Eddy Current Technology

eddyliner® digital S

Digital eddy current test instrument for one channel nondestructive testing of metal components, mass produced parts and semi-finished products according to the Preventive Multi-Frequency Technology (PMFT).

Testing for material properties such as hardness, case depth, structure, tensile strength, heat treatment or alloy.

www.ibgndt.ch

eddyliner® digital S

Selection of components - applications solved by ibg technology

The eddyliner digital S distinguishes itself with compact design and concentration on one channel structure applications with one coil at one location combining that with the well-known ibg test reliability and ease of operation. The ergonomic interface facilitates intuitive and simple operation via touch screen. All functions and test results are captured at a glance.

The eddyliner is based on the ibg system concept proven for decades. All coils and probes of the ibg system family can be used. The eddyliner is therefore recommended not only for the solution of new tasks but also as an upgrade for existing installations to be equipped with state-of-the-art eddy current technology.

Digital processing of the measuring signal with special processors immediately after the pre-amplifier guarantees highly stable test results.

Calibration with ibg's unique "good-part-only-concept" enables setup within a few minutes true to the motto: "Do you still calibrate or are you already testing?" An adequate number of good parts is recorded as reference parts. From the eddy current signals tolerance zones are automatically generated encompassing the metallurgical magnetic fingerprint of the group of good parts for all PMFT test frequencies. After recording of good parts, testing can be immediately started. Faster starting yet more reliable eddy current testing is not possible.

Product features

- **Tolerance zones**
  When recording material data the eddyliner automatically generates elliptical tolerance zones for a reliable test. A tolerance zone editor is integrated for special applications enabling the skilled user to freely define the zones in rectangular or elliptical form.

- **Harmonics analysis**
  In addition to the eight fundamental test frequencies, two harmonics (2nd to 9th harmonic selectable) for each test frequency can be turned on and simultaneously evaluated without increasing the test time.

- **Histogram**
  The ibg multi-coloured histogram displays the test results of all reference data. The last 100 bad parts and up to 1,000 good parts can be observed at a glance and evaluated later, an essential function when reference parts are first recorded and afterwards crosschecked in the laboratory. Questionable NG parts, later found to be good, can be added to the reference parts with one keystroke.

- **Display of results**
  Test results are shown as bargraph, single ellipse or multiple ellipses, selectable.

- **Coils**
  A multitude of encircling coils up to a diameter of 500 mm as well as structure test probes are available for standard applications. Customised coils (i.e. ID coils and rectangular coils) for special applications are designed and manufactured in-house. Test coils may be connected either as ibg recommended compensating pair of coils or as self-compensating single coil. Monitoring of coil and cable failure as well as a 50/60 Hz noise suppression can be activated.

- **Activating test**
  Start of test can be manually at touch screen, via PLC or optional start button. There is an autostart function that detects the part in the test coil and activates testing immediately or after an adjustable delay time.

- **Test speed**
  High speed testing within milliseconds. Using eight test frequencies, a cycle rate up to seven parts per second with encircling coils and 25 parts with probes can be realised with standard settings.

- **Part type**
  100 part types with all settings and reference data can be stored in the device memory and switched over manually or via PLC for automated processes.

- **Data storage & transfer**
  Test results, part types and device settings are stored internally on a robust flash memory and can be exported via an USB stick or Ethernet connection. A ring buffer logfile records all actions and allows fast debugging for service purpose.

- **Automation without PLC**
  Direct control of sorting devices, paint marking systems or indicating lamps is possible with the integrated 24 Vdc (2.5 amps) power supply, providing a low-cost solution for small automated systems without an additional PLC

- **Remote control**
  The eddyliner is remotely operable by every network computer via VNC viewer software.

- **Access protection**
  The instrument provides a multilevel access authorisation concept that operates by pin code.

- **Help function**
  The user always has access to a context sensitive help function on the device screen which often renders a look into the manual unnecessary.

- **Languages**
  Included are: German, English, Spanish, French, Czech, Chinese, Hungary, Italian, Japanese, Korean and Russian. Other languages as option.

- **Screen**
  Tough 10.2” TFT touch screen, colour display, resolution 1,024 x 768 pixel, operable with gloves.

