



Sh  SLOPEHELPER

Horizontal-vertical Cutter

Lateral and top tree cutting with columns' bypass in vineyards and orchards

The **HV Cutter** is a cutting-edge lateral and top **cutting instrument** designed for precise trimming of **plantation trees**, including **fruit trees** and **grapevines**. It features a dual cutting system with vertical and horizontal decks, equipped with high-performance **cutting disks** that easily handle thick branches and tree tops, even in poorly maintained plantations. This advanced **cutting mechanism** ensures uniform shaping, optimal growth, and improved **plantation structure**, making it a versatile and efficient solution for **orchards** and **vineyards**.

100% Autonomous | **100% Electric**

Features & Benefits



Automatic Column Bypass with Horizontal Cutting Deck

The **HV Cutter's** horizontal **cutting deck** is equipped with a special **touch sensor**, allowing it to detect **plantation columns** and automatically slide into the passage space for a smooth bypass.

Key benefits of this system:

- **Seamless operation** in structured **plantations** – Enables efficient work in **plantations** with **hail nets** and **tree canopies** positioned below column height.
- **Intelligent obstacle detection** – The **touch sensor** prevents collisions by dynamically adjusting the deck position in real time.
- **Uninterrupted workflow** – Ensures continuous cutting efficiency without requiring manual intervention, optimizing performance.

This automated **bypass function** enhances **precision**, **adaptability**, and **efficiency**, making the **Slopehelper HV Cutter** ideal for **high-density plantations** with structural obstacles.



Adjustable Vertical Cutting Position

The **Slopehelper HV Cutter** features a **programmable vertical cutting deck**, allowing precise trimming at different heights.

- **Customizable cutting height** – Adjusts to target only the necessary vegetation.
- **Enhanced crop solarization** – Optimizes light penetration for healthier plants.
- **Improved yield quality** – Supports better growth conditions and overall productivity.

This **advanced adaptability** ensures efficient plantation maintenance while maximizing plant health and harvest potential.



Adjustable Distance to the Row for Precise Cutting

In real-world **orchards**, plantation rows are rarely perfectly straight, meaning the **Slopehelper HV cutter** must continuously adapt its position relative to the row for accurate **thinning**.

The **Slopehelper HV cutter** is equipped with a special actuator system that automatically adjusts the instrument's lateral position, ensuring optimal alignment with the trees. This dynamic adjustment prevents flower damage from incorrect positioning and guarantees precise, uniform **thinning**, regardless of row irregularities.





Lateral and Top Cutting in Any Combination

The **HV Cutter** enables **lateral cutting**, **top cutting**, or a combination of both, offering full flexibility for **plantation maintenance**.

Key advantages:

- **Customizable cutting modes** – Perform **top-only**, **lateral-only**, or **combined cutting** based on specific **orchard** and **vineyard** requirements.
- **Precision tree shaping** – Ensures optimal **tree structure**, enhancing **growth** and **productivity**.
- **Efficient maintenance** – Adapts to different **plantation management** strategies, improving overall field **efficiency**.

This **versatile cutting system** maximizes operational **control**, making it an essential tool for **modern fruit orchards** and **vineyards**.



Special Branch-Guiding Teeth for Precise Cutting

Traditional trimmers often **tear** and **burst** branches rather than cutting them cleanly, increasing the risk of **tree infections**. This happens because **sharp cutting teeth alone** cannot properly hold branches in place.

The **Slopehelper HV Cutter** solves this issue with **special guiding teeth** that:

- **Securely grip branches** – Prevents slipping along the disk edge.
- **Ensure clean, smooth cuts** – No torn or open branch ends.
- **Reduce infection risks** – Promotes **healthier tree growth** and faster healing.

This **advanced cutting mechanism** enhances **precision**, **efficiency**, and **plantation health**, making it an **essential tool** for **fruit orchards** and **vineyards**.



Operation with Non-Folded Hail Nets in Entrances and Passages

The **Slopehelper HV Cutter** features a **fully foldable design**, allowing it to navigate plantation passages in a compact folded state.

- **Seamless operation** – Works efficiently under non-folded hail nets without interference.
- **Preserves netting integrity** – Ensures safe passage without damaging protective structures.
- **Optimized for narrow entrances** – Easily maneuvers through tight plantation spaces.

This **smart foldable system** guarantees **uninterrupted cutting performance**, making it ideal for structured orchards and vineyards with hail netting.



Option for Pyramidal Tree Cutting

The **Slopehelper HV Cutter** allows for **precise pyramidal shaping** of tree canopies by angling the **vertical cutting deck** while keeping its **horizontal alignment** intact.

- **Optimized canopy shaping** – Enhances tree structure for better growth.
- **Improved solarization** – Ensures even light distribution, boosting fruit quality.
- **Higher yield potential** – Maximizes photosynthesis efficiency for stronger harvests.

This **advanced cutting option** supports healthier plantations and increased productivity



Height Adaptation on Slippery Terrain

The **HV Cutter** is equipped with a **hinged system** that ensures **constant cutting height maintenance**, even on **slippery or uneven terrain**.

- **Automatic slope adaptation** – Dynamically adjusts to terrain inclinations.
- **Consistent canopy shaping** – Maintains uniform tree structure for optimized growth.
- **Precise horizontal deck positioning** – Ensures accurate cutting height without manual intervention.

This **intelligent adjustment system** guarantees **precise, uniform cutting** while maximizing **harvest solarization** across all plantation conditions.



Technical Specifications

DIMENSIONS	VALUE
Height	2720 mm
Length	2315 mm
Width	2282 mm
Weight	250 kg

WORKING DIMENSIONS	VALUE
Horizontal cutting position (from the ground)	1650-3950 mm
Vertical cutting position (from the ground)	155-3880 mm
Horizontal deck adjustment	0-785 mm
Blade speed rotation	2000-3500 rpm (electronic control)
Frame tilt	-13° (transportation) up to +15°
Minimum height of the upper net	3200 mm
Operation speed	2 km/h

GENERAL SPECIFICATIONS	VALUE
Compatibility	SH.056 Slopehelper
Drive method	V-belt
Number of belts	8
Motor	Brushless motor - BLDC

BLADE SPECIFICATIONS	VALUE
Drum speed	3-7 km/h
Type of blades	Blade EVO-B355 (High-grade steel)
Number of blades	8

