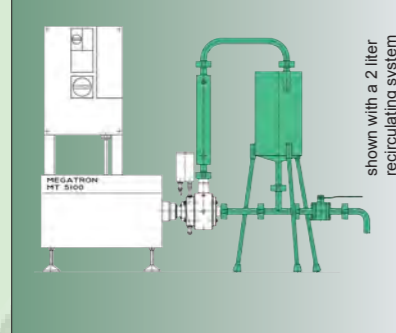


Order Information

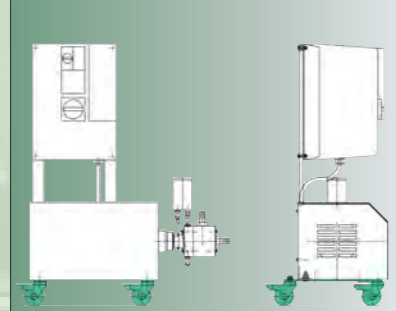
Order No.	Description
23005007	Drive MEGATRON® MT 5100 230V/CH
23005008	Drive MEGATRON® MT 5100 230V/EU
23005009	Drive MEGATRON® MT 5100 230V/GB
23005006	Drive MEGATRON® MT 5100 230V/US
23005026	Conversion Kit „MT 5100 mobile“ (4 castors)
23005027	„PC control“ Kit
23005010	Working chamber MEGATRON® MTK 5100 Q with cooling/heating-jacket
23005017	Working chamber MEGATRON® MTK 5100 Q without cooling/heating-jacket
23005020	Quench vessel made of Plexiglas incl. complete tubing
23005021	Quench vessel with high chemical resistance made of TEFLON incl. complete tubing
23005022	Connections with Hose nipple
23005023	Connections with DN 15 according to DIN 11851
23005024	Connections with Tri-Clamp ¾"
23005019	Cooling/heating-jacket-set with O-rings & connection-adapter
23005012	Generator MTG 30/2 M
23005011	Generator MTG 30/4 F
23005013	Generator MTG 40/2 G
23005014	Generator MTG 40/4 M
23005015	Generator MTG 40/6 F
23005016	Generator MTG 40/6 FV
23005018	Generator MTG 40/6 FF
23005025	Generator MTG 40/6 FFV

Recirculating Systems



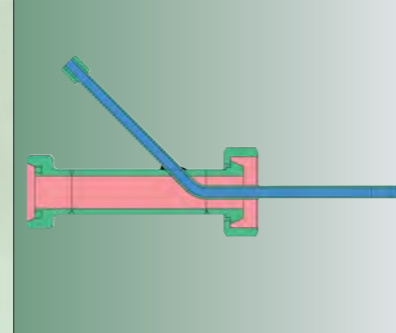
- The real benefit of a homogenizer is enhanced when offered as a complete working system which includes all necessary peripheral accessories.
 - We can complement your MT 5100 with circulating tubes and working tanks. These items can be chosen from our standard program. They are available as complete sets made of glass or stainless steel, with or without cooling/heating jackets.
 - They can also be built according to your specific requirements, industries.
 - 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.
- on request

Movable base frame



- as standard the MT 5100 stands on four height adjustable feet
 - with the „MT 5100 mobile“ kit, it's possible to equip the unit with four swivel casters with brake
- „MT 5100 mobile“ kit

Injectors / Manifolds



- 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.
- different sizes on request

PC connection



- the PC kit for the MT 5100 includes the the new Standard KIN Software, which has been designed and created with the well-known LabView (free of charge) and a connection / conversion box to connect the MT 5100 via a RS232 interface with your computer
 - the easy-to-use software allows easy setting of the speed as well as time/speed curves
 - different parameters and variables can be read out and saved as protocol
- „PC control“ kit

POLYTRON®
DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

BIOTRONA®
DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

POLY MIX®
DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

MEGATRON®
DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

REACTRON®
DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

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 proven 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 safe and comfortable operation and 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 a personal demonstration of our POLYTRON® and MEGATRON® systems.

