

SolderSmart®


Experience
the new way
of soldering.



ELMOTEC
Automation | Löttechnik

 [YouTube Video](#)

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SolderSmart®

Precision & Quality

Integrated solution made in Switzerland

Hardware

Sophisticated hardware combination of the highest quality

Software

Software concept with high user-friendliness

Options & Extensions

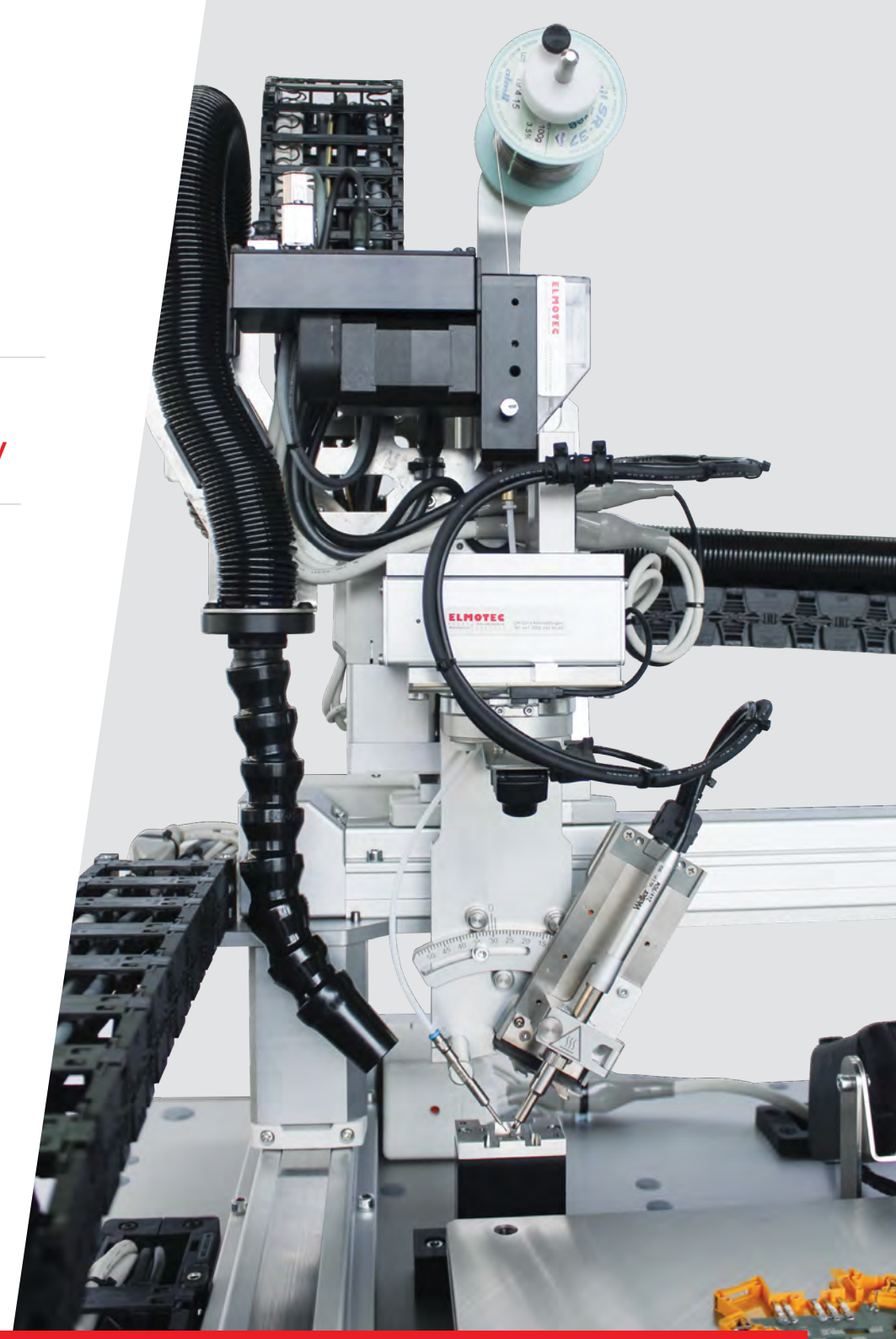
Modular upgrade options

Client Service

Comprehensive consulting, training and support

Technical Specifications

The most important features at a glance



SolderSmart®

Precision & Quality made in Switzerland

**SolderSmart® is a reliable solution for
fully automatic point-by-point piston soldering.**



For simple and complex soldering solutions

- › 4+1-axis soldering robot, versatile freedom of movement & high axis accuracy
- › Increased productivity through interchangeable drawer system
- › Point-by-point soldering with pre-soldering and drag-soldering options

