

# Cascade TESLA200

200 mm On-Wafer Power Semiconductor Probing System - Fully-automatic

Up to 10 kV / 600 A with thin-wafer support ( $\geq 50 \mu\text{m}$ )  
Accurate  $R_{ds(on)}$  with constant  $R_c$  at all temperatures with Contact Intelligence™ Technology  
Anti-arcing solutions for wafer, probes and probe cards

## TUV-certified probing environment

- Enclosure for operator safety
- Interlock connection for test instruments
- Regulatory-approved high-voltage and high-current cables and connectors

## eVue™ IV Digital Imaging System

- Fast probe set-up with wide field-of-view and single objective in MicroChamber
- Easy navigation with multiple live video views of probes and wafer
- New high-speed focus system for faster and accurate die stepping
- New safety features for probes and usability

## High-stability microscope mount

- Manual or programmable
- Gross Z lift with repeatable focus for easy access to probes

## Connection panels

- Coaxial, triaxial, and pin jack feed-troughs available
- Limit cable strain and motion for measurement stability
- Instrument stays connected to back of panel
- Probe connection made at front of panel
- Simple to re-arrange cabling when needed

## MicroChamber®

- EMI-shielding for low-noise measurements
- Environmentally sealed for moisture-free, low-temperature measurements
- Low volume for the fastest purge
- Light-tight to eliminate the need for a dark box

## TopHat™

- New TopHat covers for easier and higher-accuracy probe setup
- Allows full access to positioners and microscope at any temperature
- Allows probe adjustments without exposing wafer and chamber to external environment

## AttoGuard®

- Extends instrument guard to completely surround wafer
- Makes the station invisible to the instrument
- Extremely low capacitance and leakage characteristics
- Fast settling times

## PureLine™ technology

- Enhanced EMI-shielding
- Ideal for low-level IV and CV measurements

## Platen lift

- Easy and safe contact and separate function for probe cards and positioners
- Available micrometer adjustment to set probe card contact

## MicroChamber access door

- Auto-locking door to protect wafers at cold temperatures
- Full width for easy access to wafers and cal substrates
- Hardware interlock to protect user from hazardous chuck bias voltage

## Rollout stage

- Full wafer access for safe and easy loading
- Maintains chuck integrity without contaminating layers
- Easy access to calibration substrates on auxiliary chucks
- New Lift pin technology for fast manual load/unload of hot wafers

## Velox™ PRO test automation software

- Easy-to-use automation for high volume data collection
- Efficient communication with test executive software
- Time saving test recipes

## Velox™ probe station control software

- Innovative operating software for advanced prober operation, temperature control, z-profiling and stepping
- Wafer mapping, automated wafer alignment, and auto XYZ and theta correction for sub-micron stepping

## Automated wafer handling

- Up to 50 wafers with optional 2nd cassette
- Quick access port for maximum throughput
- Save time with parallel ID reading and pipelining
- Fast load/unload wafer to hot/cold chuck (-55° C to +300° C)

## Thin wafer testing

- Safe robot handling for thin/warped/Taiko wafers down to 50  $\mu\text{m}$
- Advanced top lift end effector for thin wafer loading with 10kV TESLA chucks

## Contact Intelligence™ Technology

- Integrated HTS (High Thermal Stability) reduces probe drift and thermal soak time
- Optional VueTrack™ reduces thermal soak time (faster time to data)
- Enables unattended test over multiple temperatures

## Auxiliary chucks

- High voltage 10 kV compatible multi-purpose mounts for substrates (cleaning, contact)
- Automated probe cleaning capabilities

## Probes / Probe cards

- High voltage (3 kV / 10 kV)
- High current (300 A)
- Low leakage
- T.I.P.S. "LuPo" High Voltage / High Power Probe Cards



