



# KINEMATICA

Homogenizing perfected.



Swiss made dispersing solutions  
for you. Since 1962.



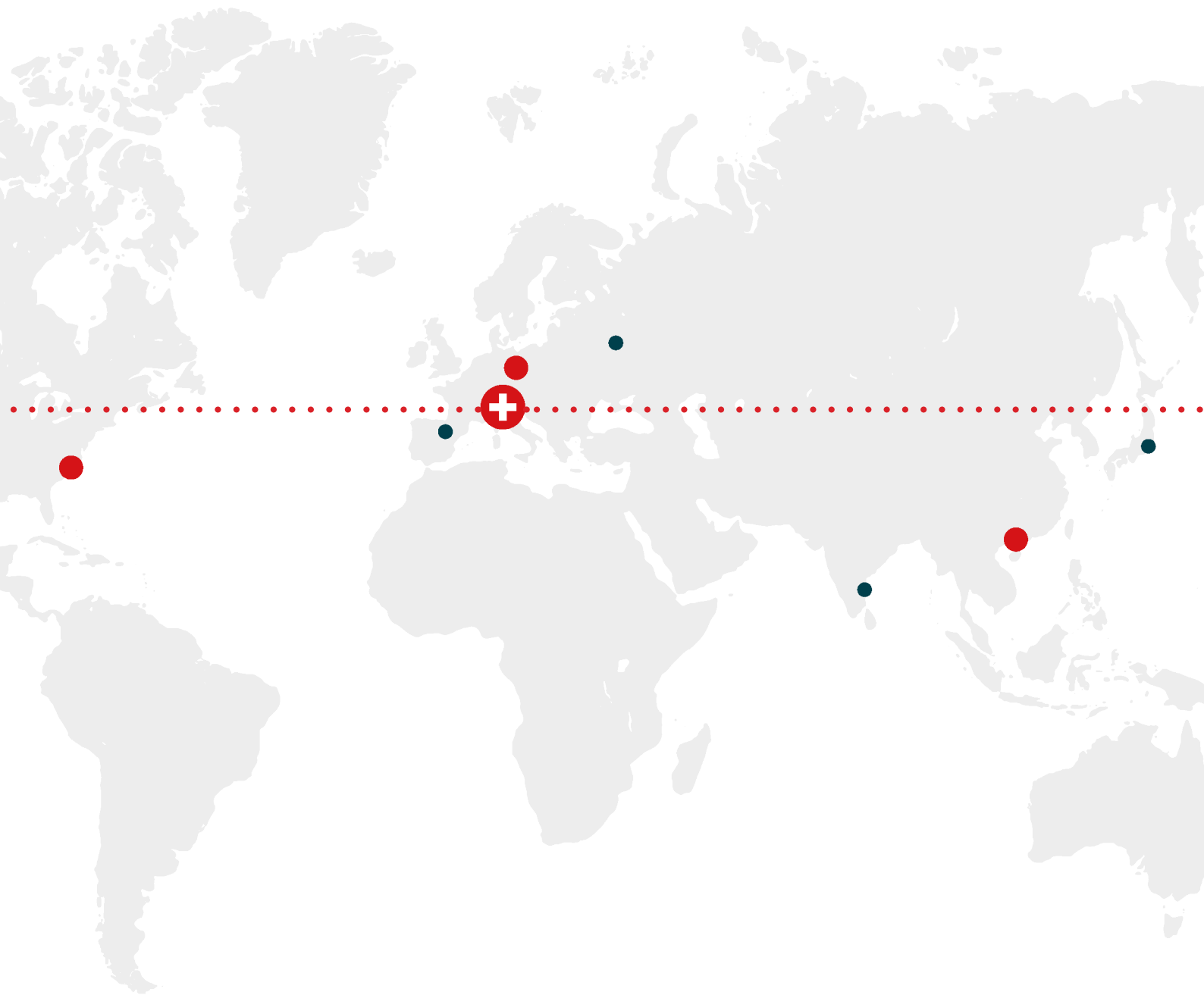
PHARMA



*«Homogenizing  
perfected for a  
healthier, tastier  
and cleaner world.»*

-

**This is our purpose and promise to you!**



## ***Who are we?***

Kinematica - from Switzerland to the world.

