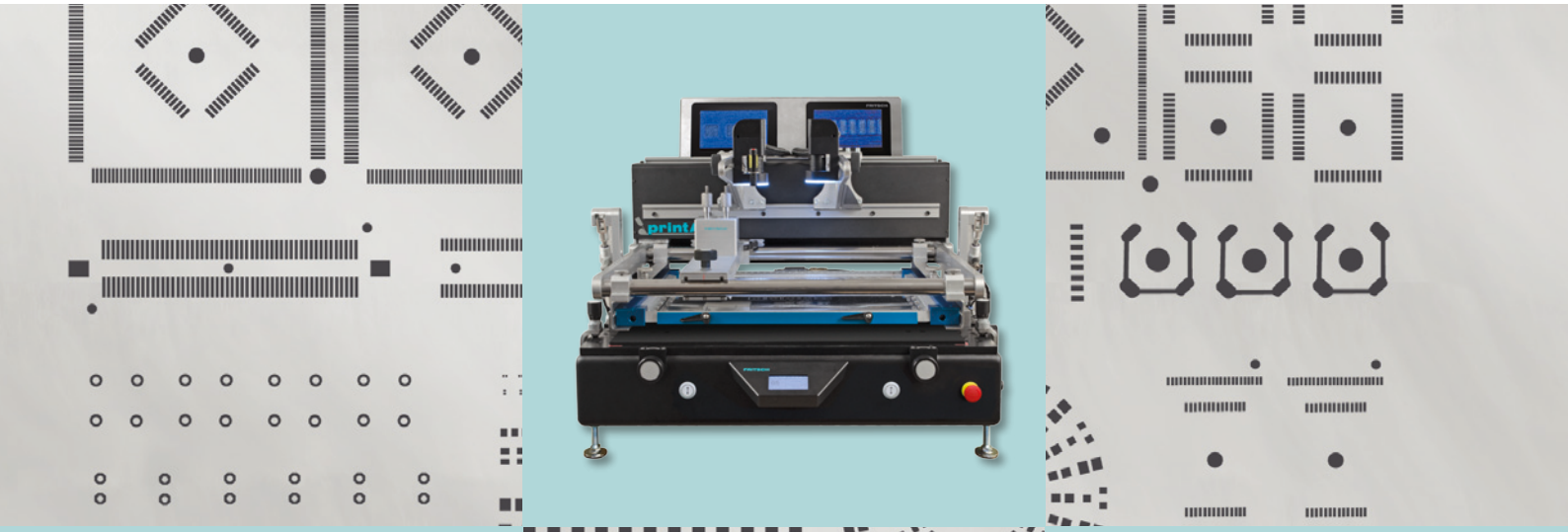
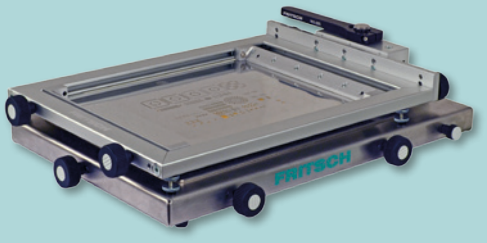
FRITSCH

COMPLETE AND FLEXIBLE SMT SOLUTIONS

Stencil printer

p r i n t A L L





Innovation and quality made in Germany

Contents

Manual stencil printer printALL005 4

System options 5

Semi-automatic stencil printer printALL210 6

Construction 8

System options 9

Options 10

Accessories 12

Other machines 15

printALL005

The printALL005 is a manual stencil printer with a stable base frame for a high print quality. The solid construction offers an easy handling and a clean and reproducible print, even for fine structures of 0,5 mm. The printer is ideal for the production of prototypes and small series.

Easy handling

The basic model is good to print single and double sided PCBs. For this, the PCB are placed on the base plate and mechanically fixed. The X-Y and theta axis can easily be set by using knurled screws. A parallel clearing ensures a clean separation of the PCB and stencil and guarantees a perfect print image.

