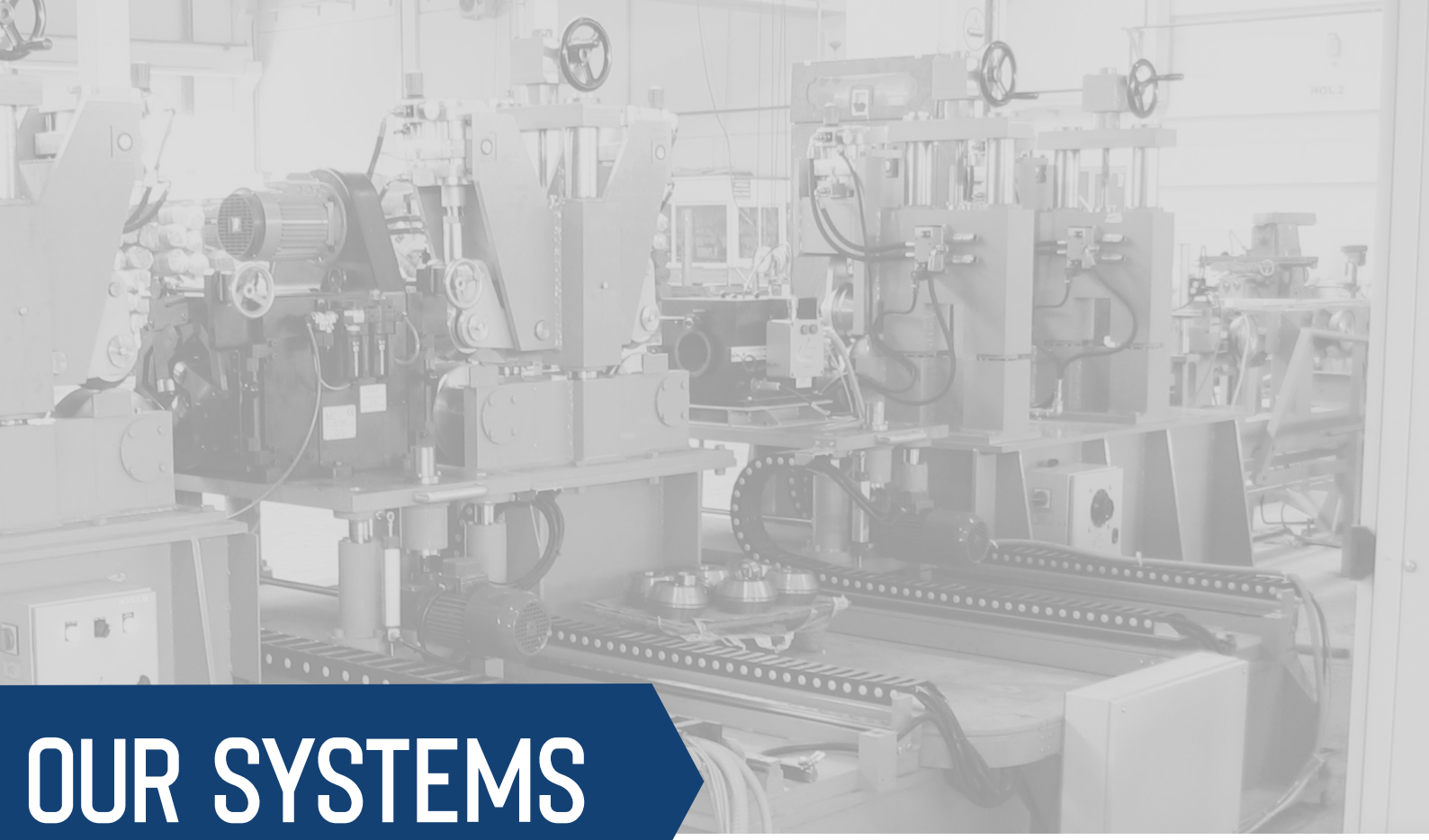


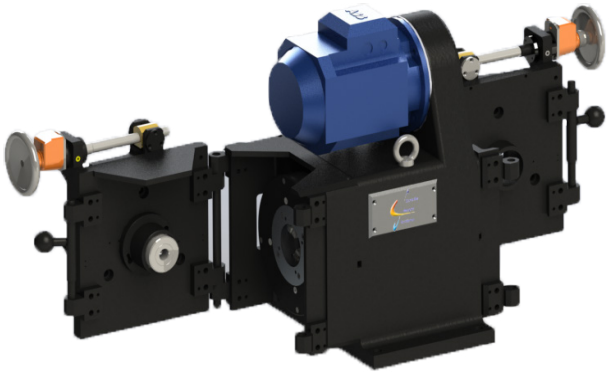
OUR SYSTEMS

- ROTATING HEADS ROTOETSCAN
- ROTATING SYSTEMS
- MAGNETISING UNITS
- SECTORIAL MAGNETIZING UNITS
- DEMAGNETIZING UNITS
- SUPPORTS COILS
- SEGMENTAL SUPPORTS COILS

ROTATING HEADS ROTOETSCAN

THE ROTATING HEAD ROTOETSCAN ALLOWS DETECTION OF LONGITUDINAL SURFACE OR SUB SURFACE DEFECTS AT HIGH SPEED AND ON REVOLUTION PARTS.

The rotating head is often installed directly on the production line.
It is generally dedicated to the control of long products such as tubes, bars and wires, made of ferrous or non-ferrous material.
It can also be used for inspection of small cynlindrical or for revolution parts (billets type).



MAIN ADVANTAGES

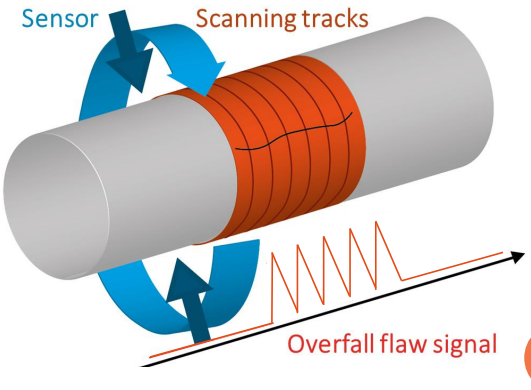
- High inspection : up to 6 m/s
- Transmission of the signal, contactless
- Electronic offset (GAP)
- Quick and easy change of probes (without special tool)
- Very short adjusting time
- Solid monobloc construction
- Minimum depth of detected defects: from 30µm
- No contact with the product
- Bearing temperature sensors
- Available with 2 or 4 channels

RANGE OF PRODUCTS

	Special TR VC	TR20	TR35	TR65	TR130	TR160	TR220
Reference	5100VC	5100SP	5100	5200	5300	5350	5400
Product diameter (mm)	0.8 to 10	4 to 25	5 to 35	6 to 65	14 to 130	20 to 160	40 to 220
Rotating speed standard version (rpm)	9000 Option : up to 18000	7300 Option : up to 18000	4200 Option : 9000	3000	2800	2500	2000
Rotating speed centrifugal closure plate (rpm)		4000				1600	1000

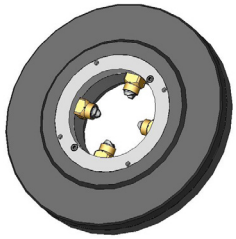
OPERATING PRINCIPLE

The product, in translation, passes through the rotating head.
Two or four EC probes inside the head are revolving around the product.
The inspection is carried out with a helicoidal step.
The results are displayed on the instrument screen in a time-base and/or a lissajou.



