



Provides speedy elemental analysis of liquid samples in addition to being portable.



21st Small and Medium Enterprise Excellent New Technology and New Product Award
Small and Medium Enterprise Agency Commissioner's Award (March 2009)

TECH PLANTER Deep Tech Grand Prix OMRON Award (September 2016)

Technology Award by The Society for Chemistry and Micro-Nano Systems (March 2020)

Portable Elemental Analyzer
MH-6000A

Provides speedy elemental analysis of liquid samples in addition to being portable.

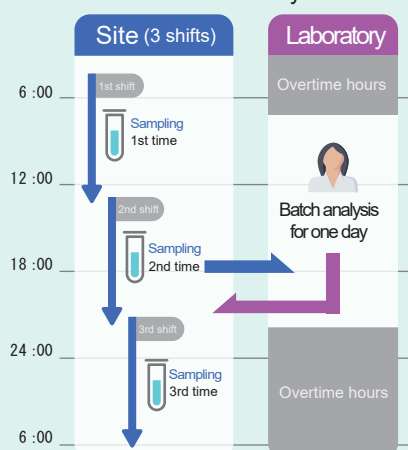
The adoption of liquid electrode plasma (patented in Japan, the United States, and China) makes plasma emission analysis easy to use and reliable. Analysis on inorganic components (metals, etc.) in liquid samples can be performed. Since it does not use gas such as argon, there is no need to construct gas cylinders, gas pipes, and exhaust ducts. It is advantageous in terms of running costs. It is easy to choose the installation location and ideal as an addition to existing facilities.

Speedy

Realize immediate judgment of analysis results in a timely manner

- Detect troubles early (especially during operation at night or on holidays)
- Determine when replenishment of raw materials, replacement of cleaning liquid, etc. is done.
- Analyze immediately when replacing manufactured products in a high-mix low-volume production.
- Perform immediate analysis at the time of new product development and new business flow launch.

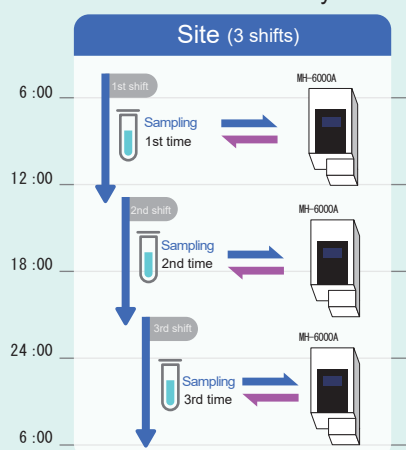
▼ Conventional analysis flow



Batch analysis for one day

Delay in detecting troubles during nights and holidays

▼ New MH-6000A analysis flow



Immediate On-site analysis

Early detection of trouble



Energy Conservation

Power saving and easy to carry

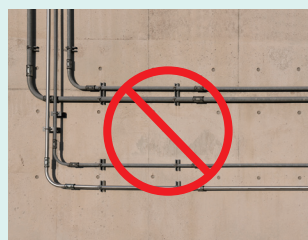
- Worldwide support with 100–240V small AC adapter
- Easy to install on a desk because of little waste liquid



Compact

Easy installation to existing facilities

- No gas piping, exhaust duct, cooling water are required, so installation can be done without construction of facilities



