MIXACO®
MASCHINENBAU

INNOVATION IN MIXING


# Heating Cooling Mixer

**Top Performance and Throughput**

CONSISTENTLY HIGH PRODUCT QUALITY | SHORT PROCESS CYCLES – HIGH THROUGHPUT

# About Us


MIXACO has been an innovation leader in the mixing technology industry for more than > 55 years. Our goal is always to guarantee mixing quality while constantly improving handling-related processes. Many of our inventions and patents have become standard applications in a large number of industries. We continue to push forward with these developments, as well as convincing our customers time and time again with new ideas and processes for even better mixing performance.

## MIXACO Mixer Systems Production
## Only the Best Quality

In the mixing technology industry, the name MIXACO has always been synonymous with outstanding quality. High-grade components and robust design in combination with first-class workmanship guarantee the durability of our machines. The most convincing proof is that some of our machines have been in use for more than 30 years and are still going strong.

## Made in Germany

MIXACO is not alone in developing and manufacturing its products in its home country. Components such as motors, pneumatic systems or electrical control elements are all made in Germany. To this day, MIXACO continues to work on new developments and processes with these long-standing partners.

## Numbers, Data, Facts

> 55
Years of mechanical engineering experience

7500
Installed machines worldwide

> 100
Competent staff members

35
Subsidiaries worldwide

> 1300
Satisfied customers

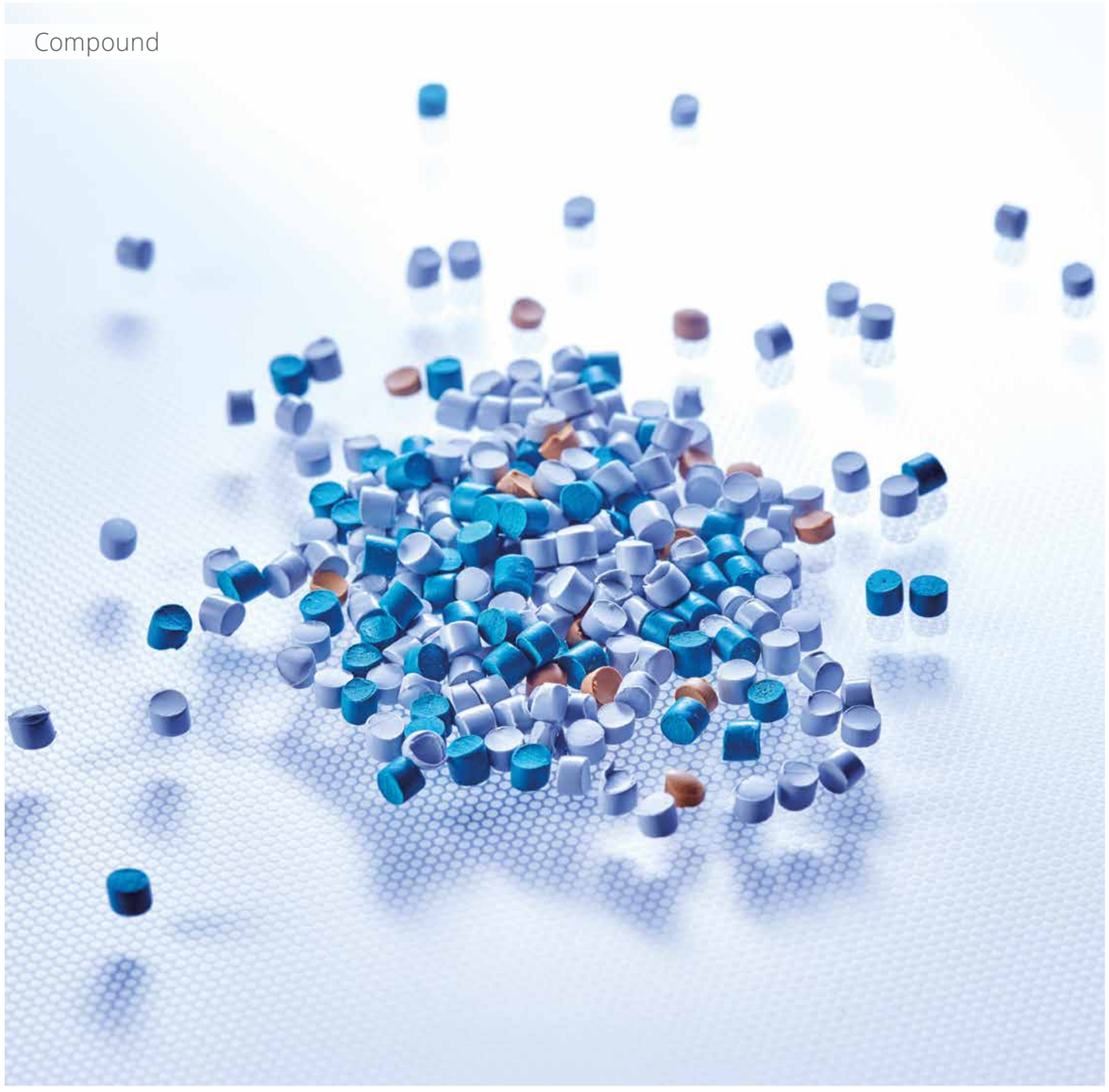
# Experience in PVC Industries

MIXACO has profound expertise across many industries and can precisely and positively adapt the wide product assortment to each individual mixing task.

Particularly when it comes to combined heating-cooling mixers, customers can benefit from comprehensive advice and customer-specific solutions. Whether new projects or the optimization of existing plants,

For a wide variety of mixing processes in the high throughput range:

- Homogenization
- Dispersing
- Coloring
- Preparation
- Agglomeration
- Crushing
- Drying
- Coating
- Bonding
- Wetting
- Disintegration and dyeing of fibers



Compound

Profiles

Pipes

# Experience in PVC Industries

MIXACO has been offering solutions for a wide variety of industries for many decades. This means the requirements on the mixing technology are correspondingly varied.

MIXACO will be by your side throughout a successful installation and commissioning.


Film


Cables

No other company stands for innovation in mixing technology like MIXACO, who has been setting new standards with its machinery and solutions for decades.

Leading companies of numerous industries worldwide trust in MIXACO products, including:


