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SOLDERING & DISPENSING

# SOLDERING & DISPENSING



unitechnologies

THE ART OF PRECISION



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# Solutions & services

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## From concept to turnkey solutions

Unitechnologies SA, with its mta® brand, is the leader in selective soldering and small quantity volumetric dispensing processes based on standardized platforms. The product range includes components, standalone systems, semi-automatic table-top robots and entirely automatic production cells or lines.

Thanks to a complete infrastructure, trials can be carried out on samples using all proven mta® soldering and dispensing techniques in the company's test laboratories.

Once the mta® technique has been validated, a detailed quotation is established with the proposed standard machine adapted to the customer's specifications.

For the peripheral automation processes of the soldering and dispensing operations, turnkey automated lines are also offered.

Unitechnologies mechanical and software engineers, designers and technicians provide on-site installation and training to customers as well as worldwide after-sales services.



## Services & support

### Test laboratories

During the feasibility studies in the soldering and dispensing laboratories, the physical properties of the applications and other elements are studied down to the smallest detail. Based on this analysis, the most appropriate mta® soldering or dispensing techniques can be defined for each specific application and a detailed report confirming the feasibility and the characteristics can be established.

### Process & innovation

mta® process specialists constantly work to develop innovative products and services in-line with the market's development and the specific needs of customers.

### Customer services

The Unitechnologies' customer services can provide advice, remote or onsite intervention with speed and reliability. With a large range of spare parts in stock, the customer's system will stay at the cutting edge of technology.

### Worldwide presence

As a partner to numerous companies in industries such as automotive, electronics, medical, watchmaking, telecom and household appliances, Unitechnologies has an international sales and distribution network dedicated to advice, sales and customer support.

### Swiss quality

More than 3'500 mta® systems produced and installed throughout the world meet the customer's expectations in terms of quality thanks to "Swiss made" criteria and to a rigorous application of a certified ISO 9001 quality management system.





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# Selective soldering

## Point to point selective soldering

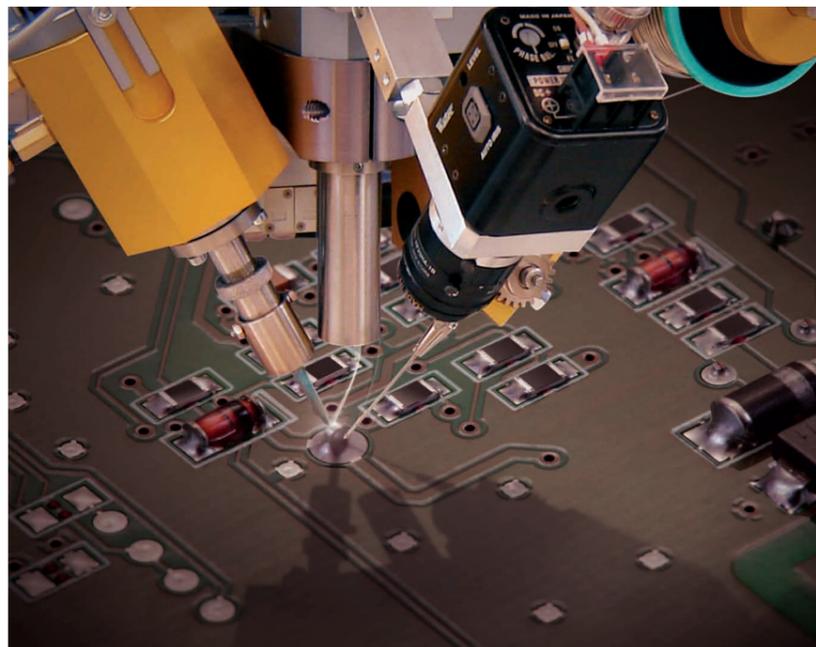
With the point to point selective soldering technique, very specific points to be soldered can be selected. Compared to soldering on defined areas, this enables a higher accuracy and the possibility of adapting the soldering parameters to the requirements of each individual point.

As alternative to manual soldering, the point to point soldering automated solutions guarantee a high soldering quality as they are much more repeatable and reliable than working with soldering operators.

The ability of the components to be soldered in the customer's application is tested in the mta® soldering laboratory. During these feasibility studies, properties such as material, surface treatment, alloy structure of the soldering wire and the type of flux are analyzed.

After this complete analysis, the most appropriate soldering technique is chosen from the mta® product range: soldering iron, laser, induction or microflame. These techniques are detailed on pages 6 and 7.

All of the above mentioned soldering techniques can be integrated into the various mta® standard platforms, adapted for fully automatic or semi-automatic operations, such as the FRC500 robotic cell, the FRC500-Dual robotic cell, the TR300 tabletop robot, the OEM robot or the station. The soldering platforms are detailed on pages 12 to 16.



## Examples of applications



Laser soldering of wires on a ceramic substrate of a medical pressure sensor



Iron soldering of a microphone and connector for mobile telephone



Iron soldering of terminals on a printed circuit



Induction soldering of a temperature sensor



Microflame soldering of a coaxial cable on HF connector

## Soldering consumables

In order to guarantee a long machine life span and to avoid difficulties in acquiring spare parts, a large selection of mta® consumables and spare parts is available from the Unitechnologies' customer service team.

The consumables are limited to four main types: iron soldering tips, heating units, wire feeder guides and cleaning sponges. Each type is described below:

### Soldering tips

The design of the mta® soldering tips is the result of almost 50 years of experience in the soldering domain. This unique design is based on the following key parameters:

- Easy changeover of the tip: it can be changed within a few seconds and a minimum of steps. The simple and accurate spring lock ensures the replacement of the tips without requiring any further changes to the machine.
- Long life span: the design ensures a long life span of the tips up to 80'000 soldering points depending on the application.
- Accurate temperature control and thermal transfer: the main challenge in an iron soldering device is the quality of the thermal transfer between the heating element and the tip. In addition, the measurement and the control of the temperature must be fast and accurate.

A large range of standard tips for 80W and 150W soldering heads, corresponding to the most common uses, is available. Specific tips can also be offered depending on the customer's application. mta® tips can be used for both lead and lead free soldering.

### Heating units

Heating elements are available for both 80W and 150W irons. As these units are submitted to high temperature, they need to be replaced from time to time and as such can easily be changed when necessary.

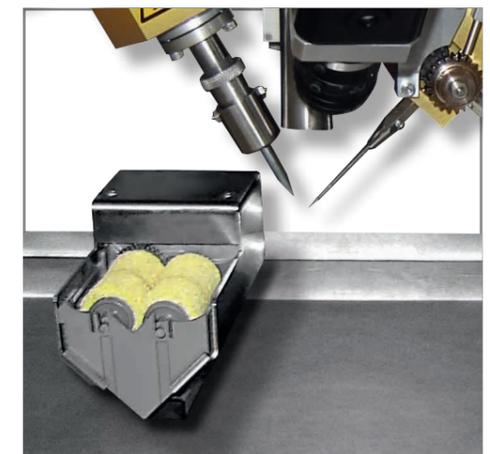
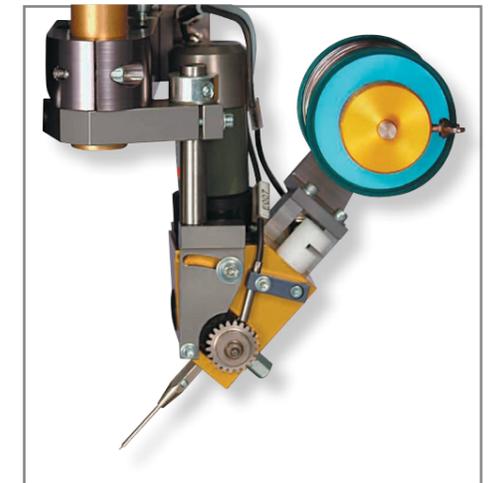
### Wire feeder guides

As a key element of the soldering robot, the wire feeder drives the soldering alloy to the exact position required by the application. This unit is adaptable to several wire diameters. At the end of the device, the wire is guided through a tube, which, due to the continuous pollution of the soldering alloy, must be replaced from time to time.