Accuracy, reliability & traceability

- › Consistently high quality soldering
- › Traceability of the desired parameters via the database (e.g. with barcode or photo of the soldered parts)
- › Integratable and selectable process control mechanisms

Autom. zero point calibration & soldering tip measurement

- › Fully automatic zero point calibration & soldering tip measurement
- › Autom. soldering tip maintenance control

Intuitive operation

- › Press arrow keys in all directions
- › Input of coordinates
- › Support of the camera with integrated function
- › Duplicate left / right work area by copy+paste
- › Versatile options & features, e.g. drag soldering

Support and distribution worldwide

- › Distribution partner on site
- › Worldwide online support & training

**SolderSmart is used in a wide range in the
production and manufacturing process.**

... our expert team is looking forward to your request.

The plus points



Generous work surface

- › 483*383mm working surface allows a large number of different part sizes



Drawer system OPTIONAL

Two drawers - while the robot is soldering on one side, the operator can replace already soldered parts on the other side

- › 100% productivity, reduction of labour costs
- › Control and release of the drawers via sensors
- › One exchangeable plate per drawer included in the scope of delivery
- › Double function: as separate drawers or as one plate



Integrated industrial PC

- › Windows software & SolderSmart software included
- › Integration into company network possible



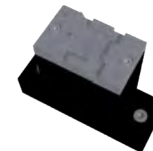
Control panel

- › Simple operation for start, stop, reset and emergency stop, incl. USB ports for data import and export.



Cleaning station

- › Gentle cleaning with brushes, flexible adjustment of the interval (=long life of the soldering tip).



4-axis tip correction / zero point system

- › Automatic calibration of the zero point by a fully automatic measurement of the soldering tip. This feature enables a reproducible and high quality of the Soldering results, even after changing the soldering tip.

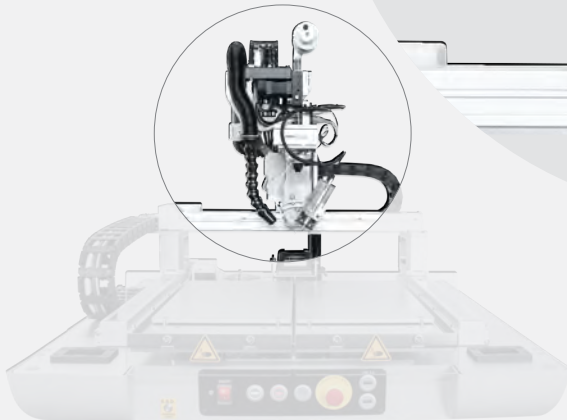
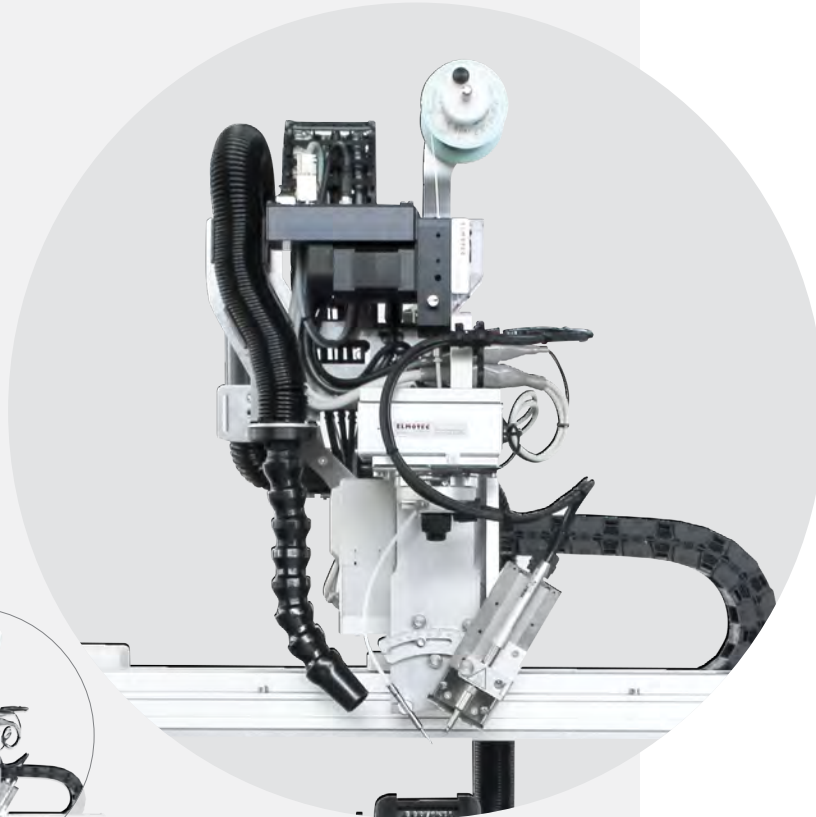


