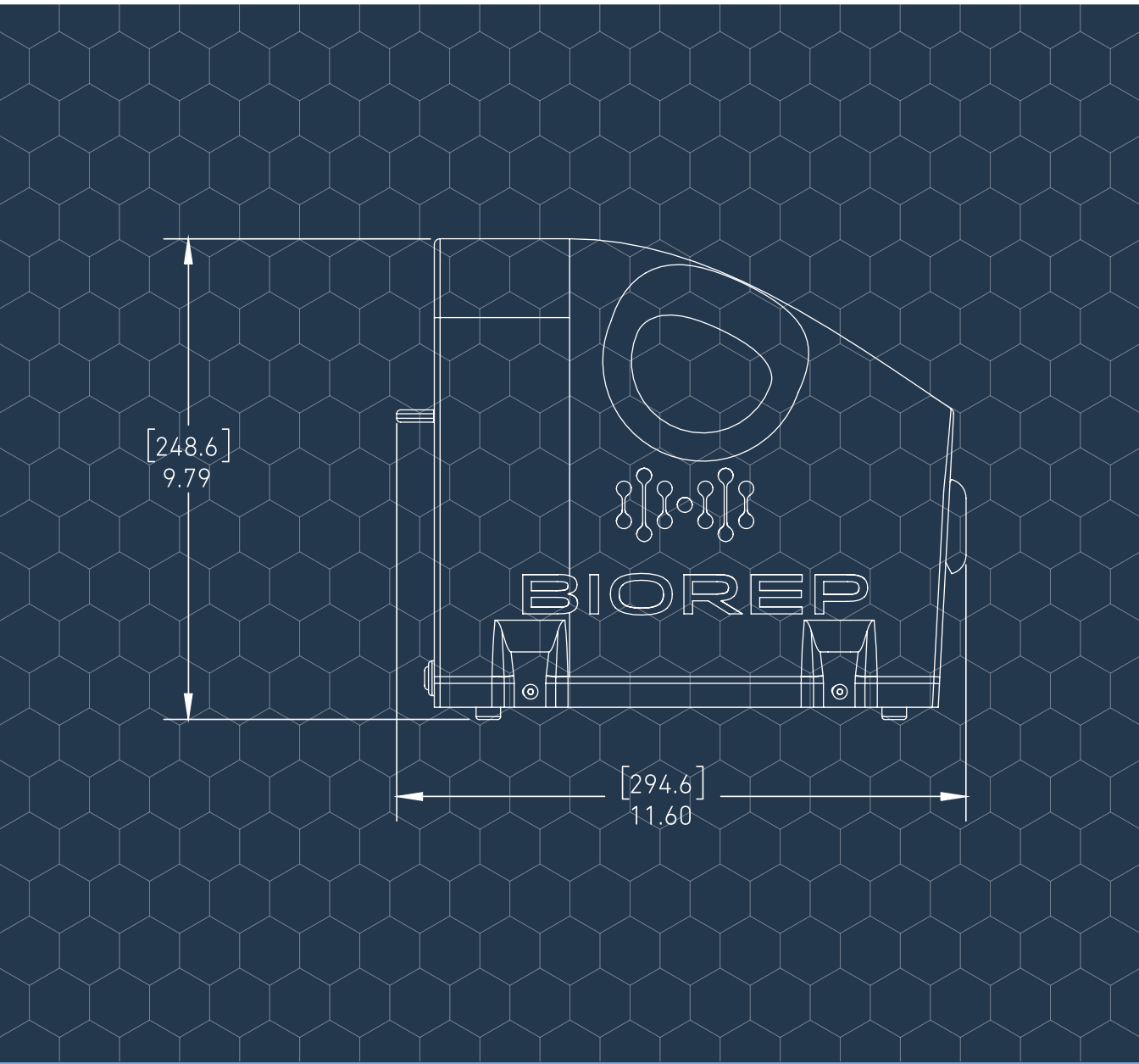
BIOREP®
DIABETES

ISLET CELL COUNTER v4

AUTOMATIC ISLET CELL COUNTER (ICC)



