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PMI-MASTER Pro

Precise, mobile metal analysis



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PMI-MASTER Pro

Where high performance is required

Maximise your cost savings and production efficiency by using rugged mobile OES analysis. **PMI-MASTER Pro** is a robust, mobile optical emission spectrometer for the precise analysis of key elements, rapid material verification, PMI and sorting of different metals. It is optimised for mobile, cordless operation and is ideally suited for demanding industrial applications.



Product highlights



- Precise analysis and material identification including carbon, phosphorus, sulphur, boron and tin determinations
- Fast off-site, on-site and laboratory testing
- Perfect mobility with long-life battery power and trolley for ergonomic use
- Immediately ready for action with no warm-up phase
- Easy to use, even for untrained operators
- Lightweight ergonomic probe with 4 m flexible probe cable
- Quick, simple touch screen operation
- Our unique Jet-Stream-Technology ensures accurate analysis on samples of all sizes and shapes
- Windows®-based software controlled via a rugged, dust-proof TFT touch screen, even under the harshest conditions
- Extensive and customisable grade library
- Low maintenance costs



Easy and fast testing

Measurements are performed using an easy-to-handle probe – 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 display. Depending on the application, different operation modes offer complete analysis, grade identification or sorting of metals. When performing tests, the instrument identifies the metal grade automatically and if applicable indicates where the limits are exceeded.

The straightforward Windows® user interface also allows you to:

- Store results on an internal analysis database
- Export results to an external workstation via Ethernet or USB link
- Print user customised certificates
- Create or import a grade library with your grade specifications

Carbon, phosphorus, sulphur, boron, arsenic, tin and nitrogen analysis using UVTouch probe

The optional UVTouch probe makes it possible to analyse even low C, P, S, Sn, As and B concentrations in steel and N in duplex steel. Small, sturdy and smart - this detachable probe operates the **PMI-MASTER Pro** within a radius of 10 metres from the main unit.



Easy mobility ensures production line, off-site or lab analysis at different factory locations

The **PMI-MASTER Pro**'s innovative design enables almost unlimited access and reliable analysis in areas where mobility and flexibility are essential, e.g. where the material is already assembled or where industrial installations must be assessed.

Thanks to our unique Jet-Stream-Technology, the probe can analyse most complex shapes with irregular sample geometries. Even wire as thin as 1 mm can be accurately measured using a single universal adapter. Analysis of pipes, rods, valves, welding



The touch screen monitor can be adjusted for use in any environment



Cordless use – independent from the mains supply

The **PMI-MASTER Pro**'s innovative power electronics allows the use of a battery with an integrated rechargeable 24 V power pack, which ensures eight hours of remote operation with 800 burns.

Three different power supplies are available:

- A cart with integrated battery
- A small battery module – approx. 2 h of portable use
- A main power module without any battery for benchtop operation

seams and joints, storage tanks, turbines, concave or convex surfaces all become straightforward with the **PMI-MASTER Pro**.

The optical system is fully and automatically re-adjusted without any interaction by the operator. As this process is constantly performed in the background during normal operation, it is not necessary to acclimatise the instrument. When switched on, the **PMI-MASTER Pro** is immediately ready for action without warm-up phase.



We put the spark in Spectrometry

Reliable, repeatable, flexible analysis for inspections, quality control systems and safety procedures within the metal industries:

- Metallurgical manufacturing
- Oil refineries
- Petrochemical and chemical
- Aviation
- Military
- Power plants
- Scrap sorting

Typical Applications

- Fe alloy
- L grade segregation in stainless steel
- P and S analysis in steel
- Al alloy ~ Al-Si ~ Al-Si-Cu
- Cu-Sn ~ Cu-Zn ~ Cu-Ni
- Mg, Cu, Co, Ti, Pb, Sn, Zn alloys...

State-of-the-art technology guarantees reliable operation and measurement results

The **PMI-MASTER** Pro uses the latest optical technology without compromise in element selection, concentration range, or the base metal to be checked. This is due to the use of CCD detectors, which cover the whole spectral range between 170(*) and 420 nm. Regardless of whether you are determining C, Cr, Ni, Mn in steel, Si in Al or N in duplex steel (**) – all elements can be analysed in all metals.

The readout system of the high-resolution Multi-CCD optics with 30,000 channels uses highly advanced electronics and software algorithms for perfect signal processing. Tests can be performed on all standard material grades and chemical elements.

Our measuring probes use HPC fibre optic cable. This special high-transmission quartz fibre is not prone to decay (blindness) caused by the effects of solarisation and is therefore unique in its stability and durability. This unique feature enables precise measurement of the minutest traces of carbon (such as in low-carbon 1.4404/1.4306 stainless steel) using the standard probe of the **PMI-MASTER** Pro.

To ensure maximum uptime and field reliability, the design of the **PMI-MASTER** Pro requires low maintenance and offers excellent serviceability. For example, the probe is simply plugged in the main cabinet and can easily be replaced in case of damage.

(*) with optional UVPro probe

(**) with optional UVTouch probe

www.oxford-instruments.com/oes for more information



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