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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

POLYTRON®
BIOTRONA®
MEGATRON®
REACTRON®
POLY MIX®

Dispersing Technology for Laboratory and Pilot Plant
Batch- and In-line-Dispersing equipment

KINEMATICA AG
Dispersing and Mixing Technology

MEGATRON®
DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

Homogenizing and Mixing Technology for Production
Homogeniser- und Mischtechnik in der Produktion

System MEGATRON® MT-V 1-65 / MT-V 3-65

KINEMATICA AG
Dispersing- and Mixing Technology

POLYTRON®
BIOTRONA®
MEGATRON®
REACTRON®
POLY MIX®

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

KINEMATICA AG
Dispersing and Mixing Technology

MT 5100
Inline Homogenizer for throughputs up to 65 l/min

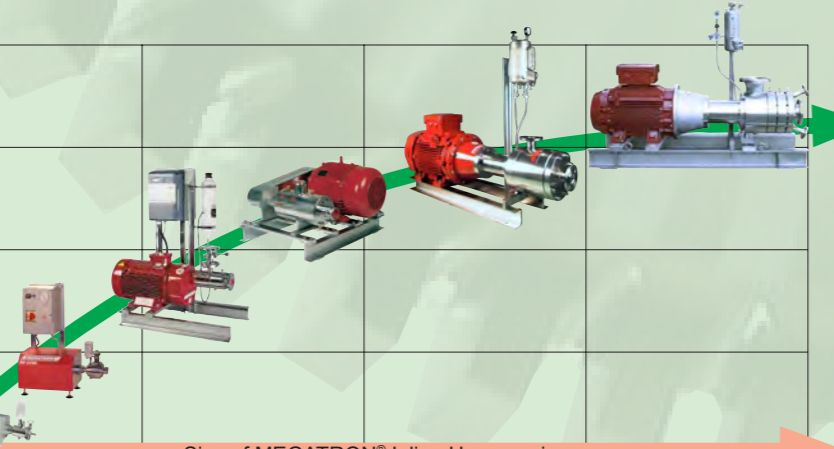
Homogenizing and Mixing Technology for Pilot Plant and Small Scale Production

- DISPERSING
- HOMOGENIZING
- EMULSIFYING
- SUSPENDING
- WET MILLING



Scale-up

- The MEGATRON® MT 5100 is thought as small scale unit for continuous In-Line/Recirculating processes in lab and pilot plant areas.
- 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.



Printed in Switzerland (SIII) MT 5100e-8/2007, Subject to technical modifications

Your distributor / Appointed Agent



KINEMATICA.CH
Dispersing and Mixing Technology



The new designed MEGATRON® MT 5100 inline homogenizer for Pilot Plant and Small Scale Production offers the following outstanding features:

- powerful and maintenance free high frequency three phase drive motor with 1.5 kW for continuous operation
- speed regulation by frequency inverter for up to 21'000 rpm
- tip speed up to approx. 37 m/s (depending on the chosen dispersing generator and product properties)
- digital display for speed indication
- connection to a standard single phase wall socket is sufficient
- quiet drive system approx. 62 dB (A) (without load)
- Working chamber (one stage - for one dispersing generator) with single mechanical seal incl. quench liquid system and optional cooling / heating jacket can easily be attached to the drive unit by unique quick coupling
- 8 different and interchangeable dispersing generators (Rotor/Stator) available for various applications
- max. throughputs of up to 65 l/min possible, depend on dispersing generator and product properties
- connectable to PC in combination with the optional "PC control" kit incl. free KINEMATICA software
- A variety of recirculating systems with piping and working tanks from different materials and different sizes, pumps and process control can be offered to your specific applications and working condition in the chemical, pharmaceutical and food industries - therewith the MT 5100 is also ideal for scale-up calculations.

Principal of process

Rotor / Stator principle

MEGATRON® inline principle (horizontal)

The Rotor/Stator principle for dispersing and homogenizing equipment, originally invented by KINEMATICA, has become the worldwide accepted standard for homogenizing and dispersing a solid or fluid or gaseous phase into a fluid phase.

MEGATRON® MT machines are inline homogenizers with a forced flow of the mixture through a working chamber.

In the working chamber, the product will be processed by the rotor/stator dispersing generator(s).

MEGATRON® MT Rotor/Stator homogenizers successfully process emulsions, suspensions and foams by reducing the size of solid particles, droplets and gas bubbles to a few microns or less. Small and large amounts of product are being dispersed in a more economical, faster and better way than with any other device.

Technical Data

Motor Power, Type	2.0 kW (input) / 1.5 kW (output), AC 3-phase high frequency drive
Speed control	by frequency inverter, incl. main switch, speed potentiometer and digital display
Soft Start	Yes
Supply Voltage	230V / 50/60 Hz
Speed at Dispersing Rotor max.	21'000 rpm
Direction of rotation	counter clockwise, seen from front
Noise emission (w/o load)	lower than 62 dB (A)
Ambient temperature	0 - 40°C
Relative humidity	95% max.
Standards	Manufactured acc. to EN / IEC regulations for EMC & SAFETY
Protection class	IP 20
Max. period of continuous operation	100%
Dimensions (drive only)	375 x 240 x 650 mm (LxWxH)
Weight (drive only)	28 kg