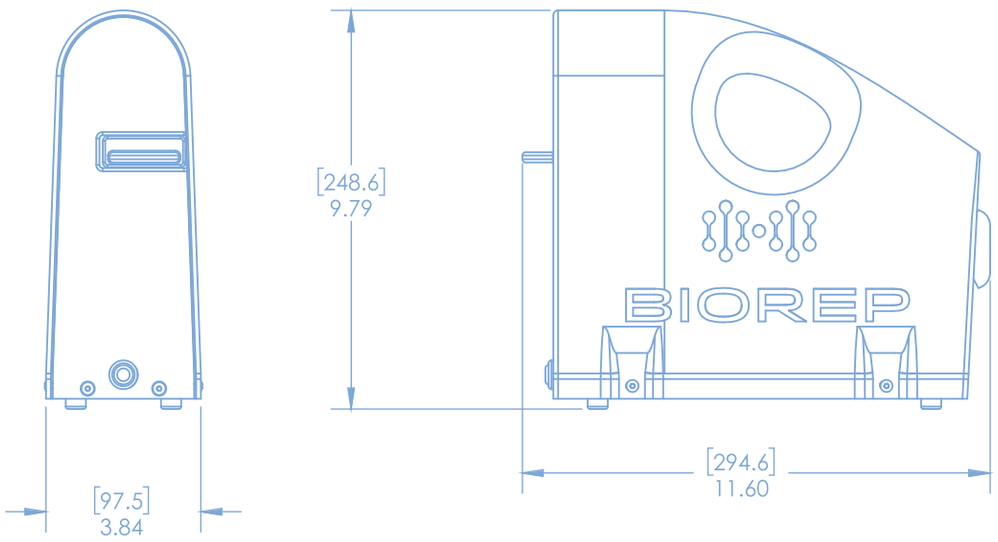
PRODUCT NUMBER: ICC4-115/230

BIOREP DIABETES: ISLET CELL COUNTER v4

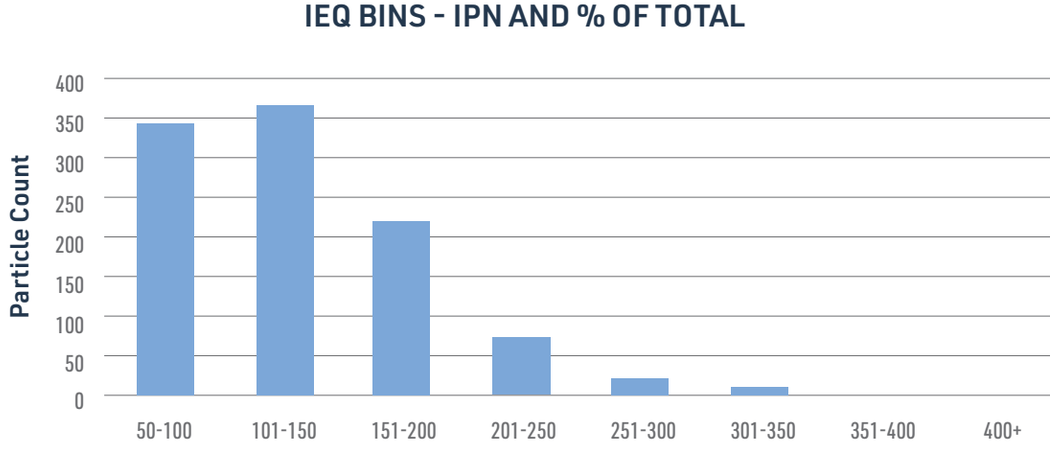
Fully automated Islet Cell Counter (ICC) for the assessment of islet mass, purity, and size distribution by digital image analysis.

The **Islet Cell Counter** is used to generate cell counts of sample quantities of isolated pancreatic islets. The ICC system enables the user to reliably and repeatedly quantify the islet equivalent (IEQ) in less than a minute. Islet quantification is based on the Clinical Islet Transplantation Consortium (CIT) protocol.

The software yields the number of particles (IPN), the IEQ, and also sorts cells by size groups according to cell area.



