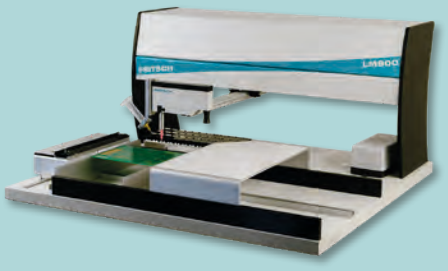
FRITSCH

COMPLETE AND FLEXIBLE SMT SOLUTIONS

Product-Range

CLASSIC



Innovation and quality made in Germany

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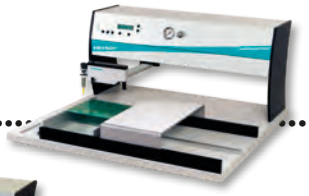


The **LM900** is the smallest of the range for the cost-efficient entry. The **LM900** ownes all basics of a pick and place system but waives to a control unit and more options. A vacuum pump activates automatically the nozzle to pick the components. While placing the vacuum is mechanical interrupted. By means of a spring in the assembling head it is pushed up and the vacuum activated again.

Simple Operation

The **LM900** was designed for manual PCB processing. Special care was taken to ensure that the operator can concentrate on the essentials. This increases productivity many times over.

Unbeatable cost-performance ratio

The **LM900** has all the essential features of a placement area, with the holder for holding a 5/10 cm^3 syringe it can also be used for dispensing by means of an external control (not included in the scope of delivery).

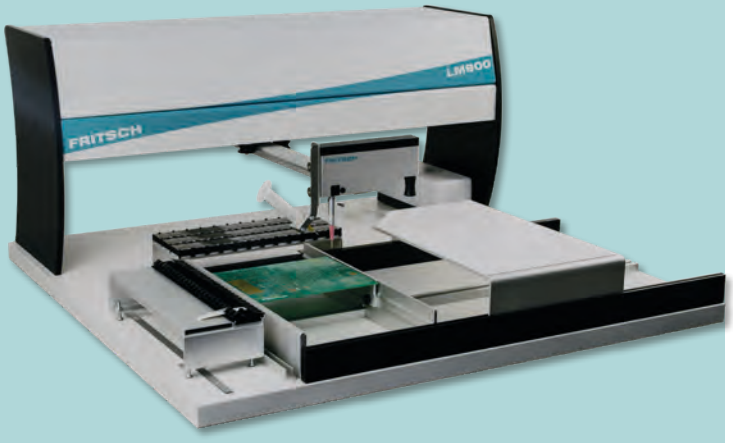
Ergonomic

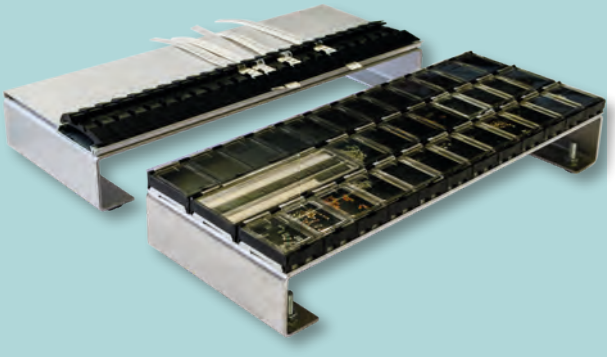
Even the smallest of the Pick & Place Machines is equipped with the renown light FRITSCH guides which makes it easy to place SMDs accurately.
The controls are arranged ergonomically. The **LM900** thus not only looks after your PCBs but also your staff.

Flexibility of Feeder System

All LM900s are equipped with the FRITSCH Rail System. A wide range of feeders can be fixed quickly and replaced as complete sets or kits. The whole range of SMDs can be handled: Mini and Micro Melfs, SO, PLCC, Fine Pitch Devices and Chips.

LM900





LM900.110

Manipulator for assembly work including an external vacuum pump.

With holder for a 5/10 cm^3 syringe for dispensing by external control (not included).

1 x support with 36 small SMD containers with clear lid
1 x Tape Strip Support with Rail Unit and with 24 Mini feeders

Technical details

Placement rate is from experience 300 - 600 SMDs/hour.

max. PCB size:	550 mm x 310 mm
max. placement area:	425 mm x 310 mm

The **LM901** is the entry model of our modular-built systems. Besides the **LM900** functionality, it can be extended with axis brakes, dispensers and optical support systems for component placing. The system supports the whole dispensing-/ Pick & Place - process, from supplying the solder paste or glue to placing standard, Fine-Pitch or BGA components.

Ergonomic

The unrivalled smooth-running guide of the mounting head helps to place the SMDs accurately. When the pipette comes into contact with the components, the vacuum automatically switches itself on and when placing them, it switches off. The adjustable vacuum reactivation alleviates and accelerates the extraction of components, especially from bulk goods containers and when mounting Melfs.

Integrated dispensing unit

There is a dispenser system available to integrate into all manipulators. Besides soldering paste and adhesive, other media can also be dispensed.
The dispenser system automatically switch on the dispensing process as soon as the slanted dispenser needle comes into contact with the PCB. The vertical syringe ensures that the dispenser needle does not slip sideways when touching the PCB.
Three programmable dispensing times are available for the dispensing on different pad sizes. They can be preset in the menu as required.

LM901

LM901.110

Pick & place machine

Scope of delivery:

LED-lighting
various nozzles

LM901.111

Pick & place machine with dispensing unit

Scope of delivery:

LED-lighting
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

LM901.112

Pick & place machine with dispensing unit and X/Y-locking

Scope of delivery:

LED-lighting
X/Y-locking
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

Technical details

Placement rate is from experience 300 - 600 SMDs/hour.

max. PCB size:	550 mm x 310 mm
max. placement area:	425 mm x 310 mm

LM901.211

Pick & place machine with dispensing unit (+ 200 mm in X- and Y-axis)

Scope of delivery:

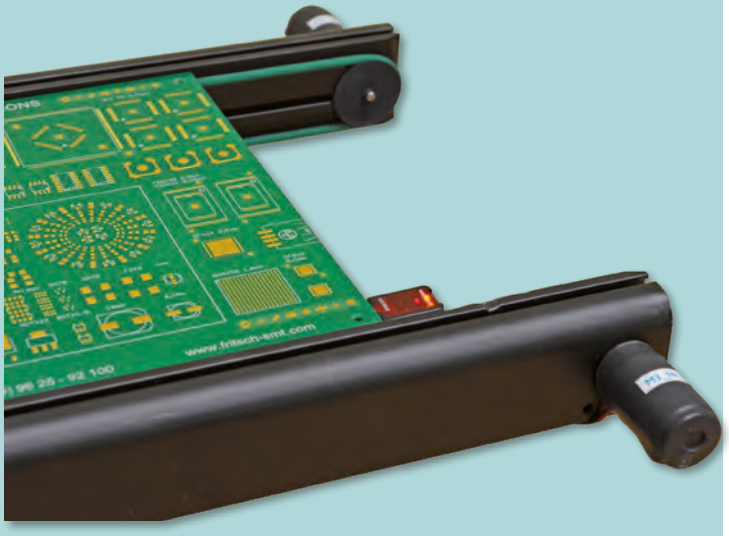
LED-lighting
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

The **LMinline** is the intelligent combination of the proven **LM901** manipulator and the inspection conveyor. This combination, used in the operation of **placeALL® smartLINE**, allows to do manual pre-or rework at PCBs. As a standalone version circuit boards can be easily dispensed and placed. The PCB moves automatically through motor driven belts in the assembly area of the **LM**. By pressing a button, the finished product can be fed to the next step. Using simple width adjustment size of board can be adjusted easily.

Flexibility of the component feeders

Various feeders can be installed and exchanged fast – even as complete sets. This means the whole range of SMD shapes can be processed:
Chips, Melfs, SO-, PLCC- and QFP components etc.
It is only possible to use feeders from backside.