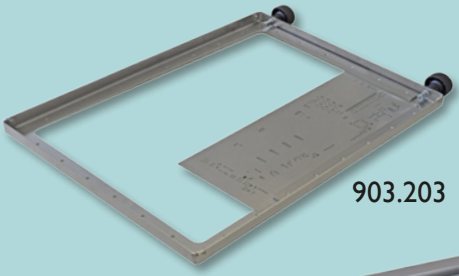
Technical Details

Size of clamping frame:	max. 460 x 30 x 355 mm
Effective area:	max. 390 x 290 mm
With stencil frame	903.203:
size of stencil:	max. 420 x 320 mm
size of PCB/effective area:	max. 380 x 280 mm
With stencil-tension-frame	903.204:
size of stencil:	max. 360 x 280mm
size of PCB/effective area:	max. 330 x 270 mm

With magnetic-PCB-fixture set for double-sided printing:

PCB buttom side:	max. 18 mm

System options



903.203

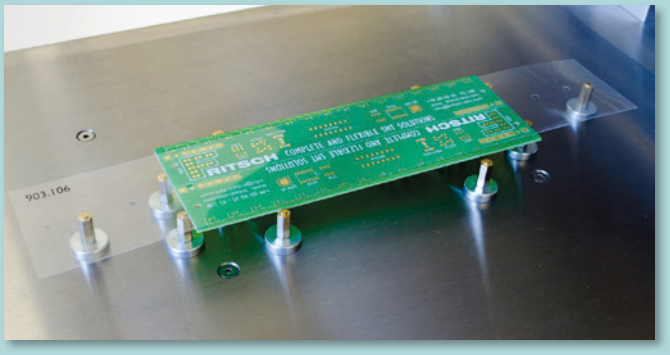
903.204

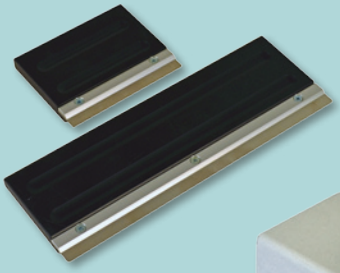
903.205

Set 903.103

Set 903.104

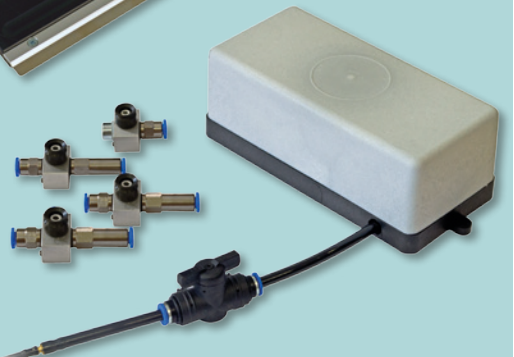
Set 903.105





SD.0037.00

SD.0036.00



Stencil intake

There are three variants for the intake of stencils available. For simple tasks we offer a universal frame for stencil sheets where the stencils are simply clamped without tension. (903.203).

Optimal is to use the universal stencil-tension-frame (903.204). Different sizes of stencils can be used. The tension is effected from two sides and there isn´t a perforation necessary.

A base plate for the use of fixed aluminium frames and accordingly for established Quick-Change-Systems. (903.205).

PCB fixture

For double-sided printing the PCB has to be fixed by the magnetic fixture. (Necessary by the use of a stencil-tension-frame).

Magnetic-PCB-fixture-set Set (903.103) for double-sided printing
1 x Magnetic-PCB-support-set (903.105)
2 x Magnetic-PCB-fixture-set (903.104)

Magnetic-PCB-fixture-set (903.104) for double-sided printing / 4 x PCB-fixture

Magnetic-PCB-support-set (903.105) for double-sided printing / 4 x PCB-support

Test film

The test film (903.106) facilitates the rough set up of the PCB.

Hand-squeegee

SD.0037.00	Hand-squeegee 110 mm, metal
SD.0036.00	Hand-squeegee 255 mm, metal

Vacuum option

Flexible vacuumoption for safe down-fixation of PCB while printing. (903.206). Incl. 4 magnetic suction cups and manual vacuum-deactivating.

printALL210

The semi-automatic stencil printer with its easy handling provides clean and reproducible prints even in the case of fine structures. It is suitable for the production of prototypes as well as small and medium-sized series. The printer‘s stable set up is the basis for today’s requirements of fulfilling the high demands of production quality. This is also safeguarded when the smallest of chips and fine structures come into use.
Conic centering pins guarantee a high repeatability and enable Fine-Pitch printing up to pitch 0.5 mm. The automatically opening and closing of the printer‘s top is supported by two pneumatic cylinder. Furthermore the top is fixed by two pins for correct alignement.

