



## MODEL 3110

### KEY FEATURES

- FT + SLT Handler – Two In One
- Perfect for Device Engineering Characterization Gathering and Analysis
- Auto Tray Load/unload & Device Sorting capability
- Without socket damage issue
- Air damper for good contact balance
- Shuttle remain IC check function
- Camera for real time system monitoring
- Optional Tri-temp IC test function (-55°C ~ 150°C)
- High power cooling function (option)
- Diskless download function (option)

## HYBRID SINGLE SITE TEST HANDLER

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Chroma 3110 is a single site pick & place IC handler which supports various types of package such as QFP, QFN, TSOP, BGA,  $\mu$  BGA and CSP, etc. The handler uses P & P technology to pick up devices from JEDEC trays, move them to the test site. The 3110 consists system level tests that are designed to fully exercise programs as a whole and check all integrated elements function properly. It is capable to handle tri-temperature test environment since ambient to thermal or low temperature.

In addition to the capability of handling 3x3mm to 55x55mm devices, the machine is equipped with 1 auto stacks and 2 manual bin plates to maximize the loading and unloading capacity. It features a user-friendly graphic user interface based on Windows system and also provides interfaces for docking with various testers.

#### Final Test Configuration



3110 with tester

#### System Level Test Configuration



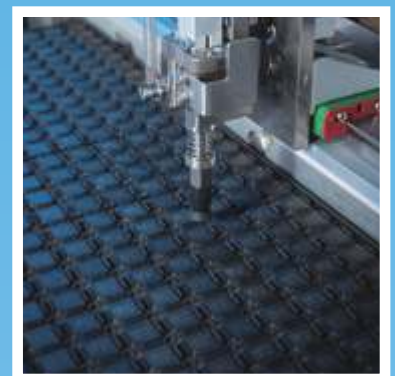
3110 with tri-temp chamber



3110 with tri-temp chamber & tester



3110 with module board



**Chroma**

## CHROMA THERMAL CONTROL SOLUTIONS

## SPECIFICATIONS

### Tri-temp Control

- Temperature accuracy :  $\pm 2^{\circ}\text{C}$
- Device temperature feedback (Thermocouple / RTD / Thermistor)
- PID Ramp Control (with auto-tuning capability)
- PWM TEC power control
- Die force control
- Modularized dry air chamber
- Water chiller
- Dry air supplier

### Closed-loop Active Thermal Control (ATC) Module

- Temperature accuracy :  $\pm 2^{\circ}\text{C}$
- Test arm all in one
- Device temperature feedback
- PID ramp control (with auto-tuning capability)
- PWM TEC power control
- Die force control
- Closed-loop cooling system (no external piping)
- Chamber-less

### Unity PTC (Passive Thermal Control)

- Temperature range :  $< 85^{\circ}\text{C}$  (up to 300W dissipation)
- Closed-loop cooling system (no external piping)
- Test arm all in one
- Die force control
- Neither water chiller nor dry air needed

Model	3110
Dimensions (WxDxH)	900 mm x 1250 mm x 1800 mm (Signal Tower excluded)
Weight	750 kg
Facility	Power : AC 220V, 50/60 Hz Single-phase Maximum Power Consumption : 3.0KVA Max Controller Circuit: 1.0 KVA Max. Heater Circuit : 2.0 KVA (Option)
Compressed Air	Dry Air of 5.0 kg/cm <sup>2</sup> ( 0.49 Mpa ) or higher, constant supply
Applicable Device	Type : BGA series, $\mu$ BGA, QFP series, QFN, Flip-Chip, TSOP Package Size : 3 mm x 3 mm to 55 mm x 55 mm Depth : 0.5 mm to 5 mm Lead / Ball pitch : 0.4 mm / 0.5 mm and above
Interface	Standard : RS-232,TCP/IP Option : GPIB and TTL
Jam Rate	1/3000
Categories	4 Categories (128 bin signals for RS232)
Contact Force	80 kgf (Accuracy $\pm 1\text{kgf}$ ), 125Kgf (Option)
Temperature	Operating Mode : Ambient
Tri Temp Control (Option)	Temperature Range : $-40^{\circ}\text{C} \sim 125^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ( $-55^{\circ}\text{C} \sim 150^{\circ}\text{C}$ Option)
ATC Module (Option)	Temperature Range : Ambient $\sim 125^{\circ}\text{C} \pm 2^{\circ}\text{C}$ (150 $^{\circ}\text{C}$ Option)
Unity PTC (Option)	Temperature Range : $\sim 85^{\circ}\text{C}$ (up to 300W Heat Dissipation)
Cooling Pipe (Option)	Temperature Range : $\sim 85^{\circ}\text{C}$ (up to 125W Heat Dissipation)
Advantage	ECD function (Easy-edit communication define) Single Movement Retest Contact pick and place system Yield control (Average yield of socket) Continue Fail
Option	Remote Control Rotation ( $\pm 90$ degree) Auto Load / Unload : 1 input / 2 unload (with 2 manual unload) Fixed Load / Unload : 1 input / 4 unload

All specifications are subject to change without notice.

## ORDERING INFORMATION

**3110** : Hybrid Single Site Test Handler

**3100-TT** : Tri-temp Control (option)

**3100-A** : Active Thermal Control Module (option)

**3100-P** : Unity Passive Thermal Control (option)



Chamber

Chroma Thermal Control Solutions	Products	Capability	Configurations					
			Test Plug Design	Dry Air	Standalone Water Chiller	Chamber	TEC Controller	External Piping
Active Thermal Control Solution	3100- TT	$-55^{\circ}\text{C} \sim 150^{\circ}\text{C} \pm 2^{\circ}\text{C}$	Heat Exchanger+TEC (Peltier)	Yes	Yes	Yes	Yes	Yes
	3100-A	Ambient $\sim 125^{\circ}\text{C} \pm 2^{\circ}\text{C}$	Water Chiller Cooling+TEC (peltier)	No	Yes	No	Yes	Yes
			Closed-loop Liquid Cooling+TEC (peltier)	No	No	No	Yes	No
Passive Cooling System	3100-P	$\sim 85^{\circ}\text{C}$ ( $< 300\text{W}$ Heat Dissipation)	Closed-loop Liquid Cooling	No	No	No	No	No
	3100-C	$\sim 85^{\circ}\text{C}$ ( $< 125\text{W}$ Heat Dissipation)	Cooling Pipe	No	No	No	No	No

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