LMinline



LMinline110

Manipulator with conveyor for pick & place work

Scope of delivery:

LED-lighting
various nozzles

LMinline111

Manipulator with conveyor for dispensing and pick & place work

Scope of delivery:

LED-lighting
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

LMinline112

Manipulator with conveyor with X/Ylocking for dispensing and pick & place work

Scope of delivery:

LED-lighting
X/Y-locking
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

LMinline140

Manipulator with conveyor for dispensing work

Scope of delivery:

LED-lighting
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

Technical details

Placement rate is from experience 300 - 600 SMDs/hour.

max. PCB size:	800 mm x 300 mm
max. placement area:	530 mm x 300 mm

LMdispense

The **LMdispense** is a simple FRITSCH dispensing machine and can be used in any situation: from laboratory use to production. There is the time-pressure system available for all manipulators. Besides soldering paste and adhesive, other media can also be dispensed.
The dispenser system automatically switches on the dispensing process as soon as the slightly slanted dispenser needle comes into contact with the PCB. The vertical syringe ensures that the dispenser needle does not slip sideways when touching the PCB.
There are nine different times for dispensing available for dispensing on different sizes of pads, which can be selected directly in the dispenser menu. The individual times can be preset as required. In addition, the operator can apply in a simple way lines for the adhesion of mechanical components or underfill with the line dispenser module. The line dispenser is controlled by a foot switch.

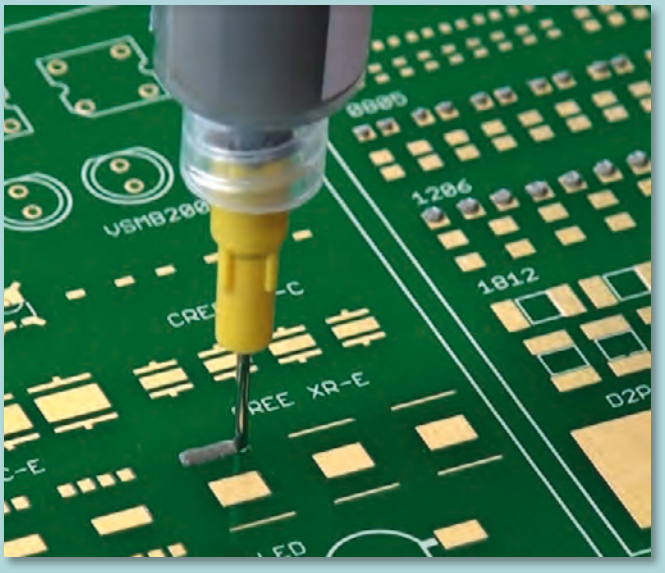
LMdispense

LMdispense

Manipulator for dispensing work

Scope of delivery:

LED-lighting
dispensing unit
syringe adapter 5 cc
syringe solder paste
dispensing nozzles set



Technical details

Dispensing rate is from experience 300 - 600 dots/hour.

max. PCB size:	550 mm x 310 mm
max. dispensing area:	380 mm x 310 mm

The **SM902** closes the gap between the **LM901** and the semi-automatic machine **SM902*professional*.** Integrated measuring system eliminates wrong placements and relieves the user. Required information like pick-position, place-position and rotation angle of the component are displayed on the monitor. Therefore the extensively searching on plans isn't necessary. From the beginning the user is guided systematic through the whole project.
The same options are available for the **SM902**-systems like for the **LM901**-systems. To further support the user, the **SM902** can be upgraded step by step to the functionality of the **SM902*professional*** with LEDdisplay, automatic feeders and an automatically driving eye.

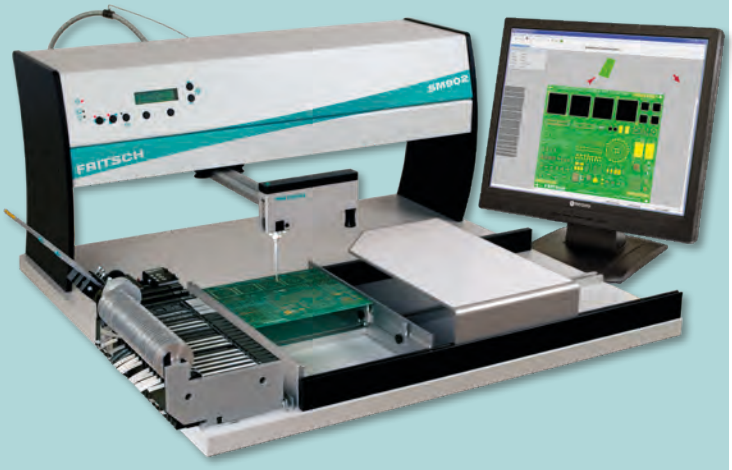
Software

The sophisticated software enables a smooth and fast flow. Already while teaching in the PCB the system shows its power. In a few moments the single positions can be programmed. While teaching in the first PCB can be assembled. This improves the efficiency and a control just in time. The simple handling of the system-software makes a fast and safe programming while assembling possible: Choose a PCB, place the reference points and production starts.

Fast Pick & Place

The simplicity of the assembling process encreases the performance: The user can be concentrated exclusively on the pick & place. Scanning the plan is omitted completely. Comparing to the manipulator the double or triple quantity is reached. The system software allows additional the optimizing of the assembling process - not only for single PCBs but also for repeat factor.

SM902



SM902.110

Semi-automatic manipulator for PC controlled pick & place

Scope of delivery:

Software
LED-lighting
various nozzles

SM902.111

Semi-automatic manipulator for PC controlled pick & place and manual dispensing

Scope of delivery:

Software
LED-lighting
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

Technical details

Placement rate is from experience 400 - 700 SMDs/hour.

max. PCB size:	550 mm x 310 mm
max. pick & place area:	425 mm x 310 mm

SM902*professional*

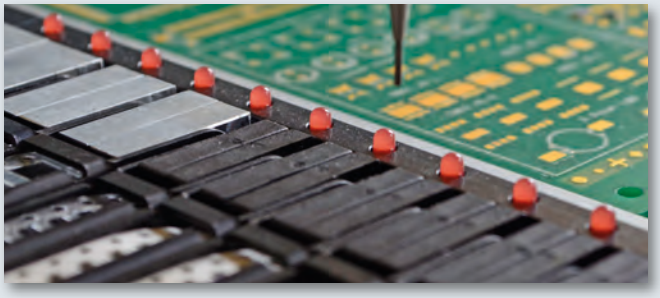
The **SM902*professional*** offers - besides 100% placement security and a great deal of comfort for the user - a higher assembly output. As by the **SM902** required components are offered by motor-driven feeders. Every feeder shows with the dedicated LED the component which has to be picked. All needed information are displayed in the placement area and a changing view between monitor and PCB isn't necessary. For defining position coordinates, CAD data can be directly imported or the positions can be teached in manually.

Motor-driven Eye

The motor-driven eye shows the user the exact pick & place position. While assembling the mechanism always drives to the next position. The user has only to insert the stift into the eye and the component is at the right position. The direction-LEDs display just at that moment the polarity of the component on the PCB. The permanent control of all operating elements and the cooperation with the motor-driven eye results a pick & place safety of 100%.

Picking-LEDs

A seperate LED for every feeder enables the fast and error-free picking of components.

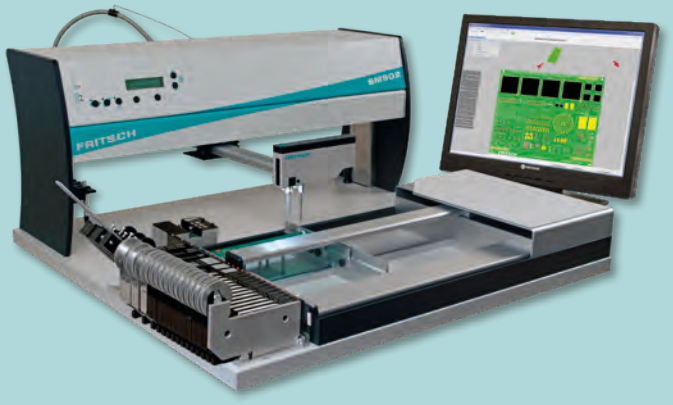


Direction-LEDs

The LEDs on the pick & place head show the hand rotation direction of polarized components. In addition an accustic signal facilitates the exact placing and the speed of working.

(Monitor and PC not included.)

