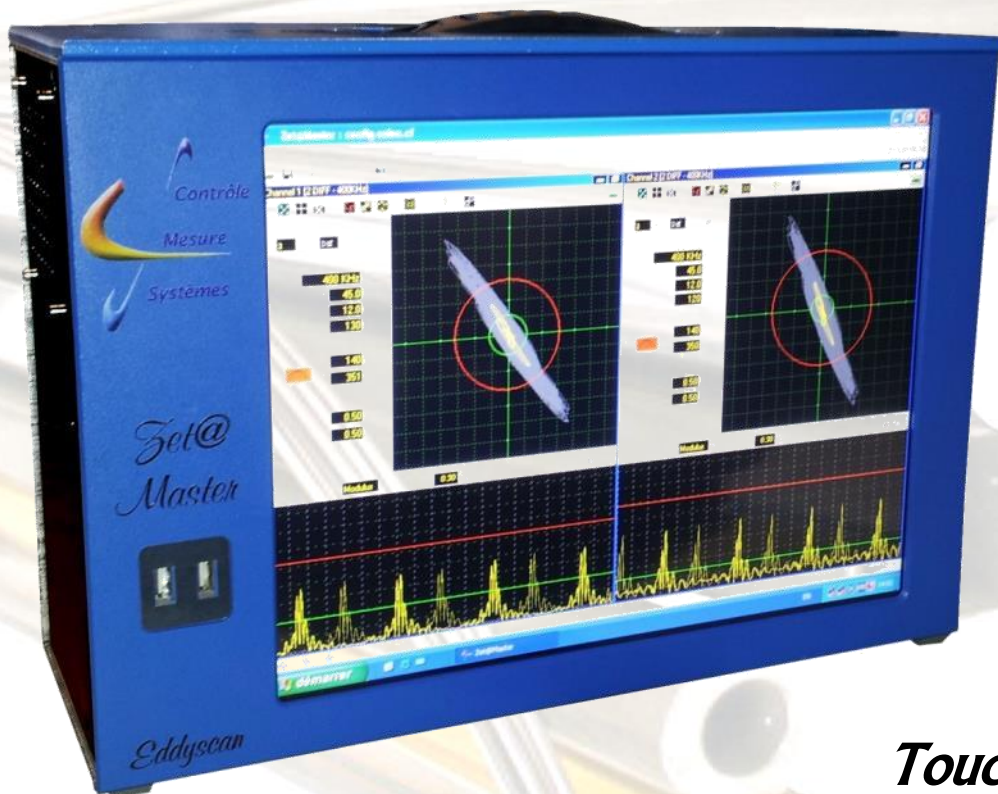


Eddyscan Zet@Master

***The most powerful Eddy current
instrument for flaws detection***

Innovation

Self sufficient



Touch screen

High technology

Remote assistance

Zet@Master is the powerful stand alone equipment of **CMS Zet@ range** in eddy current testing method. Multi channel and multi frequency, it allows the connection of several EC systems with only one unit to work in all configurations, on line or off line. It is able to drive several lines simultaneously.

Deduced for flaws detection on tubes (welded or not), wires, bars, strip and automotive parts, made of austenitic, ferrous and non ferrous steel metal.

Can be use also for heat treatment verification, exchanger tubes inspection, and many other requirements.



Inspection with bar rotation and translation by array probes



EC Inspection on multiple lines



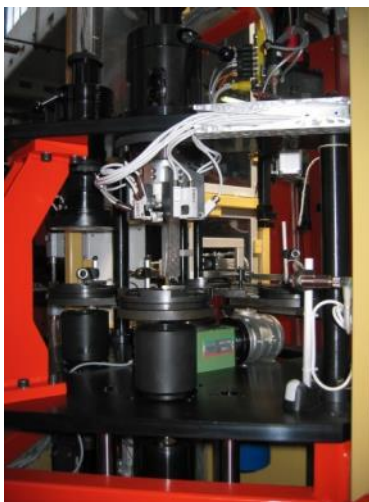
Inspection of electrical conductivity of aluminium alloys plates

His flexible configuration and the control of all peripheral devices, matched all the varieties of production lines, at high production speeds.



Inspection of hole and combustion chamber on a piston

Working with standard or customized softwares, **Zet@Master** is able to be adapted to individual applications.



Inspection of wheels spindle by EC array probes

The real time display of the process provides immediately the quality of the product detected. Analysis report for quality control management.

