automatically. The end of the rope will come out from the bottom of the hoist. Make sure the outlet is free and the wire rope can come out.

Tip: *If there is any difficulty reeving the suspension rope it helps to put a small bend in the end of the rope before feeding it into the hoist.*

C. Attach the TITAN hoist to the stirrup

1. Lift the TITAN up from the ground by pushing the ôupô button on the CCB. Line up the holes in the stirrup bar with the holes in the stirrup.

2. Attach the TITAN hoist to the stirrup of the platform with M12 bolts and self-locking nuts. Make sure that the TITAN hoist is mounted with the main hoist label towards the inside of the platform.



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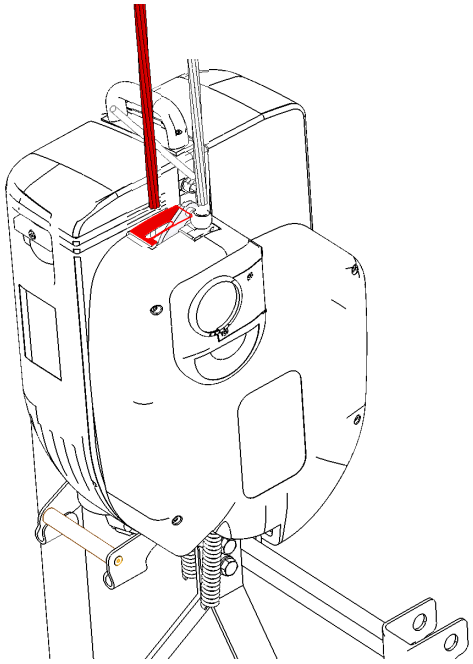
D. Reeve the safety rope in the TITAN hoist



At roof level, uncoil the safety ropes and lay them on the roof surface. Attach the safety ropes to the suspension system with the safety hooks fitted to the ropes and lower the ropes to the ground. Verify that the rope is long enough.

Push back the slack rope lever (or tension the suspension rope) to open the jaws of the slack rope safety device and push the safety rope through the slack rope compartment. Take out all slack by putting a weight on the tail end of the safety rope.

Tip: *Separately reeving the safety rope and the suspension rope, will avoid getting them twisted together.*

E. Carry out Daily Checklist

Carry out the Daily Checklist prior to your first ascent to install the top limit switch striker plates. Always check the suspension system for stability and safety before launching the platform.

F. Install Top Limit Switch Striker Plates

The striker plate activates the top limit switch and must be clamped on the safety wire at a distance of min. 20cm from the Talurit clamp.

IMPORTANT	**Clamp the striker plate to the safety rope ONLY so that the suspension rope passes freely through the slot in the plate.**

REMOVING the steel wire rope from the TITAN hoist

Tip: *Remove the safety rope first and keep the suspension rope taut, so that the slack rope safety device stays open and allows easy passage of the safety rope.*	
Safety rope	Manually pull the safety rope out of the slack rope safety device by hand.
Suspension rope	Push the ódownôbutton on the CCB until the suspension rope no longer comes out of the top of the hoist and pull out the remainder of the rope by hand. *Tip: push up on the slack rope lever for easy removal of the suspension rope.*

After work is over check that:

- The platform is cleared of tools and equipment.
- All power has been switched off.
- Equipment has been secured where it will not be accessible to be tampered with.

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ROUTINE MAINTENANCE:
at least every 3 months under normal use, or 50hrs, whichever comes first.
Note: No specialised training is required to perform this basic maintenance.

1) Check all plugs socket connections of the hoist and central control box for any signs of water penetration.
2) Make a general inspection of hoist for excessive wear and damage.
3) Remove main cover and inspect mechanism for any signs of excessive dirt and corrosion. If required, blow out with air or rinse with water.
4) Check that traction roller rotates when reeving / de-reeving the steel wire rope through the hoist.
5) Check the slack rope safety device for excessive dirt and corrosion. If required, blow out with air or rinse with water. Check that the slack rope lever can move smoothly up and down. If necessary, lubricate with a dry wax-based spray lubricant.
6) Replace main cover.
7) Carry out the Daily Check List before using the platform.
8) Write a maintenance record indicating:
    - Any discrepancies noted and action taken.
    - Hour meter (optional) reading of the hoist.