SM902*professional*

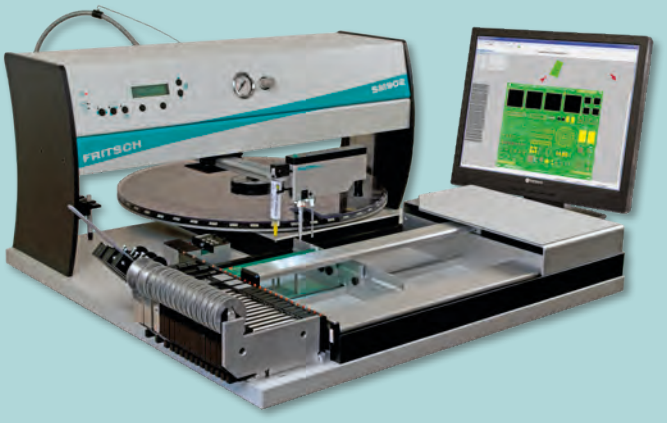


SM902.210

Semi-automatic manipulator ***professional*** for PC controlled pick & place

Scope of delivery:

Software
LED-lighting
various nozzles



SM902.211

Semi-automatic manipulator professional for PC controlled pick & place and manual dispensing

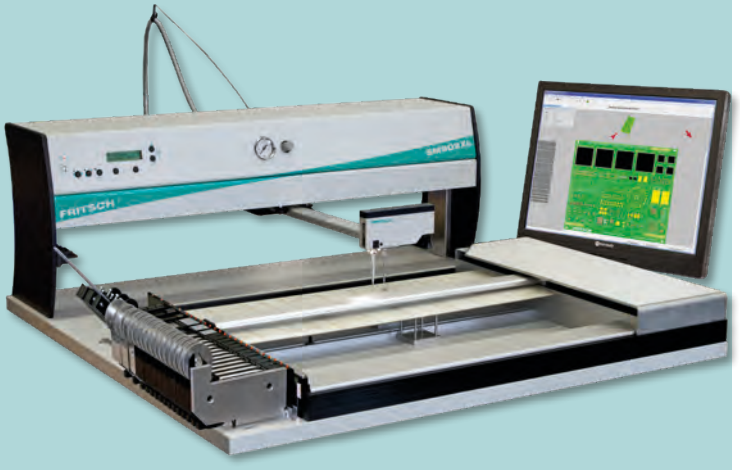
Scope of delivery:

Software
LED-lighting
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

Technical details

Placement rate is from experience 500 - 800 SMDs/hour.

max. PCB size:	390 mm x 310 mm
max. placement area:	375 mm x 235 mm



SM902.221

Semi-automatic manipulator ***professional*** XL (+ 200 mm in X/Y axis)for PC controlled pick & place amd manual dispensing

Scope of delivery:

Software
LED-lighting
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

Technical details

Placement rate is from experience 500 - 800 SMDs/hour.

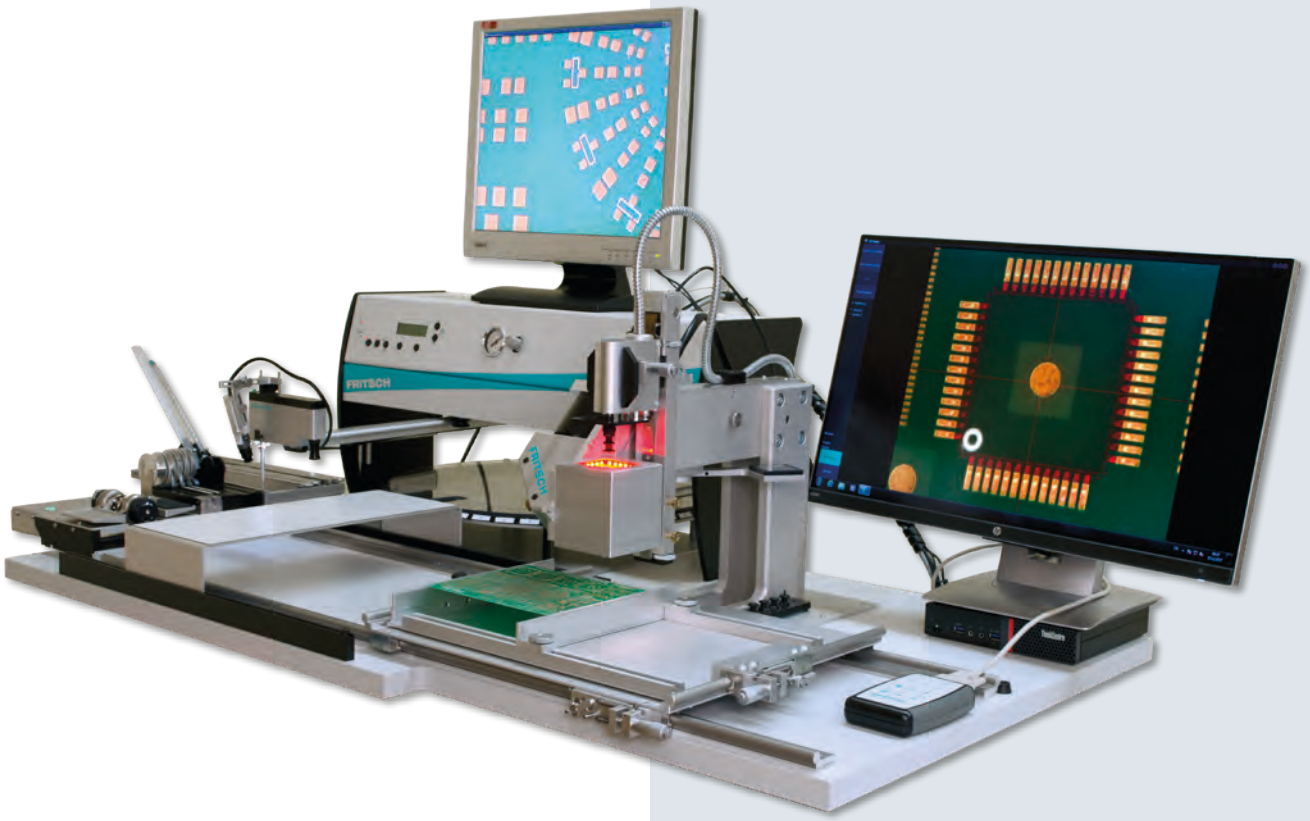
max. PCB size:	590 mm x 510 mm
max. placement area:	575 mm x 435 mm

Multi Placer MP904

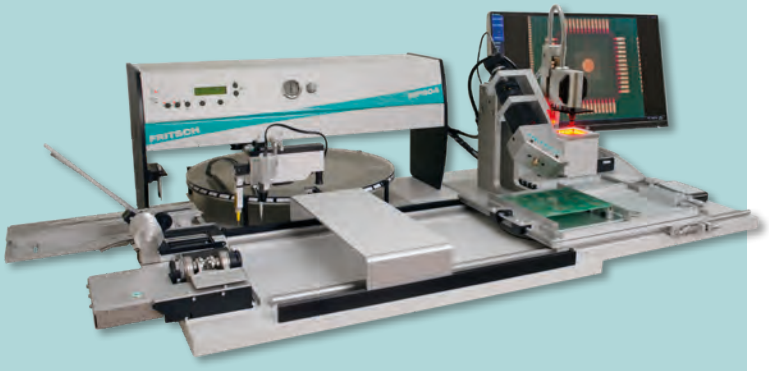
The universal assembly station **MP904** combines an easy and flexible handling, together with highest precision by pick & place of Fine-Pitch. The unrivalled smooth-running guide of the mounting head helps to place the SMDs accurately. When the nozzle comes into contact with the components, the vacuum automatically switches itself on and when placing them, it switches off. The special vision system helps optimally to place BGA and QFN components. The component range is from Chip 0201 up to Fine-Pitch and BGA.

Fine Pitch and BGA placement

The solid construction of the Handling Head insures a highly precise placement of BGA, QFN and Fine Pitch Components. The vision system allows two pictures to be viewed simultaneously. The PCB and the bottom side of the component can be observed at the same time. With the help of a fine adjusting table with micrometer screws, both exposures can be adjusted exactly congruent. An easy and accurate placement of the components is assured. The same options are available for the **MP904** like for the **LM901**. The system is available as pure manual system or as semi-automatic machine.



