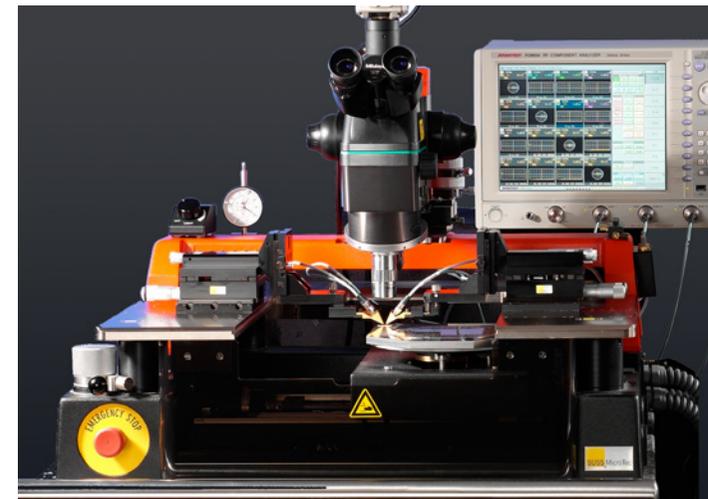
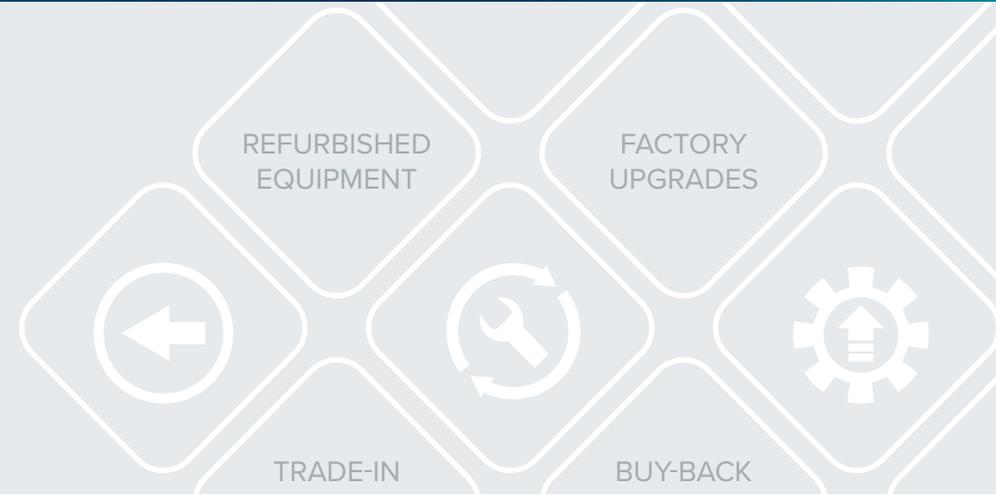


SourceOne™

Factory-Refurbished Equipment



FormFactor, Inc. - Company Profile

FormFactor, Inc. (NASDAQ:FORM) is a leading provider of essential test and measurement technologies along the full IC life cycle – from characterization, modeling, reliability, and design de-bug, to qualification and production test.



Vision & Mission
Our heritage is innovation.



Key Facts
FormFactor at a glance.



Customer Collaboration
Global and local.

- / We constantly strive to help our customers solve the advanced test challenges of the broader semiconductor industry.
- / Our focus on customer partnership, innovation, agility and operational excellence allows us to earn sustainable business every day.

- / Founded in 1993, IPO 2003
- / #1 Advanced Probe Card Supplier
- / #1 Engineering Probe Systems Supplier
- / Named as a BEST Supplier in customer satisfaction surveys, year-after-year
- / Ship >60 million MEMS probes annually
- / Over 10,000 probe systems installed

- / Enable customer success through technology, partnerships, “First Time Right” product quality, global customer support
- / >2,000 employees, with >500 directly supporting customers
- / 23 service and repair centers
- / 13 sales offices
- / 9 design centers

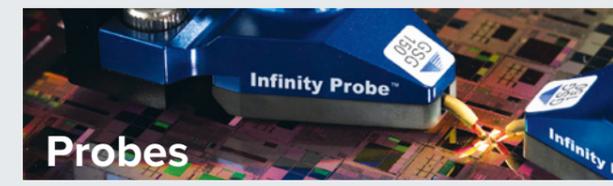
Cascade Probe Systems

Technology leadership
Cascade Probe Systems are an essential part of FormFactor, Inc. We offer a complete line of premium performance analytical probe solutions for on-wafer probing, board test and package test that help increase process performance while reducing cost of ownership. Our probe systems are available with a complete set of accessories such as microscopes, thermal control systems, software and industry-leading probes.