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We have been leading in the field of dispersing and homogenizing processing both for laboratories and production plants since 1962. We partner with our customers by designing, developing, and producing customized solutions for the pharmaceutical, cosmetics, chemical, life science, and food industries.

# Kinematica - Machine manufacturer?

We are more than that!

Kinematica is not only a producer of industry-leading machinery, we maximize your success by offering expertise in **SCIENCE - ENGINEERING - EQUIPMENT**.







# KINEMATICA

Science & Development

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**LEA MEIER-POKORNY**

Head of Science & Prototyping  
Kinematica AG

Ideation, Prototyping and Scientific Consultancy – this is what we offer with Kinematica Science & Development since 2020. The main focus lies on connecting our huge experience in the homogenizing technology with science for **more innovation and creation** for our customers together with us.



# KINEMATICA

Engineering

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**CEM KIRCI**

Project Manager  
Kinematica AG

For over 60 years Kinematica has built process equipment for the most challenging dispersing and mixing tasks. The requirements of customers have evolved and the need for more integrated complete and efficient mixing skid solutions is constantly increasing. Unique challenges need to be met and that is exactly what our engineering team specializes on. **One solution, out of one hand.**



# PHARMA



## ***Yes, we are the experts!***

Experience, Innovation, Knowledge...

- Absolute **process control** regarding dispersion size and size distribution, temperature, pressure and other additional desired requirements
  - Fully controlled homogenizing with industry-leading **shear rates of up to 300 000 s<sup>-1</sup>**
  - **Full CIP / SIP** compliance and comprehensive certification in accordance to the widest acknowledged standards by including highest **clean-room** class levels for complete sterile environments and zero-contamination
- ... and much more. Give us your trust and you will not get disappointed.

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# Quality without compromises

Swiss precision, your compliancy.

**Your** quality standards are just as important to us as ours. All of our products conform to EU standards (e.g. CE, EMC). Our hand-picked suppliers must comply with our high quality standards by means of certification.

We also manufacture machines that meet your individual quality and requirement profile - **without compromise**. Production in accordance with ATEX, 3A, and GMP guidelines are possible.



# A solution for every need

The impossible is possible.

There are many thousands of different applications in the pharmaceutical industry. And probably **YOU** have a one-of-a-kind application, no one else does on the planet. Do you have a trusted partner who can help you with your process endeavours. We want to be your partner to create the success you are striving for. Our overview shows only some of the applications that are already developed with our machines, the list goes on.

## APPLICATIONS OVERVIEW (AND MANY MORE)

- Eye drops
- Eye injection
- Wet-milling of API
- Extraction of API
- Pharmaceutical aerosol
- Sterile liquid oral suspensions
- Vaccines
- Medications
- Ophthalmic suspensions
- Saline solutions
- Foamed patches
- Phytopharmaceuticals
- Micro-encapsulations
- Sterile Suspensions
- Infusion solutions
- Tablet coatings
- Foamed drug blisters
- Ultrasound gel (contact gel)
- Double-Encapsulations
- Lyophilization
- Probiotics in pharma
- Analytic in quality control
- Ointments & creams
- Crystallizing of pharmaceutical ingredients
- Liposomes
- CMC solutions
- Inclusion bodies
- Fat particles
- PLGA capsules
- Cough syrup
- Clear dispersion
- Suppositories



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# Our product range

A broad portfolio of possible solutions.

