

■ MIXING SOLUTIONS FOR CHEMICALS, COSMETICS AND PHARMACEUTICALS

# MIXING EXPERTISE FROM LABORATORY TO PRODUCTION



 **VMI**  
THE MIXING COMPANY

# SCALE-UP: THE VMI PATH FROM LABORATORY TO PRODUCTION

VMI mixing technology covers the most diverse cosmetic and pharmaceutical applications. Our solutions are applicable to basic processes often only requiring simple agitation as well as to those more complex which require much specific and elaborate implementation combining several mechanical and physical operations.

LABORATORY



## Turbotest Rayneri

Enables the development of formulations according to product rheology.

- High torque / high shear
- Low speed / careful mixing
- Versatility
- Safe, quiet and ergonomic operation

PILOT



*From 5 to 50 liters*

## Trilab

Scalable pre-production vacuum pilot.

- Three axis mixing machine including an autonomous vacuum system
- The most suitable equipment for viscous mixing as well as liquid vacuum induction
- The perfect solution to scale up your laboratory results to industrial process



Patented construction of a rotor/stator for vacuum injection of powders in the center of the emulsifier

PRODUCTION

VMI equipment is available on a laboratory scale for the development of new formulations or processes. The results can be extrapolated easily and reliably to the production scale.

## GLOBAL SOLUTION

### A scientific approach for mixing

VMI integrates continuous developments in technology and scientific research and collaborates closely with several universities and industrial partners at the cutting-edge of their respective specialties (rheology, digital modeling, process engineering ...). The VMI Laboratory meets the requirements of cosmetic and pharmaceutical industries and provides a valuable pilot scale for process developments. After product evaluation on site, the trial results can be extrapolated to production scale processing.



From 180 to 1200 liters

## Misceo

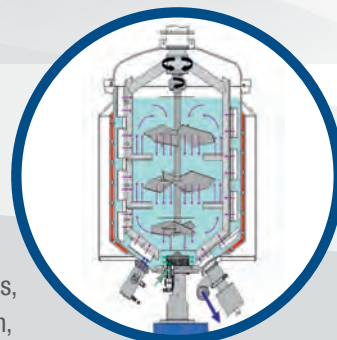
- Ensures an optimal mixing quality thanks to its 2 or 3 efficient and independent mixing tools
- Simple architecture for an optimum configuration
- External components designed and protected to be cleaned easily



Up to 20 tons

## Trimix

VMI solutions facilitate production of preparations with complex rheologies which may go well beyond the limits of flowability: melts, dispersions, emulsions, incorporations of solids in a single batch, without transfer or intermediary phase, etc.



- Can be fitted with vacuum and/or pressure options as well as automated temperature controls
- Three complimentary and consistent movements for a total versatility and efficiency
- Designed for operation in a contained/white room environment, with additional components in a technical area

## Process-oriented solutions

VMI considers all requirements of cosmetic and pharmaceutical industries: PID, components choice, functional analysis, PLC software. All phases and control during the production cycle are made with a permanent attention to prepare the IQ/OQ tests with a built and complete documentation. All industrial equipment is entirely assembled and tested in our shops (FAT) before disassembly and shipping to their destination where it is reassembled by our operational teams.

## Automation

The control systems developed by VMI are designed to meet all standards and regulations of the pharmaceutical and cosmetic industries (GAMP5, CFR21 Part11, S88). All our standard PLC controls are from Siemens. The operator terminal allows the control of operation and parameters, the visualisation and analysis - through reports - of the machine, and is performed by using a touch screen. Our operator interfaces are comprehensive and intuitive, with user-friendly and functional modules dedicated to the specific needs of your processes. One single screen controls the entire equipment and reports traceability of processes and batches. The traceability and thus the repeatability of production and cleaning processes are ensured.

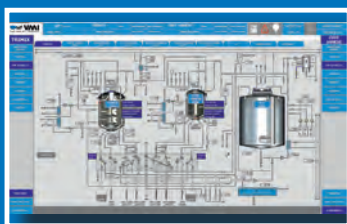


## Production platform

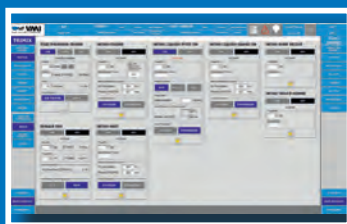
Realized from customer's specifications, VMI equipment is available in numerous solutions and configurations incorporating different layout and productivity constraints of existing installations. These units can be implemented as totally independent machines or as platforms integrating several tanks



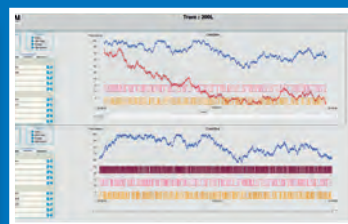
General synoptic



Display / control  
unit actuators



Real-time monitoring of  
the manufacturing progress



Production data  
recording progress

# VMI IS ALSO...

## Very efficient cleaning and sterilization in place

Aware that low product losses are essential, VMI designs its machines with short cleaning time, to allow frequent batch changes. Vacuum pumps and CIP valves are all integrated in a GMP-correct way, with an easy cleaning of the outside surfaces.

- 360° multi-jet rotary heads with very strong impact in tank roof
- Cleaning of the vacuum circuit,
- Cleaning nozzles in vessel walls
- Cleaning-in-place of drain and vacuum introduction circuits
- Minimized use of water and detergents for cleaning.

Installations comply with ATEX directive.



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## Mid size production facilities



### EHL

In-line mixer consisting of one or more rotor/stator units for emulsion and smoothing processes.



### Mobimix

Adjustable equipment for volumes ranging from 50 to 1000 liters.



### Planetary mixers

5 to 300 liter planetary mixers perfectly suited for mixing and kneading high viscosity products.

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## Worldwide presence

Through an extended sales and service network, VMI provides facilities to all pharmaceutical and cosmetic industries. Our production center serves all areas. Wherever you are, you can rely on a distribution and local agents' network especially trained to master our products.



# VMI, The Mixing Company

Dedicated exclusively to mixing, VMI is one of the rare companies worldwide who can offer a complete range of solutions perfectly adapted to the mixing of a wide variety of raw materials.

Originating from the development of bakery kneaders, VMI machines are used by almost all French artisans. VMI teams have extended their knowledge to provide services to the industries for which mixing, kneading, blending, homogenization, dispersion or emulsion are important steps in their production processes. The passion of the teams, the correlation and synergy that exists in these domains of application has forged the exclusive expertise that VMI provides to the most demanding industries.

For applications in the Bakery - Fine Pastries - Pastry (industrial and artisanal), from the pharmaceutical and cosmetics industry to the specialty chemical product sector, VMI mixing machines are at the forefront in these sectors thanks to their innovation, performance and their capacity to adapt products to the specifics of each type of production process. Today, the efficient and cost effective solutions offered by VMI are recognized by clients in over 50 countries.

From artisan kneading to complete mixing systems that satisfy the needs of laboratories as well as complete industrial installations, VMI - The Mixing Company has a solution for every mixing requirement.



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