Multi Placer MP904



MP904.410

Multi Placer for pick & place

Scope of delivery:

LED-lighting
various nozzles
universal nozzle

MP904.411

Multi Placer for pick & place and dispensing

Scope of delivery:

LED-lighting
various nozzles
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

MP904.420

Semi-automatic Multi Placer for pick & place

Scope of delivery:

Software
LED-lighting
various nozzles
universal nozzle

MP904.421

Semi-automatic Multi Placer for pick & place and dispensing

Scope of delivery:

Software
LED-lighting
various nozzles
universal nozzle
dispensing unit
syringe adapter 5 cc
syringe solder paste
various dispensing nozzles

Technical details

Placement rate is from experience 300 - 600 SMDs/hour

max. PCB size:	340 mm x 240 mm
max. placement area:	340 mm x 240 mm

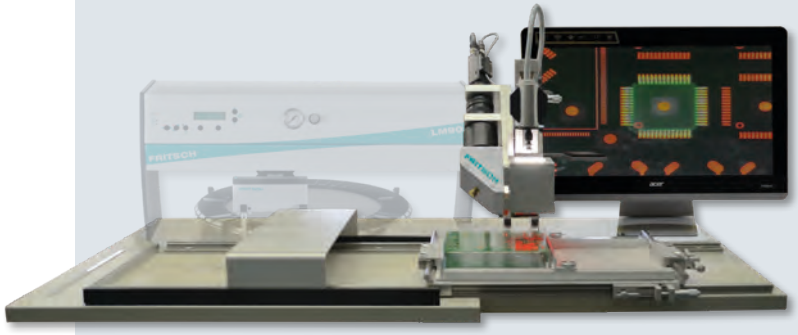
Multi Placer MP904

MP904.430

Fine Pitch/BGA Placer with X-Y fine-setting table
(Upgrade with SM/LM possible)

Scope of delivery:

FP/BGA Placer on baseplate
control box with integrated vacuum pump
universal nozzle



Technical details

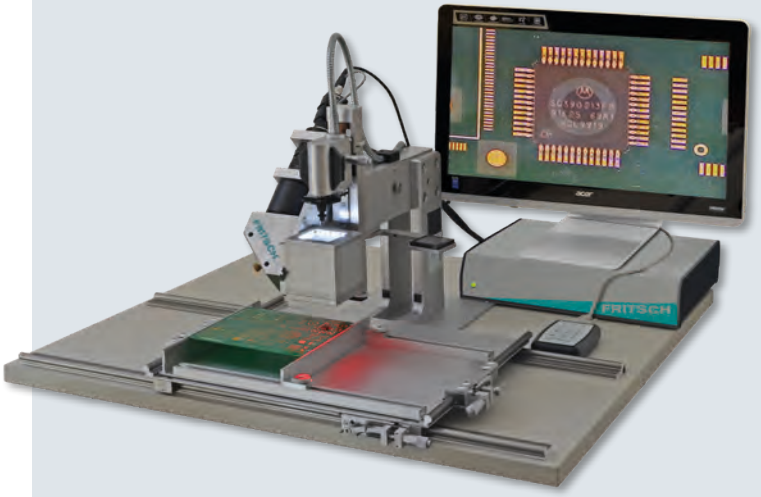
max. PCB size:	340 mm x 240 mm
max. assembly area:	340 mm x 240 mm

MP904.431

Fine Pitch/BGA Placer with X-Y fine-setting table
(Upgrade with SM/LM not possible)

Scope of delivery:

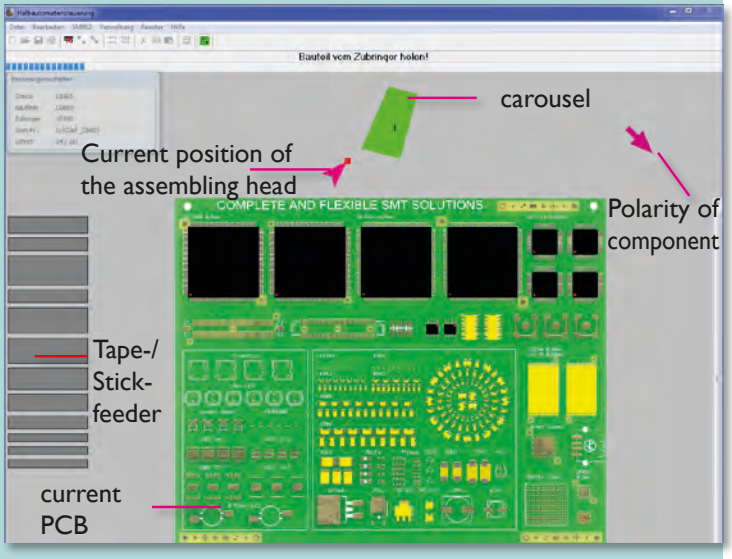
FP/BGA Placer on baseplate
control box with integrated vacuum pump
universal nozzle



Technical details

max. PCB size:	340 mm x 240 mm
max. placement area:	340 mm x 240 mm

Software

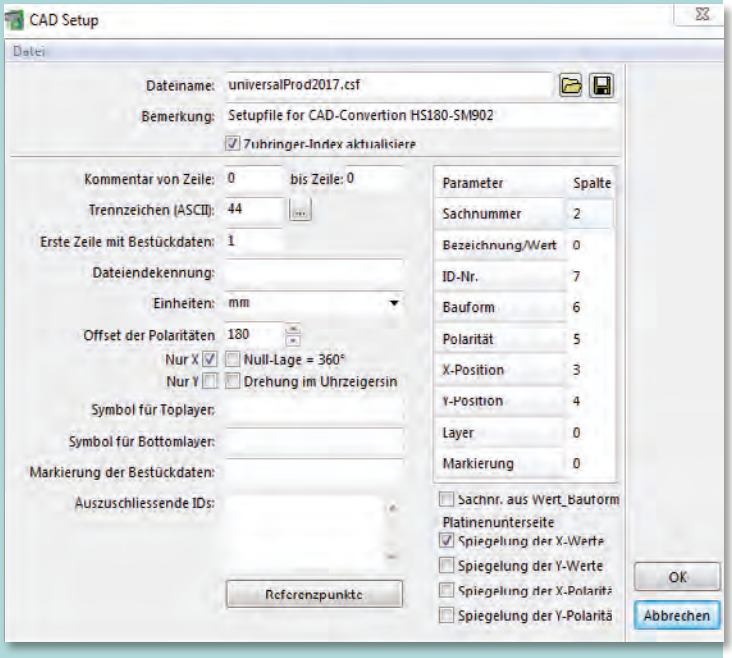


Software SM902/SM902*prof.*/MP904

The sophisticated software enables a smooth and fast flow. Already while teaching in the PCB the system shows its power. In a few moments the single positions can be programmed. While teaching in the first PCB can be assembled. This improves the efficiency and a control just in time. The simple handling of the sytem-software makes a fast and safe programming while assembling possible: Choose a PCB, place the reference points and production starts.

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
				✓	✓	✓

Softwareoptions



Data transfer

Any data can be converted from CAD and saved as compatible data to FRITSCH in relevant projects. The positions are automatically transferred. PCBs haven't to be teached in manual. Also the feeder mapping at the semi-automatic machine can be manually or automatically adopted. With the connecting of a paternoster to a **SM902** the existing component libraries can be automatically transferred.

Software options

Pick & place optimization

The variants with software support the user during his daily production of prototypes and small series. A current circuit board is virtually displayed on a monitor, accompanied by guiding information as seen in the illustration below. After starting the program, a green-marked feeder indicates, at which position the component has to be picked up from. The current component is displayed on the computer screen together with the PCB. To make the orientation easier, the current position of the placement head is also displayed.
The integrated measuring systems check every position the user goes to and only turn the vacuum on or off, if the right position is reached. By executing the defined steps, the workload and concentration of the user is remarkably reduced, as the reading of the built-up sheet is eliminated. Besides the pickup and placing position, the components polarity and rotation is also shown. All necessary data can be entered manually or imported from several CAD data. Different lists, like placement list or component list can be printed to prepare a production.

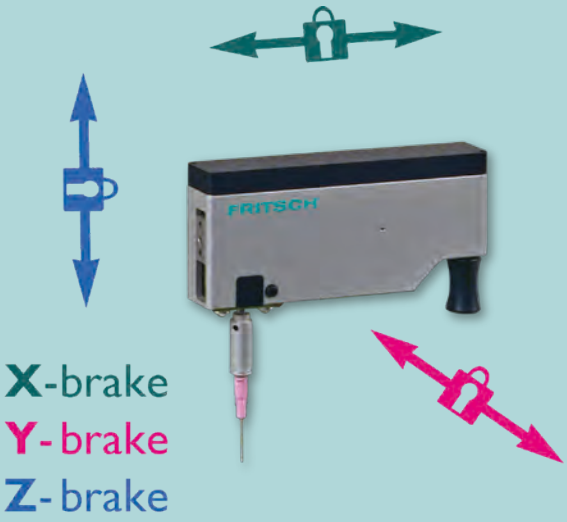
LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
				✓	✓	✓

Laser-Pointer-Modul

FRITSCH provides with the Laser Pointer Module comfortable pick & place of wired components.
The intelligent mechanical construction of the holder in combination with the software of the **SM902*professional*** enables an error-free and user-friendly assembling of wired components like LEDs in only a few moments. The local recognation of reference areas leads the user through the program and eliminates therefore incorrect assembling.

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
					✓	

System options



X/Y-Locking

The X/Y-locking (fig.) provides precision while placing components or dispensing paste or glue.
Individual axes can be locked. An automatic function independently locks the X and Y axes when the component are lowered or dispensing a dot. This facilitates especially the placing of Melfs.

