

The world's most accurate and
versatile portable alloy analyzer



X-MET[®] 2000 MetalMaster[®]

Five generations prove the X-MET 2000 MetalMaster
is the most reliable alloy analyzer, anywhere, anytime.

The MetalMaster is designed to
analyze in... just pull the trigger and get the
answer. The MetalMaster does the rest.

HDT

Metorex 

Proven performance. Proven reliability.

The industry standard for simplicity, reliability, versa-



Unbeatable in versatility

The MetalMaster does not require any adjustments for measurement of any size or shape samples - even tight corner welds, small parts and small distances between the sample and probe do not affect the measurement. Even severe environments such as vibrating samples and very hot surfaces can be measured without affecting the accuracy of the measurement. It is an ideal instrument for both field and bench top use.

Software driven performance

Data collection, analysis and management is completely automated. Software can store thousands of analysis results, graph ICDs and alloy signatures. FreeField Connection to a remote computer allows transfer of the data collected for further analysis and report generation in Windows™, MS, NET, PASCAL or FORTRAN programs.

Consistent user interface

MetalMaster's instrument has an interactive user interface with a built in LCD display. Real-time measurement of sample composition and report generation as well as ICD spectrum viewing is effortless.

Simple menu structure and function keys enable easy use of the software. For advanced features an external keyboard can be used.



Typical alloys analyzed

- Stainless steels
- Low-alloy steels
- Tool steels
- Cobalt alloys
- Nickel alloys
- Copper-nickel alloys
- Brasses
- Bronzes
- Aluminum alloys
- Titanium alloys
- Zirconium alloys
- Molybdenum alloys
- Lead alloys etc.



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ility and accuracy - for the highest performance

Proven Proton
technology - guarantee for
reliability

Due to the high resolution
5-PPM detector Proton's
FlexiMaster is the most
stable, accurate, high-
precision NMR analyzer
available. Continuous self-
tuning and automatic source
drift correction insures the
reliability and accuracy of the
measurement results.

Typical FlexiMaster
performance for different
types of also using FT
method:

5PPM

10000 Hz 100% and
40000 Hz 50% accuracy

It will deliver you an
empirical calibration with
increased accuracy is
available

Metal alloys

Element	Fe	Co	Mn	Pu	Cr	Ni	Cu	Mo	W	Ir
Concentration range	0.02%	0.05%	0.14%	0.4%	0.11%	0.005%	0.02%	0.05%	0.05%	0.05%
90% error	0.05%	0.1%	0.3%	0.8%	0.3%	0.01%	0.05%	0.05%	0.05%	0.05%
Recovery of measurement	0.07%	0.2%	0.6%	1.6%	0.6%	0.05%	0.05%	0.05%	0.05%	0.05%

Resin-based alloys

Element	Fe	W	Cr	Mn	Ar	Ca	Ni	Co	Mo	Pb	W
Concentration range	0.12%	0.12%	0.25%	0.12%	0.05%	0.1%	0.1%	0.2%	0.05%	0.05%	0.15%
90% error	0.07%	0.14%	0.3%	0.15%	0.1%	0.05%	0.05%	0.1%	0.05%	0.05%	0.05%
Recovery of measurement	0.07%	0.07%	0.2%	0.05%	0.05%	0.14%	0.1%	0.05%	0.05%	0.05%	0.05%

Castable based alloys

Element	Co	Mn	Fe	Cr	Ni	Pb	W
Concentration range	0.05%	0.1%	0.12%	0.005%	0.05%	0.1%	0.05%
90% error	0.05%	0.1%	0.14%	0.01%	0.05%	0.05%	0.05%
Recovery of measurement	0.05%	0.1%	0.12%	0.01%	0.05%	0.05%	0.05%

Low alloy steels

Element	Co	Mn	Fe	Ni	Cr	Pb
Concentration range	0.05%	0.1%	0.005%	0.1%	0.05%	0.1%
90% error	0.05%	0.05%	0.01%	0.05%	0.05%	0.05%
Recovery of measurement	0.04%	0.07%	0.01%	0.05%	0.05%	0.05%

Steel alloys

Element	W	Cr	Mn	Fe	Ca	Ni	Pb	W
Concentration range	0.2%	0.14%	0.2%	0.05%	0.1%	0.1%	0.1%	0.05%
90% error	0.18%	0.05%	0.2%	0.1%	0.05%	0.1%	0.05%	0.05%
Recovery of measurement	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%

Aluminum alloys

Element	Mn	Fe	Ni	Ca	Zn
Concentration range	0.12%	0.12%	0.1%	0.005%	0.05%
90% error	0.07%	0.14%	0.05%	0.01%	0.05%
Recovery of measurement	0.04%	0.04%	0.05%	0.01%	0.05%

Copper alloys

Element	Mn	Ca	Ni	Co	Sn	Br	Pb
Concentration range	0.04%	0.1%	0.05%	0.005%	0.05%	0.05%	0.05%
90% error	0.04%	0.05%	0.05%	0.01%	0.05%	0.05%	0.05%
Recovery of measurement	0.04%	0.04%	0.05%	0.01%	0.05%	0.05%	0.05%

