PRODUCT OVERVIEW

Measure precisely, ensure quality, reduce costs.

Trusting number 1.
The world's best in measuring technology and service performance.

A paint coating that protects your vehicle from corrosion. A microchip that processes billions of data in seconds. Or a gossamer layer of gold that refines a piece of jewelry. Coatings are used in all areas of human life because they make products more resistant, more efficient or even more decorative. However, only if the coating meets the required quality does it truly become a real game changer.

Quality is no coincidence. We are convinced of this. That is why the Helmut Fischer Group develops and manufactures high-precision measuring technology for coating thickness measurement, material analysis, material testing and microhardness measurement. Especially when coating systems are becoming increasingly complex, structures ever smaller and demands on materials ever higher, Fischer is a reliable partner for your quality assurance.

What does that mean for you? No compromises. Only the world's best measuring technology and service – for efficient, resource-saving production and for products that inspire because they deliver on their promise.

Ensure your quality with Fischer – because we just make the difference.

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FISCHER TRUSTED BRANDS

BETASCOPE®
COULOSCOPE®
DELTASCOPE®
DMP®
DUALSCOPE®
FERITSCOPE®
FISCHERSCOPE®
FISIQ®
GOLDSCOPE SD®
ISOSCOPE®
MMS®
MP0®
NICKELSCOPE®
PERMASCOPE®
PHASCOPE®
PICODENTOR®
SIGMASCOPE®
SR-SCOPE®
TERASCOPE®
WinFTM®
WIN-HCU®
XAN®
XDAL®
XDL®
XDLM®
XDV®
XUL®
XULM®

Company headquarters in Sindelfingen, Germany

Helmut Fischer – Measuring Made Easy

The knowledge and willpower of our founder, Helmut Fischer – his inventive genius and irrepressible desire to implement – are the driving force behind an exemplary company development. In 1953, this success story began with the founding of a two-man company in Stuttgart, Germany. Today, the Helmut Fischer Group is a global player at the forefront of industrial measurement technology.

Innovation and expertise
When it comes to surface measurements, we are state-of-the-art worldwide. Our vow is to continuously develop and produce technology-leading products that make our customers measurably more efficient. Our high-tech devices measure coating thicknesses down to the nanometer range and are used wherever precision, reliability and ease of use are required.

Customized product solutions
Our portfolio is diverse, with each solution perfectly tailored to your requirements and wishes. Your big advantage: Fischer offers everything you need from one single source, whether simple handheld devices for quick measurements on the go, to XRF analysis, or fully integrated high-end systems for automated production monitoring.

Excellent customer service
With 21 subsidiaries worldwide and an extensive network of authorized distributors, we are there for our customers in almost every country. From the first joint consultation to your first self-measurement, our experts from sales, application laboratory, and service will ensure individual, fast, and uncomplicated onsite support.

Quality and safety
If you assure quality in your products, you should work with quality measuring devices. For many decades, the Helmut Fischer Group has stood for outstanding products at the highest standard. Absolutely reliable measured values – this is our commitment to our customers. That is why we develop our measuring devices in-house and produce most of them at our company headquarter in Germany. In addition, we are certified according to ISO 9001.

Environment and sustainability
We stand for responsible and resource-saving actions while developing sustainable measurement solutions. With optimized processes and technologies, we reduce environmental impact to a minimum. Whether recycling or upcycling – corresponding material and energy savings benefit not only the environment, but also our customers.

How it all began ...

The ambitious start
The Helmut Fischer Group proudly looks back on a long and successful company history that began in 1953. At the age of only 22, Helmut Fischer founded the company "Schuhmann and Fischer" in a small workshop in Stuttgart, Germany, together with his mentor and former physics teacher Schuhmann.

The expansion
A few years later, Helmut Fischer founded the company of the same name with headquarters in Sindelfingen. Bolstered by the German economic miracle of the 1950s and 1960s, the Swabian one-man business became an international company.

The innovations
At the beginning of the 1980s, Fischer greatly expanded its product range. In 1982, the first X-ray fluorescence measuring device was launched. Further measuring and testing devices in the fields of nanoindentation and scratch testing as well as automated measuring solutions followed. Thanks to numerous patented innovations, which still exist today, these devices quickly established themselves in the industrial environment. Terahertz measurement technology joined our product portfolio in 2023.

The technical progress
By continuously developing the components we use, we are still able to produce market-leading measuring instruments in order to support and promote the technical progress of our customers. Our extensive range of accessories also ensures a high degree of customization.

The life's work
Building measurement devices that will last for many years has always been very important to Helmut Fischer. The company itself, then, should be just as durable. Our declared goal is to develop measurement solutions that offer our customers added value and support them efficiently in the performance of their work. This focus shapes our work day after day.

The foundation
After five decades at its helm, in 2003, Helmut Fischer transferred his company shares to the Helmut Fischer Foundation. The Foundation was established to support artists and young scientists, and helps to ensure the continuity of the company.

One partner for all your needs

Most comprehensive product portfolio on the market. From handheld devices to fully integrated high-end systems

The perfect solution for every challenge. Numerous measuring methods and device options as well as customized solutions

MADE IN GERMANY

Powerful software solutions. For efficient measurement processes and reliable results

Fischer customer service. First-class support and personal assistance on-site with you

Certified & customized standards. Thanks to in-house accredited calibration laboratories worldwide

Fischer application consulting. Decades of expertise and a strong network for your measuring tasks

RELIABILITY & SAFETY

Environment & sustainability. Conserve resources and reduce material costs with the world's best measuring accuracy

EXCELLENT QUALITY ASSURANCE

MARKET LEADER IN THE FIELD OF COATING THICKNESS MEASUREMENT

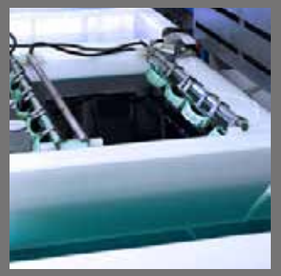
Crisis-proof positioning. Sustainable corporate structures and economic stability through sector diversity

ADVANTAGES

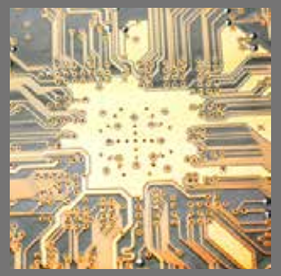
Video product portfolio:
Scan the QR code and find out more about our **products**.

Thousands of companies worldwide rely on us – what about you?

Precious metals, gold, jewelry & watches: Coating thicknesses & alloy analyses for authenticity checks, value determination, and much more



Plating & electroplating services: Classic electroplating, bath analyses, functional coatings, aluminum, anodized aluminum, and much more



Electronics: PCBs, connectors, SMDs, ENIG & ENEPIG, trace analyses according to RoHS, WEEE, ELV, and much more

Automotive: Paint & lacquer coatings, cathodic dip & zinc coatings, PVD, DLC, NiP, battery foils, ELV, soundproofing foam, and much more

Chemicals: Chemical raw materials, laboratory chemicals, analysis of liquids, electroplating baths, and much more

Machining tools & engineering materials: TiN, NiP, carbide, PVD & CVD coatings, DLC, lubricants, and much more

Screws & fasteners: Zn & ZnNi coatings, stainless steel alloys, and much more

Power generation & energy: Perovskite & CIS/CIGS solar modules, battery films, fuel cells, and much more

Medical & pharmaceutical: Ceramic & enamel coatings, biocompatible alloys for dentures, composite fillings, and much more

Iron & steel: Material analysis, hot-dip galvanizing, thermal sprayed coatings, zinc flakes, ZnNi coatings, and much more

Research & laboratories: Material analysis of metals, plastics, pharmaceutical products & consumer goods, e.g. according to CPSIA, and much more

Food & beverages: Barrier layers, sealing layers & protective coatings for metallic packaging, pollutant analyses, and much more

Wafers & semiconductors: Lead frames, landing pads, BGAs, UBM, solder bumps, RDLs, backside metallization of wafers, and much more

Aerospace & aeronautics: Varnishes, powder & thermal barrier coatings, wrought alloys, high reliability for solder joints, and much more

Defense: High reliability, material testing, functional coatings, powder & camouflage coatings, fuel cells, and much more

Paints & varnishes: Single & multilayer systems, smooth, rough, hard, soft, wet, dry, flat & curved surfaces, and much more

Oil, gas & petrochemicals: Functional coatings on pipelines & tanks, ferrite content in steels & weld seams, and much more

Household fixtures: Chrome-plated kitchen & bathroom fittings, ceramic & enamel coatings, and much more

Construction & infrastructure: SSPC-PA2, corrosion protection coatings for metallic structures, pipelines, and much more

Marine & transportation technology: Corrosion protection & antifouling coatings for ships, machinery, and much more

Recycling: Material & pollutant analyses for electronic scrap, packaging, catalytic converters, and much more

Textiles & toys: Pollutant analyses, e.g. according to CPSIA, of children's toys, zippers, high-tech fabrics, and much more

Your challenge – our solution

Can't find what you're looking for? We also provide customized measuring solutions for your measuring tasks. Our experts would be happy to assist you personally in designing custom solutions to your goals. Just get in touch with us! **sales@helmut-fischer.com**

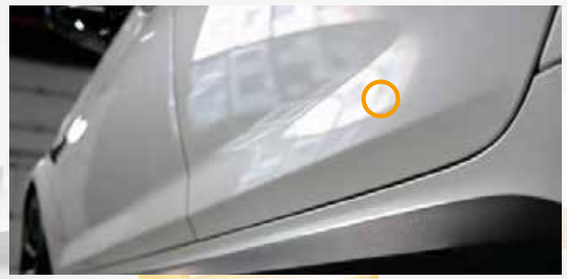
Substantial benefits with the perfect coating

Being competitive in the long term. Who doesn't face this challenge? While coating thickness measurement allows you to determine the thickness of coatings on components, material analysis provides you with information about the elemental composition. For numerous industries, this type of quality control is a key factor that has a noticeable impact on the company's success.

