PMI-MASTER SMART

HITACHI
Inspire the Next

Complete metals analysis – a portable laboratory

PMI FOR SAFETY INSPECTION

When you need to reliably analyse steels and other alloying materials like aluminium, nickel and copper in a safety critical environment, you need an analyser that rapidly delivers ultimate analytical performance you can trust first time.

Spark optical emission spectrometers excel at providing full chemistry of critical alloy elements at low detection limits that handheld X-ray and LIBS analysers can't: carbon, phosphorus, sulphur, boron, arsenic and tin in low alloy and stainless steels, and nitrogen in duplex steels. That's why spark OES is the most trusted and widely used method for creation and verification of MTR's (mill testing reports) in the world.

Hitachi High-Tech's PMI-MASTER Smart OES analyser, which is made in Germany, is light weight and compact, making it ultra-portable so you can easily take it where you need it; whether at height, in a ditch, material inspection areas outside and inside, or in a laboratory.

Our optical emission spectrometers meet the world's most stringent PMI metallurgical alloy chemistry testing requirements including API 5L, ASME section IX B& PV, ISO 17025 and A2LA standards.

A choice of probes

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.

UVTOUCH – MOST POPULAR CHOICE

Choose for low detection level of carbon, phosphorous, sulfur, boron, arsenic and tin in low alloy and stainless steels. It also offers L grade separation and nitrogen in duplex steels.

The probe includes a screen for easy viewing of analysis results and control of main spectrometer functions. Extended wave length range of probe's optic – 165 to 210 nm.

SPARK

Choose for reliable spark analysis of standard elements including carbon.

Various sample adapters available to measure e.g. small samples and wires.

ARC

Choose for sorting of metals with arc in air atmosphere, especially tubes, wires and small parts.

No argon needed and results in seconds.

Why choose a PMI-MASTER Smart?

RESULTS YOU CAN TRUST

Reliable low levels of detection not just for carbon but also phosphorus, sulphur, boron, arsenic and tin in low alloy stainless steel and nitrogen in duplex steels. Stable measuring results even with temperature changes outside.

HOT SAMPLE MEASUREMENTS

Measure elements, including carbon and silicon, reliably from hot surfaces up to 300°C.

LOW OPERATING COSTS

Minimised argon consumption thanks to concentric electrode shielding argon flow technology that reduces air gaps and optimises the gas flow.

BUILT TO LAST

Optimised for use in tough environments with robust and dust-proof touch screen. Temperature monitoring ensures protection against overheating.

EASY OPERATION

Simply hold the probe to the sample, push the trigger and read the result. The alloy grade and full chemical composition appear within seconds, indicating where concentration limits are exceeded or material is outside of specification.

DATA MANAGEMENT

Easy to use and customised report generator. You can share results to remote devices and export results into other software.

LONG BATTERY LIFE

Use either with an external power supply or with a rechargeable battery, which provides 300 measurements in spark mode and 200 in arc mode before needing to be recharged.

FREE FROM REGULATORY CONSTRAINTS

GRADE DATABASE INCLUDED

The largest available metals database for fast and easy grade identification is preinstalled, providing more than 12 million records for over 340,000 materials from 69 countries and standards.

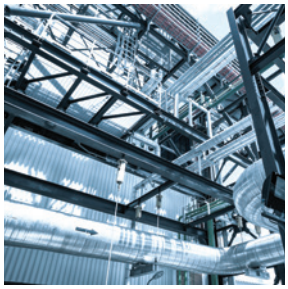
Major Applications

OIL AND GAS – *UPSTREAM*

Material verification both on and offshore.

OIL AND GAS – *MIDSTREAM*

Pipeline safety asset verification with reliable, fast and full chemistry measurements.



OIL AND GAS – *DOWNSTREAM*

Complete PMI for components before, during and after use, including welds.

POWER GENERATION

Complete PMI for components that meets ASME Section IX B&PV code standards and flow accelerated corrosion (FAC) analysis.

OTHER PLANTS

Verifying materials for weldability, providing a library of carbon equivalent and other formulas.

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