Handles for easy movement

- › Four carrying handles on the sides serve for easy carrying. The handles allow the machine to move (weight approx. 75kg).

Hardware

The plus points



High precision wire feeder

Integrated control, data logger, error memory

- › Monitoring of process parameters (e.g. position, current, wire break)
- › Precision controlled feed
- › Efficient closed-loop control
- › Flexible adjustment of the solder wire 0.5mm, 0.8mm, 1mm
- › Monitoring of the wire for early replacement of the empty roll
- › Automatic threading aid of the solder wire up to the soldering tip



Solder fume extraction device

- › Direct suction at the soldering head
- › Very high suction power
- › Flexible connection to central system and on extraction systems from known manufacturers



Heating element & soldering station

90W heating element component basic model

- › Refined non-twisting closure for the soldering iron
- › Guaranteed constant heat transfer between heating element and soldering tip
- › Soldering tip can be changed without removing the heating element
- › Selection of soldering tips and soldering iron manufacturers OPTIONAL



Camera system OPTIONAL

- › Mounted on soldering head
- › Direct view of the process and solder point
- › Real-time process tracking and traceability
- › Alignment assistance included

Software

Autom. zero point calibration & soldering tip measurement

An innovative system (made by Elmotec), enables precise zero point calibration and measurement of the soldering tip. This guarantees reproducible quality of the process with minimum effort and complexity.



Autom. zero point calibration

Ensures that the soldering tip is correctly aligned at all times

- ✓ After soldering tip change
- ✓ After heating element change
- ✓ After program change
- ✓ After maintenance
- ✓ After solder wire change

Autom. soldering tip measurement

Ensures that the correct size of soldering tip is used

- ✓ After soldering tip change
- ✓ After program change
- ✓ Store soldering tip size per program and activate automatic control
- ✓ After maintenance
- ✓ After solder wire change

Software

Intuitive operation

Enables process safety & traceability

Monitoring and traceability secure the production.

- › Relevant parameters in an overview
- › Automated process and control functions
 - › Autom. soldering tip control
 - › Automatic zero point calibration
- › Process monitoring & recording of all relevant process parameters for Traceability and quality control
- › Traceability and data storage
 - › Desired soldering parameter (e.g. incl. pictures)
 - › Provision for transfer to superior control systems

Execution & handling of soldering program

Takes over tasks of the operator (worker) and simplifies handling.

- › Autom. set-up and preparation of the soldering process by the robot
- › Selection of the soldering program (e.g. based on image, name, QR or barcode)
- › Software supported error handling operator will be informed of the reason for the error and measure proposed
- › Easy switching between drawer or complete panel for different component sizes



Defined user access levels

Differentiates responsibilities and prevents errors.

- › **Defined responsibilities**
Password protected area ensures that operator only has access to its relevant process data

Intuitive teaching & programming

Makes the programming of new soldering programs as easy as never before.

- › **Intuitive teaching of solder points**
by input of the geometries, by pressing the arrow keys, via camera
- › **Simple copy/paste functions**
for parameters and soldering programs
- › **Soldering profiles**
Freely definable soldering profiles and predefined standard profiles to choose from
- › **Test mode function**
Direct control of the created soldering program by using test mode

