

MEGATRON®

DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

Dispersing Technology in the Laboratory

System MEGATRON® MT 3000 - In-Line Homogenizer, *HighEnd Line*



KINEMATICA AG
Dispersing and Mixing Technology

MEGATRON® System MT 3000 - powerful, efficient, low noise

Lab Scale Quantities, Continuous In-Line / Recirculating applications

The Rotor/Stator principle for dispersing equipment, originally invented by KINEMATICA, has become the accepted standard for homogenizing, dispersing and emulsifying worldwide.

The MEGATRON® MT 3000 *HighEnd* System is the smallest available continuous working In-Line/Recirculating homogenizing system with scale up possibility at comparable tip speeds and a throughput capacity of approx. 10 to 15 l/min. This unit, with its unique features, will improve already known applications and enter new areas of applications. This will be achieved by much higher tip speeds i.e. by adjustable rotor speeds up to 30'000 rpm. Thus results will be obtained with even finer and smaller droplets/particles down to approx. 1 µm depending on the properties of the processed media.

The MEGATRON® MT 3000 processor will mostly be installed to a recirculating system as an alternative way of batch processing.

The main advantage of the MEGATRON® MT 3000 lab system is the possibility of simulating later pilot plant or production on a laboratory scale. These tests can be done with a minimum amount of product and energy.

The MEGATRON® MT 3000 Rotor/Stator Homogenizer disperses, emulsifies and reduces the size of solid particles, droplets and gas bubbles down to a few microns or less.

The MEGATRON® MT 3000 Dispersing System is a unique superior design with the following **standard features**:

- **800 Watt powerful drive unit with a wearless three phase highfrequency motor for continuous operation**
- **controlled by a frequency inverter, connection to a standard 230 V wall socket**
- **electronic speed regulation and stabilization**
- **Soft-Start and thermal overload protection (PTC)**
- **variable, stepless speeds up to 30 000 RPM with visual indication**
- **noise level lower than <75 dB(A)**
- **In-Line working chamber with single mechanical seal and quench system and NW8 tube olives as standard inlet/outlet connections (others on request)**
- **3 different Dispersing Generators, easily interchangeable**
- **all parts in contact with the product are made of electropolished stainless steel 316L**
- **Permanently lubricated, high temperature resistant, high speed ball bearings**
- **Large collection of recirculating systems with dispersing vessels and accessories**
- **CE label**

High Flexibility

The ideal processor configuration is selected from a choice of three different generators to be installed into the working chamber.

A single mechanical seal is used in the working chamber which is cooled and lubricated by the product. In addition there is a connection to a non-pressure back-up cooling quench with a small container as a fail-safe device. The rotor/stator shear generators are designed for efficiency and longevity. The combination of high tip speed of the rotor and the specific design of the entire generator, result in higher shear forces and greater throughput.

Speed regulation with visual speed indication

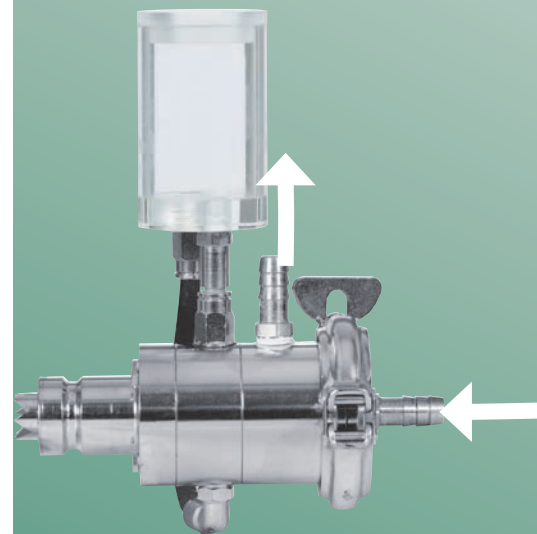
With the drive unit MEGATRON® MT 3000, stepless rotor speeds up to 30 000 rpm can easily be adjusted (depending on the chosen dispersing generator and the product to be treated) and read out from the visual speed indication.

Quick coupling for the Working Chamber

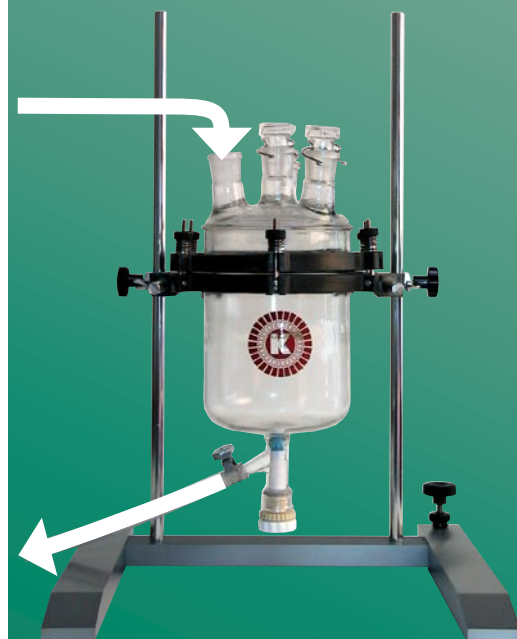
A unique quick coupling system allows to mount or change the working chamber easily.