904.905 Locking X/Y for **SM902, MP904, LM901, LMdispense**

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
	✓	✓	✓	✓	✓	✓

Fine-Pitch Option

904.715 Fine-Pitch option for **SM902**
X/Y/Z -locking and X/Y-fine adjustment table for the pick & place of Fine Pitch components. The camera and color monitor display exactly the enlarged component to assist the user by picking and placing of Fine Pitch.

904.716 Fine-Pitch option for **SM902*professional***
X/Y/Z -locking and X/Y-fine adjustment table for the pick & place of Fine Pitch components. The camera and color monitor display exactly the enlarged component to assist the user by picking and placing of Fine Pitch.

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
	✓		✓	✓	✓	✓

Z-locking

The Z-locking enables the hold of the components in a position of levitation close to the PCB. This simplifies the assembling of Fine-Pitches and non-standard components because an exact calibration between PCB and component is possible.

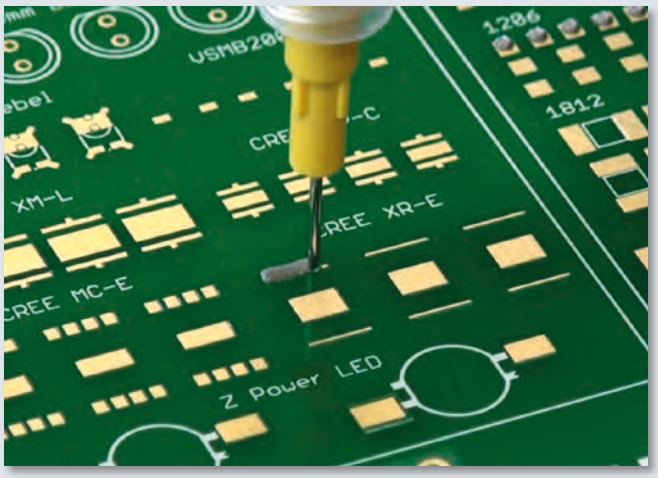
904.906 Z-locking for **LM901/SM902/MP904**

904.908 Z-locking for **LM901/SM902/MP904** with pedal control (no picture)

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
	✓	✓	✓	✓	✓	✓

System options

930.006 Line-dispensing module for **LM/SM** time-pressure-dispensing unit with pedal



LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
	✓	✓	✓	✓	✓	✓

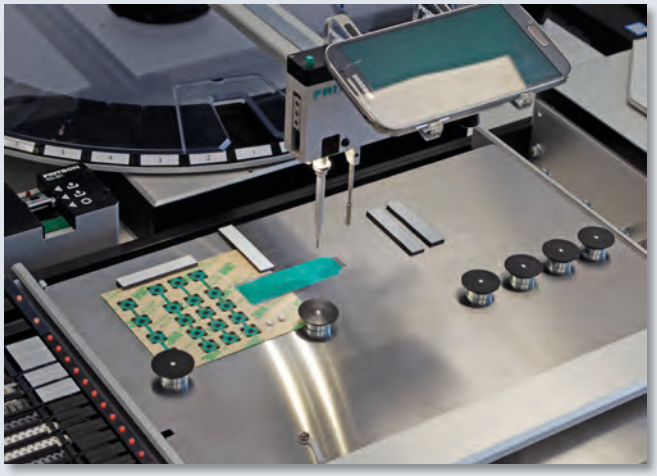
Vacuum table

A vacuum table can be integrated for the production of flexible circuit carriers.
This is placed in the work area and operated with an external pump. The strength of the vacuum can be regulated as required using two rotary controls.

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓	✓	✓	✓	✓

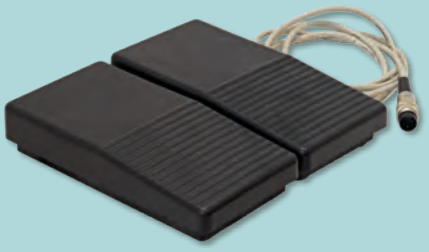
Magnetic table

The inexpensive magnetic table was also developed to hold foils or thin circuit boards. With six round magnets and four magnetic strips 10 x 50 mm it is easy to fix the carrier to be equipped.



LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓	✓	✓	✓	✓

Feeder and storage systems



Paternoster PT922

The Paternoster Mass Storage Magazine is the most sophisticated of the FRITSCH feeder systems. Because of its narrow width Paternosters can be located at the side and/or back of Pick & Place machines.

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

More than 500 components can be feeded

A single magazine can contain up to 504 components. This permits a high proportion of the required SMDs to be stored at the machine, which drastically reduces set-up times. A second magazine can be fixed to any FRITSCH Pick & Place machine.

Feeding of Loose Components, including ICs

The design of the Paternoster provides locations for 42 SMD Container Rails, which can be easily replaced and can present all kind of common components. The delivery of the components in every rail is possible by the optional FRITSCH SMD Rail Units

Control

The containers can be called up in different ways:
The double footswitch with forward and reverse switches can be used to step through the rows by briefly depressing one or the other switch or to smoothly move through several rows by fully depressing one switch at a time.

Semi Automatic Operation

In conjunction with FRITSCH Pick & Place Machines **SM902** and **LM901** the Paternoster can be used to its full potential. The software of these systems is already set up to control one or more of these magazines. The required SMDs are automatically called up and positioned for convenient pick up.

ESD Protected

The design of the Paternoster took full account of ESD compatibility so that all relevant machine components are electrically conductive. This ensures 100% protection from static charges and their damaging effects.

Feeder and storage systems

Feeders

922.110 Rail Unit with 12 small SMD Containers for loose components

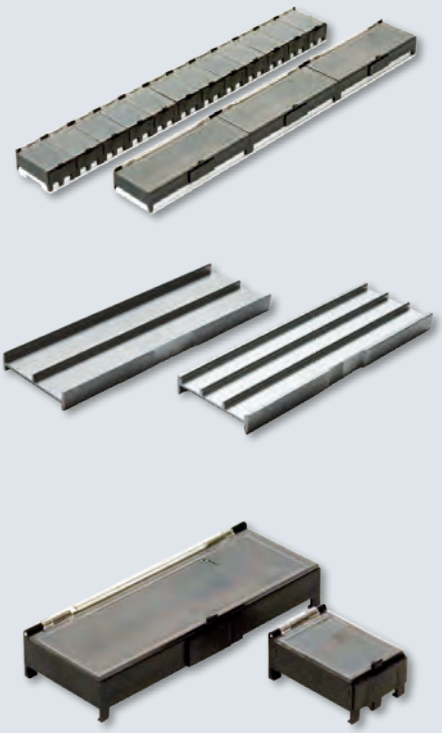
922.310 Rail Unit with 3 large SMD Containers for loose components

922.322 Insert SO8- SO16 for large SMD-Containers

922.323 Insert SO16L- SO28 for large SMD-Containers

CS.0001.00 Large SMD Container (left)
Internal dimension 24 mm x 74 mm x 6 mm
Storage Capacities: approx. 1000 Mini Melfs
with IC Insert: 21 x SO16 or 8 x SO24

CS.0002.00 Small SMD Container (right)
Internal dimensions 17 mm x 24 mm x 6 mm
Storage Capacities: approx. 250 Mini-Melfs



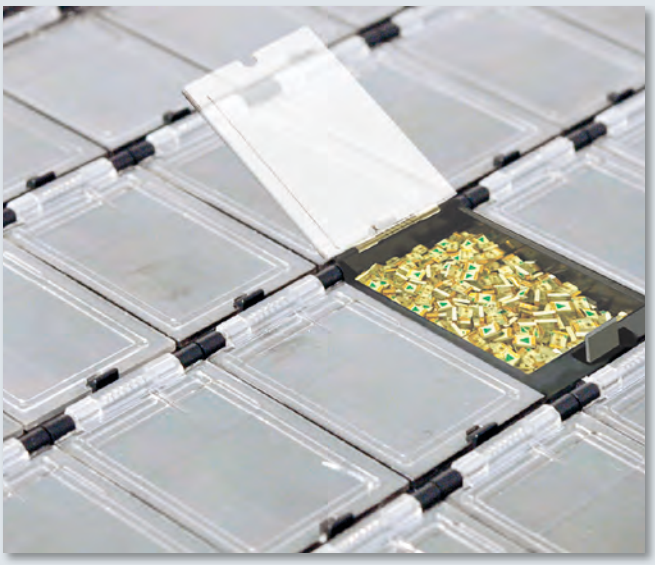
LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

