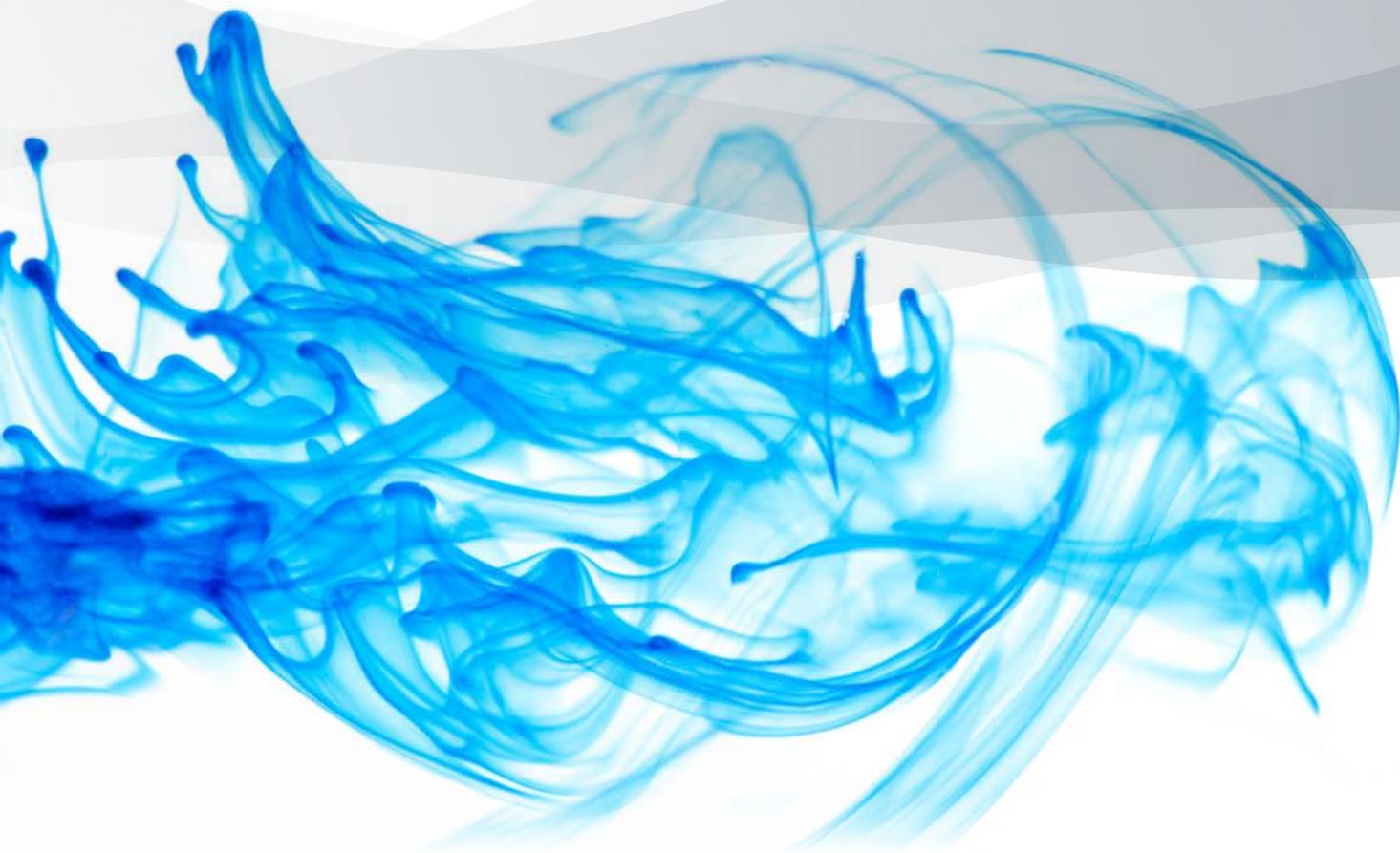


MIXING SOLUTIONS  
FOR COSMETIC AND  
PHARMACEUTICAL  
INDUSTRIES

# Mixing expertise

from laboratory to production



# 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.



## 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



## Ultralab®

A laboratory homogenizer to develop products in small amounts with a view to industrial transposition.

