

# **eddyMax® - Control**

## **Eddy Current Inservice Tube Inspection System**

**TMT.**  
Test Maschinen Technik



## **The Complete Solution for Eddy Current In-Service Tube Inspections**

**10 Years Approved under Field Conditions**

**High Speed Inspection with Online Signal Analysis**

**Easy to Learn and Easy to Operate Software**

**Automatic Signal Analysing, Defect Detection  
and Defect Depth Evaluation**

**C-MEC Remote Field Option for Inspection  
of Ferromagnetic Tubing**

**WINDEVOS Powerful Data Documentation Software**

**Manipulator Control Option for Fully Remote Controlled  
Inspection of Heat Exchangers**

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### Multi-frequency digital eddy current instrument

The eddyMax®- Control is designed for fast in-service tube inspection. With this portable system a lot of advantages are brought to heat exchanger inspection activities.

### High Detection Capacity

Detection of wall thinning as the result of erosion, corrosion, wear, pitting, cracks and baffle cuts.

### Inspection of NFe and Fe Tubing

Inspection of non-ferromagnetic and ferromagnetic tubing in petrochemical, chemical and power generation plants.

### Manipulator Control

Inspection of tubing in high radiation or contaminated areas by fully automated remote controlled manipulator system.

### Easy to learn

The easy operation of the eddyMax®-Control in-service tube inspection system is ensured by the field approved components and the user friendly menu- and function-key-controlled software, which are permanently improved by our operators.



### Easy Parameter Setting

All parameter settings and configurations are done from the keyboard and can be individually stored and retrieved from hard or flexible disk.

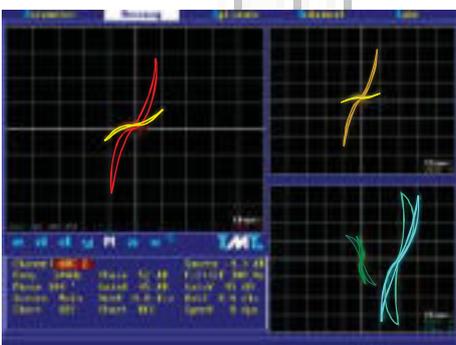
### Data Recording

Raw eddy current data is recorded as x- and y- components of each channel on hard disk. Intelligent data reduction algorithms ensures maximum use of storage capacity. For permanent storage the signals can be written to an optional installed optical disk drive.



### Coloured Real-Time Display

Coloured real-time display of x-y impedance plane and/or strip chart signals selectable from up to 4 signal channels and 6 independent mixer channels. Each channel may be assigned to any window, whereby in each window all available channels may be displayed at the same time.



### Hardcopy and Bitmap Function

This function allows the output of the actual impedance plane image including instrument settings either on matrix and PCL-compatible printers or in a BMP / TIF file for import purposes in other software programs.

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### Multi Mix Module

The innovative multi mix module with up to 6 free adjustable mixer channels allows very effective suppression of noise and disturbing signals e.g. baffle plate signals. Due to the automatic mix function the mixer is set within seconds by pressing only a single key.

### Calibration Curve Generation

The generation of calibration curves, the signal phase setting and phase grid display is done according to ASME-code or user defined requirements.

### Signal Analysis Software

The automatic signal analysing software module allows defect depth evaluation of differential signals either online during inspection or offline from stored signals. The data from up to 1000 defect signals per tube will be evaluated and stored directly.

### Computer Controlled Probe Handling

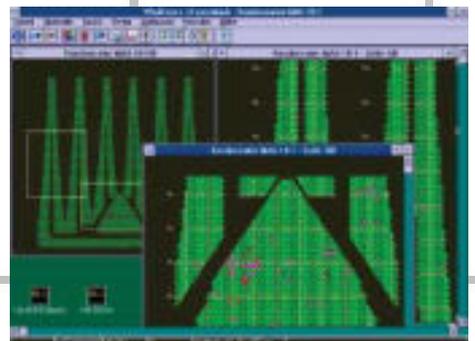
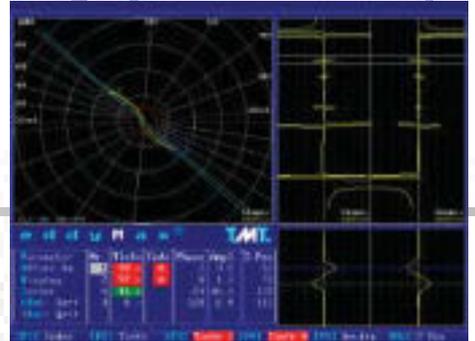
Complete remote operated computer controlled probe handling beginning with the HPP-2.V3 probe push-puller system up to a 3 axis manipulator system can be optionally included in the system.

### WINDEVOS Data Documentation Software

The powerful WINDEVOS data documentation software provides the perfect planning and result presentation of heat exchanger tube inspections under Windows. Several documentation works like graphic tube sheet map generation, report output, automatic plugging map calculation and output, statistics and automatic display of defect evolution are done by this software. The extended color and marking option menu allows customized result

### Inspection accessories

By a great number of probes for different inspection tasks, rotors for tubes and boreholes, software modules and other accessories the eddyMax -Control can be adapted to different inspection tasks in an optimal way and enables the user to fulfill a great variety of inspection



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## Eddy Current Inservice Tube Inspection System

### General Specification:

Size	:	46 cm × 40 cm × 15 cm (without CMEC extension)
Weight	:	13 kg (without CMEC extension)
Environmental	:	0° C to +50° C operating ambient temperature

### Eddy Current :

Frequencies	:	up to 4 frequencies, fully adjustable from 10 Hz to 2,5 MHz
EC channels	:	1 coil - up to 4 frequencies, non-multiplexed 2 coils - 2 frequencies, non-multiplexed (expanded config.) 4 coils - 1 frequency (expanded configuration)
EC coil driver	:	single coil driver, -40 dB to 8 dB adjustable up to 4 coil drivers, independently adjustable (expanded configuration)
EC preamplifier	:	single preamplifier, 0 dB to 78 dB adjustable up to 4 preamplifiers, independently adjustable (expanded configuration)
Probe connector	:	Sub-D 9 pin, supports all standard differential and absolute as well as rotating probe configurations. (adapter cable or adapter box may be required)
Inspection speed	:	up to 1,5 m per second
Signal evaluation	:	3 automatic mix channels, analysis software module PC-MSA.01 (basic configuration) 6 automatic mix channels, analysis software module PC-MSA.02 or PC-ASA.01 (expanded configuration)

### CMEC Remote Field Eddy Current Extension (option) :

Frequencies	:	up to 2 frequencies, fully adjustable from 10 Hz to 20 kHz
Booster	:	output current adjustable 0 A to 2 A
Receiver coil amplifier	:	
Multiplexer (option)	:	16 receiver coils

### Extensions and Accessories :

WINDEVOS data documentation software  
RotoScan software for tube inspection with rotating probes  
Electrical and air driven probe push puller systems  
Manipulator systems  
Internal probes for **conventional, remote field and magnetic biased** ec testing  
Rotating probes for internal tube inspection  
Test and calibration standards