STANDARD EQUIPMENT

- Adjustable plate in diameter, 4 probes
- Input and output centering devices



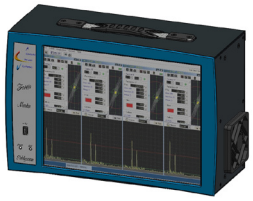
OTHER CONFIGURATIONS AVAILABLE

- Adjustable plate with 2 probes only
- Cassette for fixed diameter (economical solution)
- Plate with centrifugal closure (automatic closure on the product by centrifugal force)
- Digital display of the working diameter by laser measurement

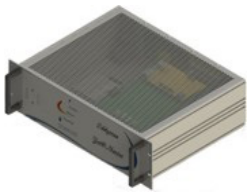
ASSOCIATED SYSTEM

ZET@MASTER

Zet@Master is available in different versions : standard with touchscreen or rackable.



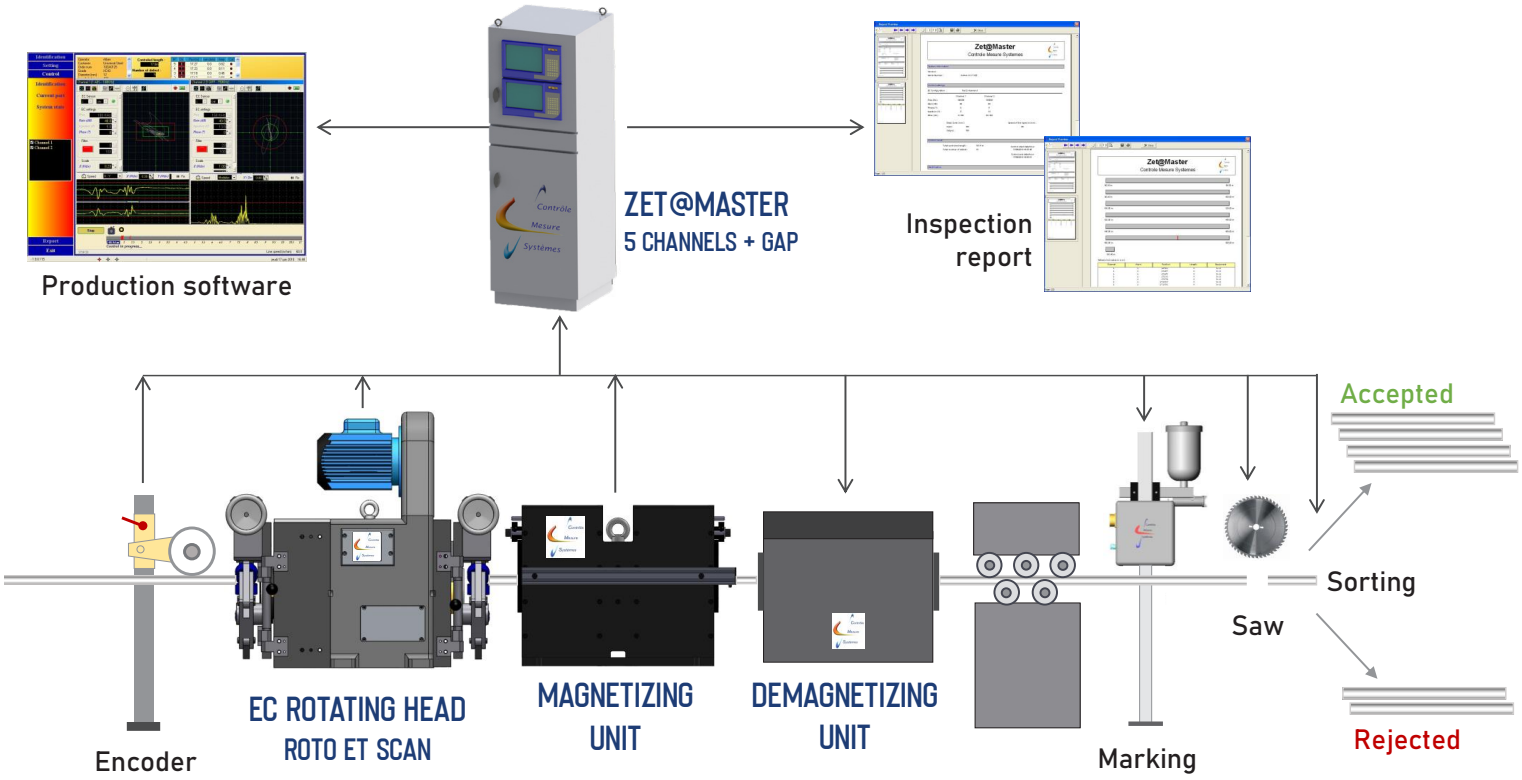
Standard



Rackable

CONFIGURATION EXAMPLE

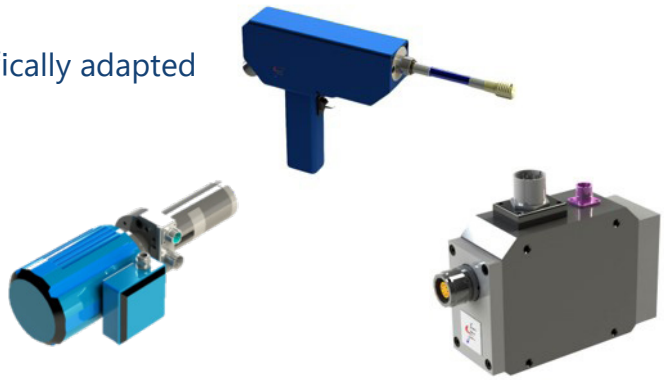
Detection of longitudinal and transversal defects on cool drawing line



ROTATING SYSTEMS

SYSTEMS DESIGNED TO PUT IN ROTATION EC PROBES TO DETECT INTERNAL AND / OR EXTERNAL DEFECTS.

The probes connected to this kind of system are specifically adapted to the inspected product.



MAIN ADVANTAGES

- Robust, modular and evolutive systems
- High speeds rotation
- Transmission of the EC signal, contactless
- Possible integration for on-line inspection (systems 5800 and 5810)

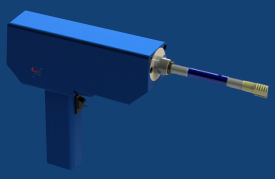
RANGE OF PRODUCTS

	Rotating gun	Rotating system	Rotating system ST
Reference	5500	5800	5810
Applications	Inspection on bore, thread and tube	Inspection on piston, bar, tube, rail	Inspection on cylindrical part, rail

5500

Rotating gun for small part inspection : checking of bore or thread.

Available in manual or industrial version.



5800

Rotating system 4 or 8 channels, manage by EC Equipment, Zet@ Master or Zet@Premium regarding the number of required channels.

It is dedicated especially to internal tube control, piston inspection (bore and combustion chamber).
It can be coupled to rotating discs for surface inspection on tubes and rectangular bars.

5810

Rotating system dedicated to internal and/or external cylindrical parts or rails.

