



fruitcore robotics - AI supervised Robots & Solutions

Product specification

Version 2026.1.2

I. fruitcore robotics - Overview

In addition to intelligent industrial robots, fruitcore robotics also offers central control software, preconfigured automation modules and supporting services. This allows you to automate various industrial applications (e.g. camera-supported quality inspections, machine loading and unloading, dosing and gluing processes, packaging processes and Pick & Place processes) with minimal effort.

| | | |
|--------------------------|--|--|
| Robotic Solutions |  | One-stop automation solutions Turnkey cells – Automation you can plug & play |
| Industrial Robots |  | Powerful robotics hardware Most cost-effective robotic technology with a powerful controller |
| Software |  | The no code software layer Easy to use no-code software to control entire automation processes |
| Services |  | Support on eye level Feasibility studies, training, and support in every project phase |
| Component Kits |  | Plug & play components Preconfigured components that can be connected directly |

With the coordinated products and services fruitcore robotics enables you to easily automate your application - from project planning to ongoing operation: Economical. Flexible. Efficient.

The coordinated range of services provides you with additional support. It includes free feasibility studies, non-binding test phases, comprehensive training concepts (live and on demand) and a comprehensive after-sales offer including 24/7 service and support.

You benefit from:



Fastest ROI

thanks to minimal purchase and maintenance costs with a long service life. The usual ROI is less than 6 months.



Maximum flexibility

thanks to the fastest and simplest set-up as well as the most user-friendly programming with and without coding. You can reprogram processes in just a few minutes.



Maximum efficiency

thanks to the simplest and fastest project planning with a patented modular system. Your effort is less than 15 % compared to standard market integrations.

In this product specification you will find detailed information on the scope of performance of all products from fruitcore robotics.

II. Product range of fruitcore robotics

The fruitcore robotics product range is made up as follows:

| Product group | Description |
|--------------------------|--|
| Industrial Robots | Seven robot models including controller, control panel and software, which are ideal for a wide range of industrial applications. |
| Software | The software portfolio includes the expandable robot operating software <i>horstOS</i> , the desktop simulation environment <i>horstOS Simulation</i> and the IIoT platform <i>horstCOSMOS</i> . |
| Robotic Solution | Automation modules with CE certification and completed risk assessment, specially tailored to production scenarios. |
| Component Kits | Seamlessly integrable robot accessories and ready for immediate use thanks to mechanical adapters, plug-in components and defined interfaces as well as various platform concepts. |
| Care Services | With our care packages, you receive software updates and an extended warranty on the entire robot system as well as technical support from our qualified robot experts. |
| Training Services | In addition to our e-learning platform <i>Academy</i> , we offer a wide range of training courses to deepen your knowledge of HORST and the fruitcore robotics ecosystem. |

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1 Industrial Robot HORST

Our 6-axis robots for use in harsh industrial environments with reaches of 600 to 1500 mm and maximum payloads of 3 - 16 kg.

With a robot system you get:


- Industrial robot [HORST](#)
- Compact control unit [Control](#)
- [WLAN-Stick](#) for using the Digital Services
- Ergonomic [Panel G2](#)
- Central control software [horstOS](#) incl. [Basic Features](#)
- Access to the IIoT platform [horstCOSMOS](#)
- 6-year warranty on the robot drive train




Your advantages with HORST:

- **Best performance with unique drive technology**
HORST uses proven industrial planetary gearboxes combined with patented coupling gearboxes. Optimized by machine learning, this design enables outstanding performance.
- **Guaranteed durability with high precision**
Maintenance-free and low-wear gearboxes with > 50,000 h service life guarantee high process reliability with consistent precision over the entire service life.
- **Shortest set-up & programming times**
Central control software, from project setup including component management, to graphical robot programming and customizable process control, makes programming experts superfluous in day-to-day business.


1.1 Industrial Robot HORST600 - Highest efficiency in the smallest space (VE500661) / (VE500679)

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|  | <p>Maximum flexibility for automation solutions in the tightest of spaces, even under changing conditions.</p> <p>The robot system includes:</p> <ul style="list-style-type: none"> • Robot kinematics HORST600 • Control unit Control & Accessories • Control device Panel (VE500661) or Panel G2 (VE500679) • Wi-Fi-Stick for using the Digital Services • Central control software horstOS incl. Basic Features • Access to the IIoT platform horstCOSMOS • 6-year warranty on the robot drivetrain <p>Technical data:</p> <ul style="list-style-type: none"> • HORST600 <ul style="list-style-type: none"> • Reach: 584 mm • Load capacity: 3 kg • Repeat accuracy: +/-0.05 mm • Weight: approx. 30 kg • Ambient temperature: 5-40°C • Protection class: IP54 • Cleanroom class: ISO 6 / ISO 5 <i>depending on the specific application. Case-by-case consideration in consultation with fruitcore robotics.</i> |
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1.2 Industrial Robot HORST600 G2 - Compact in size, powerful in performance (VE501330)

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|  | <p>Maximum performance in a compact design. High dynamics for both small and large payloads, making it ideal for pick-and-place applications.</p> <p>The robot system includes:</p> <ul style="list-style-type: none"> • Robot kinematics HORST600 G2 • Control unit Control & Accessories • Control device Panel G2 • Wi-Fi-Stick for using the Digital Services • Central control software horstOS incl. Basic Features • Access to the IIoT platform horstCOSMOS • 6-year warranty on the robot drivetrain <p>Technical data:</p> <ul style="list-style-type: none"> • HORST600 G2 <ul style="list-style-type: none"> • Reach: 610 mm • Load capacity: 7 kg • Permitted installation: Floor, wall, overhead, angled • Repeat accuracy: +/-0.05 mm • Weight: approx. 38 kg • Ambient temperature: 5-40°C • Protection class: IP65 (axes 5 and 6) / IP54 (rest of the robot structure) • Cleanroom class: ISO 6 / ISO 5 <i>depending on the specific application. Case-by-case consideration in consultation with fruitcore robotics.</i> |
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1.3 Industrial Robot HORST800 G2 - Maximum flexibility and long reach (VE501331)

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|  | <p>A long reach combined with a compact footprint offers maximum flexibility for machine loading and quality inspection.</p> <p>The robot system includes:</p> <ul style="list-style-type: none"> • Robot kinematics HORST800 G2 • Control unit Control & Accessories • Control device Panel G2 • Wi-Fi-Stick for using the Digital Services • Central control software horstOS incl. Basic Features • Access to the IIoT platform horstCOSMOS • 6-year warranty on the robot drivetrain <p>Technical data:</p> <ul style="list-style-type: none"> • HORST800 G2 <ul style="list-style-type: none"> • Reach: 840 mm • Load capacity: 6 kg • Permitted installation: Floor, overhead, angled • Repeat accuracy: +/-0.05 mm • Weight: approx. 40 kg • Ambient temperature: 5-40°C • Protection class: IP65 (axes 5 and 6) / IP54 (rest of the robot structure) • Cleanroom class: ISO 6 / ISO 5 <i>depending on the specific application. Case-by-case consideration in consultation with fruitcore robotics.</i> |
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1.4 Industrial Robot HORST1000 - Productivity redefined (VE500662) / (VE500680)

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|  | <p>Optimum load capacity for placement tasks with high loads or more complex and heavy gripping systems.</p> <p>The robot system includes:</p> <ul style="list-style-type: none"> • Robot kinematics HORST1000 • Control unit Control & Accessories • Control device Panel (VE500662) or Panel G2 (VE500680) • Wi-Fi-Stick for using the Digital Services • Central control software horstOS incl. Basic Features • Access to the IIoT platform horstCOSMOS • 6-year warranty on the robot drivetrain <p>Technical data:</p> <ul style="list-style-type: none"> • HORST1000 <ul style="list-style-type: none"> • Reach: 1018 mm • Load capacity: 8 kg • Repeat accuracy: +/-0.05 mm • Weight: approx. 70 kg • Ambient temperature: 5-40°C • Protection class: IP54 |
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1.5 Industrial Robot HORST1000 G2 - The strongest robot in its class (VE500722) / (VE500723)

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|  | <p>The strongest robot in its class. Benefit from a uniquely high load capacity combined with high robot dynamics for maximum flexibility and efficiency when loading and unloading machine tools.</p> <p>The robot system includes:</p> <ul style="list-style-type: none"> • Robot kinematics HORST1000 G2 • Control unit Control & Accessories • Control device Panel (VE500722) or Panel G2 (VE500723) • Wi-Fi-Stick for using the Digital Services • Central control software horstOS incl. Basic Features • Access to the IIoT platform horstCOSMOS • 6-year warranty on the robot drivetrain • Transport aids (shackles) for transport with lifting gear <p>Technical data:</p> <ul style="list-style-type: none"> • HORST1000 G2 <ul style="list-style-type: none"> • Reach: 1141 mm • Load capacity: 16 kg • Repeat accuracy: +/-0.05 mm • Weight: approx. 105 kg • Ambient temperature: 5-40°C • Protection class of hand axes 4, 5 & 6: IP65 • Protection class of the rest of the robot: IP54 • Cleanroom class: ISO 6 / ISO 5 depending on the specific application. Case-by-case consideration in consultation with fruitcore robotics. |
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1.6 Industrial Robot HORST1400 - Optimum performance with an appropriate investment (VE500663) / (VE500681)

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|  | <p>Long reach for automation systems with large workspace requirements or large trays for long autonomy times.</p> <p>The robot system includes:</p> <ul style="list-style-type: none"> • Robot kinematics HORST1400 • Control unit Control & Accessories • Control device Panel (VE500663) or Panel G2 (VE500681) • Wi-Fi-Stick for using the Digital Services • Central control software horstOS incl. Basic Features • Access to the IIoT platform horstCOSMOS • 6-year warranty on the robot drivetrain <p>Technical data:</p> <ul style="list-style-type: none"> • HORST1400 <ul style="list-style-type: none"> • Reach: 1425 mm • Load capacity: 12 kg • Repeat accuracy: +/-0.10 mm • Weight: approx. 150 kg • Ambient temperature: 5-40°C • Protection class: IP54 |
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1.7 Industrial Robot HORST1500 G2 - Maximum efficiency for your competitive advantage (VE500664) / (VE500682)

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|  | <p>Maximum efficiency when loading machine tools and handling pallets and pallet cages. Very suitable for tasks with more complex and heavy gripping systems.</p> <p>The robot system includes:</p> <ul style="list-style-type: none"> • Robot kinematics HORST1500 G2 • Control unit Control & Accessories • Control device Panel (VE500664) or Panel G2 (VE500682) • Wi-Fi-Stick for using the Digital Services • Central control software horstOS incl. Basic Features • Access to the IIoT platform horstCOSMOS • 6-year warranty on the robot drivetrain • Transport aids (shackles) for transport with lifting gear <p>Technical data:</p> <ul style="list-style-type: none"> • HORST1500 G2 <ul style="list-style-type: none"> • Reach: 1485 mm • Load capacity: 15 kg • Repeat accuracy: +/-0.05 mm • Weight: approx. 99 kg • Ambient temperature: 5-40°C • Protection class of hand axes 4, 5 & 6: IP65 • Protection class of the rest of the robot: IP54 • Cleanroom class: ISO 6 / ISO 5 <i>depending on the specific application. Case-by-case consideration in consultation with fruitcore robotics.</i> |
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1.8 All components of the robot system

In addition to the robot kinematics, the following components and software are part of the robot system.


1.8.1 Control - The powerful control unit

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|  | <p>With Control, entire applications can be implemented without an additional external controller (PLC).</p> <p>Performance data:</p> <ul style="list-style-type: none"> • Dimensions: 313 x 174 x 446 mm • Weight: approx. 10 kg • Power supply: 115 - 230 V AC (Wide input voltage range) • Protection class: IP20 • USB ports: 2x USB 3.0 port • Digital I/Os <ul style="list-style-type: none"> • 20 digital inputs (expandable to 28) • 18 digital outputs (expandable to 30) • Dual-channel safety interfaces <ul style="list-style-type: none"> • Emergency and safety stop according to with DIN EN ISO 10218-1; PL d • 4 configurable safe inputs • 6 configurable safe outputs • Ethernet interface for TCP/IP communication <p>Additional interfaces (Profinet, Modbus, XML-RPC) can be added with Advanced Interfaces.</p> |
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1.8.2 Accessories of the robot system

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|  | <p>The following accessories are part of the robot system as standard:</p> <ul style="list-style-type: none"> • Assembly instructions • Declaration of incorporation for partly completed machinery • Cable between robot and control cabinet (3.0 m long) • Cable between control panel and control cabinet (5.0 m long) • Mains cable for the Control power supply (1.8 m long) • 4 mounting screws for mounting the robot (DIN 912 M8x40) • 4 x M8 nuts and washers for mounting the robot • Tensioning strap for securing the Control control unit |
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1.8.3 Wi-Fi-Stick

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|  | <p>The Wi-Fi stick is part of every robot system and makes it easy to connect the robot system to the internet. An internet connection enables the use of IIoT services, AI features, and remote support from fruitcore robotics.</p> <p>The stick simply needs to be plugged into a USB port on the Control robot controller. The robot system can then be connected to a nearby Wi-Fi network.</p> <p>If no permanent Wi-Fi network is available, the robot system can also go online temporarily via a cell phone hotspot (e.g., to download an update or for service purposes).</p> |
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1.8.4 Panel (VH500592)

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|  | <p>Performance data:</p> <ul style="list-style-type: none"> • Dimensions: 340 x 245 x 85 mm • Protection class: IP20 • Screen size: 13.3" • Screen resolution: 1920 x 1080 (Full HD) • 2 USB ports for connecting a mouse and keyboard • Control panel bracket for mounting on the system included <p>In addition to the panel, you will receive a mount that allows the panel to be placed on a table for programming or attached to the system.</p> |
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1.8.5 Panel G2 (VH500675) / (VH500677)

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|  | <p>Thanks to its innovative concept with adjustable handles and low weight, the new panel offers the best ergonomics, even when programming on the robot for long periods of time. The bright 13.3" display with high 2.5K resolution (2560x1600px), outstanding contrast and vivid colours provides a unique user experience. The panel also impresses with its high robustness thanks to IP protection class IP54 and optimised cable routing.</p> <p>Performance data:</p> <ul style="list-style-type: none"> • Dimensions: 330 x 255 x 95 mm • Protection class: IP54 • Screen size: 13.3" • Screen resolution: 2560 x 1600 (2.5 K) • 2 USB-Ports for connecting mouse and keyboard • Control panel bracket for mounting on the system included <p>In addition to the panel, you will also receive a bracket with which the panel can be attached to the system.</p> |
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1.8.5.1 Protective film for Panel G2 (VH500678)

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|  | <p>Optionally available for Panel G2.</p> <p>Performance data:</p> <ul style="list-style-type: none"> • Custom-made for the Panel G2 • Matte surface for protection against reflections under strong light exposure • Special protection against scratches • No impairment of touchscreen behavior <p>The protective film is included with the panel and must be applied independently.</p> |
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1.8.6 Operating system software horstOS incl. Basic Features (VD500683)

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|  | <p>The Basic Features include core functionalities of the robot control software horstOS and are part of every HORST robot.</p> <p>For details on the scope of services, please refer to the sections Software horstOS and Basic Features.</p> |
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1.8.7 Access to the IIoT platform horstCOSMOS (VD500276)

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|  | <p>When you purchase a HORST robot, you gain access to the horstCOSMOS IIoT platform.</p> <p>Details on the scope of services can be found in the horstCOSMOS section.</p> |
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2 Software horstOS

This section describes the software offering in detail.

The HORST robots from fruitcore robotics are characterized by their innovative and intuitively operable software. As a user, you save time and money thanks to the simplicity from set-up to operation..



All release notes for past software releases and upcoming releases are listed on the fruitcore robotics website ([Link](#)).

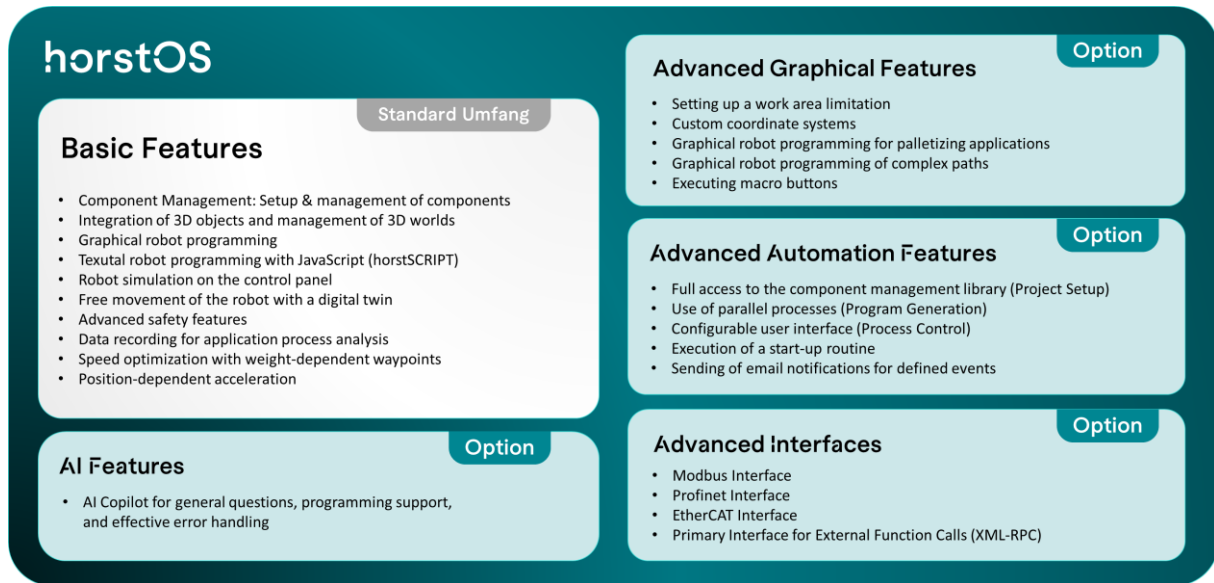
horstOS guides the user through the pre-configuration, programming and operation of the automation application in a structured way. The AI Copilot offers support in all phases.