Titanium alloys

Element	Fe	W	Fe	Ca	Br	Ni	Pb	Zn
Concentration range	0.15%	0.1%	0.1%	0.005%	0.05%	0.1%	0.1%	0.1%
90% error	0.05%	0.05%	0.1%	0.01%	0.05%	0.05%	0.05%	0.05%
Recovery of measurement	0.04%	0.05%	0.05%	0.01%	0.05%	0.05%	0.05%	0.05%

90% to 100% correct
measurements
Recovery of all metals
measurement time is only
seconds after from
just 5 minutes. Detection of
the wrong quantity

The best solution for changing needs in the metals world

NDT

The Phoenix XRF technique has been proven reliable and effective for over 30 years in numerous alloy analysis applications by thousands of users world-wide.

On-site analysis - anywhere, anytime

The Phoenix's ergonomic design enables on-site analysis even in the most demanding environments, in the plant or in the yard. The small size, battery operated, lightweight system is easy to carry to even the most remote locations. A belt-carrying case is provided with the instrument. The unit is portable enough and safe enough that it can be transported as checked baggage on regularly scheduled passenger aircraft.

Applicable industries

- Steel producers
- Foundries
- Heat-treatment
- Steel service and distribution
- Steel yards
- Steel industry
- Electric utility industry
- Cast and machine plant plants
- Rolling and pipe/beam plants
- Construction engineering
- Chemical process industry

Applications

- Incoming material inspection
- On-site alloy verification
- Quality control
- Stock control
- Scrap segregation and evaluation
- Heat analysis
- Weld analysis
- Electronics assessment
- Construction control

Recycling Facilities

Rugged design enables the use of Phoenix in the most demanding scrap yards. Test and self specified materials - with full confidence and reliability.

Metals Fabrication

The need for quality assurance is present in all phases of metals life cycle. The Phoenix is an indispensable helper in every stage where Phoenix Material Identification offers a required function: quality control, incoming inspection, maintenance and failure analysis, identifying and labeling products. It is an essential part of commercial grade classification. Avoid costly storage and potential liability problems - increase your profits.

Positive Material Identification (PMI)

The Phoenix is the most reliable tool for the safety of the plant in the analysis of critical structural elements. Use it and ensure a safe working environment. Industries such as technology, aviation, aerospace, chemical plants, offshore and marine processing plants require advanced tools for this.



Robert J. Campbell
Co. 18.85%,
Mn 10.40%,
Sb 0.18%



X-MET 2000 MetalMaster Technical specifications

Main unit

Screen display	480 x 200 backlit LCD display
Keyboard	Environmentally sealed, integrated front panel keypad with cursor and function keys, Full function external keyboard
Data storage	20/40/80 external hard memory Capacity for thousands of grain reference and measurement results

Peripheral interfaces RS-232 serial, External keyboard

Data acquisition 2048 channel PCA interface

Power supply Rechargeable NiCd battery packs supply 8 hours of operation
External 100 - 240VAC, 50 - 60 Hz single
line AC operation and battery recharging

Dimensions 360 x 290 x 160 mm
12.2" x 10.6" x 6" (without handle)
400 x 270 x 160 mm
15.7" x 10.7" x 6" (with handle)
Weight 3.4 kg, 7.5 lbs

Weight

Operating temperature 0 - 50°C, 32 - 120°F

Enclosure rating IEC IP55, NEMA 4

SPS probe

Detector High resolution S-PMA

Source Am-241, Co-60, Ra-226

Analyse range 1000 to 10000

Sample form Solid surface, tube, wire, powder

Dimensions 225 x 220 x 70 mm
8.9" x 8.7" x 2.8"

Case length 2.3 m, 8'

Weight 1.4 kg, 3 lbs

Operating temperature

0 - 50°C, 32 - 120°F

White lead surface analysis up to 500°C, 932°F

Enclosure rating IEC IP55, NEMA 4

Options Hot surface adapter

Long probe cable

Other options

The information and technical specifications are subject to change without notice

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Mettrex is a renowned manufacturer of alloy analysis instrumentation since the 1960's.

MET SCIENTIFIC is a leading international supplier of analytical equipment for chemical analysis and rapid identification. We offer a wide range of products, from field portable and bench-top elemental and alloy analyzers to on-line systems. We have extensive experience in X-Ray and Gamma Ray detection and spectral analysis.

Experience means for customer confidence and satisfaction

Today there are over 3000 Mettrex analyzers in use throughout the world. Over 40 distributors in 50 countries and the staff at Mettrex form an effective network that can take care of any alloy analysis or detection needs. The experience gained from design and distribution of the generations of XRF analyzers provides the Mettrex staff and distributors network with the background to answer any questions.

Mettrex

ALLOY ANALYSIS INSTRUMENTATION

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