ANNUAL MAINTENANCE: to be carried out by an authorized service centre

1) Completely strip the hoist, clean and inspect all parts for wear and damage. Replace worn parts when necessary.
2) Clean, lubricate and re-assemble the hoist. Particular attention must be given to the slack rope safety device.
3) Place the hoist on a test rig and test that it can lift the rated Working Load Limit.
4) Check all plugs socket connections of the hoist and central control box for any signs of water penetration.
5) Reinstall the hoist and control box back on the platform and carry out the Daily Check List.
6) Write a maintenance record indicating:
    - Repairs carried out and/or parts replaced.
    - Hour meter (optional) reading of the hoist.

<u>Special conditions:</u>
The frequency of inspection and maintenance also depends upon the environmental and working conditions:

- When working with abrasive, adhesive or corrosive materials (epoxy, paint, cement, sand blasting, acids, salt water, spraying), the hoist should be protected with a suitable cover and the daily checklist carried out at least once a day.
- Always exercise caution regarding grounding, arcing and insulation, whenever welding or using electrical equipment.

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TITAN TROUBLESHOOTING

Problem	Probable cause	Solution
Hoists do not work when pressing the ‘up/down’ push button. GREEN ‘OK’ light OFF	No Mains power	Check power that power plug is properly connected or go down using the emergency manual descent
	Three phase hoists only: Phases are reversed	Use screwdriver to reverse phases on the phase reversal power plug of the CCB.
Hoists do not work when pressing the ‘up/down’ push button. RED warning light ON	Emergency stop button has been depressed	Release emergency stop button
	Both hoists are not connected to the CCB	Check that both hoists are correctly plugged in the CCB
During reeving, the hoist works in the ‘up’ direction, but the suspension rope does not reeve through	Steel wire rope is not entering the hoist properly	Remove steel wire rope and repeat reeving procedure (see Tip)
Hoists work for just a moment in the ‘up’ direction and then stop. RED warning light ON	The platform is overloaded	Remove excessive load to automatically reset overload
The hoists do not work in the up direction RED warning light ON	Top limit switch has been activated	Check for obstruction (e.g. hitting the striker plate)
Hoist hums, starts slowly or is sluggish, or fails to lift the loaded platform.	Serious voltage drop	Check the power supply and the specifications of the power supply cable
	Single phase hoist only: Start capacitor is defective	Hoist to be checked by an approved service centre
	Service brake failure	Hoist to be checked by an approved service centre
The hoists work for a long time and then stop. The electric motors are hot. RED warning light ON	The thermal protection has been activated	Let the motors cool down to reset automatically. ***Tip:*** *The ‘no power’ descent will still operate when the overheating protector is tripped.*
The hoist turns both in the ‘up’ and ‘down’ direction, but the platform does not come down	The slack rope safety device is activated, and platform is tilted or has come to rest on an obstruction)	Use the hoist selector switch to bring platform to the horizontal level or go up to come off the obstruction.
Slack rope lever does not pivot properly	Slack rope mechanism is contaminated by grit or corrosion	Clean and lubricate slack rope safety device
IF PROBLEM PERSISTS, CONTACT YOUR LOCAL SERVICE REPRESENTATIVE.		

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1. Automatic slack rope safety device:

The automatic slack rope safety device locks mechanically onto the safety rope if:

a) the suspension rope looses tension or breaks.
b) the platform gets out of level by max. 14 degrees. The slack rope safety device on the lower hoist will lock mechanically onto the safety rope.

This is in addition to the automatic levelling system and protects against a slow creep down of the hoist.

2. Overload detection device:

The overload detection device of each hoist is factory set to stop the öupö direction of travel if the Working Load Limit (WLL) of the hoist is exceeded by 25%.
The RED warning light on the central control box wil come ON in case of overload.
The overload detection devices of both hoists are connected in series. If one overload detection device is triggered, then the up movement of both hoists is halted.
To release the overload detection device, remove the excessive load.

***Tip**: In addition to removing the excessive load, it may be required to remove part of the normal load in order to reset the overload detection device. Once the overload detection device is reset, the platform can once again be loaded with the full normal load*.

