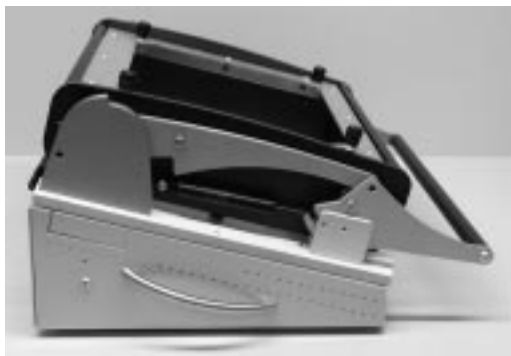




Manual Test Fixture MA 2110



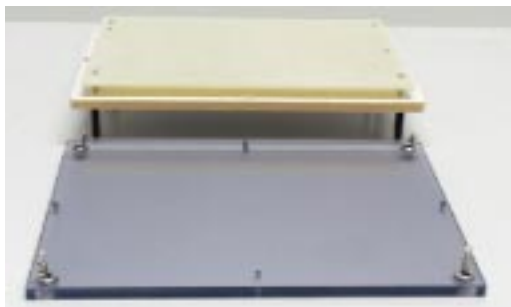
MA 2110



MA 2110



ATS 2110 with Interchangeable Pressure-Frame Plate (20969)



ATS 2110 with PC-Board Support Plate and Interchangeable Pressure-Frame Plate (19026)

The Manual Test Fixture **MA 2110** consists of the desk-housing with mounting for the probe-plate unit and the pressure-frame unit made of rigid aluminium-profiles and including the 3 slide-bars and 6 PC board push-rods. The actuation of the pressure-frame unit is by means of a front lever.

The fixture is designed for the maximum contact force of 300 N (i.e. 200 probes x 1,5 N spring force). The pressure-frame unit can be swivelled open completely and therefore ensures quick and simple placement and removal of the UUT (Unit-Under-Test). Furthermore, the design allows easy removal of the probe plate unit.

The 12° desk-type housing ensures the ideal ergonomic placement position.

The intermediate interface is achieved with either connectors or a customer-specific solution. Interface connections to specific test system types on request!

Functionality:

The UUT is guided by adjustable pre-registration pins and placed onto the support probes (PAS). Subsequently, the UUT is registered with tooling pins. The pressure-frame unit is closed, and, using the lever mounted on the front of the fixture (which is fitted with an eccentric curve) the pressure-frame unit is pulled down and the push-rods press the UUT against the probe field.

Simple debugging is ensured due to access to the underside of the probe plate while under contact. Furthermore, limited access to the top-side of the UUT through the slide-bars of the pressure frame is also possible.

Recommended Test Probes in 100mil (2,54mm) grid:

- Series GKS-912 xxx xxx x 1502 with receptacles KS-112 47
- Series GKS-100 xxx xxx x 1500 with receptacles KS-100 47 05

