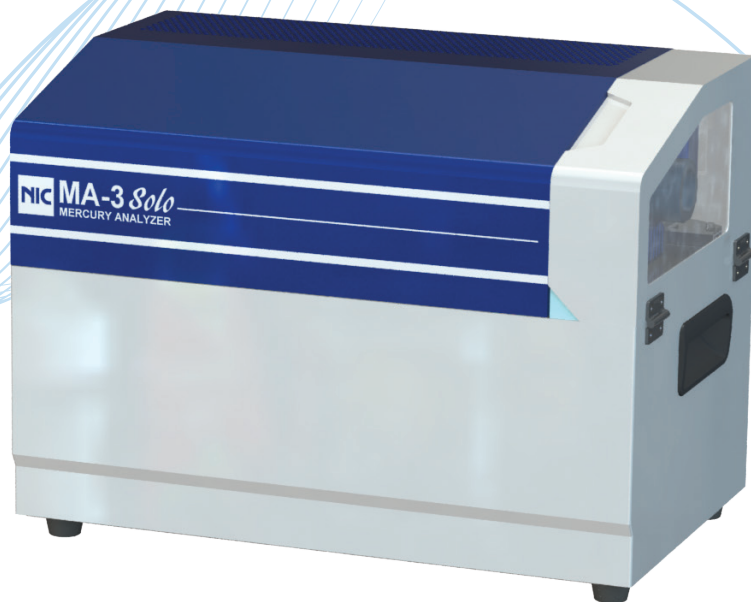


## TECHNICAL SPECIFICATIONS FOR MA-3 Solo



Item	Specifications
Measurement Objects	Solid Sample; Liquid Sample; Gaseous Sample <sup>*1,2</sup>
Analysis Method	Thermal Decompositions -Gold Amalgamation Collection - Cold Vapor Atomic Absorption Spectroscopy
Measurement Principle	Non-dispersion double-beam cold atomic absorption spectrometry
Light Source	Low-Pressure Mercury Discharge Lamp
Detector	Semiconductor Detector (with 254nm bandpass filter)
Detection Limit	0.01ng
Precision	Precision: RSD 3% or better (0.1ng or greater) <sup>*3</sup>
Measuring range	0 to 10,000 ng
Analysis time	5 to 12 minutes
Flow Rate at Measurement	0.2L/min
Exhaust Has Treatment	Activated Carbon Filter For Removing Mercury
Sample Heating Temperature	Up to 850°C
Heating Control	3 Step Setting (Temperature time arbitrary setting possible)
Carrier gas	Self-purified ambient air
Sample Boat	Dedicated Ceramic Boat
Sample Boat Capacity	1.5mL
Size	403W x 252D x 300H (mm)
Weight	13KG (~28lbs)
Power Voltage	AC100-240V, 50/60Hz
Power Rating	1.1kVA
Usage Environment	Temperature 15 to 35°C Humidity: 10 to 80% RH (No Dew Condensation)
Standard Accessories of MA-3 Solo	Sample Boat (x 10 pieces); Boat Stands; Boat tongs; L-cysteine

Note:

\*1 - For some samples, measurement may be impossible.

\*2 - For Measurement of gaseous samples, an optional collector tube measurement kit is required

\*3 - Certain conditions are prerequisite for low concentration measurement

## AQUA Kit

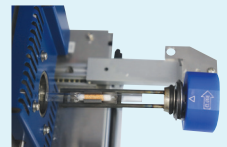
Item	Specifications
Sample Volume	Up to 20mL
Measurement Range	5ng/L - 50ug/L (For measurement of 20mL); Up to 1,000 ug/L with 1mL sample for measurement
Precision	RSD 3% or better (For 15ng/L or more)
Dimensions	465W x 370D x 176W (mm) (Carrying case)
Weight	6KG
Carrier Gas	Mercury-free air exhaust from MA-3 Solo
Standard Accessories Included	Impinger Outer Unit x 5 pieces Impinger Inner Unit x 2 pieces Reagent Container x 5 pieces Stainless Steel Impinger Stand x 1 unit Cleaning/Wash Bottle x 1 unit Joint Clamp x 2 units Mist Catcher x 2 units Plastic syringe x 10 units L-cysteine (1g) x 1 bottle Tygon tube (2m) x 1 set Mercury Collector Tube Connection Piping x 1 piece PTFE Tube (0.3m) x 6 pieces Mercury Collector Tube with Glass Container and Stopper (5 pieces) x 1 set Metal Clip Collector Tube Holder x 5 units Carrying Case x 1



\*Note: For the measurement of Total Mercury in Aqueous sample, user has to perform sample wet chemical decomposition/acid digestion/extraction

## Gas Analysis Kit

Specifications	
Standard Accessories	N-65 Mercury Collector Tube - (x 5 pcs) Metal Clip Tube Holder (x 5 pcs)



## Other Accessories

### GilAir® Plus Basic Air Sampling Pump

Item	Specification
Brand	SENSIDYNE®
Sampling Flow Rate	20 - 5000cc/min
Time Mode Setting	Available
Power Options	Removable rechargeable battery, or DC Power
Power Voltage	100-240Vac, 50/60Hz
Display	Flow Rate, Sample time, and sample volume in actual conditions
Dimensions	11.0W x 6.1H x 6.1D (cm)
Weight	580g (20.5 oz.)



