

## TECHNICAL DATAS

- Dimensions: L 1430 mm / W 1550 mm / H 1250 mm (57" x 61" x 50")
- Weight: approx. 800 kg
- Colour: base frame RAL 7035 / door panel RAL 7021
- Extraction rate: 400 m<sup>3</sup>/hr
- Power requirements: 3 x 32 A / 3 x 400 V / 50 Hz depends on the configuration 6 – 14,4 KW



## FLUXER

<b>Fluxer type</b>	Micro Drop
<b>Flux container</b>	3 liter pressurized pot with level indicator

## PREHEAT

<b>Type</b>	Quick-reacting quartz rods
<b>Power</b>	Approx. 6 KW
<b>Top side preheat</b>	Installed in the gripper, 3 KW

## SYSTEM CONTROL

<b>Control concept</b>	Beckhoff PLC, incl. PC and accessories
<b>Interface</b>	Ethernet, USB
<b>Offline Software</b>	Offline software for easy programming
<b>Axis type</b>	XY-Portal; Z-axis lift; DC Servo motors with encoders; CAN-BUS
<b>Axis movement</b>	Combination of toothed belts and ball screw
<b>Repeatability</b>	±0,15 mm (±0,006")

## PRINTED CIRCUIT BOARD

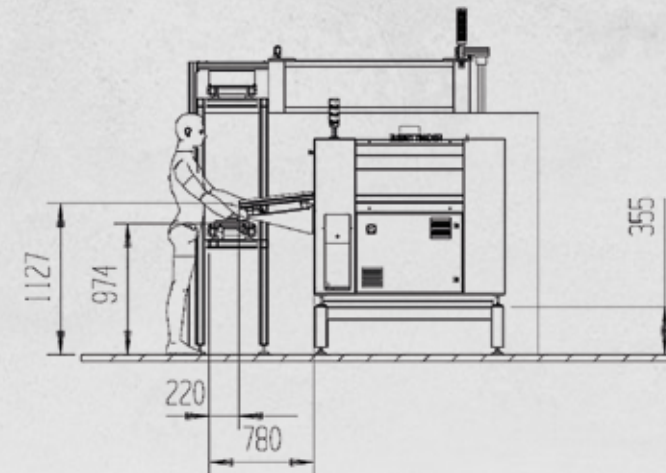
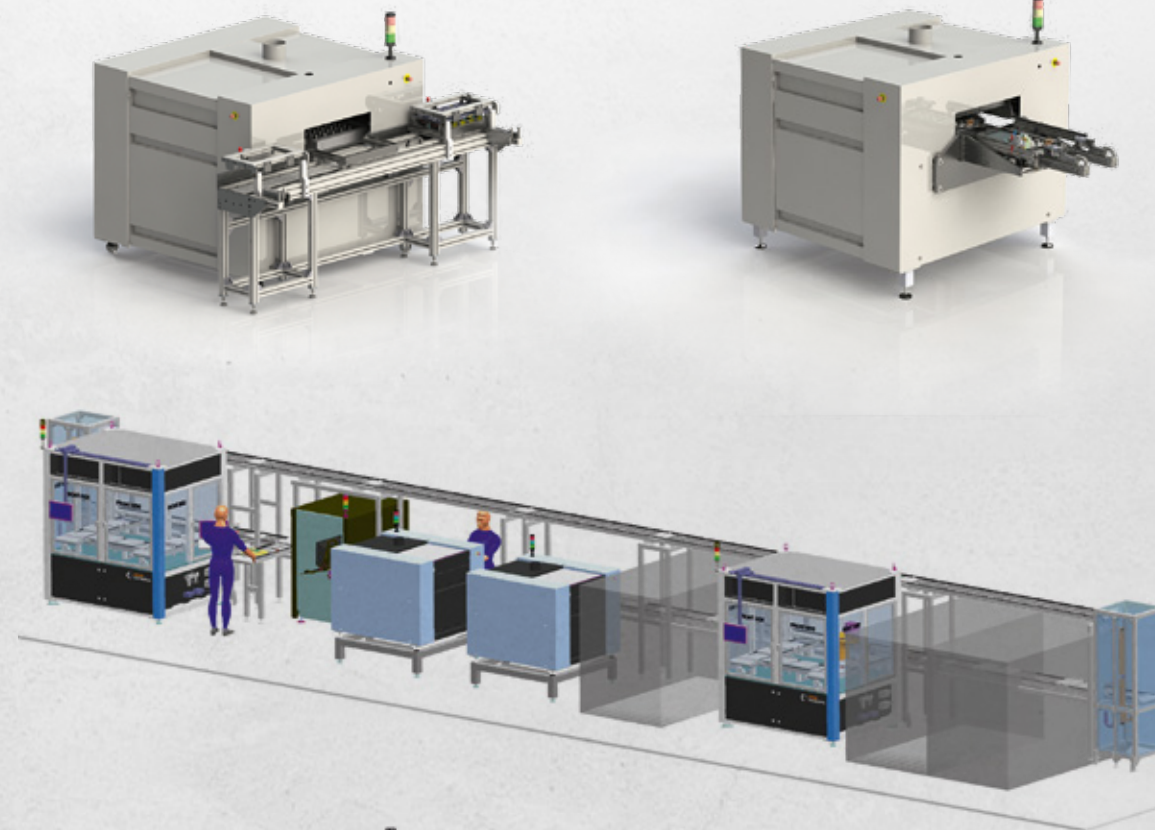
<b>Dimensions min. / max.</b>	20 x 20 mm / 460 x 460 mm (0,8" x 0,8" / 18" x 18"), Carrier 550 x 550 mm
<b>Soldering angle</b>	0° and 7°
<b>Bottom side clearance / Top side clearance</b>	30 mm (1,2") / 150 mm (6")

