

Your Entry into Preventive Multi-Frequency Testing:

**eddynamic<sup>®</sup>**



Structure Test with eddynamic<sup>®</sup>:  
without compromising  
test sensitivity and test reliability

- Only OK parts required for calibration
- Preventive multi-frequency testing with 8 frequencies
- Automatic freak recognition
- Automatic generation of all 8 tolerance zones
- Easy to operate, even by semi-skilled personnel
- High-speed testing within milliseconds
- Maximum stability due to automatic self-calibration
- Maximum test reliability to find unexpected defects

The **eddynomic**<sup>®</sup> is an eddy current instrument specifically designed for versatility in production line testing for material mix, heat treatment (hardness, case depth, temper, etc.), sinter density and structure variations.

The **eddynomic**<sup>®</sup> is designed especially for general use in production and its principle of operation is based on ibg's preventive multi-frequency testing (PMFT). This method provides a far greater degree of reliability than single-frequency eddy current instruments.

Operation is supported by a full on-board computer and user-friendly software to simplify calibration and sort procedures. Use of leading edge electronic techniques makes extremely short testing times possible despite multi-frequency testing.

The **eddynomic**<sup>®</sup> is available in different mounting arrangements. Opto-isolated interfacing integrates the instrument into automatic inspection lines. For universal use the instrument is equipped with standard features such as displays and interfaces.

#### Preventive multi-frequency testing:

For calibration of the **eddynomic**<sup>®</sup> only OK parts are required. These reference parts are tested over a very broad frequency band (1:1000 bis 1:3000) with up to 8 frequencies. A typical impedance curve develops. Like a fingerprint it reflects the different features of material such as alloy and structure as well as scattering of the OK parts.

Due to its extremely easy operation the **eddynomic**<sup>®</sup> very quick proceeds from „calibration“ to „sorting“. Testing is also done with up to 8 frequencies. Subsequently, the instrument only decides on OK if all and every criteria corresponds to the known data. Unexpected deviations are automatically recognized and sorted out. Thus, test reliability is significantly higher compared to single-frequency testing.

#### Test Routine:

The test result is either „OK“ or „NOK“. It is shown by red or green sort indicator lamps and available at the optoelectronic interface.

After each test the integrated statistic evaluation is updated with numerical and percentage information.

#### Data Storage:

Up to 16 possible frequency band combinations may be selected for calibration purposes. Moreover, the same number of complete test set-ups may be stored for future access.

Each program set-up can be stored in a so called „Memory Plug“ (EEPROM). This Memory Plug is simply plugged in at the front panel and thus allows transmission of a test set-up to other **eddynomic**<sup>®</sup> units.

#### Documentation and Data Transfer:

The **eddynomic**<sup>®</sup> is equipped with a Centronics interface for communication with external printers to provide hard-copy print-outs of test results.

An RS232/V24 interface permits communication with separate main-frame computers to perform statistical analysis (SPC) of accumulated data.

#### Optically isolated interface:

This standard opto-isolated interface permits input of external control signals to the **eddynomic**<sup>®</sup> and transfer of sorting decisions to peripheral accessories. (Examples: test initiation via by light barriers, transfer of sorting decision to sorting gate, visual and/or acoustic alarm signals)

#### Coils and Probes:

Suitable coils and probes are available for all applications. Besides the wide range of standard accessories, coils and probes for specific frequency ranges and part dimensions can be made to meet customer's specification.

#### Case Options:

The **eddynomic**<sup>®</sup> is available in either the desktop version case (P/N 84100) or rack mount housing (P/N 84110).

#### Technical Data:

Test method:	Preventive multi-frequency testing with up to 8 test frequencies
Test frequency range:	5 Hz – 300 kHz
Test time:	8 ms/frequency (min.)
Display:	LCD-Display 24 mm x 74 mm, background lighting
Microprocessor:	16 bit $\mu$ P for maximum test speed
Standard interfaces:	Centronics printer-interface for documentation RS232/V24 computer interface opto-interface for system integration (PLC)
Mains connection voltage:	85 – 240 V AC, 50/60 Hz
Power requirement:	50 VA
Dimensions:	W 257 mm x H 147 mm x D 262 mm (desktop version)
Weight:	5 kg

(Technical data are subject to change without prior notice)

ibg Prüfcomputer GmbH  
Pretzfelder Str. 27  
D-91320 Ebermannstadt

E-Mail: [info@ibgndt.de](mailto:info@ibgndt.de)  
Fax: +49 (0) 91 94 / 73 84 - 10  
Tel: +49 (0) 91 94 / 73 84 - 0

