



**T**he MultiCheck™ is the flagship of Bruins Instruments NIR analyzers. The MultiCheck is the most versatile instrument in the NIR analyzer line and is capable of performing measurements in both transmission (wheat, barley, corn, rice, soy, oil seed and more) and reflectance for easy and precise measurements of fine powders such as flour, meal, mixed seed, coffee, tea, or any homogenous substance.

### Typical Applications

Whole grain and seed analysis including: corn, soy, rice, wheat, barley, oil seeds, etc. Universal calibrations are available for protein, moisture, fat, starch, fiber, gluten, sedimentation...

In reflectance mode: Flour, meal, mixed seed, tea, coffee, spices, pastes, powders...

Our calibration services can develop calibrations for almost any significant component or property for your particular product.



### Key Features

- Variable pathlength from 8 to 30mm to accommodate a variety of grain and seed
- Reflectance mode for feed, pet food, bakery products and powders
- ~50 second analysis time with 16 subsamples
- Fully transferable calibrations between instruments

### Options

**Grain density** – This optional accessory integrates with the instrument to automatically provide grain density which is incorporated into the report.

**Temperature** – Measures the temperature of the grain which is incorporated into the report.

### Specifications

Dimensions: 580 X 400 X 470 mm (22.8 X 15.7 X 18.5 inches)

Weight: 40 kg (88 lbs.)

Wavelength range : 730-1100nm transmission • 1100-2500nm reflectance • .5nm scan increment

Sample Presentation: automatic feed with multiple sub-sample measurements

## Common Features to All Bruins Instruments NIR Analyzers

### ***Key Instrument Features***

***Fully Transferable Calibrations*** – Bruins NIR analyzers are the only scanning instruments in the world where product calibrations can be transferred between ALL instruments without any adjustment of the calibrations or the instrument. The unsurpassed instrument linearity negates the use of non-linear calibrations, such as ANN, and instead can utilize robust statistically based calibrations such as PLS.

***Research Grade Precision*** – The Bruins monochromator has been developed and refined over 30 years with over 10,000 units delivered. They are used in some of the most demanding applications such as the measurement of optical laser filters, standards measurements, and military applications for quality control.

***Industrial Grade reliability*** – Utilizing a single moving part, excluding the sampling systems, Bruins NIR analyzers are known to run reliably and accurately for years without any adjustments at all utilizing the original calibrations!

***Double Beam operation*** – All Bruins Analyzers use a single channel, double beam mode of measurement that insures the highest precision. This is the same technique used on many research grade spectrophotometers. Double beam measurements always reference the sample measurement against an open beam measurement to eliminate the effects of drift due to environmental conditions or short and long term instrument variation.

### ***Instrument Software***

***Omega Predict Software*** – Uses a high resolution color touch screen to guide the user through the simple process of running the measurements. All data from each measurement, including the full spectrum is logged into the Predict database. Password controlled administrative functions allow tailoring the menu to the exact level of operability for the user as well as configuring products and calibrations. Results and spectra are easily exported to a local network or USB device.

Omega Predict utilizes the industry standard GRAMS PLSplus/IQ multivariate analysis software for generating calibrations for virtually any product. Unlike some NIR analyzers, calibrations are based on sound statistical models that not only provide fully transferable calibrations, but can also reliably indicate bad samples or instrumental problems and can virtually eliminate incorrect or misleading results.

Omega Predict can also utilize calibrations developed on older filter based instruments using MLR which can easily be transferred to any Bruins NIR analyzer to get you up and running fast, without costly recalibration.

***Omega-Pro analysis software*** - is a full-featured spectroscopy software available on the research grade InfraScan instrument.

***Communications*** – Remote control and networking software included.

### ***Instrument hardware***

Integrated PC board with network and USB connectors. Solid state Industrial grade 2GB bootable flash memory drive for program and data storage. Optional external mouse/keyboard/monitor.