## POLYTRON®

SERIES PT / PT-C



### BATCH HIGH SHEAR HOMOGENIZER

- Batch size up to 50 L
- Efficient particle/droplet reduction
- Reaction acceleration
- Applications: wet milling, encapsulation
- Special **BIOTRONA®**-Design for more turbulence



[LEARN MORE](#)

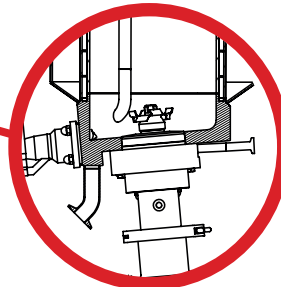
## MICROTRON®

SERIES MB



### BOTTOM MOUNT SPACE SAVING HOMOGENIZING

- Ideal for CIP application
- From small to large volume through ideal positioning in process vessel
- Applications: Adjuvant emulsions, API dispersion, creams



## REACTRON®

SERIES RT



### COMPLETE DISPERSING SYSTEMS

- Vacuum and pressure applied processes
- Full temperature, pH and particle size control
- Application: Creams, ointments, API dispersion

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# MEGATRON®

## SERIES MT-SV



### FOR STERILE ENVIRONMENT

- Continuous production up to 25 000 L/h
- Sterile processing
- Application: API dispersion, vaccination, CMC solutions, eye drops

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# MEGATRON

## SERIES MT-VPC / MT-VPR



### FOR MOST EFFICIENT POWDER INDUCTION

**PATENTED**

- Continuous powder induction
- For powder concentrations up to 70%
- Perfected dust prevention
- Application: wet milling, crystallization processes

[LEARN MORE](#)

# MEGATRON®

## SERIES MT-FM



### FOR FINEST FOAM DISPERSIONS

- Foaming with rotor-stator
- Gas bubbles down to 2 µm and gas fractions up to 95%
- Sterile version and modular version available
- Application: foamed blisters, foamed creams, foamed suppositories

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# MEGATRON®

## SERIES MT-SHS



### SUPER HIGH SHEAR FORCES

- Six times more shear
- Droplets down to sub-micron scale
- Application: Encapsulation, liposomes, creams

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# MEGATRON®

## SERIES MT-MM



### DOUBLE EMULSIONS MEMBRANE MACHINE

- Unique membrane technology
- Gentle process for sensitive material
- Emulsions, double emulsions, foams
- Application: API encapsulation, double encapsulation, foamed powders

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# We Are More Than Just "Equipment"

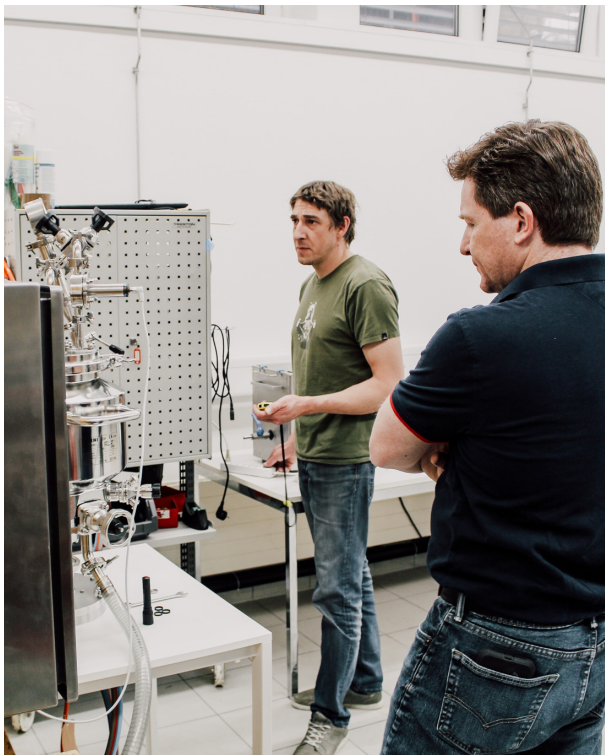
Individualism vs. Generalism.

—

Since close to 80 years our team and family works on perfecting homogenization tasks through our proven and most universal Rotor / Stator technology invented by our company founder Prof Willems. In many ways we are now far beyond just providing a high-quality homogenizer that satisfies the core requirement of establishing for example a good emulsion. This must be considered a pre-requisite. Today's requirement is to understand the application of the customer and provide a fully integrated system solution from small to production scale, either manually operated or fully automated.



