HORTI ROBOTICS



WHERE INNOVATION
TAKES ROOT

The World's First Fully Automatic

Grafting Robot

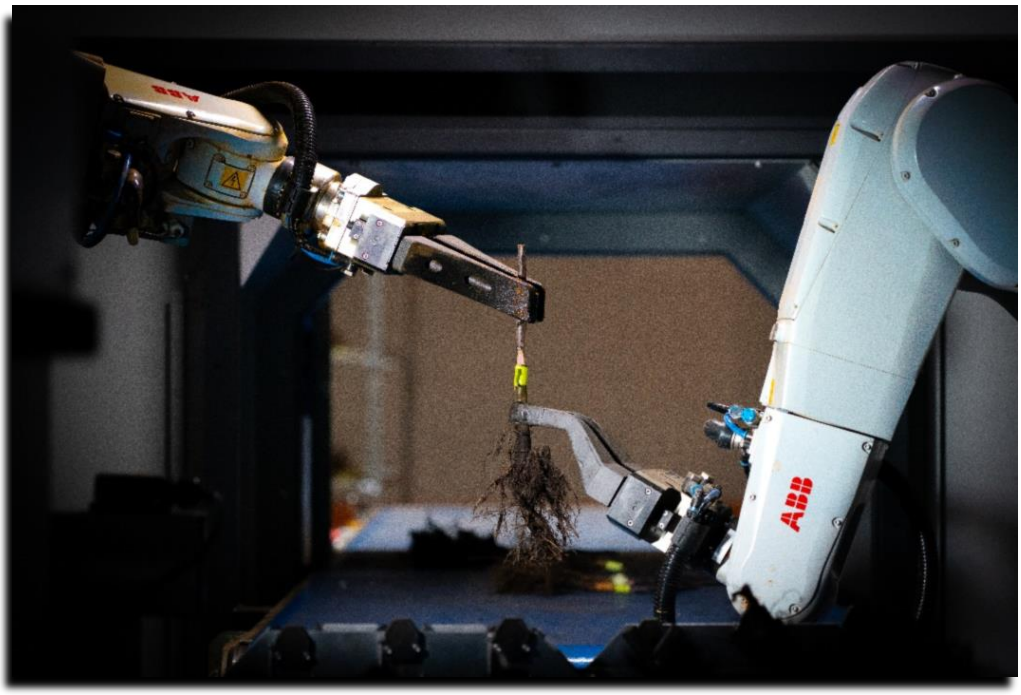
Patented

hortirobotics.com

Transform Your Nursery with Cutting-Edge Robotics

Why Invest in This Grafting Robot?

1. Unmatched Precision: Achieve the most perfect graft every time with our advanced robotic technology.
2. Proven Success Rate: Lower grafting failures.
3. Versatile Applications: Graft a wide variety of woody crops with ease.
4. Year-Round Grafting: Suitable for both summer and winter grafting.
5. Labor saving: Robot can be operated by one person.



Built by: Horti Robotics | The Netherlands
Available Now: Take your nursery's productivity to the next level with cutting-edge automation.

Comprehensive Specifications

- Grafting Cycle Time: 12-17 seconds per graft, depending on material quality and product thickness.

- Grafting Capabilities

    - Suitable for: bare-root, P8 – P11 pots, and stem grafting.
    - Rootstock Diameter: Minimum 5 mm, Maximum 20 mm.
    - Scion Diameter: Minimum 4 mm, Maximum 20 mm.
    - Maximum Product Length: Up to 120 cm rootstocks and 15cm scions.
    - Flexible Grafting: Capable of grafting scions as small as 4 mm onto rootstocks as large as 20 mm, offering unparalleled flexibility. Combinations like a 6 mm scion on a 10 mm rootstock are easily handled.
    - Stable Grafts: Achieve the most stable grafts through the unique wedge formation and precise cambium matching.

- Advanced Grafting Technology

    - High Moisture Absorption & Flow: The tight fit between scion and rootstock ensures excellent moisture transfer, leading to better graft success.
    - Precise Insertion: The scion is expertly inserted into the rootstock for optimal fusion.
    - Variable Insertion Pressure: Automatically calculated by the robot for optimal grafting pressure.
    - Auto Recovery & Collision Detection: Minimizes downtime by detecting and managing potential collisions.
    - Non-Viable Product Handling: Automatically sets aside non-graftable items, reducing production downtime.
    - Auto-Cut Length Calculation: The machine calculates the optimal cutting length for each graft.

