

MA 2112

The new Mechanical Standard in the Test Fixture Division

The MA 2112 represents the consistent further development of the successful MA 2110 in regard to Contact Force, Intermediate Interface and ergonomics. Apart from the various innovative features the price is also very convincing.

The Contact Force of the new Test Fixture achieves a level that until now were only possible with a Vacuum Fixture. With a Contact Force of 2.000 N up to 1,330 Test Probes (1.5 N) can be assembled. The integrated high-grade Intermediate Interface can transfer up to 1.190 Signals when fully loaded. The Intermediate Interface can also be loaded with up to seven Interface Pin Blocks (see Product Datasheet INGUN Interface Pin Blocks).

The Interchangeable Kits can be exchanged with very little effort. The Probe Plate Unit can be locked and unlocked with a small hand-lever at the front. The Pressure Frame Plate is equipped with a patented quick-lock lever, which enables exchange in just a few seconds. For easy storage the Pressure Frame Plate and the Probe Plate Unit can be connected up to one unit, which allows stacking.

The MA 2112 is part of a new Product line, which varies in regard to the usable area and the size of the housing. The Product Line consists of the MA 2111, MA 2112, MA 2113 and the 2113 T, which is the Tandem version.

The following Innovative Features enable easy operation:

- big Opening angle of the Pressure Frame Unit (80°)
- Low Opening Force of the Pressure Frame Unit
Self-opening > approx. 50°
- Smooth-running Drive Mechanics with ball-bearings
- Ergonomic Handle
- Quick exchange of the Interchangeable Kits
- Interchangeable Kits can be stacked for storage
- Opening angle of Assembly Plate/Housing 90° -
with latch retainer
- Gas struts assembled internally

Technical Data:

- Contact Force 2,000 N / Intermediate Interface 1.190 Contacts
- Possible maximum Height of the PC-Board 60 mm. For higher Components the Pressure Frame Plate can be easily milled out
- Stroke 15 mm - guided parallel
- Test Fixture available for all common Test Systems
- Usable Area: 295 x 250 mm
- Overall Dimensions: 460 x 480 x 265 mm

Prices and Delivery Time on request.
Technical changes possible without prior notice.



MA 2111, MA 2112, MA 2113, MA 2113 T New product line of Manual Fixtures

The advantages of the new MA 2112 are so convincing that we have consequently extended the product line of Manual Fixtures based on the new MA 2112. The new product line consists of the MA 2111, MA 2112, MA 2113 and the MA 2113 T.

The MA 2111 is the little brother of the MA 2112 - and the MA 2113 the big brother. Furthermore we have also designed a tandem version based on the housing of the MA 2113 and with a two-fold integration of the MA 2111. With the tandem solution PC-Boards can be tested alternatively, which subsequently reduces the total testing time.

MA 2111

- Usable Area: 155 x 250 mm
- Overall Size: 330 x 515 x 265 mm (w x d x h)
- Contact Force: 2.000 N
- up to 5 Interface Blocks

MA 2112

- Usable Area: 295 x 250 mm
- Overall Size: 465 x 515 x 265 mm (w x d x h)
- Contact Force: 2.000 N
- up to 7 Interface Blocks

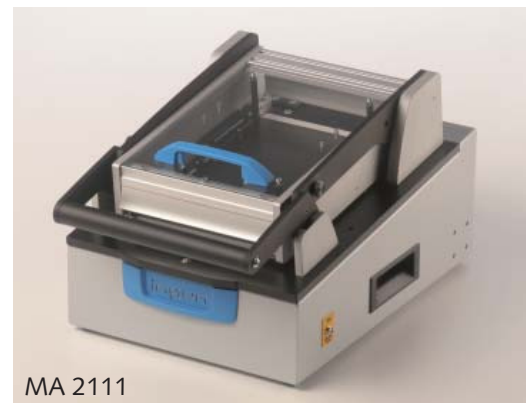
MA 2113

- Usable Area: 450 x 320 mm
- Overall Size: 620 x 580 x 265 mm (w x d x h)
- Contact Force: 2.000 N
- up to 10 Interface Blocks

MA 2113 T

- Two-fold Usable Area: @ 155 x 250 mm
- Overall Size: 620 x 530 x 265 mm (w x d x h)
- Contact Force: je 2.000 N
- up to 2 x 5 Interface Blocks

All further advantages and technical data can be found in the Product Datasheet „MA 2112 – The new Mechanical Standard in the Test Fixture Division“



Product Information

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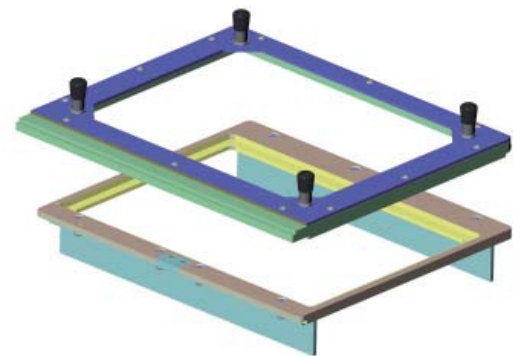
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Retro-set for Replacement Kit MA 2110 for usage in MA 2112

For customers who are using the Manual Fixture MA 2110 from INGUN it is now possible to use the previous Replacement Kits from the MA 2110 also in the new MA 2112. With our simple exchange concept you benefit from the advantages of the new MA 2112 without having to manufacture new Replacement Kits.

The Retro-set is mounted without any assembly effort, so that all available Replacement Kits are compatible to the new MA 2112.

Cost-effective, fast and with little effort.



Part No. Retro-set for MA 2112: 31660

Prices and Delivery Time on request.
 Technical changes possible without prior notice.

Extraction Device for Marking Unit

To avoid contamination during the marking procedure and subsequently contamination of the Probe tips, INGUN has developed an Extraction Device. Subsequently the Marking Unit has been enhanced with a funnel and extraction tubing.

The shavings which are produced during the engraving are fed through a pneumatic tubing of a plastic box with filtering system and collected there. The box can be emptied easily.

Extraction is carried out pneumatically and is also possible via an interface - when using a Replacement Kit. The assembly position of the Marking Unit is variable because the shavings can, for example, be extracted upwards (away from the PC-Board).



Part No.:	31839
Overall size Extraction Device:	100 x 60 x 60 mm (b x t x h)
Required space Marking unit:	26 x 16 mm
Compressed air:	6 bar
Pneumatic tubing:	length of request, Ø 6 mm

Prices and Delivery Time on request.
 Technical changes possible without prior notice.

INGUN Pylon Receiver

INGUN has completely refurbished its previous Pylon Receiver. You can also benefit from the advantages of the new generation!

The operating mechanism has now been equipped with a redesigned latch-guide and a gear-wheel drive that is free of play. Hereby, an exact stroke of the Test Probes and subsequently an improved signal quality is achieved. Furthermore the signal block area has been stiffened, which helps to optimize the stroke.

A further advantage was also achieved by redesigning the operating lever. This is now assembled on the side and can be operated with just one hand.

The proportions have been adapted to our common Fixtures to build one unit. All INGUN Interface Blocks can still be used (see Product datasheet "INGUN Interface Blocks").



Part No.:	32162
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