Whether for industrial production, testing laboratories or outdoor use, whether single or multilayer coatings, whether metallic or organic – for over 70 years, the Helmut Fischer Group has been developing measuring solutions to actively support you in improving the quality of your products, using resources more efficiently, optimizing your coating processes and thus sustainably saving production costs.

CHALLENGES

Coating thickness measurement & material analysis



Quality control of painted car bodies

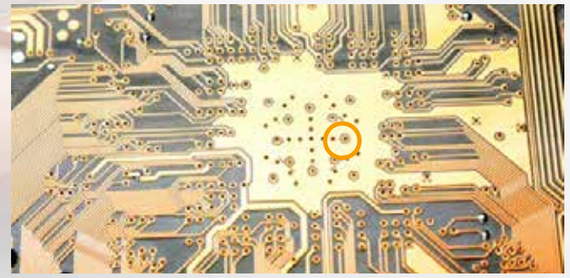
Quality control of anti-corrosion coatings on nuts and screws

Quality control of galvanized plug contacts

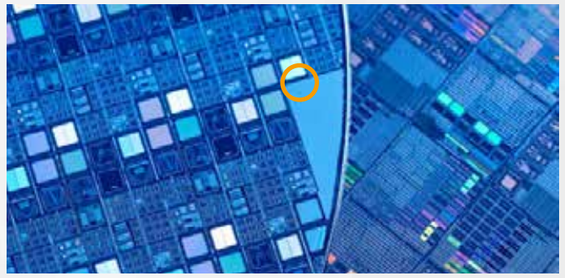
Quality control of catalyst-coated membranes (CCMs) for fuel cells

Quality control of decorative chrome plating on kitchen and bathroom fittings

Authenticity check and value determination of jewelry



Quality control of PCBs



Quality control for wafer-level packaging processes

SOLUTIONS

Excellent quality assurance with Fischer

XRF MEASURING DEVICES & SYSTEMS

Benchtop devices

- FISCHERSCOPE® X-RAY XUL® 18
- FISCHERSCOPE® X-RAY XULM® 18
- FISCHERSCOPE® X-RAY XAN® series 19
- GOLDSCOPE SD® series 20
- FISCHERSCOPE® X-RAY XDAL® 600 21
- FISCHERSCOPE® X-RAY XDL® 21
- FISCHERSCOPE® X-RAY XDLM® 22
- FISCHERSCOPE® XDAL® 22
- FISCHERSCOPE® X-RAY XDAL® 23
- FISCHERSCOPE® XDV® 24
- FISCHERSCOPE® X-RAY XDV®-SDD 24
- FISCHERSCOPE® X-RAY XDV®-µ 25
- FISCHERSCOPE® X-RAY XDV®-µ LD 25
- FISCHERSCOPE® X-RAY XDV®-µ WAFER 26
- FISCHERSCOPE® X-RAY XDLM®-PCB 26
- FISCHERSCOPE® X-RAY XDAL®-PCB 27
- FISCHERSCOPE® X-RAY XDV®-µ PCB 27
- FISCHERSCOPE® X-RAY MODULAR CHAMBER 28

Automation solutions

- FISCHERSCOPE® X-RAY 5000 series 28
- FISCHERSCOPE® X-RAY 4000 series 29
- FISCHERSCOPE® X-RAY XDV®-µ SEMI 29
- FISCHERSCOPE® XAN® LIQUID ANALYZER 30

Handheld devices

- FISCHERSCOPE® X-RAY XAN® 500 30

TACTILE MEASURING DEVICES

Handheld devices

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- DMP®10-40 series 34
- DUALSCOPE® FMP100 & H FMP150 35
- SR-SCOPE® DMP®30 35
- PHASCOPE® PMP10 36
- PHASCOPE® PMP10 DUPLEX 36

Benchtop devices

- COULOSCOPE® CMS2 & CMS2 STEP 37
- FISCHERSCOPE® MMS® PC2 37
- BETASCOPE® 38

Automation solutions

- FISCHERSCOPE® MMS® AUTOMATION 38

Probes 39

TERAHERTZ MEASURING SYSTEMS

Automation solutions

- TERASCOPE® 41

The perfect match for your application

	XRF MEASURING DEVICES & SYSTEMS	TACTILE MEASURING DEVICES	TERAHERTZ MEASURING SYSTEMS
Measuring method	Energy dispersive X-ray fluorescence analysis (XRF) → Contactless & non-destructive	Magnetic inductive, amplitude-sensitive & phase-sensitive eddy current method, magnetic, microresistivity, beta backscattering → Contacting with probes & non-destructive Coulometry → Contacting with measuring cell & destructive	Terahertz time-domain spectroscopy (THz-TDS) → Contactless & non-destructive
Coating thickness measurement	✓	✓	✓
Material & liquid analysis	✓	✗	✗
Number of layers	Single & multilayer coatings	Single & double layers	Single & multilayer coatings
Layer thickness	Approx. 1 nm up to 50 µm	Approx. 1 µm up to 10 cm	10 µm up to several millimeters
Layer-base material-combination	Metallic layers on any base material	Organic layers on metallic base material or specific metallic layers on any base material	Organic or dielectric layers on any base material
Geometry of the measured object	Flat, curved in recesses, complex small parts, large & bulky objects	Flat, curved, angled, in pipes & recesses, large & bulky objects	Flat, curved, complex large & small objects
Surface texture	Smooth, rough, wet, dry, hard, soft	Smooth, rough, wet, dry, hard, moderately soft	Smooth, rough, wet, dry, hard, soft, optically transparent, optically non-transparent
Measuring spot size	Ø 10 µm to 3 mm	Dependent on the probe used	Ø 1 mm
Operating conditions	Industrial production, laboratory, clean room, or vacuum	Industrial production, in demanding weather and environmental conditions, laboratory, or clean room	Industrial production, laboratory, or clean room
Instrument type	Handheld device, benchtop device, automation solution	Handheld device, benchtop device, automation solution	Automation solution
Use	Single measurements or continuous measurements on-line in the production process		

Your requirements are individual – and so are our measuring solutions! Talk to one of our Fischer experts who would be happy to assist you personally in designing custom solutions to your goals.

FISCHERSCOPE® X-RAY XUL®

Practical benchtop device for entry-level non-destructive coating thickness measurement and material analysis of electroplated parts. An ideal instrument for bath analyses when paired with the liquid measuring cell.

Focus industries

Electronics & electrical accessories, plating & electroplating services, screws & fasteners

Main applications

Connectors, contacts, wires, circuit boards, corrosion protection layer of mass-produced parts such as screws & nuts, simple alloy coatings & bath analyses

Measuring performance
Basic

Spot size
Ø 0.1 / 0.2 / 0.3 mm
(1x fixed)

Measuring direction
Bottom up

Measuring distance
0-25 mm
(variable)

FISCHERSCOPE® X-RAY XULM®

Compact and versatile benchtop device for entry-level non-destructive coating thickness measurement and material analysis of smaller electroplated parts. An ideal instrument for bath analyses when paired with the liquid measuring cell.

