

# The Probe

KK&S INSTRUMENTS - October / December 2012 Issue



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# Front Page - Portable X-Ray

## GILARDONI MHF Portable X-Ray

### Model MHF 200

The Gilardoni MHF 200 operates up to 200kV and is capable of penetrating 42mm Fe for directional and 32mm for panoramic with the following parameters: Density:2.0, Exposure:10 minutes, FFD:700mm, Kodak:AA 400 film.

#### MONOBLOC TECHNICAL FEATURES

**Gilardoni S.p.A.** has consistently invested in technological research, always finding innovative solutions to clients needs and has constantly strived to be on the forefront of X-ray technology. As a result of their expertise we are pleased to introduce this new series of high performance portable X-ray generators.

**The MHF series** has been designed for use in the field. With a dedicated keyboard, backlit LCD display and microprocessor command management, the units are extremely simple to use.

Relevant features of the **MHF series** are the elevated power of the metal ceramic tube and low ripple as required by industrial radiography applications.

The new design makes the **MHF** monoblocs not only easy to use but also extremely reliable. The new trolley makes transportation and positioning the unit even more convenient.



#### CONTROL UNIT TECHNICAL FEATURES

- Microprocessor controlled
- Automatic identification of tube head model
- Automatic pre-heating
- Current and voltage stabilization at X-ray tube
- Timer: from 0 to 99' 59" with 1" steps
- kV pre-reading
- Double X-ray start button to prevent accidental operation
- Safety features: door, thermostat, main circuit breaker, overload protection on the primary circuit
- Optional doubling of X-ray cable length
- Protection : IP 54

For further features or a price, reply to this email or contact us on  
02 88503755 or [www.kks.com.au](http://www.kks.com.au)

# Special - Free Calibration

Coating Thickness Measurement Instruments FMP10, FMP20, FMP30 and FMP40.  
The Flexible Solution for Your Measurement Applications

**Purchase a FMP Coating Thickness Gauge**

**October 1<sup>st</sup> to December 21<sup>st</sup>**



**& Get FREE Calibration!**

**A Saving of up to -**  
**\$525.00**

DELTA SCOPE® FMP10  
ISO SCOPE® FMP10  
DUAL SCOPE® FMP20  
DELTA SCOPE® FMP30  
ISO SCOPE® FMP30  
DUAL SCOPE® FMP40

**fischer**

Coating Thickness Material Analysis Microhardness Material Testing

For orders reply to this email or contact us on 02 88503755 or [www.kks.com.au](http://www.kks.com.au)

## News – New Models

We are pleased to announce the newest members of the FISCHERSCOPE X-Ray family – the instruments XAN 220 and XAN 250.

For the first time one of the new instruments will be displayed at Control exhibition in Stuttgart. The official market launch will be announced in a few weeks with the relevant technical and commercial data.

The **XAN 250** is a **Universal High Performance** analysis instrument. With electrically changeable apertures and primary filters, the **XAN 250** can accurately determine elements in the range of Aluminium to Uranium. The applications range from trace analysis in toys to determination of coatings in electronics.

The **XAN 220** is specifically designed for the **Gold Market**, the XAN 220 will provide significantly increased technical performance. It is optimized for fast, non-destructive analysis of jewellery, precious metals, yellow and white gold, platinum, silver, rhodium and all jewellery alloys and coatings. Used the **XAN 220** can deliver excellent results, all without harming the sample.



**Key technical features of both instruments are;**

- Micro-focus X-ray tube
- Larger new high-resolution silicon drift detector (SDD)
- USB camera, thus avoiding the need of a PC Frame Grabber Card
- Start button relocated at the front.



Fig. 4: Measurement of magnetic particle concentration according to AMS 3044 / ASTM D 56

**Karl Deutsch offer their;  
ASTM Centrifuge Tube with  
0.5 Scale.**

To accurately inspect a fresh batch of Inspection Agent for correct concentration.

Part No.: Glass 6901.001  
Stand 9804.001

Have any questions or like a price, contact us on -

Ph 02 88503755 - [contact@kks.com.au](mailto:contact@kks.com.au) - [www.kks.com.au](http://www.kks.com.au)

## Application – Paint on Zinc on Steel

### Duplex Measurement of Paint/Zn/Fe PHASCOPE® PMP10 DUPLEX

The roof of a home is exposed to very harsh weather conditions over many years. To avoid corrosion and guarantee the longevity of steel sheet roofing, the coating of the steel must be of the highest quality. The coating structure is typically built up of three layers of lacquer over a basic Zinc coating.



Figure 1: Layered coating structure of coated steel sheets used for the manufacture of roofing: steel base material (green), zinc coating (light blue), protective layer (dark blue) and 2 layers of Paint (yellow, red).

The norm PN-EN 508 – 1.2010 defines the minimum requirement of 275 g/m<sup>2</sup> zinc coating for such roof coverings. On top of the galvanization there are different types of Paints available for use, which, together, determine the coating's final scratch resistance.

Steel sheet roofing materials coated in gloss or matte polyester typically have inner Paint layers measuring between 27-38 µm. They are considered "thin-layered coatings" and are generally covered by a written guarantee of 10 years.

However, the most highly recommended types have "thick-layered coatings" with an inner lacquer layer 50 µm thick, which gives the steel sheets greater resistance to corrosion and mechanical damage. These high-quality products, such as those provided by the Polish manufacturer BUDMAT®, can be warranted for 30 years.

Duplex measurements are taken from each production batch and automatically recorded from the host computer – a total quality philosophy. A quality certificate is provided with each delivery.

Because the PHASCOPE® PMP10 DUPLEX instruments are designed for mobile use, it is also possible to test the coating quality of existing roofs.

A characteristic of these sheets is their increased resistance to the kinds of frictional strain to which a roof is often subjected, such as frozen snow, or during assembly. The surface layer contains polymer or ceramic grain which prevents surface scratching. During the manufacturing process the coated steel sheets are measured with the PHASCOPE® PMP10 DUPLEX. This instrument uses two different electromagnetic measurement methods to determine the thickness of the paint and zinc layers in a single measurement process and displays the results separately: The magnetic induction method is used for measuring the overall thickness of the paint and zinc on top of the ferrous base material, whereas the phase-sensitive eddy current method is employed for measuring just the zinc coating, irrespective of overlying paint layers. The thickness of the paint layer is calculated automatically as the difference between these two results.

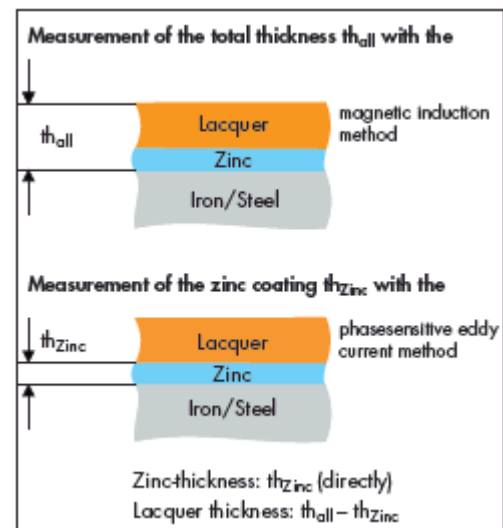


Figure 2: Principle of duplex measurements

\* For Non Galvannealed Zn Coatings

Have any questions or like further details, contact us now !

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