The semi-automatic stencil printer printALL210L is the continuation of the printALL210. Both systems are identic in solid construction and easy operation. This is the base of a clean and reproducable stencil printing and makes the handling of fine structurs possible without any problems. The intake of PCBs with a size of up to 600 x 430 mm are possible at the printALL210L.

The semi-automatic stenil printer printALL210XL is the largest of the range. It was especially constructed for the handling of oversized PCBs. FRITSCH argues about a maximum PCB size up to 1240 x 600 mm.

Visionsystem

In the case of fine structures in particular, the vision system alleviates the positioning of the stencil and thus increases the accuracy of the print. The vision system for the printALL210 - range enables with its enourmous enlargement the sharp recognition of finest structures. Both cameras have a laser positioning-help which displays the adjusted image detail.

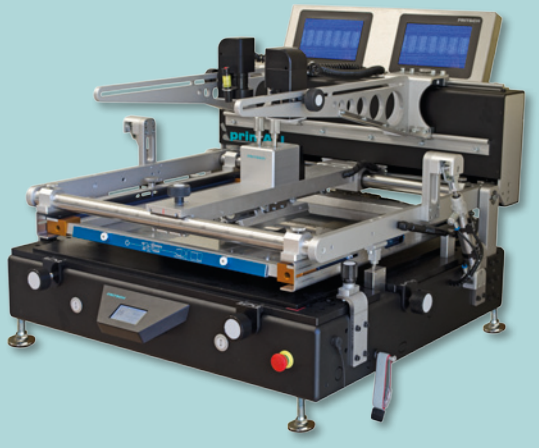
Vacuum table

Conditioned by the size the integration of a vacuum table is possible to guarantee a save and smooth intake of PCBs and foils. Therefore the required accuracy on oversized circuit carriers is ensured, too. The retrofit from standard intake to vacuum table and back is possible in a few minutes.

Undertable

The printALL system can be used as table machine or in combination with the undertable. The undertable has by standard a storage shelf or can be equipped with a suspended register for 34 stencils.

printALL210



printALL210

Semi-automatic stencil printer printALL210
for prototypes and small to medium-sized series.
Scope of delivery:

- Double squeegee for clean printing in both directions
- Standard squeegee 205 mm
- Flexible PCB fixture for one- and double-sided printing
- Parallel table lowering after printing
- Squeegee unit can be opened for easy cleaning

Technical details

Printing area:	max. 370 x 460 mm
PCB size:	max. 440 x 430 mm

printALL210L

Semi-automatic stencil printer printALL210L
for prototypes and small to medium-sized series.
Scope of delivery:

- Double squeegee for clean printing in both directions
- Standard squeegee 205 mm
- Flexible PCB fixture for one- and double-sided printing
- Parallel table lowering after printing
- Squeegee unit can be opened for easy cleaning

Technical details

Printing area:	max. 530 x 460 mm
PCB size:	max. 600 x 430 mm

printALL210XL

Semi-automatic stencil printer printALL210XL
for prototypes and small to medium-sized series. Only useable with undertable.
Scope of delivery:

- Vision camera
- Motoric feed
- Pneumatic supported frame holder
- Double squeegee for clean printing in both directions
- Standard squeegee 375 mm
- Flexible PCB fixture for one- and double-sided printing
- Parallel table lowering after printing
- Squeegee unit can be opened for easy cleaning

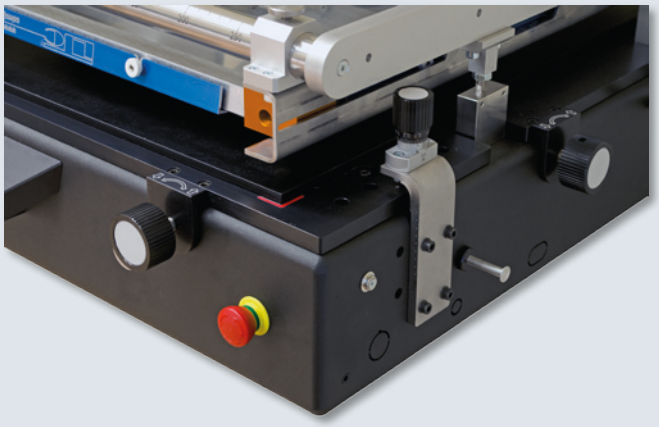
Technical details

Printing area:	max. 1170 x 630 mm
PCB size:	max. 1240 x 600 mm

Construction

Table lowering

The parallel table lowering ensures clean printing results even in the case of large PCBs. A smearing of the printed layout is thus part of the past. With the optional control, the lowering automatically takes place after the PCB has been printed.