Focus industries

Electronics & electrical accessories, plating & electroplating services, screws & fasteners

Main applications

Connectors, contacts, wires, PCBs, corrosion protection layer of mass-produced parts such as screws & nuts, simple alloy coatings & bath analyses

Measuring performance
Basic

Spot size
Ø 0.1-0.3 mm
(changeable)

Measuring direction
Bottom up

Measuring distance
0-25 mm
(variable)

COATING THICKNESS MEASUREMENT & MATERIAL ANALYSIS – XRF – BENCHTOP DEVICES

FISCHERSCOPE® X-RAY XAN® series

XAN® 215

Measuring performance
Advanced

Spot size
Ø 0.6 / 1 / 2 mm (1x fixed)

Measuring direction
Bottom up

Measuring distance
0-25 mm (variable)
Ideal: 0-15 mm

Reliable all-rounder for precious metals, jewelry & watches as well as for dental alloys & RoHS screenings on simple shaped samples

XAN® 220 & 222

Measuring performance
Supreme

Spot size
Ø 0.6 / 1 / 2 mm (1x fixed)

Measuring direction
Bottom up

Measuring distance
0-25 mm (variable)
Ideal: 0-15 mm

Powerful models in various configurations for precious metals, (costume) jewelry & watches, particularly suitable for complex alloys, multilayer coatings, RoHS screenings & pollutant analyses

XAN® 250 & 252

Measuring performance
Supreme

Spot size
Ø 0.3-2 mm (changeable)

Measuring direction
Bottom up

Measuring distance
0-25 mm (variable)
Ideal: 0-15 mm

Powerful models in various configurations for extended requirements for the measurement of precious metals, (costume) jewelry, watches, stainless steel & aluminum as well as for RoHS screenings & pollutant analyses for textiles & toys

As versatile as your requirements

The FISCHERSCOPE® X-RAY XAN® series focuses on fast, precise coating thickness measurement and material analysis of metal and precious metal alloys. From authenticity checks and the determination of heavy metals in electronics, textiles and toys, to precious metal analysis in recycling, the benchtop devices master a wide range of applications. Whether for retail stores, assaying and hallmarking centres, or the industrial manufacturing – the series offers the perfect solution for every scenario!

Features

- Universal benchtop series for non-destructive gold and precious metal analysis as well as coating thickness measurement, pollutant analysis, and RoHS screening
- Wide range of applications for trade, industrial manufacturing, and laboratories
- An optional helium flushing system available for measuring light elements

Left: Material analysis of hallmarked coins

Right: Manual XY table for exact positioning of larger samples

GOLDSCOPE SD® series

GOLDSCOPE SD® 510

Measuring performance
Advanced

Spot size
Ø 0.6 / 1 mm (1x fixed)

Measuring direction
Bottom up

Measuring distance
0-25 mm (variable)
Ideal: 0-15 mm

The compact solution with front opening, ideal for pawnshops & smaller stores for quick analysis of gold jewelry, watches, coins & dental gold

GOLDSCOPE SD® 515, 520 & 550

Measuring performance
Advanced

Spot size
Ø 0.3-2 mm (changeable)

Measuring direction
Bottom up

Measuring distance
0-25 mm (variable)
Ideal: 0-15 mm

Our bestsellers with top opening. Proven in gold buying & selling, at jewelers, refineries, assay offices and in banking for the analysis of gold bars, jewelry, watches & coins

GOLDSCOPE SD® 600

Measuring performance
Supreme

Spot size
Ø 0.15-3 mm (changeable)

Measuring direction
Top down

Measuring distance
0-80 mm (variable)
Ideal: 0-15 mm

Large model with scissor table & front opening, optimized for larger gold bars & valuables as well as objects with complex geometry

Our gold experts for your precious metal analyses

All that glitters is not gold. With our gold experts from the GOLDSCOPE SD® series at your side, you can play it safe. With hardware and software perfectly tailored to the needs of the precious metal, gold, jewelry and watch industry, the benchtop devices offer various detectors, collimators, filters and housings as well as pre-programmed measuring tasks – for fast, reliable and cost-effective precious metal analysis, authenticity checks and value determination.

Features

- Benchtop series designed for the non-destructive analysis of gold and precious metals
- Optimal cost-benefit ratio
- Best measurement performance and absolute reliability from filigree jewelry to gold bars

Easy sample positioning thanks to bottom up measuring direction and spacious measuring chamber

FISCHERSCOPE® X-RAY XDAL® 600

Universal benchtop device for non-destructive coating thickness measurement ≤ 0.1 µm and material analysis. Particularly suitable for medium and larger samples with complex geometries thanks to the manual shear table.

Focus industries

Plating & electroplating services, electronics & semiconductors, precious metals, gold, jewelry & watches

Main applications

Plug contacts, electronics, lead frames, lead content in solders, RoHS screenings & pollutant analyses

Measuring performance
Supreme

Spot size
Ø 0.15-3 mm (changeable)

Measuring direction
Top down

Measuring distance
0-80 mm (variable)
Ideal: 0-15 mm

FISCHERSCOPE® X-RAY XDL®

Benchtop device designed for galvanized mass-produced parts and bath analysis. Thanks to the C-slot housing, ideally suited for non-destructive coating thickness measurement and material analysis of large-area samples as well as for measured objects with indentations.

Focus industries

Plating & electroplating services, screws & fasteners

Main applications

Galvanized mass-produced parts, plug contacts, PCBs, bath analyses

Measuring performance
Basic

Spot size
Ø 0.2 mm (fixed)

Measuring direction
Top down

Measuring distance
0-80 mm (variable)

FISCHERSCOPE® X-RAY XDLM®

Robust benchtop device for non-destructive coating thickness measurement and material analysis of alloys, thin galvanic coatings and hard coatings. The best choice for efficiently inspecting many small parts, even at greater measuring distances.

Focus industries

Electronics & electrical accessories, plating & electroplating services, automotive

Main applications

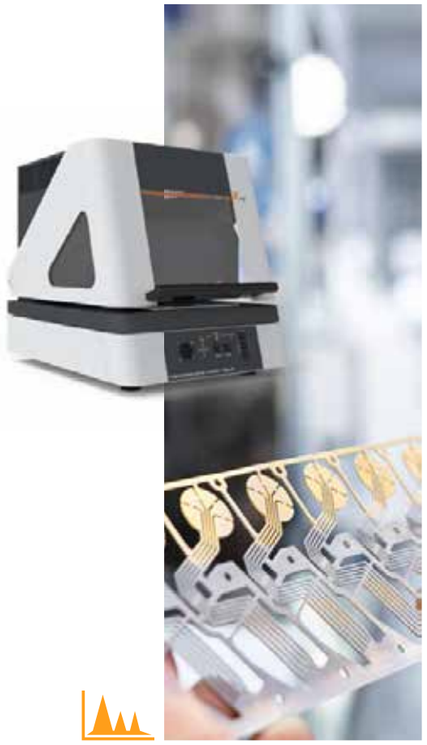
Plug contacts, assembled & complex shaped PCBs, pins, thin wires, galvanized mass-produced parts & bath analyses

Measuring performance
Basic

Measuring direction
Top down

Spot size
Ø 0,1-0,3 mm (changeable)

Measuring distance
0-80 mm (variable)



FISCHERSCOPE® XDAL®

Innovative benchtop successor with C-slot housing for non-destructive coating thickness measurement of very thin and complex coatings, even < 0.05 µm, as well as for material analysis in the ppm range. Various models available.

Focus industries

Plating & electroplating services, electronics & electrical accessories

Main applications

Functional & decorative coatings, e.g. on lead frames & connectors, ENIG & ENEPIG on PCBs, RoHS screenings & pollutant analyses

Measuring performance
Supreme

Measuring direction
Top down

Spot size
Ø 0,05-0,5 mm (changeable)

Measuring distance
0-140 mm (variable)
Ideal: 0-15 mm

COATING THICKNESS MEASUREMENT & MATERIAL ANALYSIS – XRF – BENCHTOP DEVICES

FISCHERSCOPE® X-RAY XDAL®

Proven benchtop device for non-destructive thickness measurement of coatings ≤ 5 nm and material analysis in the ppm range. With silicon drift detector (SDD), ideally suited for RoHS screenings, e.g. of solder batches.

Focus industries

Electronics & electrical accessories, semiconductors, plating & electroplating services, precious metals, gold, jewelry & watches

Main applications

Plug contacts, lead frames, solder contacts & solder pads on PCBs, ENIG & ENEPIG, functional & decorative coatings on turned, milled & punched parts

Measuring performance
Supreme

Measuring direction
Top down

Spot size
Ø 0,15-0,6 mm (changeable)

Measuring distance
0-80 mm (variable)
Ideal: 0-15 mm

Find out more about our software solutions on page 58 and 59.

FISCHERSCOPE® XDV®

Innovative benchtop successor with enclosed housing for non-destructive coating thickness measurement and material analysis of very thin layers and microstructures, even < 0.05 µm, as well as for pollutant analyses at very low detection limits.