Worldwide expertise, service and support
We have an extensive patent portfolio and are ISO 9001:2015 and ISO 14001:2015 certified. With facilities in Dresden/Germany and Beaverton OR/USA, and worldwide sales and support offices we serve customers in all major sectors (fabless, integrated device manufacturers, foundries, governments, institutes, universities, subcontractors).

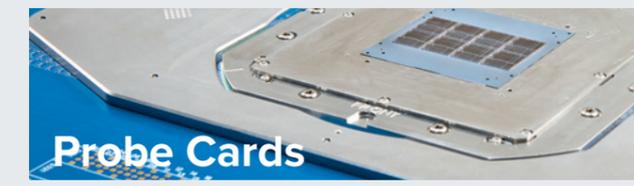


Further FormFactor Products



Probes

- / More than 50 analytical probe models for wafer, package, and board level characterization.
- / Our families of RF, mixed-signal and DC probes are designed to meet the challenges of a wide range of probing environments.



Probe Cards

- / Extensive portfolio of high-performance probe cards for memory, RF, foundry and logic devices that help lower overall production costs, improve yields and enable “more-than-Moore” advanced packaging technologies.



Metrology

- / FRT - a FormFactor company - manufactures powerful surface metrology tools for various sectors such as development production and quality control.
- / Due to the design and construction of these multi-sensor devices, FRT tools can be used for multiple applications.



Introducing SourceOne

SourceOne is FormFactor's program for **factory-refurbished** probe stations and accessories.

With our knowledge and expertise as a leading probe station manufacturer, SourceOne specializes in giving old probe systems a second life – with specifications that perform **like new** or even better than when the device was first shipped, and with **savings of up to 30%** compared to a new device.

With SourceOne you will always get the **best price** for your performance needs. Tell us your measurement requirements and whether you place special emphasis on a particular component. It doesn't matter if you focus on the **current product portfolio** or on already **discontinued products**. With our large stock we can meet your requirements and provide you the greatest flexibility with respect to your available budget.

SourceOne Offers Three Attractive Options

Trade-In / Buy-Back



- / SourceOne takes your old probe station back
- / Receive cash or credit for your returned device
- / Credit is good toward any of our products or services
- / Simplified logistics make shipping and handling easy
- / We provide competitive market rates

Current product portfolio

Discontinued probe stations
(FormFactor, Cascade Microtech, SUSS MicroTec)

Factory-Refurbished Equipment



- / Our refurbished probe stations perform like new
- / They have been thoroughly cleaned, inspected, updated and tested
- / They come with the latest supported Velox control software
- / All necessary accessories are added

Current product portfolio

Discontinued probe stations
(FormFactor, Cascade Microtech, SUSS MicroTec)

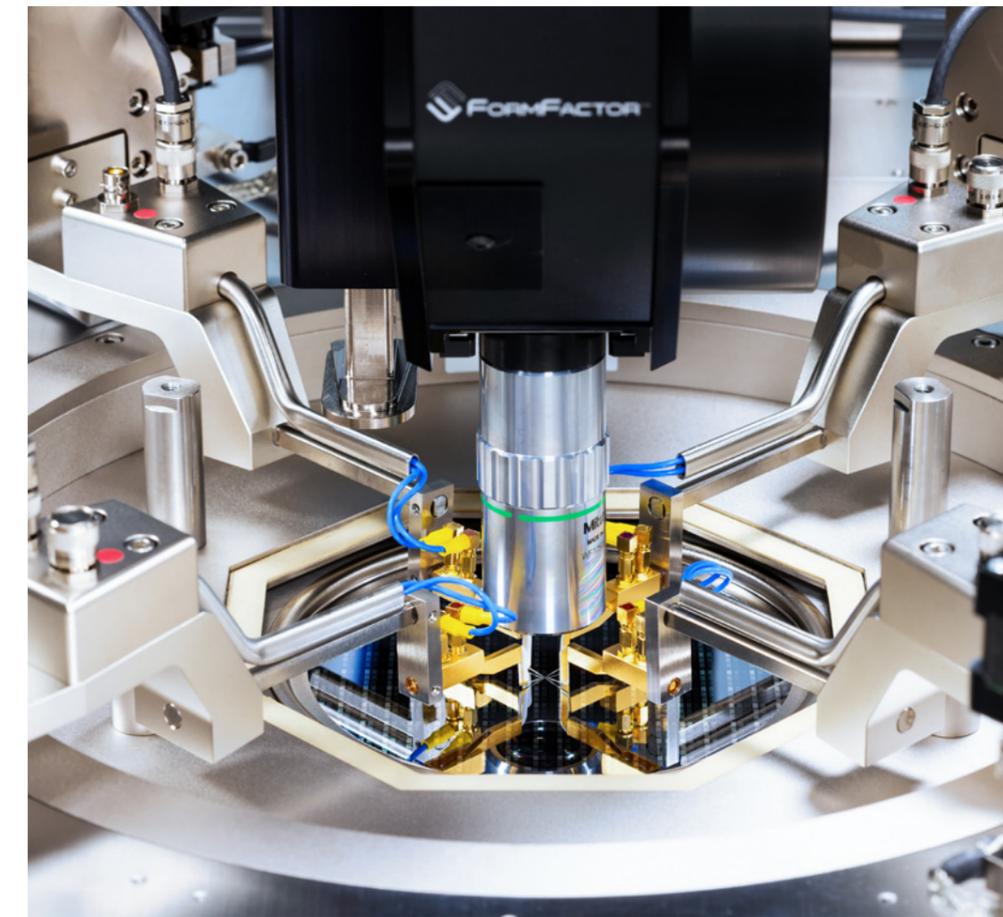
Factory Upgrades On Customer-Owned Stations