WPC Profiles


Flooring - LVT

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# **NEW** HM+KMH

## Heating Mixer with Horizontal Cooling Mixer


## INNOVATION IN MIXING

### The perfect solution for high performance applications with higher throughputs

The cooling capacity of the horizontal cooling mixer is very efficient due to its horizontal design. Separate cooling zones spread over the circumference facilitate even and reliable cooling of the mixed material within a short time. Shorter cooling times and thus consistently high throughput rates can be achieved when combined with an optimal cooling water speed.

The larger vessel lid, driven by mechanical linear actuators, facilitates quick and easy cleaning.

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# Heating Mixer HM

Solutions
to Maximize
Your
Production


The new Heating Mixer series HM provide the best solution for all those applications in which the dispersion of powders with powders or granules or with the liquid addition is requested.

The applications are multiple and here we list the main ones:

- Rigid and Soft PVC dry-blend.
- WPC (Wood Plastic Composites PVC/PP/PE based with wood flour).
- Thermoplastic Polymers (PVH, PVA, PC, POM, etc.).
- Hot or cold dispersion of Color master-batch, additives, powders.
- Powder Coatings pre-mixing.
- Powder Coatings bonding with metallic pigments or micas.
- Battery mass

## SIZES AVAILABLE

| Type HM | Total Volume | Useful Volume | Capacity | Motor Power | Boost Motor Power |
|---|---|---|---|---|---|
| | Lt | Lt | Kg/batch | kW | kW |
| HM 200 | 200 | 170 | 85 | 45 | 55 |
| HM 300 | 300 | 255 | 127 | 75 | 90 |
| HM 400 | 400 | 340 | 170 | 90 | 110 |
| HM 500 | 500 | 425 | 212 | 110 | 132 |
| HM 600 | 600 | 510 | 255 | 132 | 160 |
| HM 700 | 700 | 595 | 300 | 160 | 200 |
| HM 800 | 800 | 680 | 340 | 200 | 250 |
| HM 1000 | 900 | 850 | 425 | 200 | 250 |
| HM 1200 | 1200 | 1020 | 510 | 250 | 315 |
| HM 1500 | 1500 | 1275 | 637 | 315 | 400 |
| HM 2000 | 2000 | 1700 | 850 | 500 | 575 |
| HM 2500 | 2500 | 2125 | 1060 | 600 | 700 |

Note:
the data shown in the table are indicative and must be confirmed by MIXACO Machinenbau.

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# Horizontal cooler KM H

High
Efficiency
Cooling


The new KM H high efficiency horizontal coolers are designed to give the best performance in cooling hot Dry-Blend from the turbomixer.

Thanks to the high surface area of heat exchange (vessel + sides + lid), and the action of the main agitator that ensures an intense contact of the Dry-Blend with the exchange surface, coolers KM H guarantee the lowest final cooling temperature so as to be able to store Dry-Blend into intermediate storage silos thus avoiding the formation of lumps due to thermal inertia of the Dry-Blend.