Status:
27.10.03



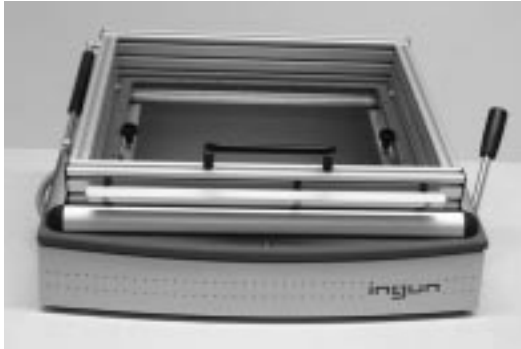
Manual Test Fixture MA 2110

Part No.	Description	Usable Area (w x d, in mm)	Overall Dimensions (w x d x h, in mm)
20907	MA 2110, incl. Pressure Frame Unit with Mounting for Interchangeable Kit (made of acrylic glass)		460 x 330 x 200
20969	Interchangeable Kit ATS 2110, with spring-loaded PC-Board Support Plate and Interchangeable Pressure-Frame Plate	280 x 190	320 x 230 x 50
	Accessories of 20969:		
xxxxx	Tooling Pin, Installation height 16 mm (available in 1/10 mm steps up to 5.0 mm)		
xxxxx	UUT Support Probe GKS-102 250 400 P 3002		
2517	Excenter Pin M2, length = 38mm		
19026	Interchangeable Kit ATS 2110, Interchangeable Pressure-Frame Plate, Probe-Plate Unit, Wiring Protection Cover	270 x 190	320 x 230 x 65
	Accessories of 19026:		
21615	Push-rods for Pressure Frame Plate, L = 51 mm, Head = Ø 2.5 mm		
18870	Push-rods for Pressure Frame Plate, L = 51 mm, Head = Ø 6.0 mm		
xxxxx	Tooling Pin, Installation Height 7 mm - (available in 1/10 mm steps from Ø = 1.99 to 5.0 mm)		
3161	PC-Board Support, Ø = 5 mm x 3 mm high (anti-static)		
13781	Placement Guide Pins, made of Delrin (Nylon), 22 mm high		

Status:
24.05.04



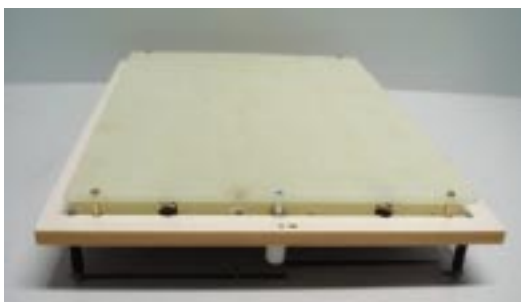
Manual Test Fixture MA 2130



MA 2130/NDH/D/H with KTE 130



KTE 130/2130 and Connectors



KTE 130/2130 with spring-loaded PC-Board Support Plate

The new manual Test Fixture **MA 2130/NDH/D/H** represents the consequent enhancement of the manual driven test fixture series. The design consists of the desk-housing, the drive unit with mounting for the probe-plate unit, as well as the pressure-frame unit made of rigid aluminium-profiles and including 3 slide-bars and 6 push-rods.

The fixture is designed for the maximum contact force of 600 N (i.e. 400 probes x 1,5N spring force). The guaranteed contactable target test-pad size is 0.5 mm – excluding PC board tolerances.

Special emphasis was put into the ergonomic design of the test fixture. The pressure-frame unit can be swivelled open completely and therefore ensures quick and simple placement and removal of the UUT (Unit-Under-Test). The 12° desk-type housing ensures the ideal ergonomic placement position. The design enables quick change of the probe-plate unit.

The intermediate interface design is achieved with either connectors or a customer-specific solution. Interface connections to specific test system types are available on request!

Functionality:

The UUT is placed onto mounting pins or a special mounting plate and registered with high-precision tooling pins. The pressure-frame unit is closed, and subsequently a play- and wear-free 4-column toggle-lever drive unit is actuated by means of a hand lever. This drive unit is positioned under the probe-plate unit. The UUT is then pressed against the push-rods and contacted.

Simple debugging is ensured due to access to the underside of the probe plate while under contact. Furthermore, access to the top-side of the UUT is also possible.

Recommended Test Probes in 100mil (2,54 mm) grid:

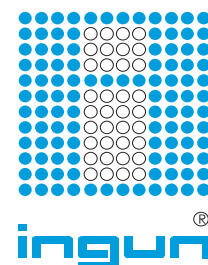
Series KS/GKS-912

KS-112 xx (with wire-wrap or solder terminal)
GKS-912 291 130 N 1502 (for solder test-pads or vias)
GKS-912 204 130 A 1502 (for component leads)

Series KS/GKS-100

KS-100 xx (with wire-wrap or solder terminal)
GKS-100 291 090 A 1500 (for solder test-pads or vias)
GKS-100 204 130 A 1500 (for component leads)