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| | <h3>1. Project Setup</h3> <p>Configuration of robot settings and manufacturer-independent management of process components in Component Management</p> <ul style="list-style-type: none"> • Simple integration thanks to standardized interfaces • Full flexibility in setup and operation when customizing component settings <p><i>Component Management is included in the additional feature "Advanced Automation Features".</i></p> | |
| | <h3>2. Program Generation</h3> <p>Graphical or textual programming of the robot program sequence with a realistic 3D environment and step-by-step assistants</p> <ul style="list-style-type: none"> • Easiest program creation in graphical programming • Performing feasibility studies away from the robot system <p><i>The full range of Program Generation capabilities is included in the "Advanced Graphical Features".</i></p> | |
| | <h3>3. Process Control</h3> <p>The user screen can be customized during operation to meet the needs of the user</p> <ul style="list-style-type: none"> • The free customizability allows the interface to be ideally adapted for the operation and monitoring of the respective process • Error-free operation thanks to a clear design and authorization management <p><i>Process control is included in the additional feature "Advanced Automation Features".</i></p> | |
| | <h3>AI Features</h3> <p>The AI Copilot is always ready to answer general questions, help with errors that occur, and even issue code.</p> <ul style="list-style-type: none"> • Questions can be formulated in natural language • Expert knowledge immediately at hand without having to look it up in documentation <p><i>The AI Copilot is included in the additional feature "AI Features".</i></p> | |


2.1 Software Packages

The software is made up of the modules shown in the following illustration.

The basic features are always included when purchasing a robot, all other options can be purchased as required.



2.1.1 Basic Features

| | |
|--|---|
|  <p>Basic Features</p> | <p>The Basic Features are always included with the purchase of a HORST-Robot. They provide the foundation for implementing industrial automation processes with HORST.</p> <p>Scope of Services:</p> <ul style="list-style-type: none"> • Component Management <i>see below</i> • Integration of 3D Objects and Management of 3D Worlds <i>see below</i> • Graphical robot programming <i>see below</i> • Textual robot programming with JavaScript (horstSCRIPT) <i>see below</i> • Program Simulation on the Control Panel Provides a real-time preview of robot movements to avoid errors and optimize workflows directly on the robot. • Free Movement of the Robot with a Digital Twin Allows precise control and planning of movement sequences in a virtual environment. • Advanced Safety Features Ensures the secure implementation of robot applications with HORST. • Data Recording for Application Process Analysis Enables detailed monitoring and optimization of workflows through data analysis. • Speed Optimization with Weight-Dependent Waypoints Enhances efficiency by situationally adjusting speed based on the robot's load. • Textual Robot Programming with JavaScript (horstSCRIPT) Provides flexible and expandable programming options for advanced users. • Position-Dependent Acceleration Improves efficiency by dynamically adjusting movement speed based on position. |
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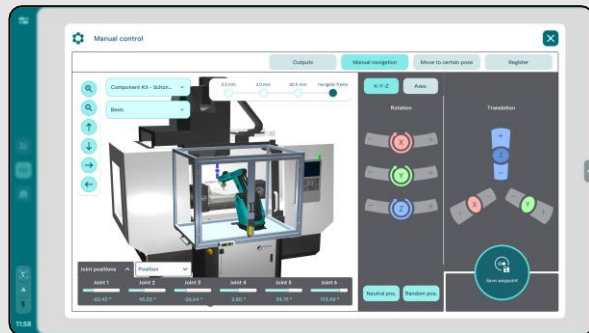
Central Component Management

- Easy creation of components**
 Quick step-by-step setup and configuration of connected components.
- Single Point of Control**
 Direct access to the component interface.
 Enormous time savings thanks to setup, operation, and adjustments from a central point.



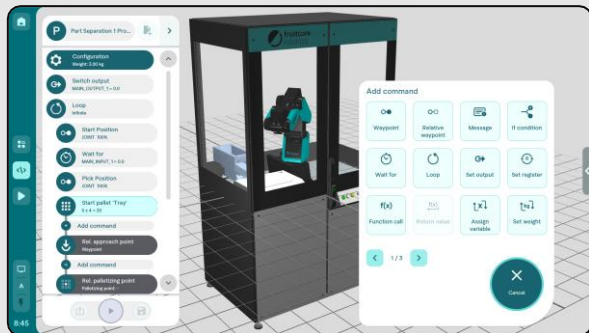
Creation of 3D objects & 3D worlds

- Digital twin of the entire system**
 fruitcore robotics is the only provider on the market that enables realistic 3D visualization of applications directly on the control panel.
- Simplified programming**
 The 3D visualization of the application greatly simplifies the programming of robot paths. The coordinate system displayed in the 3D world on the robot flange further facilitates the movement of the robot and is particularly advantageous for inexperienced operators.



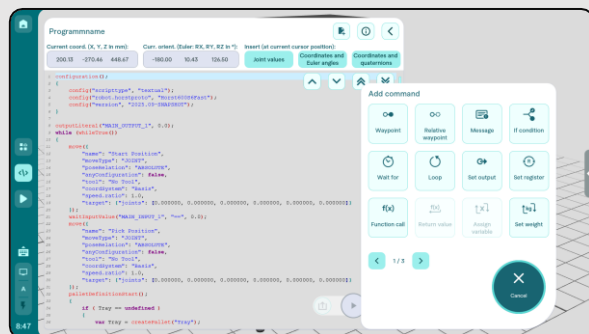
Graphical robot programming

- Easy program creation**
 Each program block is added using a convenient "step-by-step wizard." This means that no programming knowledge is required.
- Easy traceability**
 Thanks to the module-based program tree, programs can be easily traced even by less experienced users and adjusted at the right place if necessary.







Textual robot programming



- Unlimited possibilities**
 By using textual functions or creating completely textual programs, even complex program sequences can be clearly implemented.
- Great simplicity nonetheless**
 Even when creating textual programs and functions, many commands can be added using a convenient "step-by-step wizard."



2.1.2 Additional Feature: Advanced Interfaces for maximum connectivity (VD500479 / VD500476)

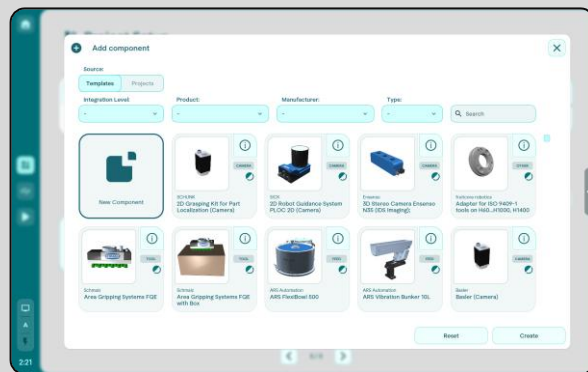
| | |
|--|--|
|     | <p>The additional feature "Advanced Interfaces" gives you access to further industry interfaces</p> <p>Scope of services:</p> <ul style="list-style-type: none"> • Profinet - real-time capable communication Powerful interface for simple integration of devices and systems. • EtherCAT - real-time Ethernet technology with short cycle times for precise synchronization • Modbus - cost-efficient implementation Simple & open communication protocol for broad device compatibility. • XML-RPC - cross-platform communication The primary interface of the Robot enables standardized XML messaging and simple remote procedure calls via the web. |
|--|--|

2.1.3 Additional Feature: Advanced Automation Features (VD500660)

| | |
|---|--|
|  Component Management  Process Control | <p>The additional feature "Advanced Automation Features" gives you access to extended options for setting up and controlling your application without a higher-level controller (PLC).</p> <p>Scope of services:</p> <ul style="list-style-type: none"> • Component Management Library Access to all component templates from fruitcore robotics • Parallel Threads Simultaneous execution of multiple processes within a robot program • Start-up Routine Automatic execution of predefined processes when the robot system is started • E-Mail-Notifications Sending emails for defined events (e.g., in the event of an error) • Process Control Custom design of the process control screen |
|---|--|

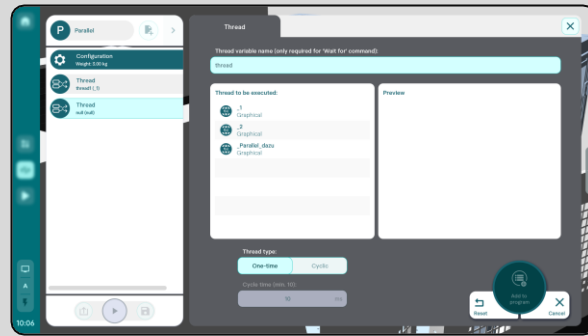
Component Management Library

- **Access to the complete ecosystem**
3D models and documentation are available for all components. TCP information, interface information, and predefined functions are also available depending on the component.
- **Quick setup of projects**
By using the components provided by fruitcore robotics, real setups can be quickly mapped on the software side with reduced potential for error.



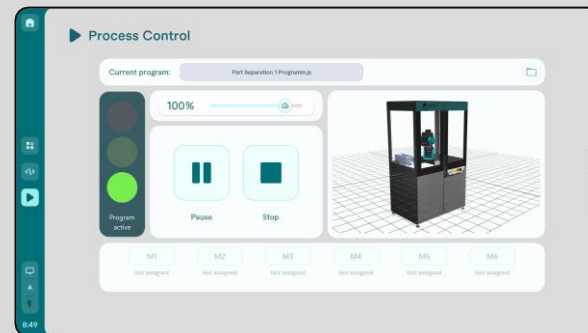
Parallel Threads

- **Shorter cycle times thanks to parallel threads**
Parallel threads can be started and stopped from the main program thread. This allows cycle times to be reduced through parallel processes.
- **Easy setup with graphical interface**
Graphical programming using wizards makes it easy to set up parallel processes without requiring PLC programming knowledge.



Customizable Process Control Screen

- **Easy operation and good overview**
By customizing the Process Control, the operator can be provided with exactly the functions he needs during operation. This minimizes errors caused by incorrect operation.
- **Flexible setup**
The most important functions (e.g., release door or open gripper) can be made directly accessible in the Process Control.




Start-up Routine

- **Automated processes after robot startup**
This startup routine enables automated initialization, calling up the correct program, and automatic program startup immediately after the robot is switched on—without the need for active intervention by an employee.
- **Time savings and process reliability**
When the start-up routine is active, the employee no longer needs to remain on site after switching on the robot and can devote their attention to other tasks. It also ensures that only the defined program is executed.

E-Mail-Notifications

- **Reduction of downtime**
In the event of a system shutdown due to an error or because all existing parts have been processed, immediate action can be taken. Once the error has been rectified, all defined recipients can be notified again of the successful acknowledgment.
- **Easy to use**
In horstOS, you can set which company email addresses should receive an email in the event of an error (or in other defined cases).

2.1.4 Additional Feature: Advanced Graphical Features for the fastest and easiest robot programming (VD500478)



The additional feature "Advanced Graphical Features" gives you access to further functionalities in the "Program Generation"

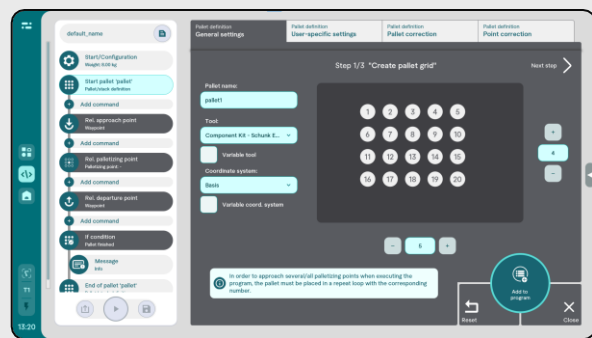
Scope of services:

- Graphical programming of palletizing applications
- Graphical robot programming with complex paths
- Setting up a workspace limitation
- User-defined coordinate systems

The Advanced Graphical Features are described in more detail below.

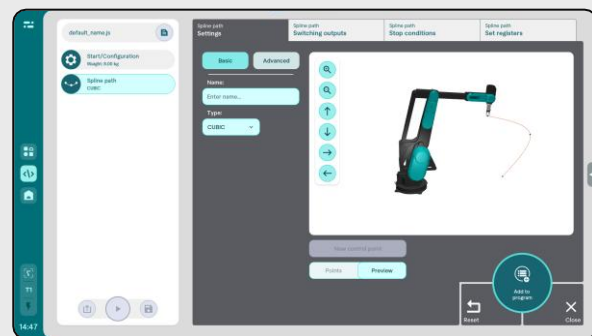
Advantages of graphical programming of palletizing applications

- Programming without expert know-how**
 The input screen guides you step by step through the programming of pallet and tray patterns.
- Increasing efficiency and minimizing errors**
 Thanks to the visualization, the risk of incorrect programming can be significantly reduced. Reprogramming and adaptation of pallet patterns is possible in just a few minutes
- Flexibility for your application**
 Extensive options for customizing your pallet (e.g. point corrections or the omission of individual points) enable you to cover even complex applications with the palletizing tool



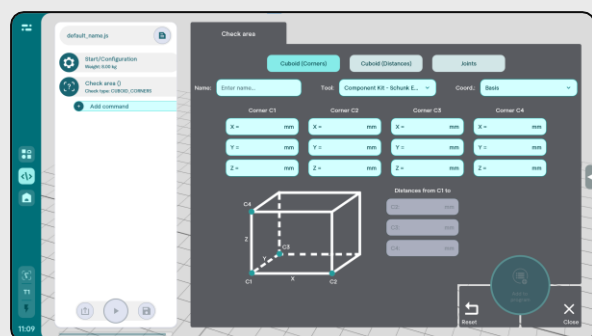
Advantages of graphical programming of complex paths

- Programming without expert know-how**
 The input screen guides you step by step through the programming of complex paths, i.e. circles, splines and polygons.
- Flexibility in operation**
 Regardless of whether you need to make adjustments regularly or only occasionally: In graphical programming, this is possible at any time with little effort, even if you do not regularly deal with robot programming.



Advantages of setting up a workspace limitation ("Check area" function)

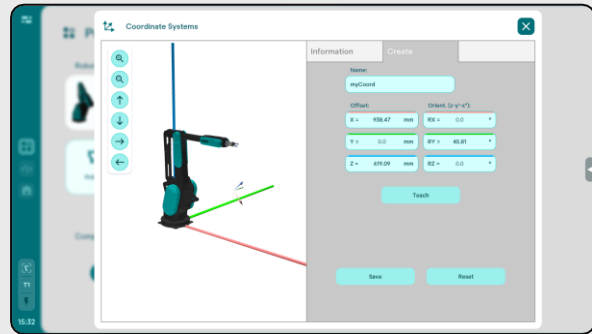
- Carrying out basic positioning runs**
 When creating home position movements, the feature can be used to ensure a safe movement to a home position depending on the robot position. This is typically useful when switching the robot systems on or off.
- Safe operation of the robot**
 The "Check area" function can be used to ensure an automated start of the robot within the safety area (e.g. in the horstCUBE) when the is just little space.



Advantages of using user-defined coordinate systems

- **Extended programming options**

With this feature, it is possible to create your own reference coordinate systems in addition to the basic and TCP coordinate systems. This allows a robot to be placed directly in reference to an already defined environment and align itself freely with the objects present there. This function also enables precise movements within inclined planes.



- **Faster customization of programs**

During programming, these user-defined coordinate systems can be used as a flexible reference for entire motion sequences. If the environment changes (e.g. the workpiece carrier is moved), it is sufficient to adapt the reference coordinate system accordingly. It is not necessary to change the motion sequence. Especially when environments change frequently, this allows a high degree of flexibility and time savings to be achieved.

- **Faster programming of frequently repeated movements**

By defining an offset in the coordinate system, the same movement sequences can also be repeated at different positions. For complex processes, such as welding or gluing, which have to be carried out at several positions, this saves an enormous amount of time during programming.

2.1.5 AI Features (VD500659)



Access to the "AI Copilot," which provides real-time, easily understandable answers to questions about HORST and programming in horstOS.

