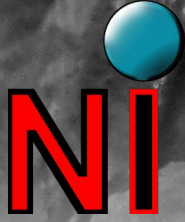


# Multiple Sample (19) Thermogravimetric Analyzers With Automatic Crucible - Cover Placement And Removal For Volatile Matter Dual Carousel For Covers / Crucibles (Patented)



## Navas Instruments TGA - 2000 Series For Coal And Coke

### Determination of: Moisture, Volatile Matter, Ash Fixed-Carbon, and LOI (Loss On Ignition)

The dual carousel configuration allows automatic placement and removal of crucible-covers inside the furnace.

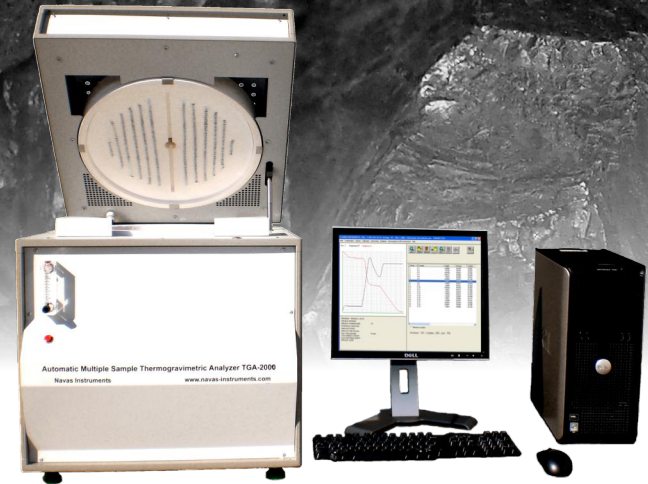
This prevents sample oxidizing and provides better volatile matter accuracy in addition to automation, (It works unattended).

No danger to operator opening furnace at 600 °C.

No danger of falling covers inside furnace.

Auto-recovery from mains power failure.

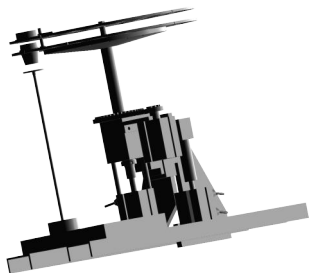
Single furnace or dual furnace controlled by one single PC  
Controlled with desktop PC or laptop through standard USB  
connection



### Benefits

- **Productivity:** Works unattended, covers are placed/removed automatically overnight
- **Repeatability:** NO operator dependent volatile results, In competitors TGAs lid opens to place and remove the covers by hand, in Navas automatic crucible-covers, the covers are placed and removed automatically by joining and separating the upper carousel, the furnace is hot and the time to place/remove the covers is operator independent, NO sample oxidizing
- **Safety:** Reduces the chance of burns since the furnace is not opened to place or remove the crucible-covers
- **Ease of use:** No danger of falling covers inside furnace, easy to use software in Windows and easy to use diagnostics screen

# Productivity, Repeatability And Safety



1

Innovation that is the dual carousel TGA (Patented)  
Lower carousel holds crucibles  
Upper carousel holds covers, upper carousel lowers to place crucible-covers, both carousels move up/down to weight crucibles on furnace balance

2

This translates to productivity, repeatability and safety



3

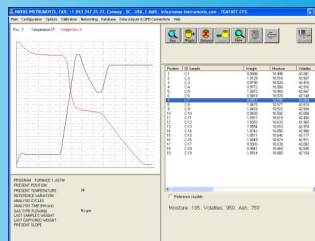
All being measured with 4 place precision balance with digital display for calibration and diagnostics

Optional external balance for increased productivity  
External balance allows obtaining initial weights of crucibles and samples during analysis time  
Balance with LCD display for easy service

4

Windows based software for flexibility and functionality

Configurable parameters for all slopes:  
Temperatures, ramp rates, gases, etc ...



Time (min)	Weight (%)	Temperature (°C)	Ramp Rate (°C/min)	Gas Flow (ml/min)	Gas Type
0	100.00	1000	10	10	N2
10	100.00	1000	10	10	N2
20	100.00	1000	10	10	N2
30	100.00	1000	10	10	N2
40	100.00	1000	10	10	N2
50	100.00	1000	10	10	N2
60	100.00	1000	10	10	N2
70	100.00	1000	10	10	N2
80	100.00	1000	10	10	N2
90	100.00	1000	10	10	N2
100	100.00	1000	10	10	N2

5

Powerful Open Database Connectivity (ODBC) with filtering, sorting, configurable data exports to LIMS (Laboratory Information Management Systems) and to Microsoft Excel in TXT, CSV and XLS files or to serial port

6

All the electric and pneumatic parts in the TGA can be acquired in the market  
With no dependency on Navas Instruments, However for our customers convenience we do maintain a complete parts and service department  
All sensors are magnetic not affected by dust  
Other TGA manufacturers use special electronics and parts that can only be purchased from the manufacturer at very high prices