

Autogizer2™ Product Brief



The Autogizer2™ is a fully automated tissue homogenization system. With its five variable speed cutters, it can process up to 19 unique tissue groups per run for a total of 95 samples. The Tomtec manufacturing team can also design and deliver a sample containment rack to your unique specifications. The Autogizer2 is shipped with five (5) variable-speed, high torque, low noise Omni International® brushless cutter motors, which can accommodate 7 mm (standard) or 10 mm cutters. The Autogizer2 runs under an imbedded image of Windows driving an intuitive graphical user interface for setting motor speed, duration, mixer depth and blade cleaning cycle between processed tissue groups.

The Autogizer2 features-benefits

The powerful Windows graphical user interface provides an advanced GUI for supporting a multi-step tissue homogenization process controlling five (5) reliable Omni International® brushless cutter motors. The cutters run in lock-step and deliver controlled torque and RPM at a low noise level. The Autogizer2 can be programmed to walk a line of samples and deliver a unique homogenization protocol per line (five vials per line). The cutters functions are:

- 1) RPM delivered over time, this can be variable with pauses;
- 2) The number of total cycles delivered into the tissue;
- 3) Total time on station and
- 4) Up/down travel limits and rate of oscillation.

For work-flows where sample temperature is a concern or when cryogenic homogenization is required, the sample rack can be fitted with a load & go ice-bath.

As your Homogenization program progresses (between each lines of vials processed), the cutters can be programmed to pass through a (1) bulk wash, (2) organic rinse and/or (3) ultrasonic wash station. An optional wash & waste collection cart is available for waste containment.

Example Applications

The Tomtec Autogizer2 can accommodate a wide range of lab applications such as tissue homogenization, emulsions and suspensions, cell disruption, protein extraction and various classes of medical laboratory research. Our cutting tips are designed to smoothly shear samples with minimal cavitation, minimizing unwanted heating and tissue disruption.

Cell lyses

The Homogenizer2 is designed to bring your biological tissue sample to a state where all fractions are equal in composition and makeup. The flexibility and control delivered with the autogizer2 ensures that your post process cell lyses and/or molecular extraction are absolutely consistent and repeatable. This is achieved experimentally by determining optimal spin-up/spin-down rates, mixing protocols, temperature and wash cycle; then programming them into the Autogizer2, allowing you to achieve optimal, repeatable results.

At-a-Glance

Walk-away operation – Programmable Windows based with powerful Graphical User Interface

Fast and Efficient – Homogenize 5 samples at a time, four cutter tips supported

Integrated cutter cleaning – Three aqueous, organic, aqueous (ultrasonic) cleaning tanks

Production ready – Process up to 95 samples per run, optional custom-built sample-racks

Reliable – Results are absolutely consistent and repeatable Ideal for PK studies

Tissue Dissociation

Cell isolation is easily achieved by programming the Autogizer2 to run at very slowly speeds (15 to 35 RPM) which maximizes blending and cutting action. This will break apart the tissue on a macro-level and lyses the cells as well. This ability to specify the number of cycles adds a level of control that no other homogenizer can deliver.

FDA Food Safety Modernization Act (FSMA)

This act aims to ensure the U.S. food supply is safe by shifting the focus from responding to contamination to preventing it. This has revitalized an industry wide effort to re-tool and automate the testing for biological agents that can contaminate animal tissue such as fecal material, tissue borne bacteria, and related contaminants. Our Homogenizer2™ Workstation is now a highly sought after instrument to ensure the food-chain is FSMA compliant.

Small mammal PK studies

Obtaining data from animal PK studies is one of the most important steps in drug development. The Tomtec Autogizer2 has been a mainstay in analyzing PK up-take on a disaggregated species such as mouse, rat or larger mammal.



Specification	Value	Dimension
width	37	inches
depth	19	inches
height	27	inches
power(peak)	620	watts
weight	130	pounds
Maxon EC motor Specifications at 24 volts		
no load peak rpm	35,500	rpm / newton meter (oz-in)
no load current	168	ma
nominal torque (max continuous torque)	15.8	newton meter (oz-in)
nominal current (max continuous current)	2.48	amps
maximum efficiency	86	percentage
torque constant	6.4	newton meter (oz-in) / Amp.
speed constant	184	rpm / newton meter (oz-in)
rotor inertia	3	grams/cm ²