Its network connectivity enable a remote assistance from an external site.

Universal testing system, **Zet@Master** is reliable for all applications and normative requirements (ASTM, API, DIN, SEP...)

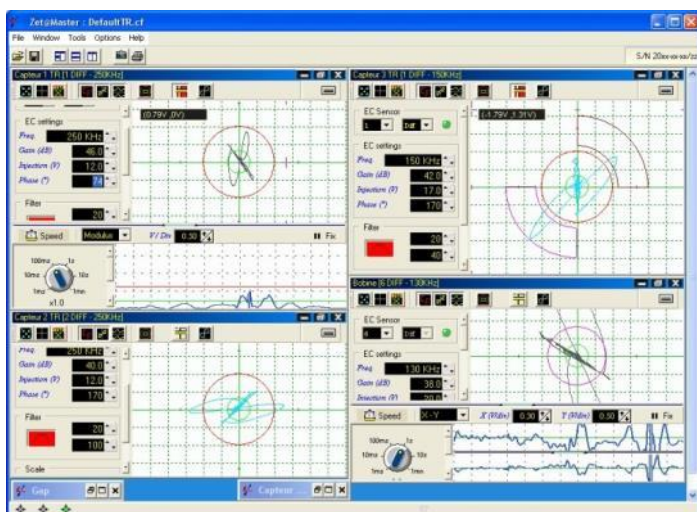


Full body inspection on tubes

TECHNICAL DATA OF ZET@MASTER TOUCH SCREEN

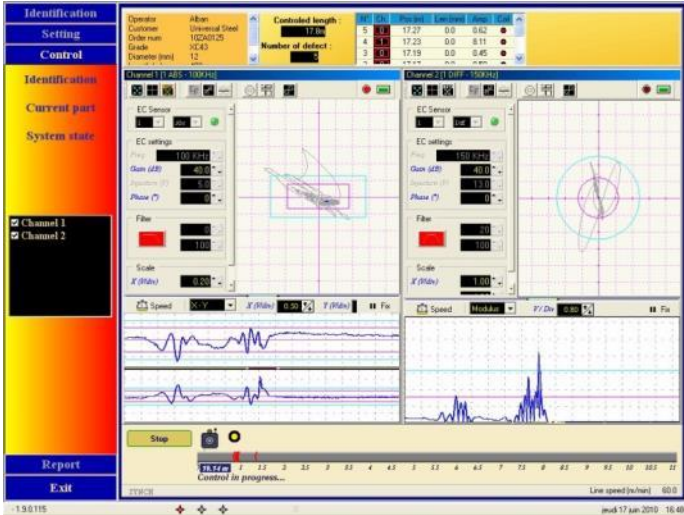
Housing	
Dimensions	H 425 x W 292 x D 176 mm Built for rack mounted in VME standard, mini cabinet or cabinet
Enclosure	IP 52
Color	RAL 5007
Power supply	100-240VAC / 50-60Hz / 150VA max
Weight	8 Kg standard
Permitted ambient temperature	0-45°C
Relative humidity	85% max – no condensation
Operation	
Connection to external PC	4 USB port for peripheral devices Monitoring and mouse drive through Ethernet TCP/IP network
Hardware	Windows® XP Pro environment, processor with 1 GHz, 512 Mb RAM – hard disk 120 Go minimum – 15" colors TFT touch screen
Sensor connection	
Coil monitoring	All CMS probes and coils. Other sensors can be adapted.
<i>Test channels</i>	Sensor auto-check. Voltage and failure indicated in the screen Multi channels (up to 16)
Excitation voltage	0,1 to 46V, 0.1 V tuning resolution
Test frequency	10 Hz to 10MHz, 1 Hz tuning resolution
Filters	Continuous filters High pass, low pass, band pass with adjustable severity and auto-filtering. 1 Hz tuning resolution
Gain	Tuneable in step of 0.5 dB / 80dB dynamic
Phase	0 to 360°, by step of 1 Hz
Evaluation and line	
Signal evaluation	Full circle evaluation and/or X/Y components
Defect trigger threshold	Up to 8 circular, rectangular and/or annular alarms by channel
Tests procedure	Testing with control on/off and continuous testing
Line speed/ Sampling frequency	Static to 200 m/s, depend on the coil geometry 120 KHz max
Line signals	Digital : 8 inputs, 12 outputs and 3 encoders 8 analog outputs
Marking	5 free outputs for marking, buzzer, cutter...
Sorting	7 sorting levels and outputs

