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ACCESS EQUIPMENT



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# Climb Auto System

Single Technician  
Ladder-Mounted Lift

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# Climb Auto System

Single Technician Ladder-Mounted Lift

No more climbing – thanks to the 3S Lift Climb Auto System. The CAS is a single technician ladder-mounted lift that completely eliminates the physical and mental strain of climbing. It's a safe and cost-effective way to ascend wind turbines. The CAS improves health and safety while reducing the cost of ownership.



## Improving Health & Safety

On every wind farm there are countless soft tissue injuries due to the repetitive motion of climbing. These injuries can lead to sick leave, long term health issues and reduced motivation among wind turbine technicians. With the CAS, technicians can safely reach the top of the tower while putting zero stress on their muscles and joints. It allows technicians to focus on the job at hand, and not on the climb.

The CAS features control switches on both handles, a remote mode for equipment transport, and collapsible footboards for rapid evacuation in the event of an emergency. The CAS also has redundant fall arrest systems (for the technician and the lift), thus offering superior safety.

## Retrofit Installation in 8 Hours or Less

The Climb Auto System can be easily retrofitted to almost any wind turbine – often in 8 hours or less. Because the CAS is mounted to the existing ladder, installation typically requires no structural changes. The CAS reduces the cost of ownership compared to a Service Lift, thanks to lower upfront capital expenditures and lower operating costs.

## Increased Uptime and AEP

Faster tower ascent with no fatigue significantly augments technician productivity. This increases turbine uptime and annual energy production (AEP).

## Employee Retention

The Climb Auto System completely eliminates the need to climb, thus improving job satisfaction and motivation among technicians. This also boosts employee retention, reducing high technician turnover costs.

## 50,000 Installations Worldwide

3S Lift's Climb Auto System has been installed in over 50,000 wind turbines worldwide.



# No More Climbing

Improve Health & Safety and Increase Efficiency

## Independent Fall Protection System

The fall protection system of the CAS is independent from the operator's fall arrester. Redundant fall protection guarantees the safety of personnel and equipment.

Operator's personal Fall Arrester

Climb Auto System's fall protection device



**Top Sheave**  
The top sheave's compact design allows the CAS car to reach the uppermost platform.



**Remote Control**  
The convenient remote control feature allows technicians to call the car to their position in the tower or send equipment to a co-worker on another platform.



**Two-Handle Start-Up Switch**  
To use the CAS car, the operator must press and hold the switches on both handles simultaneously. If the operator releases either switch, the system stops immediately.



**Collapsible Footboards**  
The collapsible footboards enable rapid evacuation in case of emergency.



**Bottom Sensing Panel**  
When coming in contact with an obstacle, the panel is compressed and the sensor is triggered. This immediately stops the CAS car, thus preventing collision.



**Toolbox**  
The custom metal toolbox can be firmly attached to the footboards to send materials up or down tower via remote control.



**Control Cabinet**  
Located down-tower, the control cabinet is used to power the system up and down. It can also be used to operate the CAS car remotely.



## Climb Auto System Specifications

|                        |                                                                               |
|------------------------|-------------------------------------------------------------------------------|
| Constructing materials | Aluminum, steel                                                               |
| Rated load             | Man load capacity: 140 kg (310 lbs)<br>Freight load capacity: 60 kg (132 lbs) |
| Speed                  | 18 m/min                                                                      |
| Control method         | Frequency conversion vectorial technology                                     |
| Rated voltage          | Single / 3 phase, AC, 220 V, 50 Hz / 60 Hz (400 V optional)                   |
| Dimensions             | 415 x 390 x 1180 mm (customizable)                                            |
| Certification          | CE, ETL; UL and OSHA compliant                                                |

# Optimize Turbine Operations

Increase Uptime and AEP

### Triple Control System

The CAS can be operated manually on the car, by remote control, or via the control cabinet down tower.

### Remote Control Lock-Out Protection

To ensure safety, control priority is always given to the operator riding on the CAS car. The on-car manual mode overrides remote operation (via remote control or control cabinet).

### Variable Frequency Drive

The variable frequency drive automatically adjusts the running speed to ensure a smooth and stable ride.

### Obstacle Detection Device

The obstacle detection device on the left handle prevents accidental damage – for example, if a platform hatch is closed when equipment is sent via remote control. When triggered, the CAS car stops immediately.

### Overload Protection

To ensure safe operation, the CAS is equipped with overload protection. If the rated load of 140 kg (310 lbs) is exceeded during manual operation, an alert will sound and the system will not run. During remote operation – e.g. when transporting tools – the load limit is 60 kg (132 lbs).

### Platform Indicator

When approaching a platform, the CAS car slows down and sounds an alert, thus ensuring the safety of the operator and any personnel on the platform.

### Guide Rail

The CAS car runs on a ladder-mounted guide rail, which strengthens the ladder while also serving as a fall protection system for the operator and car.

### Evacuation Step

The evacuation step allows technicians to easily climb over the CAS car to reach a higher point in the tower or to evacuate in the event of power loss.

### Manual Emergency Brake

The manual emergency brake is an additional safety feature, allowing the operator to manually engage the car's fall arrester. If the car moves unexpectedly, pulling the brake will stop it immediately.

### E-Stop Button

The car, remote control, and down-tower control cabinet each have an emergency stop button (E-Stop), providing an additional layer of safety.

### Traction Unit

Equipped with a powerful 1.5 kW traction unit, the Climb Auto System features a rope slipping detector and brake protection.

### Tensioning Device

The quick-adjust tensioning device on the base platform allows for easy regular wire-tension checks and adjustments.



## Optional Auto Hatch System

The Auto Hatch System makes CAS operation even more convenient by automatically opening and closing platform hatches as the car passes through them.

### Adaptable to Most Hatches

The Auto Hatch System can be adapted to most hatch and platform types, without major structural modifications.

### Robust Temperature Resistance

The system can be operated in adverse temperatures ranging from -40°C to 60°C.

### Anti-Strip Chain

The chain design prevents stripping, thereby ensuring system integrity.

### Compact Design

Work activities on the platform are not impaired thanks to the system's compact design.

### Dual Operation

Normal opening and closing of the hatches by hand remains possible (in the event of power outage or another problem).

## Auto Hatch System Specifications

|                      |                          |
|----------------------|--------------------------|
| Running temperature  | -40°C – +60°C            |
| Anti-corrosion class | C4                       |
| Protection class     | IP 54                    |
| Rated Voltage        | 220-240 V, 50 Hz / 60 Hz |
| Power                | 90 W                     |
| Dimensions           | 310 x 364 x 624 mm       |
| Certification        | CE, ETL                  |