### Cleaning sponges

mta® brand has a proprietary design for the tip cleaning units which consist of two rotating sponges with manual or automatic wetting system. These sponges have to be replaced from time to time.

## Examples of consumables





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# Selective soldering

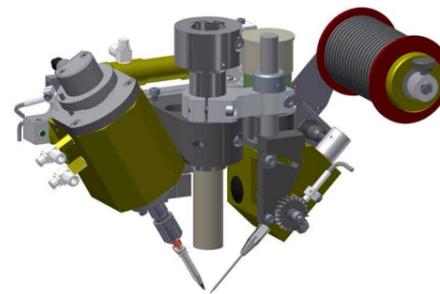
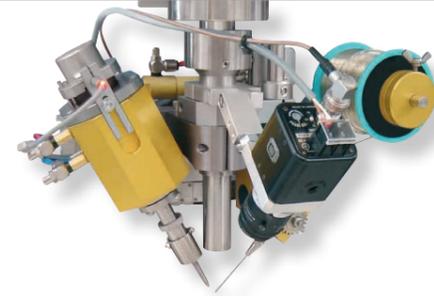
## Soldering techniques

### Soldering iron

- Easy access to all mechanical settings of the soldering iron head
- Soldering tip long life span
- Easy and fast tip changeover
- Guaranteed repeatability of tip position after changeover
- Specific tips according to the application
- \*Controlled wire presence and feeding
- \*Lead free compatible

Technical specifications	
Iron power	80W or 150W/24VAC
Iron temperature	adjustable to 450°C (837°F) and standby mode
Temperature accuracy	± 5°C (regulation over a 4-20mA current loop)
Plug-in connection	25-pole sub-D male
Power supply controller	115/230V- 50/60Hz
Air pressure	max. 6 bar
Iron head dimensions	292 x 225 x 184 mm
Iron head weight	~2.9 kg
*Soldering wire diameter	0.3 - 1.6 mm
*Soldering wire qty accuracy	±2.5% / Power supply: 24VDC

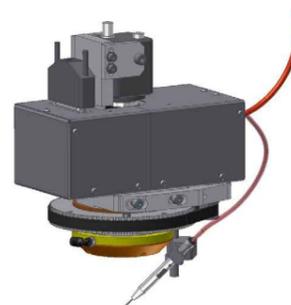
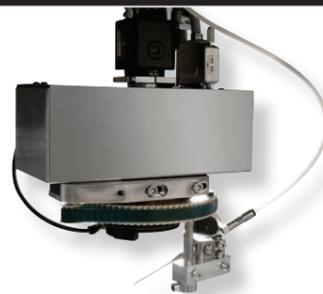
*\*applicable to all soldering techniques*



### Laser PowerLas

- Uniform solder joint heating
- Digitally adjustable focus for different solder joint sizes
- Easy teaching with integrated monitoring and laserpointer
- Optical realignment and fiducials recognition
- Diode laser with optical fiber
- Contact-less soldering

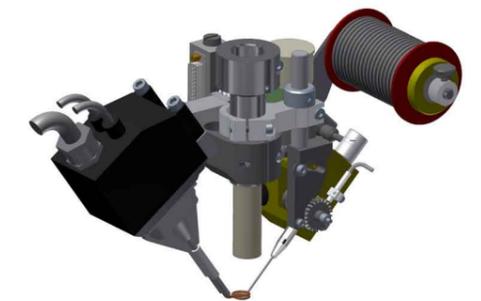
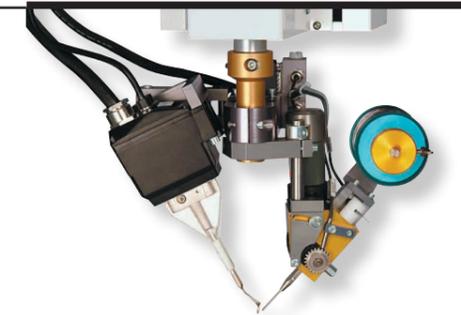
Technical specifications	
Laser power	55W or 115W
Cooling system	air cooled
Wavelength	940nm
Heating profile	mta® PowerLas (through hole)
Laser spot diameter	0.3 - 2.6 mm (digitally adjustable)
Laser positioning system	integrated to the laser beam
Laser source power supply	230V/50Hz or 115V/60Hz
Air pressure	max. 6 bar
Laser head dimensions	180 x 130 x 190 mm
Laser head weight	~3 kg



### Induction

- Large heating capacity
- Dimension and geometry of the spire according to the application
- Entirely transistorized system
- Suitable for brazing (hard alloy)
- The non-conductive parts of the components to be soldered are not heated by the induction
- Contact-less soldering

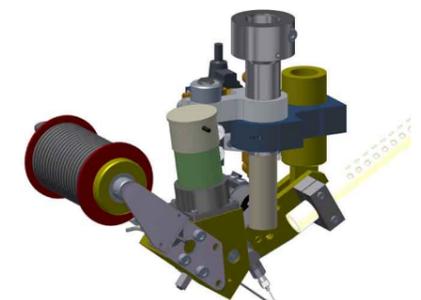
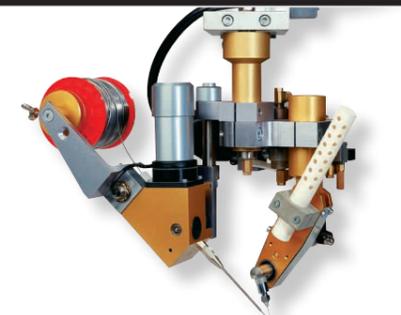
Technical specifications	
Induction head coil power	max. 32kVar or 45kVar
Induction head coil diameter	min. 4 mm and max. 12 mm
Induction head dimensions	123 x 95 x 62.5 mm
Induction head weight	~2 kg
Generator dimensions	275 x 265 x 140 mm
Generator weight	~10 kg
Generator power supply	230V/50-60Hz
Chiller	pressure: min. 3.5 bar- supply: 1.5 - 2 l/min.
Controller dimensions	275 x 265 x 140 mm
Controller weight	~5.7 kg



### Microflame

- Pivoting flame allowing immediate temperature release, thus preventing the part from overheating
- Gas produced from demineralized water electrolysis
- Fast-action flame nozzle swiveling (patented system)
- Automatic lighting
- Constant and reproducible energy flow
- Contact-less soldering

Technical specifications	
Generator flow	200 l/h - 40-170 mBar
Generator power supply	115/230V- 50/60 Hz- 700W
Detector for nozzle rotation	2 x24VDC / Reed relais NO
Plug-in connection	25-pole sub-D male
Nozzle connection	with Luer lock
Chimney	ceramics
Power supply controller	115/230V- 50/60Hz
Air pressure	max. 6 bar
Microflame head dimensions	280 x 180 x 190 mm
Microflame head weight	~2.1 kg





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# Volumetric dispensing

## Volumetric dispensing

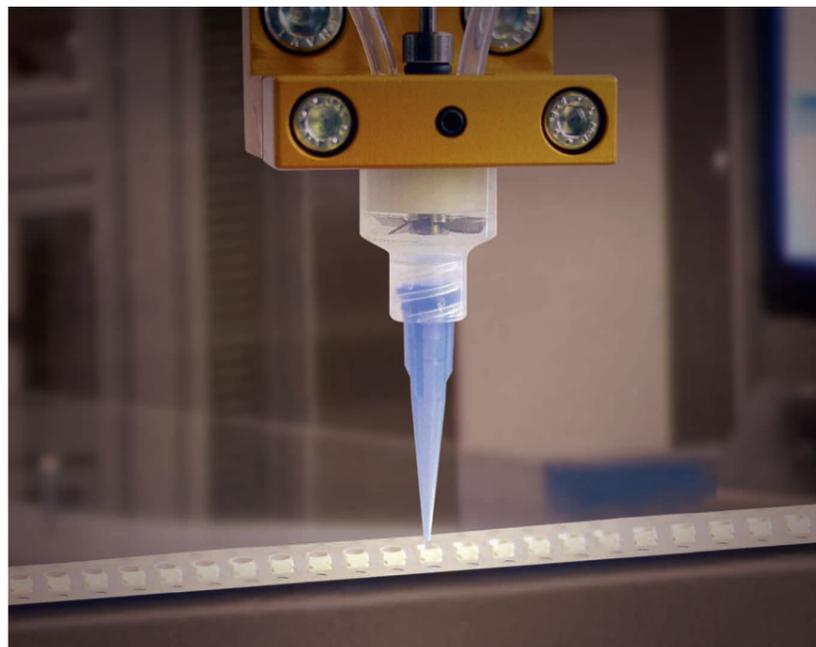
The mta® high-precision volumetric dispensers offer the most accurate volume control available in the fluid dispensing industry. They enable perfect repeatability of micro-volumes to be dispensed starting with 0.1 mm<sup>3</sup>.