Scope of Services:

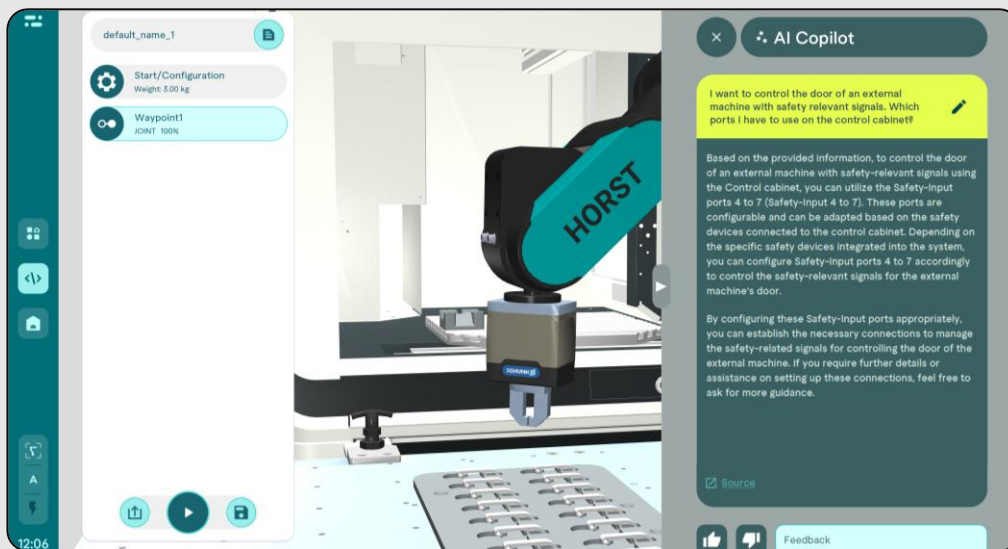
- AI Support
- AI Programming
- AI Error Handling

The functions of the AI Copilot are described in detail below.

AI Support

- **Highest Time & Cost Efficiency in Support**

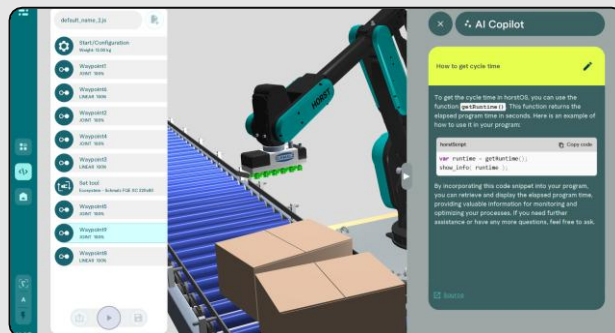
Get answers and assistance without support calls—the AI Copilot provides context-sensitive responses in real time.



AI Programming

- **High Availability & Security**

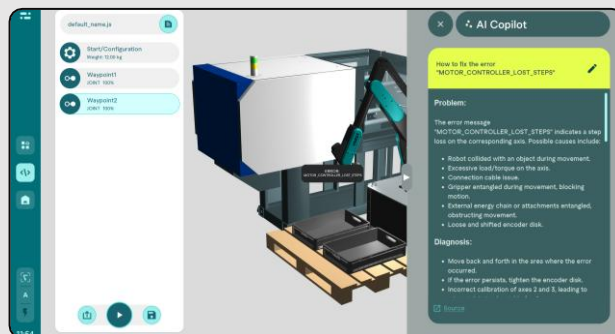
Achieve efficient programming through AI-generated functions, program modules, and templates. It also includes optimization and correction of programs, syntax analysis, and suggestions for improvements.




AI Error Handling

- **Highest Time & Cost Efficiency in Support**



The AI Copilot analyzes project setups, program logic, and hardware configurations when problems arise, offers actionable recommendations and solutions, and processes error messages for direct analysis.




2.2 IIoT Platform horstCOSMOS - Full transparency and maximum process reliability (VD500276)

| | |
|---|---|
|  | <p>Product scope</p> <p>When you purchase a HORST-Robot, you gain access to the horstCOSMOS IIoT platform. On horstCOSMOS, you can view your robot's performance data at any time, keep an eye on the services you have booked and access comprehensive documentation relating to the robot. Your horstCOSMOS account also gives you access to the Academy e-learning platform (details on the Academy).</p> <p>Your advantages:</p> <ul style="list-style-type: none"> • High process reliability Perform predictive maintenance to maximize robot availability. Regular program backups provide additional security. • Fast responsiveness With the online service system, you can always keep an eye on the progress of your service request. Thanks to remote support, many service cases can be resolved without an on-site appointment. • Good transparency The central overview of the robot fleet and the services booked makes it easy for you to keep track of everything. • Central knowledge base On horstCOSMOS you have access to all information about the use of HORST - this includes 3D models, instructions, application examples and much more. |
|---|---|

2.3 Robot software updates for the latest features and increased performance (VD500484)

| | |
|---|---|
|  | <p>Product scope</p> <ul style="list-style-type: none"> • The Additional Robot Service "Software Updates" entitles you to update the robot operating software <i>horstOS</i> of a robot including all additional features to the current version. • The costs for updates are always calculated per year from the date of delivery or from the last update. <i>(Example: If a robot was delivered in 05.2023 and is to be updated in 07.2025, three years are calculated. The robot is then entitled to updates for one year, which means that all new software versions released during this period may be installed until 06.2026)</i> <p>Your advantages</p> <ul style="list-style-type: none"> • Always up to date Continuously reduce the set-up effort for your robot application thanks to the latest features • Increased robot performance Benefit from shorter cycle times thanks to continuous optimization in robot path planning <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> If a robot system is covered by a Care service contract, software updates are included at no extra cost.</p> </div> |
|---|---|

2.4 horstOS Simulation - Licenses for the desktop version for pre-commissioning and program optimization away from the robot (VD500666)

| | |
|---|---|
|  | <p>The robot software for Windows</p> <ul style="list-style-type: none"> • With horstOS, the software on the desktop PC is identical to that on the control panel, enabling seamless transfer of projects created on the PC (programs including 3D world, I/O settings, coordinate systems) to the robot • This consistency of the software environment between robots and desktop simulation is unique in the robot market <p>Product scope</p> <ul style="list-style-type: none"> • Licenses for the use of the <i>horstOS</i> operator software as a Windows desktop version. • The license allows you to use <i>horstOS Simulation</i> on several computers in your company (up to 3 at the same time). <p>Your advantages:</p> <ul style="list-style-type: none"> • Convenient program creation You can pre-program the program structure of your application on the PC in a quiet working environment and then transfer it 1 to 1 to the robot. The waypoints can then be fine-tuned on the real system and the robot is immediately ready for use • Simple program sharing Programs created on the desktop can be easily transferred to the robot via the Internet • Flexibility in operation While the robot is working productively, you can optimize the program or program a new job on the PC • Safety in implementation Feasibility studies or cycle time analyses for new processes or components can be carried out independently of the physical robot system |
|---|---|

3 Robotic Solutions

Automation modules with CE certification and completed risk assessment, specially tailored to production scenarios.

Your advantages with Robotic Solutions:

- **Pre-assembled and pre-configured**
The Robotic Solutions from fruitcore robotics are delivered fully assembled mechanically and electrically
- **Safe operation in accordance with ISO 10218-2**
You receive your automation module including a completed risk assessment and CE certification
- **Up to 85 % less project planning effort**
Access predefined programs, interfaces and plug-in control solutions.



Robotic Solutions available as standard:



Pick and Place

The best basic equipment for a safe, flexible, quick and easy introduction to robot-supported automation solutions. Perfectly suited for use in training and educational institutions.



Part Separation I

Part separation for separating components that can be easily recognized in transmitted light based on their outer contour. Best cycle time and fast teach-in of new components in under 15 minutes.



Part Separation II

Separating complex, dimensionally unstable components is no problem with this setup. Thanks to the AI software and flexible gripper, different parts can be easily recognized and gripped from a bulk material.



Part Separation III

The Robotic Solution for 3D pick & place tasks makes it possible to precisely locate undefined, tilted and layered parts, grip them accurately with the vacuum gripper and process them flexibly.



Machine Tending I

The mobile automation module for machine loading with maximum flexibility. The Robotic Solution can be flexibly positioned on machine tools using a locking device.



Machine Tending II

The modular Robotic Solution can be configured as required and enables maximum autonomy times thanks to flexible parts provision. Short machine intervention times can be achieved thanks to the double gripper.

3.1 Robotic Solution Pick & Place - The quick start to your automation project

Scope of services:

Our *Pick & Place Robotic Solution* offers you maximum flexibility and customizability. The Robotic Solution arrives pre-assembled and CE-certified - guaranteeing smooth commissioning and a quick start to the automation of your process.

With this package you get:

1. Mobile robot base (MRB) S, M or L with safety fence and safety interlock ([details](#))
 2. Industrial Robot HORST600 or HORST1000 ([Details](#))
 3. Electric 2-jaw parallel gripper ([details](#))
 4. Operating console of the MRB with safety fence
 5. Operating panel "Panel" (part of the robot system)
 6. Control system "Control" (part of the robot system)
- + Advanced Graphical Features & Advanced Interfaces ([Details](#))
 - + Assembly and CE certification by fruitcore robotics (mechanical assembly and wiring of all components as well as ensuring delivery as a CE-compliant Robotic Solution. No process integration on site included) (VD500513) ([Details](#))



The Pick & Place robotic solution is available in various configurations. The following robots and platforms can be combined:



- Industrial robots HORST600, HORST600 G2, HORST800 G2, HORST1000 (only with MRB M or L), HORST1000 G2 (only with MRB L)
- Robot platform MRB S with safety fence, MRB M with safety fence, MRB L with safety fence

Your advantages:

- **Quick start thanks to pre-assembled unit**
The Robotic Solution is delivered to you fully assembled and can therefore be easily put into operation on site. The pre-assembly includes the installation of the robot, the assembly of the gripper and the wiring of the safety interlock and control system.
- **Lowest project costs**
With the *Pick & Place Robotic Solution*, you can start your automation project with calculable costs and remain flexible even with changing requirements.
- **Simplest handling**
The *Pick & Place Robotic Solution* is a perfectly coordinated automation module consisting of a robot, platform, safety technology and gripper system - all from a single source.
- **High flexibility and customizability**
The protective fence on the mobile robot base can be easily modified so that you can simply attach the Robotic Solution directly to your machine.

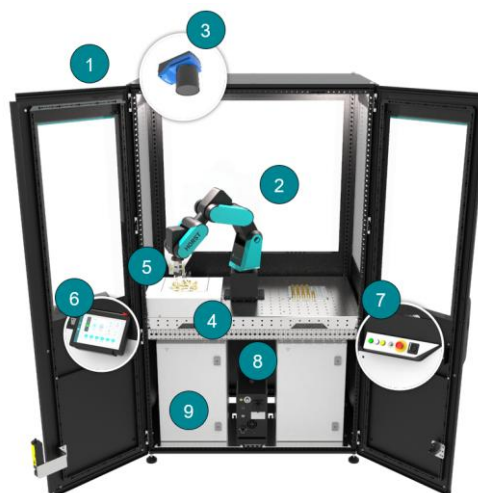
3.2 Robotic Solution Part Separation I - The solution for quick and easy separation of bulk goods (VE500648) / (VE500649)

Scope of services:


The *Robotic Solution Part Separation I* for separating components that can be easily recognized in transmitted light based on their outer contour enables the best cycle times and fast teach-in of new components in under 15 minutes. The automation module is delivered to you fully assembled and CE-certified.

With this package you get:

1. horstCUBE robot platform with safety interlock ([Details](#))
2. Industrial Robot HORST600 (or HORST600 G2, HORST800 G2, HORST1000) ([Details](#))
3. Camera SICK PLOC2D ([Details](#))
4. Feeding and separation with the Component Kit Part Separation with VarioShaker and Basotec Bunker ([Details](#))
5. Electric 2-jaw parallel gripper ([Details](#))
6. Operating panel "Panel" (part of the robot system)
7. Operating console of the horstCUBE
8. Control system "Control" (part of the robot system)
9. Switch cabinets for peripherals (part of the horstCUBE)



- + Advanced Graphical Features, Advanced Interfaces & Advanced Automation Features ([Details](#))
- + Assembly and CE certification by fruitcore robotics (VD500509 & VD500510) ([Details](#))
(mechanical assembly and wiring of all components as well as ensuring delivery as a CE-compliant Robotic Solution. Configuration of hopper, component separator and camera. Software-side pre-commissioning and program creation for locating and gripping a component to be defined with the standard gripper jaws included in the gripper kit. No process integration on site included)

 The Robotic Solution Part Separation I is available with the HORST600, HORST600 G2, HORST800 G2, and HORST1000 robot models.

Your advantages:

- **Lowest risk**
We would be happy to advise you on the use of the Robotic Solution in your project. We carry out free feasibility studies in advance on a fully assembled setup.
- **Quick setup of the application**
PLOC 2D offers intuitive software that allows you to set up new components in no time at all, even without prior knowledge. Setup is carried out centrally via the panel.
- **Cost control and predictability**
With the *Robotic Solution Part Separation*, you can start your automation project with calculable costs. Thanks to standardization, the Robotic Solution Part Separation is available with short delivery times.
- **Quick start thanks to pre-assembled unit without external control (PLC)**
The Robotic Solution is delivered to you fully assembled mechanically and electrically. The complete process sequence is pre-configured on the software side and can be customized by you in just a few steps.

| Specification of the application | |
|----------------------------------|---|
| Component specification | 5 - 50 mm / 5 - 200 g |
| Setting up new parts | Quick setup of a new component thanks to central programming. |
| Part variance | The setup is ideal for separating components that can be clearly identified by their outer contour |
| Parts provision | Parts can be filled into the vibration hopper as bulk material. The hopper size can be selected depending on the required autonomy time |
| Dimensions / Weight | 1220 x 900 x 2060 mm / approx. 400 kg |

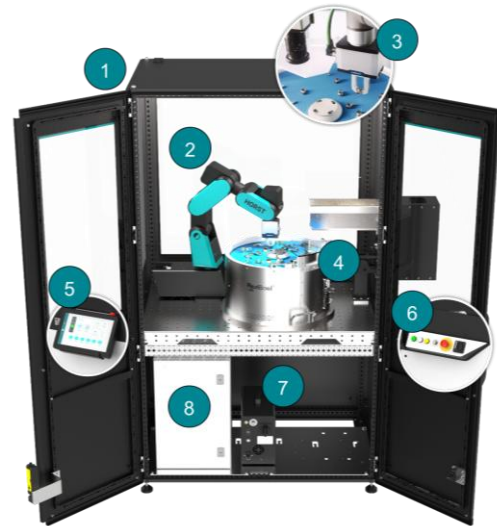
3.3 Robotic Solution Part Separation II - The flexible and powerful solution for handling complex separation tasks (VE500651)

Scope of services:

The *Robotic Solution Part Separation II* offers you a flexible and powerful solution for handling complex separation tasks from a single source. Thanks to AI software, the SCHUNK 2D Grasping Kit used allows complex parts to be precisely localized and their storage direction to be detected, even in changing light conditions. Different parts can also be gripped variably with the EGK gripper. Flexible components such as chain links or dimensionally unstable parts such as bags can also be separated and picked with the setup.

With this package you get:

1. horstCUBE robot platform with safety interlock ([Details](#))
2. Industrial Robot HORST600 (or HORST600 G2, HORST800 G2) ([Details](#))
3. SCHUNK 2D Grasping Kit consisting of camera, flexible 2-jaw parallel gripper and industrial PC
4. Flexibowl 500 with 10L vibration hopper ([Details](#))
→ Compressed air is required to operate the flexibowl
5. Operating panel "Panel" (part of the robot system)
6. Operating console of the horstCUBE
7. Control system "Control" (part of the robot system)
8. Switch cabinet for peripherals (part of the horstCUBE)



- + Advanced Graphical Features, Advanced Interfaces & Advanced Automation Features ([Details](#))
- + Assembly and CE certification by fruitcore robotics (VD500509 & VD500510) ([Details](#))
(mechanical assembly and wiring of all components as well as ensuring delivery as a CE-compliant Robotic Solution. Configuration of hopper, component separator and camera. Software-side pre-commissioning and program creation for locating and gripping a component to be defined with the standard gripper jaws included in the gripper kit. No process integration on site included)

Your advantages:

- **Lowest risk**
We would be happy to advise you on the use of the Robotic Solution in your project. We carry out free feasibility studies in advance on a fully assembled setup.
- **Reliable part recognition**
Even complex parts with variable surfaces can be taught in quickly without prior knowledge. The AI software from SCHUNK reliably recognizes the parts in the process, even under changing light conditions.
- **Cost control and predictability**
With the *Robotic Solution Part Separation*, you can start your automation project with calculable costs. Thanks to standardization, the *Robotic Solution Part Separation* is available with short delivery times.
- **Quick start thanks to pre-assembled unit without external control (PLC)**
The Robotic Solution is delivered to you fully assembled mechanically and electrically. The complete process sequence is pre-configured on the software side without a PLC and can be customized by you in just a few steps.

| Specification of the application | |
|----------------------------------|--|
| Component specification | 5 - 50 mm / 5 - 100 g |
| Setting up new parts | Low effort for training the AI (plus model calculation by the AI) |
| Part variance | Separating, recognizing and gripping different parts from a bulk material. Even dimensionally unstable parts and parts with reflective surfaces can be separated |
| Parts provision | Parts can be filled into the vibration hopper as bulk material from outside the horstCUBE |
| Dimensions / Weight | 1510 x 900 x 2060 mm (incl. protruding vibration hopper) / approx. 400 kg |

3.4 Robotic Solution Part Separation III - The solution for 3D Pick & Place tasks for locating and gripping undefined, tilted and layered parts

Scope of services:

The *Part Separation III Robotic Solution* for 3D Pick & Place tasks makes it possible to precisely locate undefined, tilted and layered parts and to grip them accurately with the electric vacuum gripper. The automation module is delivered to you fully assembled and CE-certified. Thanks to the modularity of horstCUBE, a conveyor belt for feeding parts can easily be integrated into the setup. The Robotic Solution offers you the ideal solution for providing components in an organized and sorted manner so that they can be flexibly processed in downstream processes such as machine processing, laser marking or quality control.