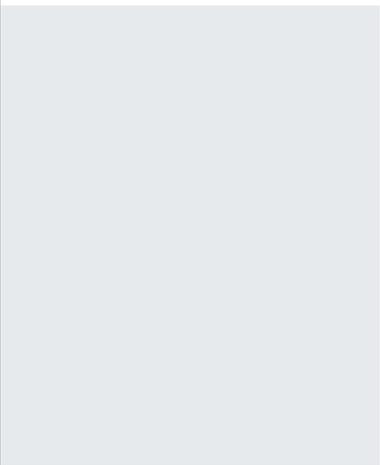
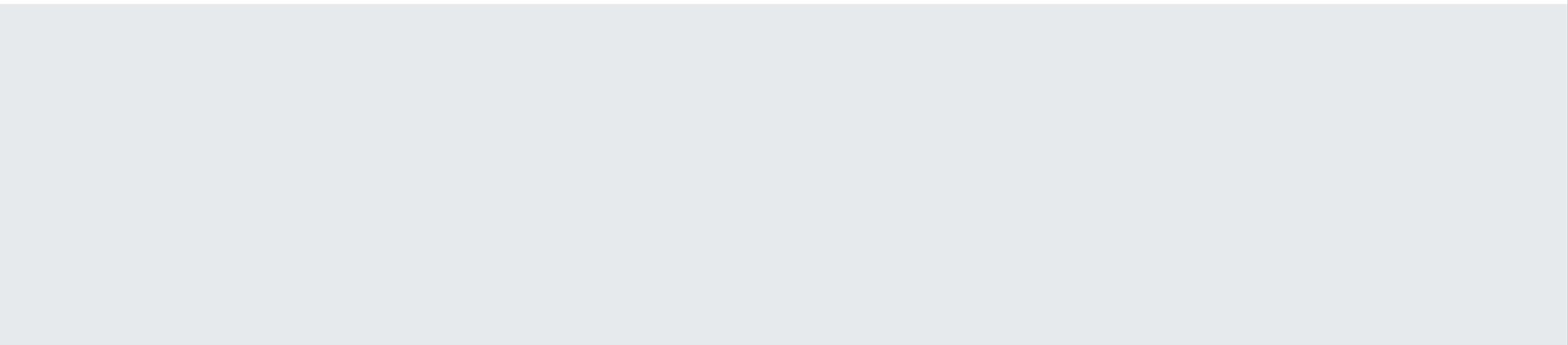


- / Greatest Flexibility: We turn the prober you have into the one you need
- / Performance and productivity upgrades available
- / Includes FormFactor's standard warranty
- / All from one source: We take care of the pickup, refurbishment and reinstallation of your probe station

Current product portfolio

Discontinued probe stations
(FormFactor, Cascade Microtech, SUSS MicroTec)





Trade-In/
Buy-Back

6 - 9

Factory
Refurbishment

10 - 15

Factory
Upgrades

16 - 25

Trade-In / Buy-Back

You did great things with your probe station but at some point it is time for something new? You can easily trade your qualified device in so that it can be refurbished. Thereby you can decide to receive cash or credit for your returned probe station. When your station no longer has any value for trade-in, you can have it recycled responsibly and free of charge. Regardless of the model and condition, we can do something good for you and the planet.

How to get a buy-back offer

You will receive a corresponding offer very easily. Just send us five pictures on which the condition of the prober is clearly visible. Furthermore, we need a photo of the probe station's serial number plate. On the basis of the condition, age, configuration and market attractiveness we calculate a repurchase price which is transmitted to you in a formal offer.

