

5E-HGT2320

Automatic Mercury Analyzer



5E-HGT2320 Automatic Mercury Analyzer is used to determine mercury level in liquid and solid materials such as coal, coal fly ash, soil, sludge, sediment, ore, minerals, wastewater, oil, food and feed.

WHAT makes 5E-HGT2320 a BETTER analyzer?



Safety First

Determine total mercury directly without sample preparation or other wet chemistry. No hazardous waste produced and no corrosive chemicals used.



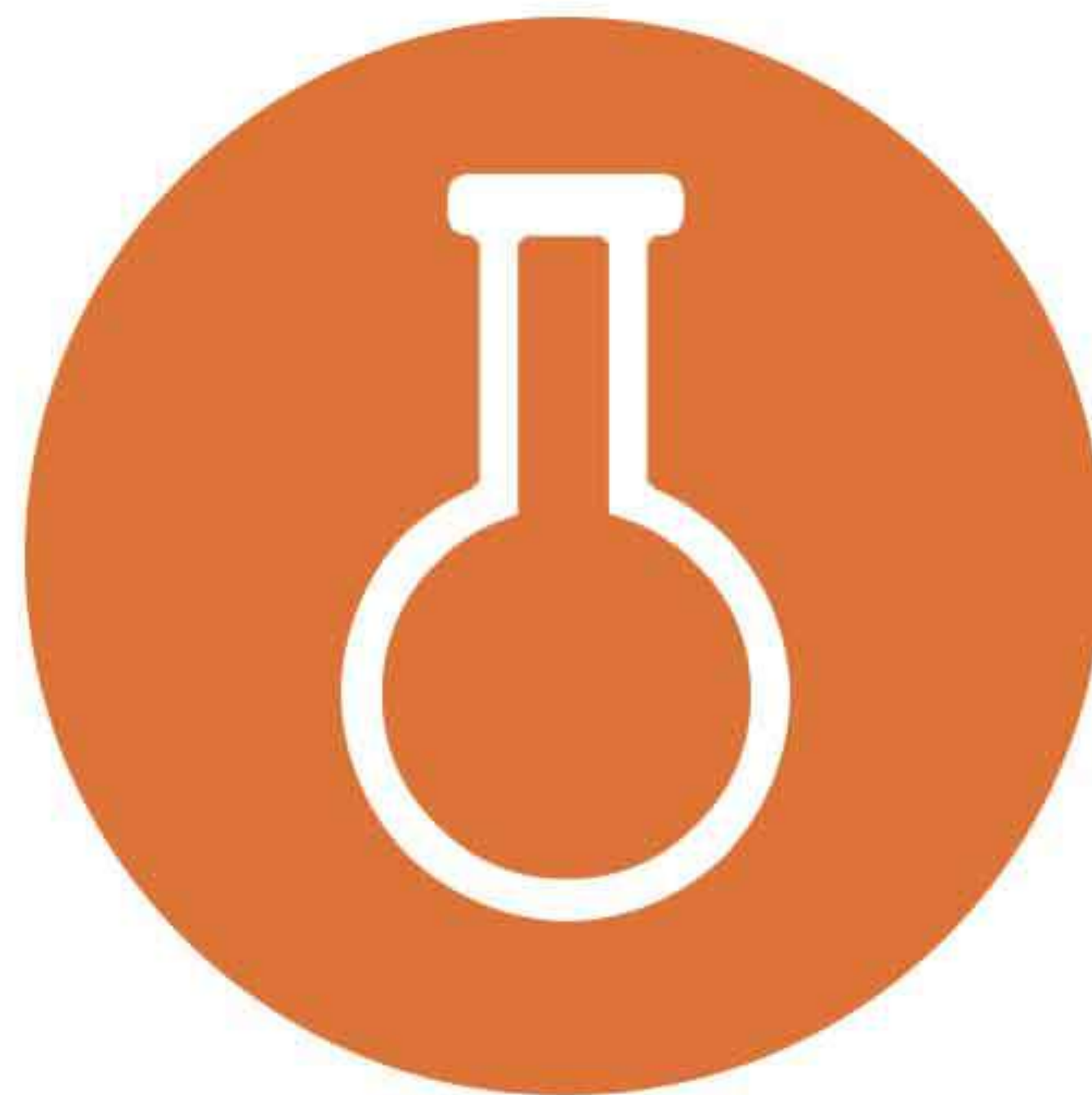
High Efficiency

Results in 5 minutes. An auto-sampler with as many as 70 sample positions is provided.