MEGATRON® MT 3000 Inline Homogenizer drive and control unit



Working Chamber MEGATRON® MTO 3000 Q with quench container, built-in dispersing generator and NW8 tube olive connections






Example of a working tank for a recirculating system, connectable to the MEGATRON® MT 3000

MEGATRON® System MT 3000 - dispersing with Know-How

MEGATRON® Dispersing Generators

Different Dispersing Generators are available for the MEGATRON® MT 3000 system as standard and can be chosen according to the application to achieve the best result.

MEGATRON® Generator (MTG) Type	MTG 20/2	MTG 30/2	MTG 30/4
			
Stator/Rotor-Ø	20 mm / 15.4 mm	30 mm / 24 mm	30 mm / 26 mm
Tip speed (max.)	25.0 m/s	35.0 m/s	34.0 m/s
Throughput	approx. 10 l/min (depends on the processed media)	approx. 15 l/min (depends on the processed media)	approx. 15 l/min (depends on the processed media)
Application examples	dispersing and mixing of particles in liquid suspending, crushing, wet milling, extracting preparing of samples for extraction and decomposition of organic material intensive mixing and many others...	dispersing and mixing of particles in liquid suspending, crushing, wet milling, extracting preparing of samples for extraction and decomposition of organic material intensive mixing and many others...	producing fine suspensions and emulsions dissolving of solids gasses solutions separates fibers and cellular material in very small particles extractions wet milling of solids and many others...

Complete continuous In-Line/Recirculating Systems - Your Small Processing Plant

The real benefit of a homogenizer is enhanced when offered as a complete working system which includes all necessary peripheral accessories. We can complement your MT 3000 with circulating tubes and working tanks. These items can be chosen from our standard program. They are available as complete sets made of glass or stainless steel, with or without cooling/heating jackets. They can also be built according to your specific requirements. Superb Swiss workmanship gives you precision parts with the surface finish required in the food and pharmaceutical industries. We would be glad to send you our applications questionnaire which covers all important points.

Certain applications, e.g. chemical reactions, can only be accomplished successfully if the components are mixed right inside the generator. This is possible by adding a manifold which allows injecting of fluids or gas straight into the center of the generator. This prevents the single components coming into contact with each other and, therefore, eliminates the risk of pipe blockage and uncontrolled reactions.

Scale-Up

The MEGATRON® MT 3000 is the smallest unit available for continuous In-Line/ Recirculating processes. KINEMATICA offers a complete series of continuously working In-Line/Recirculating processors suitable for throughputs up to 150'000 l/h. The test results obtained with the laboratory unit can be used as a reliable data source for a scale-up step to the larger MEGATRON® pilot plant and production machines.

Order information for system MEGATRON® MT 3000

Order-No.	Order-ID	Description
13010001	MT 3000 / 230V / CH	Drive, control unit, Working chamber
13010002	MT 3000 / 230V / EU	Drive, control unit, Working chamber
13010003	MT 3000 / 115V	Drive, control unit (inkl. Transformator), Working chamber
13032001	MTO 3000 Q	Working chamber
13031020	MTG 20/2	Dispersing Generator
13031030	MTG 30/2	Dispersing Generator
13031031	MTG 30/4	Dispersing Generator



You know your application but you're not sure which dispersing system is the right one for you?

Then please contact our application specialists who will assist you to find the best solution for you.

laboratory@kinematica.ch

Further Accessories and recirculating systems on request.

Finest Solutions ... worldwide!

A wide range of products with the finest solution for every application, matched by the superior quality of all components make KINEMATICA a world leader for Dispersing and Mixing technology.

With Keen Eyes ...

Development knows no rest at KINEMATICA. Our systems are constantly upgraded to reflect the state-of-the-art technology and the needs of the market. KINEMATICA has always had a keen eye for major advances, as proved by various patents.


The rotor/stator principle for dispersing technology was conceived and developed at KINEMATICA and has become the world standard.

... For Your Needs


Applications for Dispersing/Homogenizing Technology are always on the increase. KINEMATICA continually creates new areas of processing applications based on innovations. We do not neglect the human factor as it is exemplified by the noise reduction of our high-speed systems.

Please, get in touch with us, our local appointed agent or your preferred dealer. We will be pleased to supply more details or arrange for a personal demonstration of our POLYTRON® and MEGATRON® systems.

Dispersing technology for the Laboratory
POLYTRON® System PT 1200 B/C/CL - Handheld Dispersers

 **KINEMATICA AG**
Dispergier- und Mischtechnik


Dispersing technology for the Laboratory
System POLYTRON® PT 3100

 **KINEMATICA AG**
Dispergier- und Mischtechnik

Dispersing Technology for Laboratory and Pilot Plant
Batch- and Inline-Dispersing equipment

 **KINEMATICA AG**
Dispergier- und Mischtechnik

Homogenizing- and Dispersing Technology
Inline- und Batch-Processors for Pilot Plant- and Production

 **KINEMATICA AG**
Dispergier- und Mischtechnik

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