

CASY® Model TT

The electronic cell analyzer
for determining cell count,
cell volume, aggregation and
viability.



INNOVATIS
QUALITY THAT COUNTS

CASY® Cell Counter + Analyzer System Model TT

The ideal device for full control of your cell cultures

Cell counting is a must for every lab working with cells. Across the world, CASY®-Technology analyzers from innovatis AG are increasingly becoming the devices of choice.

The CASY® Cell Counter + Analyzer System Model TT determines not only the cell number but also the size distribution and viability of a sample quickly and reliably. In addition, the aggregation level in the cell sample is determined and automatically included automatically taken into account in the determination of the cell concentration.

Factory-certified calibration

All CASY®-Technology analyzers are equipped with a permanent calibration that is stable long-term for biological media – certified by innovatis AG. No modifications or interventions are possible. The calibration is the same for all devices and is stable for the entire service life. This guarantees that the measurement results are reproducible as well as comparable across all systems. Thus, CASY®-Technology not only secures the measurement results, it also provides stable and dependable data.

Electronic pulse area analysis

The CASY® Model TT works via electronic pulse area analysis. An internal volume resolution with 512,000 measuring channels means that even minimal changes to a cell are reliably detected. With a dynamic range of over 1:70,000 with regard to volume, the detectable size range in a cell sample includes everything from the smallest particle of debris up to large cell aggregates.

The evaluation of the size distribution is specified by two freely adjustable cursor pairs. Changes in the evaluation parameters can be made at any time as all raw data is available for further analysis.

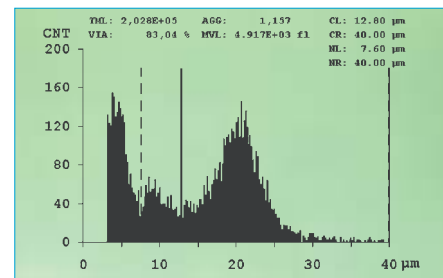


Measurement results

With the CASY® Model TT, the amount of cell debris, viable cells, dead cells and cell aggregates can be determined simultaneously with one measurement. Cytotoxic effects, stimulation, aggregation and osmotic stress – all events related to the quality of a cell culture – are precisely quantified and analyzed with a high resolution of the size distribution (400 size channels displayed).

```
SET : TUMOR-03_DIL : 5.000E+01 _CAP : 150 µm
DATE: 23.01.2002_SVOL: 3 x 400 µl_SCAL: 40 µm
TIME: 15:22_AGG : MANUAL _NORM: 7.60- 40.00 µm
SN : TT-2-KX-9999_FVOL: 4.249E+03 f1_EVAL: 12.80- 40.00 µm

Counts : 2911 ConcRng: OK
>###µm/ml: 1.500E+02 Aggreg : 1.157
Viable/ml: 1.684E+05 %Viable: 83.04 %
Total/ml : 2.028E+05
Debris/ml : 7.483E+04
MeanVol : 4.917E+03 f1 MeanDia: 21.10 µm
PeakVol : 4.250E+03 f1 PeakDia: 20.10 µm
```



Since each measurement takes only 10 seconds, multiple measurements can be easily run in a short amount of time to ensure statistical reliability of results. Cell concentrations of less than 100 cells/ml are reliably detected. The measurement results are given as absolute values in micrometers or femtolitres. With the flexible display options, the four most important parameters can be selected for display at the top of the size distribution chart.

Integrated aggregation correction

For all standard methods of cell counting, cell aggregates represent a significant problem. When cell aggregates occur, the detected cell number used for the calculation of cell concentration can be greatly underestimated, which can lead to incorrect results. The CASY® Model TT correctly evaluates aggregates and, thus, cell concentration – even in the case of heavily aggregated cultures.