IEQ BINS - IPN AND % OF TOTAL

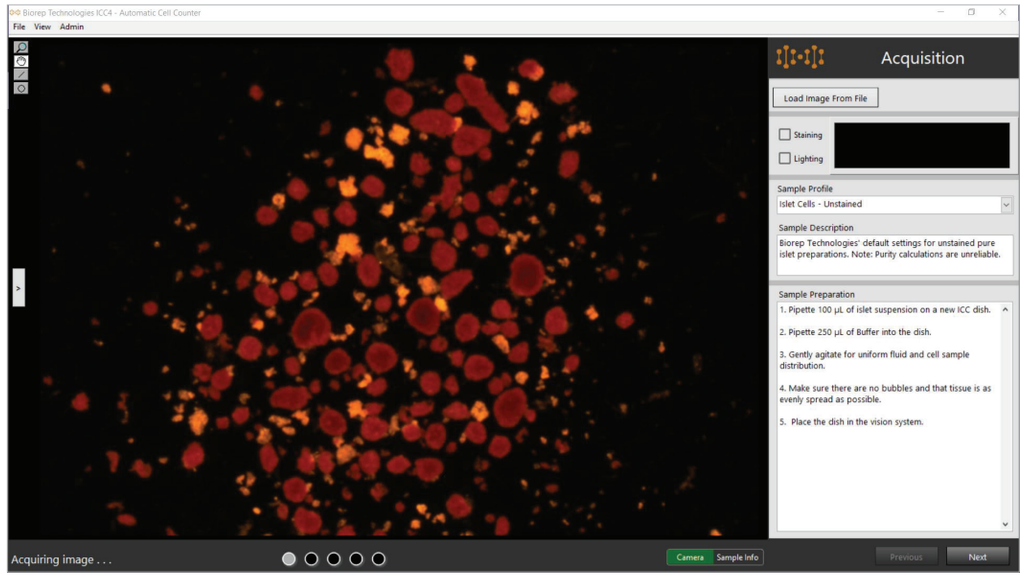


In addition, the user obtains: the area covered, the B-factor, a size group IEQ contribution pie chart, and distribution statistics such as a size group histogram. Also, a report can be generated with the push of a button. The software allows image archiving for documentation, training, and verification purposes.