Supported systems

- / Current product portfolio
- / Discontinued probe stations (FormFactor, Cascade Microtech, SUSS MicroTec)

Your advantages in a nutshell:

Receive **cash or credit** for your returned probe station

Credit is good toward any of our products or services

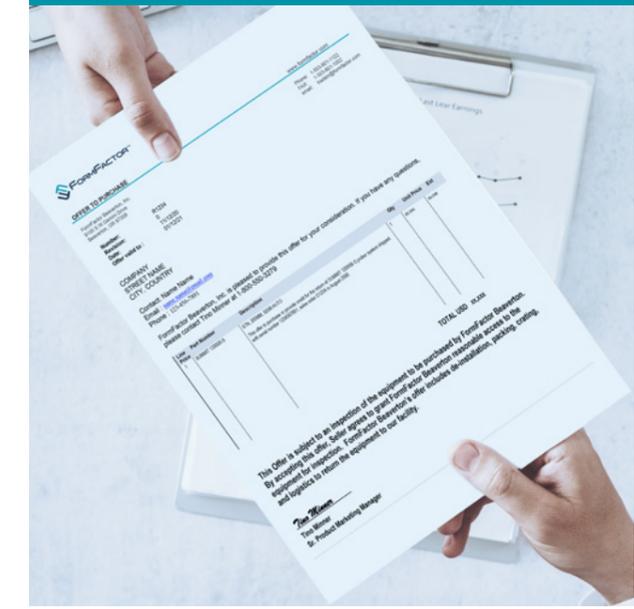
Simplified logistics make shipping and handling easy

We provide **competitive market** rates

1. Send us 5 photos

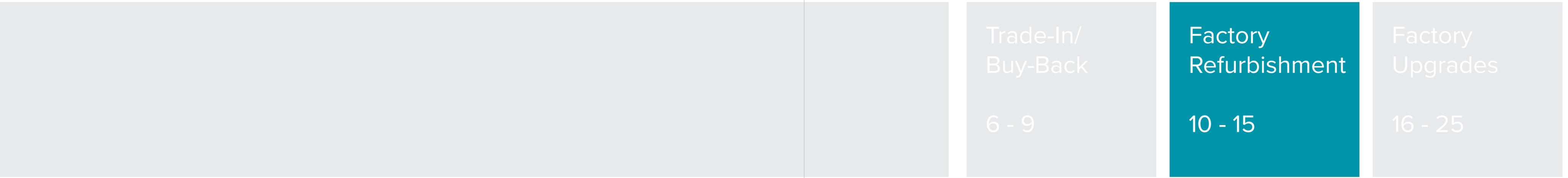


2. Receive Buy-Back offer



3. Use cash or credit to buy a new device





Good Reasons for a Refurbished System from SourceOne



Save up to 30%

The purchase of refurbished equipment allows savings of up to 30% compared to similar new equipment. This leads to a considerable reduction of your cost of ownership.

We find a suitable solution for every budget.



Unmatched warranty

SourceOne guarantees functionality and safety of the device. At a minimum, the prober fulfills the mechanical and electrical specifications as at the time of its initial delivery.

The tool comes with a standard warranty similar to the warranty provided with new equipment.



Get what you need

During the complete sales process you will receive intensive advice.

This way we make sure that your refurbished equipment fits your budget and meets all your application requirements.



Risk-free

SourceOne protects your investment! Many used devices are older than ten years. In the course of technological progress, probers are constantly optimized and enhanced. This leads to the fact that control electronics or positioning equipment are outdated and can no longer be supported. In case of a malfunction this can quickly lead to a total economic loss. At SourceOne we make sure that your device always has the latest hardware and software, so you can use it for many years to come – without any risk. Furthermore the systems are eligible for service contracts, and serviceable by FormFactor's Field Service Engineers.



Future-proof

Application tasks and measurement requirements are evolving and therefore the need for additional accessories will increase in the future.

At SourceOne we make sure that our newly developed accessories will work on your refurbished prober.



Start measurements out of the box

Measurement setups often consist of many small components that must be perfectly matched to each other to achieve accurate and valid measurement results.

Components such as RF cables, probes and calibration substrates will be added to your device on request and matched to each other.

Refurbishment Process

If you decide to buy a refurbished probe station you will receive a device that performs like new, with genuine FormFactor parts (where necessary).

Our refurbished probe stations have been thoroughly cleaned, inspected and tested, and come with the latest supported Velox control software version. Each device comes with all necessary accessories, cables and probes to match your application needs. Individual requirements are taken into account.

Supported systems

- / Current product portfolio
- / Discontinued probe stations (FormFactor, Cascade Microtech, SUSS MicroTec)
- / Accessories: optics, positioners, wafer loaders, thermal systems

Your advantages in a nutshell:

Our refurbished probe stations perform **like new**.

They have been thoroughly **cleaned** and **inspected**.

They come with the latest supported **Velox** control software.

All necessary **accessories** are added.