Status:
27.10.03



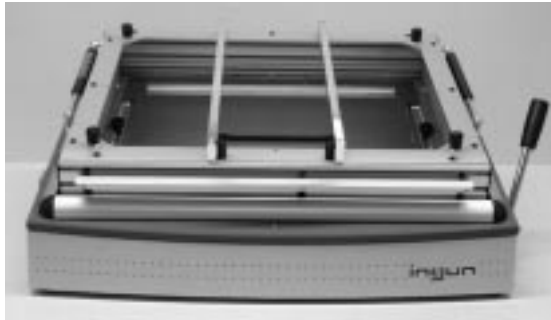
Manual Test Fixture MA 2130

Part No.	Description	Usable Area (w x d in mm)	Overall Dimensions (w x d x h, in mm)
20611	MA 2130/NDH/D/H with slide-bars and push-rods		520 x 405 x 250
17494	Probe-Plate Unit KTE 130/2130 (connector mounting prepared for 96- or 64-way connector)	275 x 220	325 x 255 x 65
17495	Probe-Plate Unit KTE 130/2130 with spring-loaded PCB mounting plate (connector mounting prepared for 96- or 64-way connector)	240 x 220	325 x 255 x 65
20854	MA 2130/NDH/D/H with Mounting for Interchangeable Pressure Frame Plate		520 x 405 x 250
17639	Probe-Plate Unit KTE 130/2130 Interchangeable Pressure Frame Plate (connector mounting prepared for 96- or 64-way connector)	275 x 220	325 x 255 x 50
17640	Probe-Plate Unit KTE 130/2130 Interchangeable Pressure Frame Plate with spring-loaded PCB mounting plate (connector mounting prepared for 96- or 64-way connector)	240 x 220	325 x 255 x 65
<p>Accessories:</p> <p>When using Pressure-Frame Unit with slide-bars and push-rods</p> <p>11070 Slide-bar for NDH 130/2130 17338 Push-rods for slide-bar 130: length 45-50 mm, Ø of head 2,4mm</p> <p>When using Pressure-Frame Unit with mounting for pressure-frame plate (acrylic-glass)</p> <p>19813 Push-rods for Pressure Frame Plate, L = 51 mm, Head = Ø 2.5 mm 19815 Push-rods for Pressure Frame Plate, L = 51 mm, Head = Ø 6.0 mm</p> <p>Customizing materials when using Probe-Plate Unit KTE 130/2130</p> <p>xxxxx Tooling-pin ø xxx UUT-specific, installation height 14mm 7766 Spring-loaded UUT mounting probe PAS 102 250 400 P 3002 W 2517 Eccentric pin M2, length 38 mm, Ø 8 mm</p> <p>Customizing materials when using Probe-Plate Unit KTE 130/2130 with UUT support plate</p> <p>xxxxx Tooling-pin ø xxx UUT-specific, installation height 7mm xxxxx pre-registration, UUT-specific 3161 anti-static PVC UUT-supports Ø 5 mm, height 3 mm, with press-in plug Ø 3 mm</p> <p>Interface Materials: (mounted under Probe Plate on spacers)</p> <p>4864 Connector: 64-way 5195 Connector: 96-way</p>			

Status:
21.01.03



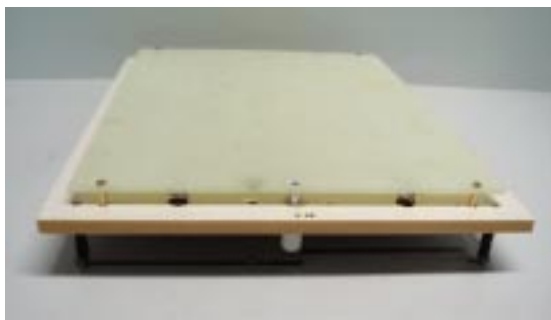
Manual Test Fixture MA 2135



MA 2135/NDH/D/H



KTE 135/2135 and Connectors



KTE 135/2135 with spring-loaded PC-Board Support Plate

Manual Test Fixture MA 2135/NDH/D/H

The new manual Test Fixture MA 2135/NDH/D/H represents the consequent enhancement of the manual driven test fixture series. The design consists of the desk-housing, the drive unit with mounting for the probe-plate unit, as well as the pressure-frame unit made of rigid aluminium-profiles and including 3 slide-bars and 6 push-rods (alternativ: Interchangeable Pressure-Frame Plate made acrylic glass).