With this package you receive:

1. horstCUBE robot platform with safety interlock ([Details](#))
2. Industrial Robot HORST600 (or HORST600 G2, HORST800 G2) ([Details](#))
3. Ensenso 3D camera
4. Electric 2-jaw parallel gripper ([details](#)) or electric vacuum suction pad ([details](#))
5. Operating panel "Panel" (part of the robot system)
6. Operating console of the horstCUBE
7. Control system "Control" (part of the robot system)
8. Switch cabinet for peripherals (part of the horstCUBE)
9. Individual parts output (optional)



- + Advanced Graphical Features, Advanced Interfaces & Advanced Automation Features ([Details](#))
- + Assembly and CE certification by fruitcore robotics (VD500509 & VD500510) ([Details](#)) (mechanical assembly and wiring of all components as well as ensuring delivery as a CE-compliant Robotic Solution. Configuration of the camera. Software-based pre-commissioning and program creation for locating and gripping a component to be defined with the standard gripper jaws included in the gripper kit. No process integration on site included)

Your advantages:

- **Flexible and easy to integrate**
The system enables your components to be reliably recognized as 3D objects in any position and gripped in a defined manner. Components can therefore simply be fed in unsorted, for example via a conveyor belt.
- **Simple setup via CAD models**
Your parts can be loaded as a CAD model and then recognized by the Mikado Find algorithm. The parts can be gripped directly with the robot using the integrated Mikado Find interface.
- **Cost control and predictability**
With the Robotic Solution *Part Separation*, you can start your automation project with calculable costs. Thanks to standardization, the Robotic Solution *Part Separation* is available with short delivery times.

| Specification of the application | |
|----------------------------------|---|
| Component specification | Part size up to 200 mm / part weight up to 1 kg |
| Setting up new parts | Little effort required for the complete setup of a new component |
| Part variance | Parts can be provided roughly pre-separated via a conveyor belt or stacked in a blister or box. It is not necessary to separate the components using a shaker |
| Parts provision | The setup is ideal for separating components of different geometries and sizes, even with challenging surfaces |
| Dimensions / Weight | 1220 x 900 x 2060 mm / approx. 350 kg |

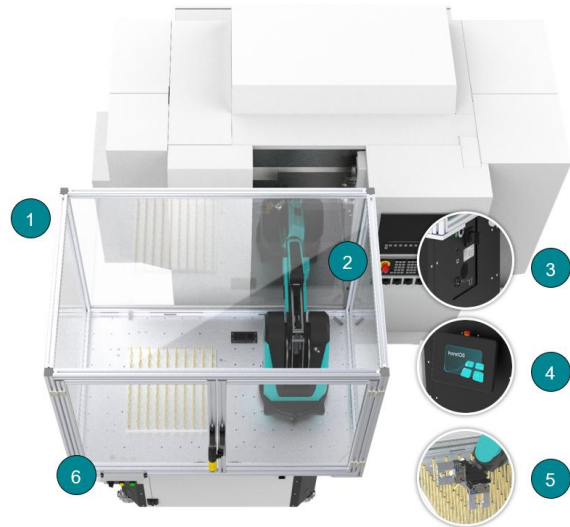
3.5 Robotic Solution Machine Tending I - The solution for flexible loading of machine tools (VE500650)

Scope of services:

With this complete package, we offer a solution that allows you to increase productivity when loading your production machine in the shortest possible time while remaining fully flexible.

With this package you receive:

1. Mobile robot base L (MRB) with safety fence and safety interlock ([details](#))
 2. Industrial Robot HORST1000 (or HORST800 G2, HORST1000 G2) ([Details](#))
 3. Control system "Control" (part of the robot system)
 4. Operating panel "Panel" (part of the robot system)
 5. Double gripper with blow-off unit ([Details](#))
→ Compressed air is required to operate the gripper
 6. Operating console
- + Advanced Graphical Features, Advanced Interfaces & Advanced Automation Features ([Details](#))
- + Assembly and CE certification by fruitcore robotics (mechanical assembly and wiring of all components as well as ensuring delivery as a CE-compliant Robotic Solution. Software pre-setup (pre-naming of gripper I/O, global functions for gripper opening & closing, teach-in of sensors, upload of an easily modifiable program template for Machine Tending applications, pre-configuration of axis restrictions to prevent collision with safety fence and over-twisting of gripper cables. No process integration on site included) (VD500533 & VD500534) ([Details](#))
- + **Optional:** Machine Tending Services for installation and setup, automation of the machine door and design of clamping devices ([Details](#))



i The Robotic Solution Machine Tending I is available in two versions:

- Robotic Solution Machine Tending I with HORST1000 (VE500650)
- Robotic Solution Machine Tending I with HORST1000 G2 (VE500801)

Your advantages:


- **Low project outlay**
With plug-in interfaces for all common machine tools and predefined programs, the Robotic Solution is ready for immediate use. The Robotic Solution also reaches them in CE-compliant condition.
- **High flexibility**
Thanks to the mobile robot platform, the Robotic Solution can be easily removed from the machine to make it accessible when required. It can be quickly repositioned thanks to the locking device.
- **Simple and centralized operation without external control (PLC)**
The Robotic Solution is programmed and controlled centrally via the horstOS control software. You do not need an external controller (PLC).

| Specification of the application | |
|--|--|
| Tradable part weight <small>When using a double gripper, there are always two parts in the gripper at the same time</small> | HORST1000: up to 7 kg, up to 3.5 kg with a double gripper HORST1000 G2: up to 12 kg, up to 6 kg with a double gripper |
| Range in machine | Up to 700 mm depending on screw-on position |
| Assembly time | Depending on the process and machine, approx. 12 s can be realized for removal, blowing off and insertion |
| Recommended tray size | 500 x 500 mm - square 600 x 400 mm - rectangular |
| Autonomy time | Without additional feeder: approx. 60 min for 100 parts, 12 s placement time and 20 s machine processing time |
| Compatible machines | Emco, Hurco, Haas, Trumpf, Foba and many more (also special machines) |
| Dimensions | 1500 x 1103 x 2054 mm / approx. 312 kg |

3.6 Robotic Solution Machine Tending II - The solution for efficient loading of machine tools with maximum autonomy (VE500665)

Scope of services:

The modular Machine Tending Robotic Solution enables you to automate the loading and unloading of machine tools with minimum effort and maximum efficiency. The Robotic Solution consists of several standardized Component Kits, which can be individually combined for your application. This enables maximum flexibility in project planning at the lowest possible cost.

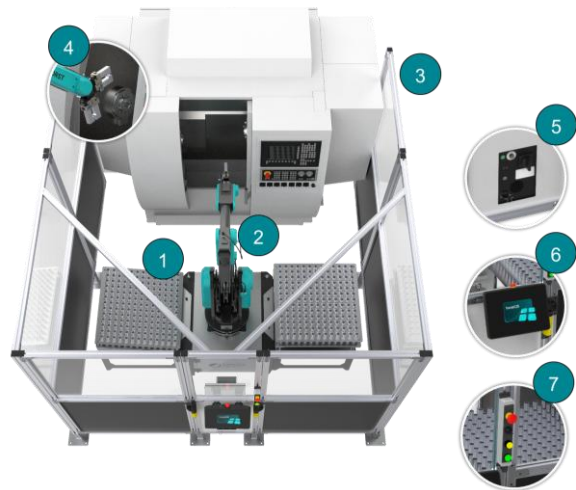


The Robotic Solution Machine Tending II offers many configuration options. The defined standard configuration is shown here.

We can support you in configuring the Machine Tending Robotic Solution for your application.

The configuration shown consists of:

1. Robot base ([details](#)) incl.
 - a. 2x part holders Eben incl. table legs
 - b. 3x centering stations for robot base and part holders
 2. Industrial Robot HORST1500 ([details](#)) incl. control system "Control" (5) & operating panel "Panel" (6)
 3. Modular robot fence ([details](#)) consisting of
 - a. Safety fence basic element incl. operating console (5)
 - b. 2x safety fence door elements
 - c. 2x protective fence long elements
 - d. 2x protective fence short elements
 - e. Necessary connecting elements
 - f. Signal light
 4. Double gripper with blow-off unit ([Details](#))
→ Compressed air is required to operate the gripper
- + Advanced Graphical Features, Advanced Interfaces & Advanced Automation Features ([Details](#))
- + **Optional:** Machine Tending Services for installation and setup, automation of the machine door and design of clamping devices ([Details](#))



Your advantages:

- **Significantly reduced project outlay**
All Component Kits are always compatible. Thanks to the plug-in interface to the machine, you are ready to go immediately with the Robotic Solution - much faster than with a special solution.
- **High autonomy**
Design parts provisioning according to your individual requirements and maximize the autonomy time of your machine loading. This allows you to achieve maximum output.
- **Simple and centralized operation without external control (PLC)**
The Robotic Solution is programmed and controlled centrally via the horstOS control software. You do not need an external controller (PLC).

| Specification of the application | |
|----------------------------------|---|
| Tradable part weight | Up to 12 kg, up to 6 kg with a double gripper |
| Range in machine | Up to 1100 mm depending on screw-on position |
| Assembly time | Depending on the process and machine, approx. 12 s can be realized for removal, blowing off and insertion |
| Recommended tray size | Standard size of the tray holder 672 x 672 mm |
| Autonomy time | Individually definable via the selection of parts provision via 1 to 3 tray holders or via directly dockable pallets |
| Compatible machines | Emco, Hurco, Haas, Trumpf, Foba and many more (also special machines) |
| Combinable Component Kits | Robot base, tray holder, feet, positioning unit, SCHUNK double gripper with blow-off unit, robot fence (base element, door element with safety interlock, long/short element) & machine interface |

4 Component Kits

Component Kits are seamlessly integrated robot accessories and are ready for immediate use thanks to mechanical adapters, plug-in components and defined interfaces.

Your advantages with Component Kits:

- Maximum efficiency in project planning**
 With our Component Kits, we offer you a selection of peripheral devices that can be seamlessly integrated into our Digital Robot HORST. Thanks to mechanical and electronic adapters as well as pre-programmed software modules, functioning with HORST is guaranteed.
- Maximum productivity during commissioning**
 Thanks to our Component Kits, you can get your robot accessories up and running quickly. We supply everything you need to use the component and, with our tested systems, save you the hassle of searching for the necessary additional components.
- Expertise without loss of know-how**
 Our Component Kits give you access to the expertise of our application engineers - without having to become a robotics expert yourself. This makes it easier for you to implement your automation solutions and minimizes the risk of errors.



Robot Bases

Various robot bases for efficient automation projects with HORST. Mobile or modular with application-specific accessories.



Gripping Systems

Various gripping systems for your specific application. All gripping systems include the appropriate accessories for immediate commissioning.



Material Feeding

In the area of material handling, we offer tested, well-coordinated components for the feeding and separation of parts.



Safety Technology

For safe operation according to ISO 10218-2, we offer flexibly selectable safety devices with safety scanners.



Robot Guidance

Professional robot guidance systems with high-resolution cameras enable precise and autonomous capturing of object position data.

4.1 Robot platforms - Mobile robot base

With its mobile robot base, the HORST industrial robot is multifunctional and therefore particularly flexible in use.

Equipment:

- Safety technology (emergency stop)
- Four rubberized, lockable swivel castors for quick and easy positioning
- Mounted support feet and enclosed mounting kit for precise anchoring in the floor
- Internal switch cabinet mounting incl. cable glands for HORST
- Lockable door with key at the front


Your advantages:

- High flexibility in the set-up
- Easy to handle during operation
- Professional and safe thanks to retrofittable safety technology




[Locking kits](#) enable repeatable positioning of the MRB for precise applications.


4.1.1 Mobile robot base S for flexible implementation of your application (VE500640)

| | |
|--|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Permitted for HORST600 & HORST1000 • Dimensions (LxWxH): 1000 x 600 x 929 mm • Empty weight: 90 kg • Load capacity: 300 kg • Wheels can be fixed in place with a brake • Color: Black/White |
|--|--|

4.1.2 Mobile robot base M for flexible implementation of your application (VE500641)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Permitted for all robot models • When using HORST1000 G2*, HORST1400 and HORST1500, the MRB must be firmly anchored to the floor • Dimensions (LxWxH): 1200 x 800 x 929 mm • Empty weight: 115 kg • Load capacity: 280 kg • Wheels can be fixed in place with a brake • Color: Black/White |
|---|--|

4.1.3 Mobile robot base L for flexible implementation of your application (VE500642)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Permitted for all robot models • When using HORST1000 G2*, HORST1400 and HORST1500, the MRB must be firmly anchored to the floor • Dimensions (LxWxH): 1496 x 998 x 929 mm • Empty weight: 157 kg • Load capacity: 240 kg • Wheels can be fixed in place with a brake • Color: Black/White |
|---|--|

* If HORST1000 G2 is operated on the MRB without restrictions to the movement area (e.g. due to a safety fence), the MRB must be firmly anchored to the ground using the enclosed ground anchoring to prevent the MRB from tipping over. However, if the robot's range of movement is restricted, e.g. by a safety fence, there is no need for fixed anchoring, as the maximum tipping moments that can be generated by the robot's movements cannot impair the stability of the MRB.

4.2 Robot platforms - Mobile robot base with safety fence

Equipment:

- Fully assembled safety technology (safety fence, door interlock and emergency stop) and control panel
- Four rubberized, lockable swivel castors for quick and easy positioning
- Mounted support feet and enclosed mounting kit for precise anchoring in the floor
- Internal switch cabinet mounting incl. cable glands for HORST
- Lockable door with key at the front

Your advantages:


High flexibility in the set-up

- Efficient project planning of robot applications and fast commissioning on site
- Easy to handle during operation thanks to integrated safety technology




[Locking kits](#) enable repeatable positioning of the MRB for precise applications.


4.2.1 Mobile robot base S with safety fence for the safe and flexible implementation of your application (VE500643)

| | |
|--|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Permitted for HORST600 & HORST1000 • Dimensions (LxWxH): 1000 x 640 x 1940 mm • Empty weight: 141 kg • Load capacity: 250 kg • Wheels can be fixed in place with a brake • Color: Black/White |
|--|--|

4.2.2 Mobile robot base M with safety fence for the safe and flexible implementation of your application (VE500644)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Permitted for HORST600 & HORST1000 • Dimensions (LxWxH): 1240 x 840 x 1940 mm • Empty weight: 176 kg • Load capacity: 220 kg • Wheels can be fixed in place with a brake • Color: Black/White |
|---|--|

4.2.3 Mobile robot base L with safety fence for the safe and flexible implementation of your application (VE500645)

| | |
|---|---|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Permitted for HORST600 & HORST1000 • Dimensions (LxWxH): 1500 x 1103 x 2054 mm • Unladen weight: 235 kg • Load capacity: 220 kg • Wheels can be fixed in place with a brake • Color: Black/White |
|---|---|

4.3 Modular robot platform horstCUBE - for the safe and flexible implementation of your application with versatile options for process integration

horstCUBE offers you maximum efficiency and simplicity when planning small and large automation projects. The modular, expandable robot platform with safety technology, operating console, configurable side panels and height-adjustable base plate can be individually configured for your application.

Scope of services:

1. horstCUBE with safety interlock
2. Control panel with emergency stop, 3 configurable buttons, 230 V main switch & key selector switch
3. Stainless steel base plate with 50 mm x 50 mm hole pattern
4. Control cabinet with wired safety technology and space for additional peripheral controls



| horstCUBE standard configuration (variant 1) - Design of the side and rear panels with Plexiglas | |
|--|-------------------|
| Dimensions (LxWxH in mm) | 1220 x 900 x 2060 |
| Control cabinet dimensions (LxWxH in mm) | 380 x 350 x 600 |
| Base plate with hole pattern (LxW in mm) | 1167 x 710 |
| Empty weight (variant 1) | 300 kg |
| Load capacity (variant 1) | 500 kg |

| VE500435 - Variant 1 | VE500436 - Variant 2 | VE500437 - Variant 3 | VE500438 - Variant 4 |
|---|--|--|---|
|  |  |  |  |
| Design of the side and rear panels: Open (transparent Plexiglas panels) Control panel available: Yes | Design of the side and rear panels: Open (transparent Plexiglas panels) Control panel available: No | Design of the side and rear panels: Closed Control panel available: Yes | Design of the side and rear panels: Closed Control panel available: No |

Your advantages:

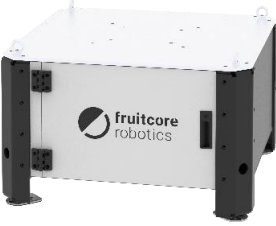
- **Safe implementation of applications**
Thanks to the stable design, protected working area and integrated safety interlock, you can implement your applications quickly and easily.
- **Adaptability for your application**
The support plate with 50 mm x 50 mm hole pattern can be mounted at any height. This allows free positioning of the robot and, on request, overhead mounting with an additional support plate.
- **Expandability thanks to modularity**
You can easily combine several horstCUBEs to create a larger safety area or to map several production processes in series.