1. Incoming Probe Station



The bought back unit docks at FormFactor's manufacturing site

2. Inspection



Inventory and comparison of the configuration with the initial delivery status

3. Configuration



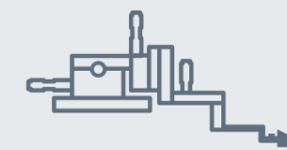
Based on the initial state we define which additional parts are necessary to meet your requirements

4. Refurbishment



The mechanical components are adapted, software is updated and parts are cleaned

4. Accessories



Required accessories such as probe tips, cables or calibration substrates are included in the scope of delivery

5. Outgoing Quality Test



The complete configuration is set up and tested manually by test specifications

6. Shipping

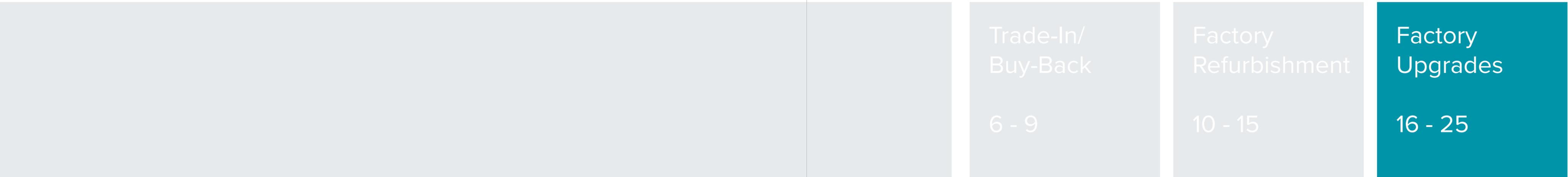


Packaging of the prober and photo documentation of the delivery condition

7. Installation



Installation of the prober by our qualified service. Further services like training are possible on request



Factory Upgrades

You have done incredible things with your FormFactor wafer probe station. But with technological progress it does not meet your measurement requirements anymore? Maybe there is a new demand for higher throughput? Parts like control electronics might be outdated and can no longer be supported. In case of a malfunction this can quickly lead to a total economic loss.

With our customized factory upgrades you can extend the use of your probe station for up to another 15 years. We bring your experienced FormFactor prober up to the latest state-of-art. Our Factory Upgrade Program is available on all 150 mm, 200 mm and 300 mm probe station platforms. Depending on your measurement requirements and the condition of your device, SourceOne will provide you an individual offer. In addition to the maintenance and replacement of mechanical components, complex conversions can also be carried out.

The factory-upgraded device will ship with FormFactor's standard warranty for refurbished products of one year. Thermal systems are shipped with 90 days standard warranty. As with new systems, the warranty can be extended on customer request for both the thermal system and the wafer prober. Furthermore the systems are eligible for service contracts, and serviceable by FormFactor's Field Service Engineers.

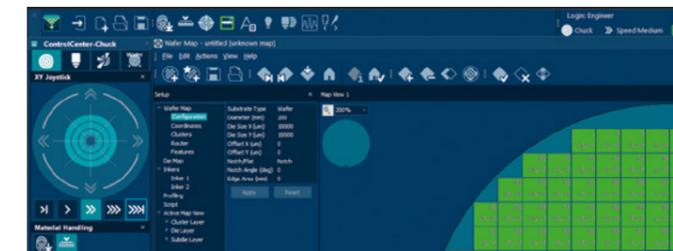
Your advantages in a nutshell:

Greatest Flexibility: We turn the prober you have into the one you need

Performance and **productivity** upgrades available

Includes FormFactor's **standard warranty**

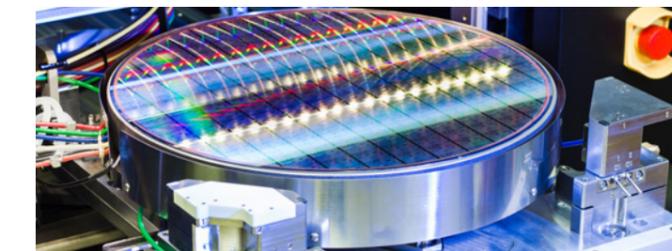
All from one source: **We take care of the** pickup, refurbishment and reinstallation of your probe station



Standard



- / New probe station electronics with or without Expert Control Panel
- / New system controller running Windows 10
- / Latest supported Velox Software
- / Maintenance of the positioning mechanics
- / Exchange of wearing parts



