Technical specifications

Height	235 mm / 9.3“
Width	410 mm / 16.1“
Depth	425 mm / 16.7“
Weight	15 kg / 33 lb
Power	28.8 V DC
Max. consumption	500 W
In Stand by	25 W

Optical System (patented)

Focal length	ca. 300 mm
Wavelength range	185 - 420 nm
	Peak coverage up to 671 nm (for Cu, Na, Li)

Exication source (solid state)

	Computer controlled parameters
Max. pulse current	110 A Arc current 1.8 - 2.5 A
Frequency	100 - 350 Hz
Voltage	250 - 350 V
	High energy pre spark (HEPS)

Battery

Technology	$LiFePO_4$
Spark measurements	Up to 300 (using standard parameters)
Arc measurements	Up to 200 (using standard parameters)

Computer System

Internal computer unit	Microsoft® Windows®
	Touch screen user interface

OI Service – here to help

Our global network of service hubs provides a full range of technical support:

- Telephone help-desks
- On-line diagnostics
- Rental instruments
- Recertification and maintenance
- Training
- Extended warranties
- Consumables and accessories
- Repairs

Please ask about details of our comprehensive range of products or visit our website at:

www.oxford-instruments.com/ia-customerservice

Visit **www.oxford-instruments.com/pmi-master-smart** for more information or contact **industrial@oxinst.com**

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OXFORD INSTRUMENTS
The Business of Science®

PMI-MASTER Smart

High performance metals analysis in hard to reach places

OXFORD INSTRUMENTS
The Business of Science®

PORTABLE

PMI-MASTER Smart

Truly portable metals analysis

PMI to go

Seamless quality control is essential for any metalworking, especially for safety critical positive material identification on-site. But very often the spot of analysis is difficult to access, for e.g. plant components.

The **PMI-MASTER** Smart provides a breakthrough for optical emission spectroscopy (OES) in hard to reach places. It is the only truly portable high performance OES analyzer available. With a light weight of only 15 kg / 33 lbs the spectrometer can be carried to the point of analysis.

This rugged spectrometer is designed for the precise analysis of key elements, rapid material verification, PMI and sorting of metals. Despite its' light weight and compact size the **PMI-MASTER** Smart offers high analytical performance, unparalleled portability, striking convenience and ease of use.

Applications

- PMI (positive material identification)
- In- and outgoing inspection of materials
- Verification of factory certificates
- Scrap sorting, even aluminium, magnesium and low-alloy materials
- Material identification including N*, C, P*, S*, Sn*, As*, B* Fe, Al, Cu, Ni, Ti, Mg, Co, Zn, Sn alloys

Performance

- Covers all your metals analysis needs
- Determination of virtually all elements, incl. carbon, phosphorus, sulphur, boron, nitrogen
- Determination of UV elements with wavelengths <190 nm*
- High accuracy
- Very good repeatability

** With **UV**Touch probe*

Various transport options...

...to meet your requirements

Portable

- Easy to carry
- Weighs only 15 kg / 33 lbs
- Compact dimensions

Back pack frame

To comfortably and safely carry the **PMI-MASTER** Smart on the back

- Aluminium frame with fixing straps
- Padded shoulder straps
- Anatomic hip belt
- Weighs only 1.9 kg / 4.2 lbs

Transportable

- Ready to ship in rugged stackable cases
- Drag with foldable trolley

Mobile

- When needed intensively within a certain area
- Cart with probe holder, for 10 l Argon bottle
- Carries all accessories

Measurements possible with the **PMI-MASTER** Smart in the case*

**max. ~20 analyses in series*

LIGHTWEIGHT

Light weight, compact dimensions

- Weight: 15 kg / 33 lbs
- Width: 410 mm / 16,1“
- Height: 235 mm / 9,2“
- Depth: 425 mm / 16.7“

State-of-the-art technology

Stable measuring results...