Working Chambers

MTO 5100 Q

- single stage working chamber (for one exchangeable dispersing generator)
- horizontal design
- w/o cooling / heating jacket** (jacket available as optional kit)
- with single mechanical seal and quench system
- different exchangeable product inlet and outlet connections
- working pressure up to 6 bar
- working temperature up to 90°C
- product wetted parts made from 316L, surface finish Ra ≤ 0.8, electropolished

MTK 5100 Q

- single stage working chamber (for one exchangeable dispersing generator)
- horizontal design
- with cooling / heating jacket** (can be dismantled)
- with single mechanical seal and quench system
- different exchangeable product inlet and outlet connections
- working pressure up to 6 bar
- working temperature up to 90°C
- product wetted parts made from 316L, surface finish Ra ≤ 0.8, electropolished

shown with product inlet and outlet connections

Mechanical Seal

QBV-GG

- single mechanical seal
- standard material combination QBV-GG (SiC-Si - Carbon impregnated - Viton); others on request
- the mechanical seal protects the ball bearings for shaft guiding and separates the product side from the atmospheric side
- the single mechanical seal has to be lubricated and cooled by a non-pressurized quench system; the quench liquid has to be compatible with the product and the materials

Quench System

TS 1 (Standard)

- the quench system TS1 can easily be connected to the quench connections at the working chamber by means of „Steck-Fix“ connections and flexible hoses
- vessel and cover made from acrylic glass
- allows easy supervising of operation
- non-pressurized
- for lubricating and cooling of the mechanical seal
- other types (e.g. stainless steel version) available on request

Product inlet / outlet connections

TC-3/4"	MR-DN15	S-DN15
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- Tri-Clamp connections
 - Size: 3/4"
- Milk thread connections
 - Size: DN 15
 - DIN 11851
- tube fitting connections
 - Size: DN 15

Dispersing Generators

Model	MTG 30/2M	MTG 30/4F	MTG 40/2G	MTG 40/4M	MTG 40/6F	MTG 40/6FV	MTG 40/6FF	MTG 40/6FFV
Ident-No.	23005012	23005011	23005013	23005014	23005015	23005016	23005018	23005025
Rotor- / Stator-Ø	29 / 37 mm	31 / 37 mm	37 / 46 mm	39 / 46 mm	41 / 46 mm	41 / 46 mm	41 / 46 mm	41 / 46 mm
Speed (max)	21000 rpm	21000 rpm	18000 rpm	18000 rpm	17000 rpm	16000 rpm	16000 rpm	16000 rpm
Tip Speed	max. 32 m/s	max. 34 m/s	max. 35 m/s	max. 37 m/s	max. 37 m/s	max. 35 m/s	max. 35 m/s	35 m/s
Shear Rate	max. 58000 1/s	max. 62000 1/s	max. 63500 1/s	max. 67000 1/s	max. 66500 1/s	max. 98000 1/s	max. 62500 1/s	max. 92000 1/s
Troughput (based upon water)								
Particle / Droplet sizes (depending on product)								
Applications	<ul style="list-style-type: none"> Dispersing and mixing of coarse solids into liquid Size reduction of coarse solids in liquid Extractions Mixing of fluids Crushing of lumps Intensive mixing 	<ul style="list-style-type: none"> Producing of emulsions and suspensions with medium droplet and particle sizes Wet milling of solids up to medium particle sizes Extractions Accelerating of reactions Crushing of lumps Intensive mixing 	<ul style="list-style-type: none"> Dispersing and mixing of coarse solids into liquid Size reduction of coarse solids in liquid Extractions Mixing of fluids Crushing of lumps Intensive mixing 	<ul style="list-style-type: none"> Producing of emulsions and suspensions with medium droplet and particle sizes Wet milling of solids up to medium particle sizes Extractions Accelerating of reactions Crushing of lumps Intensive mixing 	<ul style="list-style-type: none"> Producing of emulsions and suspensions with fine droplet and particle sizes Wet milling of fine solids Extractions Accelerating of reactions Gassing of fluids Desagglomerations Cell disruption 	<ul style="list-style-type: none"> Producing of finest emulsions with finest droplet sizes Gassing of fluids Desagglomerations Extractions Cell disruption 	<ul style="list-style-type: none"> Producing of emulsions and suspensions with fine droplet and particle sizes Wet milling of fine solids Extractions Accelerating of reactions Gassing of fluids Desagglomerations Cell disruption 	<ul style="list-style-type: none"> Producing of finest emulsions and suspensions with finest droplet and particle sizes Wet milling of fine solids Gassing of fluids Desagglomerations Cell disruption