The pumping unit maintains accuracy in the most demanding of circumstances independently from changes of temperature, viscosity or deposit size. The mta® dispensers are based on a piston that moves within the dispensing chamber to deliver an exact quantity of fluid through the nozzle. The working principle is described on page 9.

Before choosing the most appropriate dispensing technique, the customer's application is studied in the mta® test laboratory. During these feasibility studies, properties such as specific density of material to be dispensed, mixing ratio and viscosity are analyzed.

By using mta® techniques such as volumetric dispensing for two-component or mono-component products, standardized automated solutions are proposed for all the customer's specific applications. These techniques are detailed on pages 10 and 11.

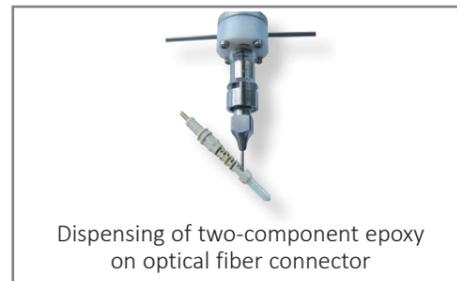
The dispensers can be integrated into the various mta® standard platforms, adapted for fully automatic or semi-automatic operations, such as the FRC500 robotic cell, the FRC500-Dual robotic cell, the TR300 table-top robot, the OEM robot or the station. The dispensing platforms are detailed on pages 12 to 19.



### Examples of applications



Deposit of mono-component silicone adhesive on a pacemaker



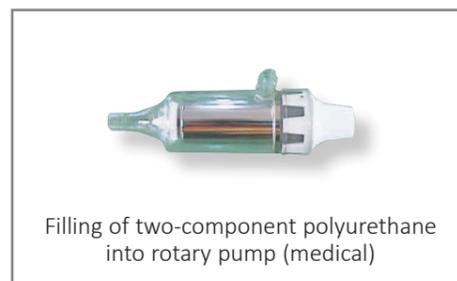
Dispensing of two-component epoxy on optical fiber connector



Filling of two-component silicone into electronic connector



Grease dispensing on drill bits for machining



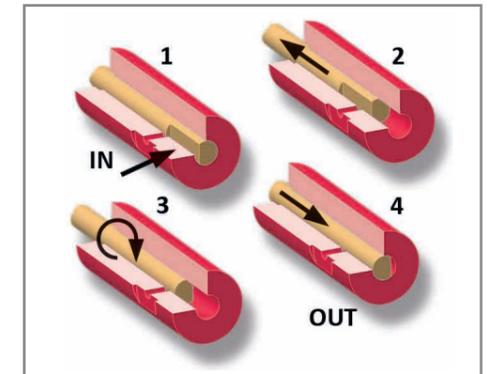
Filling of two-component polyurethane into rotary pump (medical)

## Pump working principles

The basic working principles of the pump combines a linear movement to define the quantity of material to be dispensed (see 2 and 4 in the picture on the right) and a rotating movement (see 3 in the picture) to transfer the material from the pump input to its output.

The accurate pump assembly can be divided into different leak rates in order to be perfectly adapted to different types of material characteristics. This solution is highly precise and always volumetric.

Picture legends: 1. Home position, 2. Filling stroke, 3. Rotation, 4. Dispensing stroke and snuff back.



## Dispensing consumables

### Mixing chambers

The mta® patented mixing chamber is a unique solution on the market based on a dynamic mixing chamber. This unit made of stainless steel and plastic has been designed to either be cleaned or changed after use depending on the mixed material type. In terms of maintenance of the whole equipment, it is a clear advantage to have the material being mixed just before dispensing. The dispensing nozzles are directly connected to the mixing chamber.

This chamber homogeneously mixes A and B material by using a rotating blender. In order to optimize the mixing effect, the rotational speed can be electronically controlled. This solution is perfectly adapted to small volumes. The mixing quality can be achieved by adapting mixing time, mixer speed and mixing chamber volume. Four standard mixing chamber sizes are available: 200, 600, 1500 and 2300 [mm<sup>3</sup>].

### Dispensing nozzles

The mta® process guarantee also includes the selection of the most suitable nozzles for customer's specific applications, as defined during the tests in the laboratories. Based on a proven experience in the dispensing field, the appropriate nozzles among a very large choice of components can be selected. Dispensing nozzles are available in different sizes, shapes and material. Most of the variants are available from stock. Custom designed nozzles are also offered.

### Cleaning sponges

mta® brand has a proprietary design for the tip cleaning units which consist of two rotating sponges. The sponges must be replaced from time to time.

### Examples of consumables





## Volumetric dispensing techniques

### Numerical dispensers

- Automatic volumetric dispensing of mono-component (NVD) and two-component (NBD) liquid or viscous products down to small volumes
- Intended for gluing, potting, coating and greasing processes
- Simple setting of dispensing parameters via numerical controller
- Piston and cylinder made of ceramic
- No seals in the piston-cylinder system
- Material pre-heating possible

\*Patented mta® mixing device for the NBD two-component dispenser:

- Mixing by dynamic or static mixer
- Low-volume dynamic mixing chamber
- Programmable mixing ratio

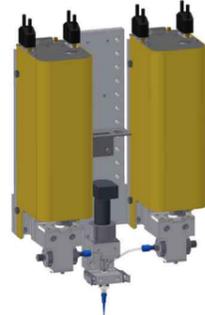
Technical specifications	NVD	NBD
Dispenser volume per stroke	0.1 to 1'250 mm <sup>3</sup>	2 x 0.1 to 1'250 mm <sup>3</sup>
Repeatability	>99%	>99%
Power supply controller	230V/50-60Hz	230V/50-60Hz
Air pressure	max. 6 bar	max. 6 bar
Dispenser dimensions	93 x 117.5 x 386 mm	254 x 129.5 x 375.5 mm
Dispenser weight	~3.5 kg	~8.5 kg

\*applicable to the Mini-NBD and CBD

NVD 1K



NBD 2K



### Mini numerical dispensers

- Automatic volumetric dispensing of mono-component (Mini-NVD) and two-component (Mini-NBD) liquid or viscous products down to very small volumes
- Simple setting of the dispensing parameters via numerical controller
- Compact design allowing the use of Mini-NVD as series with the desired quantity (multidispensing)
- Both motor control card and pneumatic valve are integrated into each single Mini-NVD providing individual plug and play system
- Piston and cylinder made of ceramic
- No seals in the piston-cylinder system
- Material pre-heating possible

Technical specifications	Mini-NVD	Mini-NBD
Dispenser volume	0.1 to 160 mm <sup>3</sup>	2 x 0.1 to 160 mm <sup>3</sup>
Repeatability	>99%	>99%
Power supply controller	230V/50-60Hz	230V/50-60Hz
Air pressure	max. 6 bar	max. 6 bar
Dispenser dimensions	32.5 x 233 x 116 mm	122 x 273 x 188.5 mm
Dispenser weight	~1 kg	~3 kg

Mini-NVD 1K



Mini-NBD 2K



### Continuous flow dispensers

- Automatic or manual dispensing of mono-component (CFD) and two-component (CBD) liquid or viscous products including loaded material
- Volumetric continuous flow dispensing thanks to a rotating displacement system
- Simple setting of the dispensing parameters via numerical controller
- Material pre-heating possible