OPERATING PRINCIPLE

The rotating system carries in rotation the EC probes on the surface or inside the product inspected.
The systems provide power and retrieval contactless probes inspection.
It assure the excitation of the sensors and allows the transmission, contactless, with the signals between Rotor and Stator.

STANDARD EQUIPMENT

- **System 5500**
  Connection to special EC probes, designed to the geometry of the part
  Manual (with handle) or industrial version
  Axial encoder (optionnal)

- **System 5800**
  4 or 8 channels
  Connection to special EC probes, designed to the geometry of the part
  Possibility to adapt rotating disks
  Possibility to integrate the system on production line

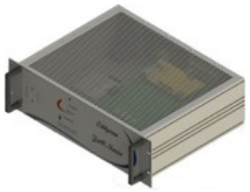
- **System 5810**
  Connection to special EC probes, designed to the geometry of the part
  Assembled on a trolley for rail inspection or for cynlindrical parts.

ASSOCIATED SYSTEMS

ZET@MASTER, ZET@PREMIUM

Our instruments are available in different versions : standard with a touch screen or rackable.

Standard

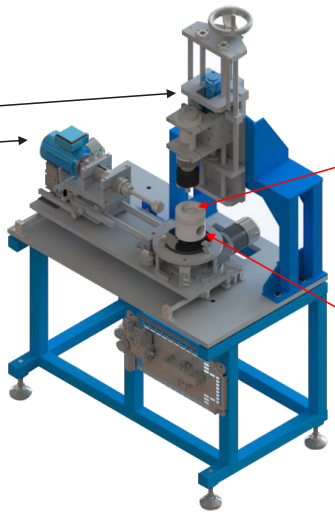


Rackable

CONFIGURATION EXAMPLES

Control bench for piston inspection : checking of bore and combustion chamber

Systems 5800

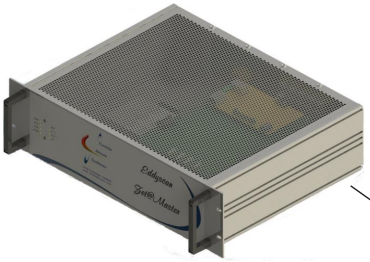


Combustion chamber inspection

Piston bore inspection

ZET@MASTER
8 CHANNELS
IN AIR COOLING CABINET

Internal and/or external inspection of cylindrical

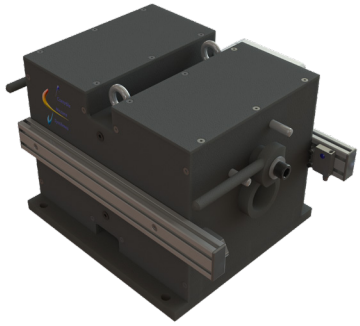


ZET@PREMIUM
RACKABLE
2 CHANNELS

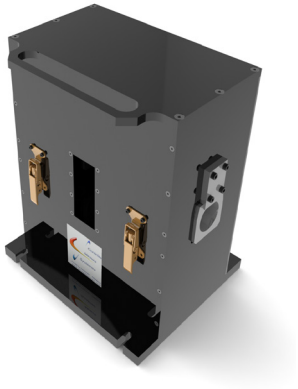
System 5810
Connected with an internal rotating probe

System 5810
Connected with an external rotating probe

MAGNETIZING UNITS



THIS INSPECTION BY MAGNETIC SATURATION AND ENCIRCLING COILS ALLOWS THE DETECTION ON FERROMAGNETIC MATERIALS ON SURFACE AND SUB SURFACE OF PUNCTUAL AND TRANSVERSAL DEFECTS.



This inspection is dedicated to the inspection of revolving products such as tubes, bars and wires.
The opening version allows the inspection of wires from 5 to 55 mm of diameter, and allows to put in line or off line the inspection device without having to stop or cut the continuous product.

MAIN ADVANTAGES

- Fast and easy change of inserts and guide sleeves
- 7 sizes available, covering diameters from 0,2 to 230mm
- Unlimited inspection speed
- Can be combined with a large range of CMS accessories
- Low maintenance
- Robust construction
- Adjustable field strength

RANGE OF PRODUCTS

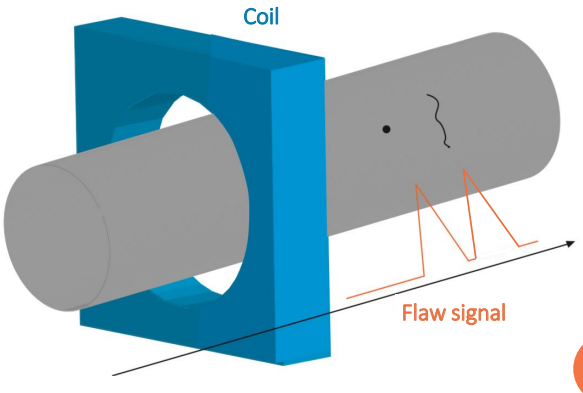
Monobloc version	Mag T1	Mag T2	Mag T2 SP	Mag T3	Mag T4	Mag T5	Mag T6
Range of diameter (mm)	0.2-18	1-44	1-55	1-100	10-140	5-180	50-230
Opening version	MoT1		MoT2				
Range of diameter (mm)	5-25		5-55				

OPERATING PRINCIPLE

The product, in translation, passes inside the magnetizing unit.
The EC encircling probe is located at its center.

In case of a defect detection, the impedance of the coil varies.

The result are displayed on the instrument screen, in a time-base



STANDARD EQUIPMENT

- Monobloc or opening magnetizing unit
- Guide sleeves adapted to the magnetizing unit
- Set of inserts

OTHER CONFIGURATIONS AVAILABLE

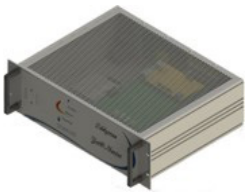
- Set of additional guide sleeves
- Set of additional inserts
- Probes adaptator
- Addition of a product detection cell on the system

ASSOCIATED SYSTEMS

ZET@MASTER, ZET@PREMIUM, ZET@MICRO

Our instruments are available in different versions : standard or rackable.