Focus industries

Semiconductors, power generation & energy, automotive, precious metals, gold, jewelry & watches, banking & customs

Main applications

Analysis of jewelry alloys, gold bars & coins, ultra-thin coatings on wafers, battery foils & CCMs for fuel cells, RoHS screenings & pollutant analyses

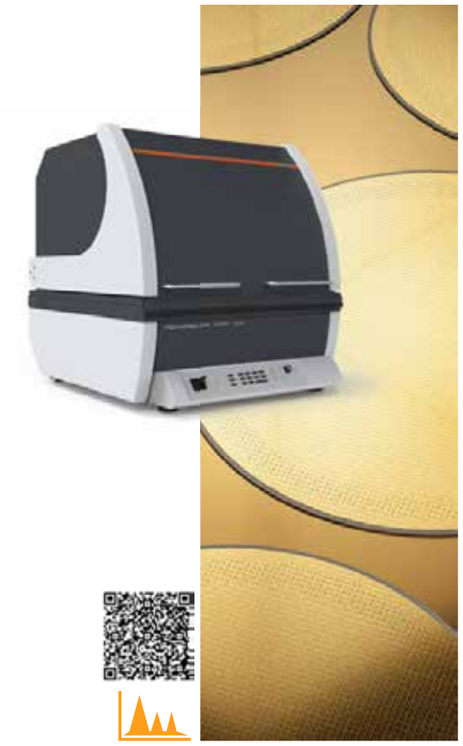
Measuring performance
Supreme

Spot size
Ø 0,15-3 mm (changeable)

Measuring direction
Top down

Measuring distance
0-140 mm (variable)
Ideal: 0-15 mm

FISCHERSCOPE® X-RAY XDV®-SDD



Universal and proven high-end benchtop device for non-destructive coating thickness measurement and material analysis of very thin coatings and microstructures as well as for RoHS screening at very low detection limits.

Focus industries

Electronics & electrical accessories, semiconductors, plating & electroplating services, precious metals, gold & jewelry, testing laboratories

Main applications

Electronic components, backside metallization of wafers, landing pads, gold alloys, gold bars, coins, costume jewelry & accessories, RoHS screenings & pollutant analyses

Measuring performance
Supreme

Spot size
Ø 0,15-3 mm (changeable)

Measuring direction
Top down

Measuring distance
0-80 mm (variable)
Ideal: 0-15 mm

FISCHERSCOPE® X-RAY XDV®-µ

High-end benchtop device with polycapillary optic for non-destructive coating thickness measurement and material analysis of ultra-thin multilayer systems and complex microstructures on flat samples.

Focus industries

Electronics & electrical accessories, semiconductors, research & laboratories, electroplating, automotive & suppliers

Main applications

Assembled & unassembled PCBs, ENIG & ENEPIG, lead frames, bond wires, solder bumps, micropads, SMD components, pogo pins & spring contacts, plug contacts

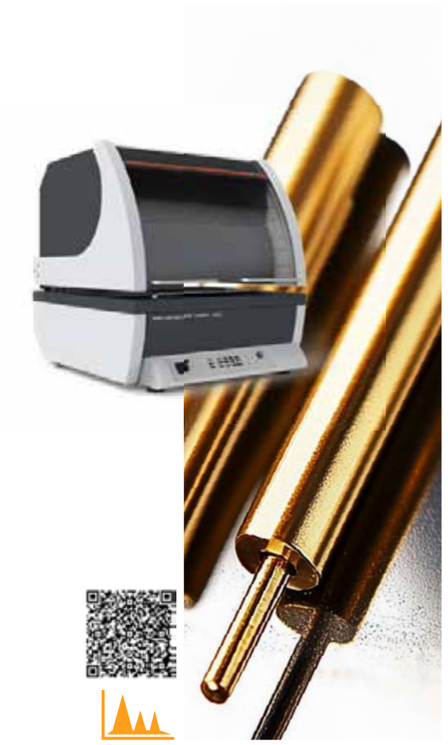
Measuring performance
Supreme

Spot size
Ø 10 / 20 µm
FWHM (1x fixed)

Measuring direction
Top down

Measuring distance
1,2 / 4 mm (1x fixed)

FISCHERSCOPE® X-RAY XDV®-µ LD



High-end benchtop device with uniquely large measuring distance thanks to long distance polycapillary optic. Designed for non-destructive coating thickness measurement and material analysis of complex shaped test parts.

Focus industries

Electronics, semiconductors, plating & electroplating services, research & laboratories, automotive

Main applications

Plug contacts, assembled & complex shaped PCBs, pogo pins, SMD components, thin wires, wafers with potential warpage

Measuring performance
Supreme

Spot size
Ø 60 µm FWHM
(fixed)

Measuring direction
Top down

Measuring distance
12 mm (fixed)

FISCHERSCOPE® X-RAY XDV®-µ WAFER

Benchtop device specialized on wafers with polycapillary optic and vacuum table for non-destructive coating thickness measurement and material analysis. Available as standalone solution or for automation projects.

Focus industries

Semiconductors, electronics

Main applications

Solder bumps, copper pillar bumps, gold bumps, micropads, UBMs (Under Bump Metallization), RDLs (Redistribution Layers)

Measuring performance
Supreme

Spot size
Ø 10 / 20 µm
FWHM (1x fixed)

Measuring direction
Top down

Measuring distance
1.2 / 4 mm (1x fixed)

FISCHERSCOPE® X-RAY XDLM®-PCB

Benchtop device for entry-level non-destructive coating thickness measurement and material analysis of PCBs. Perfect for simple measuring tasks and sampling inspections. Various models available.

Focus industries

Electronics

Main applications

Smallest components & structures or coatings on PCBs, conductor tracks, bath analyses

Measuring performance
Basic

Spot size
Ø 0.2-0.3 mm
(fixed / interchangeable)

Measuring direction
Top down

Measuring distance
0-10 mm (variable)

FISCHERSCOPE® X-RAY XDAL®-PCB

Benchtop device specialized in PCBs for increased requirements. Optimized for non-destructive thickness measurement of single and multilayer coatings ≤ 0.1 µm and for material analysis of microstructures.

Focus industries

Electronics & electrical accessories

Main applications

Lead content in solders, phosphorus determination in NiP layers, bath analysis, ENIG & ENEPIG

Measuring performance
Supreme

Spot size
Ø 0.15-0.6 mm
(changeable)

Measuring direction
Top down

Measuring distance
0-10 mm (variable)

FISCHERSCOPE® X-RAY XDV®-µ PCB

High-end benchtop device optimized for particularly thin and flexible PCBs with polycapillary optic for non-destructive coating thickness measurement and material analysis. Meets the IPC standards for ENIG, ENEPIG, silver and tin.

Focus industries

Electronics & electrical accessories

Main applications

Solder pads, conductor tracks, ENIG & ENEPIG

Measuring performance
Supreme

Spot size
Ø 10 / 20 µm
FWHM (1x fixed)

Measuring direction
Top down

Measuring distance
1.2 / 4 mm (1x fixed)

FISCHERSCOPE® X-RAY MODULAR CHAMBER

Large and easily accessible measuring chamber with an integrated FISCHERSCOPE® X-RAY XDL®, XDLM® or XDAL® for non-destructive coating thickness measurement and material analysis on particularly large workpieces. Chamber size and measuring table are tailored to your requirements. Optionally available with stable base frame.

Focus industries

Aerospace & aeronautics, automotive, defense, mechanical engineering

Main applications

Turbine blades, common rail injection systems, drive shafts, brake disks, crankshafts, pipes

FISCHERSCOPE® X-RAY 5000 series

Compact modular measuring unit with various installation options for fully automated non-destructive coating thickness measurement and material analysis of particularly thin coatings on large-area products. Also suitable for foils and hot surfaces up to 250°C. Can be flexibly integrated into new or existing production systems.

Focus industries

Power generation & energy, packaging industry

Main applications

Thin-film solar cells, glass panels, catalyst-coated membranes for fuel cells, films & tapes

FISCHERSCOPE® X-RAY 4000 series

High-performance inline measuring system for fully automated, non-destructive coating thickness measurement and material analysis of electroplated strips and membranes. Can be used as standalone solution or modularly integrated into new or existing production systems.

Focus industries

Surface coating & strip electroplating, electronics & electrical accessories

Main applications

Solid & stamped strips, formed & stamped electrical contacts, stamped grids, catalyst-coated membranes for fuel cells, hot-tinned steel & non-ferrous metal coils

FISCHERSCOPE® X-RAY XDV®-µ SEMI

Turnkey high-end system with integrated FISCHERSCOPE® X-RAY XDV®-µ WAFER for fully automated non-destructive coating thickness measurement and material analysis of ultra-thin layers and complex microstructures on wafers. Meets ISO Class 2 cleanroom requirements and can be used as standalone solution or integrated into your production line.

Focus industries

Semiconductors, electronics

Main applications

Solder bumps, copper pillar bumps, gold bumps, micropads, UBMs (Under Bump Metallization), RDLs (Redistribution Layers)

FISCHERSCOPE® XAN® LIQUID ANALYZER

Robust inline measuring system for fully automated analysis of the metal concentration of up to four electroplating baths simultaneously. Impresses with durable flow cells, market-leading precision and measurement results in real time. Can be used as standalone solution or integrated into your production line.

Focus industries

Plating & electroplating services

Main applications

Electroplating bath solutions made of zinc, nickel, zinc-nickel, gold, palladium, chrome, rhodium, and much more

FISCHERSCOPE® X-RAY XAN® 500

Mobile handheld device with IP54 protection for non-destructive coating thickness measurement and material analysis of large coated parts and bulky objects. With portable measuring box, it can also be converted into a device, for measurement of smaller components and solution analysis.