## Manual mode stage control

- Intuitive manual chuck XY stage controls in semi-automatic engineering mode

## Precision 200 mm motorized wafer stage

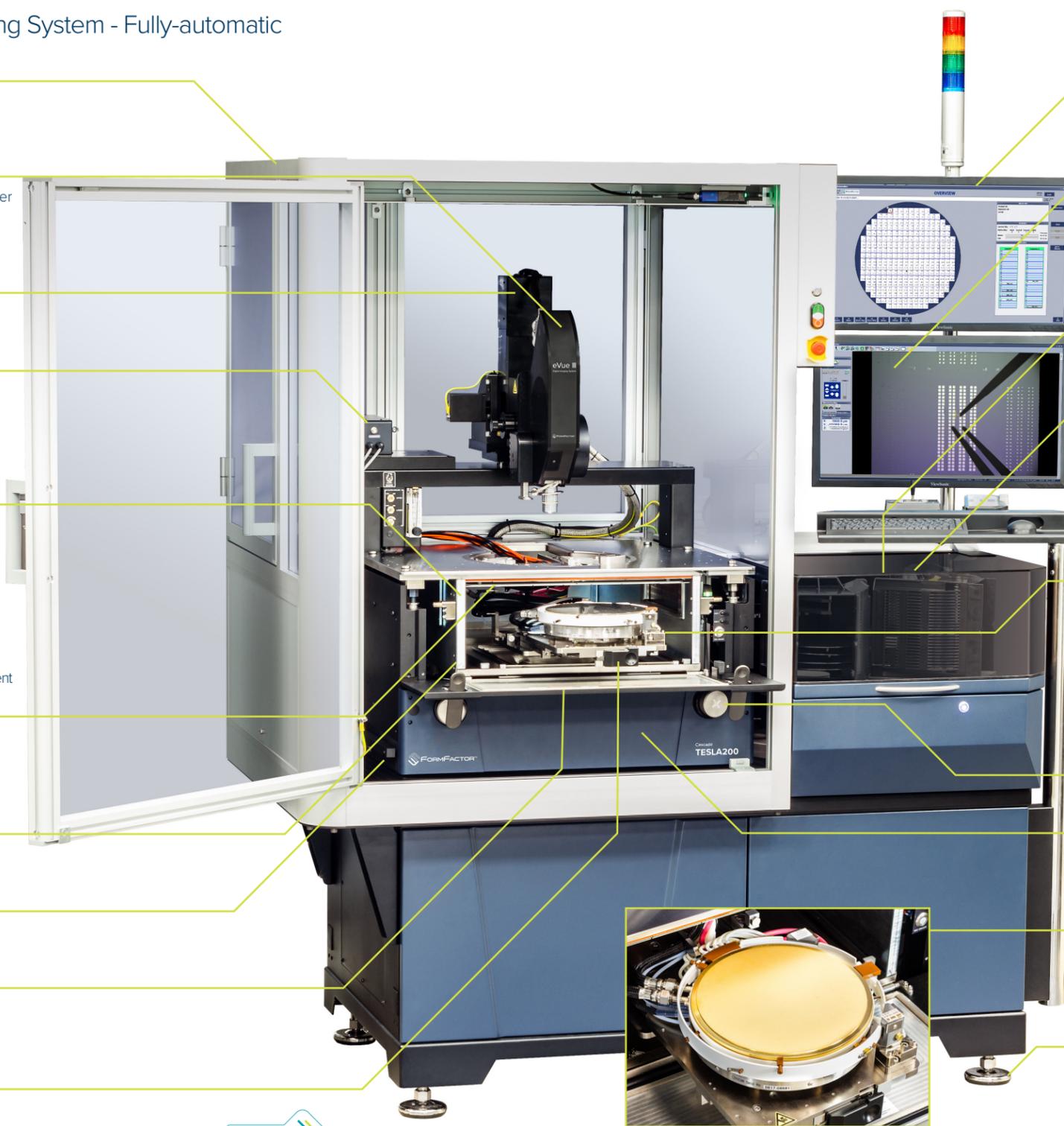
- New user-selectable performance modes for standard, fast and high accuracy
- Increased test throughput with up to 100 mm/sec. speed
- High reliability 24/7 operation

## Patented TESLA chuck technologies

- HV FemtoGuard® 3kV (triax) / 10kV (coax), and low leakage
- Gold-plated MicroVac™ surface for minimal chuck-to-wafer contact resistance
- High current (600 A) option
- Wide range of temperature options from -55°C to 300°C and higher

## Compact small footprint

- Integrated vibration isolation for reliable small pad probing
- Integrated system electronics with power loss wafer safety protection



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