No need for high pressure piping



No need for exhaust duct

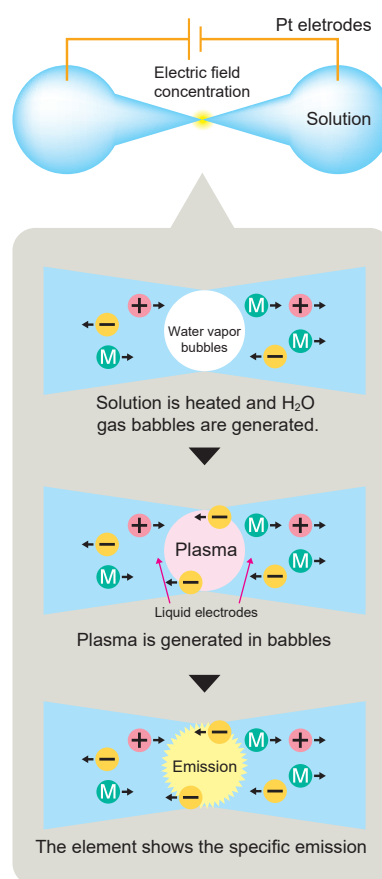
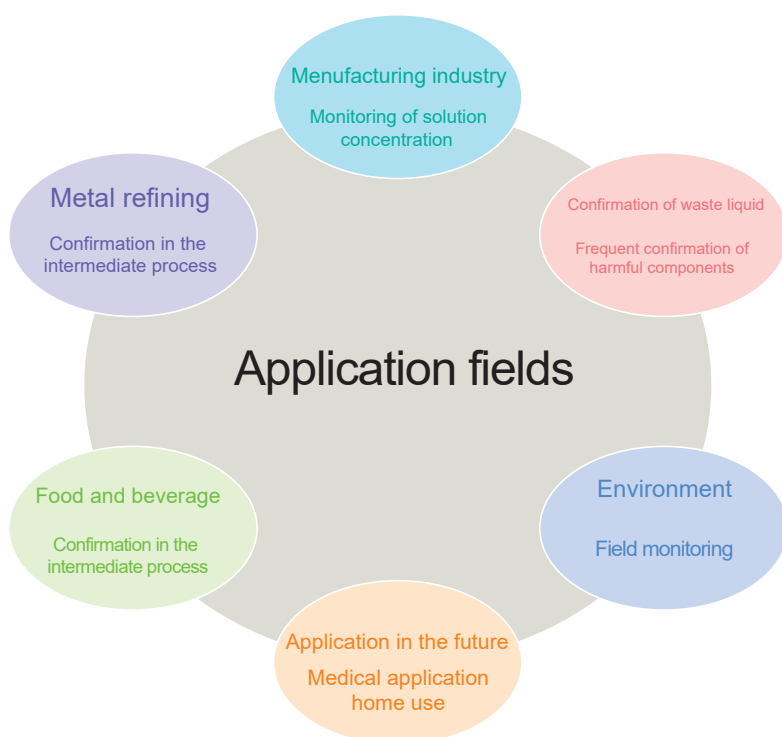
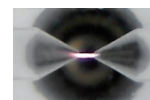
Measurement procedure and application fields

- Stability, sensitivity and accuracy are improved by adopting the flow type. Furthermore, labor saving in continuous measurement, internal cleaning, and sample switching
- Alkaline solvent and Si can be measured with a sapphire cuvette.
- Simultaneous incorporation of two spectrometers achieves both wide wavelength range and high resolution.

Liquid electrode plasma emission spectrometry (patented)

Plasma in the microchannel

Voltage 200–1200V



Customer Feedback

Kanazawa University
School of Chemistry,
College of Science and Engineering

Professor Hiroshi Hasegawa

In inorganic analysis of liquid samples, a compact system that can be set on a laboratory table even though it emits plasma is epoch-making.

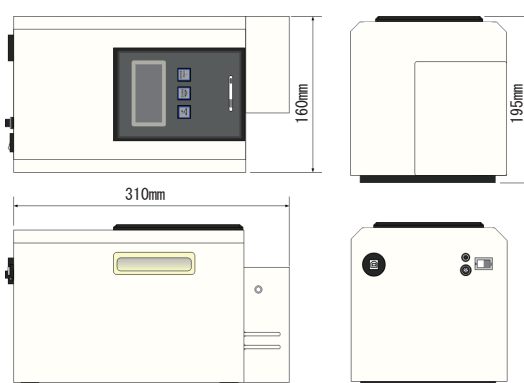
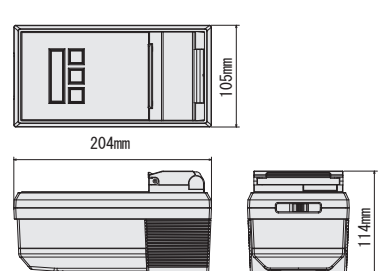
And there is an advantage that a new analysis method can be created by combining with our pretreatment technology that we have been specialized in.

Especially in countries where infrastructure is not well-developed, no construction of facilities or high-pressure gas is required, which is a big advantage.
I will use it for overseas joint research.

In Japan as well, joint research aimed at onsite analysis is gradually increasing, and I hope that the system will be a pioneer.