### Tedlar Bag

Item	Specification
Size/Volume	5L, 10L, 20L, 50L

### Dry gas Meter

Item	Specification
Usage	For the Sampling of Natural Gas onto Mercury Collector Tube



### Standard (Hg) Gas Box Set

Item	Specification
Standard (Hg) gas Box	MB-1
Gas-tight Syringe	Hamilton Gas-tight Syringe of 500uL

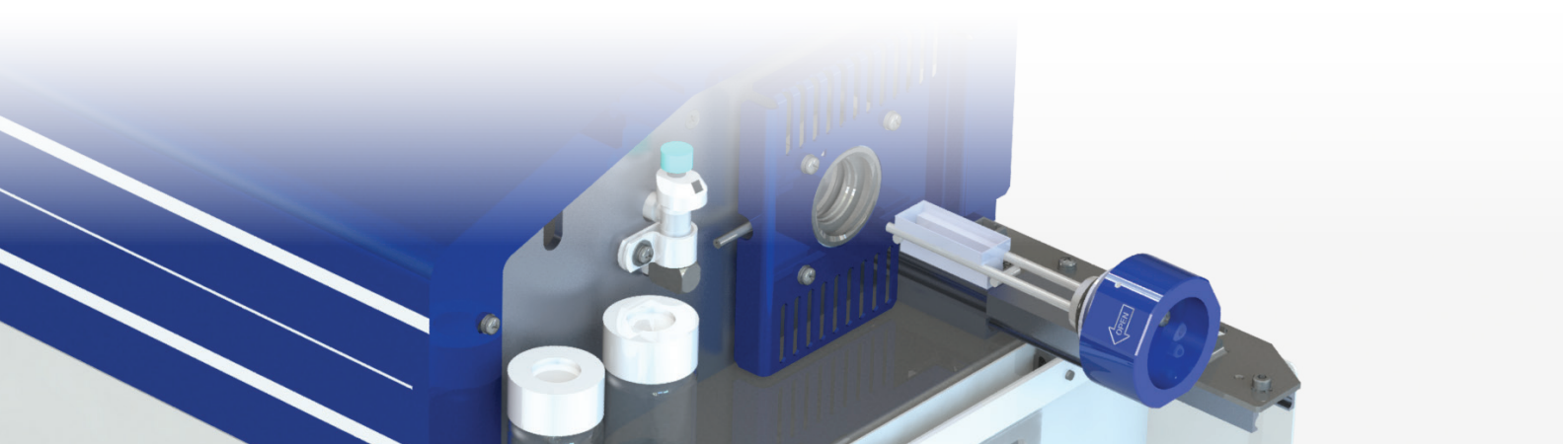


### Sample Heating Tube Appendix K

Item	Specification
Usage	For Special Application Please contact <a href="mailto:info-nic@rigaku.co.jp">info-nic@rigaku.co.jp</a> or local distributor for more information

### Additive Activated Charcoal

Item	Specification
Usage	For Crude Oil Application. Other application please confirm with local distributor or NIC at <a href="mailto:info-nic@rigaku.co.jp">info-nic@rigaku.co.jp</a>



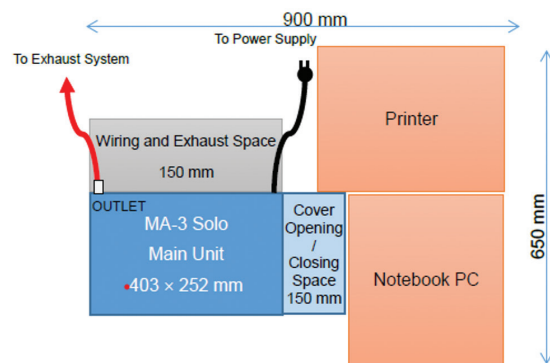
### Control and Data Proceeding Unit

Item	Specification
OS	Windows 10 Pro or Windows 11 Pro
Communication	USB (between PC and MA-3 Solo)
Display (Japanese/English)	Peak waveform, calibration curve graph, measurement progress, measurement result, equipment status
Data Processing	Calibration curve (linear formula x 3 types ; cubic formula - 3 types), concentration units setup, concentration computation, baseline correction, statistical calculation (mean value, standard deviation, CV%), Peak shape judgement, Self check
Precision Control	Equipment Check; Evaluation of calibration curve; blank check; recovery calculation
Printing	Memo, calibration curve formula and graph, measurement value table, statistical calculation, peak waveform, measurement date and time, result of equipment check

### Installation Environment

Item	Specification
Temperature	15 - 35°C The instrument shall be used in an air conditioned room in which there is no abrupt temperature change.
Humidity	10 - 80% RH (There shall be no condensation.)
Other Atmospheric Requirements	The instrument shall not be used in dusty environment The instrument shall not be exposed to the wind of an air-conditioner or direct sunlight No corrosive gas or volatile organic solvent shall be detected The indoor mercury concentration shall not be high.*

#### Installation Layout & Space Requirement



\*Note: When the indoor mercury concentration is high, the operation blank becomes high.

Specifications may subject to change without prior notice.



**Nippon Instruments Corporation**  
A Rigaku Company

**Osaka office /Tech. cent** : 110 Nishikujō Gawarajōchō, Minami Ward, Kyoto, 601-8424, Japan  
TEL : +81 75-748-6200 FAX : +81 75-748-6208  
EMAIL : info-nic@rigaku.co.jp URL : www.hg-nic.com  
ISO 9001:2015 & ISO 14001:2015 Accredited

**Singapore office** : 61 Bukit Batok Crescent  
#04-04A, Singapore 658078  
TEL : +65 6873-7068 FAX : +65 6873-6362

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