All surfaces in contact with the product are made of stainless steel finely polished to provide easy cleaning and to prevent the buildup of material.

## SIZES AVAILABLE

Note:
the data shown in the table are indicative and must be confirmed by MIXACO Machinenbau.

| Type KM H | Total Volume | Useful Volume | Motor Power | Boost Motor Power |
|---|---|---|---|---|
| | Lt | Lt | kW | kW |
| KM 800 H | 800 | 480 | 7,5 | 11 |
| KM 1200 H | 1200 | 720 | 11 | 15 |
| KM 2000 H | 2000 | 1200 | 18,5 | 22 |
| KM 2600 H | 2600 | 1560 | 22 | 30 |
| KM 3700 H | 3700 | 2220 | 30 | 37 |
| KM 5000 H | 5000 | 3000 | 55 | 75 |
| KM 7000 H | 7000 | 4200 | 75 | 90 |
| KM 9000 H | 9000 | 5400 | 90 | 110 |

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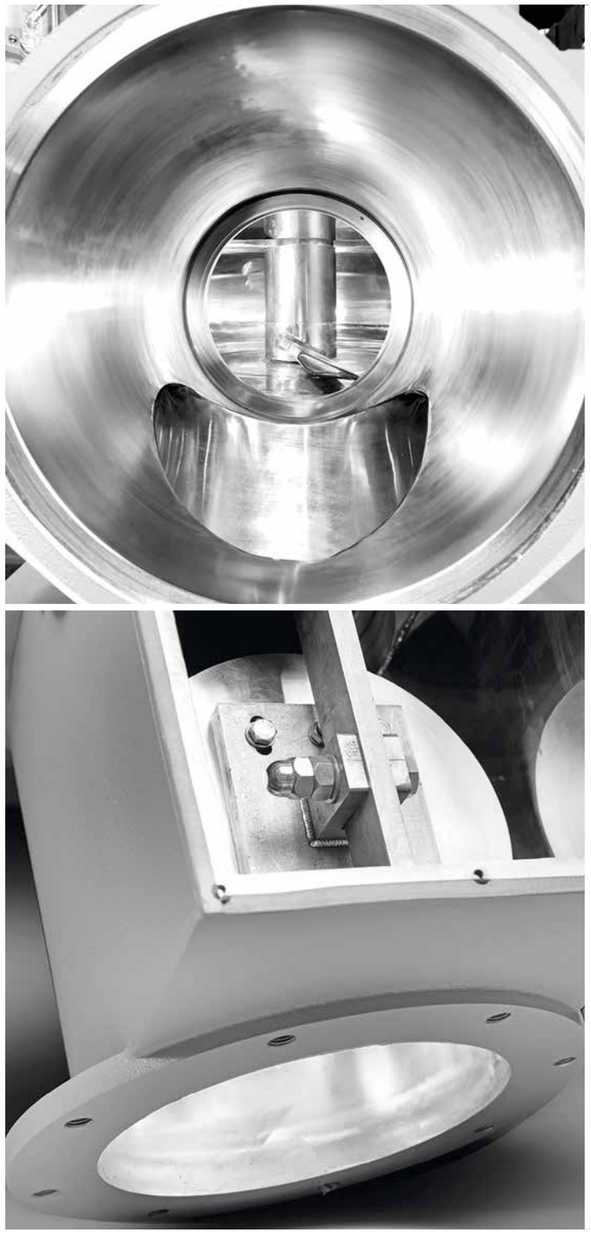
# Attention to Details