Advanced



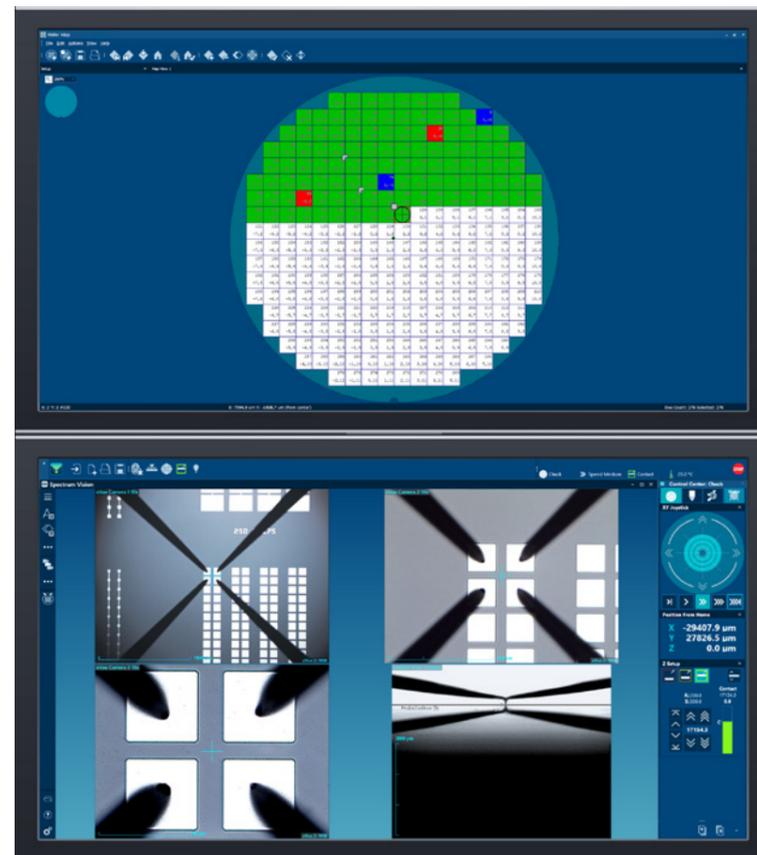
- / Addition of a material handling unit
- / Thermal system upgrade
- / eVue digital imaging system upgrade
- / Improvement of EMC shielding
- / Addition of Contact Intelligence™ Technology

Velox™ Probe Station Control Software

Velox™ is FormFactor's unique software suite for 200 mm and 300 mm wafer probe stations. It is the universal standard for semi- and fully-automated systems, enabling seamless communication between the user and more than 15 different platforms. Velox reduces total cost of ownership by minimizing training efforts and providing faster time to robust and reliable data.

As a key element of FormFactor's exclusive Contact Intelligence™ technology for autonomous operation, it allows the user to perform measurement tasks faster, safer and more accurately.

Velox enables safe and fast wafer loading, easy test automation and measurement system integration, while preventing costly damage of probes and probe cards throughout the entire measurement cycle.



User-Centered Design

Minimized training costs and enhanced efficiency.

Windows 10 Compatible

Highest performance and safe operation with state-of-the-art hardware.

Smart Automation Features

Faster time to data due to reduced test cycle times.

Loader Integration

No need for any additional software. Easy creation of workflows and receipts.

Hundreds of Tuneable Options

High flexibility for a large variety of applications.

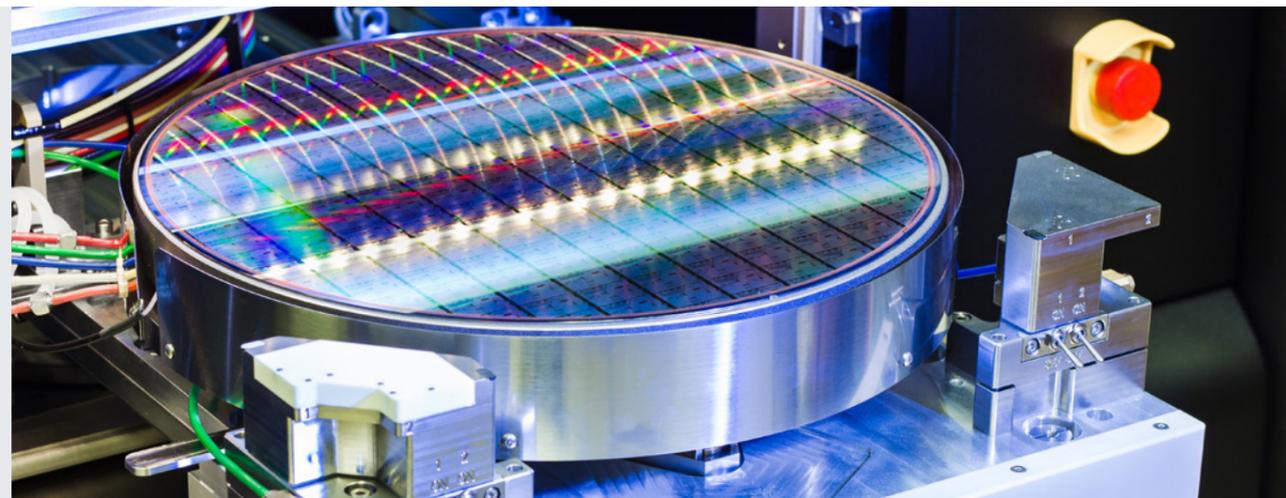
Simplified Operation for Inexperienced Users

Reduced training costs with Workflow Guide and condensed graphical user interface.