Technical specifications	CFD	CBD
Dispenser volume	0.4 mm <sup>3</sup> to continuous	2x 0.4mm <sup>3</sup> to continuous
Repeatability	>99%	>99%
Power supply controller	230V/50-60Hz	230V/50-60Hz
Air pressure	max. 6 bar	max. 6 bar
Dispenser dimensions	43 x 33 x 228 mm	150 x 77.5 x 331.5 mm
Dispenser weight	~0.5 kg	~2.5 kg

CFD 1K



CBD 2K



### Cartridge dispenser

- Automatic volumetric dispensing of mono-component liquid or viscous products including loaded material
- Simple setting of the dispensing parameters via numerical controller
- Compared to time-pressure systems, the CD dispenser offers higher precision achieved via the stepper motor and no further customization is necessary thanks to standard cartridge type
- Simple handling and changeover by unclipping/clipping the cartridge
- No cleaning of the dispenser cartridges thanks to the zero-contact design
- Material pre-heating possible

Technical specifications	
Possible cartridge size	3, 5, 10 and 30 cm <sup>3</sup>
Standard cartridge type	EFD or SEMCO (other types optional)
Repeatability	95% as per material and volume to be dispensed
Power supply controller	230V/50-60Hz
Air pressure	max. 6 bar
Dispenser dimensions	62 x 61 x 333 mm
Dispenser weight	~1.6 kg

CD





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# Standard platforms

## Soldering & dispensing standard platforms

### FRC500 robotic cell

The PC controlled FRC500 standard robotic cell can be used for semi or fully automatic operations of selective point to point soldering from above as well as volumetric dispensing operations.

The FRC500 can be equipped with all the established mta® soldering and dispensing techniques described on the previous pages.

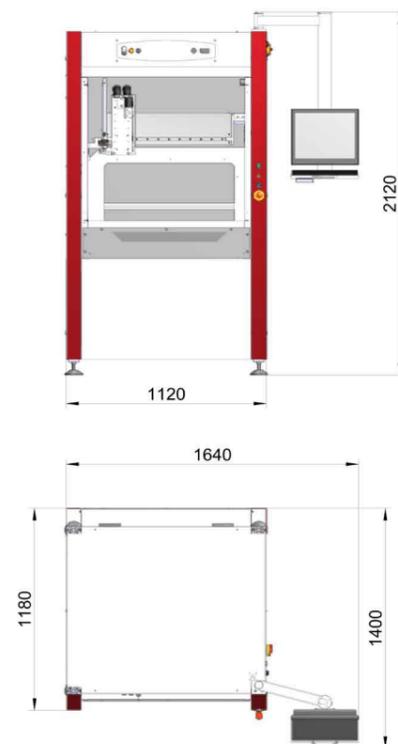
The 3 or 4 axes of the FRC500 are fully programmable through the mta® MotionEditor software including soldering or dispensing parameters such as:

- Solder quantity, wire feed speed, preheating/postheating times, automatic tip cleaning cycle intervals and other parameters for each soldered point.

- Volume to be dispensed, dispensing speed, mixing ratio as well as other related dispensing parameters e.g. unlimited quantity of points, linear or circular beads.

Thanks to its flexible and modular concept, the FRC500 has an open architecture and can easily be integrated into existing production lines with pallet conveyors or a rotary table.

The FRC500 robotic cell provides standardized automation solutions with the highest quality and repeatability for all customer's specific applications.



Technical specifications	
Working area	500 x 500 x 200 mm or 300 x 300 x 200 mm (FRC300)
Cartesian robot	3 or 4 axes (option: axis T)
Shift of axes	point by point or linear interpolation (dispensing)
Positioning repeatability	±20 µm
Speed	X and Y: <250mm/s, Z <150mm/s, T <=3.14 rad/s
Electronic control	industrial PC
Operating system	WINDOWS
Programming	HMI Windows oriented
Interfaces	Ethernet / USB port / Serial port
Execution mode	Standalone or slave with PLC via I/O interface
X, Y and Z axes actuation	DC Brushless motors Axis T: step by step motor
Power supply	230/115V- 50/60Hz
Power consumption	1.1 kVA
Air pressure	max. 6 bar
Dimensions	1'120 x 1'180 x 2'120 mm
Weight	~400 kg

### FRC500-Dual robotic cell

The PC controlled FRC500-Dual standard robotic cell can be used for semi or fully automatic operations of selective point to point soldering from above as well as volumetric dispensing operations. The FRC500-Dual concept allows parallel processes to be carried out on a single platform which increases productivity and optimizes the cycle time.

The FRC500-Dual can be equipped with all the established mta® soldering and dispensing techniques described on the previous pages.

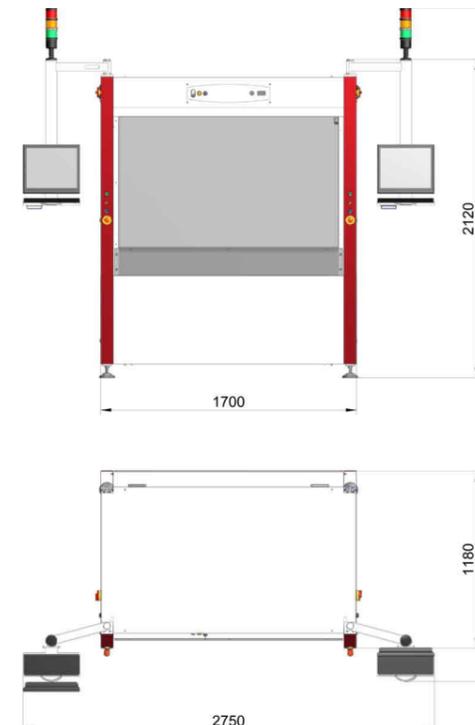
The 3 or 4 axes of the FRC500-Dual are fully programmable through the mta® MotionEditor software including soldering or dispensing parameters such as:

- Solder quantity, wire feed speed, preheating/postheating times, automatic tip cleaning cycle intervals and other parameters for each soldered point.

- Volume to be dispensed, dispensing speed, mixing ratio as well as other related dispensing parameters e.g. unlimited quantity of points, linear or circular beads.

Thanks to its flexible and modular concept, the FRC500-Dual has an open architecture and can easily be integrated into existing production lines with pallet conveyors or a rotary table.

The FRC500-Dual robotic cell provides standardized automation solutions with the highest quality and repeatability for all the customer's specific applications.



Technical specifications	
Working area	2 x 300 x 300 x 200 mm
Cartesian robot	3 or 4 axes (option: axis T)
Shift of axes	point by point or linear interpolation (dispensing)
Positioning repeatability	±20 µm
Speed	X and Y: <250mm/s, Z <150mm/s, T <=3.14 rad/s
Electronic control	industrial PC
Operating system	WINDOWS
Programming	HMI Windows oriented
Interfaces	Ethernet / USB port / Serial port
Execution mode	Standalone or slave with PLC via I/O interface
X, Y and Z axes actuation	DC Brushless motors Axis T: step by step motor
Power supply	230/115V- 50/60Hz
Power consumption	1.1 kVA
Air pressure	max. 6 bar
Dimensions	1'700 x 1'180 x 2'120 mm
Weight	~700 kg



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# Standard platforms

## Soldering & dispensing standard platforms

### TR300 table-top robot

The PC controlled TR300 standard table-top robot can be used for semi-automatic operations of selective point to point soldering from above as well as volumetric dispensing operations.

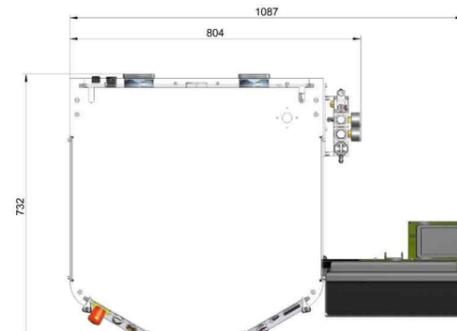
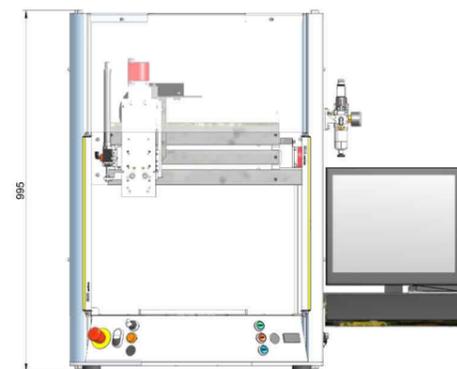
The increasing requirements for processes in terms of quality, precision and repeatability lead to a similar increase in the necessary level of automation. However, when production batches are small or products widely dissimilar, the cost of sophisticated equipment can place automation beyond the reach of many would-be users. The TR300 combines the necessary flexibility with the required high levels of process quality and repeatability, all at reasonable cost.

