3S LIFT

SAFE | SIMPLE | SPECIALIZED
ACCESS EQUIPMENT

Climb Auto System

Single-Technician
Ladder-Mounted Climber

Ficont Industry (Beijing) Co., Ltd.
No. 11 Tongji South Road,
Jingkai District,
Beijing 100176, China
+86 10 69597866
info-china@3Sindustry.com

3S Americas, Inc.
2920 Telecom Parkway, Suite 400,
Richardson, TX 75082 , USA
+1 972 849 3210
info@3SAmericas.com

3S Europe GmbH
Hein-Saß-Weg 21,
21129, Germany
+49 40 32518887
info@3SEurope.de

3S Lift India Private Limited
Workafella Business Center-51, Level 4, Tower A
Rattha Tek Meadows Old Mahabaliburam Road,
Rajiv Gandhi Salai, Sholinganallur
Chennai, Tamil Nadu, India, 600119
+91 9600653379
info-india@3Sindustry.com

3S Japan Co., Ltd.
13-106, 17-4-chome,
Minamiaoyama, Minato City,
Tokyo 107-0062
+81 3-57863515
info-Japan@3Sindustry.com

3S LIFT

SAFE | SIMPLE | SPECIALIZED
ACCESS EQUIPMENT

Climb Auto System

Single-Technician Ladder-Mounted Climber

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 climber), thus offering superior safety.

No More Climbing

Thanks to the 3S Lift Climb Auto System. The CAS is an automatic climber that completely eliminates the physical and mental strain of climbing. It improves health and safety while reducing the cost of ownership.

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.

Increased Uptime and AEP

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

Retrofit Installation in 8 Hours or Less

The Climb Auto System can be easily retrofitted to almost any wind turbine. Because the CAS is mounted to the existing ladder, installation typically requires no structural changes.

80,000 Installations Worldwide

3S Lift Climb Auto System has been installed in over 80,000 wind turbines worldwide.

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 car fall protection device

Climb Auto System Specifications

Constructing Materials	luminum, steel
Rated Load	Manned load capacity: up to 140 kg (310 lbs) Freight safe load: 60 kg (132 lbs)
Speed	18 m/min
Control Method	Frequency conversion vectorial technology
Rated Voltage	Single / 3 phase, AC, 220V, 50 Hz / 60 Hz (400 V optional)
Dimensions	468 x 380 x 1410 mm
Certification	CE, ETL, UL and OSHA compliant