4.4 Robot base with versatile expansion options (VE500670)

Increase your productivity and efficiency with our robot base for larger robots and higher payloads. Easy handling with a pallet truck means you can transport your robots effortlessly and put them into operation quickly. We also offer a wide range of optional accessories for machine loading and palletizing on Euro pallets. Discover the advantages of our robot base now and optimize your production processes in a simple and effective way.

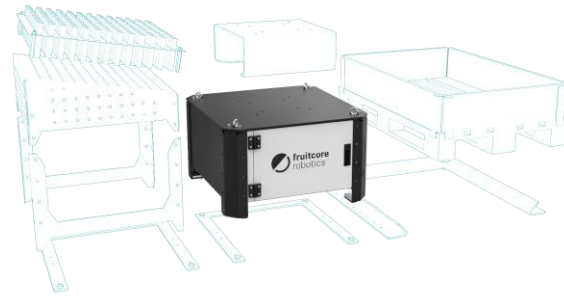
Your advantages with the robot base

- **Efficient integration**
The robot base enables the seamless integration of larger robots with higher payloads, saving customers time and effort during project planning.
- **Versatile accessories**
With optional accessories for machine loading and palletizing on Euro pallets, the robot base offers a flexible solution for a wide range of applications.
- **Convenient transportation**
The optional positioning unit ensures precise and repeatable positioning of the tray holders for machine loading
- **Precise positioning**
The optional positioning unit ensures precise and repeatable positioning of the tray holders for machine loading


| | |
|--|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Drilling patterns provided for the positioning of HORST1000, HORST1000G2, HORST1400 and HORST1500 (4 different positions each) • External dimensions (LxWxH): 792 x 792 x 482 mm • Internal dimensions (LxWxH): 764 x 764 x 362 mm • Empty weight: 160 kg • Load capacity: 1000 kg • Color: Black/White |
|--|--|

4.5 Robot base accessories


The robot base can be flexibly extended with immediately compatible accessories for your application.




4.5.1 Flat tray holder (VH500689)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Dimensions (L x W in mm): 672 x 672 • 50 x 50 mm grid • Can be attached directly to the robot base |
|---|--|


4.5.2 Inclined tray holder (VH500690)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • 20° beveled for better centering of the components via gravity • Dimensions (L x W in mm): 672 x 672 • 50 x 50 mm grid • Can be attached directly to the robot base |
|---|--|

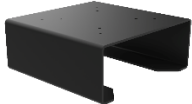
4.5.3 Flat tray holder with legs (VH500691)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Dimensions (L x W x H in mm): 680 x 680 x 488 • Legs provide additional stability for heavy components and allow the tray holder to be positioned above the centering station |
|---|--|


4.5.4 Inclined tray holder with legs (VH500692)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Dimensions (L x W x H in mm): 680 x 680 x 606 (Low side height 488) • Legs provide additional stability for heavy components and allow the tray holder to be positioned above the centering station |
|---|--|

4.5.5 Height extension module for robot base (VH500694)

| | |
|---|---|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • 200 mm high extension module to raise the position of the robot • Depending on the machine dimensions, necessary to be able to intervene optimally with the robot • Drilling pattern for HORST1000, HORST1000 G2 and HORST1500 (Not suitable for HORST1400) |
|---|---|

4.5.6 Positioning unit (VH500693)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Positioning unit for robot base or tray holder with legs • The centering station is firmly anchored in the floor so that the robot base or tray holder can be removed with the pallet truck and then repositioned precisely |
|---|--|

4.6 Modular robot fence


The *modular robot fence* can be assembled to suit your requirements and space conditions.

All modules can be combined with each other as required.


The height of all robot fence elements is 2.70 m.



4.6.1 Robot fence base element complete (VH500754)

| | |
|--|---|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Base element with a length of 0.50 m • The base element is mandatory in every configuration of the robot fence • It contains the operating console and the central safety control cabinet, to which the Control robot controller and all safety components can be connected plug & play • In addition, the flexlock solenoid interlock (incl. actuator & connection cable) and the fastening material for attaching a door are part of the basic element |
|--|---|


4.6.2 Robot fence door element (VH500755)

| | |
|---|---|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Door element with a length of 1.00 m • One or two doors can be used • If a second door is used, the following item VH500795 is required |
|---|---|


4.6.3 Robot fence safety lock and mounting for 2nd door (VH500795)

| | |
|----------|---|
| <p>-</p> | <p>Technical data:</p> <ul style="list-style-type: none"> • The position includes the flexlock solenoid interlock (incl. actuator & connection cable) and the fixing material for attaching a second door |
|----------|---|

4.6.4 Robot fence short element (VH500757) & Robot fence long element (VH500756)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • Short element with a length of 0.50 m • Long element with a length of 1.50 m • Incl. mounting accessories for anchoring in the floor |
|---|--|

4.6.5 Signal tower traffic light (VH500695)

| | |
|---|--|
|  | <p>Technical data:</p> <ul style="list-style-type: none"> • The signal light can be mounted directly on the robot fence • The signal light can be connected directly to the safety switch cabinet of the base unit using a pre-assembled connection cable |
|---|--|

4.6.6 Robot fence connection sets

| | |
|---|--|
| - | <p>Connecting elements to arrange the elements of the robot fence as required</p> <ul style="list-style-type: none"> • Safety fence connection set 90° (VH500758) • Safety fence connection set 180° (VH500759) • Safety fence connection set any other angle (VH500760) |
|---|--|

4.6.7 Robot Fence Accessory Set Diagonal Braces (VH500761)

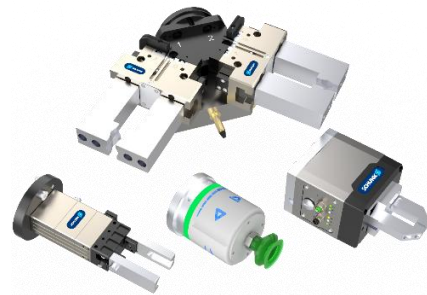
| | |
|---|---|
| - | <p>Technical Data:</p> <ul style="list-style-type: none"> • Diagonal braces for additional reinforcement of the robot fence as needed |
|---|---|

4.7 Gripping systems

Our integrated gripping systems offer you an unbeatable advantage as a Component Kit: they are all ready for immediate use with HORST.

Your advantages with our ready-to-use gripping systems:

- Fast start**
 All gripping system *Component Kits* include the appropriate accessories for installation and immediate commissioning, including instructions
- Simple commissioning**
 All gripping systems are already integrated as 3D models in our software to ensure smooth and error-free commissioning in your process
- Professionally validated selection**
 The gripping systems on offer have been carefully validated by our application technology department and the overall package has been tailored to your needs.



The gripping systems offered as Component Kits allow a wide range of applications with HORST.

If you cannot find a suitable gripper for your application, you will find many other compatible grippers [here](#).

4.7.1 Component Kit Electric vacuum suction pad directly compatible with HORST (Schmalz) (VH500110)



Product scope

- Electric vacuum suction pad "ECBPMi"
- Adapter incl. screws for mounting on HORST
- Gripper to robot connection cable
- Assembly instructions for installation and setup
- Standard suction cups for the vacuum generator

Technical data

- Maximum part weight: 1.0 kg
- Suction capacity: 1.6 l/min
- Evacuation rate: 60 %
- Gripper weight: 230 g

4.7.2 Component Kit Electric 2-jaw parallel gripper directly compatible with HORST (SCHUNK) (VH500167)




Product scope

- Electric 2-jaw parallel gripper EGP 40-N-N-B
- Adapter incl. screws for mounting on HORST
- Gripper to robot connection cable
- Assembly instructions for installation and setup
- Standard jaw set for the gripper


Technical data

- Maximum part weight: 0.7 kg (recommended)
- Stroke per jaw: 6 mm
- Gripping force max.: 140 N
- Dimensions: 40 x 26 x 90 mm
- Gripper weight: 320 g
- Part is actively held by the gripper (motor) the whole time (motor pushes when part moves in the gripper)
- Gripper cable to the robot can be replaced (can be screwed on both sides)

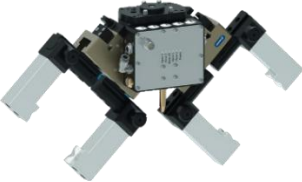
4.7.3 Component Kit Electric 2-jaw parallel gripper directly compatible with HORST (Zimmer) (VH500101)

| | |
|---|--|
|  | <p>Product scope</p> <ul style="list-style-type: none"> • Electric 2-jaw parallel gripper GEP2010 • Adapter incl. screws for mounting on HORST • Gripper to robot connection cable • Assembly instructions for installation and setup • Standard jaw set for the gripper <p>Technical data</p> <ul style="list-style-type: none"> • Maximum part weight: 0.7 kg (recommended) • Stroke per jaw: 10 mm • Gripping force max.: 200 N • Dimensions: 54 x 26 x 100 mm • Gripper weight: 310 g • Gripper moves to position and locks gripper jaws as long as the part is gripped and the robot is moving • Gripper cable to the robot cannot be replaced (fixed to the gripper) |
|---|--|

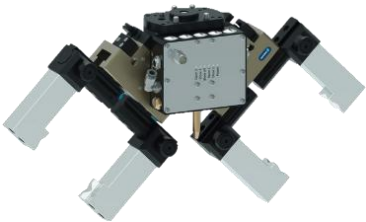
4.7.4 Component Kit Flexible Electric Small Parts Gripper EGK-25 for Grasping Components with Variable Stroke (SCHUNK) (VH500700)

| | |
|---|--|
|  | <p>Product Scope</p> <ul style="list-style-type: none"> • Flexible Electric Small Parts Gripper EGK-25 • Adapter including screws for mounting to HORST • Connection cables from gripper to robot (network cable and power supply) • Assembly instructions for installation and setup • Standard jaw sets for the gripper (3D printed) • Adapter kit for mounting the jaw sets <p>Technical Data</p> <ul style="list-style-type: none"> • Stroke per jaw: 26.5 mm • Maximum gripping force: 50 N • Opening / Closing time: <ul style="list-style-type: none"> ○ Gripper: 0.37 s (at 50 % stroke) ○ plus communication time: ~0.30 s • Gripper weight: 0.62 kg <p>Your advantages</p> <ul style="list-style-type: none"> • The gripper can handle various components, including those with complex, variable contours <ul style="list-style-type: none"> >> Adjustable gripping force up to 50 N >> Flexibly adjustable stroke • The gripper can detect whether a component has been grasped |
|---|--|

4.7.5 Component Kit Pneumatic double gripper with blow-off unit directly compatible with HORST - size 64 (SCHUNK) (VH500529)

| | |
|---|--|
|  | <p>Product scope</p> <ul style="list-style-type: none"> • Pneumatic double gripper MTB DG-JGP-P 64-1 with blow-off unit → Compressed air is required to operate the gripper • Adapter incl. screws for mounting on HORST • Gripper to robot connection cable • Assembly instructions for installation and setup • Standard jaw sets for the grippers • Spiral hose and cable ties for mounting the external energy chain <p>Technical data</p> <ul style="list-style-type: none"> • Maximum part weight: 1.75 kg per gripper (recommended) • Stroke per jaw: 6 mm • Gripping force max.: 350 N • Opening / closing time: 0.05 s • Operating pressure: 2.5-7 bar • Gripper weight: 1.62 kg <p>Your advantages</p> <ul style="list-style-type: none"> • Efficient Processing and Low Cycle Time: Extraction of the finished part, removal of the clamping fixture, and insertion of the new part in a single process step. |
|---|--|

4.7.6 Component Kit Pneumatic double gripper with blow-off unit directly compatible with HORST - size 80 (SCHUNK) (VH500697)

| | |
|---|---|
|  | <p>Product scope</p> <ul style="list-style-type: none"> • Pneumatic double gripper MTB DG-JGP-P 80-1 with blow-off unit → Compressed air is required to operate the gripper • Adapter incl. screws for mounting on HORST • Gripper to robot connection cable • Assembly instructions for installation and setup • Standard jaw sets for the grippers • Spiral hose and cable ties for mounting the external energy chain <p>Technical data</p> <ul style="list-style-type: none"> • Maximum part weight: 2.75 kg per gripper (recommended) • Stroke per jaw: 6 mm • Gripping force max.: 550 N • Opening / closing time: 0.07 s • Operating pressure: 2.5-7 bar • Gripper weight: 2.40 kg <p>Your advantages</p> <ul style="list-style-type: none"> • Efficient Processing and Low Cycle Time: Removal of the finished part, release of the clamping fixture, and insertion of the new part in a single process step. |
|---|---|

4.8 Material feeding

The *Component Kits Part Separation* includes all the accessories you need to reliably feed and separate components.

Your advantages:


- You receive all components for feeding and separating the parts from a single source
- The components are pre-wired as part of the Component Kit and can be placed anywhere in the horstCUBE or on the Mobile robot base
- The software interface of the Component Kit can be easily integrated into horstOS, allowing for quick access from the panel at any time (see [horstOS - Project Setup](#))




4.8.1 Part Separation with the Component Kits VibroFlip 200x and VibroSupply 5L

The shaker and hopper are seamlessly integrated into the horstOS robot control system and can be conveniently configured via the robot control panel (Requirement: Purchase of [Advanced Automation Features](#)). Quick and intuitive setup via an easy-to-use interface allows the shaker and hopper to be optimally adjusted to the respective component.


4.8.1.1 Component Kit Shaker VibroFlip 200x (VH501284)

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|---|--|
|  | <p>Product scope</p> <ul style="list-style-type: none"> • Shaker VibroFlip 200x • Cable for connecting the shaker to the control box + grounding cable • Mounting screws • IMPORTANT: The corresponding control box and a vibrating bowl are required to operate the VibroFlip 200x. These are not included in this item. <p>Technical data</p> <ul style="list-style-type: none"> • Lighted area: 200 x 200 mm • Vibrating bowl: 224 x 224 mm • Recommended part size: 5 – 50 mm / Teilgewicht: 5 – 200 g • The vibrating tray can be changed in just a few simple steps thanks to a quick-change system • External lighting can also be attached if required |
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4.8.1.2 Component Kit Bunker VibroSupply 5L (VH501285)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • 5 Liter hopper • Cable for connecting the hopper to the control box + grounding cable • Mounting Screws • IMPORTANT: The corresponding control box is required to operate the VibroFlip 200x. The control box is not included in this item. <p>Technical data</p> <ul style="list-style-type: none"> • Up to 4 kg total load possible • Adjustable frequency in the range 10–400 Hz • Recommended particle size: 5–50 mm / Particle weight: 5–200 g |
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4.8.1.3 Component Kit Control box for VibroFlip and VibroSupply (VH501286)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • Control box for controlling the shaker and bunker • 24 V power supply • Required cables (power supply, grounding, LAN cable) • Mounting accessories for mounting the control box and power supply in MRB or horstCUBE <p>Technical data</p> <ul style="list-style-type: none"> • Power supply 24 V DC / 4 A • One control box can be used to control one VibroFlip and one VibroSupply. If several VibroFlip or VibroSupply units are used, several control boxes are required. |
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4.8.1.4 Vibrating bowl VibroFlip

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|  | <p>The vibrating trays are required to operate the VibroFlip 200x component kit.</p> <p>Depending on the nature of the component, either a smooth vibrating tray or a vibrating tray with a pyramid structure can be used. We will be happy to advise you on selecting the right vibrating tray.</p> <p>The vibrating tray can be changed in just a few simple steps thanks to a quick-change system.</p> |
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| | Article | Description / Scope of services |
|----------|---|--|
| VH501287 | Vibrating tray for VibroFlip 200x smooth | Replaceable vibrating tray for VibroFlip 200x - smooth versions |
| VH501288 | Vibrating tray for VibroFlip 200x pyramid | Replaceable vibrating tray for VibroFlip 200x - pyramid structure versions |


4.8.2 Part Separation mit den Component Kits Shaker und Bunker

There are two shaker and three bunker component kits. These have been designed in such a way that shakers and bunkers can be flexibly combined as required.


It is also important to select the right shaker bowl for the shaker component kit. As this shaker bowl must be selected correctly depending on the application, it is not included in the Component Kit Shaker.