The TR300 can be equipped with all the established mta® soldering and dispensing techniques described on the previous pages.

The 3 or 4 axes of the TR300 are fully programmable through the mta® MotionEditor software including soldering or dispensing parameters such as:

- Solder quantity, wire feed speed, preheating/postheating times, automatic tip cleaning cycle intervals and other parameters for each soldered point.

- Volume to be dispensed, dispensing speed, mixing ratio as well as other related dispensing parameters e.g. unlimited quantity of points, linear or circular beads.



Technical specifications	
Working area	300 x 300 x 100 mm
Cartesian robot	3 or 4 axes (option: axis T)
Shift of axes	point by point or linear interpolation (dispensing)
Positioning repeatability	±20 µm
Speed	X and Y: <200mm/s, Z <100mm/s, T <=3.14 rad/s
Electronic control	industrial PC
Operating system	WINDOWS
Programming	HMI Windows oriented
Interfaces	Ethernet / USB port / Serial port
Execution mode	Standalone or slave with PLC via I/O interface
Axis actuation	step by step motor
Power supply	230/115V- 50/60Hz
Power consumption	1 kVA
Air pressure	max. 6 bar
Dimensions	804 x 732 x 995 mm
Weight	~125 kg

### OEM robot for integrator

The PC controlled OEM standard robot can be used for semi or fully automatic operations of selective point to point soldering from above and volumetric dispensing operations.

Thanks to its unique concept, the OEM robot is delivered to the system's manufacturer with a process guarantee.

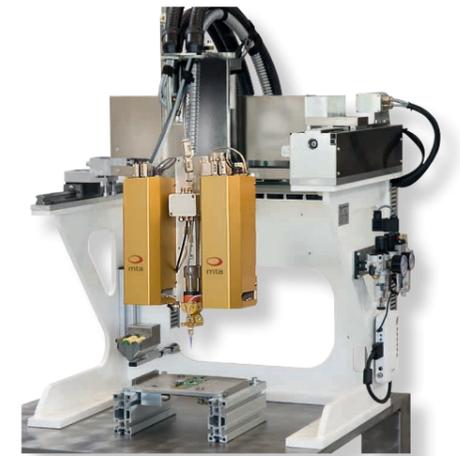
The OEM robot can be equipped with all the established mta® soldering and dispensing techniques, except for the mta® PowerLas laser.

The 3 or 4 axes of the OEM robot are fully programmable through the mta® MotionEditor software including soldering or dispensing parameters such as:

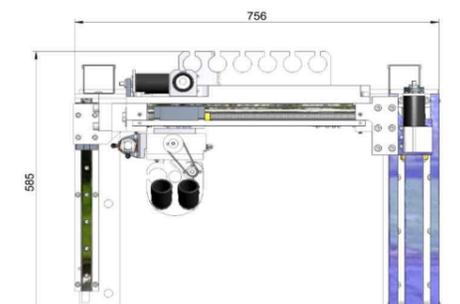
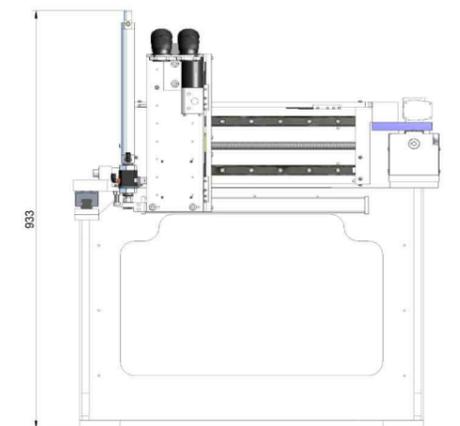
- Solder quantity, wire feed speed, preheating/postheating times, automatic tip cleaning cycle intervals and other parameters for each soldered point.

- Volume to be dispensed, dispensing speed, mixing ratio as well as other related dispensing parameters e.g. unlimited quantity of points, linear or circular beads.

With its flexible and modular concept, the OEM robot can be fully and easily integrated into a production line (no safety guarding included).



Technical specifications	
Working area	300 x 300 x 200 mm or 500 x 500 x 200 mm
Cartesian robot	3 or 4 axes (option: axis T)
Shift of axes	point by point or linear interpolation (dispensing)
Positioning repeatability	±20 µm
Speed	X and Y: <250mm/s, Z <150mm/s, T <=3.14 rad/s
Electronic control	industrial PC
Operating system	WINDOWS
Programming	HMI Windows oriented
Interfaces	Ethernet / USB port / Serial port
Execution mode	Standalone or slave with PLC via I/O interface
X, Y and Z axes actuation	DC Brushless motors Axis R: step by step motor
Power supply	230/115V- 50/60Hz
Power consumption	1.1 kVA
Air pressure	max. 6 bar
Dimensions	756 x 585 x 933 mm
Weight	~150 kg





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SOLDERING & DISPENSING

# Standard platforms

## Soldering & dispensing standard platforms

### Station for integrator

For applications that do not require the flexibility of a robot, a simple station is available for semi or fully automatic operations of selective point to point soldering from above and volumetric dispensing.

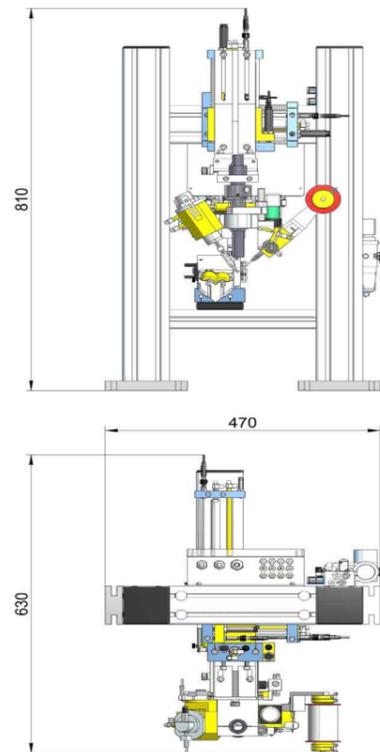
The modularity of slides and standard elements enable to find a solution adapted to the customer's application.

The station can be equipped with all the established mta® soldering and dispensing techniques, except for the mta® PowerLas laser.

Thanks to its modular concept, the station can be integrated into a line or onto a rotary table (no safety guarding included).



Technical specifications	
Work area	according to the customer's needs
Axes	pneumatic
Controller	mta® controller available upon request
Interfaces	via I/O
Power supply	without controller 24VDC
Power supply	with mta® controller: 230/115V- 50/60Hz
Power consumption	1.1 kVA
Air pressure	max. 6 bar
Dimensions	from 470 x 630 x 810 mm to specific dimensions
Weight	variable from 50 kg to 100 kg



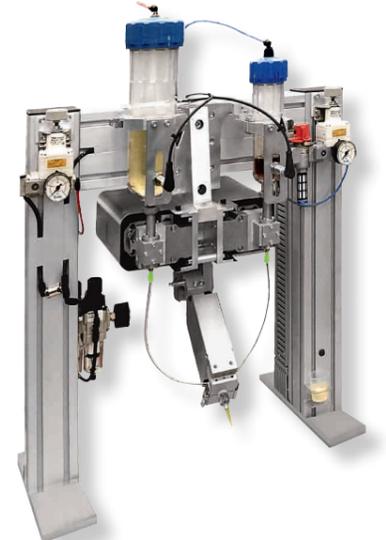
## Dispensing standard platforms

### MiXpoint standalone devices

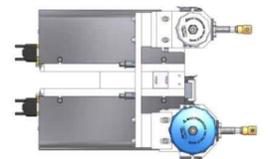
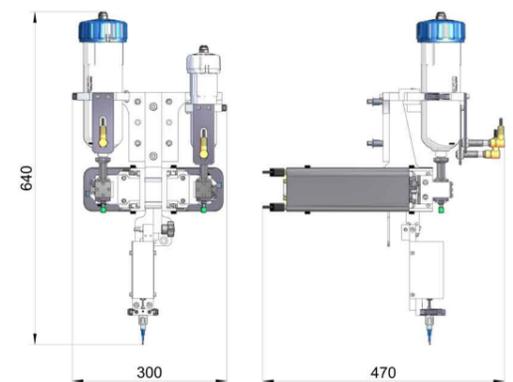
The MiXpoint standalone is a volumetric, high precision mixing device for two-component products. It is ideal for mixing small and very small quantities within seconds. By pushing a single button, the perfectly mixed medium flows out of the nozzle in the desired quantity.