922.504

Paternoster with 504 small SMD Containers

Scope of delivery:

foot switch
rails, each with small SMD Containers



PT922.505

Paternoster without SMD Containers

Scope of delivery:

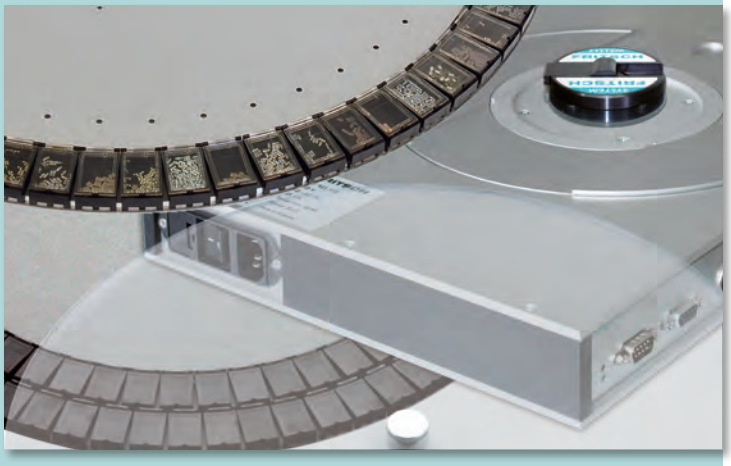
foot switch

Technical details

Dimensions:	945 mm x 345 mm x 126 mm
number of feeder rows:	42 / 504 containers
weight:	19 kg

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Feeder and storage systems



Easy and secure storage

To protect the contents of the carousels from dust, the cut out in the cover is replaced with the sold panel, and the whole cover is lowered unto the bins by operating the cam lever. The simpler types of carousels can also be equipped with a clear dust cover. The compact design and modest height of the carousels enables the space saving storage of several configurations.

Different versions

The simplest of the carousel arrangements - manual carousel support and corresponding carousels - are manually indexed during picking and placing. The motorised carousel drive is controlled by a double foot switch; one switch for clockwise, the other for counter clockwise rotation. Brief pressing of the switches achieves an index by one bin, longer pressing rotates the carousel smoothly until the switch is released. The processor controlled version is controlled by the FRITSCH system software. The required bin locations are transported via the shortest route automatically to the pick up position. The appropriate carousels have covers with inserts that have suitable cut outs for the size of bin used. Both drive systems are controlled by the software of the semi-automatic machine **SM902**.

Cam Lock System

Each feeder plate with a fast exchangeable system has an intake device for the easy and fast placing of parts on the drive. This device makes sure that it is always in the correct position. It is thus not necessary to home the drive after interchanging the rotary plate. Some rotary plate variations are equipped with an extraction element in the lid – either for wide or narrow containers. This element defines the exact position of extraction. It is thus not possible to accidently remove anything from the wrong container.

ESD protected

All components of the carousel system up to the transparent ESLON cover are conductive as standard, so that ESD protected storage and assembly can be guaranteed.

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Feeder and storage systems

Carousel Supports & Carousel Drive

920.601 Carousel Support
for manual indexing, antistatic
suitable for carousels 920.015, 920.066, 920.090, 920.124, 920.125 and 920.450

920.602 Carousel Support
for manual indexing, antistatic
large base with support plate for cover 920.462/463.
for carousel 920.450 and 920.090

921.205 Motor-controlled Carousel Support
for **LM & SM** serie

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Carousels

920.450 Carousel with 45 compartments
antistatic, for Carousel Support 920.601 and 920.602

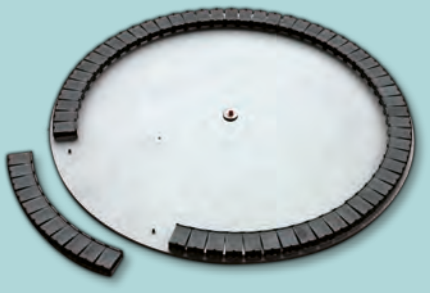
920.451 Carousel with 45 compartments
antistatic, for Motor-controlled Carousel Support 921.205

920.090 Carousel with 90 compartments
45 antistatic double trays for Carousel Support 920.601 and 920.602

920.091 Carousel with 90 compartments
antistatic, for Motor-controlled Carousel Support 921.205

920.124 Carousel with 124 Containers
Container CS.0002.00 antistatic,
for Carousel Support 920.601

Feeder and storage systems



Carousels

920.015 Carousel with 15 Mini-Tray-Acceptances for Carousel Support/Drive 920.601

920.066 Carousel with 6 Arc shapped rail units 922.116
antistatic for Carousel Support 920.601

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Covers

920.460 Cover without extraction cut out
suitable for Carousel 920.450, 920.451, 920.090 and 920.091

920.462 Cover with extraction cut out „45“
for safety extraction and a low-dust-storage
suitable for Carousel 920.450, 920.451 and Carousel Support/Drive 920.602 and 921.205

920.463 Cover with extraction cut out „90“
for safety extraction and a low-dust-storage
suitable for Carousel 920.090, 920.091 and Carousel Support/Drive 920.602 and 921.205

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Feeder and storage systems

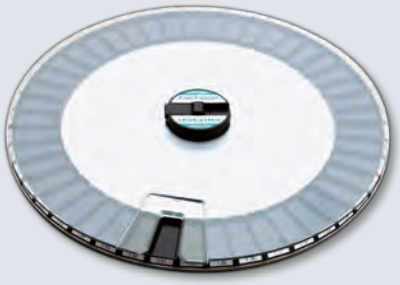
Carousel Drive

921.505 Processor Controlled Carousel Drive
with double foot switch and USB cable,
addressable from PC with SM902 Software
via USB interface, antistatic
for Cam Lock Carousel 920.415, 920.453,
920.466, 920.468 and 920.490

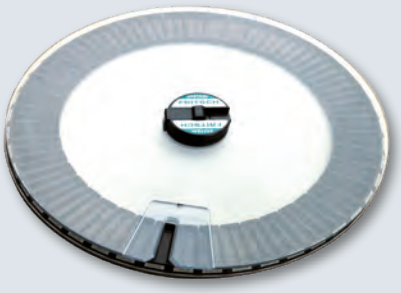
LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
				✓	✓	✓

Carousel with Cam Lock System

920.453 Carousel with 45 compartments
with Cover Cam Locked
for processor controlled Drive 921.505.01

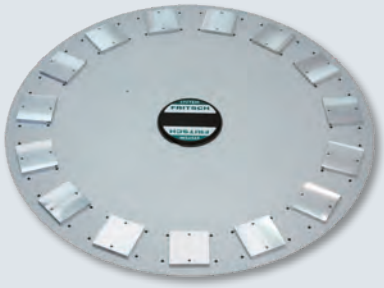


920.490 Carousel with 90 compartments
with Cover Cam Locked
for processor controlled Drive 921.505.01



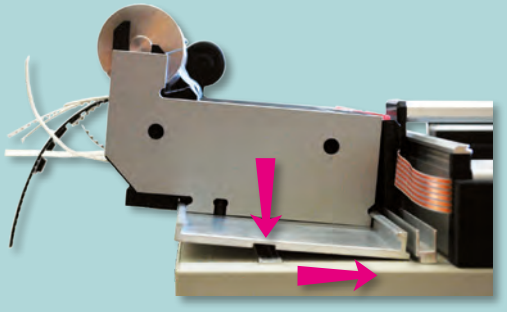
920.466 Carousel with 6 Arc shapped rail units
922.116
with Cover Cam Locked
for processor controlled Drive 921.505.01

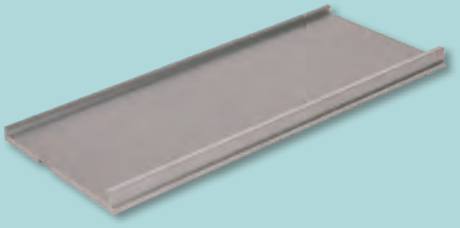
920.415 Carousel with 15 Mini-Tray-Acceptances
antistatic for processor-controlled
Carousel Support 921.505.01



LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
				✓	✓	✓

Feeder and storage systems





Feeder and storage systems

All FRITSCH Manipulators are equipped with the FRITSCH Rail System therefore the following feeders and storage systems can be implemented.

