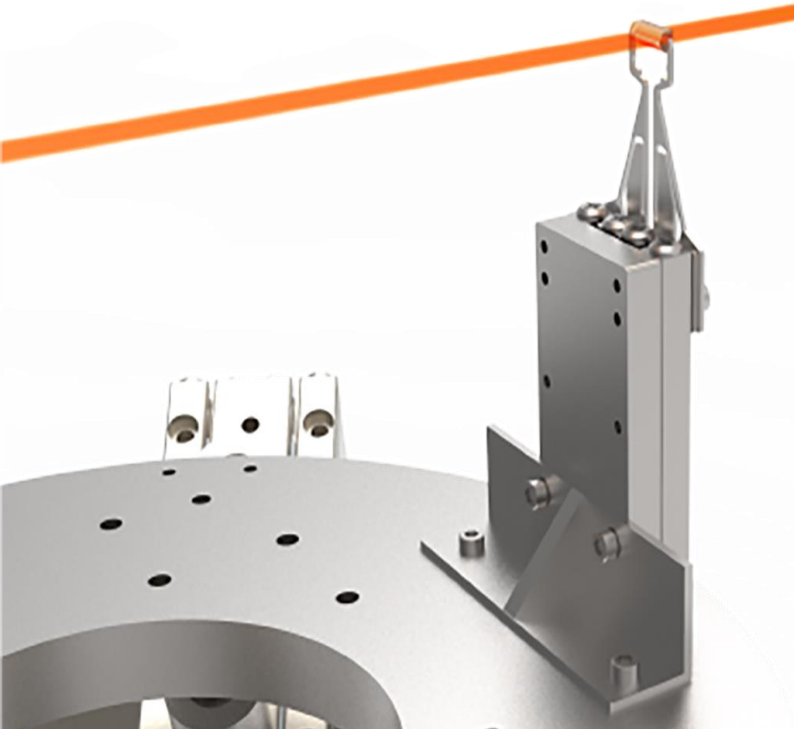
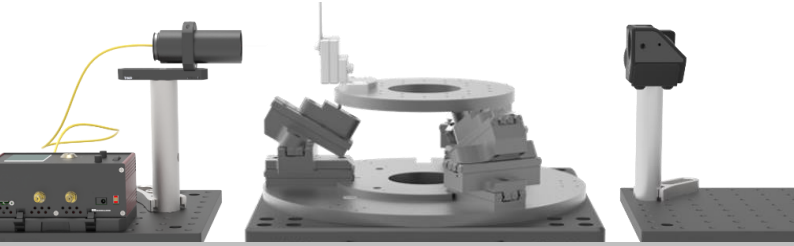
HÄCKER Automation

Technology Portfolio

Automated Photonic Assembly





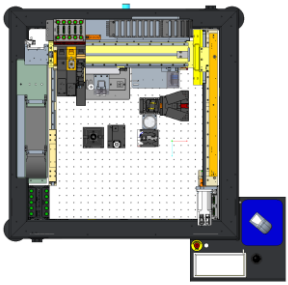
Complexity meets maximum innovation.

A system concept for automated optics assembly.

Meet the challenges of optical assembly with the perfect all-round solution for series production. With an OurPlant XTec laser, you benefit from maximum process diversity and flexibility. A wide variety of micro assembly, dispensing, laser soldering and active alignment applications can be mapped in combination.