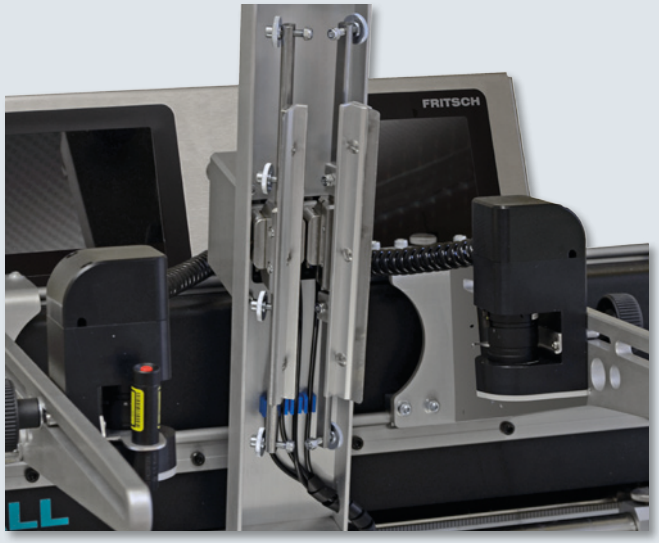


Maintenance and clearance

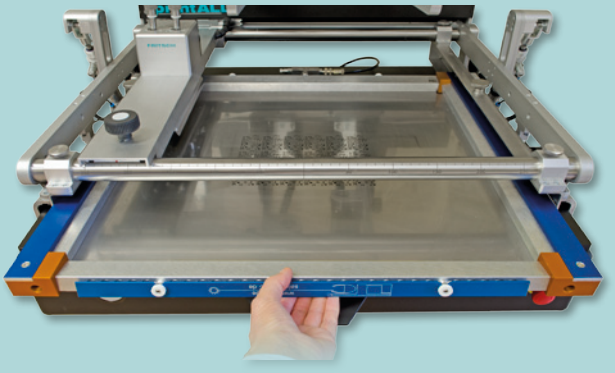
Both the stencil and the squeegee itself can be easily cleaned by simply opening the squeegee unit. The squeegee unit can be locked into the open position so that both hands are free for cleaning it.

Double-squeegee

The stencil printer has a double squeegee for flawless paste printing in both directions. The paste is applied within the double squeegee and is thus appliable in both directions. The contact pressure of the squeegee can be set by a screw. The squeegee angle is adjustable from 45° up to 90°.



System options



Quick-Change-Frame

Common, sturdy aluminium frames and other usual quick change systems are used without the need for further adaptions. That enables the printing of the smallest of PCBs up to a maximum printing surface of 530 x 460 mm.

printALL210	printALL210L	printALL210XL
✓	✓	✓

Flexible PCB fixture

The PCBs are fixed by easily adjustable magnet fixtures. The fixture can thus be adapted to a different PCB within a few seconds. The fixtures and supports included in delivery enable the one- or double-sided printing of PCBs.

printALL210	printALL210L	printALL210XL
✓	✓	✓

Vacuum table

A vacuum table can be integrated for the production of flexible PCBs. It guarantees a safe fixation for foils or thin PCBs. A conversion from vacuum table to the conventional circuit board recording and vice versa is uncomplicated because it adheres to the printing table with a magnetic film.

printALL210	printALL210L	printALL210XL
✓	✓	✓

Motor-driven print

The optional microprocessor controller controls the lowering squeegee, controls the motor-driven squeegee feed and makes sure the print is even and reproducible. After printing, the table is automatically lowered over the pneumatic cyclinder in a parallel position and the printer can be opened. All functions of the printer are handled by an optimized intuitive Touch Display. There is also the possibility to save product-specific programs. So the production can start only by choosing the accordant program.

printALL210	printALL210L	printALL210XL
✓	✓	✓

Options

Vision systems

903.210.135 Vision camera for printALL210
By means of two cameras, a safe and fast alignment of the stencil is given.

903.210.140 Vision camera for printALL210L

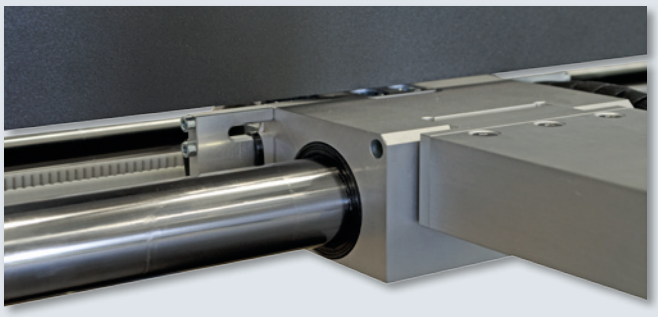
903.210.142 Vision camera for printALLXL
(Included in basic unit.)