Wide Application

5E-HGT2320 is able to analyze a variety of sample types including solids and liquid in a wide range of applications.



Easy Operation

Just input the sample mass into software and load the sample onto the auto-sampler, 5E-HGT2320 will finish the test automatically.



Minimum Analysis Cost

Compared with the traditional CV-AAS mercury analysis techniques, 5E-HGT2320 saves more than 70% in cost for customers.

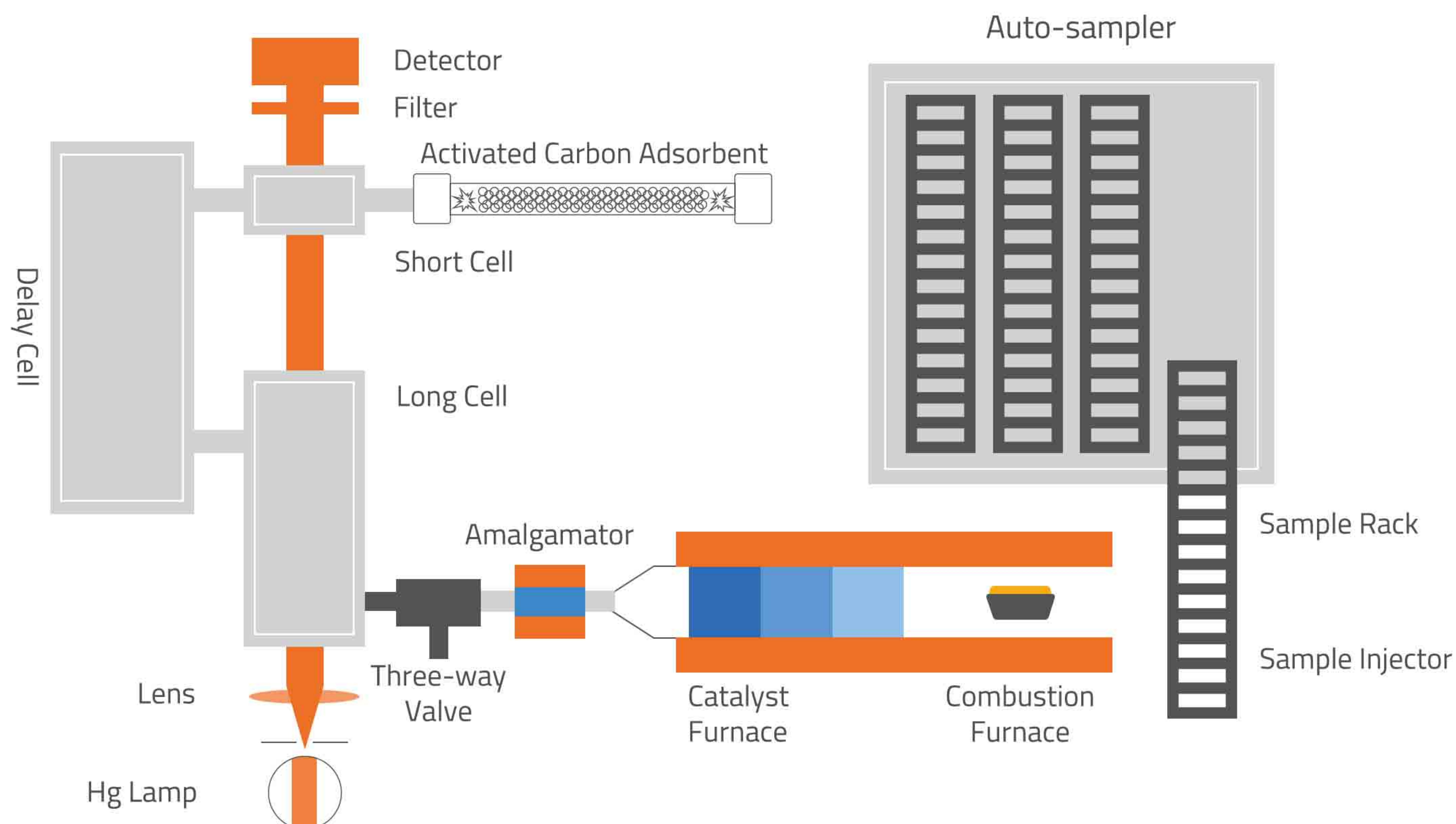


STANDARD CONFIGURATION



- Long Cell Components
- Short Cell Components
- Mercury Lamp Components
- Sample Boat (Quartz)
- Amalgamation Tube
- Sample Holder
- Silicone Grease
- Standard Mercury Solution
- Arm Manipulator Components
- Amalgamation Tube Resistance Wire
- O-ring-1.8x1.8-Silicone Rubber
- O-ring-3.55x1.8-Silicone Rubber
- O-ring-10.6x1.8-Silicone Rubber
- O-ring-16x1.8-Silicone Rubber
- O-ring-21.2x1.8-Silicone Rubber

PRINCIPLE OF OPERATION



5E-HGT2320 is a direct mercury analyzer of solid and liquid samples that employs the thermal decomposition process described in U.S. EPA Method 7473.

