DICKEY-john®
A DIVISION OF TSI®

User Manual

GRAINLAB™ ANALYZER

CONTENTS

SAFETY NOTICES

Safety notices are one of the primary ways to call attention to potential hazards. An absence of specific alerts does not mean that there are no safety risks involved.

This product is intended for indoor use.

Disclaimer

DICKEY-john® reserves the right to make engineering refinements or procedural changes that may not be reflected in this manual. Material included in this manual is for informational purposes and is subject to change without notice.

Liability

The GrainLab™ is designed to measure constituent content in grains, oilseeds, and other products. Each instrument is rigorously tested and calibrated before it leaves the factory. Use of the instrument in the field, however, is subject to environmental and operating conditions beyond our control. DICKEY-john® disclaims all liability for damages resulting from environmental and operating conditions beyond our control and for any damages that might follow incorrect results due to those environmental or operational conditions. **IN NO EVENT SHALL DICKEY-john® OR ANY OF ITS AFFILIATES, OFFICERS, DIRECTORS, SUCCESSORS OR ASSIGNS BE LIABLE FOR ANY DAMAGES WHATSOEVER, INCLUDING SPECIAL, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES OR DAMAGES FOR LOSS OF PROFITS, REVENUE, USE, OR DATA AS A RESULT OF CLAIMS, REGARDLESS OF THEORY BROUGHT, ARISING OUT OF OR CONNECTED WITH ANY USE OR RELIANCE ON THE GRAINLAB™ CONSTITUENT TESTER.**

The operator is responsible for ensuring the results of the testing are as accurate as possible by following approved maintenance procedures on a regular basis, making sure the calibrations are up to date and the latest version is being utilized, by cleaning the instrument and its sensors on a regular and as-needed basis depending on the amount of dust, dirt, and debris encountered in the instrument's use, by monitoring performance using daily check samples and by adhering to the check procedures set forth in the manual. As with any kind of precision instrument, optimal results depend in part on proper cleaning and maintenance.

For questions concerning these issues, refer to the product warranty, or call your DICKEY-john® representative.

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INTRODUCTION

The DICKEY-john® GrainLab™ Constituent Analyzer delivers fast, accurate measurements of key constituents like protein, oil, carbohydrates, and moisture. The unit performs a reference measurement before testing the sample and displays the results on the connected PC (not included).

Packing List

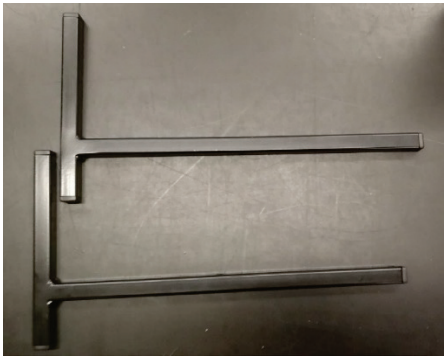
The following list of components are included with the unit and most of them can be ordered as replacement parts by contacting your dealer or distributor.

No.	Item
1	Shipping / Carry case
2	Sensor
3	Legs
4	Screws, washers and wingnuts
5	Grain containers
6	Funnels
7	Power supply, cable and adapters
8	USB cable
9	Cleaning brush
10	GrainLab™ User Guide PN 6018458

Shipping / Carry Case

Sensor

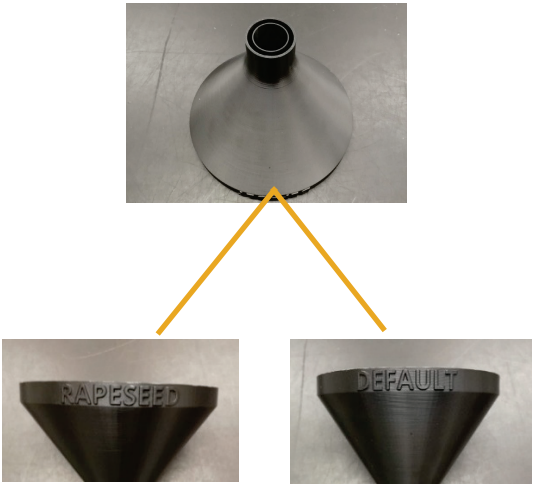
Legs



Screws, Washers and Wingnuts

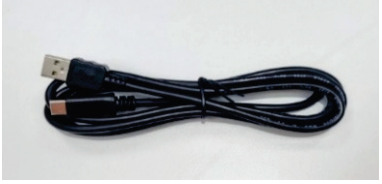
Grain Containers

Funnels

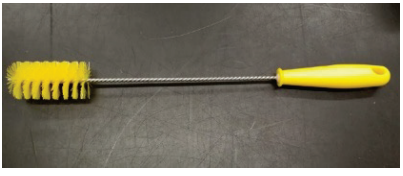


Power Supply and Adapters

USB Cable



Cleaning Brush



User Manual (PN 6018458)