4.8.2.1 Component Kit Shaker 270 (VH500796)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • VarioShaker 270 (additional selection of the required shaking bowl required!) • VarioShaker 270 power supply unit • Control cabinet (hardware) & connection cable required for wiring all components + connection to the robot • Control cabinet construction - wiring of all components and installation of all control units and power supply units in the control cabinet • Adapter & screws for mounting the VarioShaker in horstCUBE or on the mobile robot base <p>Technical data</p> <ul style="list-style-type: none"> • Part size: 5 – 50 mm / Part weight: 5 – 200 g |
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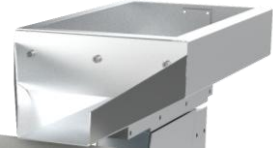
4.8.2.2 Component Kit Shaker 540 (VH500797)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • VarioShaker 540 (additional selection of the required shaking bowl required!) • VarioShaker 540 power supply unit • Control cabinet (hardware) & connection cable required for wiring all components + connection to the robot • Control cabinet construction - wiring of all components and installation of all control units and power supply units in the control cabinet • Adapter & screws for mounting the VarioShaker in horstCUBE or on the mobile robot base <p>Technical data</p> <ul style="list-style-type: none"> • Part size: 20 – 100 mm / Part weight: 5 – 200 g |
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4.8.2.3 Component Kit Bunker 5L (VH500352)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • Basotec Bunker 5L • Phase-cut controller • Connection cable for wiring the hopper (plug & play with the control cabinet of the Component Kit Shaker) • Adapter & screws for mounting the hopper in the horstCUBE or on the mobile robot base |
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4.8.2.4 Component Kit Bunker 10L (VH500798)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • Basotec Bunker 10L • Phase-cut controller • Connection cable for wiring the hopper (plug & play with the control cabinet of the Component Kit Shaker) • Adapter & screws for mounting the hopper in the horstCUBE or on the mobile robot base |
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4.8.2.5 Component Kit Bunker 25L (VH500799)


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|  | <p>Product scope</p> <ul style="list-style-type: none"> • Basotec Bunker 25L • Phase-cut controller • Connection cable for wiring the hopper (plug & play with the control cabinet of the Component Kit Shaker) • Adapter & screws for mounting the hopper in the horstCUBE or on the mobile robot base |
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4.8.2.6 VarioShaker vibrating bowls

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|  | <p>Vibratory bowls are required to operate the Component Kits Shaker 270 & 540.</p> <p>Depending on the nature of the component, a smooth vibrating tray or a vibrating tray with a pyramid structure can be used. We will be happy to advise you on choosing the right vibrating formwork.</p> |
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| | Article | Description / Scope of services |
|----------|---|---|
| VH500490 | Vibrating bowl magnet 270 smooth | Vibratory bowl for VarioShaker 270 - smooth versions |
| VH500491 | Vibrating bowl magnet 270 structure pyramid | Vibratory bowl for VarioShaker 270 - Pyramid structure versions |
| VH500465 | Vibratory bowl magnet 540 Smooth | Vibration bowl for VarioShaker 540 - smooth versions |
| VH500792 | Vibrating bowl magnet 540 structure pyramid | Vibratory bowl for VarioShaker 540 - Pyramid structure versions |

4.8.3 Component Kit Part Separation Flexibowl 500 (VH500698)

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|  | <p>Product scope:</p> <ul style="list-style-type: none"> • FlexiBowl® 500E C/CC → Compressed air is required to operate the gripper • 10 litre bunker for parts supply • Adapter incl. screws for mounting Flexibowl and bunker in horstCUBE • The FlexiBowl 500 can also be mounted on the MRB using the included adapter plate. A separate adapter plate is required for the bunker. • Network cable from FlexiBowl to Robot Control (TCP-IP communication) • Cable from bunker to Robot Control (digital communication) • Required cables for power supply <p>Technical Data</p> <ul style="list-style-type: none"> • Part Size: 5 – 50 mm • Part Weight: 5 – 100 g <p>Your advantages</p> <ul style="list-style-type: none"> • The Component Kit is designed for use in horstCUBE. The bunker can be positioned so that it protrudes from the horstCUBE so that components can be easily filled without having to open the horstCUBE |
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4.9 Security technology

The Component Kits Safety Scanners include all the accessories you need to implement applications with HORST quickly and safely.

Your advantages:

- **Safe Implementation of Applications with Quick Accessibility**


The *Component Kit Safety Scanner microSCAN 3 CORE IO* allows for secure application with HORST without the need for separating protective devices.

- **Fast Installation & Quick Startup On-Site**


The safety scanner can be rapidly mounted and connected thanks to pre-configured cables and designated mounting positions. The included manual facilitates quick configuration and setup based on local conditions.




4.9.1 Component Kit Safety Scanner nanoSCAN3 PRO IO for Safe Robot Operation Without Separating Protective Devices (SICK) (VH500701)

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|  | <p>Product Scope</p> <ul style="list-style-type: none"> • Safety Scanner SICK nanoSCAN3 PRO IO • Adapter including screws for mounting on the MRB • Connection cable from safety scanner to HORST control unit "Control" • Assembly instructions for mechanical mounting and electrical wiring • Configuration and setup guide <p>Technical Data</p> <ul style="list-style-type: none"> • Protective field range: 3.0 m • Compatible with HORST600 • Safe Reduced Speed: yes • Protection Area (Stop) Radius from the robot origin (with 20 cm tool) <ul style="list-style-type: none"> ○ HORST600: 2.63 m <p>Your advantages</p> <ul style="list-style-type: none"> • Utilization of the "Safe Reduced Speed" Function The robot slows down when approaching an object without coming to a complete stop, thereby reducing the required protection area • Optimized for Use with HORST600 on an MRB The nanoSCAN3 Pro IO is the ideal choice for applications implemented with HORST600 on an MRB |
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4.9.2 Component Kit microSCAN3 CORE IO safety scanner for safe robot operation without guards (SICK) (VH500056)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • Safety scanner SICK microSCAN3 CORE IO • Adapter incl. screws for mounting on the MRB • Safety scanner connection cable - HORST "Control" switch cabinet • Installation instructions for mechanical installation and electrical wiring • Configuration and setup instructions <p>Technical data</p> <ul style="list-style-type: none"> • Protective field range: 5.5 m • Compatible with HORST600, HORST1000, HORST1400, HORST1500 • Safely reduced speed: no • Protected area (stop) Radius from the origin of the robot (with 20 cm tool) <ul style="list-style-type: none"> ○ HORST600: 2.95 m HORST1000: 4.19 m ○ HORST1400: 4.84 m HORST1500: 4.57 m <p>Your advantages</p> <ul style="list-style-type: none"> • Compatible with All Robot Systems The microSCAN3 CORE IO is compatible with all HORST robot systems. If "safe reduced speed" is not required, it is the right choice. (In this case, the safety area is larger compared to when "safe reduced speed" is used.) |
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4.9.3 Component Kit microSCAN3 PRO IO safety scanner for safe robot operation without guards (SICK) (VH500398)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • Safety scanner SICK microSCAN3 CORE IO • Adapter incl. screws for mounting on the MRB • Safety scanner connection cable - HORST "Control" switch cabinet • Installation instructions for mechanical installation and electrical wiring • Configuration and setup instructions <p>Technical data</p> <ul style="list-style-type: none"> • Protective field range: 5.5 m • Compatible with HORST600, HORST1000, HORST1400, HORST1500 • Safely reduced speed: yes • Protected area (stop) Radius from the origin of the robot (with 20cm tool) <ul style="list-style-type: none"> ○ HORST600: 2.63 m ○ HORST1000: 3.23 m ○ HORST1400: 3.64 m ○ HORST1500: 3.61 m <p>Your advantages</p> <ul style="list-style-type: none"> • Utilization of the "Safe Reduced Speed" Function The robot slows down when approaching an object without coming to a complete stop, which reduces the size of the required safety area. • Compatible with All Robot Systems The microSCAN3 PRO IO is compatible with all HORST robot systems. |
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4.10 Robot guidance systems

The *Component Kits for Robot Guidance* include all the accessories you need to implement localization tasks with HORST easily and reliably.

Your advantages

- Perfectly Aligned**
 The camera is configured according to the requirements for part separation in the horstCUBE and can also be used in the mobile robot base with a safety fence.
- Fast Installation**
 The camera can be quickly mounted and integrated with HORST thanks to pre-configured cables and designated mounting positions in the horstCUBE. Software modules simplify programming.
- Easy Setup & Operation**
 The camera setup is managed through a web interface, which is fully integrated into horstOS and accessible from the panel at any time.



The robot guidance systems offered as Component Kits allow a wide range of applications to be implemented with HORST.

If there is no suitable robot guidance system for your application, you [will find](#) many other systems [here](#) whose interaction with HORST has already been tested.

4.10.1 Component Kit 2D Robot Guidance System (SICK) (VH500489)



Product scope

- SICK PLOC 2D 632-C camera
- Lens Focal length: 16 mm
- Integrated lighting (white)
- Calibration plate A4
- Camera connection cable - "Control" switch cabinet
- Ethernet cable for data transmission
- Instructions for installation, electrical wiring and configuration


Technical data

- Protection class IP65
- Resolution: approx. 1.600 px x 1.200 px (1.9 Mpixel)
- Sensor format 1/1.8"
- Work surface at 800 mm mounting height: approx. 345 x 270 mm (*standard horstCUBE*)
- Release at 800 mm mounting height: approx. 0.20 mm/px (*standard case horstCUBE*)
- Different application possibilities through apps: localization, quality control

Your advantages

- New parts can be taught in very easily and quickly
- Part recognition with the 2D robot guidance system works best with transmitted light (from the shaker) if the contour of the parts can be clearly recognized in it
- Ideally suited when parts have a preferred direction or are symmetrical and their position is therefore irrelevant for detection
- Short calculation time after image acquisition
- The software interface of the 2D robot guidance system can be easily integrated into horstOS and thus quickly called up from the panel at any time (see [horstOS - Project Setup](#))

4.10.2 Component Kit 2D Grasping Kit for part localization (Schunk) (VH500699)

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|  | <p>Product Scope</p> <ul style="list-style-type: none"> • SCHUNK 2D Grasping Kit Camera System <ul style="list-style-type: none"> ○ Area Camera: Basler ace 2 R (a2A1920-51gcBAS) ○ Lens Focal Length: 12 mm • SCHUNK Vision Controller (SVC) • SCHUNK AI Software <ul style="list-style-type: none"> ○ The AI software initially creates a component model based on a training dataset (multiple images of the part). ○ During operation, this component model is continuously refined. ○ The software interface of the 2D Grasping Kit can be easily integrated into horstOS and accessed quickly from the panel at any time (see horstOS - Project Setup) <p>Technical Data</p> <ul style="list-style-type: none"> • Area Camera: Basler ace 2 R (a2A1920-51gcBAS) • Protection Class: IP30 • Resolution: Approximately 1.920 px x 1.200 px (2.3 Mpixel) • Sensor Format: 1/2.3" • Working Area at 800 mm Mounting Height: Approximately 435 x 272 mm (<i>standard horstCUBE setup</i>) • Resolution at 800 mm Mounting Height: Approximately 0.225 mm/px (<i>standard horstCUBE setup</i>) <p>Your advantages</p> <ul style="list-style-type: none"> • Easy training of parts without prior knowledge in programming image processing systems • Detection of shape-unstable, reflective, or variable workpieces (e.g., parts in bags) thanks to adaptive AI software • Detection of workpieces under changing lighting conditions thanks to adaptive AI software |
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5 Educational offer for schools and universities

Our educational offer revolutionizes the classroom and makes the study of robotics and automation exciting and hands-on.

There are two options:

- The hardware-based “[Robotic Solution Education](#)” (VE500653) based on a Robotic Solution Pick & Place
- The fully digital “[Digital Education Package](#)” (VD500712).



Overarching learning objectives:

- Commissioning, setting up and safe operation of robot systems
- Creation of own programs based on practice applications
- Integration of external sensors and control of external components

Your advantages:

- **Shortest training period for teachers**
As a teacher, you receive specially tailored online training and a comprehensive collection of prepared training documents, including a 200-page teaching script on the subject of robotics.
- **Flexible lesson design**
We provide your class or learning group with licenses to use our horstOS Simulation software. You will also receive access to our Academy Plus e-learning platform.
- **Mobile use and high flexibility**
The Education Package with the HORST-robot and the mobile robot base fits through all standard doors. Power is supplied via a standard household 230 volt socket - you do not need high voltage current.
- **Introduction to future technologies**
Lead your students into the future with the world's first practical integration of ChatGPT in industrial robotics. Our AI co-pilot offers an unparalleled opportunity to engage with cutting-edge technology and prepares your students for the technological advances of tomorrow. *

* The AI features can be deactivated both on the robot and in the simulation if required.

5.1 Robotic Solution Education - The perfect educational package for a practical and varied introduction to robotics (VE500653)

Our robotics learning platform is revolutionizing the classroom and making the study of robotics and automation exciting and practical. It is ideal for training companies, schools, universities or technical colleges to teach pupils and trainees about robotics in a practical way. With the package consisting of the HORST-robot and the matching learning platform, you can quickly and easily give students a decisive knowledge advantage.

With this package you receive:

1. Mobile robot base (MRB) S, M or L with safety fence and safety interlock ([details](#))
 2. Industrial Robot HORST600 or HORST1000 ([Details](#))
 3. Electric 2-jaw parallel gripper ([Details](#))
 4. Training for teachers ([Details](#))
The coordinated training program to prepare for the use of the robot system in the educational environment
 5. Training script ([Details](#))
200 pages, will be provided digitally
 6. Education Package ([Details](#))
Practice application "Marble run"
- + Full software scope on the robot with activation of the Advanced Graphical Features, Advanced Interfaces & Advanced Automation Features ([Details](#))
- + Assembly and CE certification by fruitcore robotics (mechanical assembly and wiring of all components as well as ensuring delivery as a CE-compliant Robotic Solution. Assembly of the marble run training application)



We recommend combining the Robotic Solution Education with the "Software licenses for educational institutions" ([Details](#)).

This allows your pupils and students to carry out exercises themselves in the simulation and learn content independently via the Academy.

5.2 Digital Education Package (VD500712)

Our digital education package gives you access to the most modern learning platform for robotics and automation - without the need for a physical robot. Ideal for schools, universities and training companies, it enables pupils and trainees to acquire practical knowledge in robotics.


With this package you receive:

1. Software licenses for educational institutions (term 5 years) ([Details](#))
2. Training for teachers ([Details](#))
The coordinated training program to prepare for the use of the robot system in the educational environment
3. Training script ([Details](#))
200 pages, will be provided digitally




5.3 Educational offer - scope of services of the individual items

5.3.1 Software licenses for educational institutions (VD500711)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • 25 licenses for the use of horstOS Simulation (term 5 years) • 25 licenses for the use of the e-learning platform Academy plus (term 5 years) • 3D data of the learning environment in the robot operating software <i>horstOS</i> <p>Your advantages</p> <ul style="list-style-type: none"> • Flexible lesson planning The 25 accesses to the Academy Plus enable students to deepen their robotics knowledge on their own. They also receive 25 licenses for our programming software to create robot programs in simulation. |
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5.3.2 Education Package (VE500350)

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|  | <p>Product scope</p> <ul style="list-style-type: none"> • “Marble run” training application consisting of marble plate, steel balls & assembly accessories <p>Your advantages</p> <ul style="list-style-type: none"> • Hands-on learning experience Our practice application with a marble run board and marbles makes it possible to learn how to program the robot in a fun way. The script contains a variety of exercises that can be implemented using the hardware setup provided. |
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5.3.3 Training script (VD500710)

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| <p>-</p> | <p>Product scope</p> <ul style="list-style-type: none"> • Comprehensive, teaching-related script for targeted use by teachers (200 pages, provided digitally) <p>Your advantages</p> <ul style="list-style-type: none"> • Perfectly coordinated teaching content Our 200-page script on robotics theory provides a good basis for designing teaching units. It not only covers general robotics concepts, but also goes into detail about the HORST. |
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5.3.4 Training for teachers

➔ See chapter Training: [Training for teachers](#)

Option *

As an educational institution, you can use the **AI Copilot** free of charge - an innovative chatbot that supports students with questions, problem solving and programming.

AI Copilot

Interactive learning:

- The AI Copilot guides your students through every phase of the learning process. Whether programming or theoretical questions - the AI Copilot provides the right answers and ensures a deep understanding of the subject matter.



Promoting creativity and problem-solving skills:

- With the AI Copilot, students can develop creative projects and independently find solutions to complex problems. This not only promotes technical knowledge, but also important soft skills such as creativity.

Relief for teachers:

- The AI Copilot not only supports students, but also takes the pressure off teachers. With detailed explanations and immediate help with questions, it allows teachers to focus on individual support and creating an inspiring learning environment.

Take your educational institution to the next level with the **world's first implementation of ChatGPT in robotics!**

Experience how our robotics learning platform and AI Copilot can enrich your classroom. Inspire your students with the fascinating world of robotics and automation and prepare them optimally for the future.

Lead your students into the future with the world's first practical integration of ChatGPT in industrial robotics. Our AI copilot provides an unparalleled opportunity to engage with cutting-edge technology and prepares your students for the technological advances of tomorrow.