Focus industries

Aerospace & aeronautics, automotive, defense, mechanical engineering, power generation & energy

Main applications

Aircraft & machine components, housings, fuel cells, turbine blades, pipelines, bath analyses

Measuring performance
Advanced

Measuring direction
Flexible

Spot size
Ø 3 mm (fixed)

Measuring distance
Fix with contact

TACTILE

... Coating
... Base material

ISO Electrically insulating/non-conductive
Example: Varnishes or coatings

FE Ferromagnetic
Example: Iron

NF Non-ferromagnetic, electrically non-conductive
Example: Zinc

Ni Nickel

Me Metal

STEP STEP test measurement

σ Electrical conductivity

FERRIT Ferrite content

MP0® series

DUALSCOPE®

All-rounder for metal, paint, varnish & plastic coatings as well as for thick insulating & protective coatings on steel, iron or non-ferrous metals, also suitable for anodized aluminum

ISOSCOPE®

Perfectly suitable for paint, varnishes and plastic coatings on non-ferrous metals such as aluminum, copper or brass as well as for anodized aluminum

PERMASCOPE®

Ideal for thin layers of zinc, chrome, copper, paint, varnish or plastic on steel, iron or cast iron

The little all-rounders for your onsite use

Robust in handling, suitable for any pocket – this makes the handheld devices of the MP0® series the ideal companions for your quick and easy coating thickness measurement on site. Developed for flexible use in heavy-duty corrosion protection, the automotive industry and electroplating operations, they stand out with their sturdy housing, intuitive operation and a particularly low-wearing probe pole. Whether smooth or rough surfaces, painted or hot-dip galvanized – take measurements on almost all coated metals. For optimum functionality, basic and comfort models are available.

Features

- Universal handheld series for non-destructive coating thickness measurement
- Measuring method: Magnetic inductive and amplitude-sensitive eddy current method (model dependent)
- Measurement range: 0-2500 µm (model dependent)
- Probes integrated in the device or as a permanently connected cable probe (model dependent)
- Simple data transfer via USB interface (comfort models)

Left: Measuring anodized aluminum frames for building cladding
Right: Measuring at axis connection

DMP®10-40 series

DUALSCOPE®

All-rounder for metal, paints, varnishes & plastic coatings as well as for thick insulating & protective coatings on steel, iron or non-ferrous metals, also suitable for anodized aluminum & duplex coatings on steel

ISOSCOPE®

Perfectly suitable for paint, varnishes and plastic coatings on non-ferrous metals such as aluminum, copper or brass as well as for anodized aluminum

DELTASCOPE®

Ideal for thin layers of zinc, chrome, copper, paint, varnish or plastic on steel, iron or cast iron

The powerful experts for all situations

Tougher than the circumstances, more precise than the rest – the modern handheld devices of the DMP®10-40 series take contacting coating thickness measurement to a new level – especially in the electroplating, paints and varnishes, automotive and aerospace industries. From the high-quality and robust all-aluminum (IP64 rated) housing to the ease of use, wide range of functions and excellent repeatability, the series impresses across the board.

Bring your daily quality control up to date. From the basic model for a successful start to the comfort model for more demanding measuring tasks, the DMP®10-40 series offers the optimum solution for all requirements.

Features

- Particularly powerful handheld series for non-destructive coating thickness measurement
- Measuring method: Magnetic inductive and amplitude-sensitive eddy current method (model dependent)
- Measurement range: Dependent on coating-base material combination and probes used
- Wide selection of digital and analog probes for various applications
- Easy data transfer via USB-C and Bluetooth

Left: Quick-change lithium-ion battery
Right: Fast data transfer via USB-C and Bluetooth

DUALSCOPE® FMP100 & H FMP150

Versatile handheld devices with a large selection of probes for non-destructive coating thickness measurement. Ideal for creating individual test plans.

Focus industries

Plating & electroplating services, automotive, heavy corrosion protection in construction & transportation, aerospace & aeronautics, defense, research & laboratories

Main applications

Metal, paint, varnish & plastic coatings as well as thick insulating & protective coatings on steel, iron or non-ferrous metals, anodized aluminum, duplex coatings on steel, nickel coatings on non-ferrous metals or electrical insulators

Features

- Measuring method:
  - FMP100: Magnetic inductive and eddy current method
  - H FMP150: Magnetic inductive, magnetic and eddy current method
- Simple data transfer via USB interface

SR-SCOPE® DMP®30

Robust and powerful special handheld device for non-destructive measurement of copper thickness on PCBs.

Focus industries

Electronics & electrical accessories

Main applications

Thin copper layers on PCBs, multi-layer boards or laminates

Features

- Measuring method: Microresistivity
- Measurement with digital probe D-PCB according to DIN EN 14571
- Easy data transfer via USB-C and Bluetooth

PHASCOPE® PMP10

Reliable handheld device for non-destructive coating thickness measurement in special applications. Ideal for small parts, curved geometries and rough surfaces.

Focus industries

Screws & fasteners, plating & electroplating services, electronics & electrical accessories, automotive

Main applications

Screws, nuts, bolts, circuit boards, zinc on iron for brake calipers, thermally sprayed aluminum, nickel, zinc or copper on steel, iron or bronze

Features

- Measuring method: Phase-sensitive eddy current method
- Probes available for a wide range of applications
- Simple data transfer via RS232 or USB interface (optional)

PHASCOPE® PMP10 DUPLEX

Reliable handheld device, specialized in non-destructive thickness measurement of duplex coatings and paint layers on aluminum.

Focus industries

Automotive, machining tools & engineering materials

Main applications

Sheet metal processing, body painting, brake line tubes, CDC, varnishes or coatings on aluminum, duplex coatings such as paint/zinc on iron or steel, wires & grids

Features

- Measuring method: Magnetic inductive, amplitude-sensitive and phase-sensitive eddy current method
- Measurement modes:
  - DUAL: Display of the total coating thickness (varnish and zinc) on iron or varnishes or coatings on aluminum
  - DUPLEX: Display of varnishes or coatings on zinc on iron or varnishes on aluminum
- Simple data transfer via RS232 or USB interface (optional)

COULOSCOPE® CMS2 & CMS2 STEP

Practical benchtop devices for measuring layer thicknesses and electrochemical potentials by electrolytic layer dissolution.

Focus industries

Plating & electroplating services, household fittings & accessories

Main applications

Chrome/nickel/copper on iron or plastic substrates (ABS), tin/nickel on silver or copper, zinc on iron, nickel on copper, iron, aluminum or ABS

Features

- Measuring method: Coulometric method
- Also available with STEP test measurement for extended requirements (CMS2 STEP)
- Simple data transfer via USB interface

FISCHERSCOPE® MMS® PC2

Universal all-in-one benchtop device for non-destructive coating thickness measurement and material testing.

Multi-talented for numerous industries & applications

Plating & electroplating services, electronics, automotive, paints & coatings, screws & fasteners, aerospace & aeronautics, defense, machining tools & engineering materials, research & laboratories and many more

Features

- Measuring method: Individually configurable with up to 8 plug-in modules
- Broad probe portfolio available for over 100 applications
- Simple data transfer via USB and RS232 interfaces

BETASCOPE®

Unique module for upgrading your FISCHERSCOPE® MMS® PC2 for non-destructive thickness measurement of organic and metallic coatings on various substrates.

Focus industries

Automotive, aerospace & aeronautics, defense, electronics & electrical accessories

Main applications

Oil & lubricating films on metal, nano lacquer coatings, magnetic coatings & thin insulating lacquers on electrical steel sheets, thin films, resin on resin

Features

- Measuring method: Beta-backscatter method
- Fischer – one of the only measuring device manufacturers utilising beta sources for precise measurements
- Handheld probe with integrated temperature sensor and matching beta emitter

FISCHERSCOPE® MMS® AUTOMATION

Compact inline measuring system for non-destructive coating thickness measurement and material testing. Flexibly integrable into existing or new production plants.

Focus industries

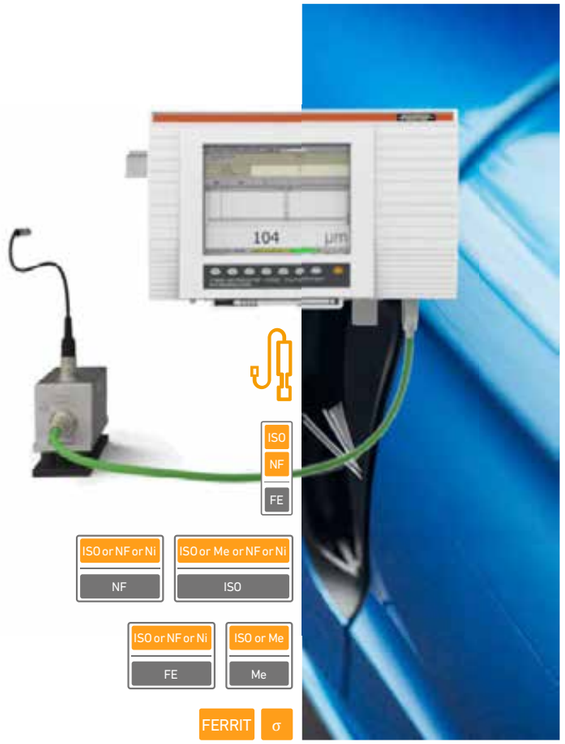
Automotive, electronics & electrical accessories, integrators

Main applications

Varnishes or coatings on car bodies & car rims, heat-treated aluminum car frames, copper on circuit boards coated on both sides, conductivity testing on raw materials

Features

- Measuring method: Individually configurable with up to 4 plug-in modules
- Time-saving multi-channel measurements with up to 4 identical probes for faster results
- Remote control via your PLC, data transfer via PROFINET and RS232 interface



Probes

Analog probes

Over 100 standard probes and numerous special probes with outstanding measuring accuracy and linearity

Digital probes

Experience smart connectivity and conveniently transfer measurement data via USB-C or Bluetooth

Broadest probe portfolio on the market

The key to successful measurements and accurate measurement results is the probe. It generates the actual measurement signal, which is subsequently evaluated. Depending on the application, it must therefore meet certain criteria, for example they must not damage soft coatings or need to provide reliable data for curved or rough surfaces.