## SOLDER POT

<b>Solder pot with the possibility to use a second mini wave module</b>	Solder volume lead-free (45 KG) / Tin Lead (50 KG)
<b>Alternative: Solder pot for solder module with electro-dynamic pump single nozzle</b>	Solder volume lead-free / Tin lead (42 KG)
<b>Solder nozzles</b>	Different sizes are available Ø 4 mm – Ø 30 mm
<b>Solder temperature / temperature control</b>	Maximum 330°C / via PID sensor
<b>Solder wave height control</b>	Program controlled, soldering heat query (automatic)
<b>Nitrogen gas</b>	N <sub>2</sub> , 5,0 is recommended, max. pressure 5,5 bar, consumption approx. 2m <sup>3</sup> /hr per nozzle

## FROM THE STANDALONE SYSTEM TO THE INTEGRATION IN PRODUCTION LINES

The structure of this system allows it to be operated as a standalone system with the smallest footprint, up to the integration into an effective production line.



The system can also be integrated into automatic lines in which the loading and process takes place without an operator.

The low consumption values are another point where the ROI of the system stands out in the market. The software specifically controls standby functions in order to keep the effective use of nitrogen and electrical energy to a minimum.



## THE SYSTEM FOR AUTOMATION IN THE MANUAL SOLDERING AREA



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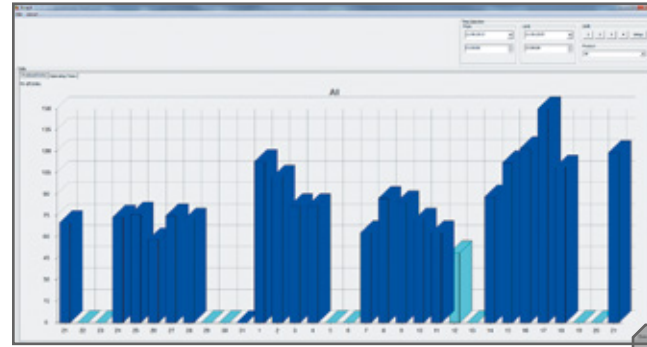
[www.inertec.de](http://www.inertec.de)

## CUBE.460

THE ENTRY-LEVEL SELECTIVE SOLDERING SYSTEM

## EASY PROGRAMMING

- Easy, graphical programming
- Quick entry into the selective soldering technology
- Professional functions
- Process monitoring
- Bus compatible DC servo motors
- Connection to MES as well as the logging of all process data



## From the basic equipment to the complete soldering cell including an AOI system.

In the design, particular attention has been made to ease setup and maintenance, through good accessibility.

The manual loading is customizable and furthermore it can be automated.