Thermal Systems

FormFactor offers thermal chuck upgrades on all of our probe system platforms. Our modular thermal chucks paired with either an air-cooled or liquid-cooled thermal system provide world class performance. Faster thermal transitions between test temperatures provide the benefit of less wait time and increased throughput. Best-in-class temperature accuracy and thermal uniformity minimize test result variability. Thermal chuck upgrades are a key step in meeting the increasingly demanding test scenarios of today and into the future.



- / Enhanced thermal range
- / Reduced thermal transition times
- / Best-in-Class wafer temperature accuracy and thermal uniformity
- / Optimized noise and leakage current performance

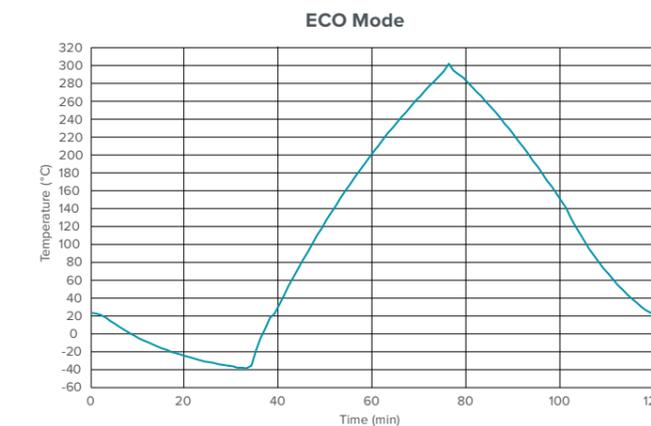
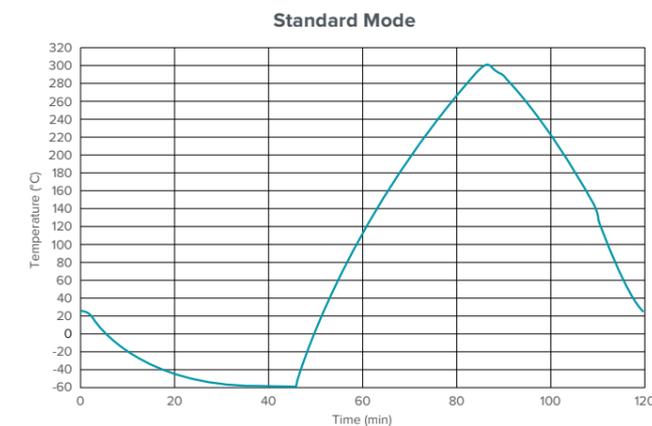
ATT Transition Time (Typical)*		Standard Mode	ECO Mode
Cooling	25°C to -40°C	17 min	34 min
	25°C to -60°C	53 min	N/A
	200°C to 25°C	18 min	27 min
	300°C to 25°C	33 min	44 min
Heating	-60°C to 25°C	7 min	N/A
	-40°C to 25°C	5 min	5 min
	25°C to 200°C	19 min	19 min
	25°C to 300°C	35 min	35 min

* Performance valid within fulfilled facility media requirements as stated in the Facility Planning Guide.

** Eco mode limits the CDA consumption of the chuck to max. 315 l/min

ATT Thermal Transition Time (-60°C to 300°C)