- ...even in motion and temperature changes with patented high resolution carbon fibre Multi-CCD optics
- Virtually unlimited number of channels for total spectrum analysis

Analysis of samples with irregular shapes

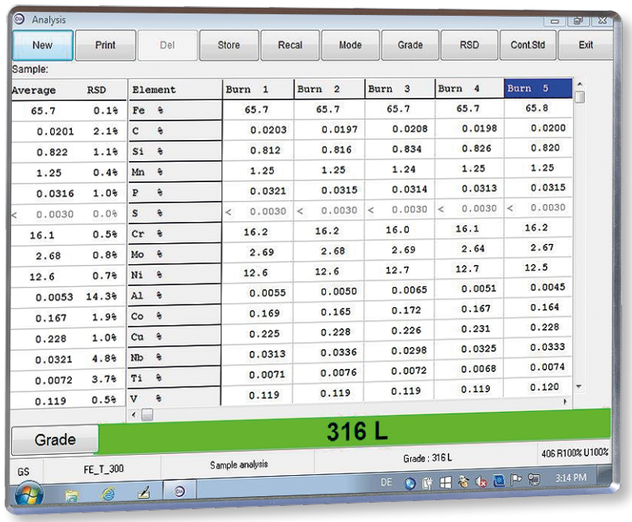
- Concentric electrode shielding Argon flow technology for reducing air gaps
- Single universal adapter for measuring wires, down to 1 mm thin
- Analysis of curved surfaces with unique rubber seal (for e.g. pipes, rods, valves, storage tanks, turbines)

Convenient operation software

- Windows®-based software WASLab, convenient operation via touch screen
- A wide and customizable variety of information, for e.g. concentrations, material name, intensity and statistical key figures
- Display, storage and printout of entire sample spectrum
- Easy to use and customizable report generator
- Transmission of results to remote devices & export of results into other software, e.g. Excel®
- Flagging results outside calibration range or material specifications
- Easy to use sorting function
- User defined access levels

Easy to use

- Optical system is fully and automatically re-adjusted
- Free from regulatory constraints



Excellent repeatablity and low detection limits

Low operating costs

- Minimized Argon consumption
- Easy maintenance

Built to last

- Optimized for the use in rough environments
- Rugged and dust-proof TFT touch screen
- Temperature monitoring with protection against overheating
- Shock resistant

Cordless and durable

- The rechargeable battery pack provides power for
  - approx. 10 h in standby,
  - 300 measurements in spark mode,
  - 200 measurements in arc mode (depending on measurement conditions).
- Operation also with external power supply/charger, with or without battery and even while recharging

GRADE Database **included**

The largest metals database for fast and easy grade identification is preinstalled on the **PMI-MASTER** Smart.

It offers more than 10 million records for over 320,000 materials from 69 countries and standards. You can update your instrument’s grade database with a few clicks – no time consuming research in norms and grade catalogues.

PMI-MASTER Smart

Three probes available...

...to match your analysis needs

Easy operation

Simply hold the probe to the sample, push the trigger and read the result. The alloy grade and the full chemical composition appear within a few seconds on the integrated touch screen. Tailored to your specific application, different operation modes offer complete analysis, grade identification or sorting of metals. The **PMI-MASTER** Smart identifies the metal grade automatically and indicates where concentration limits are exceeded.

Choose your probe

Arc probe

- Ideal for the sorting of metals with arc in air atmosphere
- No Argon required
- Analysis in only 3 seconds
- For tubes, wires and small parts

UVTouch **probe**

- Low levels of carbon, phosphorus, sulfur, boron, arsenic and tin in low alloy and stainless steels
- L grade separation
- Nitrogen in duplex steels
- Display of analysis results
- Control of main spectrometer functions
- Extended wavelength range of probe's optic: 165 to 210 nm

Spark **probe**

- Reliable spark analysis of standard elements, incl. C
- Rugged construction
- Various sample adapters available

PMI-MASTER SMART

High performance metal analysis

Customers and applications

The PMI-MASTER Smart **is the ideal analyzer for customers**

- with high demands and requirements on mobile metal analysis,
- who need to travel frequently with the analyzer,
- who are looking for a lightweight, small size portable spectrometer without analytical compromises.

Convenient, reliable, flexible on-site metal analysis

- Plant engineering & constructions
- Inspections & PMI
- Petrochemical & chemical
- Mechanical engineering step
- Metal recycling
- Power plants
- Aviation & automotive

Typical applications

- Steel alloys
- L grade separation in stainless steel
- C, P*, S*, Sn*, As* and B* in steel
- N* in duplex steels
- Meets the requirements of API RP 578, API RP 939C
- Analysis on hot surfaces up to 300 °C / 572 °F
- Al alloys ~ Al-Si ~ Al-Si-Cu
- Cu-Sn ~ Cu-Zn ~ Cu-Ni
- Cu, Ni, Zn, Co, Mg, Pb, Sn and Ti alloys...

** With **UV**Touch probe*

Quality control of metal materials:

Positive material identification
Scrap sorting
Incoming goods
Production
Outgoing goods