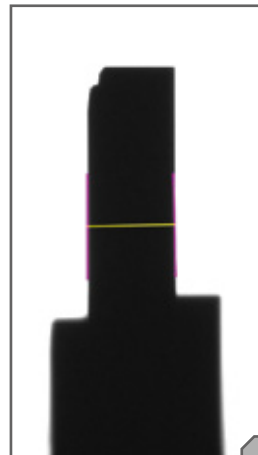
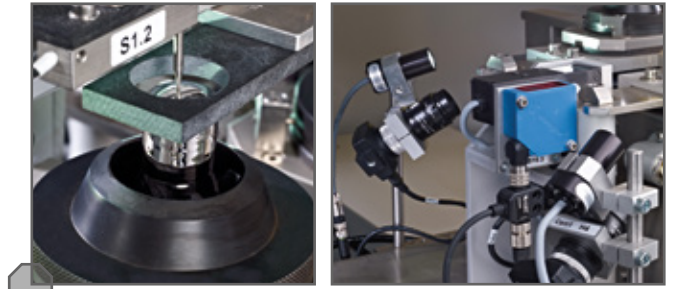
## EFFECTIVE PREHEATING

- Efficient quartz preheating
- Low energy consumption
- Control of the PCB temperature and transfer of the values in BDE datas



## PROCESS CONTROL

- An optional process camera allows for constant monitoring
- The wave height is measured and adjusted via a titanium needle
- Position correction with Fiducial
- Deflection measurement of the PCB with a warpage control sensor



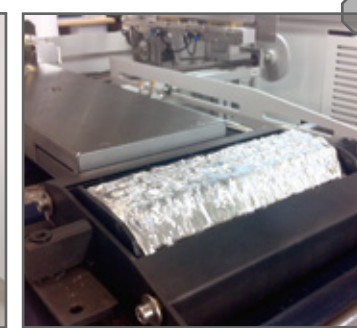
## AUTOMATIC SOLDERING NOZZLE DETECTION

One of the many technical features is the automatic nozzle recognition via a camera in the soldering area. This supports the operator and avoids an incorrect nozzle tip insertion.

Dauer 1 messen		Dauer 2 messen		Dauer 1+2 messen		Gesamte Daten messen		Reconnect
Höhe Lotaußtritt 1	Bräde Kanal 1	Bräde Kanallänge 1	Pin	Höhe Lotaußtritt 2	Bräde Kanal 2	Bräde Kanallänge 2	Pin	
421.63	100.43	71.13		384.02	53.75	43.76		
Werkzeug 1				Werkzeug 2				
109 mm				40 mm				
Eingeladetes Tool 1				Eingeladetes Tool 2				
System: 0000000				System: 0000000				
Angewähltes Tool 1				Angewähltes Tool 2				
System: 0000000				System: 0000000				

## QUICK CHANGE-OVER OF DIFFERENT ALLOYS / SOLDERING MODULE

- The throughput and flexibility can be increased by the use of a second soldering module with program-controlled actuation
- Easy exchange with a trolley (optional: The distance between two soldering modules can be adjusted automatically)
- A 200 mm wave module changes the CUBE.460 into a system for all applications



## ELECTRODYNAMIC SOLDERING PUMP

In addition to the standard soldering pump, an electromagnetic version is available.



## PRECISE FLUX CONTROL

- The standard microdrop fluxer achieves a precise application pattern for fluxing with very few residues
- Optical monitoring with a light barrier (optionally: different fluxes and application systems)

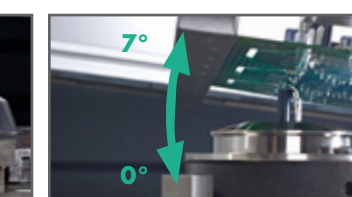
## EXCHANGEABLE SOLDER NOZZLES

- Quick exchange of the solder nozzles without any tooling
- Flexible process adjustment of the solder nozzle
- Short cycle times with very high solder quality by using a Multiport tool
- The use of the automatic soldering nozzle cleaning avoids any maintenance / cleaning for the operator during the production



## AOI & CONTROL OF COMPONENT INSERTION

- Automatic control of component insertion of the THT components and polarity
- Start of the process only if the component is correctly equipped
- Automatic solder joint inspection for SMT and THT components
- Inspection of the component from below
- Error display in the analysis and repair station software



## VARIABLE SOLDER ANGLE

- Adjustable to 0° and 7°, to make it possible using various soldering nozzles
- Also difficult layouts can be achieved, with ultra-narrow clearances