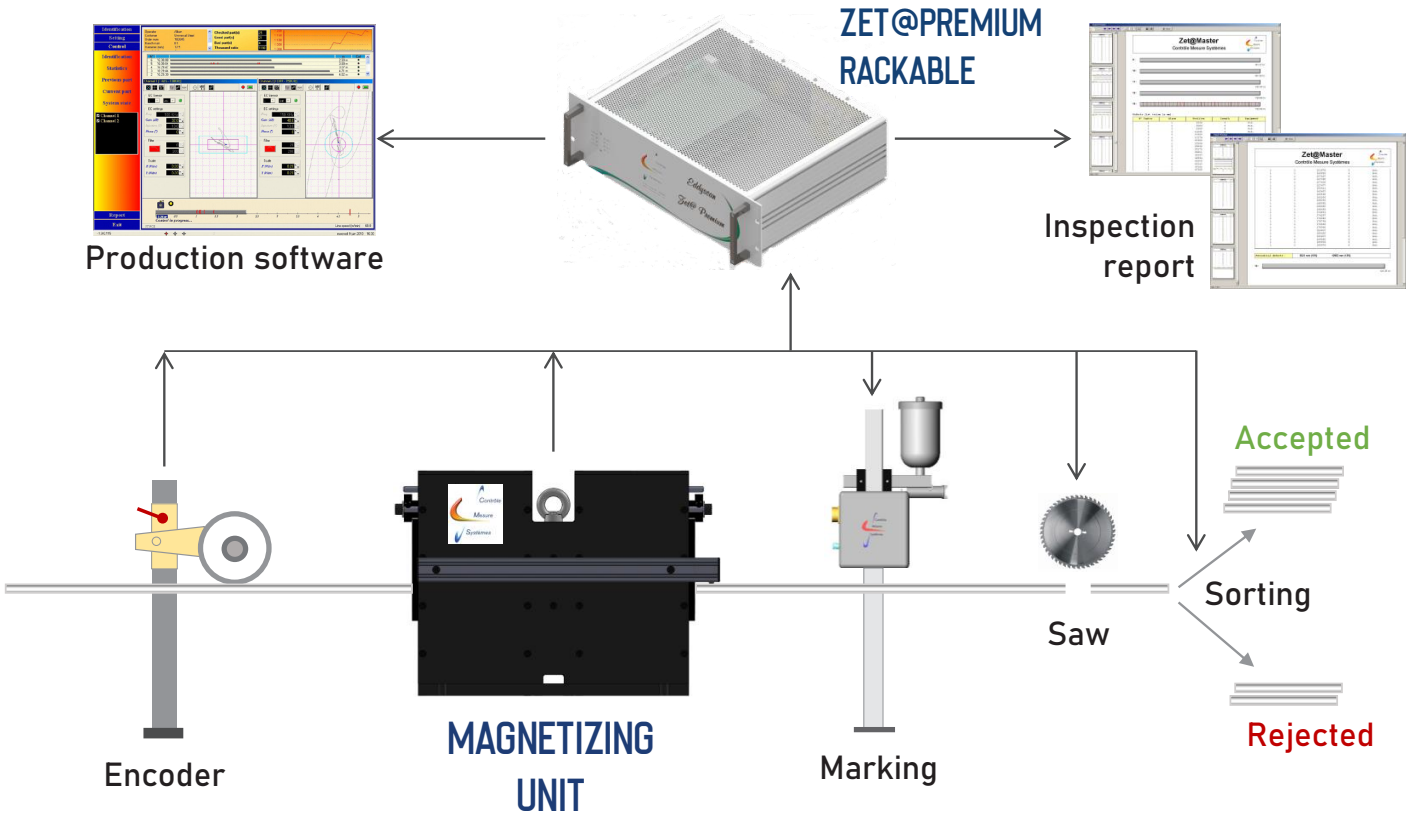
Standard



Rackable

CONFIGURATION EXAMPLE

Detection of transversal defects on precise tubes

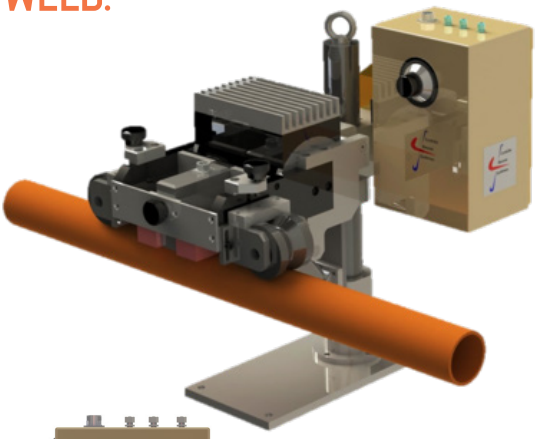


SECTORIAL MAGNETIZING UNITS

THIS TYPE OF INSPECTION ALLOWS TO DETECT ON WELD SMALL DEFECTS (HOLES AND CRACKS) OR TO IDENTIFY AN OPEN OR INTERRUPTED WELD.

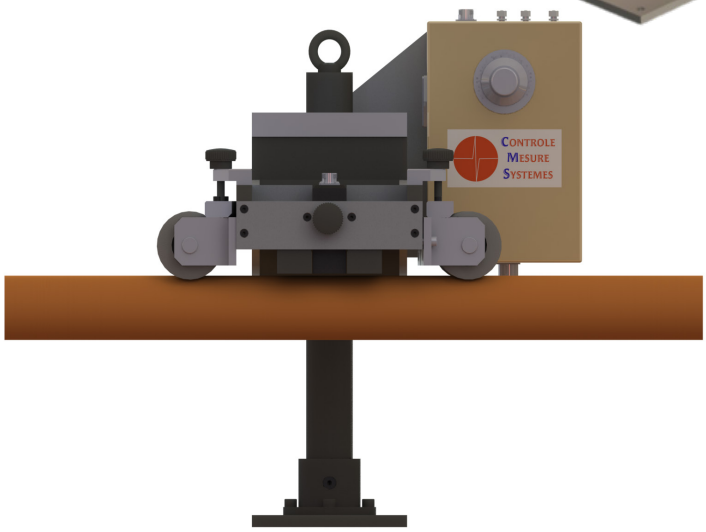
The sectorial magnetizing unit allows to inspect a precise area,
for example the welding of tubes.

It allows to detect long defects.



MAIN ADVANTAGES

- Easy integration into existing lines
- High sensibility
- High inspection speed
- Low maintenance
- Robust construction
- Adjustable field strength



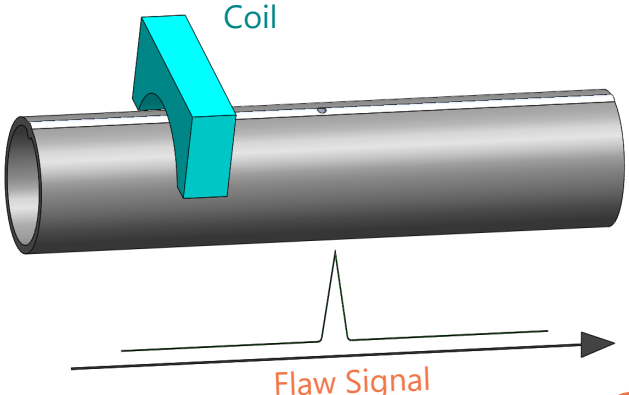
RANGE OF PRODUCTS

	Sectorial magnetizing unit Manual version	Sectorial magnetizing unit with pneumatic jack
Reference	6200	6250
Range of diameter (mm)	5-300	5-300
Product scroll speed	Unlimited	

OPERATING PRINCIPLE

The welded rolled tube passes under the sectorial magnetizing unit integrating a sectorial probe (differential and/or absolute), that follows the surface of the tube.

In case of a defect detection, the impedance of the coil varies and triggers a signal on the control screen.



STANDARD EQUIPMENT

- Magnetic saturation system with guidance tensioner
- Range of sectorial probes, adapted to the tube's diameter

OTHER CONFIGURATIONS AVAILABLE

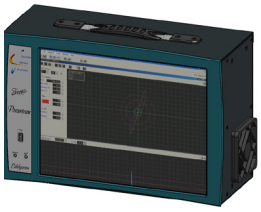
- Absolute segmental probe
- Demagnetizing unit for magnetic products
- Mecanic system without magnetic saturation for non ferrous tubes.
- Hydraulic cooling probe for high temperature inspections.