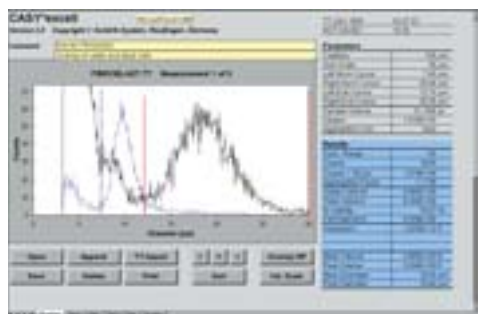
20 cell-specific protocols per measuring capillary tube

Regardless of the type of cells you are working with – bacteria, algae, yeast, blood, tissue cells etc. – the CASY® Model TT provides 20 protocols per measuring capillary tube. Using the two freely adjustable cursor pairs, the analysis

ranges can be modified according to the characteristics of the cell type being analyzed. Once measuring capillary tubes, measurement volumes, cursor positions, dilution factor, etc., have been defined for a specific cell type, these measurement and evaluation parameters can be saved as a cell-specific setup. The standard operating procedure (SOP) for every cell type is documented and backed up.

CASY®excell

For archiving and displaying data on a PC, the CASY® Model TT has the CASY®excell option, which is integrated in the software. The measurement results are imported into MS Excel™



automatically. All settings made on the measuring instrument are exported. The size distribution can be displayed as a count or volume distribution. Using the integrated overlay functions, the user can compare two size distributions visually, e. g. a treated sample with the relevant control. The measurement log can be printed following the data transfer, and the entire series of measurements can be summarized in one file.

Measurement log conforms to GLP/GMP standards

The CASY®-Technology analyzers work using measurement logs that conform to GLP/GMP standards. In addition to the measurement results, all device settings are logged. The measurement logs can be printed directly, annotated and signed, or they can be exported into MS Excel™ using CASY®excell.

Integrated quality control

The CASY® Model TT has a “self-control device” that securely protects against incorrect measurements due to hardware-related issues via warning and error messages. All important system functions are checked before each measurement. Integrated service functions can be used to determine and correct errors quickly. To document that all system electronics from the sensor to the data output are functioning correctly, a standardized “test pattern” can be created at any time.

Menu-based operation – clear, simple and fast

All measurement and evaluation parameters of the CASY® Model TT are entered into a single mask. The self-explanatory menu-controlled operation also allows first time users to use the device correctly in just a short time.

User-friendly design

The CASY® Model TT was designed to meet the highest demands for lab technology, user-friendliness and design. The compact design unites the different technical elements within the smallest possible space. The CASY® control panel can be freely positioned – another benefit for labs with limited space options.

Any queries? Talk to one of our expert advisors, or call to schedule a demo.

Measurement results delivered

- Number of cells: debris, living cells, dead cells, aggregates, total number of cells; absolute and as a percentage
- Cell viability: absolute and as a percentage
- Cell aggregates: aggregation factor, aggregation correction (number of cells in an aggregate)
- Cell volume: individual volume, average volume, total volume (biomass)

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Technical data

Measurement principle	electronic pulse area analysis
Dynamics of the measurement*	in volume > 1:70,000 in diameter > 1:40
Measured size channels	512,000
Display size channels	400
Measurement range	0.7–120 µm
Resolution	1 in 512,000
Typical analysis time	10 seconds
Typical sample volume	5–100 µl
Interfaces	RS 232 (DB9), parallel (DB25)
Printer output	PCL
Data export	ASCII format
Dimensions (H x W x D)	39 cm x 31 cm x 39 cm (excluding operating element)
Weight	approx. 14.5 kg (incl. operating element)

* Ratio between the smallest and the largest particle analyzed simultaneously.

Quality that counts

innovatis AG, headquartered in Bielefeld, Germany, specializes in integrating lab processes and automating cell culture analysis.

Based on proven technology, we offer the best range of product solutions for research, pharmaceutical and biotechnology industry – all over the world. Individual service packages complete the product portfolio dedicated to customers' needs.

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