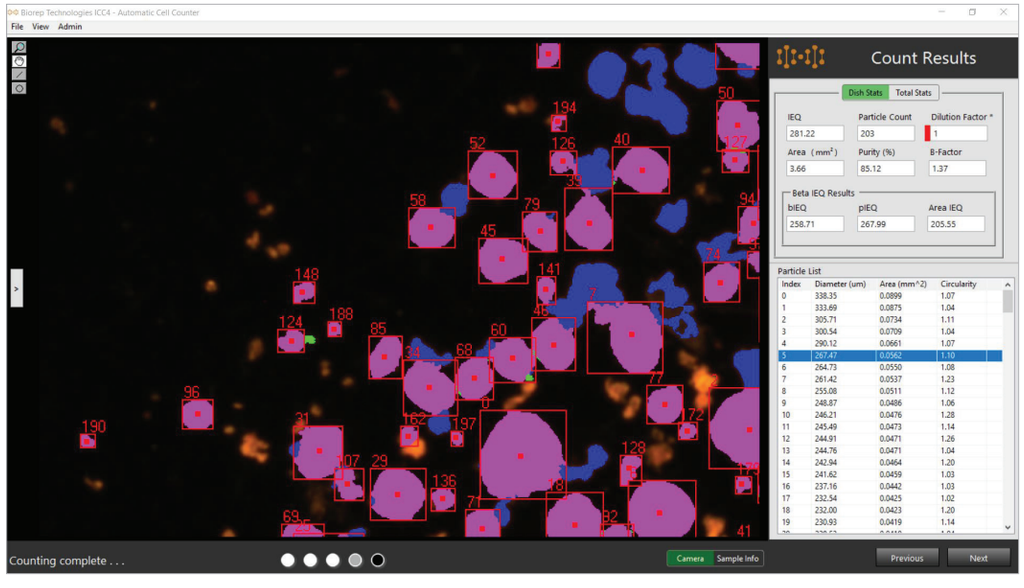
ACCURACY, EFFICIENCY AND RELIABILITY

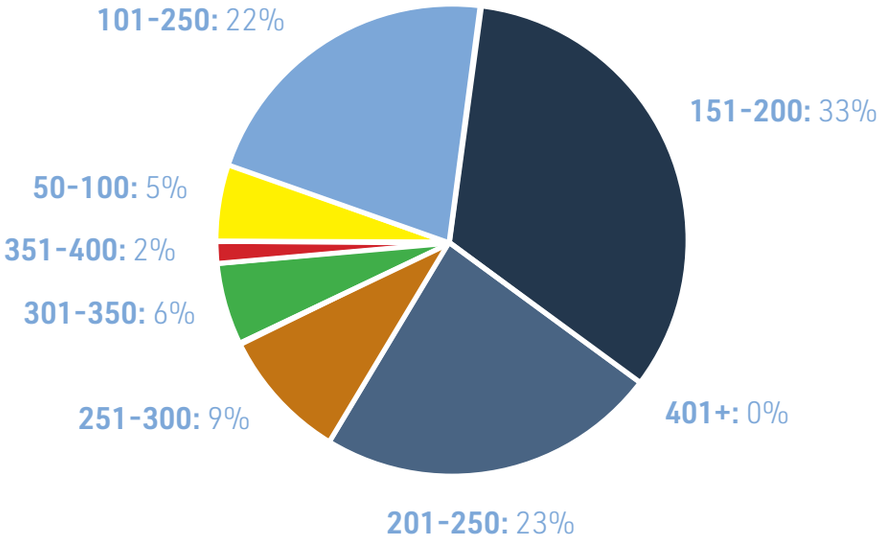
The use of machine vision technologies, such as the Biorep Islet Counter, reduces variability and ensures the same counting method is used every time. An Islet Cell Counter in one lab will count with the same method as any other Islet Cell Counter in another lab. This makes results more comparable across research centers leading to better data aggregation for peer reviewed publications. This is also important in the case of clinical applications where the ability to reliably assess mass and quality is a regulatory requirement.

The fourth generation Biorep Islet Cell Counter is a self-contained machine vision system including both hardware and software. This ensures that magnification, field of view, illumination, focus, and other optical variables are constant, making the measurements repeatable and reliable. Unlike other software-based cell counting technologies, the ICC does not rely on user input, training or experience to generate accurate counts.



Above: Image Acquisition of stained islet sample. Below: Count Results.





The IEQ% CONTRIBUTION pie chart, shows how much of the total IEQ is contributed by each IEQ size group. This allows to users to see that even though the smaller cells are way more numerous, their contribution to the total is relatively small.

v4 FEATURES + **UPDATES**:

- Improved accuracy & reproducibility
- Enhanced selection masking
- New segmentation edits tools
- Batch reporting & raw data output
- Custom profile creation capability
- Additional machine vision metrics and stats
- All-new intuitive user interface
- Easy manual verification with adjustable digital grid overlay

Manual counting has been shown to have inter-operator variability > 25%, limiting the effectiveness of standardization efforts. The Biorep Islet Cell Counter helps mitigate this variance and produces accurate and predictable results every time.

Part Number	ICC4-115/230
Video Connection Type	GigE (Ethernet)
Illumination	Dark-Ground (LED)
Field of view (FOV)	12 mm
Sensor resolution	5.5µm +/-5%; CMOS color 12bit
Recommended Sample Volume	100 µL
Cell size filter	> 50 µm in diameter
Average count speed	30 seconds (triple count)
Detection Modes	Automatic Stained / Automatic Unstained*
Power supply	AC 100-240VAC, 50-60 Hz
Dimensions	W x D x H: 100 mm x 320 mm x 250 mm
Vision System Weight	2.75 kg
Included items	Islet counter Vision system, Islet Counter Laptop Computer, One pack (10x) Biorep Islet Counter Dishes (ICC-D2)
*Note	Unstained count accuracy is directly proportional to sample purity. In unstained mode, the ICC v4 will provide a count of ALL particles in the dish, including islets, acinar and other particles. This is a limitation of the unstained mode and the user should be aware of this during ICC use. We recommend the use of this mode when viability of the sample needs to be preserved, and purity is high, such as when doing a Perifusion experiment.

PUBLICATION REFERENCES:

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15804 NW 57TH AVE
MIAMI LAKES, FL 33014
PHONE: 305.330.4449

www.biorepdiabetes.com

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info@biorep.com
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