Rear side eddyliner S

Connections

- **IO-Ports**
  optically isolated interface for PLC connection with 32 Inputs and 32 outputs
- **Network**
  Gigabit Ethernet network interface
- **Printer**
  Commercially available printers may be connected via USB 2.0 or Ethernet to printout test results
- **XVGA**
  XVGA interface allows connection to a monitor or projector, an essential feature for training courses

Housing

- completely sealed and thus can be used in a dusty production environment
- desktop housing, inclinable by folding feet
- 19” rack installation as option

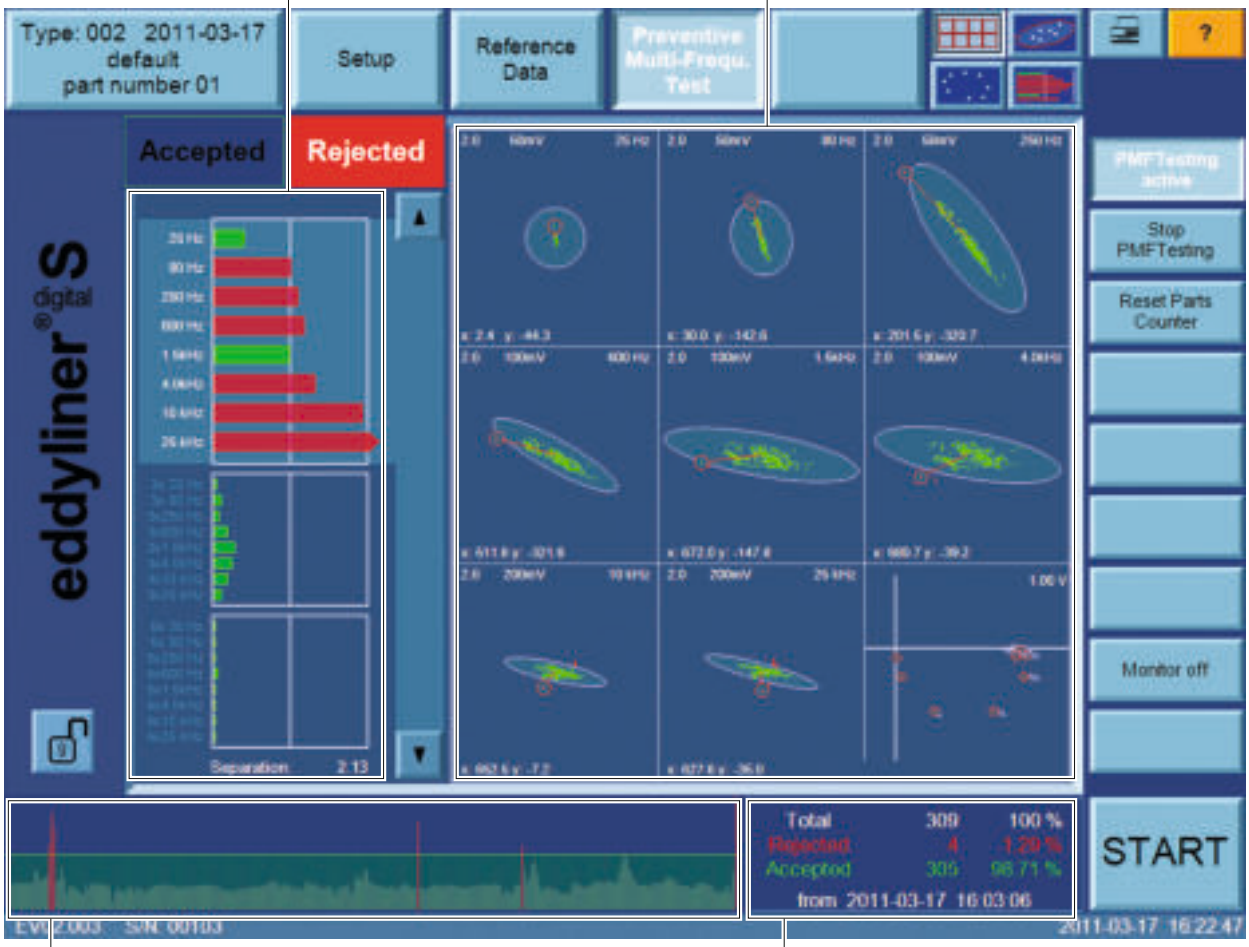
Technical Data

Mains: 100 – 240 V, 50/60 Hz
Protection class: IP 41
Ambient temperature: 0 – 45 °C
Relative humidity: max. 85 %, non condensing
Dimensions (w x h x d): 304 x 229 x 200 mm
Weight: 6 kg

High testing accuracy, sensitivity and temperature stability – a broad range of coils and probes provides excellent results in structure testing.