IC-Dispenser - stick feeder

942.208	IC-Dispenser for SO 8, SO 14, SO 16 tube width 7,9 mm, overall width 15 mm
942.220	IC-Dispenser for PLCC 20 tube width 12,5 mm, overall width 22 mm
942.228	IC-Dispenser for SO 8L, SO 16L, SO 20L, SO 24L, SO 28L, VSO 40 Gehäuse, PLCC 28 tube width 15,4 mm, overall width 22 mm
942.244	IC-Dispenser for PLCC 44 tube width 20,1 mm, overall width 27 mm
942.252	IC-Dispenser for PLCC 52 tube width 22,6 mm, overall width 30 mm
942.268	IC-Dispenser for PLCC 68 tube width 27,7 mm, overall width 35 mm
942.284	IC-Dispenser for PLCC 84 tube width 32,8 mm, overall width 40 mm
942.901	IC-Dispenser customized

Tape feeder

943.008	Tape feeder for 8 mm SMD Tape overall width 11 mm
943.012	Tape feeder for 12 mm SMD Tape overall width 15 mm
943.016	Tape feeder for 16 mm SMD Tape overall width 19 mm
943.024	Tape feeder for 24 mm SMD Tape overall width 27 mm
943.032	Tape feeder for 32 mm SMD Tape overall width 35 mm

Mounting Rails

940.255	Mounting Rail 255 mm
940.306	Mounting Rail 306 mm
940.426	Mounting Rail 426 mm
940.470	Mounting Rail rear 470 mm
940.570	Mounting Rail rear 570 mm

Feeder and storage systems

Universal Tape Strip Feeder

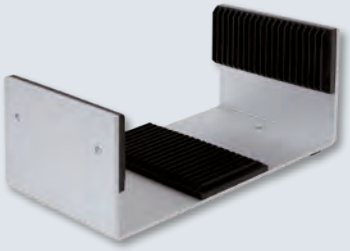
941.112 Universal Tape Strip Feeder for various widths with 6 rails for 5 tapes. (Max.11 x 8 mm tape possible). With two spring-loaded tape support rails

908.095.023 Rail for Tape Strip Feeder

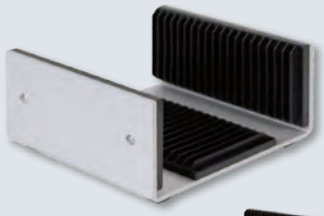
908.095.024 Spring-loaded tape support rail

Reel Support Stand

943.101 Reel Support Stand feeding tapes for all SMD tape feeder TF943, for example 5 pieces 8 mm, reel diameter 180 mm



943.103 Reel Support Stand, reel diameter 100 mm



943.102 Reel Support Stand, reel diameter 330 mm

Other Support Stand and Accessories

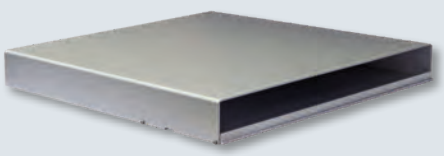
941.101 Tape Strip Dispenser stand with Rail Unit 941.124 with 24 Mini feeders for tape strips

941.124 Rail Unit with 24 Mini feeders for tape strips

940.701 End Support for TF943 on Mounting Rail

944.136 Waffle Tray Support 136 x 316

944.316 Waffle Tray Support 316 x 316



Feeder and storage systems

SMD-Container

FRITSCH SMD Containers are available in two sizes. These boxes form the building blocks for several feeders and are arranged on rails.
SMD Containers exhibit the following strengths:

Easy operation with self opening clear lid
Good view of the contents through the clear lids which can be opened by lightly touching the catches with the Pick Up Nozzle. The lids are held fully open by built in springs, giving quick and easy access to the components.

High flexibility
The containers can be replaced individually or in Rail Units. This allows the pre arrangement of components needed for a project without having to transfer them from one container to another and to have the whole range of component values available at the work place. The rail units can also be used with the Paternoster and the carousel.

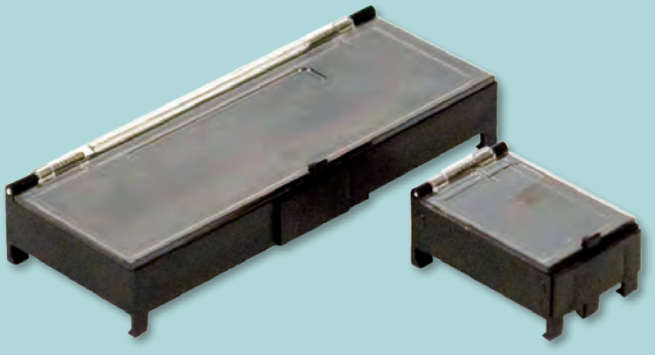
Short Set Up Times
The simple insert reduces set-up times to a minimum. The individual SMD container can be rearranged with an easy clip on the same or another rail.

Simple and Safe Storage

The Rail Units are intended to be stored in our Drawer Units which provide easy access to the SMD Containers. The supplied labels ensure that components can be easily identified. When the lids are closed the components are securely held and protected from dust.

ESD Protected

All the component parts of the SMD Containers are conductive so that ESD protected storage is ensured.



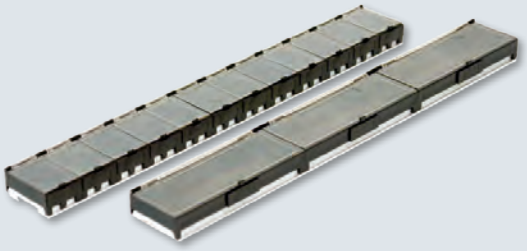
CS.0001.00 Large SMD Container (left)
Internal dimension 24 mm x 74 mm x 6 mm
Storage Capacities: approx. 1000 Mini Melfs
with IC Insert: 21 x SO16 or 8 x SO24

CS.0002.00 Small SMD Container (right)
Internal dimensions 17 mm x 24 mm x 6 mm
Storage Capacities: approx. 250 Mini-Melfs

Feeder and storage systems

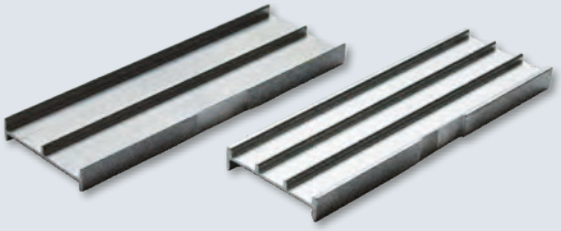
922.110 Rail Unit with 12 small Containers (left)

922.310 Rail Unit with 3 large Containers (right)

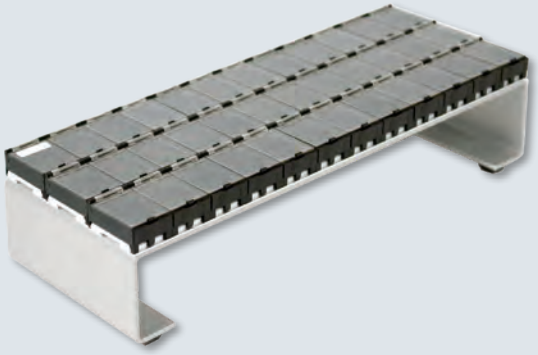


922.322 Insert SO 8 - SO 16 for large Containers (left)

922.323 Insert SO 16L - SO 28 for large Containers (right)



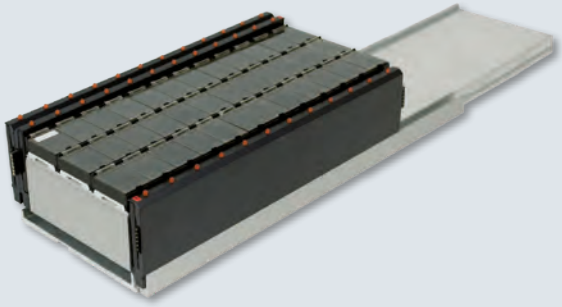
922.113 Support with 36 small Containers with 3 Rail Units 922.110



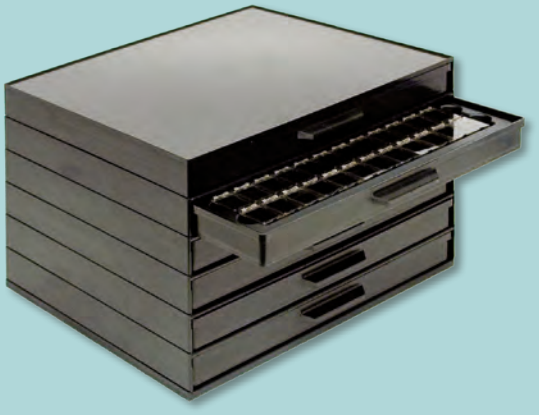
922.313 Support with 9 large Containers with 3 Rail Units 922.310

