

KRONOS

TEST HANDLER FOR MOTION SENSORS



Kronos is a handler for testing motion sensors in wafers, in diced wafers or singulated components placed on tape. The use of tape frame leads to high flexibility: product change time is very short and change cost low. Therefore Kronos is also an attractive alternative for small series testing or prototype product testing. However, with the possibility for high parallelism, "on fly" needle cleaning and automatic wafer load system Kronos is an ideal solution for high volume production. Zero jam rate guarantees continuous operation.

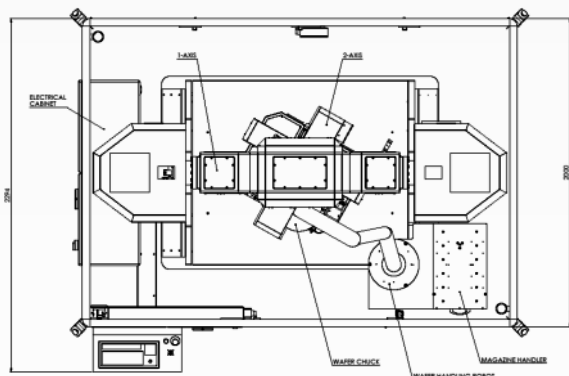
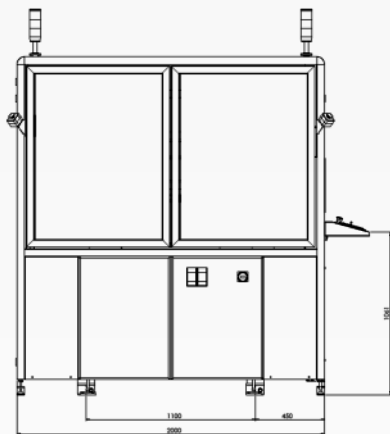
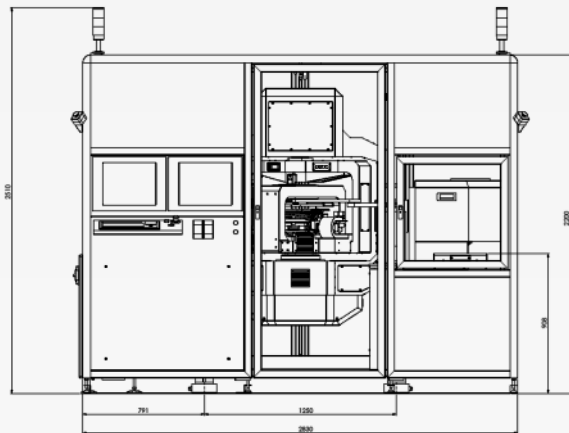
Intelligent structure of Kronos enables testing of sensors in any orientation and also on the move. Low-g accelerometers are stimulated by turning the handler axis into desired orientation. Infinite turning range, in both turning axis, makes Kronos incomparable for testing of gyroscopes. As soon as it reaches the desired yaw rate, all the products in the wafer or on the tape can be tested in constant yaw rate. No stops are needed for indexing the contacts. Yaw rates up to 750 deg/s are applicable.

Kronos is easy to use. The control system has several features which help customer to adopt Kronos to production. A new product type is taught with step by step – procedure. Uplooking camera helps operator to align probecard and define 1st pin position. Theta alignment is done automatically after every wafer/tape frame load. Enhanced active alignment system ensures successful contacts in every step.

AFORE
Meant for MEMS

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HANDLER MECHANICS

1. axis turn range	Infinite
2. axis turn range	Infinite
Position accuracy	Repeatability <0,05° Absolute position error <0,1°

Yaw rate:	
1. axis	30–750°/s (others by request)
2. axis	30–750°/s (others by request)
Yaw rate accuracy	typical <0,4% from actual rate
X-Y -drive accuracy	± 5µm
Z-drive accuracy	± 5µm
Theta correction	Maximum ± 5°
Theta accuracy	<0,01°
Maximum contact force	10kg
Contacting method	No limitation
Wafer frame size	Up to 200mm wafers
Index time	<0,5s
Conversion time	<5 min, 1 person

CONTROL SYSTEM

User interface	17" colour touch panel, keyboard and joystick (teach panel)
Communication interface	Ethernet, ASCII-prompt protocol for easy communication with Labview or similar

INFRASTRUCTURE

Weight	2750 Kg (fully equipped)
Pressure	6 Bar
Vacuum	<800mbar
Power	400 V / 63 A, 3-phase

OPTIONS

- Automatic wafer loading
- Wafer frame ID code reader
- Wafer magazine ID code reader
- ESD ionizer