ASSOCIATED SYSTEMS

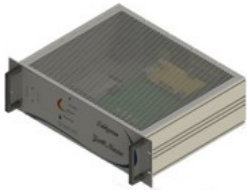
ZET@PREMIUM, ZET@MICRO

Our instruments are available in different versions : standard or rackable.

Zet@Micro 1 channel, or Zet@Premium 2 channels for long defects detection.



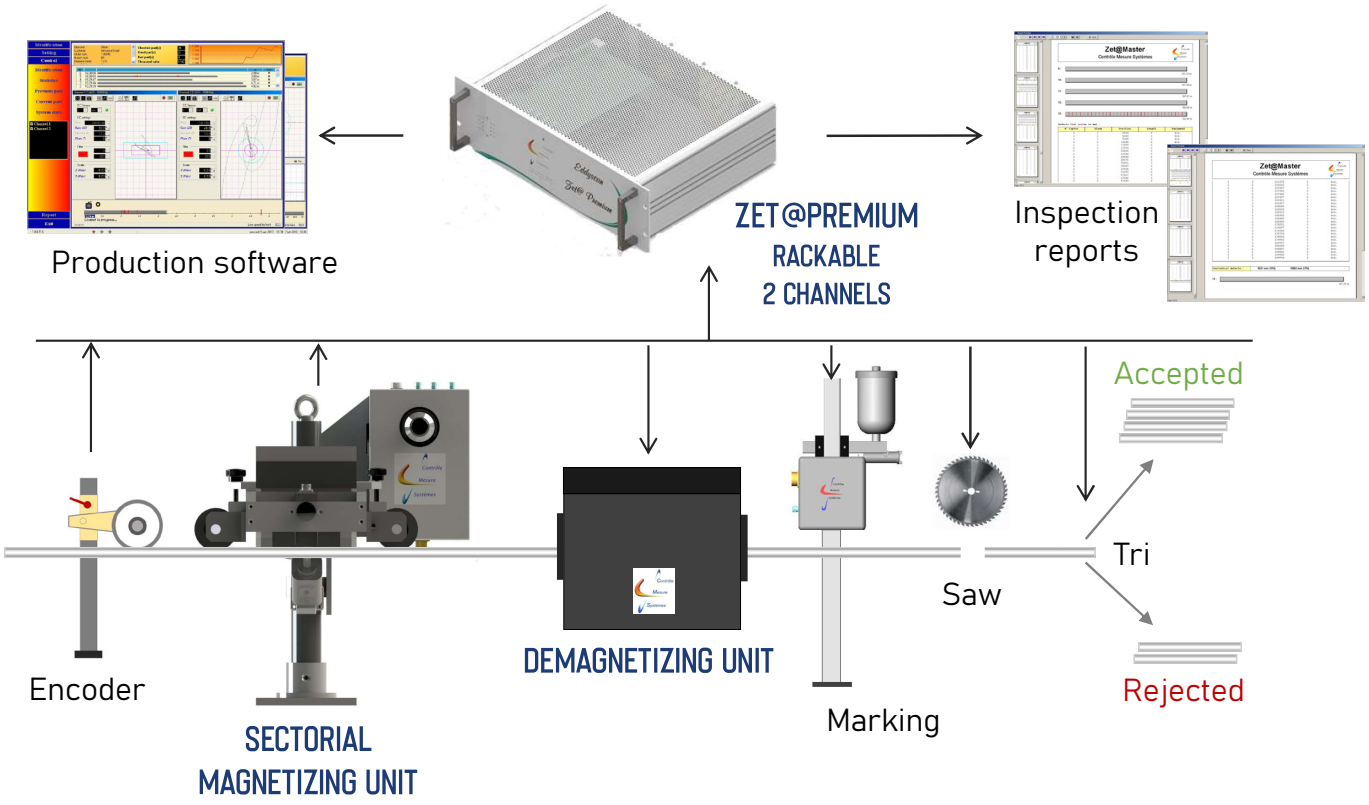
Standard



Rackable

CONFIGURATION EXAMPLE

Inspection of welded area on welded rolled tubes with detection of long defects



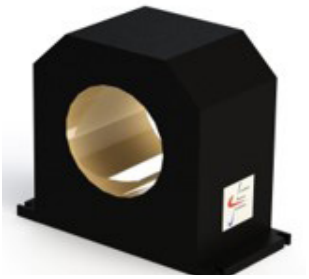
DEMAGNETIZING UNITS

DEMAGNETIZING UNITS AC, AC TUNNEL (DEMAGNETIZING AT HIGH SPEED), DC ET DC+AC

Demagnetizing units DC can be supplied with a low frequency box (optionnal).

AC DEMAGNETIZING UNITS AC

	AC T1	AC T2
Range of Diameter (mm)	40	80
Power supply max	0-240V 50-60Hz 1,5 KW	0-240V 50-60Hz 1,5 KW



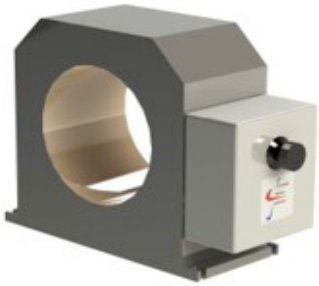
Demagnetizing Unit AC

	ACT1	AC T1.2	AC T2	AC T3	AC T4
Range of Diameter (mm)	<10	10-40	80	170	230
Power supply max	0-240V 50-60Hz 3,3 KW	0-240V 50-60Hz 3,3 KW	0-240V 50-60Hz 3,3 KW	0-240V 50-60Hz 3,3 KW	0-240V 50-60Hz 5,3 KW

Demagnetizing AC tunnel

DEMAGNETIZING UNITS DC

	DC T1	DC T2	DC T3	DC T4
Range of Diameter (mm)	40	80	170	230
Power supply max	0-240V 50-60Hz 330 W	0-240V 50-60Hz 300 W	0-240V 50-60Hz 200 W	0-240V 50-60Hz 400 W



Demagnetizing Unit DC

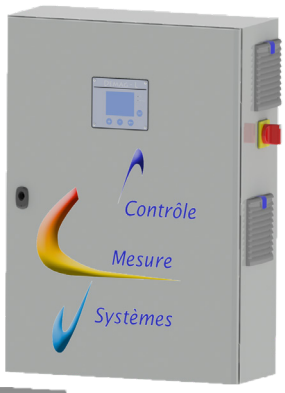
DEMAGNETIZING UNIT AC + DC

	DC+AC t1	DC+AC t2	DC+AC t3	DC+AC t4
Frequency	10-50Hz			
Intensity	5-50A			
Range of Diameter (mm)	40	80	170	230
Power Supply max	0-240V 50-60Hz 330 W	0-240V 50-60Hz 300 W	0-240V 50-60Hz 200 W	0-240V 50-60Hz 400 W