The concept consists of a mini-NBD or NBD two-component dispenser and the mta® patented mixing chamber, both of which are used with great success in other mta® systems. The MiXpoint standalone is a low pressure system that exposes the fluids to very small forces. The fluids are supplied by cartridges or, if various workplaces are equipped with a MiXpoint standalone, by a central container. Each component is dispensed by a high accuracy volumetric dispenser. As the two dispensers are synchronized together, a highly precise mixing ratio can also be guaranteed.

When two-component fluids have to be prepared for manual dispensing processes such as filling syringes, cartridges or other containers, the MiXpoint standalone Mini-NBD or NBD is the perfect solution. It is also ideal for direct manual filling of components, as the quantity to be dispensed, the mixing ratios and the dispensing speed can easily be configured through mta® MotionEditor software.



Technical specifications for both MiXpoint Mini-NBD and NBD	
Mixing tolerance	under 1%- volumetric mixing ratio
Minimum mixing quantity	from 5mm <sup>3</sup> - depending on the mixing ratio
Available D-Mixer volumes	200mm <sup>3</sup> , 600mm <sup>3</sup> , 1'500mm <sup>3</sup> and 2'300mm <sup>3</sup>
Adapter of D-Mixer	Luer Lock male
Adapter of dispensing pumps	tubes with external diameters of 3 to 4 mm
Cartridge holder	for all sizes of Euro, Semco, EFD, customer specific
Electronic control	industrial PC
Operating system	WINDOWS
Programming	HMI Windows oriented
Interfaces	Ethernet / USB port / Serial port
Air pressure	- None. Depending on the fluid, the cartridges must be pressurized.
Power supply	230V - max. 0.2A / 115V max. 0.3A
Dimensions MiXpoint Mini-NBD	130 x 350 x 475 mm
Weight MiXpoint Mini-NBD	~20 kg
Dimensions MiXpoint NBD	300 x 470 x 640 mm
Weight MiXpoint NBD	~30 kg





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SOLDERING & DISPENSING

# Standard platforms

## Dispensing standard platforms

### MultiFlex® multidispensing system

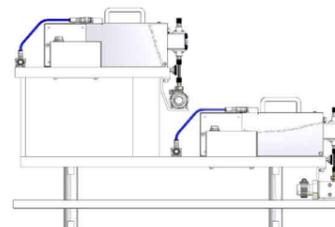
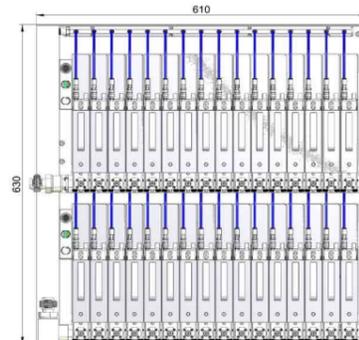
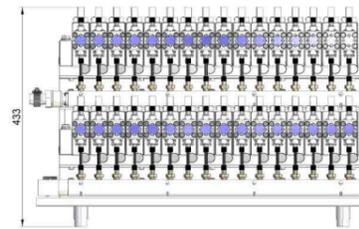
The MultiFlex® system has been designed for volumetric, high precision multi-dispensing of small product quantities for applications mainly in the medical, pharma, food or packaging industries.

The MultiFlex® is a very compact solution to answer the multidispensing needs. The MultiFlex® consists of a series of mta® Mini-NVD mono-component dispensers which can be controlled independently.

Each Mini-NVD dispenser is equipped with its own electrical controller and can be set with specific dispensing parameters. This smart solution has many advantages, especially in terms of maintenance. In addition, thanks to the «Plug and Play» system, the changeover of the dispenser is carried out in no time.

The MultiFlex® system configuration is adapted to the customer's requirements with up to several hundred units working in parallel.

Example of a MultiFlex® with 32 Mini-NVD



*\*see example on the right*

Technical specifications	For 1 Mini-NVD	For 32 Mini-NVD*
Dispenser volume per stroke	0.1 to 160 mm <sup>3</sup>	32 x 0.1 to 160 mm <sup>3</sup>
Repeatability	>99%	>99%
Power supply controller	230V/50-60Hz	230V/50-60Hz
Air pressure	max. 6 bar	max. 6 bar
Dimensions	32.5 x 233 x 116 mm	610 x 630 x 433 mm
Weight	~1 kg	~50 kg

### MultiFlow® multidispensing system

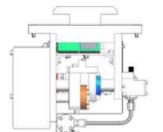
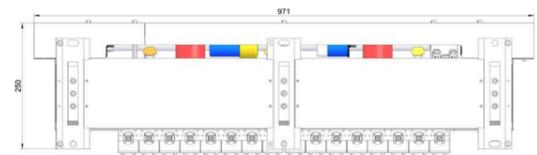
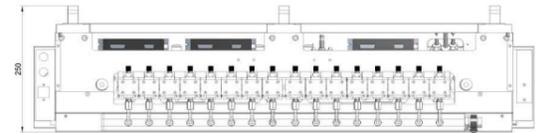
The MultiFlow® system has been designed for volumetric, high precision multi-dispensing of small product quantities for applications mainly in the medical, pharma, food or packaging industries.

The MultiFlow® is a very compact solution to answer the multidispensing needs. The MultiFlow® consists of a series of NVD mono-component dispensers controlled by one or several motors. Its design, based on a limited number of mechanical components, is extremely robust and can reach a very long life span with a minimum of maintenance.

Each NVD dispenser dispenses exactly the same product quantity in synchronous mode.

The MultiFlow® system configuration is adapted to the customer's requirements with up to several hundred units working in parallel.

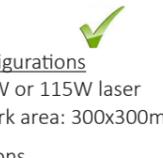
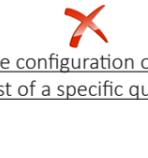
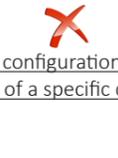
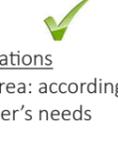
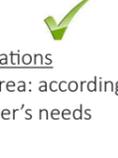
Example of a MultiFlow® with 16 NVD



*\*see example on the right*

Technical specifications	For 1 NVD	For 16 NVD*
Dispenser volume per stroke	0.1 to 1'250 mm <sup>3</sup>	16 x 0.1 to 1'250 mm <sup>3</sup>
Repeatability	>99%	>99%
Power supply controller	230V/50-60Hz	230V/50-60Hz
Air pressure	max. 6 bar	max. 6 bar
Dimensions	93 x 117.5 x 386 mm	971 x 250 x 250 mm
Weight	~3.5 kg	~70 kg