Increased Uptime and AEP

Optimize Turbine Operations

Three Control Modes

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

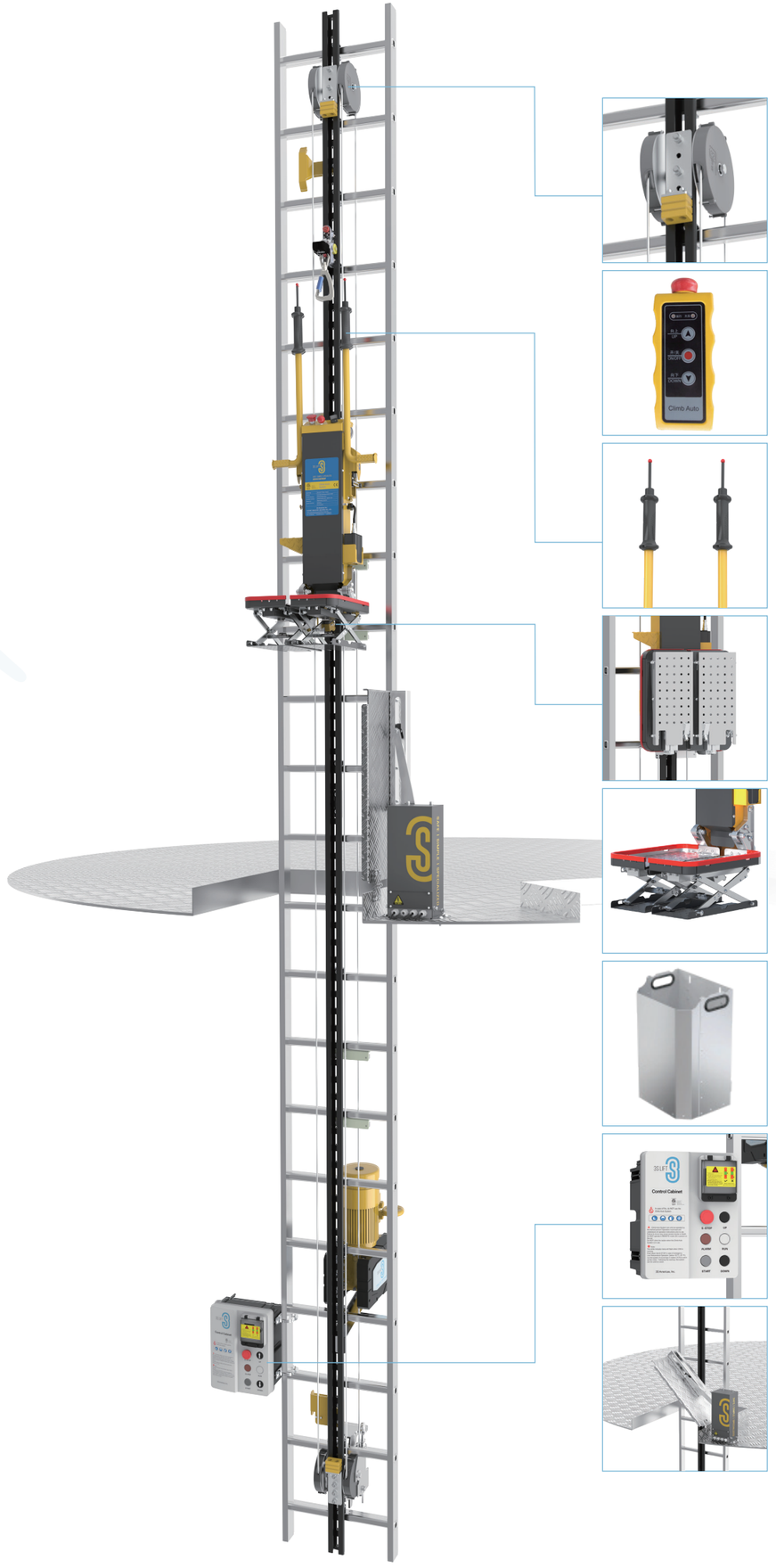
The car, remote control, and down-tower control cabinet each have an emergency stop button (E-Stop), providing an additional layer of safety.

Traction Unit

Equipped with a powerful 1.5 kKW 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.



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.

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.

Auto Hatch Opener (Optional)