903.210.143 Additional camera-arm with camera, object lens, lightning, and laser pointer for stencil printer printALL210XL

Squeegee feed

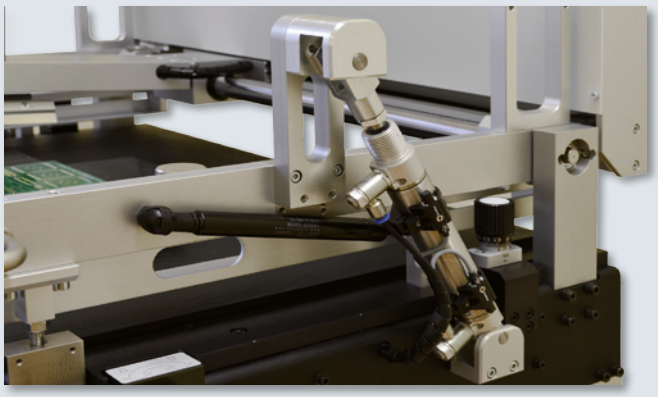
903.210.120 Motor-driven squeegee feed for printALL210
Adjustable squeegee speed for clean and reproducible prints
Microprocessor controller.

903.210.125 Motor-driven squeegee feed for printALL210L
Adjustable squeegee speed for clean and reproducible prints
Microprocessor controller.



Frame holder

903.210.155 Pneumatical supported frame holder for opening and closing the print frame by using a pneumatic cylinder for printALL210/L.

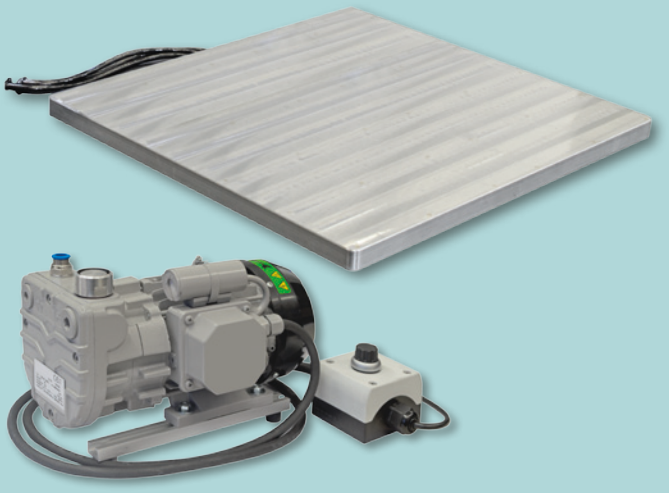


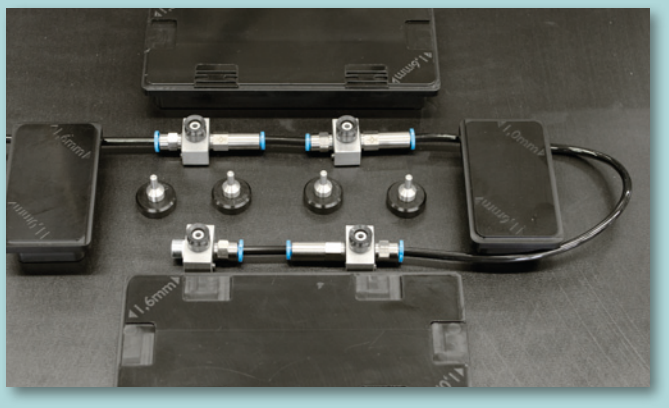
Drawer System

903.210.165 Pneumatical drawer system for printALL210

903.210.166 Pneumatical drawer system for printALL210L

Options





Vacuum table

903.210.130	Vacuum table for printALL210 Vacuum table 460 x 400 mm for the safe intake of foils and thin PCBs.
903.210.131	Vacuum table for printALL210L Vacuum table 614 x 400 mm for the safe intake of foils and thin PCBs.
On demand	Vacuum table for printALL210XL
908.191.122	Vacuum pump for Vacuum table

Vacuum option

903.210.151	Flexible vacuum-option for printALL210 for safety pressing on the PCB while printing. 4 magnetic suction cups and automatic vacuum de-activation. Only in combination with Motor-driven squeegee feed.
903.210.152	Flexible vacuum-option for printALL210/L/XL for safety pressing on the PCB while printing incl. 12 magnetic suction cups.