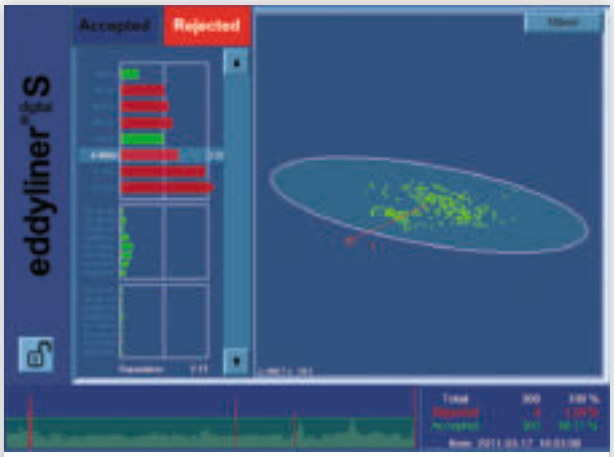
Bargraph display of the latest test result of the eight fundamental wave frequencies (large) and the third and fifth harmonic (small).

Survey of all test results of the eight fundamental wave frequencies in the relating tolerance zone.



Test result history

Parts counter



Single ellipse display of all test results at one fundamental wave frequency

Bargraph display of the test result

ibg

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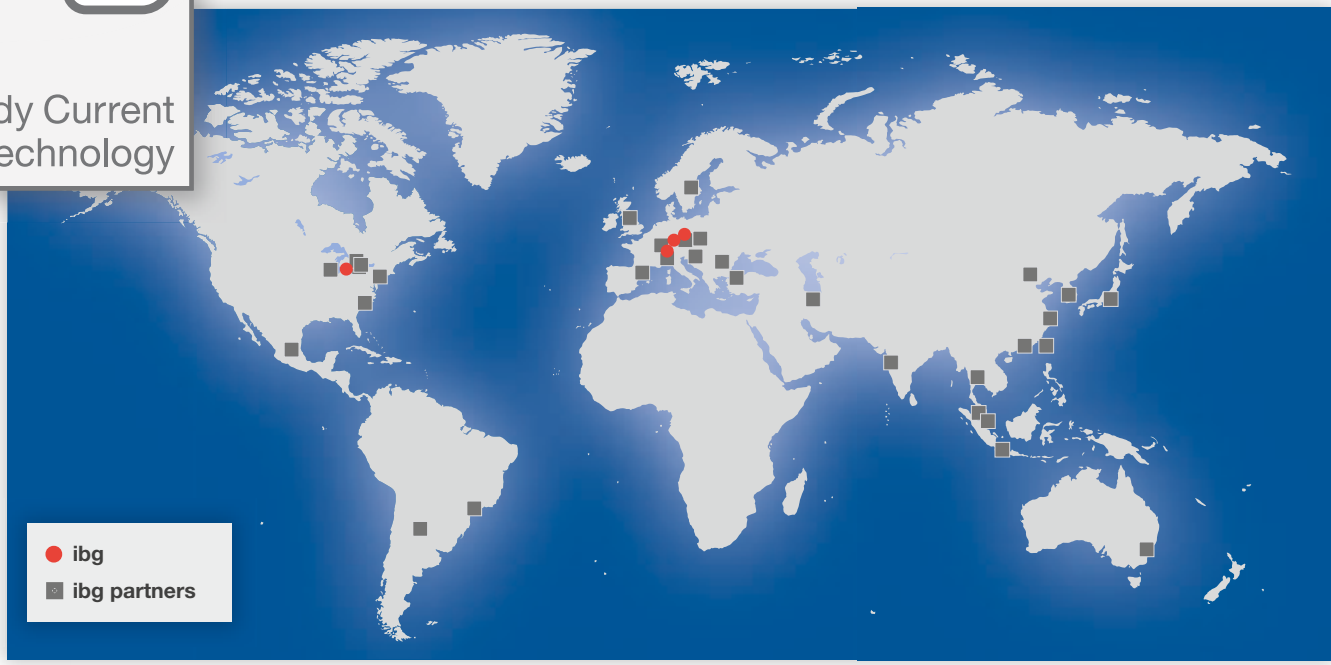

Instruments

Coils and Probes

Automation

For more than 30 years, the ibg group has been a market leader manufacturing eddy current test instruments and setting technology standards. Whether for multi-frequency structure verification, automatic tolerance zone generation or multi-filter crack and grinder burn detection – again and again innovations and inventions of the ibg developers shape the market and provide advanced testing solution.

The headquarters is situated in Ebermannstadt, Upper Franconia, and together with subsidiaries in the US, Switzerland and the Czech Republic as well as a competent worldwide partner network, we service our customers in industry and automotive engineering.

Quality Management DQS ISO 9001

Made in Germany

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