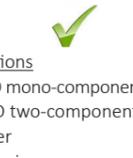
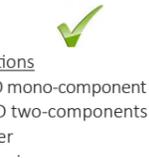
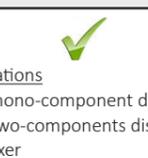
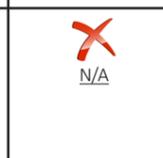
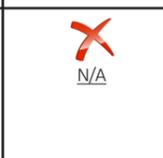
		Soldering platforms				
		FRC500 robotic cell	FRC500-Dual robotic cell	TR300 table-top robot	OEM300 robot	Station
Soldering techniques	 <p><b>Soldering iron</b></p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Soldering iron 80W or 150W</li> <li>- With or without 19" rack</li> <li>- With or without wire feeder</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Fix or mobile iron cleaning device</li> <li>- Automatic sponge humidifier</li> <li>- Set up for easy, normal and difficult products</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 80W or 150W soldering iron</li> <li>- 1 or 2 soldering heads</li> <li>- 3 or 4 axes</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> <li>- LED illumination set</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 80W or 150W soldering iron</li> <li>- 2 or 4 soldering heads</li> <li>- 3 or 4 axes</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> <li>- LED illumination set</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 80W or 150W soldering iron</li> <li>- 3 or 4 axes</li> <li>- Work area 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Back loading and/or unloading</li> <li>- Adjustable working height</li> <li>- Double-slide</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 80W or 150W soldering iron</li> <li>- 3 or 4 axes</li> <li>- With or without soldering iron</li> <li>- Work area: 300x300mm or 500x500mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 80W or 150W soldering iron</li> <li>- Work area: according to the customer's needs</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Additional pneumatic axes</li> </ul>
	<p><b>Common options:</b> remote support "team viewer", monitoring black and white or color, presence probe of parts, automatic sponge humidifier, vision system for quality inspection, vision</p>		<p>detection of parts, fluxing system, PowerClean fume exhaust system, height measuring system for recentering, customer specific fixture and nitrogen generator.</p>			
	 <p><b>Laser PowerLas</b></p> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Automatic laser recentering</li> <li>- Integrated pyrometer</li> <li>- Set up for easy, normal and difficult products</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 55W or 115W laser</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Opening system for lateral doors</li> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 55W or 115W laser</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Opening system for lateral doors</li> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 55W or 115W laser</li> <li>- Work area: 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✗</p> <p><u>Available configuration only upon request of a specific quotation</u></p>	 <p>✗</p> <p><u>Available configuration only upon request of a specific quotation</u></p>
	<p><b>Common options:</b> remote support "team viewer", monitoring black and white or color, presence vision system for quality inspection, vision system for</p>		<p>detection of parts, fluxing system, height measuring probe of parts, ESD protection kit, recentering, customer specific fixture and nitrogen generator.</p>			
	 <p><b>Induction</b></p> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Chiller</li> <li>- Controller for automatic power change</li> <li>- 45kVAR instead of 32 kVAR</li> <li>- 63kVAR instead of 32 kVAR</li> <li>- Set up for easy, normal and difficult products</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> <li>- LED illumination set</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> <li>- LED illumination set</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- Work area 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Back loading and/or unloading</li> <li>- Adjustable working height</li> <li>- Double-slide</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- With or without induction head</li> <li>- Work area: 300x300mm or 500x500mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Work area: according to the customer's needs</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Additional pneumatic axes</li> </ul>
<p><b>Common options:</b> remote support "team viewer", monitoring black and white or color, presence probe of parts, vision system for quality inspection, vision system for</p>		<p>detection of parts, fluxing system, PowerClean fume exhaust system, height measuring recentering, customer specific fixture and nitrogen generator.</p>				
 <p><b>Microflame</b></p> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Flame presence control</li> <li>- Set up for easy, normal and difficult products</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> <li>- LED illumination set</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Integration of a transfer system</li> <li>- SMEMA interface and conveyor</li> <li>- LED illumination set</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- Work area 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Back loading and/or unloading</li> <li>- Adjustable working height</li> <li>- Double-slide</li> <li>- ESD protection kit</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 3 or 4 axes</li> <li>- With or without microflame head</li> <li>- Work area: 300x300mm or 500x500mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Work area: according to the customer's needs</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Additional pneumatic axes</li> </ul>	
<p><b>Common options:</b> remote support "team viewer", monitoring black and white or color, presence probe of parts, vision system for quality inspection, vision system</p>		<p>detection of parts, fluxing system, PowerClean fume exhaust system, height measuring for recentering and customer specific fixture.</p>				



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SOLDERING & DISPENSING

# Dispensing configurator

		Dispensing platforms							
		FRC500 robotic cell	FRC500-Dual robotic cell	TR300 table-top robot	OEM300 robot	Station	MiXpoint standalone	MultiFlow	MultiFlex
Dispensing techniques	 <p><b>NVD / NBD</b></p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- NVD mono-component</li> <li>- NBD two-components with mixer</li> <li>- 3D dispensing</li> <li>- With or without controller</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Set up for easy, normal and difficult products</li> <li>- Mixing chamber heating</li> <li>- 1.3 liters container under pressure</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- NVD mono-component dispenser</li> <li>- NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 2 NVD mono-component dispenser</li> <li>- 2 NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see below</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- NVD mono-component dispenser</li> <li>- NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Back loading and/or unloading</li> <li>- For further options, please see below</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- NVD mono-component dispenser</li> <li>- NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 300x300mm or 500x500mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- NVD mono-component dispenser</li> <li>- NBD two-components dispenser with mixer</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Additional pneumatic axes</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- NBD two-components dispenser with mixer</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Dispensing pedal</li> <li>- Level control</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 2 to xx NVD mono-component dispensers</li> </ul> <p><u>Only upon request of a specific quotation</u></p>	 <p>✗</p> <p>N/A</p>
	 <p><b>Mini-NVD / Mini-NBD</b></p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Mini-NVD mono-component</li> <li>- Mini-NBD two-components with mixer</li> <li>- 3D dispensing</li> <li>- With or without controller</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Set up for easy, normal and difficult products</li> <li>- Mixing chamber heating</li> <li>- 1.3 liters container under pressure</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Mini-NVD mono-component dispenser</li> <li>- Mini-NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 2 Mini-NVD mono-component dispenser</li> <li>- 2 Mini-NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Mini-NVD mono-component dispenser</li> <li>- Mini-NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Back loading and/or unloading</li> <li>- For further options, please see below</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Mini-NVD mono-component dispenser</li> <li>- Mini-NBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 300x300 or 500x500mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Mini-NVD mono-component dispenser</li> <li>- Mini-NBD two-components dispenser with mixer</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Additional pneumatic axes</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- Mini-NBD two-components dispenser with mixer</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Dispensing pedal</li> <li>- Level control</li> </ul>	 <p>✗</p> <p>N/A</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 2 to xx Mini-NVD mono-component dispensers</li> </ul> <p><u>Only upon request of a specific quotation</u></p>
	 <p><b>CFD / CBD</b></p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CFD mono-component</li> <li>- CBD two-components with mixer</li> <li>- 3D dispensing</li> <li>- With or without controller</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Set up for easy, normal and difficult products</li> <li>- Mixing chamber heating</li> <li>- 1.3 liters container under pressure</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CFD mono-component dispenser</li> <li>- CBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- 2 CFD mono-component dispenser</li> <li>- 2 CBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CFD mono-component dispenser</li> <li>- CBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Back loading and/or unloading</li> <li>- For further options, please see below</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CFD mono-component dispenser</li> <li>- CBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> <li>- Work area: 300x300mm or 500x500mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CFD mono-component dispenser</li> <li>- CBD two-components dispenser with mixer</li> <li>- 3D dispensing</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Additional pneumatic axes</li> </ul>	 <p>✗</p> <p>N/A</p>	 <p>✗</p> <p>N/A</p>	 <p>✗</p> <p>N/A</p>
	 <p><b>CD</b></p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- With or without controller</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CD mono-component dispenser only</li> <li>- Work area: 500x500 or 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CD mono-component dispenser only</li> <li>- Work area: 2x 300x300mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CD mono-component dispenser only</li> <li>- Work area: 300x300mm</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Back loading and/or unloading</li> <li>- For further options, please see below</li> </ul>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CD mono-component dispenser only</li> <li>- Work area: 300x300 or 500x500mm</li> </ul> <p><u>Options</u></p> <p>Please see common options</p>	 <p>✓</p> <p><u>Configurations</u></p> <ul style="list-style-type: none"> <li>- CD mono-component dispenser only</li> </ul> <p><u>Options</u></p> <ul style="list-style-type: none"> <li>- Additional pneumatic axes</li> </ul>	 <p>✗</p> <p>N/A</p>	 <p>✗</p> <p>N/A</p>	 <p>✗</p> <p>N/A</p>
		<p><b>Common options:</b> remote support "team viewer", monitoring black and white or color, presence detection of parts, height measuring level control, mobile or fix needle cleaning device, needle recentering (X,Y,Z), vision system for quality inspection, vision system for</p>				<p>probe of parts, signalization column, recentering and customer specific fixture.</p>			



