**A**nnounces A *NEW* Multiple Sample Quick Moisture - Ash Analyzer for large throughput (*Accurate TGA method*)
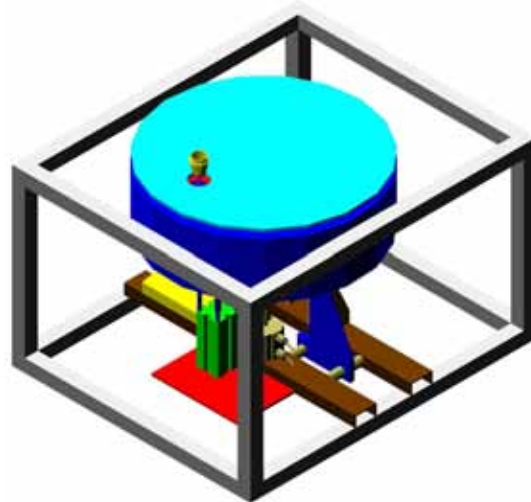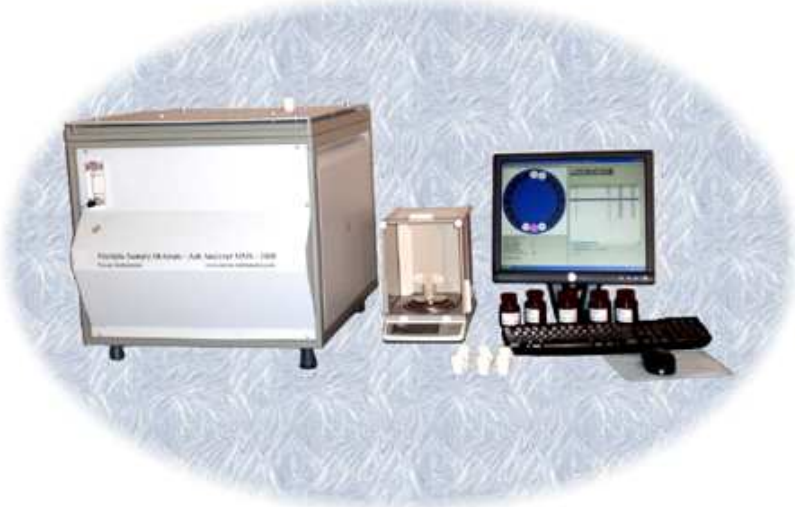
**Navas Instruments MMS - 3000 Series**
**For laboratory or production control**
Multiple Matrix - Multiple Sample Quick Moisture-Ash analyzer
Applications: Food, animal feed, snacks, dough, wheat, flour, calcium carbonate, coal ( Ash in 20-25 minutes), cement (LOI in 20-25 minutes) etc ...
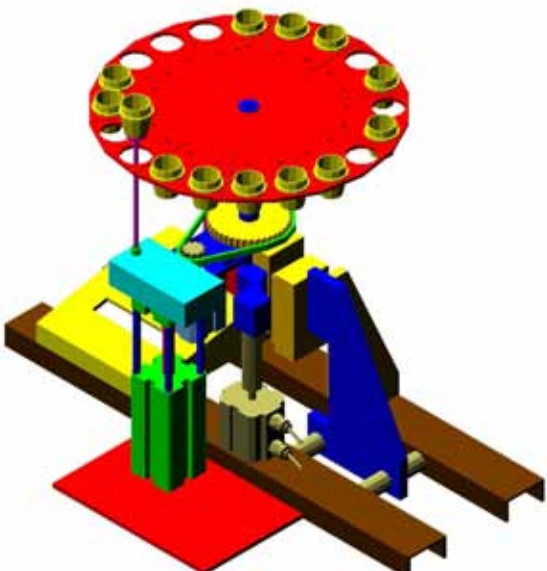
**Determination of: Moisture - ash, LOI**



## Fast operation (15 Samples simultaneously), 30 minutes for ash in coal, 120 minutes for ash in flour (Patented)

**1 -** Continuous operation ( Furnace always hot )

**2 -** Crucibles and samples weighing on external balance during analysis time ( Not dead furnace time )

**3 -** Crucibles deposited by hand on ejector pedestal and automatic insertion on furnace carousel, automatic removal after analysis completion .

No operator attendance needed for crucibles removal, crucibles are only removed and replaced by new crucibles when new samples are weighed on external balance.

**4 -** Samples are treated independently one to other, samples needing longer analysis time stay longer time, samples with result are automatically ejected for removal.

**5 -** No time lost on heating and cooling.



## Advantages

**1 -** The user can weigh crucibles and samples during the analysis in the same PC that manages the instrument.

There is not time wasted in getting the initial weights of crucibles and samples and entering the samples identification codes because initial weights are not obtained inside the instrument but in an external balance during analysis time.

**2 -** Samples of different materials can be analyzed, no samples condition others, the first to finish will be the first ejected and replaced by the operator with a new crucible with sample already weighed.