Coffret BF AC

10 0 50 Hz
30 A max

220 V



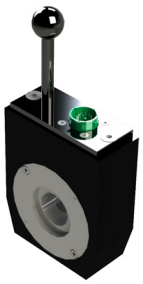
Coffret BF DC+AC

10 0 50 Hz
50 A max

400 V

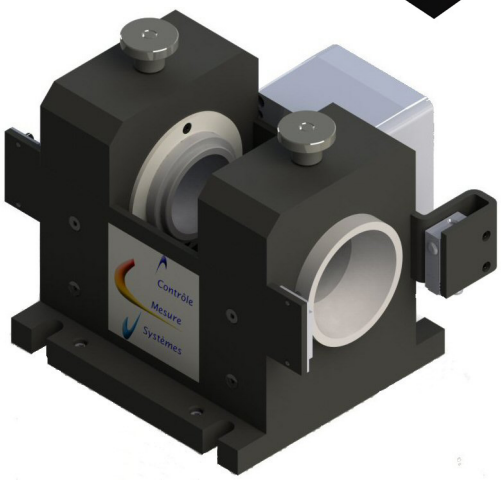
Photo écran CMS

SUPPORTS COILS



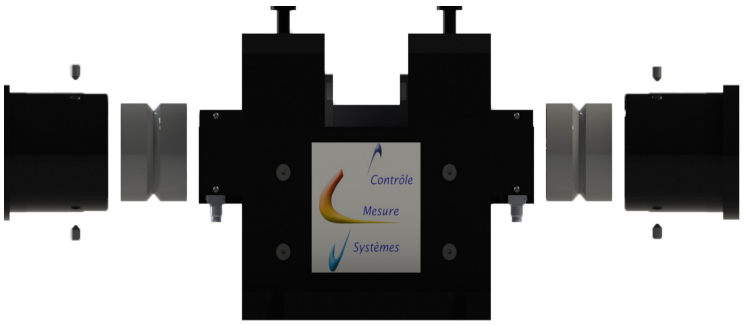
TYPE OF EQUIPMENT ALLOWS THE DETECTION OF FACE AND SUB SURFACE PUNCTUAL AND TRANSVERSAL ECTS ON CYLINDRICAL NON-MAGNETIC PRODUCTS.

supports, designed to be easily integrated on production line, to support and center the inspection coil on the production



MAIN ADVANTAGES

- Fast and easy change of guide sleeves, inserts and adaptators to fit with the product diameter
- Several sizes can cover a diameter range from 0.2 to 230mm
- Unlimited inspection speed
- Can be associated to a large range of CMS accessories
- Low maintenance
- Robust construction



RANGE OF PRODUCTS

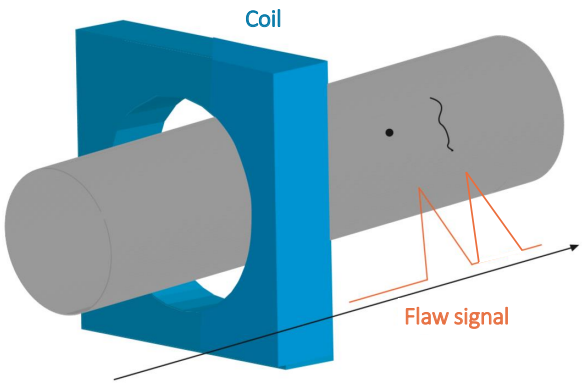
Defects detection version	Support T1	Support T2	Support T3	Support T4	Support T5	Support T6
Range of diameter (mm)	0.1 - 16	max 44	max 100	max 135	max 180	max 230
Sorting version	**TRI T1**	**TRI T2**	**TRI T3**	**TRI T4**		
Reference	3100TRI	3200TRI	3300TRI	3400TRI		
Range of diameter (mm)	2-60	max 110	max 180	max 300		

OPERATING PRINCIPLE

The product, in translation, passes through the encercling coil, located at the center of the support.

In case of a defect detection, the impedance of the coil varies.

The results are displayed on the instrument screen in a timebase and / or lissajou with real time alarm control.



STANDARD EQUIPMENT

- Set of guide sleeves adapted to the support
- Set of inserts

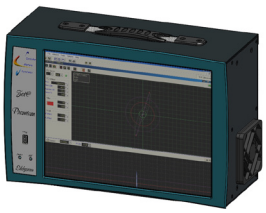
OTHER CONFIGURATIONS AVAILABLE

- Set of additional guide sleeves
- Set of additional inserts
- Probes adaptators
- Lift table
- Centering devices (tripels)
- Addition of product detection cells on the support

ASSOCIATED SYSTEMS

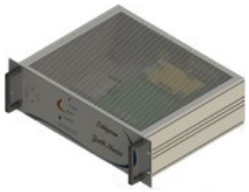
ZET@PREMIUM, ZET@MICRO

In order to facilitate the integration of our instruments, there are available in different versions : standard, blind et rackable.



Standard

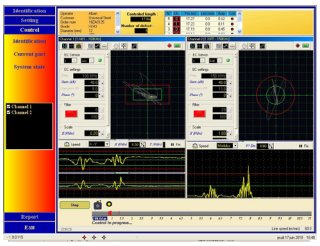
Blind



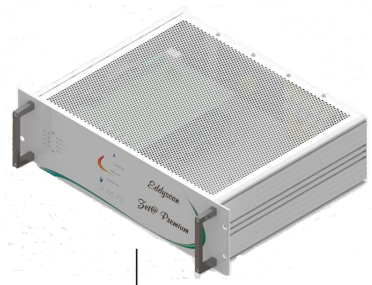
Rackable

CONFIGURATION EXAMPLE

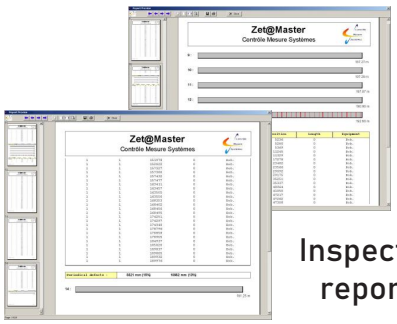
Detection of transverse defects and search of inclusions in aluminium wires



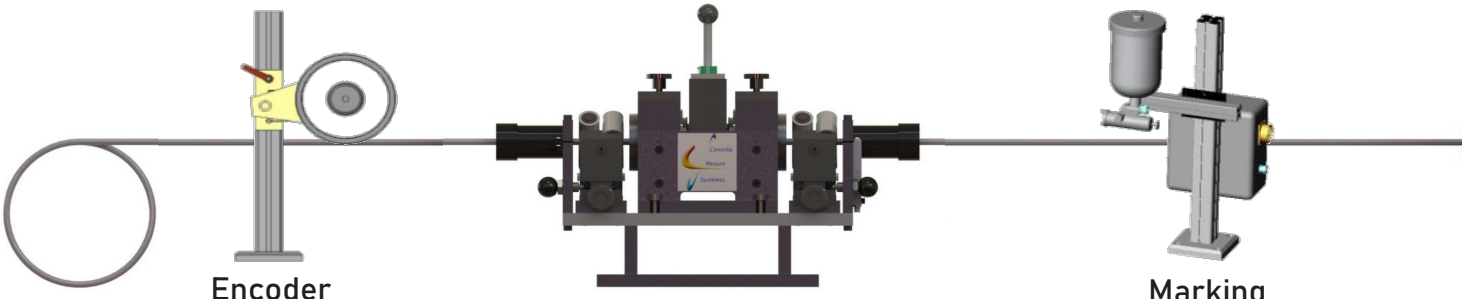
Production software



ZET@PREMIUM RACKABLE 2 CHANNELS



Inspection reports



Encoder

Support coils

Marking

CONTROLE
MESURE
SYSTEMES

EDDY CURRENT INSPECTION

OUR PROBES

- ENCIRCLING PROBES
- ARRAY PROBES
- INTERNAL PROBES
- PENCIL PROBES
- SECTORIAL PROBES
- ROTATING PROBES
- MATERIAL SORTING PROBES
- CONDUCTIVITY MEASURING PROBES
- SPECIAL PROBES