We offer you an extensive and versatile range of suitable probes for your coating thickness measurement and material testing. All Fischer probes are equipped with a spring-loaded system that guarantees you the optimum contact pressure for every application. Simply connect the pre-calibrated probe to your measuring device and get started. The instruments recognize the probes automatically.

Features

- Developed and produced in-house – with proven Fischer quality for the highest demands
- Tailored probes and special designs for special applications
- Individual factory calibration
- Integrated curvature or conductivity compensation for maximum accuracy
- Robust, wear-protected probe poles for maximum service life
- F-adapter for maximum flexibility – also use your analog Fischer probes with your DMP® devices

We would be happy to advise you on the selection of the right probes for your application. Just get in touch with us!

Left: Measuring copper thickness on PCB

Right: Measuring of insulating coating

TERASCOPE®

Innovative measuring system for fully automated non-destructive thickness measurement of paint coating systems using terahertz waves. Impresses with outstanding measurement performance and also offers the possibility of determining the radar transmission and reflection on automotive plastic claddings. Can be flexibly integrated into new or existing production plants.

Focus industries

Automotive

Main applications

Paints & varnishes on car bodies & add-on parts

Availability depending on region and country.

Where material meets precision

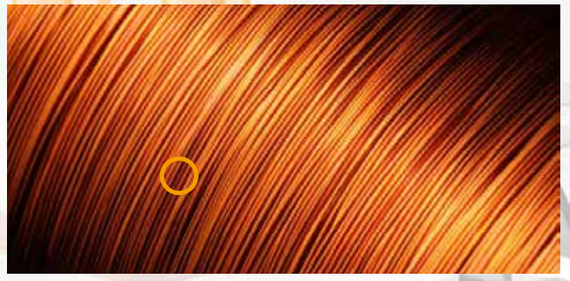
CHALLENGES

Material testing

Material testing allows you to examine and evaluate a wide range of material properties. Whether you need to measure electrical conductivity or determine ferrite content, the tactile measuring devices from Fischer offer you maximum reliability across the entire spectrum.

Perform non-destructive authenticity checks on precious metals or identify weak points and material defects at an early stage and within seconds to keep you on the safe side at all times.

Conductivity measurement of aluminum as a raw material



Determining of the phosphorus content in copper

Checking turbines for heat damage

Authenticity check of coins

Authenticity check of gold bars

Determining of the ferrite and martensite content of weld seams

Inspecting of weld seams in stainless steel pipes

Quality control of heat-treated aluminum car frames

SOLUTIONS

Excellent quality assurance with Fischer

TACTILE MEASURING DEVICES

Handheld devices

- SIGMASCOPE® SMP350 48
- SIGMASCOPE® GOLD B & GOLD C 48
- FERITSCOPE® DMP®30 49

Benchtop devices

- FISCHERSCOPE® MMS® PC2 49

Automation solutions

- FISCHERSCOPE® MMS® AUTOMATION 50

Probes 51

The perfect match for your application

	TACTILE MEASURING DEVICES
Measuring method	Magnetic inductive, phase-sensitive eddy current method → Contacting with probe & non-destructive
Type of measurement	Material testing for ferrite & martensite content as well as electrical conductivity
Material	Metallic → Ferromagnetic or non-ferromagnetic & electrically non-conductive Examples: Iron, nickel, cobalt, austenitic steels, gold, brass, copper
Geometry of the measured object	Flat, curved, angled, in pipes & recesses, large & bulky objects
Surface texture	Smooth, rough, dry, hard
Measuring spot size	Dependent on the probes used
Operating conditions	Industrial production, in demanding weather and environmental conditions, laboratory or clean room
Instrument type	Handheld device, benchtop device, automation solution
Use	Single measurements or continuous measurements on-line in the production process

Your requirements are individual – and so are our measuring solutions! Talk to one of our Fischer experts who would be happy to assist you personally in designing custom solutions to your goals.

... Coating

... Base material

ISO Electrically insulating/non-conductive
Example: Varnishes or coatings

FE Ferromagnetic
Example: Iron

NF Non-ferromagnetic, electrically non-conductive
Example: Zinc

Ni Nickel

Me Metal

STEP STEP test measurement

σ Electrical conductivity

FERRIT Ferrite content

SIGMASCOPE® SMP350

Robust and compact handheld device for non-destructive material testing of non-ferrous metals via electrical conductivity.

Focus industries

Aerospace & aeronautics, plating & electroplating services, automotive, defense, construction & infrastructure, shipping & transportation

Main applications

Conductivity testing on raw materials for sorting & quality assurance, colour differences in anodized aluminum, checking for heat damage & material fatigue

Features

- Measuring method: Phase-sensitive eddy current method
- Complies with Boeing specification BAC 5651 with appropriate probe
- Simple data transfer via USB interface

SIGMASCOPE® GOLD B & GOLD C

Reliable unique handheld devices for non-destructive authenticity checks of gold and precious metals, even through plastic packaging.

Focus industries

Precious metals, gold, public institutions such as refineries, banks & customs

Main applications

Gold bars, fine gold, coins

Features

- Measuring method: Phase-sensitive eddy current method
- Measurement range:
  - GOLD B: Gold bars of approx. 1 oz (31.1 g)-1 kg
  - GOLD C: Gold coins and bars up to approx. 100 g
- Simple data transfer via USB interface

FERITSCOPE® DMP®30

Powerful special handheld device for non-destructive measurement of the ferrite and martensite content in steels with austenitic microstructures.

Focus industries

Oil, gas & petrochemicals, mechanical engineering & steel construction, construction & infrastructure, energy & power generation, research & laboratories

Main applications

Austenitic cladding, weld seams in stainless steel pipes, containers or boilers, locating weld seams on polished surfaces

Features

- Measuring method: Magnetic inductive
- Digital probes available for a wide range of applications
- Easy data transfer via USB-C and Bluetooth

FISCHERSCOPE® MMS® PC2

Universal all-in-one benchtop device for non-destructive coating thickness measurement and material testing.

Multi-talented for numerous industries & applications

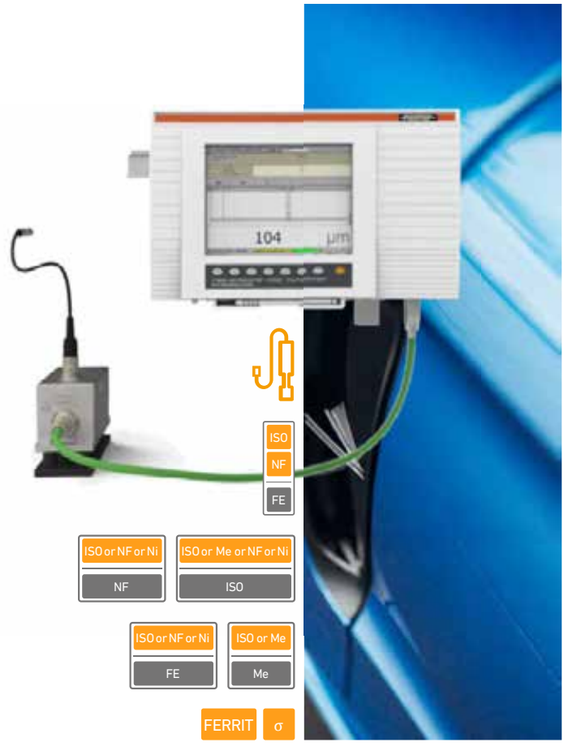
Plating & electroplating services, electronics, automotive, paints & coatings, screws & fasteners, aerospace & aeronautics, defense, machining tools & engineering materials, research & laboratories and many more

Features

- Measuring method: Individually configurable with up to 8 plug-in modules
- Broad probe portfolio available for over 100 applications
- Simple data transfer via USB and RS232 interfaces

FISCHERSCOPE® MMS® AUTOMATION

Compact inline measuring system for non-destructive coating thickness measurement and material testing. Flexibly integrable into existing or new production plants.