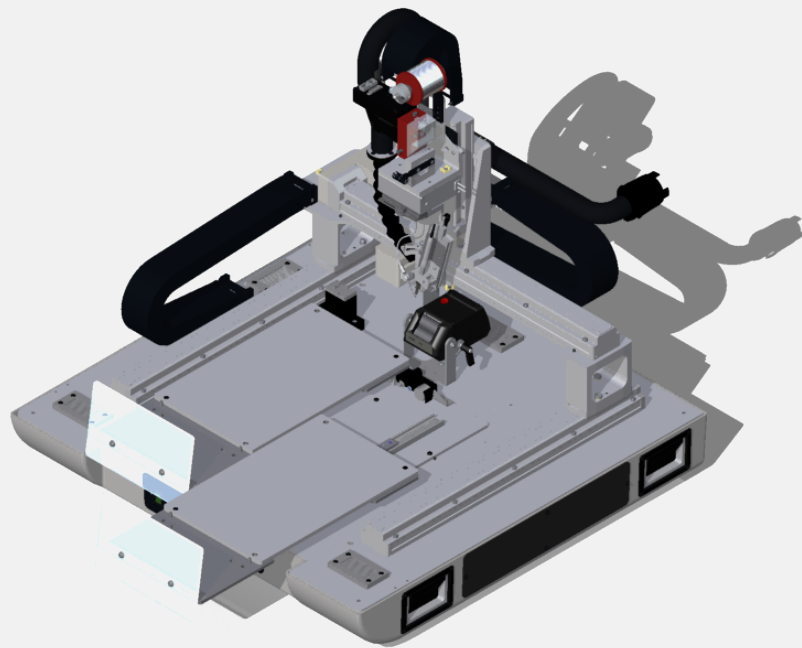
Supervised maintenance & wearing parts replacement

Maximizes the service life of wearing parts and prevents unplanned downtime.

- › **Support for wear part replacement**
 - › Integrated control processes (soldering tip, soldering wire etc.)
 - › Integrated counters
- › **Easy maintenance execution**
 - › Autom. note on maintenance
 - › Execution of the maintenance by intuitive clicking of the buttons

Options & Extensions Upgrade

▼ Base model



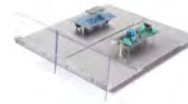
with grooved plate and soldering equipment
(without hood / drawers)

☑ Upgrade Options



Hood

- › Protection for the user, the environment and the machine
- › CE / ESD



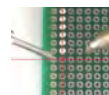
Drawers

- › 100% productivity, reduction of labour costs
- › Self locking and unlocking drawers
- › Includes two removable plates
- › Flexible use as drawers or a complete plate



LED lighting

- › Direct lighting for the working surface (for option with hood)



Machine Vision System

- › Automatically detects and corrects inaccuracies of the component or the workpie carrier



Touch screen

- › Enables intuitive operation- keyboard/screen and mouse are no longer required



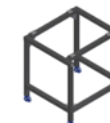
Camera

- › Supports the administrator & operator during teaching by zoom option
- › 5 MP USB colour camera
- › Traceability of the process
- › Alignment assistance included



Scanner

- › Increases process safety & traceability
- › Scanner incl. software interface
- › Recognition of the components via barcode or QR code



Machine frame

- › Vibration damped rollers, which can be levelled and fixed.

Client Service

Comprehensive support

CONSULTING & SUPPORT

We accompany you throughout the entire process: from the analysis of the most suitable soldering process, through the process of implementation, to training, commission and after sales support.



Analysis & test soldering

To confirm the quality of your soldered products according to IPC standards, our experts carry out comprehensive test soldering. Thereby you receive important information and recommendations on cycle times, optimal production processes, soldering parameters and recommended product design to optimize the soldering process.



Training

- › Software and machine operation as well as simple independent spare parts exchange within one day learnable
- › Training includes theory and practice
- › Own commissioning after training possible



Maintenance - and servicing

- › Low maintenance due to robust construction
- › Complete maintenance of the machine possible within one hour
- › Short delivery times for spare and wear parts, local distributor in the respective country
- › Technical support from our specialists for SolderSmart according to customer requirements virtually and on site
- › Rental device available in case of repairs



After-Sales

- › Latest software updates with new features available
- › Teaching & parameter finding: optimized programming of your products by our customer service
- › Service and maintenance contract on request

Do you have a complex soldering task?

Contact us, our soldering experts will be pleased to check your individual request.