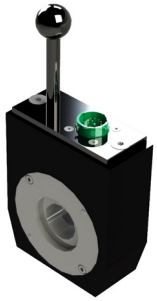
ENCIRCLING PROBES

APPLICATIONS

- External inspection of tubes, bars and wires, ferrous and non-ferrous
- Hot rolling inspection
- Sorting of shade of conductive materials

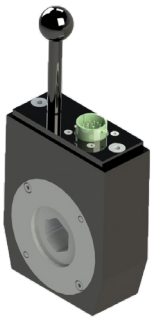
SPECIFICATIONS

- Detection of punctual defects such as : cracks, creeks, inclusions…
- 7 different sizes to inspect products from 0,1 to 230mm
- Contactless

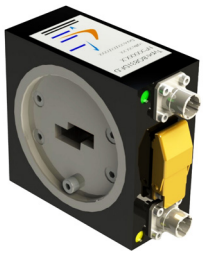


STANDARD ENCIRCLING PROBE

For tubes, bars and wires inspection

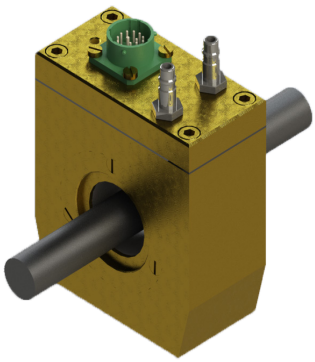


EXAGONAL ENCIRCLING PROBE



OPENING PROBE

For wires inspection (avoid cutting the product)



HOT INSPECTION PROBE

For hot rolling inspection

ARRAY PROBES

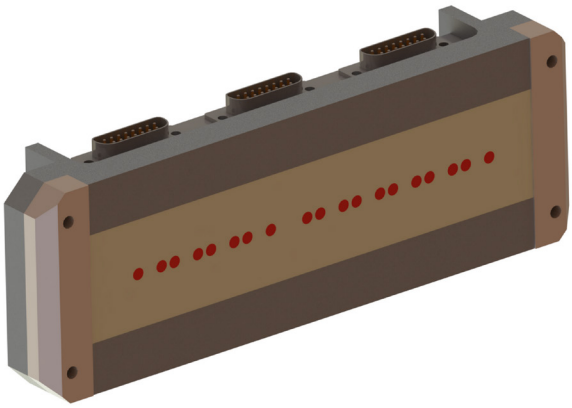
APPLICATIONS

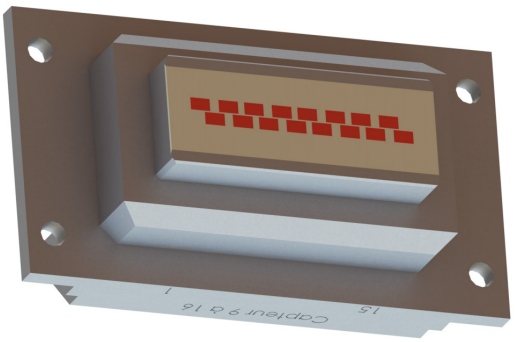
- Inspection of tubes / bars in rotation and translation
- Inspection of complex parts

SPECIFICATIONS

- Type of defects detected : holes, longitudinal notches, hard points
- Large areas inspection in one pass
- Troubleshooting with any type of orientation
- High detection sensitivity

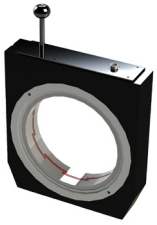
ARRAY PROBE





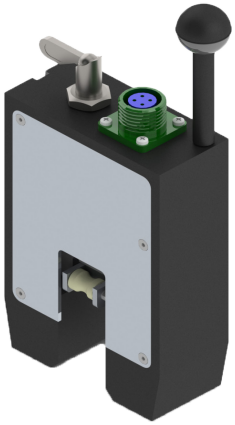
Exemple photos Néotis

ENCERCLING AND SECTORIAL PROBES



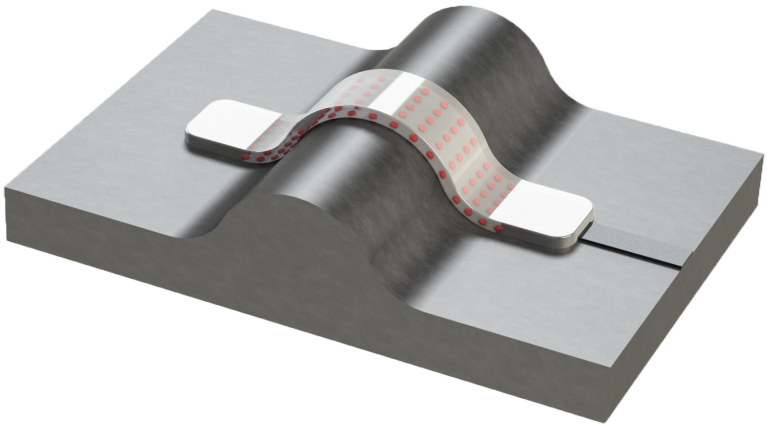
ARRAY PROBE

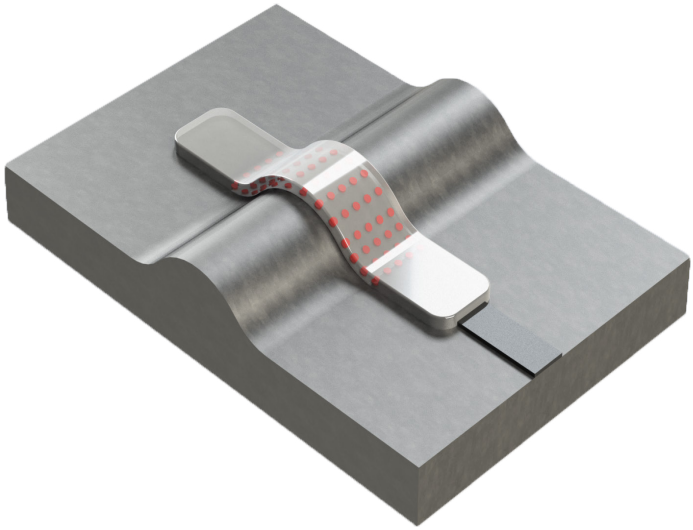
Allows to increase the detection threshold on tubes or bars of great diameter



«Sonde Neotiss»

FLEXIBLE MULTI-ELEMENT PROBE





INTERNAL PROBES

APPLICATIONS

- Internal inspection on tubes, bended or not
- Steam exchanger tubes inspection
- Periodic control on complete exchangers
- Remote field control

SPECIFICATIONS

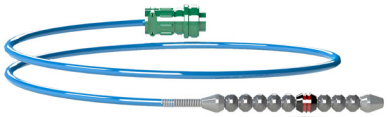
- Detection of internal defects such as : erosion, wear, creeks…
- Different sizes to inspect products from 5 to 65mm

