



Fischer Coating Thickness Measurement Instruments User Manual

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State of the Art Coating Thickness Measurement

The Fischer proven portable instruments with exchange-able probes allows for non-destructive and highly precise measurements of coatings. Whether for quality control in a manufacturing process or incoming inspection of random samples or complete batches, these user-friendly and flexible instruments will meet your requirements. Select the appropriate instrument from the FMP family and combine it with one of our high-precision measurement probes.

Special features

- Fast and non-destructive measurement on steel or iron (F) and non-ferrous metals (NF)
- Automatic probe and base material recognition
- Large colour display
- Supports measurements according to IMO PSPC, SSPC-PA2, QUALANOD and QUALICOAT
- USB interface, Bluetooth or COM interface as option
- Over 70 various high-precision probes for even the most sophisticated measurement applications.

Quality monitoring on engine pistons immediately after the manufacturing process using the FTA3.3H probe.






Measurements using the internal probe FAI 3.3.150






Point coating thickness measurement using the dual probe FD13H



FMP10,FMP20,FMP30 and FMP40 Instrument Overview

Probes	DELTASCOPE	DUALSCOPE	ISOSCOPE0	Storable meas. applications	Statistics, evaluation	Measurement strategies
exchangeable	 <p>Deltascopes FM P10</p>	 <p>Deltascopes FMP20</p>	 <p>Isoscopes FMP10</p>	1	<ul style="list-style-type: none"> Display of the most significant statistical values (number of measurements, mean value, standard deviation, min, max, range) 	<ul style="list-style-type: none"> Single reading acquisition Free-running display

	 <p>Deltascope FM P30</p>	 <p>Deltascope FMP40</p>	 <p>Isoscope FMP30</p>	up to 100	<p>Display of the most significant statistical values (number of measurements, mean value, standard deviation, min, max, range) and specific values</p> <p>Tolerance monitoring</p> <p>Graphical evaluation</p>	<p>Single reading acquisition</p> <p>Free running display</p> <p>Area measurement</p> <p>Multiple measurement</p> <p>Automatic measurement</p> <p>Matrix mode</p> <p>IMO PSPC</p> <p>SSPC-PA</p> <p>QUALANOD</p> <p>QUALICOAT</p>
Measurement method	Magnetic induction method (DIN EN ISO 2178, ASTM D7091)	Eddy current method and magnetic induction method (DIN EN ISO 2360 and 2178)	Eddy current method (DIN EN ISO 2360, ASTM D7091)			

DELTASCOPE° FMPI 0 and FMP30 For the measurement on ferrous base materials (F), e.g. paint, lacquer, powder coating, chrome, copper, zinc, as well as enamel or plastic coatings on steel and iron.

ISOSCOPE° FMPI 0 and FMP30 For the measurement of point, powder coating, lacquer or plastic coatings on non-ferromagnetic metal base materials (NF) or anodic coatings or aluminum and electrically conducting coatings on nonconducting carrier materials.

DUALSCOPE° FMP20 and FMP40 Due to automatic base material recognition and the integration of both measurement methods, these universal instruments are capable of measuring coatings on steel and iron (F) and on non-ferromagnetic metals (NF). Duplex coatings (lacquer/zinc) on steel can be measured simultaneously with the values of the lacquer and zinc coatings displayed individually.



DUALSCOPE FMP40 using the duplex probe FDX13H

Features of the FMPI 0 and FMP20

Instrument features

- For magnetic induction and eddy current probes
- Automatic base material and probe recognition
- Easy-to-use with intuitive menu
- large contrast-rich colour display
- Memory for up to 1,000 readings
- USB interface
- Instant measurement upon probe placement
- Audible signal with measurement acquisition
- Easy adaptation to the shape of the specimen through a zero-point correction (normalization)
- Easy to perform corrective calibration (verification of accuracy)
- Sliding cover to protect keys against unintentional operation
- Various language settings
- Units of measurement can be switched between pm and mils

Measurement strategies and evaluation

- Single reading acquisition
- Measurements with the “free-running display” mode for continuous scanning of surfaces
- Statistical display of significant values such as mean value, standard deviation, min, max, range

The portable FMP I 0 and FMP20 represent precise measurement technology and are ideal for samples and control measurement. These user-friendly and sturdy instruments can be adapted to all requirements of coating thickness measurement using exchangeable measuring probes. The most significant statistical values are displayed and can be stored together with the calibration in the instrument, ensuring quick and reliable operation.