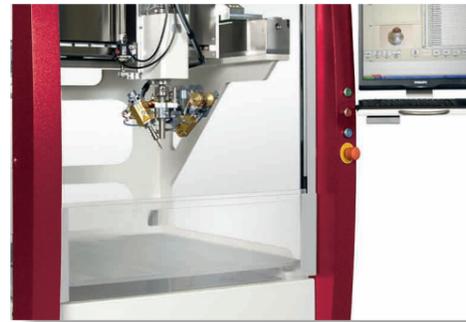
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## Platform controllers

### Robotic cell and table-top robot

The mta® standard platforms, such as the FRC500 robotic cell and the TR300 table-top robot, are controlled using an industrial PC, running a WINDOWS operating system. The PC and all the hardware needed to control the robot and the processes are integrated and delivered within the standard platforms. State-of-the-art connection and interfaces are already integrated in order to communicate with other systems, controllers, etc.



### OEM and station for integrator

#### Software/controller configurator

Techniques	Motion Editor	Station Configurator	Controller type
Iron soldering + wire feeder		✓	19" Rack
Iron soldering + wire feeder + 1 Z axis (pneumatic or numerical)	✓	✓	19" Rack
Microflame + wire feeder	✓		19" Rack
Microflame + wire feeder + 1 Z axis (pneumatic or numerical)	✓		19" Rack
Induction + wire feeder	✓		19" Rack
Induction + wire feeder + 1 Z axis (pneumatic or numerical)	✓		19" Rack
NVD	✓	✓	Mini station
NVD + 1 Z axis (pneumatic or numerical)	✓	✓	Mini station
Mini-NVD	✓	✓	Mini station
Mini-NVD + 1 Z axis (pneumatic or numerical)	✓	✓	Mini station
NBD	✓		19" Rack
NBD + 1 Z axis (pneumatic or numerical)	✓		19" Rack
CFD	✓		19" Rack
CFD + 1 Z axis (pneumatic or numerical)	✓		19" Rack
CD	✓		19" Rack
CD + 1 Z axis (pneumatic or numerical)	✓		19" Rack
All above mentioned techniques + 2 numerical axes	✓		19" Rack

### Electrical controllers

Embedded solutions are proposed and consist of either an electrical controller in the shape of a 19" rack or of a mini-station controller. Both systems are completely autonomous and require a 230V power supply.

With the 19" rack, a process with up to two optional numerical axes can be managed.

The mini station is available for certain simpler configurations. It includes a 24V power supply and contains everything necessary to use certain mta® processes within a relatively reduced space.



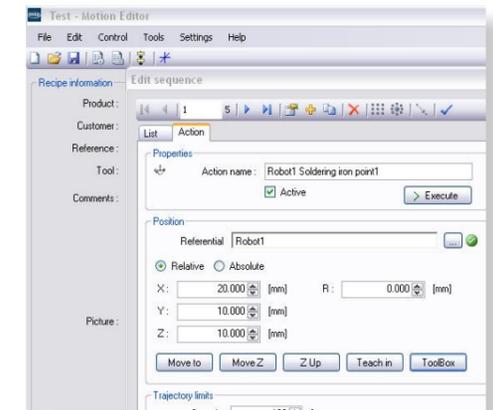
## mta® software

With more than 20 years of experience in the design/creation of software dedicated to soldering and dispensing processes, the mta® solutions offered by Unitechnologies propose a large range of possibilities to accelerate the integration of the controllers. The software is permanently evolving and covers the entirety of the needs spotted in the mta® laboratories and by the customers.

Two software applications are available to enable the operator to interact with the mta® controller electronics. The mta® proprietary software applications MotionEditor and Station Configurator offer a large number of functions simplifying the use of the available processes. These software applications can be integrated into all platforms of the mta® product range.

With the mta® MotionEditor software, the operator can access the different parameters and execute cycles from a single window. Its modular basis accommodates all mta® processes. Furthermore, its .Net C# programming opens the door to the integration of new functions according to the customer's specific needs. It consists of a main window which indicates the current status and of a "sequence" window from which the operator can add or remove actions in a cycle. The operator is in charge of the order of execution of the various operations and of the general behavior of the system.

Stations with a simpler process can easily be managed by a PLC to execute an action. In this system, the mta® electrical controllers are integrated by the customer and are managed as slaves via an I/O communication protocol. The mta® Station Configurator software is used to edit the parameters of the PLC via a serial communication. The station only requires a connection to a laptop through which a qualified operator can enter the parameters so that the stations can then work autonomously. An industrial PC dedicated to this task can be offered as an option.



## Software comparison

	MotionEditor	Station Configurator
<b>Environment</b>	Windows	Windows / PLC
<b>HMI</b>	full graphic interface	parameter editor
<b>Interface with mta® station</b>	CAN or serial (RS232)	PLC integrated to the station
<b>Interface with the customer</b>	digital I/O, RS232, Ethernet	digital I/O
<b>System</b>	full control via a sequence editor	process parameter setting for one point
<b>Receipt</b>	unlimited receipt number	16 receipts of a programmable point
<b>Specificity</b>	adjustable I/O and numerical axis number	runs in cycle without PC
<b>Extension possibility</b>	additional functionalities as needed	none



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# Turnkey solutions

## Providing turnkey solutions

With almost 50 years of experience in automation, Unitechnologies can propose the best possible solution available for the realization of turnkey systems for all automation processes peripheral to the soldering and dispensing operations.

The highly qualified staff, state-of-the-art infrastructure and proven methods of managing knowledge and mastering risks are key factors to innovative solutions perfectly adapted to the customer's needs.

Unitechnologies' workforce faces daily challenges in mastering multidisciplinary projects. The open minded corporate culture facilitates the integration of external competences into company internal skills, resulting in a high level of success for all partners involved in an automation project.



## Assembly line example

### Product

Pressure sensor for the medical industry.

### Operations

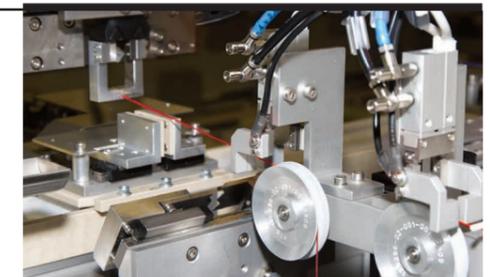
- Assembly of wires and moulding.
- Dispensing of solder paste.
- Soldering of wires on a ceramic substrate.



## Key competences

### Integration of assembly processes

- Specific attachments processes such as laser, welding, gluing or crimping
- High precision, shock-free numerical positioning
- Handling of delicate or elastic components



### Integration of on-line measuring systems

- Multicamera vision systems
- Analogical physical signals
- Force measurement systems



### High performance project management

- Realization of customized machines
- Multidisciplinary coordination with several partners
- Machine validation according to DQ, IQ and OQ procedures



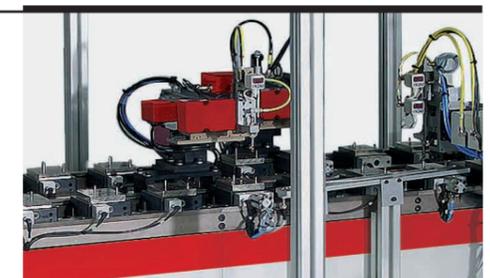
### Expertise in the architecture of automated systems

- Methodological approach including product design analysis
- Extensive expertise of microtechnical technologies
- Mastering of extreme flexibility constraints



### Mastery of numerical technologies and robotics

- High precision robotics
- Integration of multi-axis robots from the market
- Automation of tools according to specific requirements





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