Undertable

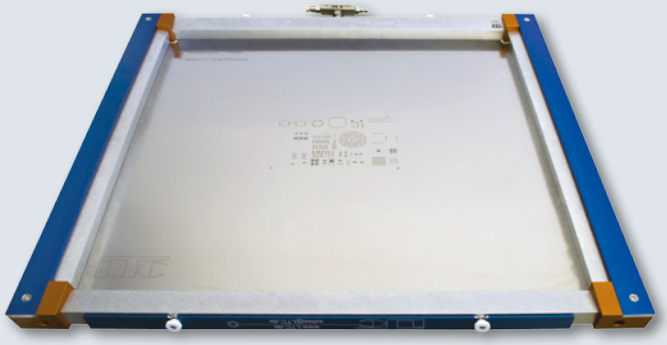
903.210.410	Undertable for printALL210 with storage shelf
903.210.412	Undertable for printALL210 with suspended register for 34 stencils
903.210.415	Undertable for printALL210L with storage shelf
903.210.416	Undertable for printALL210L with suspended register for 34 stencils
903.210.420	Undertable for printALL210XL with storage shelf (has to be ordered with the printer)
SD.0046.00	Suitable holder for all packages of stencils

Accessories

Quick change system

903.200.210 Four-sided quick change system for stencil size 555.5 x 555.5 mm

903.200.250 Four-sided quick change system for stencil size 709,5 x 555,5 mm

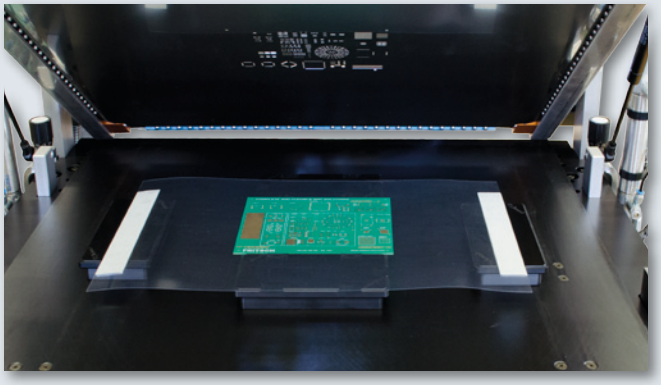


Further systems on request.

Test print frame

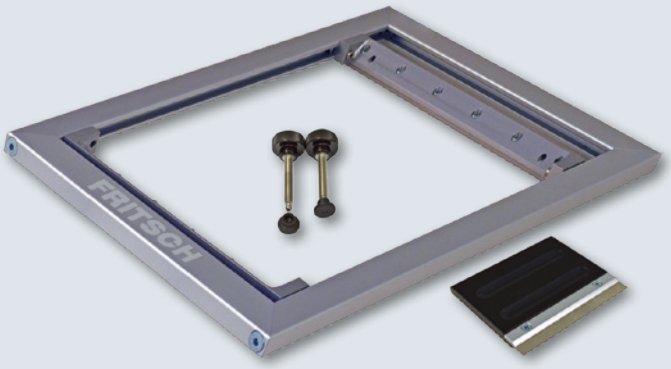
903.210.215 Test print frame for semi-automatiy stencil printer printALL210/L/XL. For checking the print layout and for easy alignment for the first print incl. a test print foil 240 x 400 mm

903.210.216 Test print foil 240 x 400 mm



Prototype frame

903.210.205 Universal prototype tension frame for stencils, for printALL210/L, 2-sided-tension, fixture bores aren't necessary.
max. stencil size 420 x 320 mm
max. PCB usable area 330 x 280 mm
with hand squeegee 110 mm, metal and two knurled screws for fixture