Specifications

- **Operating temperature:** 41 to 113°F (5 to 45°C)
- **Power:** 110-230 VAC
- **Storage Temperature:** -4 to 185°F (-20 to 85°C)
- **Approximate Weight:** 13 lbs.
- **Approximate Dimensions (with legs):** 17”H x 9”W x 9”D
- **Computer Operating System:** Windows® 10 or later (PC not included)

Regulatory Compliance Information

The GrainLab™ Analyzer is in conformity with provisions of the following directives and regulations:

EMC Emissions

- 2014/30/EU - Electromagnetic Compatibility (EMC) Directive
- EN 61000-3-2: 2014
- EN 61000-3-3: 2013

RoHS III

- 2015/863/EU - RoHS Directive

WEEE

- 2012/19/EU

Account Registration and Device Activation

In order to use your device, you will need to register it with DICKEY-john®. Without registering and activating your device, you will be unable to use your instrument.

1. **Begin Device Activation**
   - Go to the DICKEY-john® Product Activation form: https://dickey-john.com/service-support/product-activation/
   - Complete the form with:
     - Your name, email address, and phone number
     - Your device model and serial number (located on the unit).
   - Submit the form.
   - Once the form is submitted, you will see a confirmation on screen that your request has been received.
   - No further action is required at this point. DICKEY-john® will review and begin the activation process for your instrument. **Activation process will take up to 48 hours or 2 business days.**

2. **Activation Email**
   - Once the activation process is complete, you will receive an Activation Email confirming that your device is now activated and linked to your account.
   - **YOU CANNOT LOG IN OR USE YOUR DEVICE YET.**

Follow the instructions in the activation email to reset your password and download the PC software.

3. **Connect Your Device**
   - Ensure that your GrainLab™ Analyzer has power and is plugged into the PC (that has the GrainLab™ program installed).
   - Open the GrainLab™ PC program and log in with your DICKEY-john® account with your new password.
   - Follow on-screen prompts to connect and sync your device.
   - Once synced, your device is ready to use.

Hardware Setup

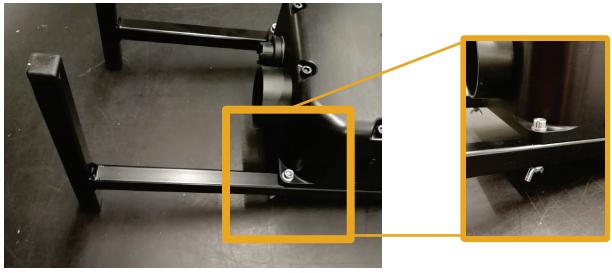
1. GrainLab™ Analyzer and its accessories are packed inside the protective carry case.

2. Carefully unpack the GrainLab™ Analyzer and ensure that all items are present. (Some items are packed inside of the white containers.)

Contact DICKEY-john® if items are missing or broken. Retain the packaging for use when shipping the instrument; use of other packaging for shipment may result in damage to the instrument.

3. Insert the appropriate power supply adapter for your location into the power supply. (North America adapter is shown in the picture.)

4. Install the legs onto the sensor using the provided screws, washers and wingnuts.



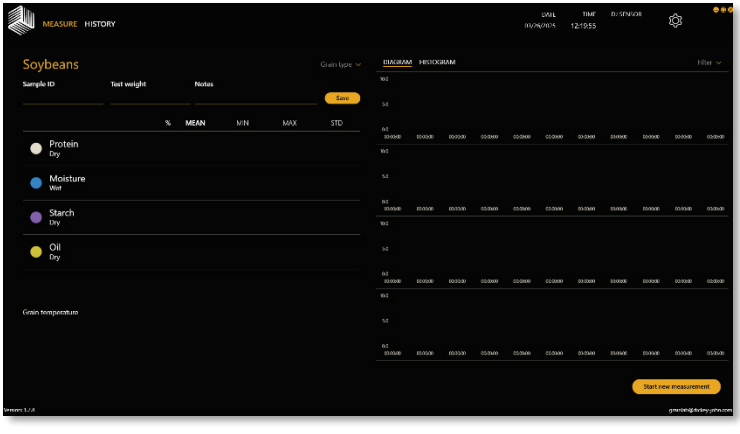
5. Connect USB cable and power supply to the unit.

6. Unit setup complete (**PC not included or shown**).

Conducting Grain Analyses

Once your device is activated, start up the GrainLab™ application on your PC and log in using your email and password.

Make sure that the sensor unit has power and the sensor cable is properly connected to the computer by the USB cable.