3. ôNo-Powerôdescent

In the event of a power failure the platform can be lowered at a controlled speed (approx. 6 m/min.), by pulling the ôNo-Powerôdescent lever on the electro-magnetic service brake.

***Warning:** Never use the emergency manual descent when normal powered movement is possible.*

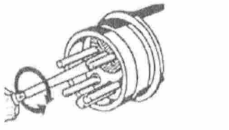
4. Top limit switch

The top limit switch cuts the up movement when it is activated by the striker plate, which is clamped onto the safety rope at the top of travel.
When the top limit switch is triggered, the platform can be driven down but not up.
The top limit switches of both hoists are connected in series. If one top limit switch is activated, then the öupömovement of both hoists is halted.

5. Phase Protector *(for three phase hoist ONLY)*

All three phase central control boxes are fitted with a phase protector, which cuts power supply if phases are reversed. When the phases are correctly connected, the GREEN öOKôindicator light on the outside of the CBB, AND the GREEN indicator light on the phase protector (only visible when CBB is opened) are ON and the hoists will operate.
If indicator lights are OFF, use a screwdriver to reverse the phases in the phase reversal power plug of the CCB.

***WARNING: DO NOT** change any connections in the central control box.*



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6. Automatic Levelling System

The central control box is fitted with an automatic levelling system that allows the platform to maintain a stable horizontal position. An out of level condition can occur when one of the hoists is working faster than the other, or if the load in the platform is not evenly distributed.
When the platform is in motion, the automatic levelling system stops the hoist that is going too fast and allows the other hoist to catch up. When both hoists are level again, the levelling system is deactivated and both hoists will function simultaneously.
The automatic levelling system is activated when the platform is out of level by 3-6°.

The Automatic Levelling System can be tested by using the hoist selector switch to create and out of level condition. Once the platform is out of level, check that the hoist that is too high no longer works in the ôupô direction and the hoist that is too low no longer works in ódownô direction.

7. Overheating protection for hoist electric motor

The hoist motors are fitted with a thermal contact, which cuts power to the motors in case of overheating.
When the overheating protection is activated, the ôupô movement is halted.
If a hoist motor has overheated, allow it to cool down to continue.
The overheating protectors of both hoists are connected in series. If one overheating protector is triggered, then the ôupô movement of both hoists is halted.

8. Overspeed Safety device *(OPTIONAL)*

The overspeed safety device locks onto the suspension rope when the suspension rope passes through the hoist (descent speed) at more than 15 m/min. The overspeed safety device can also be triggered manually by pressing the manual release button.
To reset the overspeed safety device, first drive the hoist up a few centimetres and then turn the reset knob clockwise in the direction of the arrow.

9. Use of Handwheel to reset safety device in case of power failure

If the slack rope safety device or overspeed safety device *(optional)* has been activated and there is no power to the platform, it will be necessary to wind the hoist up a few centimetres manually, to be able to reset the safety device.

1. Pull out main power plug to cut off power supply.
2. Remove plastic plug in the motor cover to expose shaft for the handwheel.
3. Remove the hand wheel from its storage position and insert shaft into hub.
4. Wind the hoist in the up-direction counter-clockwise ½ turn at the same time as you pull up on the brake lever to open the brake.
5. Release brake lever and repeat.

TIP: *Grab the hand wheel firmly while opening the brake to prevent it from turning and going back down.*

6. The overspeed safety device (optional) must be reset manually. The slack rope safety device resets automatically.
7. Put plastic plug back on and return hand wheel to its storage position after use!
8. Plug in main power plug and resume.

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ONLY USE POWER CLIMBER RECOMMENDED STEEL WIRE ROPES	
Type	**Greenflex**
Diameter	**8.4 mm**
For use with hoist model	All models of TITAN hoist
Construction	5 x 26 WSR (Warrington Seale Compacted) + HDPP (High Density Polypropylene) core
Structure	Right Hand Cross Lay - Light Preformed
Tolerance	(+0/-0.2mm)
Tensile strength of wires	1960 N/mm^2
Minimum Breaking Load (actual)	52.3 kN
Minimum Breaking Load (calculated)	66.0 kN
Weight	0.255 kg/m
Treatment	Galvanized
Identification mark	Green strand