**3 -** No time spent in heating and cooling to start a new batch, in this instrument the furnace is always hot and operates in a continuous process.
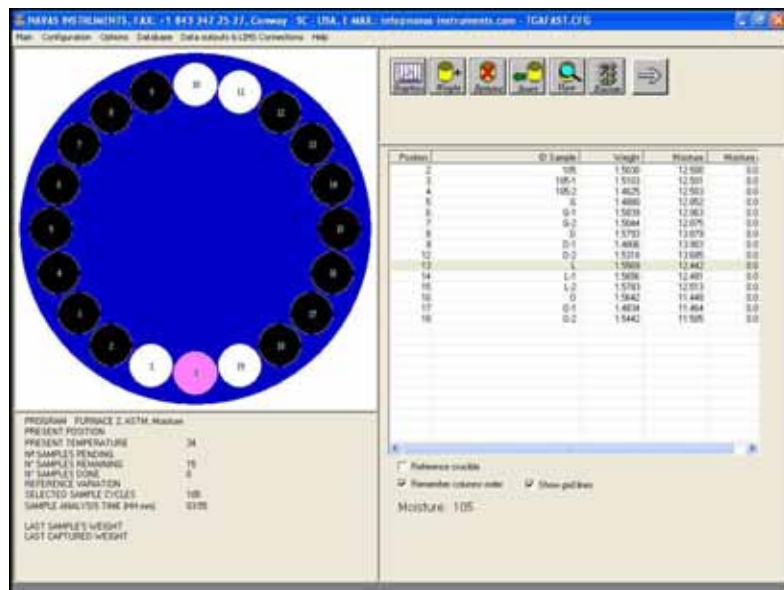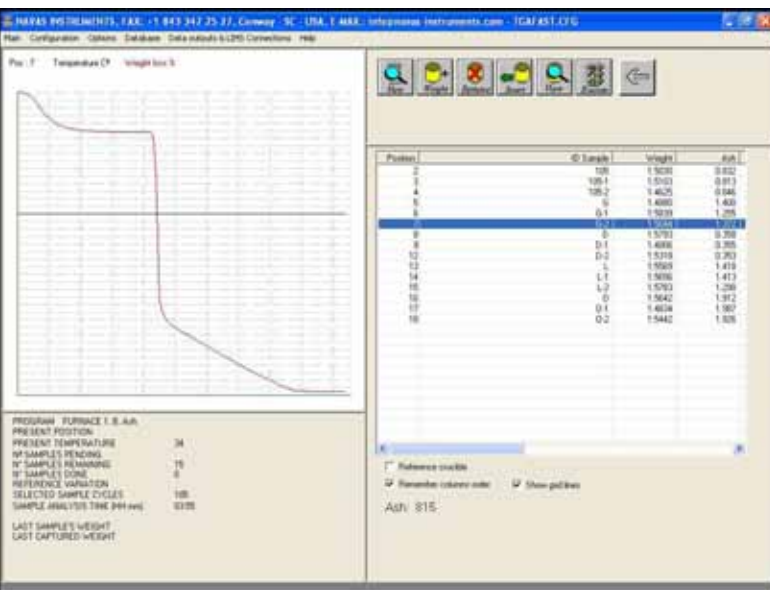
All heated parts inside furnace are made of a  stainless steel alloy for high temperature (Carousel, spindle and pedestal).

The carousels do not bend nor warp under temperature stress, metal does not break like ceramics.

Ceramic crucibles allow analysis of materials that may attack metal crucibles ( Metal crucibles used in other models )

**1 Full year warranty on all components including carousel and spindle.**

Navas Instruments buys complete brand name balances and temperature controllers from recognized manufacturers.

The balances have display FOR EASY service.

The temperature controller has 2 displays: 1 for the set point and other for the present temperature.

The balance and the temperature controller are programmable using the buttons in the devices.

These devices are manufactured by the experts in the business.

All the electric and pneumatic parts in the TGA can be acquired in the market: Magnetic switches, relays, pneumatic valves, pistons, etc…

With no dependency on Navas Instruments.

Other TGA manufacturers use special electronics that can only be purchased from the manufacturer at very high price.

All the sensors are magnetic not affected by dust.

Very few proprietary electronics (Only 2 boards), that are located in 2 PC slots.

ACCESS FOR SERVICE from back, sides, front and underneath.



*MMS TGA application*

The **Windows software** allows easy instrument operation.

Integration with **Microsoft Office**, results are stored in Microsoft Access Data base automatically, data can be exported automatically and manually in TXT, CSV and XLS formats to Microsoft Excel or several Laboratory Information Management Systems (**LIMS**).

Configurable parameters for all slopes up to 8 sets of settings: Final temperatures, plateau deviations, gases, etc…

The process variables are displayed dynamically during analysis (Samples in furnace carousel, present temperature, present carousel position, last samples weight etc...)

The user can view the state of the furnace carousel dynamically, this provides a visual indication of the amount of samples inside furnace.

**EASY TO USE DIAGNOSTICS SCREEN.**

# Navas Instruments MMS - 3000 Series
# Multiple Matrix - Multiple Sample Moisture-Ash analyzer

## Brief technical specifications ...

Temp. range: 50 ~ 1000 ° C ±1 °C

Sample size: 0.1 ~ 10 grams.

Standard deviation of ± 0.0002 g

Weight Loss/Gain range: 0 ~ 100 %

etc ...

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