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SolderSmart®

Technical specifications

At a glance



WORKING SURFACE
483x383mm

AXIS ACCURACY
± 0.02mm

CARTESIAN AXIS SYSTEM
4 axes plus an additional 5th axis (linear motor)

SPEED
Ca. 400mm/s

CONNECTION
Device plug C14

CONTROL
Electric only

POWER CONSUMPTION
Max. 10A

INTERFACES
Ethernet/ USB / digital I.O / HDMI

SUPPLY VOLTAGE
1x 110VAC / 1x 230VAC, 50-60Hz

VERSIONS
**Stand-alone or
in a production line**

DIMENSIONS
**880x880x770
(830mm with hood)**

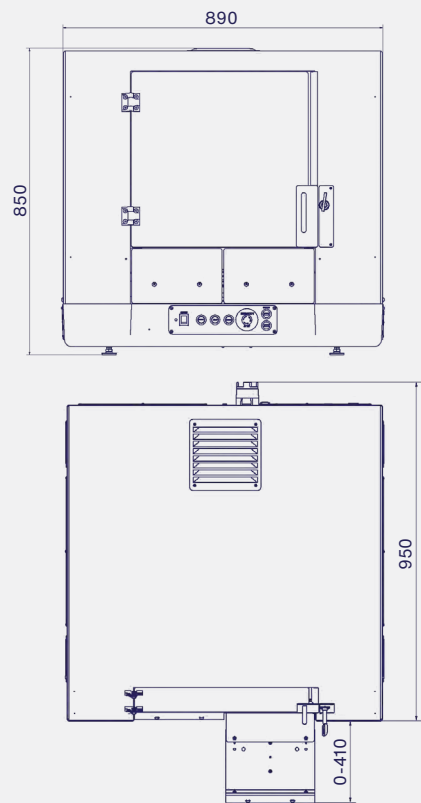
X, Y, Z-DRIVE
Stepper motors

WEIGHT
75 kg (base version)

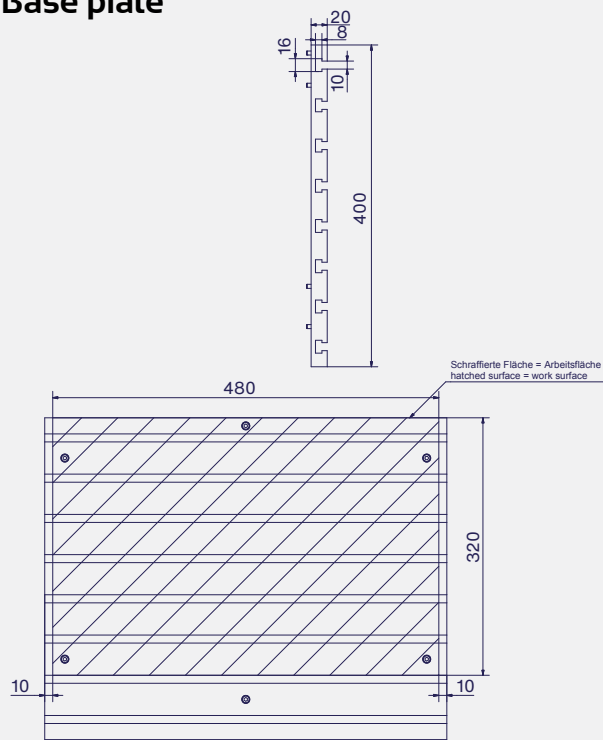
Technical specifications

Dimensions

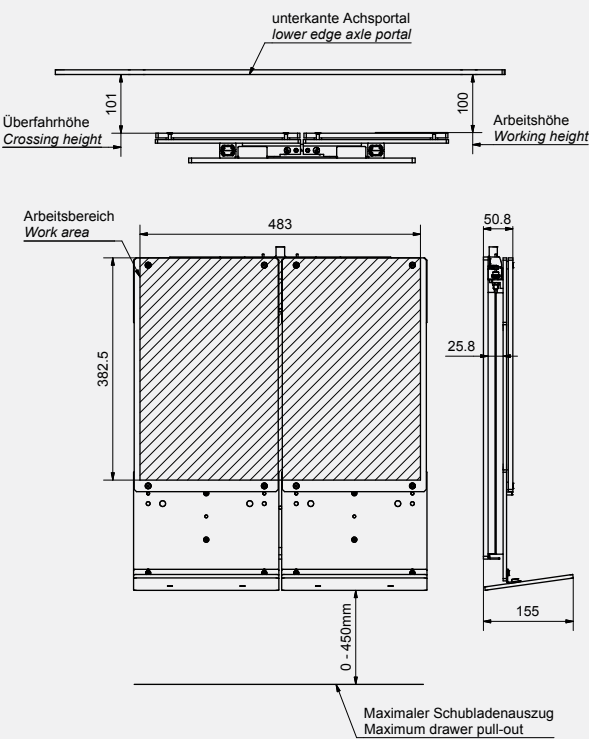
Outsite dimensions



Base plate



Drawers and change plates



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