How It Works: Step-by-Step Process

1. Product Preparation: Rootstocks and scions are delivered to the machine, pre-cut to size.
2. Operator's Role: One operator is stationed in front of the machine, responsible for feeding the rootstock and scion into the machine.
3. 3D Scanning: The grafting robot performs a 3D scan of both the rootstock and scion to analyze their dimensions, curvature, and any deviations.
4. Cutting Calculations: Based on the scan, the robot calculates the optimal cut, determining the maximum possible length and ensuring precise cambium matching, even with differing diameters between rootstock and scion.
5. Graft Formation: The robot then makes the cuts, applies a band to the rootstock, and inserts the scion into it.
6. Variable Pressure Application: The pressure used to insert the scion is automatically calculated based on the thickness of the rootstock and scion, ensuring maximum clamping without damaging thinner scions and securely fastening thicker ones.
7. Completed Graft: The finished graft, combining the rootstock and scion, is placed back in a holder for the operator to remove. The operator can then immediately insert a new set of rootstock and scion to continue the process.

Post-Grafting Care

- Seasonal Adjustments: Depending on the season, the graft may require different aftercare:
    - Winter Grafting: The grafted plant may need to be waxed or taped to prevent drying out.
    - Summer Grafting: Typically does not require waxing, but the graft should be placed under a cover with high humidity to avoid drying out.













