



## SH SLOPEHELPER Side Trimmer

### Automatic Detection of Silted Sprinklers & Immediate Alerts

The **Side Trimmer** is a rear-hinged attachment designed for high-performance **string mulching** around tree trunks, root zones, and **vine-covered trunks**. Compared to conventional side trimmers, which rely on passive systems, the **Slopehelper Side Trimmer** offers much gentler suspension with minimal force, only a couple of kilos, making it incredibly careful with **mature tree trunks** and significantly minimizing the risk of damage.

The system features a rotating drum with strings, mounted on a suspended head with an innovative touch bumper, ensuring optimal precision and safety during **mulching** operations.

**100% Autonomous** | **100% Electric**

## Features & Benefits



### Fully Electric Operation – No Hydraulic Actuation for Precision Mulching

The **Slopehelper Side Trimmer** is a fully electric attachment, delivering consistent performance, precision, and efficiency without relying on hydraulic actuation. Unlike conventional systems, all functions are powered by **electromechanical** and **mechatronic solutions** with **brushless motors**, completely eliminating the need for hydraulic oil and actuators.

This cutting-edge **electric-driven design** offers several key advantages:

- **No hydraulic leaks** – Reduces environmental risks and maintenance costs.
- **Lower maintenance requirements** – Fewer mechanical components prone to wear and tear.
- **Gentle and precise operation** – The actuated head smoothly adapts to **tree trunks**, ensuring **damage-free mulching** around root areas.
- **Efficient movement in plantation passages** – Seamless operation, even in **dense tree rows**.

By replacing traditional hydraulics with advanced **electric actuation**, the **Slopehelper Side Trimmer** ensures superior reliability, increased durability, and environmentally friendly operation, making it the optimal solution for modern **orchard** and **vineyard** maintenance.



### Easily Replaceable Strings for Versatile Operation

The **Slopehelper Side Trimmer** is equipped with **interchangeable strings**, offering users the flexibility to choose between soft or hard strings based on specific tasks—gentle mulching for **young trees** or aggressive **liana removal** for **trunk cleaning**.

For quick and effortless maintenance, the trimmer features a specially designed drum that enables **fast and easy string replacement**. This **user-friendly system** minimizes downtime, ensuring continuous operation and long-term reliability in **orchard** and **vineyard** maintenance.

With adaptable **string options** and a rapid replacement mechanism, the **Slopehelper Side Trimmer** provides maximum **efficiency, flexibility, and durability**, making it an essential tool for precision **plantation management**.





## Automatic Height Regulation for Optimal Mulching

The **Slopehelper Side Trimmer** features an **automated height regulation system**, which continuously adjusts the instrument's position in real-time during the **Base Platform's movement**, ensuring optimal **mulching performance**, regardless of terrain variations or surface slipperiness.

By dynamically adapting to ground conditions, the system:

- Maintains **precise cutting height** for uniform **mulching**.
- Compensates for **uneven terrain** and slopes, ensuring **consistent performance**.
- Prevents excessive ground contact, protecting both the instrument and **tree trunks**.

This intelligent **height adjustment** allows for smooth and effective operation, even in challenging **vineyard** and **orchard environments**, ensuring maximum efficiency and protection for your crops.



## Automatic Rotation Speed Control for Precise Impact Distribution in Orchards & Vineyards

For effective **grass mulching** and **trunk cleaning** from lianas, maintaining a consistent number of string impacts per surface area is crucial. Uneven impact distribution can lead to inefficient **liana removal**, excessive trunk contact, or incomplete mulching.

In conventional systems, this adjustment relies on manual control by the tractor driver, often inaccurate due to the limitations of hydraulic motors lacking precise speed regulation. The **Slopehelper Side Trimmer** solves this issue with **automatic rotation speed control**, where the drum's rotation speed dynamically synchronizes with the **Base Platform's movement speed**. This ensures:

- **Consistent impact distribution**, optimizing **trunk cleaning** and **mulching efficiency**.
- **Liana removal** without damaging tree trunks, preserving **orchard** health.
- Even **grass mulching**, providing a well-maintained and uniform plantation floor.

This intelligent **automation** eliminates the need for manual adjustments, guaranteeing precise, efficient, and damage-free operation, making it a superior alternative to conventional hydraulic trimmers for **vineyard** and **orchard** maintenance.



## Emergency System for Damage Prevention in Case of Jamming

Field operations can present unpredictable challenges, with obstacles such as loose wires in the root area or the trimmer head becoming stuck on a post, posing risks to both equipment and plantation infrastructure. In traditional systems, even skilled operators may struggle to react quickly, and in **robotic operations**, immediate manual intervention is often impossible without proper safety mechanisms.

The **Slopehelper Side Trimmer** incorporates an advanced **emergency protection system** designed to prevent such damage. The entire instrument is suspended on a specialized frame that detects any jamming or obstruction of the trimmer head. Upon detection, the system immediately stops the machine, safeguarding both the **equipment** and the plantation.

This **intelligent safety feature** ensures **reliable, damage-free operation**, even in demanding and unpredictable **orchard** and **vineyard** environments, enhancing both operational safety and equipment longevity.



## Adjustable Distance to the Row for Precise Trimming

In real-world **orchards** and **vineyards**, plantation rows are rarely perfectly straight, which means the **Slopehelper Side Trimmer** must continuously adjust its position relative to the row for precise thinning.

Equipped with a special **actuator** system, the **Slopehelper Side Trimmer** automatically adjusts its lateral position, ensuring optimal alignment with the trees. This dynamic adjustment prevents flower damage from incorrect positioning and guarantees **precise**, uniform trimming, even with row irregularities.

This intelligent design ensures that the **trimming process** remains effective and gentle, enhancing the health of the trees while maintaining high operational efficiency.





## Innovative Touch Bumper – Damage-Free Trunk Protection

Traditional side trimmers often use rigid bumpers, typically made of metal pipes or rough sliding components, which can scrape and damage the bark of trees. This is particularly harmful to sensitive trees, such as those in **apple orchards**, leading to wounds, increased disease susceptibility, and long-term tree stress.

The **Slopehelper Side Trimmer** features an **innovative touch bumper**, a revolutionary solution that allows the trimming head to gently follow the tree trunk's shape without making direct, abrasive contact. This non-abrasive design ensures the tree remains undamaged, even in delicate plantations.

By eliminating the need for traditional rough-contact bumpers, this advanced feature promotes healthier trees, making the **Slopehelper Side Trimmer** the safest, most tree-friendly option for precise and effective orchard and **vineyard maintenance**.

## Technical Specifications

DIMENSIONS	VALUE
Height	1908,4 mm
Length	1431,1 mm
Width	1621,1-2032,4 mm
Weight	428 kg
WORKING DIMENSIONS	VALUE
Working width	400 mm
Trimming width (45°)	350 mm
Head length	500 mm
Trimming height	150 mm
Sound power level	45 dB
GENERAL SPECIFICATIONS	VALUE
Compatibility	SH.056 Slopehelper
Drive method	V-belt
Number of belts	3
Motor	Brushless motor - BLDC
TRIM UNIT SPECIFICATIONS	VALUE
Working part	String
Number of strings	14
Speed of rotation	500-2000 rpm, selectable
Rotation diameter	660 mm
Rotor bar diameter	60 mm