Example configuration of a Passive Alignment Process

Machine: OurPlant XTec Laser



Layout: Passive Alignment

Budget price: Machine setup Passive alignment process

OurPlant XTec Incl. UV and laser protection glass

160.000,00 €

CAMERA 3D 18.000,00 €

CAMERA
SUBSIDE INSPECTION UNIT 10.500,00 €

PLACER P 51.500,00 €

PLACING EQUIPMENT
TOOL ADAPTER TA-SL4 2.650,00 €

PLACING EQUIPMENT
TOOL CHANGING UNIT
(4 TOOLS) 6.600,00 €

PLACING EQUIPMENT
TOOL ADAPTER TA- R3 1.100,00 €

DISPENSER D-PT
CARTRIDGE
EFD VALVE 19.800,00 €

DISPENSING EQUIPMENT
NEEDLE INSPECTION UNIT 18.000,00 €

DISPENSING EQUIPMENT
DRIP TRAY 300 600,00 €

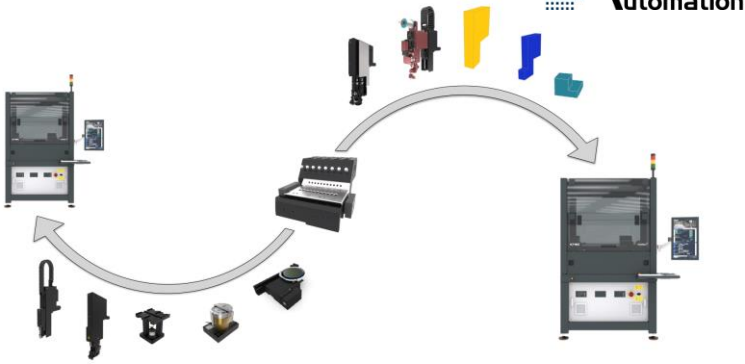
DISPENSING EQUIPMENT
DIRECT DISPENSING UNIT 16.200,00 €

FEEDING EQUIPMENT
GEL-PAK® SUPPORT 5.400,00 €

HELIOTIS INTERFEROMETER 49.200,00 €

Subtotal	359.550,00 €
19% VAT	68.314,50 €
Subtotal	**427.864,50 €***

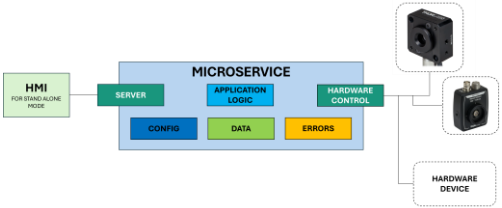
* Equipment price excl. engineering costs



Maximum flexibility for your process design.

The open and modular machine platform is the perfect tool when it comes to implementing your extensive processes. Consoles with standardized interfaces allow you true plug & play capability of all modules on all systems.

The decision to configure a machine is not a final one. You remain flexible with the connection of new modules or the integration of specially developed modules.

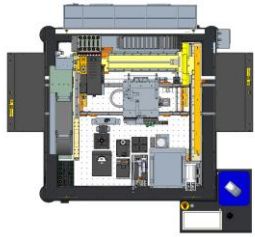


Integration of your own process modules and systems

With the connection of MicroServices, highly individual customer systems can be docked onto the machine system. Reasons for this can be the validation of measuring systems or production technologies that have already been carried out, which are further developed and operated by the machine operator. This allows further systems to be connected.

Budgetpreis: Maschinen-Setup Active Alignment Prozess

Produktionsanlage: OurPlant XTec Laser



Raummodell: Active Alignment Prozess

Serienfertigung OurPlant XTec
Inkl. UV- und Laserschutzglas

160.000,00 €

CAMERA 3D

18.000,00 €

CAMERA (2D HORIZONTAL)
(3,5 X 4,3) MM

10.500,00 €

CAMERA (2D HORIZONTAL)
(3,5 X 4,3) MM

11.280,00 €

PLACER HR

110.000,00 €

METROLOGIE UND KONTAKTIERSTATION

anwendungsspezifischer Preis

DISPENSING EQUIPMENT
DIRECT DISPENSING UNIT 16.200,00 €

DISPENSING EQUIPMENT
DRIP TRAY 150 350,00 €

DISPENSING EQUIPMENT
DISPENSER (HORIZONTAL) 25.000,00 €

FEEDING EQUIPMENT
GEL-PAK® SUPPORT 5.400,00 €

FEEDING EQUIPMENT
VACUUM SUPPORT (4 INCH) 6.000,00 €

FEEDING EQUIPMENT
CONVEYOR 16.200,00 €

FEEDING EQUIPMENT
WAFFLE PACK SUPPORT (1X 2") 850,00€

Zwischensumme	379.780,00 €
19% MwSt.	72.158,20 €
Gesamtsumme	**451.938,20 €***

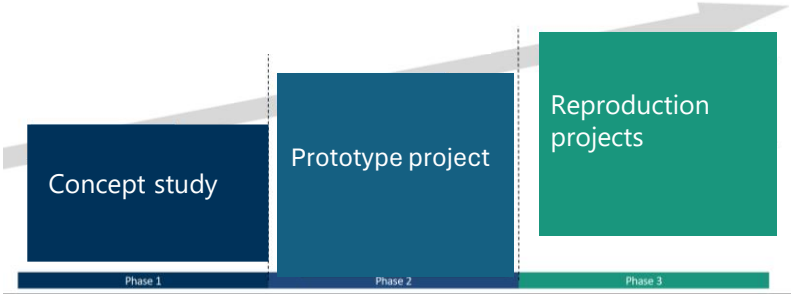
***Equipmentpreis exkl. Metrologie, Engineeringkosten**

Konfiguriere deine eigene Anlage unter:
www.mikromontage.shop

Project structuring:
How we work together.