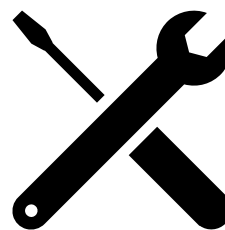
* The AI features can be disabled on the robot as well as in the simulation if required.

6 Service offer

fruitcore robotics' service offerings are specifically designed to ensure maximum availability, efficiency, and longevity of your robot solution. These include predictive maintenance, regular inspections, software updates, extended warranty periods, and a reliable spare parts supply.

Details of our customized care services can be found in the separate service specification. The service specification provides you with a comprehensive overview of all available services.

We would be happy to advise you individually to find the ideal solution for your requirements.



7 Training Services

Achieve maximum learning success with our perfectly coordinated training services

Your advantages:

- **Targeted knowledge building**
Our training concept offers suitable content for every level of knowledge. Learn the basics and deepen your knowledge individually.
- **Maximum flexibility**
Whether on site, via remote training or via the e-learning platform - choose the format that best suits your requirements.
- **Individual contents**
We are happy to adapt training content to specific projects and problems.



The training program consists of basic training courses, in-depth training courses and specific training courses. The training content builds on each other, which is why we recommend that every user works through the basic training content first. Specific training courses should be selected to suit the respective project or application. We will be happy to advise you on the selection of suitable training content.

Basic training courses

- **Academy:** Basic content for commissioning the robot system (e-learning platform) ([Details](#))
- **Academy Plus:** Basic content for setting up applications and programming the robot system (e-learning platform) ([Details](#))
- **Basic training:** Corresponds to the scope of Academy & Academy Plus in terms of content and provides basic knowledge for using the robot ([details](#))


In-depth training

- **In-depth training day:** General in-depth training based on practical examples of Pick & Place & Machine Tending applications and path programming ([details](#))
- **Part separation training:** Training on all components of part separation and consideration of the interaction of camera, shaker & bunker with HORST and horstCUBE ([Details](#))

Specific additional training

- **Training Interfaces Camera (TCP/IP)** ([Details](#))
- **Training Interfaces PLC (Profinet)** ([Details](#))
- **Textual programming training** ([Details](#))
- **Training Special** ([Details](#))
- **Safety training** ([Details](#))
- **Maintenance training** ([Details](#))
- **Training teachers / trainers** ([Details](#))
- **Individual training** ([Details](#))

7.1 Academy Plus - E-learning platform with constantly new content for learning the basics of setting up and programming HORST (VD500487)

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|  | <p>Scope of the Academy Plus</p> <ul style="list-style-type: none"> Over 3 hours of extensive video tutorials Extensive content from setting up the robot system to looking at advanced program features Three accesses per company can be used simultaneously Easily visible learning progress Central platform for bundling learning materials Certificate at the end of the course and after passing the final test <p>Your advantages</p> <p>Quick learning success</p> <p>The didactically structured lessons ensure that robot knowledge is taught in an easy-to-understand and varied way.</p> <p>Maximum independence and flexibility</p> <p>The Academy enables learners to access the training content anytime and anywhere. This allows them to customize their learning environment and determine their own learning pace.</p> <p>Always up to date</p> <p>The content of the Academy is continuously updated and developed. This enables learners to familiarize themselves with the latest information and developments at all times.</p> |
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| <p>i Academy and Academy Plus</p> <p>When you purchase a HORST-robot, you automatically receive access to the Academy e-learning platform (link). There you can access the basic content, which includes 30 minutes of video material on the following topics:</p> <ul style="list-style-type: none"> • Structure of the HORST industrial robot • Safety for industrial robots • Commissioning the robot system • Control cabinet interfaces • Main control Control <p>Access to Academy Plus must be purchased separately and allows access to 3 hours of video material on the following topics:</p> <ul style="list-style-type: none"> • Manual control of the robot • Structure of the main menu horstOS • Setting options horstOS • Programming with horstOS • Explanation of all program actions • Creation of waypoints • Communication with external devices via inputs and outputs • Use of if-conditions, variables and functions |
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7.2 Training courses

In addition to our Academy, we offer online and classroom training.

Your advantages:

- **Targeted knowledge building**
Our training concept offers suitable content for every level of knowledge. Learn the basics and deepen your knowledge individually.
- **Practical training content**
Benefit from application-oriented training and get to know the robot software directly in your field of application using specific examples.
- **Interaction & personal exchange**
The in-depth classroom training sessions offer the opportunity to ask our robot experts questions at any time and benefit from the experience of other participants.

7.2.1 Basic training HORST and horstOS to learn the basics of setting up and programming HORST (VD500088)

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| <ul style="list-style-type: none"> - Duration: 3 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training | <p>Course content:</p> <ul style="list-style-type: none"> • Structure of the robot system • Commissioning • Safety for industrial robots • Control and interfaces • Manual control of the robot • Introduction to graphical programming • Specific program functions e.g. palletizing applications, basic position movements <p>➔ This training course prepares you and your employees for the use of the robot system.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  The content of the basic training corresponds to the scope of Academy & Academy Plus </div> |
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7.2.2 Training day to deepen your knowledge in robot programming for the optimization of motion sequences as presence group training in Constance (VD500549)

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| <ul style="list-style-type: none"> - Duration: 8 hours - Type of training: Classroom training (group training with up to 8 participants) * - Prerequisite: Basic training (Academy or basic training) <p>* The price quoted for the training day is per participant.</p> | <p>Course content:</p> <ul style="list-style-type: none"> • Advanced graphical programming • Simulation with horstOS on the PC • Creation of a Pick & Place application • Carrying out palletizing • Program optimization (cycle time) • Textual programming horstOS • Path programming • Interface and communication options • Introduction to safety control • Application examples • Access to further resources <p>➔ Deepen your knowledge of robot programming and learn how to use the robot more efficiently and optimize motion sequences.</p> |
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7.2.3 Part Separation training - How to set up a separation process with the Part Separation Robotic Solution (VD500550)

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| <ul style="list-style-type: none"> - Duration: 6 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training - Prerequisite: Basic training (Academy or basic training and training day recommended for in-depth training) | <p>Course content:</p> <ul style="list-style-type: none"> • Basics of graphical programming horstOS • Introduction to textual programming • Presentation Part Separation • Camera setup • Furnishing Shaker & Bunker • Installation HORST & horstOS <p>➔ Deepen your knowledge of the efficient use of part separation.</p> |
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7.2.4 Additional training course Interfaces camera - Examination of the communication structure via TCP/IP, the configuration in horstOS and the programming of a sample program (VD500519)

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| <ul style="list-style-type: none"> - Duration: 2 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training - Prerequisite: Basic training (Academy or basic training) | <p>Course content:</p> <ul style="list-style-type: none"> • Overview of HORST interfaces • Presentation of the TCP/IP interface • Configurations in horstOS • Camera setup • Establishing communication via TCP/IP • Integration of camera coordinates in horstOS • Presentation and programming of a sample program <p>➔ Deepen your knowledge with specific training on camera interfaces (TCP/IP)</p> |
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7.2.5 Additional training course on PLC interfaces (Profinet) - Presentation of all relevant HORST functionalities for communication via Profinet (VD500236)

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|---|---|
| <ul style="list-style-type: none"> - Duration: 2 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training - Prerequisite: Basic training (Academy or basic training) | <p>Course content:</p> <ul style="list-style-type: none"> • Overview of HORST interfaces • Introduction to PLC communication with Profinet • Presentation of all functionalities • Configurations in horstOS • Communication structure • Writing and reading registers via horstOS • Presentation and programming of sample programs <p>➔ Deepen your knowledge with specific training on PLC interfaces (Profinet)</p> |
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7.2.6 Additional training course Textual programming - Examination of the versatile possibilities of HORST textual programming in JavaScript (VD500235)

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|---|--|
| <ul style="list-style-type: none"> - Duration: 2 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training - Prerequisite: Basic training (Academy or basic training) | <p>Course content:</p> <ul style="list-style-type: none"> • Advanced graphical programming • Presentation of textual functions • Introduction to textual programming with horstOS • Textual actions in horstOS • Operators and functions in JavaScript • Variable waypoints in the textual • Creation of textual example programs <p>➔ Deepen your knowledge with a specific training course on textual programming.</p> |
|---|--|

7.2.7 Additional training Special - Project-specific programming training tailored to individual requirements and needs (VD500237)

| | |
|---|---|
| <ul style="list-style-type: none"> - Duration: 3 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training - Prerequisite: Basic training (Academy or basic training) | <p>Course content:</p> <ul style="list-style-type: none"> • Project-specific programming training • Project-specific setup in horstOS (CAD-based) • Creation of a project-specific training program • Contents by arrangement based on training offer <p>➔ Deepen your knowledge with a specific training course tailored to your needs.</p> |
|---|---|

7.2.8 Additional safety training - Considering the safe implementation of automation projects with HORST (VD500426)

| | |
|---|---|
| <ul style="list-style-type: none"> - Duration: 2 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training - Prerequisite: Basic training (Academy or basic training) | <p>Course content:</p> <ul style="list-style-type: none"> • Basics of safety technology and robot CE • Safety control Control • Overview of safety inputs and outputs • Security configurations • Fault diagnosis • Application examples (safety scanners etc.) <p>➔ Deepen your knowledge with specific training on safety topics</p> |
|---|---|

7.2.9 Maintenance training (VD500552)

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|---|--|
| <ul style="list-style-type: none"> - Duration: 6 hours - Number of participants: up to 3 participants - Type of training: Classroom training - Prerequisite: Basic training (Academy or basic training and in-depth training day (recommended)) | <p>Course content:</p> <ul style="list-style-type: none"> • Robot system design • Limits of the robot system • Software horstOS - Service & support functions • Procedure in the event of an error (process) • Basic measures for error analysis • Measures & tools for service calls • Case studies Differentiation between service case & fault • Repair, maintenance & servicing • Procedure & communication for service cases <p>➔ Deepen your knowledge with specific training on maintenance</p> |
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7.2.10 Teacher/trainer training - Education Package - The coordinated training package to prepare for the use of the robot system in an educational environment (VD500092)

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|---|--|
| <ul style="list-style-type: none"> - Duration: 3 hours - Number of participants: up to 3 participants - Type of training: Classroom or remote training - Prerequisite: Basic training (Academy) | <p>Course contents:</p> <ul style="list-style-type: none"> • Advanced graphical programming • Deepening the topics from E-Learning Academy Plus • Assembly and commissioning of the robot system • Manual control and programming with horstOS • Introduction Teaching materials and lecture notes • Instruction in exercises • Creation of graphical learning programs with horstOS <p>➔ This training course provides you and your teaching staff with basic preparation for the use of the robot system and its application in teaching or training.</p> <p>➔ Perfect start for educational institutions</p> <p>➔ Shortest training period for teachers</p> <p>➔ Flexible lesson design after a short training phase</p> <p>➔ Fast learning success and efficiency through possible remote training</p> |
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7.2.11 Individual training (VD500553)

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|---|--|
| <ul style="list-style-type: none"> - Duration: Individual (by arrangement) - Quantity: Individual (by arrangement) - Type of training: Classroom or remote training | <p>Course content:</p> <ul style="list-style-type: none"> • Project-specific programming training • Creation of a project-specific training program • Contents by arrangement based on the individual automation solution <p>➔ Deepen your knowledge with an individual training course, the content of which is tailored to your needs</p> <p>➔ Flexible training planning as required</p> <p>➔ Application-oriented specialization</p> |
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7.2.12 Combination package Training Day + Academy Plus (VD500551)

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| <p>The combination package includes access to the Academy Plus for one year (details) and participation in the in-depth training day for one person (details)</p> | <p>Course content:</p> <ul style="list-style-type: none"> • Access to Academy Plus for one year (Details) • Participation in the in-depth training day for one person (details) <p>➔ Learn the basics of robot programming on your own in the Academy Plus and deepen your knowledge during the training day</p> |
|---|---|

8 Range of services

8.1 Support

| | Article | Description / Scope of services |
|----------|---------------------------------|---|
| VD500574 | Support commissioning (on site) | <p>This service includes on-site commissioning support provided by our robotics experts. The focus is particularly on assistance with programming and the integration of peripheral devices.</p> <p>Mechanical setup, electrical cabling, and the basic program flow must be prepared by the customer. Since this is a support service, fruitcore robotics assumes no functional responsibility for the entire system.</p> <p>Complete installation or commissioning by fruitcore robotics as a general contractor is not included in this service and can be offered separately if required.</p> <p>(Plus travel to and from the site, accommodation costs/expenses/logistics if applicable)</p> |
| VD500575 | Support commissioning (remote) | <p>Individual service: Remote commissioning support from our robot experts</p> <p>(Price per hour)</p> |

8.2 Kit Services

The Kit Services enable you to use your solution with HORST immediately and without major commissioning effort.

| | Article | Description / Scope of services |
|----------|--|--|
| VD500587 | Assembly & cabling of the robot with platform | <ul style="list-style-type: none"> - Assembly of the robot on the mobile robot base and wiring of the safety technology (safety fence/door interlock/operator console) - Delivered as an incomplete machine (without CE marking). As no gripper is fitted to the robot on delivery, it is not a complete machine. |
| VD500513 | Assembly and cabling Robotic Solution Pick & Place (& Robotic Solution Education) | <ul style="list-style-type: none"> - Assembly of the robot on the mobile robot base and wiring of the safety technology (safety fence/door interlock/operator console) - Assembly & wiring of the gripper on the robot - Delivered as a CE-compliant, complete machine with CE marking and enclosed declaration of conformity |
| VD500509 | Assembly and cabling Robotic Solution Part Separation | <ul style="list-style-type: none"> - Assembly of the robot on the mobile robot base and wiring of the safety technology (safety fence/door interlock/operator console) - Assembly & wiring of the gripper on the robot - Assembly & wiring of the hopper - Assembly & wiring of the component separator - Assembly & wiring of the camera - Delivered as a CE-compliant, complete machine with CE marking and enclosed declaration of conformity |


Range of services

| | | |
|----------|---|--|
| VD500510 | Setup and configuration of all Part Separation components | <ul style="list-style-type: none"> - Setting up communication between all components - Configuration of hopper, component separator and camera - Integration of all components into the robot program - Pre-commissioning and program creation for separating a component defined by the customer - Testing to ensure the correct functioning of the entire setup and program sequence <p>➔ The part separation is set up so that this part can be gripped and moved with the standard gripper jaws included in the gripper kit</p> |
| VD500533 | Configuration, assembly & cabling - Robotic Solution Machine Tending I | <ul style="list-style-type: none"> - Support from our sales and application engineering departments right from the quotation stage in order to find the optimum solution for you. This also includes simulation in our horstOS software - Assembly of the robot on the mobile robot base and wiring of the safety technology (safety fence/door interlock/operator console) - Assembly of the double gripper incl. blow-off unit & attachment of the external energy chain to the robot - Wiring of machine interface with robot control cabinet "Control" |
| VD500534 | Pre-setup, programming, documentation and delivery as a CE-compliant product - Robotic Solution Machine Tending I | <ul style="list-style-type: none"> - Software preconfiguration (e.g. pre-naming of gripper I/O, global functions for gripper opening & closing, teach-in of sensors) - Easily modifiable program template for machine tending application - Ensure operational safety by pre-configuring axis restrictions to prevent collision with safety fence and over-twisting of gripper cables - Delivered as a CE-compliant, complete machine with CE marking and enclosed declaration of conformity |
| VD500512 | Wiring Component Kit safety scanner nanoScan3 PRO IO, microSCAN3 CORE IO or PRO IO to the MRB | <ul style="list-style-type: none"> - The service can only be performed if the customer purchases a HORST-robot, a Mobile Robot Base and a Component Kit microSCAN3 CORE IO or PRO IO safety scanner - The control cabinet of the robot system is installed in the MRB - The safety laser scanner is also pre-wired - The scanner is enclosed and must be installed on site by the customer by screwing it to the MRB and plugging in the pre-laid cables in accordance with our instructions (the laser scanner cannot be installed on delivery, otherwise safe transportation of the exposed scanner cannot be guaranteed) - The robot system is supplied individually (without control as this is already installed in the MRB) and can be freely positioned on the MRB by the customer - The final setup according to the local conditions is carried out on site by the customer. <p>The CE approval must be carried out on site.</p> |

8.3 Machine Tending Services

| | Article | Description / Scope of services |
|----------|--|--|
| VH500714 | Automatic door opener for machine tools (individual project engineering) | As part of individual project planning, an automatic door opener is designed together with a fruitcore robotics automation partner to suit your machine tool. This means that the Machine Tending Robotic Solution can also be retrofitted to machine tools without an automatic door. |
| VH500715 | Clamping systems (individual project engineering) | As part of individual project planning, fruitcore robotics works with an automation partner to design suitable clamping devices for the provision and processing of your workpieces. |

8.3.1 Standard Assembly Robotic Solution Machine Tending II on site (VD500724)



The mounting position applies to the standard configuration of the Robotic Solution Machine Tending II, which is described in the [Robotic Solution Machine Tending II](#) chapter of this product specification.

Additional expenses, e.g. due to deviations from the standard configuration of the Robotic Solution Machine Tending II, will be invoiced additionally.