**ANDREAS NIENS**  
CCO  
Kinematica AG



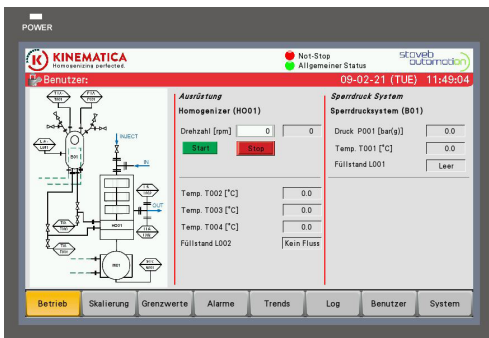
Just putting equipment together isn't enough, it must be designed and built under the guidelines of GMP, Machine directives, CE, UL, ASME, ATEX, CFR 21 part 11, etc. depending on the environment and all of this around the world. Risk Analysis, FMECA and GAMP are similarly part of the entire product realization process. Only a few years ago it was still somewhat adequate to be an application specialist as a front-end representative. Today competency is similarly required in the areas of engineering and automation.

Our success in part is possible and supported through a competent global network of partners which work on the same level of quality expectation as we do from automations specialists in normal, clean room, even explosion endangered environments and/or any combination thereof, to specialty tank manufacturers, first class general instrumentation suppliers and many more.

# We rely on our strong partners

From automation over analysis and vessels to process control.

In addition to our own expertise, we can also count on competent and reliable partners who take Kinematica's overall service to another level.



As experts in the robotics and automation solutions, Kinematica partnered with Staveb Automation for powering our machines. The close partnership leads to the creation of the optimal control system for every customer requirement.

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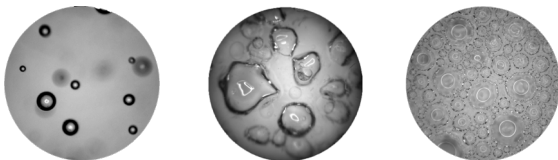
Kinematica has partnered with IPROS to build entire skid systems. An expert in tank manufacturing for the toughest Pharmaceutical requirements IPROS is the ideal partner for Kinematica with a knowledgeable, flexible and fast acting staff. Through IPROS we are now also in the position to offer complete CIP solutions next to our process skids.

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The need for particle size measurement has become an important part for us but also for our customers. This is why the partnership with SOPAT has been established. Together with SOPAT, innovative and accurate measurement solutions are developed and integrated into the entire process and used for analysis.



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# huber



Temperature control and regulation is an incredibly important aspect for many applications, which must be taken into account throughout the entire production process. Our competent partner Huber Kältemaschine AG has the expertise and the matching equipment to control and regulate the temperature to the conditions and the customer's request.

[LEARN MORE](#)



*«Let's create  
win-win situations.»*

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**This is our guiding principle by which we strive  
and work.**

# Our mission. Your solution.

Homogenizing perfected: for every industry.

Kinematica's broad portfolio of solutions can address almost every dispersing application for the pharmaceutical, cosmetic, chemical, food, and biotech industry. Innovative powder-induction systems, solutions for completely sterile environments, or fully-compliant ATEX architecture are just some examples of the broad portfolio that Kinematica can offer with true scalability from pilot-plant to large plant configurations.

Our state-of-the-art technology, in addition to a professional consulting and engineering suite of services, can address a variety of processes such as blending / mixing / stirring, emulsifying, deagglomerating, foaming, crushing, and homogenizing with particle size reduction from a few micrometers down to nanometers in size: the proprietary design and innovative geometry of our aggregates / generators can downsize and provide perfect statistical particle distribution for the finest emulsions / suspensions and foam dispersions.



**PHARMA**



**CHEMICAL**



**COSMETICS**



**FOOD**



**LIFE SCIENCE**





## THE KINEMATICA GROUP



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