The fixture is designed for the maximum contact force of 600 N (i.e. 400 probes x 1,5N spring force). The guaranteed contactable target test-pad size is 0.5 mm – excluding PC board tolerances.

Special emphasis was put into the ergonomic design of the test fixture. The pressure-frame unit can be swivelled open completely and therefore ensures quick and simple placement and removal of the UUT (Unit-Under-Test). The 12° desk-type housing ensures the ideal ergonomic placement position. The design enables quick change of the probe-plate unit.

The intermediate interface design is achieved with either connectors or a customer-specific solution. Interface connections to specific test system types are available on request!

Functionality:

The UUT is placed onto mounting pins or a special mounting plate and registered with high-precision tooling pins. The pressure-frame unit is closed, and subsequently a play- and wear-free 4-column toggle-lever drive unit is actuated by means of a hand lever. This drive unit is positioned under the probe-plate unit. The UUT is then pressed against the push-rods and contacted.

Simple debugging is ensured due to access to the underside of the probe plate while under contact. Furthermore, access to the top-side of the UUT is also possible.

Recommended Test Probes in 100mil (2,54 mm) grid:

Series KS/GKS-912

KS-112 xx (with wire-wrap or solder terminal)
GKS-912 291 130 N 1502 (for solder test-pads or vias)
GKS-912 204 130 A 1502 (for component leads)

Series KS/GKS-100

KS-100 (with wire-wrap or solder terminal)
GKS-100 291 090 A 1500 (for solder test-pads or vias)
GKS-100 204 130 A 1500 (for component leads)

Status:
27.10.03



Manual Test Fixture MA 2135

Part No.	Description	Usable Area (w x d, in mm)	Overall Dimensions (w x d x h, in mm)
19789	MA 2135/NDH/D/H with slide-bars and push-rods		610 x 460 x 250
16706	Probe-Plate Unit KTE 135/2135 (connector mounting prepared for 96- or 64-way connector)	385 x 290	420 x 325 x 50
17289	Probe-Plate Unit KTE 135/2135 with spring loaded PCB-mounting plate (connector mounting prepared for 96- or 64-way connector)	370 x 290	420 x 325 x 65
19686	MA 2135/NDH/D/H with Mounting for Interchangeable Pressure Frame Plate		610 x 460 x 250
17637	Probe-Plate Unit KTE 135/2135 Interchangeable Pressure Frame Plate (connector mounting prepared for 96- or 64-way connector)	385 x 290	420 x 325 x 50
17638	Probe-Plate Unit KTE 135/2135 Interchangeable Pressure Frame Plate with spring-loaded PCB mounting plate (connector mounting prepared for 96- or 64-way connector)	370 x 290	420 x 325 x 65
<p>Accessories:</p> <p>When using Pressure-Frame Unit with slide-bars and push-rods</p> <p>11071 Slide-bar for NDH 135/2135 17338 Push-rods for slide-bar 135: length 45-50 mm, \varnothing of head 2,4mm</p> <p>When using Pressure-Frame Unit with mounting for pressure-frame plate (acrylic-glass)</p> <p>19813 Push-rods for Pressure Frame Plate, L = 51 mm, Head = \varnothing 2.5 mm 19815 Push-rods for Pressure Frame Plate, L = 51 mm, Head = \varnothing 6.0 mm</p> <p>Customizing materials when using Probe-Plate Unit KTE 135/2135</p> <p>xxxxx Tooling-pin \varnothing xxx UUT-specific, installation height 14mm 7766 Spring-loaded UUT mounting probe PAS 102 250 400 P 3002 W 2517 Eccentric pin M2, length 38 mm, \varnothing 8mm</p> <p>Customizing materials when using Probe-Plate Unit KTE 135/2135 with UUT support plate</p> <p>xxxxx Tooling-pin \varnothing xxx UUT-specific, installation height 7mm xxxxx pre-registration, UUT-specific 3161 anti-static PVC UUT-supports \varnothing 5 mm, height 3 mm, with press-in plug \varnothing 3mm</p> <p>Interface Materials: (mounted under Probe Plate on spacers)</p> <p>4864 Connector: 64-way 5195 Connector: 96-way</p>			

Status:
11.11.02