Requirements for the provision of the service

In order for the installation of the Robotic Solution Machine Tending II to take place on site, the customer must ensure that the points described below are met. If the requirements are not met, additional costs may be incurred for fruitcore robotics employees as a result.

- All components must have already been delivered
- The components must be ready at the installation site or nearby so that they can be transported quickly to the installation site
- There must be sufficient space at the installation site for the safety fence to be erected. A free space of at least 1 m in width should be kept free around the planned installation area
- The ceiling height must allow the safety fence to be set up (height 2.70 m)
- The floor must be level and without a slope
- The floor must be solid and suitable for anchoring the robot base and safety fence using dowels
- Suitable lifting equipment (crane, forklift or electric pallet truck) must be available for moving all parts and positioning the robot
- A compressed air connection must be available for commissioning the Component Kit double gripper
- A mains connection (230 V) must be available

Scope of services

The service includes the assembly of the various elements of the Robotic Solution Machine Tending II on site

- Assembly of the robot fence
 - Positioning the modules
 - Installing the modules
 - Anchoring the modules in the ground
 - Final assembly of the base element
 - Installing the safety components
 - Wiring the safety technology (guard locking, operating console, signal light) with Control
- Placing the Robot Base
 - Positioning and anchoring the positioning unit for the robot base in the floor (if the positioning unit is not part of the superstructure, the robot base is anchored directly in the floor)
 - Positioning and anchoring the positioning unit(s) for tray holder(s) with legs in the floor (if the positioning units are not part of the superstructure, the tray holders can be anchored directly in the floor)
- Mounting of the robot
 - Unpacking the robot and placing the robot on the robot base
 - Mounting and wiring the robot

Range of services

- Mounting of the gripper
 - Mounting the jaws on the gripper and mounting the gripper on the robot flange
 - Attaching the external energy chain (signal line and pneumatic line) to the robot
 - Electrical wiring of the gripper
 - Commissioning the gripper via horstOS and setting up the 3D model in the software


Exclusion of benefits

Not part of this assembly position:

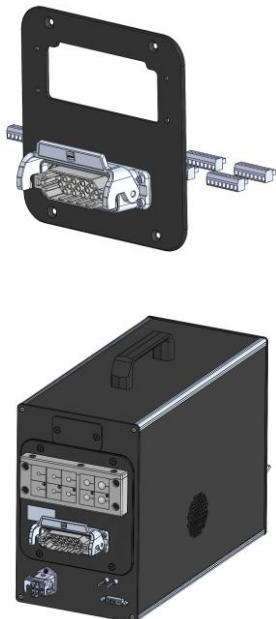
- Modification of robot fence elements for connection to the machine tool (modifications such as cutting or bending fence elements)
- Assembly of customer trays or devices for tray mounting on the tray holders
- The individual program creation for the machine assembly is not part of this item (if required, individual project planning at cost)
- Creating the individual interface to the machine tool is not part of this item (if required, individual project planning at cost)
- CE approval of the finished assembly on site is not part of this item (if required, individual project planning at cost)

9 Individual items & accessories

9.1 EUROMAP67 interface - Pre-assembled cable set for the communication of HORST with an injection molding machine incl. configuration instructions and sample program (VE500197)

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|---|--|
|  | <p>Product scope</p> <ul style="list-style-type: none"> • Pre-assembled cable set for direct robot-side connection to the control cabinet Control • Machine-side connection via a standardized EUROMAP67 connector • Instructions for configuring and setting up the interface in printed and digital form (on USB stick) • Robot reference program for an exemplary injection molding process (on USB stick) <p>Your advantages</p> <ul style="list-style-type: none"> • Fast commissioning Ready-to-connect interface cable for communication between HORST and injection molding machines via the EUROMAP67 standard • Tested solution The function of the interface cable was tested with HORST and various injection molding machines |
|---|--|

9.2 Conversion Kit Harting Connector for Control (VH500696)

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|---|---|
|  | <p>Product Scope</p> <ul style="list-style-type: none"> • Kit consisting of Harting connector (male), cables, and customized plate • The Control unit is retrofitted using this kit so that the machine interface cable can be directly connected via a Harting connector. • The following inputs and outputs are standard on the Harting connector: <ul style="list-style-type: none"> ○ 10x digital input ○ 10x digital output ○ 2x TA, 2x TB (OSSD test signals) ○ 2x safe input ○ 1x safe output ○ 1x safe potential-free output ○ 1x 24V & GND ○ 4x spare (not wired) <p>Your advantages</p> <ul style="list-style-type: none"> • Quick Commissioning Interface cable for communication between HORST and the machine tool can be plug & play connected to Control. • Flexible Operation The cable can be easily disconnected or replaced at any time. |
|---|---|

9.3 Color matching

| | Article | Description / Scope of services |
|----------|---|--|
| VD500062 | Color matching of the petrol-colored robot covers or the white MRB sheets in your desired color | Customer-specific color matching (RAL XXXX) of the robot covers or mobile robot base. For robots, all turquoise covers are finished in the desired color. For the MRB, all white covers. |
| VD500570 | Color matching of the upper panels of the horstCUBE in your desired color | Customer-specific color adaptation (RAL XXXX) of the front panels of the horstCUBE (turquoise panels at the top) |


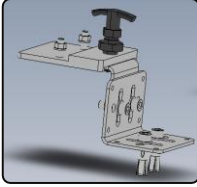
9.4 Cables

| | Article | Description / Scope of services |
|----------|--|---|
| VH500793 | Umbilical cord – 6 m, 2.5 mm ² | Umbilical cord (control to robot) in 6 m length. |
| VH500794 | Umbilical cord – 10 m, 2.5 mm ² | Umbilical cord (control to robot) in 10 m length. |
| VH500637 | Power cable with UK plug | (3-pin, type G, BS 1363) |
| VE500530 | Cable machine interface open cable end | Cable from the Robotic Solution Machine Tending to the machine tool. The open cable end can be assembled for any machine tool. |
| VE500531 | Cable control - machine interface | Cable from Control or from the coupling on the MRB. Necessary accessories for setting up the Robotic Solution Machine Tending I |

9.5 Adapter


| | Article | Description / Scope of services |
|----------|-------------------------------------|---|
| VH500001 | Adapter for ISO flange 9409-1- TK50 | ISO flange adapter for all HORST models |
| VE500180 | Adapter for Schunk EGP 40-N-N-B | Adapter for mounting the Schunk EGP 40-N-N-B on all HORST models. Part of the Component Kit . |
| VE500389 | Adapter to room GEP2010IO-00-B | Adapter for mounting Zimmer GEP2010IO-00-B on all HORST models. Part of the Component Kit . |

9.6 Locking kits

| | Article | Description / Scope of services |
|----------|--|---|
| VE500194 | Machine locking kit for MRB S/M/L for repeatable positioning of the MRB on the machine | <p>The kit allows repeatable positioning of the mobile robot base using two flange plates, which are mounted directly on the machine or the wall. (Please note: Depending on the geometry of the machine tool, it may not be possible to attach the flange plates of the locking kit properly. In this case, the floor locking kit (VE500532) must be used)</p>  |
| VE500532 | Floor locking kit for MRB S/M/L for repeatable positioning of the MRB on the machine | <p>The kit allows the mobile robot base to be positioned with repeatable accuracy using two brackets anchored in the floor. This allows the application on the MRB to be quickly locked in front of a machine tool again and again.</p>  |

9.7 Demobox

9.7.1 Demobox HORST600 – Panel (VD500074)

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|---|--|
|  | <p>Product Scope</p> <ul style="list-style-type: none"> • Demo box for transporting the HORST600 • The foam in the box allows the robot, control unit and <u>Panel (VH500592)</u> to be stored appropriately <p>Features</p> <ul style="list-style-type: none"> • Robust transport box including handles and castors • Safe & easy transportation • Transportation and assembly can easily be carried out by one person <p>Use of the Demobox</p> <ul style="list-style-type: none"> • The demo box is only suitable for use for demonstration purposes in T1 mode by trained and qualified specialist personnel • For CE-compliant operation, additional safety components and an installation in accordance with the risk analysis are required |
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9.7.2 Demobox HORST600 – Panel G2 (VD500806)

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|----------|---|
| <p>-</p> | <p>Product Scope</p> <ul style="list-style-type: none"> • Demo box for transporting the HORST600 • The foam in the box allows the robot, control unit and <u>Panel G2 (VH500675)</u> to be stored appropriately <p>Features</p> <ul style="list-style-type: none"> • See above <p>Use of the Demobox</p> <ul style="list-style-type: none"> • See above |
|----------|---|

10 Change Log

| Changes to Version | Section | Overview of Changes |
|--------------------|--|--|
| 2026.1.2 | 1. | - Industrial robots HORST600 G2 and HORST800 G2 added |
| | 3. | - Industrial robots HORST600 G2 and HORST800 G2 added as options in Robotic Solutions |
| | 8.1. | - Scope of Support commissioning (on site) (VH500574) specified |
| 2026.1.1 | 1.1; 1.3; 1.5 | - Information on cleanroom class for HORST600, HORST1000 G2, and HORST1500 G2 added |
| | 1.1 – 1.5 & 1.6.3 | - Standard scope of the robot system adjusted: IIoT surf stick is no longer part of the robot system; instead, a Wi-Fi stick will be included in the delivery from now on |
| | 1.6.1 | - Control - Protection class information added - Power supply information added |
| | 2.1.2 | - EtherCAT added as part of Advanced Interfaces |
| | 3.1 | - Robotic Solution Pick & Place HORST600 on MRB M added (VE501231) |
| | 3.2 & 3.4 | - Dimensions of the Robotic Solution corrected → Width corrected from 1,120 mm to 1,220 mm |
| | 4.1 & 4.2 | - MRB Information added: Wheels can be locked |
| | 4.8.1 | - New VibroFlip and VibroSupply component kits including accessories added |
| 7.2.2 | - Training day – addition: <i>The price quoted for the training day is per participant</i> | |
| 2025.1.3 | Doc | - Changes made throughout the document: “Digital Robot” → “Industrial robot” |
| | Doc | - Changes made throughout the document: “Solution Kit” → “Robotic Solution” |
| | 3.5 | - Dimensions of tray holders corrected |
| | 1. | - Information on ambient temperature 5-40°C added |
| | 2. | - The entire chapter on software has been updated in line with the new release horstOS 2025.09 |
| | 3.6.1. | - Length specification 0.5 m added for robot fence base element complete (VH500754) |
| | 3. & 4. | - Chapter “Robotic Solutions” moved further forward in the document (from 4. to 3., swap with Component Kits) |
| 3.5 | - Dimensions of tray holders corrected | |
| 2025.1.2 | 1. | - Added to HORST1000 G2 and HORST1500: Transport aids (shackles) for transport with a hoist included in the scope of delivery |
| | 2. | - Revised description of the software features |
| | 3.4 | - Information added, that 4 drilling patterns each are provided on the robot base for positioning HORST1000, HORST1000 G2, HORST1400 and HORST1500 |
| | 3.5.5 | - Information added, that the height extension module can be used for HORST1000, HORST1000 G2 and HORST1500, but is not permitted for HORST1400 |
| | 6. | - Service content has been outsourced to a separate service specification |
| | 8. | - System check (VD500576) removed - In the future, this will be carried out as part of the “Inspection (VD500396)” item, which is described in the service specification. |
| 2025.1.1 | 3.1 | - New illustration of the Digital Robot |
| | 3.1 | - Mobile Robot Base – Note: When using HORST1000 G2, the MRB must be firmly anchored to the floor if the robot's working area is not restricted |
| | 3.6 | - Revision of the robot fence structure. More precise description of the elements and addition of the correct article numbers |
| | 3.8.1 | - New breakdown of the Component Kit Part Separation - Component Kit Shaker and Component Kit Bunker separately - Shaker bowl no longer listed under “9. Accessories” but directly with the component kits |
| | 3. & 4. | - Added notes that the Component Kits require compressed air for operation with the double gripper and the Flexibowl. Note also added to the affected Solution Kits. |
| | 4.1 | - Solution Kit Pick & Place with HORST1000 G2 newly included |
| | 9.1 | - New assignment of the Euromap67 interface (VE500197) in accessories |
| | 9.2 | - New assignment of the conversion kit Harting connector for control (VH500696) in accessories |
| | 9.4 | - Article numbers updated |
| | 9.7 | - Individual components of the Component Kits Part Separation added for flexible combination |
| 9.9 | - Demo boxes (for old and new panel) added | |
| 2024.2.3 | 1.3 | - Digital Robot HORST1000 G2 added to the document |
| | 3.1 | - Mobile Robot Base - Note: <i>When using HORST1400 and HORST1500, the MRB must be firmly anchored to the floor</i> |
| | 5 | - Educational offer for schools, colleges and universities newly described - Digital Education Package added |
| | 8.3 | - Detailed description of the Kit Services, which are part of the Solution Kits |
| | 8.4 | - Detailed description of the Machine Tending Services - Automatic door opener for machine tools (individual project engineering) (VH500714) |

| | | |
|----------|--|---|
| | | <ul style="list-style-type: none"> - Clamping Systems (individual project engineering) (VH500715) - Standard Assembly Solution Kit Machine Tending II on site (VD500724) |
| 2024.2.2 | 1.1, 1.2, 1.3, 1.4 | <ul style="list-style-type: none"> - Industrial robots described separately as part of the Digital Robots - New article numbers added for Digital Robot with new Panel G2 |
| | 1.5.2 | <ul style="list-style-type: none"> - Robot system accessories newly added to the document |
| | 1.5.4 | <ul style="list-style-type: none"> - Panel article number added (VH500592) |
| | 1.5.5 | <ul style="list-style-type: none"> - Panel G2 (VH500675) added |
| | 1.5.5.1 | <ul style="list-style-type: none"> - Protective film for Panel G2 (VH500678) added |
| | 1.5.6 | <ul style="list-style-type: none"> - "Operating system software horstOS" renamed to "Central control software horstOS including Digital Robot Features" - Article number added (VD500683) |
| | 1.5.7 | <ul style="list-style-type: none"> - horstCOSMOS assigned article number (VD500276) |
| | 2 | <ul style="list-style-type: none"> - Digital Robot software (horstOS) -> Illustration with software overview removed from this section - Software illustrations updated |
| | 2.1 | <ul style="list-style-type: none"> - Software packages: New illustration with software overview inserted |
| | 2.1.1 | <ul style="list-style-type: none"> - Digital Robot Features newly added |
| | 2.1.2 | <ul style="list-style-type: none"> - Advanced Interfaces: "Subscription" option including associated article number removed |
| | 2.1.3 | <ul style="list-style-type: none"> - "PLC Features" renamed to "Advanced Automation Features" (VD500660) - Change applied throughout the entire document |
| | 2.1.4 | <ul style="list-style-type: none"> - Advanced Graphical Features: "Subscription" option including associated article number removed - Illustrations updated |
| | 2.1.5 | <ul style="list-style-type: none"> - Description of AI Features expanded and new illustrations added |
| | 2.2 | <ul style="list-style-type: none"> - horstCOSMOS article number added (VD500276) |
| | 3.3 | <ul style="list-style-type: none"> - horstCUBE load capacity updated. 300 kg (old) -> 500 kg (new) |
| | 3.4 | <ul style="list-style-type: none"> - Robot base – Article number added (VE500670) |
| | 3.5 | <ul style="list-style-type: none"> - Robot base accessories – Descriptions specified and article numbers added |
| | 3.6 | <ul style="list-style-type: none"> - Robot fence – Illustrations updated and descriptions specified |
| | 3.7.4 | <ul style="list-style-type: none"> - "Component Kit Flexible Electric Small Parts Gripper EGK-25 for gripping components with variable stroke (SCHUNK)" (VH500700) newly added |
| | 3.7.6 | <ul style="list-style-type: none"> - "Component Kit Pneumatic Double Gripper with Exhaust Unit directly compatible with HORST - Size 80 (SCHUNK)" (VH500697) |
| | 3.8 | <ul style="list-style-type: none"> - Technical specifications of the Component Kits Part Separation expanded |
| | 3.8.4 | <ul style="list-style-type: none"> - "Component Kit Part Separation Flexibowl 500" (VH500698) newly added |
| | 3.9 | <ul style="list-style-type: none"> - More precise specification and differentiation of safety laser scanners |
| | 3.9.1 | <ul style="list-style-type: none"> - "Component Kit Safety Scanner nanoSCAN3 PRO IO for safe robot operation without separating protective device (SICK)" (VH500701) newly added |
| | 3.10.1 | <ul style="list-style-type: none"> - "Component Kit 2D Robot Guidance System (SICK)" (VH500489) – More precise specification and differentiation |
| | 3.10.2 | <ul style="list-style-type: none"> - "Component Kit 2D Grasping Kit for Parts Localization (Schunk)" (VH500699) newly added |
| 3.13 | <ul style="list-style-type: none"> - "Conversion Kit Harting Connector for Control" (VH500696) newly added | |
| 6.2.2 | <ul style="list-style-type: none"> - Training type "Group Training" on the training day (VD500549) specified in more detail | |
| 8.4. | <ul style="list-style-type: none"> - Locking kits: Illustrations added | |