Focus industries

Automotive, electronics & electrical accessories, integrators

Main applications

Varnishes or coatings on car bodies & car rims, heat-treated aluminum car frames, copper on circuit boards coated on both sides, conductivity testing on raw materials

Features

- Measuring method: Individually configurable with up to 4 plug-in modules
- Time-saving multi-channel measurements with up to 4 identical probes for faster results
- Remote control via your PLC, data transfer via PROFINET and RS232 interface

Probes

Analog probes

Over 100 standard probes and numerous special probes with outstanding measuring accuracy and linearity

Digital probes

Experience smart connectivity and conveniently transfer measurement data via USB-C or Bluetooth

Broadest probe portfolio on the market

The key to successful measurements and accurate measurement results is the probe. It generates the actual measurement signal, which is subsequently evaluated. Depending on the application, it must therefore meet certain criteria, for example they must not damage soft coatings or need to provide reliable data for curved or rough surfaces.

We offer you an extensive and versatile range of suitable probes for your coating thickness measurement and material testing. All Fischer probes are equipped with a spring-loaded system that guarantees you the optimum contact pressure for every application. Simply connect the pre-calibrated probe to your measuring device and get started. The instruments recognize the probes automatically.

Features

- Developed and produced in-house – with proven Fischer quality for the highest demands
- Tailored probes and special designs for special applications
- Individual factory calibration
- Integrated curvature or conductivity compensation for maximum accuracy
- Robust, wear-protected probe poles for maximum service life
- F-adapter for maximum flexibility – also use your analog Fischer probes with your DMP® devices

We would be happy to advise you on the selection of the right probes for your application. Just get in touch with us!

Left: Measuring copper thickness on PCB

Right: Measuring of insulating coating

For the really hard ones

CHALLENGES

Microhardness measurement

With microhardness measurement, you can determine the resistance of a material to the penetration of a harder body. This provides you with information about its plastic and elastic properties. Where conventional measuring methods reach their limits, Fischer measuring devices for nanoindentation rise to the challenge.

Reliably analyze materials and coatings down to the nanometer range and obtain valuable results that you can use profitably in your material development, quality control or failure analysis.

Quality inspection of tempered glass and optics

Characterization of ion-implanted surfaces for medical implants

Testing the wear resistance of DLC-coated wear parts

Microhardness measurement on tablets

Measuring the hardness and elasticity of paint layers for paint development

Testing the wear resistance of CVD- and PVD-coated tools

Testing the deformability and elasticity of LCD spacers

Testing of nanolayers on sensors

SOLUTIONS

Excellent quality assurance with Fischer

MEASURING DEVICES FOR NANOINDENTATION

Benchtop devices

FISCHERSCOPE® HM2000 & HM2000 S	57
PICODENTOR® HM500	57

The perfect match for your application

	MEASURING DEVICES FOR NANOINDENTATION
Measuring method	Nanoindentation (instrumented indentation testing) → Penetrating with indenter & almost non-destructive thanks to minimal penetration depth
Type of measurement	Measurement of Martens & Vickers hardness, creep behavior, elastic indentation, storage & loss module
Material	Metallic & organic Examples: Titanium nitride, tungsten carbide, glass, ceramics, composites, colored coatings, DLC
Geometry of the measured object	Flat, slightly curved
Surface finish	Smooth, dry
Depth of penetration	1 µm up to 500 µm (HM2000 & HM2000 S) 0.1 µm up to 300 µm (HM500)
Indenter impression	Ø typically < 20 µm
Operating conditions	Laboratory (vibration-free)
Instrument type	Benchtop device
Use	Single measurements

Your requirements are individual – and so are our measuring solutions! Talk to one of our Fischer experts who would be happy to assist you personally in designing custom solutions to your goals.

NANOINDENTATION

FISCHERSCOPE® HM2000 & HM2000 S

Semi-automated benchtop devices for determining the micro hardness and elasticity of varnishes or coatings, hard material coatings and composite materials.

Focus industries

Automotive, aerospace & aeronautics, paints & varnishes, machining tools & engineering materials, medical & pharmaceutical, electronics

Main applications

DLC coatings on engine parts, CVD & PVD coatings on tools & decorative trims, coatings on optics, tablets, LCD spacers, varnishes or coatings on circuit boards

Features

- Measured variables: Martens and Vickers hardness, creep behavior, elastic indentation, storage and loss module
- Test force range: 0.1-2000 mN
- Available with programmable measuring table (HM2000) or as a more cost-effective entry-level device (HM2000 S)

PICODENTOR® HM500

Semi-automated benchtop devices for microhardness measurement of extremely small or thin samples.

Focus industries

Electronics, semiconductors, medical & pharmaceutical, research & laboratories, paints & varnishes, machining tools & engineering materials

Main applications

Gold & silver coatings on PCBs, bond pads, nano-coated sensors, ion-implanted surfaces for medical implants such as stents & prostheses

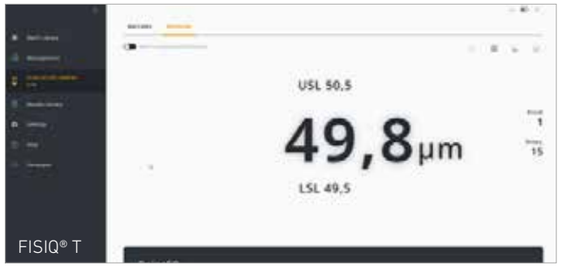
Features

- Measured variables: Martens and Vickers hardness, creep behavior, elastic indentation, storage and loss module
- Test force range: 0.005-500 mN
- Available with a high-quality microscope (HM500) or as a more cost-effective entry-level device (HM500 BASIC)

Software solutions

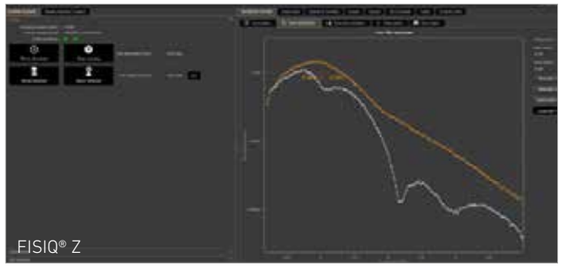
Always **reliable**, always one step ahead

Setting standards with **maximum performance**



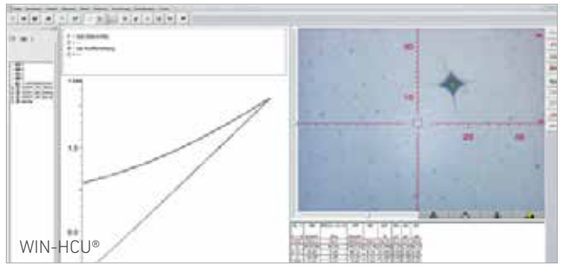
Well equipped for the future

Full control – anytime



For **smart processes** and the best results

Seamless integration for an instant **efficiency boost**



Measuring accuracy **at the highest level**

Because proven accuracy creates **trust**

WinFTM®

The world's most comprehensive and powerful XRF software for coating thickness measurement and material and bath analysis, with market-leading measurement accuracy.

Highlights

- Automatic element identification
- Traceable measuring results thanks to guided calibration workflow
- Measurement processes can be fully automated
- Statistics functions including statistical process control (SPC)
- Customizable reports and measurement protocols
- Simple data export to quality management systems

FISIQ® X

First and only XRF software with AI-supported spectrum mode for coating thickness measurement and material analysis.

Highlights

- Modern and intuitive user interface
- Improved algorithmic engine with excellent stability, accuracy, and highest repeatability
- Smart workflows for efficient measurement processes

FISIQ® T

The latest software generation for tactile coating thickness measurement and material testing. Particularly versatile and user-friendly for data management and evaluation. Available for all DMP® devices.

Highlights

- Modern and intuitive user interface
- Immediately ready to use thanks to automatic device and probe recognition
- Lightning-fast data transfer to Excel or a customer-specific application
- Traceable measuring results thanks to smart calibration workflow
- Customizable reports and measurement protocols
- Measurement data in real time via USB-C or Bluetooth

Fischer DataCenter

Solid and reliable software with extensive evaluation and statistical functions for tactile coating thickness measurement and material testing.

Highlights

- Traceable measuring results thanks to guided calibration workflow
- Simple creation of individual test plans
- Customizable reports and measurement protocols

FISIQ® Z

Highly efficient software for fully automated coating thickness measurement with our TERASCOPE® measuring system. Ideally suited for 24/7 quality control with robot and process control systems.

Highlights

- Modern and intuitive user interface
- Raw data in real time
- Ultra-fast modeling of the frequency spectrum
- All measurement results at a glance
- Referencing can be fully automated
- Compatible with all common fieldbus systems

WIN-HCU®

Proven software for convenient microhardness measurement and comprehensive statistical evaluation of measurement results based on the DIN ISO 14577-1 and ASTM E 2546 standards.