- Double central agitation
- Regulating unit
- Vacuum operation

FROM 500 ML TO 3 LITRES



FROM 10 TO 50 LITRES

## Trilab

Scalable pre-production vacuum pilot.

- Vacuum homogenizer fitted with 3 coaxial tools
- Ideal for viscous, liquid or thick mixtures



FROM 180 TO 1200 LITRES

## 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 complementary 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

## Production



## 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.

## Production platform

### 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.

## Laboratory and pilote

### VMI is also...

#### 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 litres.

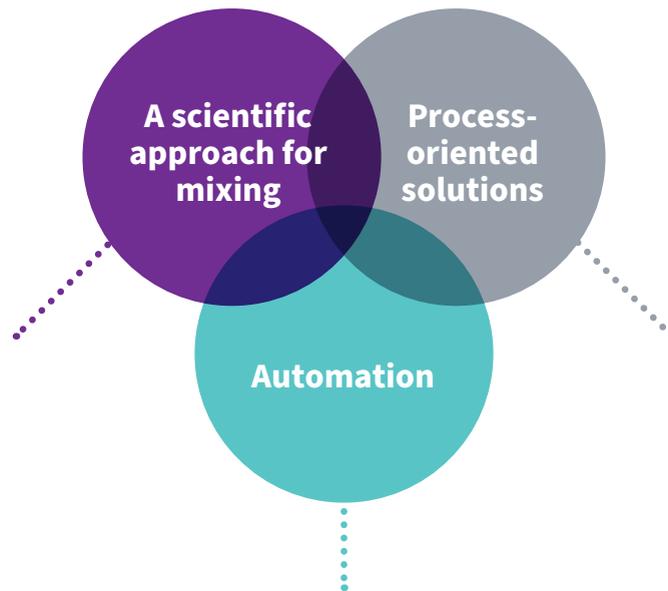


#### Planetary mixers

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

# Global solution

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.



**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.

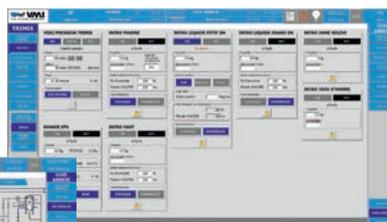
**The control systems developed by VMI are designed to meet all standards and regulations of the pharmaceutical and cosmetic industries** (GAMP5, CFR21 Part11, S88).

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.

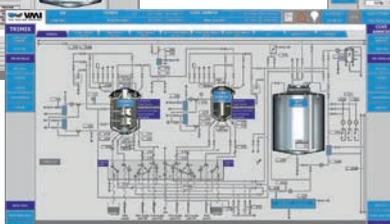
**VMI considers all requirements of cosmetic and pharmaceutical industries:** PID, components choice, functional analysis, PLC software. All phases and control during the production cycle are made with a permanent attention to prepare the IQ/OQ tests with a built and complete documentation. All industrial 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.



General synoptic



Real-time monitoring of the manufacturing progress



Display / control unit actuators



Production data recording progress



# VMI, The Mixing Company

For more than 60 years, VMI has been the worldwide mixing specialist for cosmetics and pharmaceutical products. VMI offers total mixing solutions, meeting laboratory requirements as well as the challenges of industrial production facilities.

Applied to liquids and to pasty mixtures of different viscosity degrees, this know-how applies to both simple suspension, as well as to perfect homogenization, mass transfers, dilutions, overrun or intensive blending.



## *An international company*

VMI supports the pharmaceutical and cosmetic industries in France and worldwide, based on a distribution network and local agents specially trained to master its products.



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