DUALSCOPE FMP20 using the probe FID3.3



ISOSCOPE FMP10 using the probe FTA3.3Cv



Additional Feature of the FMP30 and FMP40

Instrumental feature

- External key-triggered measurement acquisition, e.g. in hollow cylinders with small diameters
- Audible and visual warning when tolerance limits are exceeded
- Option Bluetooth or COM additional available to the default USB interface

Measurement application memory

- Application memory for up to 100 measuring applications incl. calibration adjustment (seeing,)
- Memory for up to 20,000 readings
- Allocation of readings into up to 4,000 blocks
- Date and time stamp per block
- Application linking mode: Common normalization/ calibration of measuring applications
- Validation of the corrective calibration by test pieces - wanting on standards

Measurement strategies and evaluation

- Stored selections for measurements according to ISO PSC, 55PC-PA2, ISO/VDI and CTAUCOM
- Capability to enable matrix measurement mode for correlated multi-point measurements
- Averaging of measurement data: Only the mean value of several readings will be stored
- Measurement acquisition through area measurement: Single readings are captured until probe liftoff and averaged
- Outlier rejection settings for automatic elimination of erroneous measurements
- Pico-ranging display with additional presentation of the reading as an analog bar between the tolerance limits
- 5.011ACS display of the most significant values in the Nock and final results. Output of variance-covariance matrix values
- Graphical measurement display as a histogram
- Capability of entering tolerance limits and computation of the associated process capability indices C_p and C_{pk} ,

The FMP30 and FMP40 instruments feature additional more memory for numerous customer specific measuring applications as well as extensive graphical and statistical evaluations. Tolerance limits can be entered into the calibratable measuring applications and the production process can be analyzed statistically.

DUALSCOPF FMP40 using the probe FGAB 1.3 and support stand V12 BASE – measuring ports with position accuracy



ISOSCOPE FMP30 using probe FTA3.3H



DELTASCOPE FMP30 using dual-tip probe V7FKB4



DUALSCOPE FMP40 using probe FD13H



Versatile Probes Program and Ordering Information

Probe program The extensive selection of FISCHER probes is as versatile as the measurement applications of our customers. A probe needs specific properties for each field of application for achieving best results with a high accuracy. Over 70 probes can be connected to the instrument family FMP I 0 to FMP40. Thus, you can solve even the most sophisticated measurement tasks.

Probe selection based on several criteria

- Material combination of coating and base material
- Thickness of coating and base material
- Dimension of the measurement area
- Shape of the specimen
- Surface condition of the measurement area

Call us

We are happy to consult you on the matter of choosing the right probe for your individual application.

Ordering information	Order no.
DELTASCOPE® FMP10	605-021
ISOSCOPE® FMP10	605-027
DUALSCOPE® FMP20	605-023
DELTASCOPE® FMP30	605-022
ISOSCOPE® FMP30	605-028
DUALSCOPE® FMP40	605-024

Standard content of instrument shipment

- Instrument
- Short form operator's manual, print version
- Support CD with evaluation and archiving software DataCenter, USB drivers and operator's manual
- Carrying strap FMP
- USB interface cable FMP/ PC
- Battery set FMP (Alkaline)
- Carrying case FMP only for FMP30 and FMP40 instruments

Optional accessories	Order no.
Carrying case FMP	604-148
Adapter E-probe/F-socket	604-214
AC adapter FMP30 and FMP40	604-290
Rechargeable battery set FMP (NiMH)	604-295
Charger AA/Mignon	604-335
Measurement stand V12 BASE	604-420
Measurement stand V12 MOT (motor-driven)	604-374
Bluetooth Module for wireless data transfer	604-480
COM Module FMP30/FMP40, RS232 interface	604-500
Interface connection set for COM Module Protective cover for instrument	602-341 604-149



FISCHER Services

Service worldwide

FISCHER has established a tightly-linked global network of service partners with highly qualified staff. Offering Fast help, repairing and the availability of leasing and rental units, FISCHER supports you in every respect concerning your instruments and their use.

Calibration and certification

On your request Fischer issues a Quality Inspection Certificate for your probe and instrument according to DIN 55350-18. A broad assortment of calibration foils is available from FISCHER. On your request FISCHER issues a Factory Certificate for your calibration Foil.



Application laboratories

More and more, demanding applications require highly qualified application advice. FISCHER addresses this need with its application laboratories located around the world (Germany, Switzerland, China, USA, India, Japan and Singapore).



Measuring on a customer specimen in a FISCHER application laboratory.

User on-site training

With our training program we make your employees fit on-site for your measuring task. Our trainer takes account of your individual requirements and wishes.



User training for the DUMSCOPE FMP100 on-site or at the customer's

Seminars

Because we want you to receive maximum benefit from our products, FISCHER's experts are happy to share their application know-how. The seminars not only teach metrological basics but also hands-on experience in small groups to put the theory into practice.



A FISCHER seminar teaches metrological basics and practical knowledge in small groups.

FISCHER Worldwide

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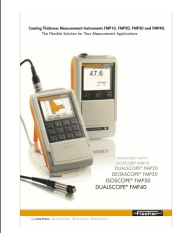
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Documents / Resources

	<p>Fischer Coating Thickness Measurement Instruments [pdf] User Manual Fischer, Coating, Thickness, Measurement, Instruments, FMP10, FMP20, FMP30, FMP40</p>
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