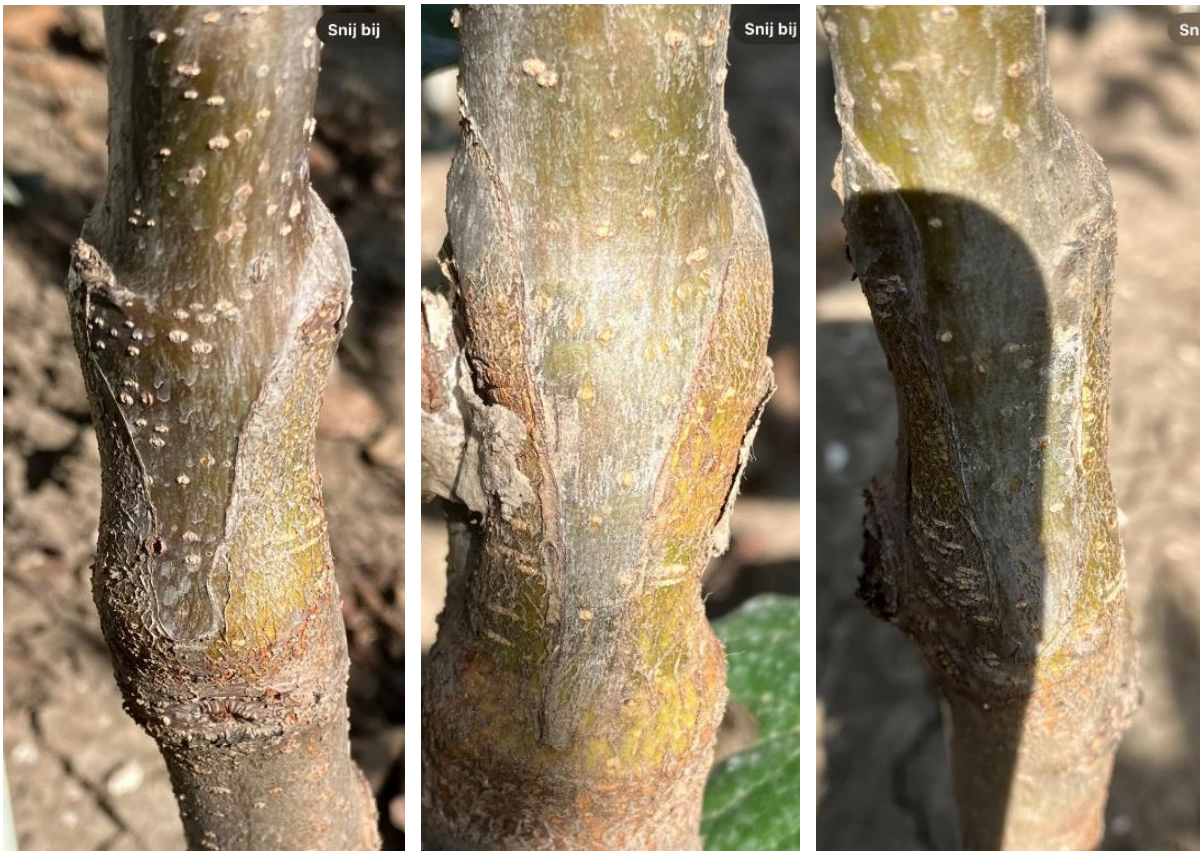










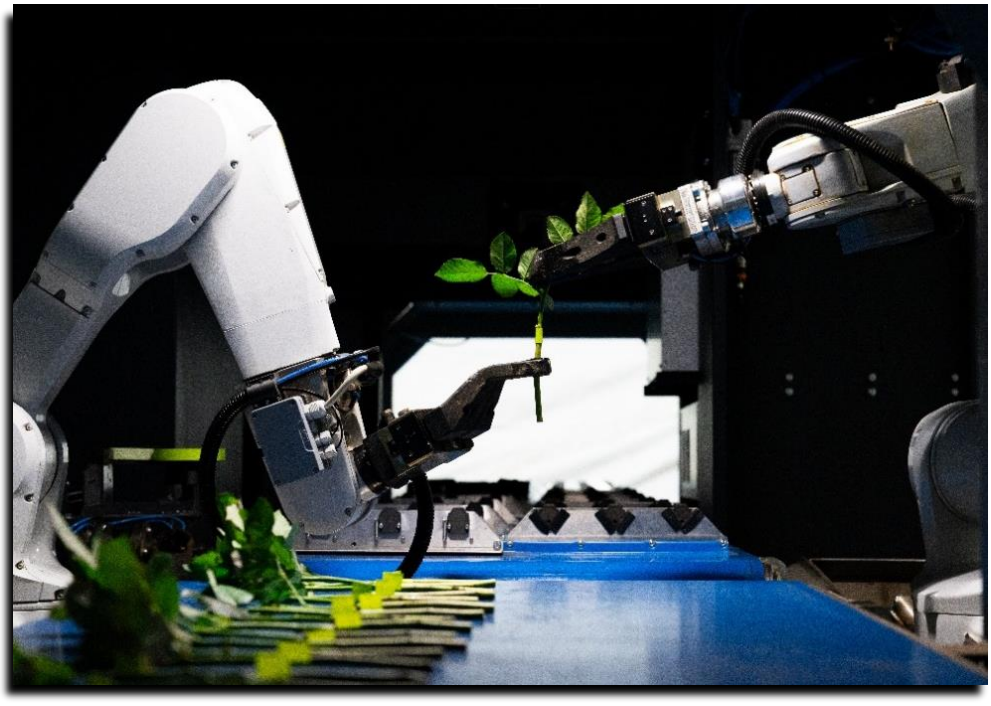



Service

- Minimized Downtime: Designed for maximum reliability with minimal downtime.
- Remote Support: Remote login capabilities allow for real-time troubleshooting and support.
- High-Quality Components: Built with durable, sustainable materials for long-lasting performance.

Why This Grafting Robot is Essential for Your Nursery

- Flexible & Versatile: Graft various combinations of scion and rootstock diameters with ease, eliminating the need for perfect diameter matching.
- Cost-Effective: Reduce labor costs and increase output with automated precision grafting.
- Enhanced Quality Control: Consistent, high-quality grafts improve plant health and nursery yield.
- Scalable & Adaptable: Ideal for nurseries of all sizes, from small operations to large-scale commercial growers.



About
Horti Robotics

Horti Robotics started in a small workshop in the Netherlands, founded by two brothers and their father. They grew up in South Africa, where they learned to work with limited tools and to find practical solutions. That way of thinking—hands-on, resourceful, and committed, still forms the foundation of how the company works today.

What began with welding and mechanical work grew into designing and building complete machines. Without formal training, they taught themselves to draw, program, and develop systems from start to finish. Every project became a new learning step.

Their first horticultural machine was a Root Trimmer. That led to more questions, more machines, like a cutting robot and a potting system. One customer asked if they could also build a machine to graft plants. They had no experience with grafting, but they gave it a try.

Today, the Grafting Robot is a key part of what Horti Robotics does.

In 2020, the name changed to Horti Robotics, to better reflect what the company had become: a builder of smart, practical machines for horticulture. From potting and grafting to grading and transplanting. The aim: making growers work easier, more efficient and more consistent, to gain higher quality and speed..

The team is small and works closely together. Everyone contributes, and every idea is welcome. Machines are developed in cooperation with customers, based on real needs in the field.

Where innovation takes root is more than a slogan.

It reflects how the company grows: step by step, through doing, learning and improving—together with those who use the machines.

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