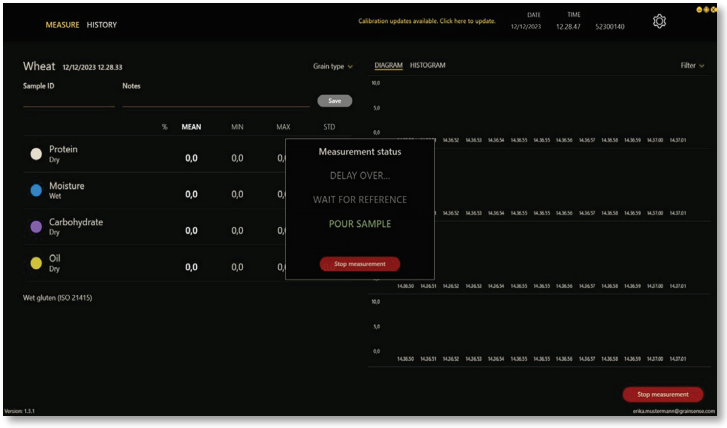


To begin taking a measurement:

1. In GrainLab™ application on your PC, press **Measure** in the menu bar.
2. Press **Grain type** to select the grain or crop to be analyzed.
3. Place one of the empty white grain containers below the opening at the bottom of the sensor unit to catch grain.
4. Insert the correct funnel for your grain type onto the intake slot on top of the sensor unit.

5. Click **Start new measurement** in the lower right-hand corner.

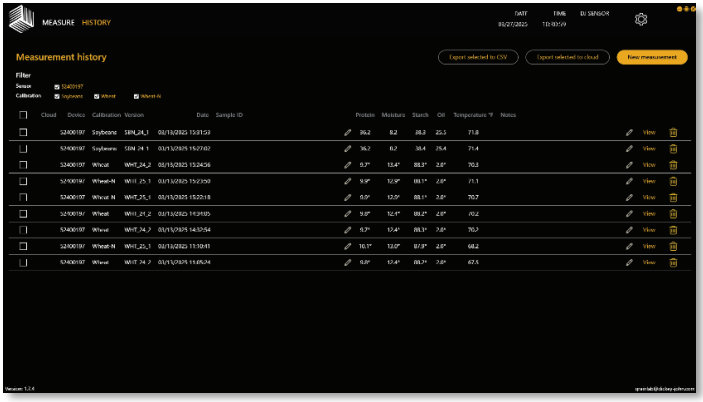
   Note: If you get an error stating “No sensor connected” or similar, check that the sensor cable is properly attached. If there is still an issue, try powering the sensor off and on, by unplugging it from the power outlet and putting it back in again.



6. A small pop-up screen will appear and the unit will begin taking a reference measurement.
7. Once the POUR SAMPLE message turns green, pour the entire the sample into the funnel at once.
8. Depending on your settings, the measurement will either automatically stop after the grain flow ends or you will manually have to stop the measurement by pressing **Stop Measurement**. Results will be displayed on screen once the measurement session ends.

MEASUREMENT HISTORY

The GrainLab™ Analyzer is equipped to store measurements both on the hard drive of a connected PC and in an online cloud database (with an active subscription).

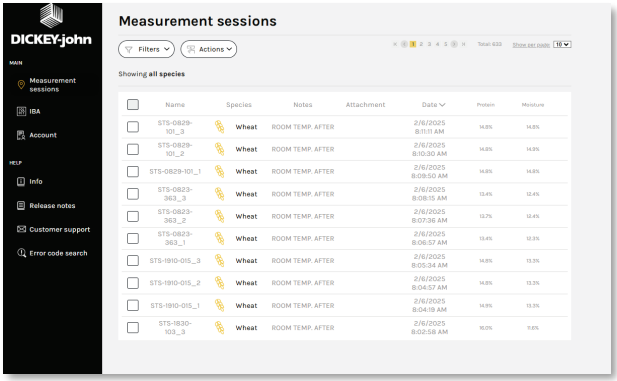


To access the Measurement History, press **HISTORY** in the menu bar.

Operation	Description
Default View	Results are shown in sequential order (newest results at the top).
Sorting	Results can be sorted by pressing on any of the column headings. Switch between Increasing or Decreasing by pressing on the Column Header.
Details	Press **View** to open a measurement and see additional data (diagrams, etc.).

Filter	Filter results for a specific instrument or calibration by adding/removing checkmarks in the filter checkboxes.
Export to CSV	Select all measurements that you wish to export to a CSV file then click **Export selected to CSV.** A pop-up will appear for you to choose a location to save the CSV file.
Export to cloud	Select all measurements that you wish to export to the cloud then click **Export selected to cloud**. Once the upload is complete, a symbol will appear next to all measurements that have been successfully uploaded and are now stored in the cloud.