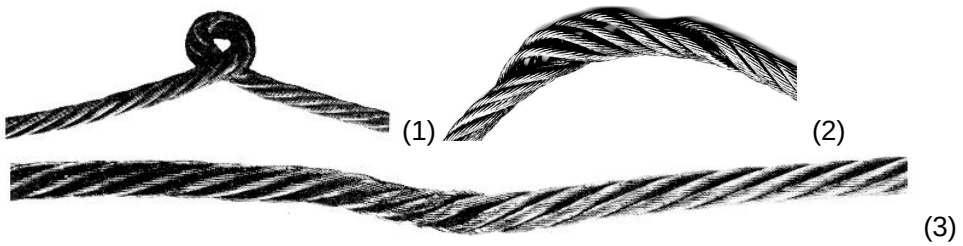
- The end of the steel wire rope should be brazed to form a ôbulletô end with a maximum length of 10mm, without loose or broken wires.

- Use protective gloves to manipulate the Steel Wire Ropes.
- If Steel Wire Ropes are too long, carefully wind any extra cable into a loop (or onto the wire holders) and tie up, leaving the coil suspended just clear of the ground.

WARNING:

Steel Wires Ropes must be replaced in any of the following conditions:

- More than 10 wires are broken on a length of 25cm
- Excessive corrosion
- Damage due to heat
- Reduction of the nominal diameter by more than 10%
- Kinking (1), crushing (2), bird caging (3) or any other distortion of the wire rope structure.



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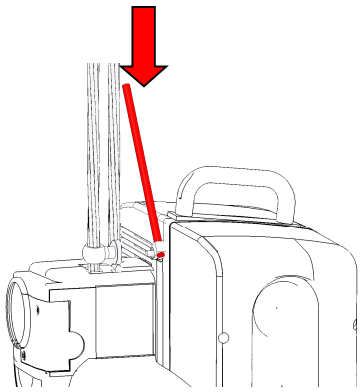
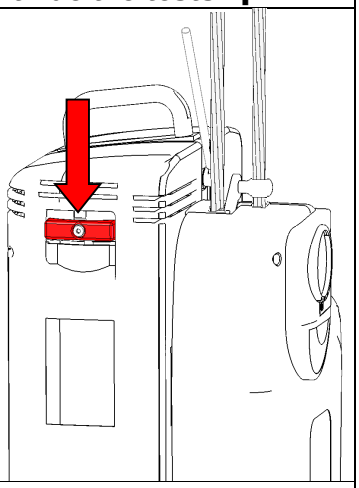
TESTS MUST BE CARRIED OUT EVERY TIME BEFORE USING THE PLATFORM	
1	Visually inspect the **platform** for damaged, loose or missing parts.
2	Check the **suspension system** for stability before launching the platform. Check that all counterweights are in place and secured. Check that all steel wire ropes are hooked on properly to the suspension system
3	Check that the GREEN óOKô**indicator light** on the CCB is **ON**.
4	Check that the ó**Up/Downô push buttons** and the **hoist selector switch** are functioning.
5	Push **emergency stop button** and check that the platform cannot go up or down. (turn button in direction of arrow to reset)
6	Push down on the **Top Limit Switch** and check that it cuts the óupôdirection, but that platform can be driven in the ódownôdirection. Repeat procedure for other hoist. 
↑ **Drive the platform 1-2 meters off the ground to continue the tests** ↑	
7	a) ON ONE HOIST ONLY, Pull on the ó**No Powerô emergency descent** lever and check that the hoist can be lowered at a controlled speed. b) Continue releasing the service brake until the **slack rope safety device** is activated (about 14 degrees) and keeps the platform from tilting further. c) Repeat the procedure by manually lowering the other end of the platform. 
8	Run the platform to the top and during travel inspect the **steel wire ropes** for kinks, broken wires or other damage. Inspect the trailing **electrical supply cable** for damage. At the top of travel, check that the top limit switch **striker plates** are correctly fitted and also that the **top limit switches** are operated by the striker plates.
DO NOT USE EQUIPMENT THAT IS NOT OPERATING PROPERLY	
NEVER OVERRIDE LIMIT SWITCHES AND SAFETY DEVICES	

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