Product Outline

Model name	Portable Element Analyzer MH-6000A A new standard for elemental analysis system realizing space saving	Ultra Compact Elemental Analyzer MH-5000 New standard for the portable elemental analyzer
		
	Main application	Field management (especially 24-hour operation factory) On-site measurement and immediate analysis
	Features	Adopting flow measurement greatly improves operability, enables continuous measurement, and improves work efficiency. Alkaline solution can be measured (Note1).
	Dimensions	310mm(L)×160mm(W)×195mm(H)
	Weight	Approx. 4.4kg
	Detection limit	Approx. 2 μg/L–100mg/L (Note2)
	Embedded spectrometer	Select one or two from the following s2086 (range: 200nm–860nm) s2043 (range: 200nm–430nm) s2035 (range: 200nm–350nm) For further details, please contact us.
	Standard accessories	AC adaptor for 100V–240V (50/60Hz), Installation CD, USB cable
Main application	Field management (especially 24-hour operation factory) On-site measurement and immediate analysis	Research, on-site analysis, control remote factory and overseas subsidiaries by visiting them and performing the measurement with the system
	Features	Ultra compact, very light Required sample amount is as small as 0.1mL.
	Dimensions	204mm(L)×105mm(W)×114mm(H)
	Weight	Approx. 1.4kg
	Detection limit	Approx. 5 μg/L–100mg/L (Note2)
	Embedded spectrometer	Select one or two from the following s2086 (range: 200nm–860nm) s2043 (range: 200nm–430nm) s2035 (range: 200nm–350nm) For further details, please contact us.
	Standard accessories	AC adaptor for 100V–240V (50/60Hz), Installation CD, USB cable
	Indispensable consumables [Option]	LepiCuve-SC / quartz cuvette (Note1) LepiCuve-SA / sapphire cuvette (Note1)
	Optional items	Tubing pump, Syringe pump, Wetertight case, maintenance items
Features	Adopting flow measurement greatly improves operability, enables continuous measurement, and improves work efficiency. Alkaline solution can be measured (Note1).	Ultra compact, very light Required sample amount is as small as 0.1mL.
	Dimensions	204mm(L)×105mm(W)×114mm(H)
	Weight	Approx. 1.4kg
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	Embedded spectrometer	Select one or two from the following s2086 (range: 200nm–860nm) s2043 (range: 200nm–430nm) s2035 (range: 200nm–350nm) For further details, please contact us.
	Standard accessories	AC adaptor for 100V–240V (50/60Hz), Installation CD, USB cable
	Indispensable consumables [Option]	LepiCuve-C / quartz cuvette (Note1)
	Optional items	Wetertight case, Shoulder bag/case
	PC operating environment	Windows 10 (64bit/32bit)

(Note1) Quartz is available only for neutral and acidic solution, and sapphire is available for neutral, acidic and alkaline solution.

(Note2) The detection limit depends on the element and the sample. Some elements cannot be measured.

Major sales results

Major sales results

Ibaraki University, Tokyo Denki University, United Nations University, National Institute of Technology, Toyama College, Kanazawa University, Kyoto University, Kyushu University, University of Miyazaki, National Institute of Advanced Industrial Science and Technology, Central Research Institute of Electric Power Industry, National Institute of Technology and Evaluation, National Institute of Occupational Safety and Health, Japan, Hokkaido Research Organization, Industrial Technology and Environment Research Department, Industrial Research Institute, Ishikawa Prefecture

Manufacturing industry

Metal refining, recycle, surface treatment, electronic parts, home appliances, materials, resource exploration, plants, machinery, civil engineering

International cooperation

JICA/JST joint Project SATREPS/Agricultural Support

Sales results to overseas U.S.A, Brazil, Taiwan, Korea, China, Thailand, Russia, Finland, Romania, Ghana

Target element and detection limit guideline (49 elements 2019/7/1)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	L*	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu			

■ Item listed on the ingredient label for beverages, etc.
■ Harmful elements that impact on society and thus become topical.
■ Precious metal

 ≤ 0.01mg/L
 ≤ 0.1mg/L
 ≤ 1mg/L
 ≤ 10mg/L
 ≤ 100mg/L
 > 100mg/L



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