Highlights

- Standard-free, precise measurement
- Traceable measuring results thanks to guided calibration workflow
- Measured value display as statistical evaluation, SPC chart, histogram, probability network or 3D diagram
- Customizable reports and measurement protocols
- Measurement processes can be automated

Calibration standards & certification

Fischer DAkkS calibration laboratory in Germany

Several accredited Fischer calibration laboratories **worldwide**

Maximum accuracy for your **safety**

Best support from our experts

Safety through **traceability**

Over 500 different certified **calibration standards**

DAkkS certificate or **factory certificate**

The **right standards** for every application

It's all about the right measure
Only a well-calibrated measuring instrument delivers correct and traceable results. In our calibration laboratories, we produce traceable calibration standards - also known as reference or comparison standards - for your use. Recognized and trusted all over the world, they guarantee you absolute reliability in your measurements.

Where safety becomes the standard
Fischer runs several accredited calibration laboratories in the USA, Mexico, China and Switzerland. What we are especially proud of: We are the first and only company with its own DAkkS-accredited calibration laboratory in Germany that is accredited according to DIN EN ISO/ IEC 17025 for the mechanical measurand "mass per unit area".

By tracing the measurements back to national standards and thus to national metrology institutes such as the Physikalisch-Technische Bundesanstalt (PTB), the National Institute of Standards and Technology (NIST), or the National Institute of Metrology (NIM), we achieve highest accuracy and quality. In addition to factory certificates, we also issue DAkkS certifications, offering you even lower measurement uncertainties.

Made to fit your needs
Calibration standards are foils or coated base material. Whether for coating thickness measurement, material analysis, material testing, or microhardness measurement, our portfolio includes well over 500 different certified standards and prefabricated sets, e.g. for PCB, wafer or corrosion protection applications. Just mix and match your Fischer standards to suit your individual measuring task!

Your product has a unique calibration standard? No problem! We also offer the DIN EN ISO/IEC 17025 certification of specific customer material for XRF measurements. Just hand over your sample to our experts, benefit from in-depth advice, receive your calibration certificate – and start measuring with confidence.

Please feel free to contact us! We will advise you on suitable calibration standards and the optimal calibration strategy. **sales@helmut-fischer.com**

A selection that leaves nothing to be desired

- Solid standards: single and multilayer coatings, alloy coatings, pure elements, alloys (bulk)
- Foil standards: single and multilayer coatings, alloy coatings
- Prefabricated sets

Tailored to your application

Before initial commissioning, we train your TERASCOPE® for you with your individual sample parts (Color Teaching). The measuring system gets to know your layering systems step by step.

For regular referencing, a stainless steel standard is included in the scope of delivery, which will not need to be replaced if used as directed.

The solid basis for top performance

- Foil standards
- Ferrite standards
- Conductivity standards
- Cu/ISO standards, optionally with holes
- COULOSCOPE® standards
- Prefabricated sets

The must-haves for your daily routine

- BK7 glass reference plate
- Makrolon® reference plate
- Tungsten carbide reference plate

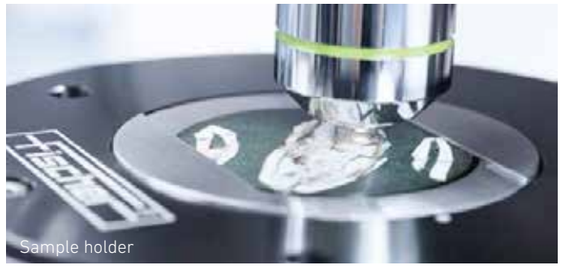
Left: Conductivity standard
Right: Solid standard set

Accessories

Sample stage Zero Background for thin films

Measuring cell for solution analysis

Device stand


Sample holder

Continue measuring where others give up

Perfect fit without compromise

Perfectly equipped for every challenge

Simply **reliable** when it matters most

Measuring more efficiently and **saving time**

More comfort for what you do

Full support reliably by your side

Optimized for the **highest demands**

High-quality accessories for all occasions
We offer a wide range of accessories to complement our broad portfolio of measuring solutions. From simple protective cases to tailormade accessories, we offer you the optimum additional equipment and, of course, spare parts for your Fischer measuring device or system.

Maximize your efficiency now and master any challenge easily – with Fischer accessories that deliver exactly the added value you're looking for!

Would you like personal advice or do you need a custom-made product? Then please feel free to contact us!
sales@helmut-fischer.com

Real game changers

- Measuring cells for analyzing electroplating bath solutions
- Various sample stages, holders and positioning aids for particularly demanding measuring tasks
- Vibration damping for a trouble-free measurement process
- Measuring table extensions for larger measuring objects
- Tape guide for solid and punched tapes for precise guidance of the measuring object (exclusively for FISCHERSCOPE® X-RAY 4000 series)
- Calibration device for punching grids (exclusively for FISCHERSCOPE® X-RAY® 4100)
- Replacement flow cell for analyzing electroplating bath solutions (exclusively for FISCHERSCOPE® XAN® LIQUID ANALYZER)
- And much more

Practical everyday helpers

- Measuring stand with manual probe lowering for repeatable measurements
- Various holders and positioning aids for fixing and precisely aligning small and complex-shaped test parts
- Device stand for convenient one-handed operation of your measuring device
- Protective covers for particularly harsh environments
- Adapters, batteries, power supply units and USB cables
- Consumables such as electrolytes, cannulas or calibration solutions
- Cables suitable for drag chains with a length of up to 30 m (exclusively available for FISCHERSCOPE® MMS® Automation)
- Display and keyboard holders
- And much more

The perfect complement

- Clamping devices and various sample holders for particularly demanding measuring tasks
- Heating table for analyzing mechanical properties at temperatures up to 200°C
- Sound insulation hood for a trouble-free measurement process
- Atomic force microscope (AFM) for the highest demands
- And much more

Left: Tape guide for solid and punched tapes
Right: Measuring stand with manual probe lowering

> Fischer has been just excellent. Anytime I need to get in touch they are always so supportive, a great crew, wonderful people who are a joy to welcome to the plant.

Ant Scarratt, Metallurgist and Laboratory Manager at Hardide Coatings Ltd., UK

Application consulting

Everything for your measuring task

Personal support on a global scale
With seven application laboratories worldwide in Germany, Switzerland, the USA, China, India, Japan, and Thailand, we are there for you around the globe. Our Fischer experts are always at your side with personalized advice and assistance – whether it's selecting the right measuring device, developing a customized measuring strategy or defining the right measuring program.

Wide-ranging expertise for reliable measurement results
Especially when solving complex measuring tasks, you benefit from our decades of expertise in measuring technology. Optimally networked with each other, as well as with research and educational institutions and industry, our application laboratories are always up to date. This is how we ensure all your questions are answered in the best possible way.

Our services at a glance

- Expert advice by email, phone, or in person at one of our seven application laboratories
- Targeted support for operation and calibration as well as for the implementation of new measuring tasks
- Individual testing of your sample parts
- Sample testing live: We measure your sample and you are live with us!
- Conceptualization of your request together with our team of experts and local integrators
- Contract measurements with inspection report according to ISO 17025 (only in selected laboratories)

Global support for your applications

Whether remotely or on-site – we support you worldwide with expert advice. Feel free to get in touch with us or consult your local Fischer representative.

Interested in our product portfolio? Experience our instruments up close and visit us at one of our application laboratories! Depending on the location, various devices are available for you to test.

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Service

A reliable partner for the entire life of your device

Quality is what our services are all about
For over 70 years, we have been supporting our customers with outstanding products and excellent customer service. Today, we are proud to be available to you globally, with 21 subsidiaries and over 180 service professionals worldwide. We guarantee you fast response times, individual on-site support, and quick availability of original spare parts in proven Fischer quality. Fast, reliable and tailored to your needs – that's what we mean by excellent customer service.

There for you in every respect
To extend the service life of your Fischer devices and systems and to prevent possible downtimes, we offer you regular inspections and maintenance by our experienced and trained service professionals. We plan inspection times together with you at an early stage and coordinate them with your production schedule. Furthermore, our service experts assist you in commissioning and calibration and offer individual product training and much more to teach you how to use your Fischer product.
Do you require expert technical advice? Then get in touch with us!

Our services at a glance

- On-site service thanks to 21 subsidiaries worldwide
- Individual service agreements tailored to your needs
- Fast response times, prompt repairs and reliable spare parts supply
- Telephone hotline and remote support with direct contact to our XRF service experts
- Commissioning and customized task programming on-site
- Calibration and recertification of your standards for reliable measurement results
- Customized inspection agreements and regular maintenance
- Individual product training and seminars

Contact:
Do you need technical support or would you like to learn more about our services? Then **get in touch** with us!

> " At Fischer, the customer relationship does not end with the sale of the device – it begins then. "

Paul Comer, Technical Director at Graphic Plc, UK

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- Authorized distributors

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Our experienced staff will be happy to advise you on site and in your national language. Please find your personal contact at www.helmut-fischer.com

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992-019 06/25