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

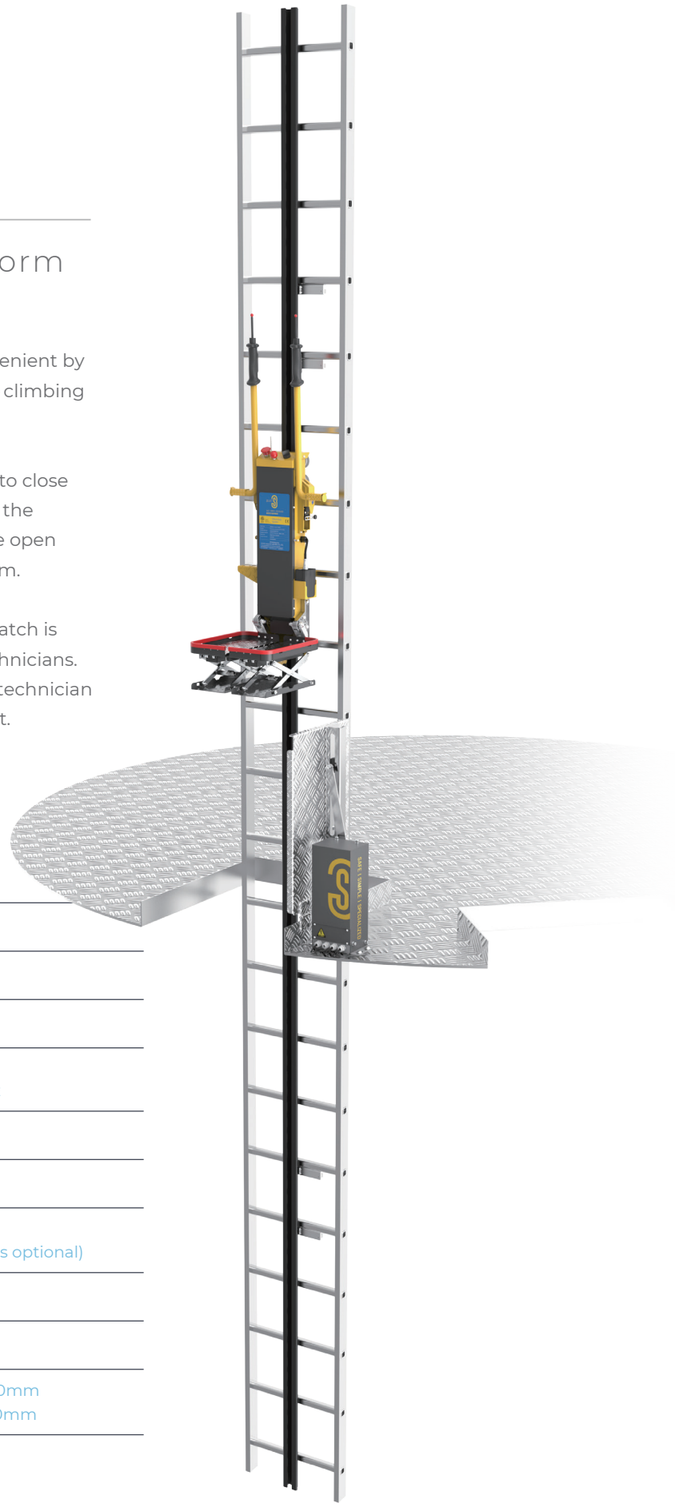
Auto Hatch Opener

Preventing Falls From The Platform

The Auto Hatch Opener (AHO) makes operation more convenient by automatically opening and closing platform hatches as the climbing technician passes through them.

There is a risk of fatal fall injuries when technicians neglect to close platform hatches in case one of them steps into the hole in the platform. They may also accidentally drop tools through the open hatch, causing serious injuries to others working below them.

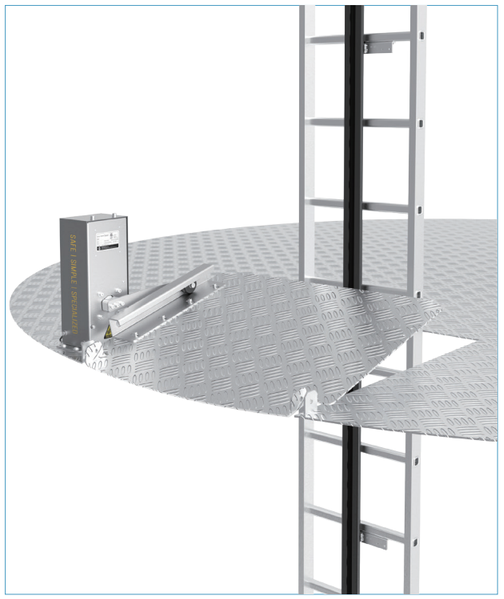
The risk of technicians banging their heads on the closed hatch is eliminated since the AHO regularly opens the hatch for technicians. It also prevents hand and finger injuries that can occur if a technician accidentally drops the hatch on their fingers while closing it.



Auto Hatch Opener
Specifications

Model	IHM-15
Operation Temperature	-40°C~+60°C
Anti-Corrosion Grade	C4
Rated Voltage	Single phase, AC230 V±10%, 50/60 Hz
Power	60W
Certification	CE, ETL
Protection Class	IP 44 (Higher protection class optional)
Weight	11 kg
Drive Unit Dimensions	172 x 131 x 408 mm
Crank Arm Length	Back - Opening 300mm Side - Opening 550mm

IHM-15
Side-Opening Model



IHM-15
Back--Opening Model

Adaptable to Most Hatches

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

Compact Design

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

Robust Temperature Resistance

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

Durability

A service life of over 25 years due to the high-quality materials and robust construction.

Easy Installation

The AHO can be quickly and easily installed, using only a few screws to mount it.

Maintenance-Free

The AHO requires no maintenance.