User interface



Operation	
Operation protection	3 user levels, protected by password
Dialogue language	French, English Italian, Russian, Portuguese, other language possible
Status display	Displayed in production software included in Zet@Master
Message windows	In real time in the screen
Tests setting display	Unlimited
Setting	Unlimited, configuration files saved on hard disk
Multi line support	Yes
Signal display	
Display	Lissajou and/or time base Signal is given in less than 0,5 ms
Position	channels operation are displayed side to side
Displayed length	Adjustable
Event display	Position of defects are displayed for each channel Screen shots utility

Production software



Production software/Remote interface	
Identification	Up to 10 fields customized
Setting	Possibility to view and adjust setting from production software Access to GAP control panel Access to Input/Output test screen Parameters access permissions fully settable with 3 user level, protected by password
Calibration	Calibration screen Load pre-define calibration files Display and compare real signal with reference sample signal
Inspection	Lissajou and/or Time base display Real time display of inspected product with defect position Historical of inspected parts with positioning of detected defect Parameters access permissions fully settable with 3 user level, protected by password Possibility to change operator's name and/or batch number
Reports	Display of system parameters Inspection reports files (PV) stored in hard disk Display of EC settings and identification fields Display of calibration signal Display of inspection result : number of inspected parts, number of good/bad, list of all inspected part, list and position of detected defects (...) ReportViewer application with possibility to recall, display and print stored PV files.

Zet@Master

Inspection report

Control settings

EC Configuration : 20ms.cof

	Head-ABS	Head-CH1	Head-CH2	Head-CH3
Freq (Hz) :	270000	170000	150000	300000
Gain (dB) :	32	41	41	41
Phase (°) :	139	200	88	95
Injection (V) :	6	9	9	9

	Head-CH4	Unused	Coil-ABS-1	Coil-DIFF
Freq (Hz) :	300000	180000	180000	180000
Gain (dB) :	38	32	39	46
Phase (°) :	98	0	60	310
Injection (V) :	9	0	2	3,5

Dead Zone (mm) : Speed of the ligne (m/min) :

Input : 550 60

Output : 100

Control result

Checked part(s) : 5 Control start date/hour : 21/12/2006 15:45:57

Good part(s) : 1

Bad part(s) : 4 Control end date/hour : 21/12/2006 15:55:52

Thousand ratio : 5000

Identification

Operator : Geo139

Customer : Universal Steel Material : XC18

Order N° : J07-A478-01 Diameter : 11

Checked part(s) : 5 Control start date/hour : 21/12/2006 15:45:57

Good part(s) : 1

Bad part(s) : 4 Control end date/hour : 21/12/2006 15:55:52

Thousand ratio : 5000

1 :

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Zet@Master

Inspection report

Defects list (value in mm) :

N° Captor	Alarm	Position	Length	Equipment
6	1	1540	3	Coil1
6	1	2381	3	Coil1
6	1	2397	10	Coil1
6	1	2419	10	Coil1

3 :

Defects list (value in mm) :

N° Captor	Alarm	Position	Length	Equipment
6	1	2325	0	Coil1
6	1	2356	0	Coil1
6	1	2400	0	Coil1
6	1	2419	3	Coil1

4 :

Defects list (value in mm) :

N° Captor	Alarm	Position	Length	Equipment
6	1	2413	0	Coil1

5 :

Defects list (value in mm) :

N° Captor	Alarm	Position	Length	Equipment
6	1	2423	0	Coil1

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Options	
Housing	Blind : H 320 x W 165 x D 320 - IP52 + 6 Kg Mini cabinet : H 850 x W 800 x D 700 IP54 + 70 Kg with air conditioner Cabinet : H 1700 x W 600 x D 800 IP54 + 100 Kg with air conditioner
Remote assistance	Everywhere in the world, over Internet or dedicated modem. Visualization of the instrument's screen from CMS factory. Assistance to adjust or verify a setting. Upload and update software. Assistance to backup the system
Input	2 Analog inputs
Amplifier	Output amplifier
Filter	Automatic filter adjustment
Density factor	Calculating of defect density per unit length. Interesting to appreciate quality of the product and find small longitudinal defects
<p>Acquisition and Recordviewer software</p> <p>Acquisition : Allows recording inspection measures for later printing. Measures are stored on hard disk. Storage and recall signals when alarms.</p> <p>Recordviewer : Signal processing, Signal analysis</p>	