922.115 Support 36 small Containers with transparent lids incl. 3 LED-Rails with 12 LEDs, connection cable and rebuilt

940.312 Re-Mounting Rail for 3 x 12 LEDs to use for any rails at SM to store three Rail Units 922.110 or 922.310



Feeder and storage systems



Drawer Units

922.207 Antistatic Drawer Unit
with 6 drawers,
1 drawer filled with 7 Rail Units 922.110,
providing 84 small Containers

Rail Unit for Carousel

922.116 Curved rail unit
for Carousel 920.466 antistatic
with 11 Containers CS.0002.00.

922.206 Drawer Unit antistatic with 6 drawers,
1 drawer filled with 6 curved rail units
922.116

SM902 systems accessories

LED Rails

940.802 LED Rail with 2 LEDs
pitch spacing between LEDs 19 mm
length 38 mm

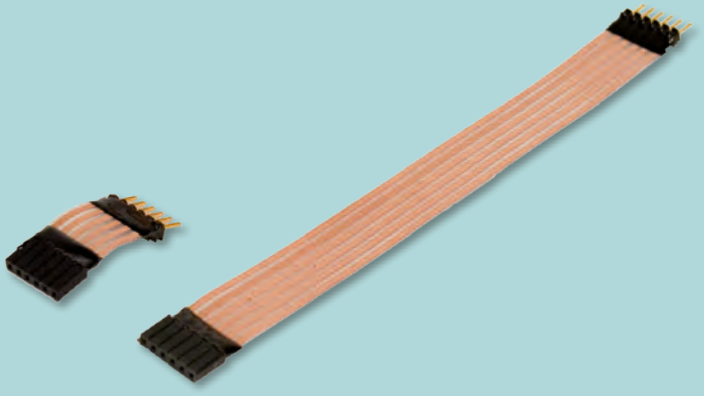
940.810 LED Rail with 10 LEDs
pitch spacing between LEDs 11 mm
length 110 mm

940.812 LED Rail with 12 LEDs
pitch spacing between LEDs 19 mm
length 230 mm

940.820 LED Rail with 20 LEDs
pitch spacing between LEDs 5,5 m
length 110 mm

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
				✓	✓	✓

SM902 systems accessories

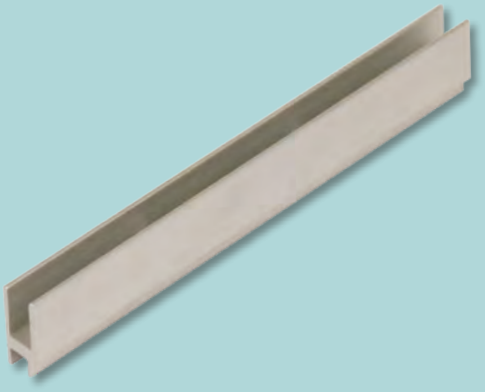


Connecting Cable between LED Rails

For connecting LED Rails when direct plug in isn't possible, for example on a corner

940.830 length 30 mm

940.840 length 150 mm

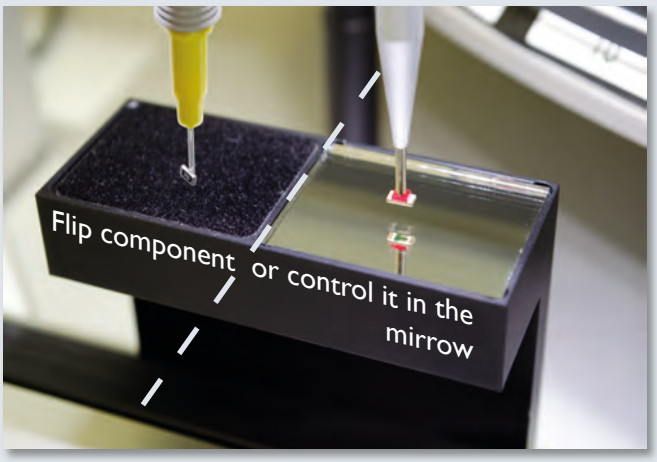


940.916 LED Rail Support Strip Extension
length 120 mm
for combining Mounting Rails
940.306 / 940.570 (backside)
940.426 / 940.470 (leftside)

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
				✓	✓	✓

Manual flipping-station

Anyone working on the production of prototypes with bulk material components knows the problem. Not for nothing has the term „bird food“ naturalized for it: The parts are completely random mess, partly on the back. Or the parts are correct, but the operator must turn them anyway, because the polarity marking is mounted on the underside - important especially for LED components. Therefor this unit consists of an ESD fleece, on which the component is turned with the pipette and a mirror, which shows the polarity.



Order no.: 922.203

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Component flipping-station

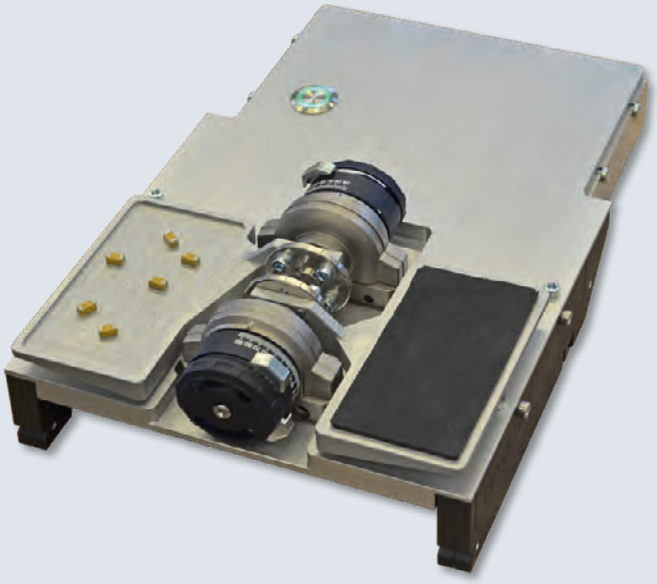
Simply place the component into the flipping station, move the assembly nozzle from the flipping area through the sensor barrier and the component is flipped over. This process takes less than one second and enables the removal of the parts the right way up.

Order no.: 922.201

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Flipping-station for loose components

After filling the destined tray with loose components the user is picking and placing the correct laying pieces. Only the wrong sided components remain. Pressing a button all are turned and working can go on without a rest. The flipping station is available for all manipulators and semi-automatic machines of the 900, 901, 902 and 904 range. Connected with a seperate power supply there is the possibility to be integrated easily with pure manual assembling machine or wherever.



Order no.: 922.202

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓		✓	✓	✓

Accessories

Camera

By means of a camera attached directly to the assembly head, you can view the entire pick & place process – enlarged on a monitor.

927.000 Flexible fixture complete without camera kit

927.008 Camera attachement for LM- and SM-systems; with colored camera WAT, objective lens, cabel, power supply, frame grabber, PC-card and software

927.010 Camera attachement for LM- and SM-systems; with colored camera WAT, objective lens, cable and power supply

927.011 Camera attachement for LM- and SM-systems; with colored camera WAT, objective lens, cable, power supply and 17" TFT colored monitor

927.014 Camera attachement for LM- and SM-systems; with HD colored camera digital microscope

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
	✓	✓	✓	✓	✓	✓

Compressor

910.020 Compressor suction capacity: 17 l/min

910.030 Compressor suction capacity: 50 l/min

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
	✓	✓	✓	✓	✓	✓

Work space illumination

913.001 Lamp for manipulator

LM900	LM901	LMinline	LMdispense	SM902	SM902*prof*	MP904
✓	✓	✓	✓	✓	✓	✓

Other machines

Automatic pick & place systems

The FRITSCH placeALL® is the standardized platform for flexible, high-precise and cost-effective Pick & Place of electronic components in prototyping and the production of small and medium series. All types of machines have he same software for setting, adjustment and production. The own high depth of production enables a fast customized implement.

Stencil Printer

The increasing demands like finest structures and smallest components ask for new products. The solid construction of the FRITSCH stencil printers fullfill every requirement and the elaborate range enables the handling of structures up to 0,5 mm and oversizes PCBs.

Reflow Oven

There are various stand-alone or inline reflow solder systems with the established heating system available for leaded or lead-free soldering and glue-hardening. Temperature sensors record profiles of components and analyse them. Several measuring instruments enlarge the offering.

Productionline

Any machines can be chained to reach a higher assembling performance and flexibility. The positions are devided according to demand.
Prototyping or a full-automatic productionline: depending on the customer request individual lines can be construc-ted.

Notes

FRITSCH

COMPLETE AND FLEXIBLE SMT SOLUTIONS

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