



NEW

O/N/H ANALYZER ELEMENTRAC ONH-ps

SIMULTANEOUS O/N/H MEASUREMENT VIA INERT GAS FUSION

The ELEMENTRAC ONH-ps is a powerful inert gas fusion analyzer for the determination of oxygen, nitrogen and hydrogen in inorganic samples like steel, iron, copper, titanium and their alloys, as well as ceramics and chemicals. The ELEMENTRAC ONH-ps determines the O/N/H concentration in one single measurement by utilizing IR cells for oxygen (as CO₂) and hydrogen (as H₂O) measurement and a TCD for nitrogen measurement.

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SIMULTANEOUS O/N/H MEASUREMENT IN INORGANIC SAMPLES

Inert gas fusion with TCD and IR detection is a standard compliant and well established analysis technique for measuring the gases oxygen, nitrogen and hydrogen in inorganic samples such as metals, alloys and ceramics.

The new measurement process of the ELEMENTRAC ONH-ps allows a fast, reliable and precise measurement from the lower ppm up to the higher percentage range in one single run. This makes O/N/H analysis faster, cheaper and more efficient.



BENEFITS

- | Determination of oxygen, nitrogen & hydrogen from one single sample
- | Less costs per analysis (time & consumables)
- | Compliant to all relevant international standards (e.g. ASTM E 1019)
- | Wide range TCD for nitrogen determination
- | Sensitive IR cells without moving parts (no chopper) for hydrogen and oxygen
- | Optional autoloader for high sample throughput

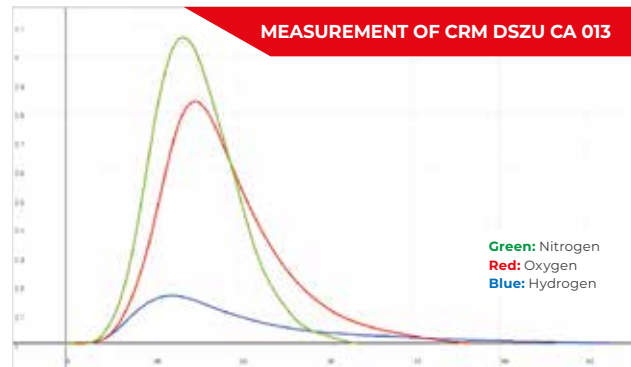
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THE NEW MEASUREMENT PROCEDURE

The ELEMENTRAC ONH-ps utilizes a new designed water IR cell without moving parts (no chopper), which allows a reliable measurement of hydrogen as water even in the lower ppm concentration range. This allows the simultaneous measurement of oxygen, nitrogen and hydrogen in one sample.

PROCEDURES TO MEASURE ONH IN INORGANIC SAMPLES

Element	Measured as	Detector
Oxygen	CO ₂	IR
Nitrogen	N ₂	TCD
Hydrogen (common technique)	H ₂	TCD
Hydrogen (new technique)	H ₂ O	IR



TYPICAL SAMPLE MATERIALS

Steel, iron, copper, titanium, ceramics and more.

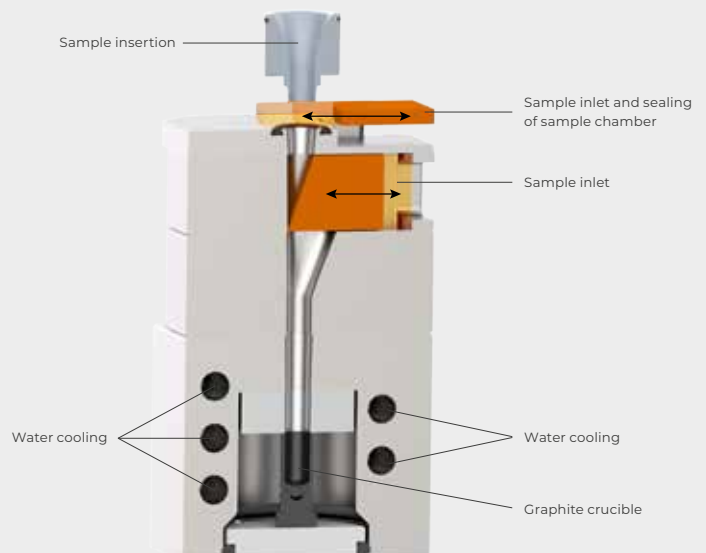


SAMPLE PORT OF THE ELEMENTRAC ONH-ps

The sample port of the ONH-ps ensures convenient operation and reproducible measurement results. Differently shaped samples, such as solid pieces, granules or powders in capsules, can be applied up to a weight of together 2000mg. They are quickly freed from the surrounding atmosphere with the help of pulsed carrier gas flushing in the sample port. Then they drop vertically into the preheated graphite crucible for analysis.

BENEFITS

- Robust against dust development
- No closing of capsules required
- Direct application of up to 2000 mg
- Low maintenance and wear



TECHNICAL INFORMATION

Detection	O as CO ₂ via IR (no moving parts) H as H ₂ O via IR (no moving parts) N as N ₂ via TCD
Nominal weight	1 gram
Applicable sample shape	Pins, chips, granulates, powders (in capsules)
Analysis time (Cycle time)	150 – 240 seconds
Typical samples	Iron, steel, copper, titanium, alloys, chemicals

COMPLIANT TO INTERNATIONAL NORMS AND METHODS

The ELEMENTRAC ONH-ps is compliant with all relevant international standards like:

Standard	Number
ASTM	E 1019; E 1409; E 1447; C 1494; E 2575
DIN EN	3976
DIN EN ISO	10720; 15351; 21068-3



DIN EN ISO

ELTRA APPLICATION LABORATORY

For many applications (e.g. hydrogen determination in special alloys) no international standard is released. To assure a reliable and safe analysis the ELTRA application laboratory in Haan provides free of charge test measurements and application support. This support covers the full ELTRA product portfolio of TGA, ONH and CS measurement.

Participation in interlaboratory tests (e.g. ASTM Powder Metallurgy) and participation in the certification of reference materials (e.g. ECRM 268-1; ECRM 049-1) ensure a consistently high analysis quality.



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