The samples are firstly dried and moisture is discharged in the form of vapor by a three-way valve. Then the sample is thermally decomposed in an oxygen-rich stream and the decomposition products are carried by flowing oxygen to the catalytic section of the furnace, where oxidation is completed and all interfering substances, such as halogens and nitrogen/sulfur

oxides are eliminated. The remaining decomposition products are further carried to a gold amalgamator where the mercury is selectively trapped.

After the system is flushed with oxygen to remove the remaining decomposition products, the amalgamator is rapidly heated, releasing mercury vapor. Flowing oxygen carries the mercury vapor through a 253.7nm wavelength atomic absorption spectrophotometer. Mercury concentration is measured via absorbance peak height or peak area.

SAMPLE APPLICATIONS



SOIL



WASTEWATER



ORE & MINERALS



COAL



BEVERAGE



SLUDGE



FOOD



FERTILIZER



FEED

Typical Results

Sample	NO.	Measured(PPM)	Certified(PPM)
Coal	GBW11160	0.090	0.096
Coal	GBW11159	0.127	0.130
Coal	GBW11157	0.196	0.19
Coal	GBW11156	0.31	0.32
Coal	SARM20	0.245	0.25
Soil	GBW07403	0.058	0.06
Soil	BCR277R	0.135	0.128
Soil	GBW07405	0.302	0.29

