

# Cascade CM300xi

## 300 mm Fully-automated Probe System with Contact Intelligence™ Technology

### High-Temperature Stability (HTS) probe card holder (option)\*

- Ensures EMI-shielded and light-tight environment for the probe card for higher measurement accuracy
- Rigid and thermally optimized design, for reliable small pad probing
- Easy change-over to analytical measurement set-up with TopHat™

### Material Handling Unit (MHU300)

- For fast handling of 200/300 mm wafers
- Integrated pre-aligner for flat/notch detection
- Barcode/2D Matrix code/OCR wafer code recognition from both sides (option)

### Up to two load ports

- For enhanced capacity of up to 50 wafers for extended autonomous operation
- For FOUP and FOSB 300 mm wafer cassettes
- Open cassette adapter for use of standard 200 mm wafer cassettes (option)
- AutoInventory and cassette hot-swap capability for high-priority wafer test processing



### Dual-prober configuration

- Two independent prober systems share a single handling unit, enabling greater test cell efficiency and minimizing footprint
- Field upgradable



### \*Contact Intelligence technology enables unattended test over multiple temperatures:

- VueTrack™ closed-loop positioning capability minimizes the need of manual re-adjustment when probing small pads across multiple temperatures.
- Velox probe station software provides a single command interface for automated temperature transitions continuously managing the separation between probes and pad during temperature ramp.
- Velox probe station software provide the ability to optimize the soak time after a temperature transition or when stepping across the wafer based on the temperature variance.
- Realign option is much faster due to the fast focus scan, which minimizes the thermally-induced drift during off-axis alignment of prober and pads.
- High-Temperature Stability (HTS) microscope bridge enables automated test over multiple temperatures.
- HTS platen provides stability over a wide thermal probing range.
- HTS probe card holder ensures EMI-shielded and light-tight environment, achieving accurate and reliable small-pad probing (option).
- As an additional option, the Contact Intelligence DC Motorized Positioner Package includes VueTrack Pro, motorized positioners with friction-less EMI shielding and HTS probe arms, enabling unattended testing on small pads across multiple temperatures. This is an ideal option for customers working with high-mix/low-volume device layouts requiring flexible positioner-based setups.



### Full-featured prober system

- Full EMI-shielding for highly-accurate low-leakage and low-noise measurement results
- Minimizes settling times for efficient measurements, without compromising accuracy over full thermal range
- Automated Thermal Management (ATM™) sets equipment parameter relative to chuck temperature
- Automated re-alignment capability compensates thermal drift of wafers and probes after every temperature change. Reliable and repeatable contacts over a wide thermal range on small pads down to 30 µm and microbumps
- High-Temperature Stability microscope bridge enabling automated testing over temperature\*

### Velox™ probe station control software

- Operate machine in a semi-automatic engineering mode
- Free die-to-die navigation on wafer and testing
- Integrated wafer handling, alignment, temperature control, z-profiling and stepping capabilities
- Automated wafer alignment, and auto XYZ and theta correction for sub-micron stepping

### VeloxPro™ test automation software

- Easy-to-use SEMI E95 compliant user interface
- Efficient communication with test executive software

### Rollout stage with quick access to auxiliary sites

- Full wafer access via locking roll-out stage
- Two patented auxiliary chucks for high calibration accuracy for RF/mmW measurements
- Three sites for advanced cleaning procedures and contact verification

### 3D Manual Controls

- Virtual Platen Lift and XY knobs at front for intuitive, and precise movement of chuck in X, Y, and Z-direction
- Platen Lift enables extremely rapid and intuitive way in performing many alignment tasks, like setting up the contact height

### Built-in vibration-isolation system

- Eliminates vibration from external sources, such as acoustic and architectural, enabling reliable small pad probing
- Enhances system stability and reduces damage to pads, wafers and probe tips
- Easy access from front- and back-side for fast configuration and service

The image shown and features listed above are based on the fully-shielded version of CM300xi (CM300xi-F) with additional options. FormFactor also offers CM300xi-S (shielded system) and CM300-O (open system). For more details, please refer to CM300xi Data Sheet.

### Probing over wide thermal range

- Thermal range -60°C to 300°C for characterization and modeling
- High-Temperature Stability platen, shielding solution and ultra-flat wafer chucks ensure stable and repeatable measurements\*

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