STANDARD INTERNAL PROBES

For internal non-ferrous and magnetic steel tubes inspection

AUTO CENTERED INTERNAL PROBE

Auto centered inside the tube



FLEXIBLE INTERNAL PROBE

For bended tubes inspection

REMOTE FIELD PROBE

For steam exchanger tubes and magnetic tubes inspection

PENCIL PROBES

APPLICATIONS

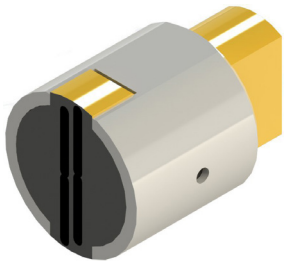
- Defect research on rotative parts (auto, aeronautics, ...)
- Crack and ponctual defect research
- Defect research in complex geometry

SPECIFICATIONS

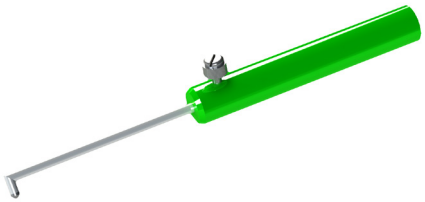
- Detection of surface defects such as : cracks, creeks…
- Detection of defects on the weld area such as : holes, cracks, open or interrupted weld
- Low volume, possibility to be integrated in complex geometry

STRAIGHT PENCIL PROBE

BENDED PENCIL PROBE



PAINTBRUSH PROBE



PONCTUEL SURFACE PROBE

X POINT PENCIL PROBE

SECTORIAL PROBES

APPLICATIONS

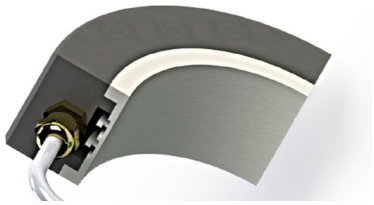
- Inspection of the weld area on welded rolled tubes

SPECIFICATIONS

- Detection of defects in the weld area such as : holes, cracks, open or interrupted weld

STANDARD PROBE

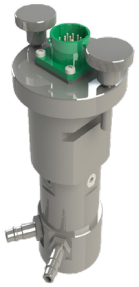
Integrated in sectorial magnetizing unit



SPECIAL PROBE

WELD PROBE

Classic Version



Cooled with water Version

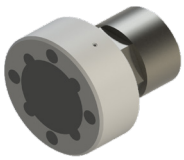
ROTATING PROBES

APPLICATIONS

- Inspection of ends tubes
- Piston inspection (combustion chamber and bore)
- Inspection of bore, thread, tapping
- Rail inspection

SPECIFICATIONS

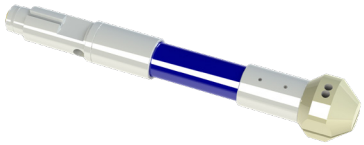
- Detection of internal and external defects on ends tubes
- Detection of longitudinal (piston boring) or ponctual (combustion chamber piston) defects.



SURFACE PROBE ST300

ROTATING PROBE ST300

For internal and external ends tubes inspection

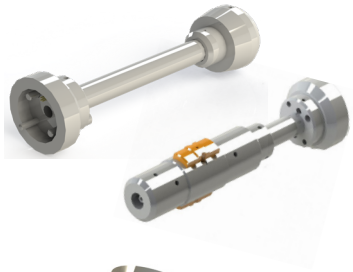


ROTATING PROBE ST2000

For threads inspection

ROTATING PROBE ST2100

For tappings inspection

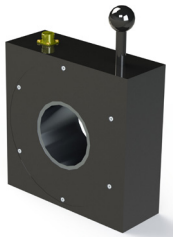


ROTATING PROBE ST2200

For bore inspection, fixed or adjustable to different diameters

PROBE HOLDER WITH 4 PROBES FORM COMBUSTION CHAMBER INSPECTION

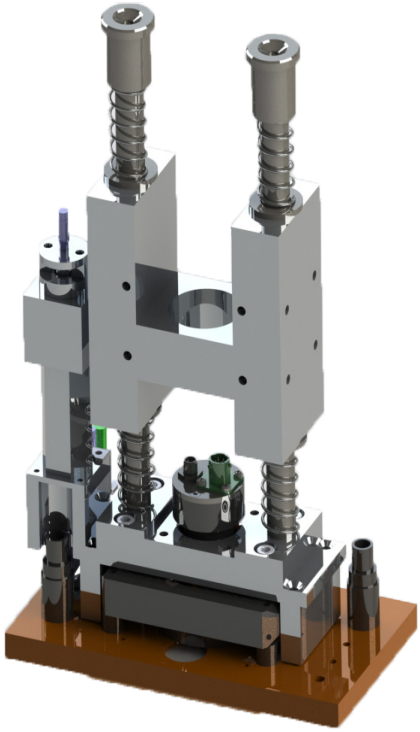
MATERIAL SORTING PROBES

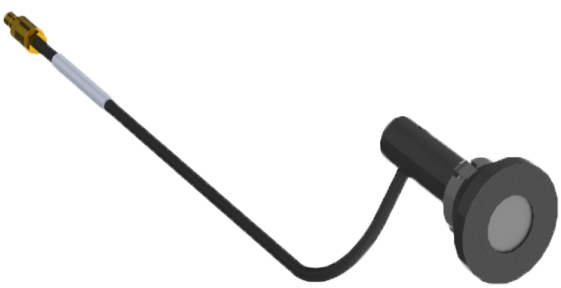


SORTING PROBE

For material sorting and thickness coating

CONDUCTIVITY MEASURING PROBES





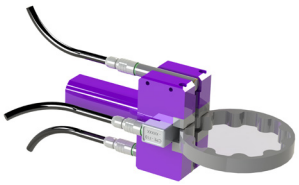
SPECIAL PROBES

APPLICATIONS

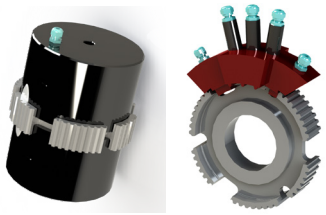
- All type of applications
- Inspection of complex parts

SPECIFICATIONS

- Designed and adapted to the product profile
- A single probe geometrically adapted to the product profile
- Several probes arranged to follow the product profile

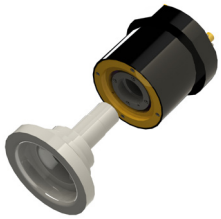


PROBE HOLDER WITH 3 PROBES FOR GEAR CLUTCH INSPECTION

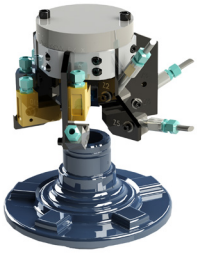


PROBE FOR COGGED GEAR WHEEL INSPECTION

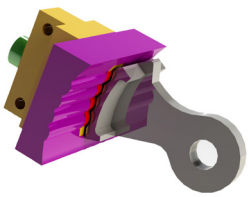
INSPECTION OF CYLINDRICAL PARTS



PROBE HOLDER FOR INSPECTION OF FUSE WHEEL PROFIL



PROBE HOLDER FOR CRACKS INSPECTION ON MULTI SHAPE



PROBE FOR COGGED INSPECTION