DESIGN FEATURES



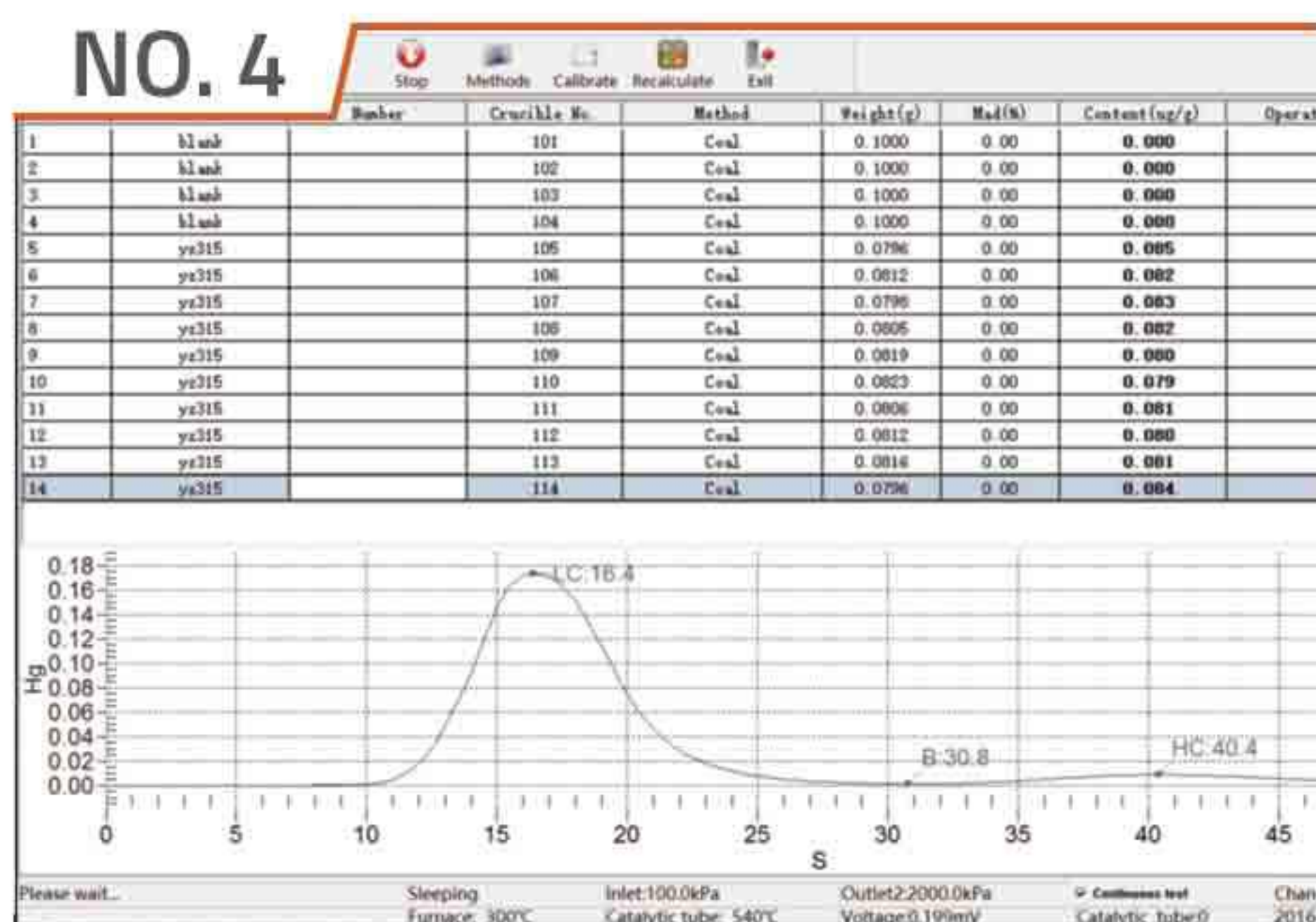
NO. 1
70 position auto-sampler for high sample throughput



NO. 2
Easy accessible furnace for routine cleaning and maintenance



NO. 3
Unique three valve design to avoid cell contamination



NO. 4
User-friendly Windows-based software



Contact CKIC for your 5E-HGT2320
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SPECIFICATION

Conforms to Method	US/EPA7473, ASTM D6722
Principle	Sample Thermal Decomposition, Atomic Absorption
Instrument control	External PC computer system
Sample types	Liquid or solid
Max. Sample Volume (Liquid)*	1000 µl (ceramic boat), 1500 µl (nickel boat)
Max. Sample Weight (Solid)*	1000 mg (ceramic boat), 1500 mg (nickel boat)
Light Source	Low pressure mercury lamp
Hg wavelength	253.65 nm
Detectors	UV enhanced photodiodes (2)
Number of samples	70 with small or large boats
Detection limit	0.001 ng Hg
Working Range	Automatic scale change / Dynamic range 0 ng – 1500 ng Hg
Repeatability	<1.5 % @ 10 ng Hg
Typical Analysis Time	5 minutes
Sample treatment	Adjustable from
Drying time	1– 999 s
Decomposition time	1– 999 s
Waiting time	1– 999 s
Calibration	Standard solution or CRM
Number of standards	Minimum 2 (blank & high), maximum 33
Carrier gas	Oxygen
Input pressure	15 Psi (100 kpa)
Peak flow	300 ml/min
Peak (W) -Energy consumption	3000W
Standby (W)-Energy consumption	<100W
Power Supply	110/220 VAC, 50/60 Hz
Weight (kg)	30 kg
Dimensions (L x W x H)	500 x 460 x 350 mm

* Depend on different sample density