What is absolutely essential for us?

Aspects of project design:
- Structuring of development services and automation implementation
- Initial economic feasibility studies
- Rough price and time orientation
- Definition: Starting the project

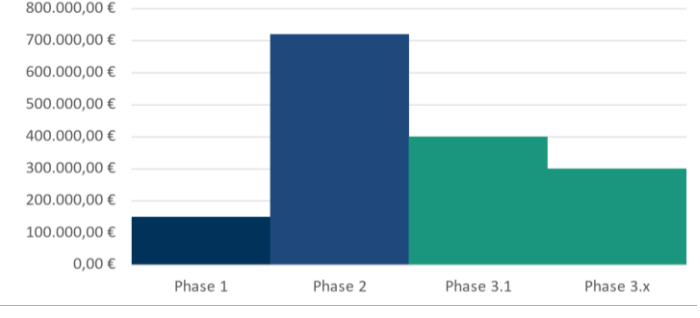


Phase 1 - To the point:
- Detailed concept
- Extended feasibility studies
- Economic feasibility studies

Phase 2 - Getting to the point:
- Development of new skills for the implementation of your production task
- Detailed process development
- Production of fully-fledged production equipment as the first prototype implementation

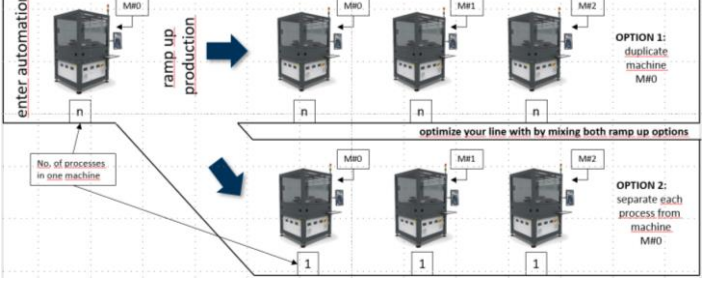
Phase 3 - Getting to the point:
- Extended optimization of the new capabilities
- Reproduction of the optimized production equipment

Profitability analysis and investment costs.



In the course of full automation, the costs per machine project fall considerably after an initial prototype project. In the reproduction phase (phase 3), the net prices for the provision of production equipment depend on optimization requirements.

Optimize your production.



Machine and module specifics active and passive alignment processes

OurPlant XTec, incl. UV and laser protection glass

- Dimensions in mm (WxDxH)/ Weight: 1.735 x 1.455 x 2.400 mm/ ca. 1.200 Kg
- Max, functional range in mm (X,Y) 500 x500
- 2-axis gantry system (X, Y)
  - Repeat accuracy positioning X-axis: Deviation ≤ ± 5 µm @ Cp ≥ 1,67
  - Repeat accuracy positioning Y-axis: Deviation ≤ ± 5 µm @ Cp ≥ 1,67
- Processing heads with integrated Z-axis
- UV protective screens, optionally with laser protective screens
- Software and control with integrated industrial PC
- Interface with 10 electrical connections (5x CAN, 5x Ethernet) for accommodating processing modules up to a total width of modules up to a total width of 150 mm (can be extended to 300 mm using an adapter plate)

Inspection

CAMERA 3D

- Inspection head with optical 3D detection and automatic position correction
- Calculation of the exact 3D position
- Correction of deviations from the target position using error compensation algorithms
- Dimensions in mm (WxDxH)/ Weight: 49 x 261 x 341 mm/ 4,8 Kg
- Travel range in Z in mm: 150
- Lens type: Macro lens
- Image field in mm (W x H): 7,2×5,4
- Camera resolution in µm: 7,6

Placing

PLACER HR

The Placer HR (Hexapod Rotation) was specially developed for active alignment tasks.
In addition to a travel range of 150 mm in the Z direction, it has a movement range of of +/- 50° around the axis of movement. For the fine positioning and alignment of optical components components, a hexapod with six axes and movements in all 6 degrees of freedom has been integrated.