

The **JEFFCO InfraCana II** comprises four essential components:

1. **The Cutter Grinder**
for sample preparation
2. **The ASAS Presentation System**
for sample control & movement
3. **The Spectrometer**
for spectroscopic analysis
4. **The Touch Screen Controller**
for control and computations

The Cutter Grinder:

This is a 4th generation evolution of the famous units in use in dozens of countries around the world, as the standard for high quality preparation of sugar cane for both wet chemistry & spectroscopic analysis. Using the proven multi-blade cutting chamber and laser-profiled screen plate for precise particle control, it now incorporates electronic control for maximum processing speed and safety whilst reducing overall noise levels. It can be fitted with custom sample feed chutes to suit every installation, from laboratory to mill receiving centre applications.

The ASAS Presentation System:

The patented ASAS system is the heart of the **JEFFCO InfraCana II**. It uses a custom design of conveyor to carry the prepared sample from the Cutter Grinder under the Compression Plate, a vibrating plate which precisely controls the height and packing density of the material. This is critical for consistent and reliable spectroscopic analysis because it standardises the path length from the read head and eliminates air gaps and density changes in the sample. With its top-reading method, there is no contact between the sample and the spectrometer window to give incorrect results. Infrared height sensors automatically detect and accommodate varying sample sizes from 1-100kg.

The Spectrometer:

Designed and built in Australia by Jeffress Engineering, the spectrometer was developed specifically for the **InfraCana II** and is optimised to measure sugar cane. Using the latest diode array technology and thermo-electric cooling for stability, it is fully integrated into the IC02 and provides precise, fast measurements. It takes more than 10 full measurements per second, ensuring that accurate results are achieved even for small samples.

The Touch Screen Controller:

The IC02 is easily managed from the user-friendly touch screen controller. All functions are programmable and sample identification can come from barcode readers, RF-ID tags etc. The Touch Screen, which can be positioned away from the Controller for operator efficiency, shows full status information, dynamic display of spectra and prediction results. Cable and wireless network connectivity is standard.

JEFFCO InfraCana installations have a proven track record of reliability (with individual installations in the Philippines having analysed over 110,000 samples per system per season since 2003). The IC02 is completely designed and manu-factured in Australia to the highest quality standards for long life and cost-effective operation.

The ASAS system is patented in Australia, Brazil, China, India, South Africa, Thailand and USA. **JEFFCO** and **InfraCana** are registered trademarks of Jeffress Engineering Pty Ltd.

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manufactured in Australia by:

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PRELIMINARY SPECIFICATIONS

* Construction:

Main Cabinets: stainless steel
Cutting Components: stainless and special heat-treated alloy steels
Cutter Grinder: cast stainless steel
Conveyor: Polypropylene

* Motor & Electronic Circuitry:

Motor: 11kW 3 Ø
AC Supply: 380 – 460 Volts
Frequency: 50 or 60 Hz
Current: 25A max FLC
Supply: must be rated 35A
RPM: 1700 (electronic control)
Sensors: Inductive x 2; IR x 2
Power: UPS for computer

* Safety Systems:

Stopping: Emergency Stop switch
Warning: Malfunction indicator
Motor: Electrodynamic braking
Electronic overload sense
Sensor: Head locking clamp closed
Sensor: Discharge hood closed
Outlet: Self-closing safety shield
Security: Key start, operator login

* Cutting System:

System: Grappler Rotor
Reversible Precut Blade
Four fixed Stators
Dual Main Blades
Geometric Screen Plate
Downdraught Ejector
Material: Proprietary alloy steels
Screen: 32mm hexagonal mesh

* Controller:

Screen: 15" touch, HD 1366 x 768
Processor: i3/i7, 8Gb RAM, m-ITX
Storage: Dual 120Gb SSD
Network: 10/100/1000Mb cable
802.11 b/g/n wireless
External USB 3.0 x 1
Ports: USB 2.0 x 3
Control: Wireless Keyboard/Mouse

* Spectrometer:

Type: Diode array solid state
Resolution: 256 pixels ~3 nm
Interpolated 1 nm
Range: Nominal 900-1700 nm
Reference: Spectralon, gold/titanium
Speed: >10 full spectra per second
Optics: F2.0, 50mm Ø at sample

* Size (mm):

Nominal: 1915 W x 1875 H x 1125 D



SAVE TIME & MONEY ON ROUTINE ANALYSIS OF SUGAR CANE PRODUCTS



InfraCana II
Automated Cane Analyser

INTRODUCING THE NEW



InfraCana II

Automated Cane Analyser

- MEASURE BRIX, POL & FIBRE IN SECONDS NOT HOURS
- NIR SPECTROSCOPY FOR CLEAN, FAST, ACCURATE TESTING

CANE BREEDING



MATURITY TESTING



CANE PAYMENT



Jeffress Engineering is pleased to announce the JEFFCO InfraCana II Model IC02 Automated Cane Analyser. This is the second generation of the InfraCana family and incorporates the benefits of more than 14 years of experience using near infrared spectroscopy for the rapid analysis of sugar cane for cane payment, breeding and maturity testing. It is the culmination of more than 60 years of involvement with the sugar industry worldwide.

The JEFFCO InfraCana II Model IC02 Automated Cane Analyser is a complete system in one compact group capable of taking a sample of sugar cane directly from a core sampler and within 120 seconds producing a comprehensive analysis for parameters such as brix, pol, fibre plus as many other parameters as have been calibrated into the system such as ash, trash etc.

Now, the smart design of this new precision instrument makes it even more versatile, allowing a wide range of ancillary measurements to be made – from moisture testing in bagasse to measurements in raw sugar and molasses. *Special sample trays which fit into the IC02 conveyor allow measurement of granulated or liquid products. It has become a totally cost-effective solution for your rapid testing needs for sugar cane and its derivative products.*

FROM CORE SAMPLER TO RESULTS IN LESS THAN 90 SECONDS!



QUALITY CONTROL



BAGASSE TESTING



- ❖ FAST
- ❖ ACCURATE
- ❖ COMPACT
- ❖ VERSATILE
- ❖ EASY TO USE
- ❖ ZERO POLLUTION
- ❖ ZERO CHEMICALS
- ❖ ZERO LEAD
- ❖ ZERO RADIATION