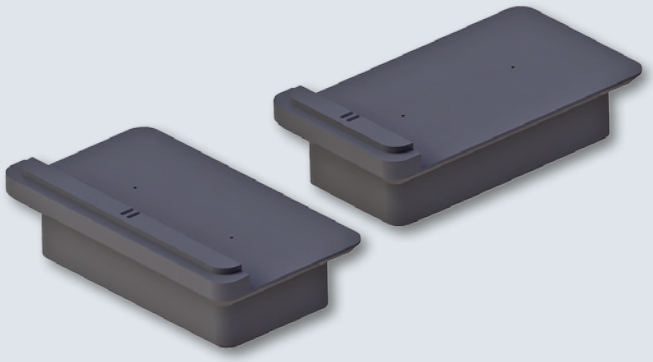
PCB fixture

903.210.201 Magnetic PCB fixture slim 40 mm
Thickness of PCB of 1.6 mm

903.210.202 Magnetic PCB fixture wide 70 mm
Thickness of PCB of 1.6 mm

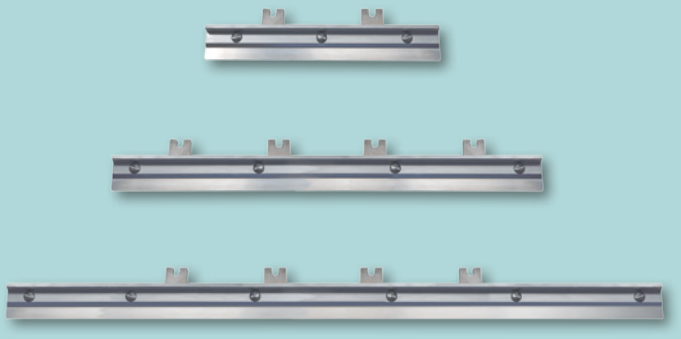
903.210.203 Magnetic PCB fixture slim 40 mm
Thickness of PCB of 1.0 mm

903.210.204 Magnetic PCB fixture wide 70 mm
Thickness of PCB of 1.0 mm



Accessories

PCB-support



903.210.220	Magnetic PCB support for thickness of PCB of 1.6 mm
903.210.221	Magnetic PCB support for thickness of PCB of 1,0 mm
903.210.228	Magnetic PCB support for thickness of PCB of 0,8 mm
903.210.229	Magnetic PCB support for thickness of PCB of 2,0 mm
903.210.223	Magnetic PCB fixture small 70 x 40 mm for thickness of PCB of 1.0 mm and 1.6 mm
903.210.224	Magnetic PCB fixture large 140 x 70 mm for thickness of PCB of 1.0 mm and 1.6 mm
903.210.225	Magnetic PCB fixture large with fixture for test print foil for thickness of PCB of 1.0 mm and 1.6 mm
903.210.226	Magnetic PCB fixture small 70 x 40 mm for thickness of PCB of 0,8 and 2,0 mm
903.210.227	Magnetic PCB fixture large 140 x 70 mm for thickness of PCB of 0,8 and 2,0 mm
903.210.238	Gripper for magnetic PCB fixture large

Metal squeegees

903.210.301	Holder with metal squeegee 205 mm
903.210.302	Holder with metal squeegee 290 mm
903.210.303	Holder with metal squeegee 375 mm
903.210.305	Holder with metal squeegee 420 mm
903.210.304	Holder with metal squeegee 460 mm
903.210.306	Holder with metal squeegee 545 mm
903.210.307	Holder with metal squeegee 630 mm
903.210.322	Surcharge for holder and metal squeegee 290 mm instead of standard 205 mm *
903.210.323	Surcharge for holder and metal squeegee 375 mm instead of standard 205 mm *
903.210.324	Surcharge for holder and metal squeegee 460 mm instead of standard 205 mm *
903.210.325	Surcharge for holder and metal squeegee 545 mm instead of standard 205 mm *
903.210.326	Surcharge for holder and metal squeegee 630 mm instead of standard205 mm *
903.210.327	Surcharge for holder and metal squeegee 420 mm instead of standard 205 mm *

* For double squeegee (2 pieces)