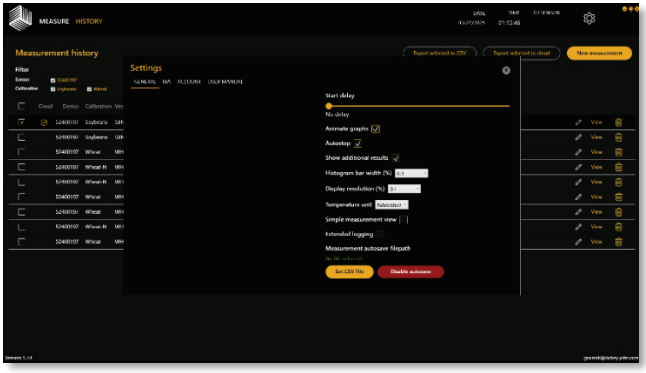
The online user dashboard (or cloud) can be found at https://DICKEY-john.com/GrainLab-Dashboard.



The software will automatically inform you if there are any updates to the application or grain calibrations to install. This can be manually checked as well.

SETTINGS

The GrainLab™ can be configured to meet the needs of any application. Because operators are able to configure the instrument specifically to their operational needs, they are able to realize time, labor, and other resource savings.



To access the settings menu, press the ⚙ in the menu bar.

Operation	Settings to Change
General	Configure the functionality of the GrainLab™ unit prior to and post measurement.
IBA	Set Individual Bias Adjustments (IBAs) for each grain type to better match a local reference.
Account	Logout of your user account. Check for software and calibration updates.
User Manual	Contact DICKEY-john® support.

General

The GrainLab™ is designed to provide customization options based upon operator preferences, application requirements, or regulatory specifications. The operator is permitted to change both the operation pre-measurement (sample settings) and post measurement (results settings).

Operation	Process to Change the Setting
Start delay	Move the circle down the bar add a time delay before the GrainLab™ will begin taking a measurement.
Animate graphs	Enable this setting to have the graphs animate and appear while a grain measurement is in progress.
Autostop	Enable this setting to have the GrainLab™ automatically stop a measurement when it detects that grain is no longer flowing thru the instrument.
Show additional results	When enabled, the GrainLab™ program will show results for constituents that have not been validated or common for that grain type (i.e. gluten in wheat).
Histogram bar width (%)	Set the width of the bars in the histograms from the drop-down menu.

Display resolution (%)	Set the number of decimal points to be displayed from the drop-down menu.
Temperature unit	Set whether the results will be displayed in Fahrenheit or Celsius from the drop-down menu. *NOTE: Grain sample temperature is not available on all GrainLab™ units.*
Simple measurement view	Enable this setting to simplify the measurement view to only display the final result for each constituent (all graphs, etc. will not be shown).
Extended logging	Only enable this setting when prompted by a Service Technician Extended logging records extra data points to aid in diagnosing any technical issues.
Measurement autosave file path	*Feature coming soon*

IBA

The GrainLab™ allows users who want their instruments to align as closely as possible to a local reference laboratory or instrument via an Individual Bias Adjustment (IBA). These adjustments can be done either thru the GrainLab™ PC program or thru the online user dashboard.

We recommend collecting data on at least 10 different samples to calculate a bias adjustment. For constituents, other than moisture, pay careful attention to the moisture basis between the GrainLab™ and the reference laboratory or instrument.

To set an IBA for a specific grain type:

1. From the **Select device** drop-down, choose the Serial Number of your instrument.
2. From the **Select calibration** drop-down, choose the grain type that you wish to add a bias too.
3. Enter the bias you have calculate in to the fields then press **Save.**

DICKEY-john® WARRANTY

Dealers have the responsibility of calling to the attention of their customers the following warranty prior to acceptance of an order from their customer for any DICKEY-john® product.

DICKEY-john® warrants to the original purchaser for use that, if any part of the product proves to be defective in material or workmanship within one year from date of original installation, and is returned to DICKEY-john within 30 days after such defect is discovered, DICKEY-john will (at our option) either replace or repair said part. This warranty does not apply to damage resulting from misuse, neglect, accident, or improper installation or maintenance; any expenses or liability for repairs made by outside parties without DICKEY-john's written consent; damage to any associated equipment; or lost profits or special damages. Said part will not be considered defective if it substantially fulfills the performance expectations. **THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE, AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED.** DICKEY-john neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part and will not be liable for consequential damages. Purchaser accepts these terms and warranty limitations unless the product is returned within fifteen days for full refund of purchase price.

For technical support, please contact:
djservice@dickey-john.com

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