Typical times using CM300xi with FemtoGuard Chuck



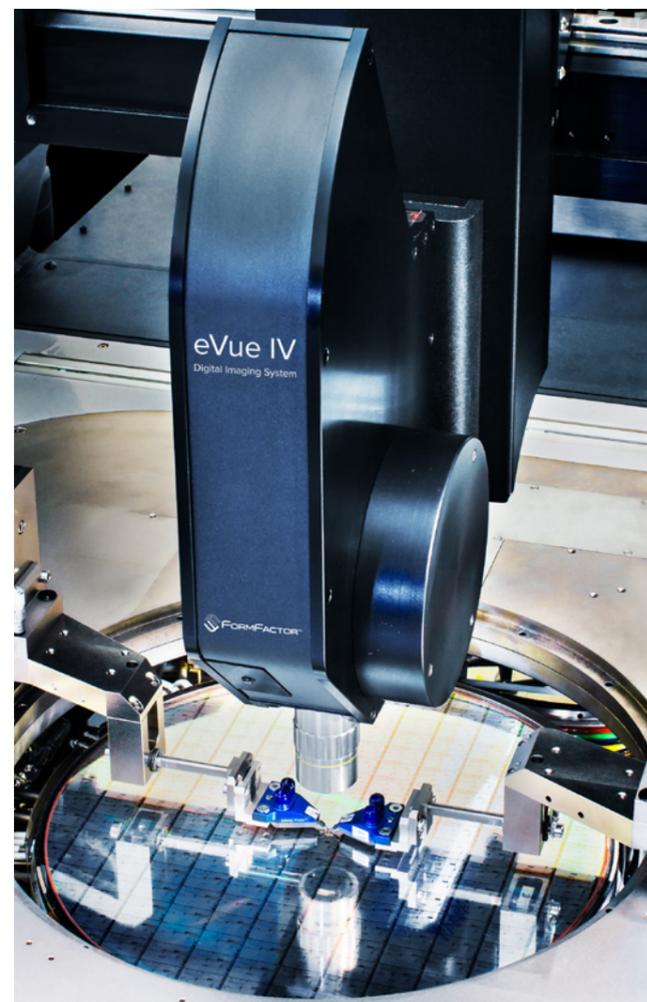
eVue Digital Imaging System

Experience the future of digital imaging

The eVue IV digital imaging system combines extraordinary optical performance with increased productivity.

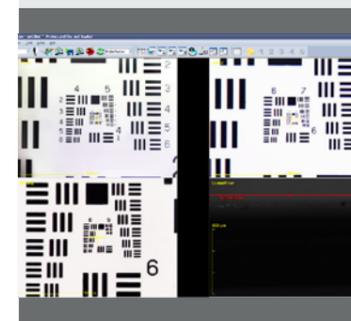
It's revolutionary multi-lens design provides the perfect balance between optical resolution, digital zoom and live motion video. The system enables the user to navigate, observe and measure devices faster and smarter than ever before, supporting FormFactor's unique Contact Intelligence™.

The new high-speed focus system allows faster operation, providing highly accurate measurement data in the shortest time. The advanced intelligent lens mount detects involuntary mechanical contact and enhances automation safety. The eVue IV digital microscope is the perfect addition to your Cascade Probe Station.



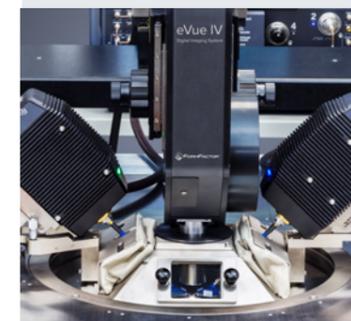
Multi Lens Design

- / Quick and easy probe tip navigation
- / Maximizes field of view
- / High magnification



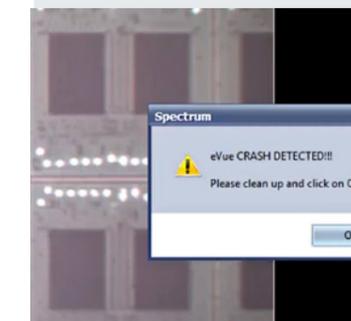
Extended Lifetime

- / 24/7 operating
- / Increased MTBF
- / No internal maintenance required



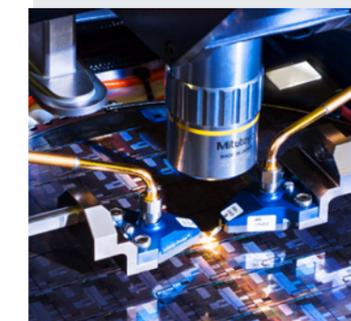
Intelligent Collision Detection

- / Protects the measurement setup
- / Prevents involuntary mechanical contact between lens and probes
- / Enhances automation safety



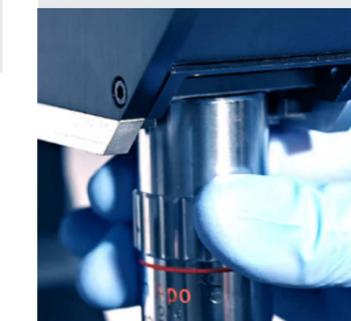
Longer Focus Range

- / Z drive can work in the same range as the chuck
- / Enables higher separation gap while the DUT stays in focus
- / Makes the unique ScopeFollowMode even more powerful
- / Enables a faster and more accurate probe tip placement



Intelligent Objective Lens Mount

- / Automatically configure and optimize performance
- / Easy lens exchange
- / eVue identifies objective parameters automatically and communicates them to Velox™ Probe Station Control Software



Global Strength for Local Results



/ 2,000 Global Employees

/ 9 Design Centers

/ 8 Manufacturing Locations

/ 13 Sales Offices

/ 23 Service Centers



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FormFactor Inc.