Accessories

Rubber squeegee

903.210.329 Holder with rubber squeegee 110 mm for screenprinting

903.210.330 Holder with rubber squeegee 205 mm for screenprinting

903.210.311 Holder with rubber squeegee 290 mm for screenprinting

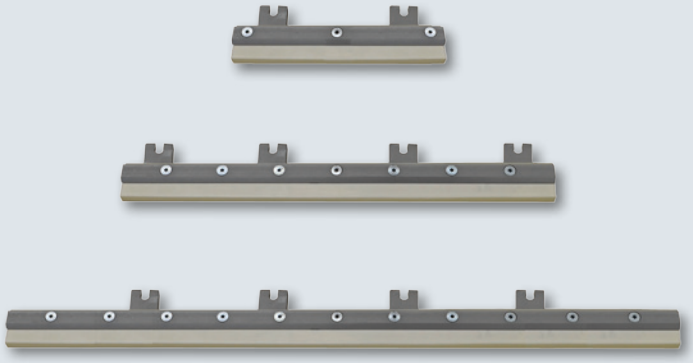
903.210.331 Holder with rubber squeegee 375 mm for screenprinting

903.210.332 Holder with rubber squeegee 420 mm for screenprinting

903.210.312 Holder with rubber squeegee 460 mm for screenprinting

903.210.333 Holder with rubber squeegee 545 mm for screenprinting

903.210.334 Holder with rubber squeegee 630 mm for screenprinting



Flood squeegee

903.210.315 Holder with flood squeegee 205 mm

903.210.310 Holder with flood squeegee 290 mm

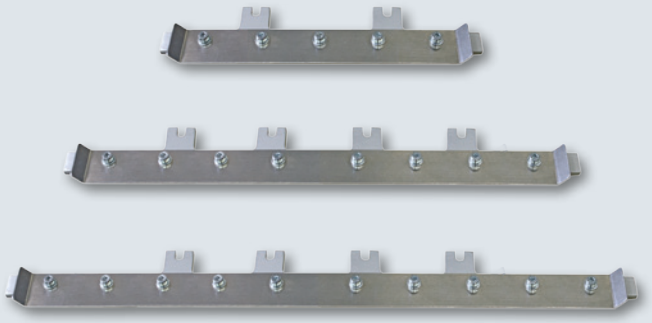
903.210.316 Holder with flood squeegee 375 mm

903.210.318 Holder with flood squeegee 420 mm

903.210.317 Holder with flood squeegee 460 mm

903.210.319 Holder with flood squeegee 545 mm

903.210.320 Holder with flood squeegee 630 mm



Solder pastes

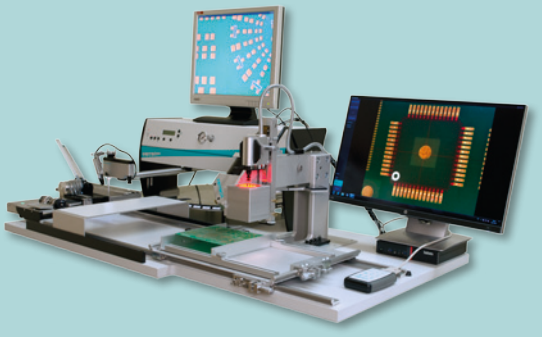
932.114 Solder paste for stencil printing, lead-free
S3X58-M406
SN96.5Ag3Cu, class 4 (grain size 20-38µm) 11,5 % flux, tub 500 g

50.0184.00 Solder paste for stencil printing, lead-free
SC BLF 04 96,5/T4
12 % flux, tub 500 g

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.



Manual pick & place systems

For prototyping and for small series we have manual and semi-automatic manipulators in our product range. All steps in process like dispensing of welding pastes / glue up to the pick & place of components incl. Fine Pitch can be performed. Depending on application the machines may be equipped with feeders for tape rolls and sticks.

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.

Production line

To reach a higher pick & place performance and flexibility several machines can be linked. The positions are devided for the specific requirements.
Prototyping or a full-automatic productionline: depending on the customer request individual lines can be constructed.

SISTEMI www.pcbtech.it
STRUMENTI www.epcb.it

Viale Beniamino Gigli, 15
60044 Fabriano AN

Tel. +39 0732 250458
Fax +39 0732 249253

info@pcbtech.it

C.F. / P.I. 01474230420

FRITSCH
COMPLETE AND FLEXIBLE SMT SOLUTIONS

FRITSCH GmbH • Kastler Straße 11 • D-92280 Kastl-Utzenhofen
Tel: +49 (0) 96 25 / 9210 - 0 Fax: +49 (0) 9625 / 9210 - 49
www.fritsch-smt.com

© 2019 FRITSCH GmbH - Subject to change - 10/2019 EN