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| Probe model | FTA3.3H | ETA3.3H |
| Part no. ¹ | 604-142 | 602-128 |
| Applications | Measures the thickness of electrically non-conducting coatings on non-ferrous metal base material (NC/NF). Very damp sensitive: Not suited for measurements on damp (acidic) surface soilings. | |
| Examples | <p>Non-ferrous metal base materials (NF)</p> <ul style="list-style-type: none"> • Paint, varnish or plastic coatings on aluminium, copper or brass (NC/NF) <p>The probes have a patented conductivity compensation feature so different electrical conductivities (particularly various aluminium alloys) have no effect on the coating thickness measurement.</p> | |
| Probe design | <ul style="list-style-type: none"> • Single tip axial probes with spring-loaded measuring system • Robust probe design with wear-resistant probe tip | |
| Applications | NC/NF | |
| Measurement range | Non-ferrous metal base materials (NF) 0 ... 1200 µm / 0 ... 47.24 mils | |
| Trueness | Non-ferrous metal base materials (NF) | |
| based on Fischer factory calibration standards | 0 ... 67 µm: ≤ 1 µm 67 ... 800 µm: ≤ 1.5 % of nominal value 800 ... 1200 µm: ≤ 3 % of nominal value | 0 ... 2.64 mils: ≤ 0.04 mils 2.64 ... 31.50 mils: ≤ 1.5 % of nominal value 31.5 ... 47.24 mils: ≤ 3 % of nominal value |
| Repeatability precision | Non-ferrous metal base materials (NF) | |
| based on Fischer factory calibration standards 5 single readings per standard | 0 ... 100 µm: ≤ 0.4 µm 100 ... 1200 µm: ≤ 0.4 % of reading | 0 ... 3.94 mils: ≤ 0.016 mils 3.94 ... 47.24 mils: ≤ 0.4 % of reading |
| Influence | Aluminium base material | |
| | <p>The following values are valid for a coating thickness with a nominal value of 75 µm / 2.95 mils. The quantity of influences are stated with the expanded measurement uncertainty U with the expanded factor of k = 2 (defines an interval with the confidence level of 95.45 %) - according to ISO/IEC Guide 98-3:2008-09 "Guide to the expression of uncertainty in measurement".</p> | |
| Curvature (R), measurement error from nominal value with reference to master calibration on flat surface | | |
| Measuring spot | <p>No measurement error within the trueness as of R = 224 mm ± 37 mm / R = 8.8 " ± 1.5 "</p> <p>Measurement error of 10 % for R = 29 mm ± 1.3 mm / R = 1.14 " ± 0.051 "</p> <p>Probe requires a minimum of R = 9 mm (support stand necessary) / R = 0.354 "</p> | |
| Curvature (R), measurement error from nominal value with reference to master calibration on flat surface | | |
| Measuring spot | <p>No measurement error within the trueness as of 204 mm ± 33 mm / R = 8.0 " ± 1.3 "</p> <p>Measurement error of 10 % for R = 27 mm ± 2.3 mm / R = 1.06 " ± 0.09 "</p> <p>Probe requires a minimum of R = 1 mm (support stand necessary) / R = 39.37 mils</p> | |
| Edge distance (R), specification from probe tip center, measurement error from nominal value | | |
| Measuring spot in the center of the circular surface | <p>No measurement error within the trueness as of R = 1.93 mm ± 0.04 mm /</p> <p>R = 75.98 mils ± 1.57 mils</p> <p>Measurement error of 10 % for R = 1.43 mm ± 0.03 mm / R ≤ 56.30 mils ± 1.18 mils</p> <p>Probe requires a minimum of R = 1 mm (support stand necessary) / R = 39.37 mils</p> | |
| Edge distance (X), specification from probe tip center, measurement error from nominal value | | |
| Measuring spot = Probe pole center | <p>No measurement error within the trueness as of X = 1.1 mm ± 0.1 mm /</p> <p>X = 43.31 mils ± 3.94 mils</p> <p>Measurement error of 10 % for X = 0.75 mm ± 0.03 mm / X = 29.53 mils ± 1.18 mils</p> | |

Influence Aluminium base material

The following values are valid for a coating thickness with a nominal value of 75 µm / 2.95 mils. The quantity of influences are stated with the expanded measurement uncertainty U with the expanded factor of k = 2 (defines an interval with the confidence level of 95.45 %) - according to ISO/IEC Guide 98-3:2008-09 "Guide to the expression of uncertainty in measurement".

Base material thickness (D), measurement error from nominal value

Measuring spot  No measurement error within the trueness as of D = 84 µm ± 11 µm / D = 3.3 mils ± 0.43 mils
Measurement error of 10 % for D = 21 µm ± 0.6 µm / D = 0.827 mils ± 0.023 mils

Base material Influence of the el. conductivity of the base material (NF) in the range from 30 to 100 % IACS: Measurement error ≤ 2 %, valid for the total measurement range.

Admissible ambient temperature at operation -10 °C ... +40 °C / +14 °F ... +104 °F

Admissible specimen temperature max. +40 °C / max. +104 °F

Probe tip material Hard metal

Probe tip replaceable No

Probe tip radius 1.2 mm / 0.05 "

Measuring method Amplitude sensitive eddy current method according to ISO 2360, ASTM D7091

Scope of delivery Probe, metal plate ISO/NF for instrument check, calibration foil set 605-415

Support stand adapter 600-796, included with support stand

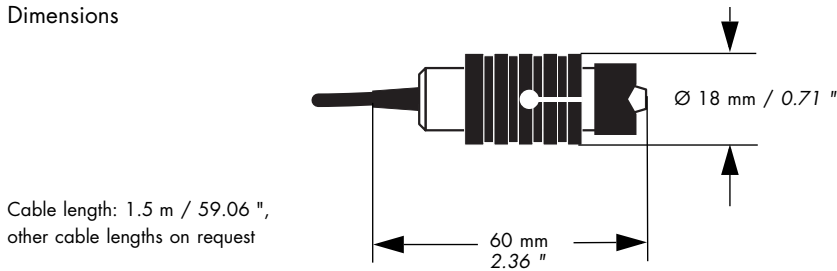
Options

- Calibration foils: Calibration foils: Various foil thickness are available up to up to 700 µm / 27.56 mils
- Master Calibration Set 602-204 includes 4 calibration foils

FTA3.3H works with All DUALSCOPE® and ISOSCOPE® hand-held instruments of the series FMP and the bench top instruments FISCHERSCOPE® MMS® PC and FISCHERSCOPE® MMS® PC2 with module PERMASCOPE® F-Probes

ETA3.3H works with All DUALSCOPE® and ISOSCOPE® hand-held instruments of the series MP and the bench top instruments FISCHERSCOPE® MMS®, FISCHERSCOPE® MMS® PC and FISCHERSCOPE® MMS® PC2 with module PERMASCOPE® E-Probes

Dimensions



¹ FTA3.3H and ETA3.3H probes with special cable lengths have own part no. and probe model names. This data sheet also applies to these probes.



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