Competence:
Knowledge,
Capacity,
Skill



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PRODUCTIVITY

# Heating Mixer with Horizontal Cooling Mixer

Technical Data

## HM+KMH

Hot & Cold mixing combination

| HM/KMH Combination Heating Mixer HM + Horizontal Cooling Mixer KM H | RIGID PVC OUTPUT (B.D. 0,5 kg/lt) | | | SOFT PVC OUTPUT (B.D. 0,5 kg/lt) | | |
|---|---|---|---|---|---|---|
| | Heating Temp.: 120 °C Cooling Temp.: 50 °C (*40°C) | | | Heating Temp.: 120 °C Cooling Temp.: 60 °C (*50°C) | | |
| | Manual Feeding | Semi-Automatic Feeding | Full-Automatic Feeding | Manual Feeding | Semi-Automatic Feeding | Full-Automatic Feeding |
| | 5 batch/hr (Kg/hr) | 6 batch/hr (Kg/hr) | 8 batch/hr (Kg/hr) | 4 batch/hr (Kg/hr) | 5 batch/hr (Kg/hr) | 7 batch/hr (Kg/hr) |
| HM200/KM800H | 425 | 510 | 680 | 340 | 425 | 595 |
| HM200/KM1200H | *425 | *510 | *680 | *340 | *425 | *595 |
| HM300/KM1200H | 635 | 762 | 1016 | 508 | 635 | 889 |
| HM400/KM1200H | 850 | 1020 | 1360 | 680 | 850 | 1190 |
| HM400/KM2000H | *850 | *1020 | *1360 | *680 | *850 | *1190 |
| HM500/KM2000H | 1060 | 1272 | 1696 | 848 | 1060 | 1484 |
| HM500/KM2600H | *1060 | *1272 | *1696 | *848 | *1060 | *1484 |
| HM600/KM2000H | 1275 | 1530 | 2040 | 1020 | 1275 | 1785 |
| HM600/KM2600H | *1275 | *1530 | *2040 | *1020 | *1275 | *1785 |
| HM700/KM2600H | 1500 | 1800 | 2400 | 1200 | 1500 | 2100 |
| HM700/KM3700H | *1500 | *1800 | *2400 | *1200 | *1500 | *2100 |
| HM800/KM2600H | N/A | 2040 | 2720 | N/A | 1700 | 2380 |
| HM800/KM3700H | N/A | *2040 | *2720 | N/A | *1700 | *2380 |
| HM1000/KM3700H | N/A | 2550 | 3400 | N/A | 2125 | 2975 |
| HM1000/KM5000H | N/A | *2550 | *3400 | N/A | *2125 | *2975 |
| HM1200/KM5000H | N/A | 3060 | 4080 | N/A | 2550 | 3570 |
| HM1500/KM5000H | N/A | N/A | 5096 | N/A | N/A | 4459 |
| HM1500/KM7000H | N/A | N/A | *5096 | N/A | N/A | *4459 |
| HM2000/KM7000H | N/A | N/A | 6800 | N/A | N/A | 5950 |
| HM2000/KM9000H | N/A | N/A | *6800 | N/A | N/A | *5950 |
| HM2500/KM9000H | N/A | N/A | 8480 | N/A | N/A | 7420 |

## Advantages of the HM+KM H

- Suitable for a wide range of applications such as, e.g. heating, agglomerating, bonding
- Process-optimized mixing tools for optimum energy input
- Performance-optimized selection of mixing drives for high energy efficiency
- Innovative aspiration for optimum dehumidification of the mixture
- Extensive additional equipment for individual adaptation to on-site requirements
- ATEX version available
- Optimal cooling performance due to large cooling surfaces in the vessel and lid
- Good accessibility for cleaning thanks to a large lid

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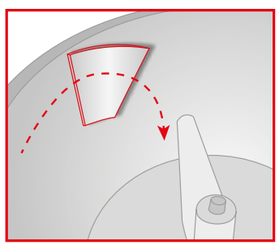
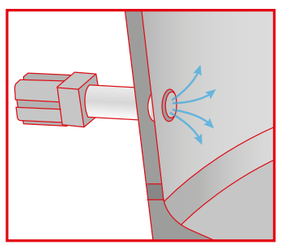
# Accessories

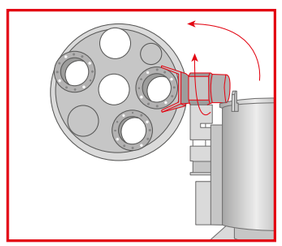
Customer satisfaction in performance and production

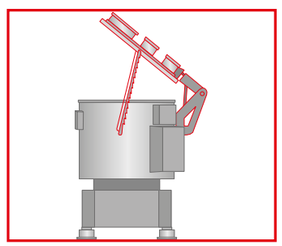
Additional expansion options:

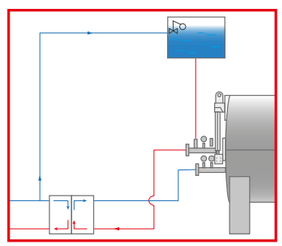
- Load cells
- Aspiration heating mixer / Jet-Filter cooling mixer
- Injection of liquids (e.g. plasticizers)
- External vessel tempering
- Hydraulic tool lift
- Lift-and-swivel lid for better cleanability
- ATEX version:
  - Nitrogen inerting
  - Oxygen concentration measurement
- Explosion suppression systems
- Data recording and analysis
- Remote maintenance

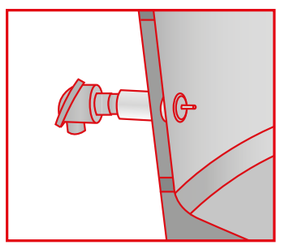

Deflector

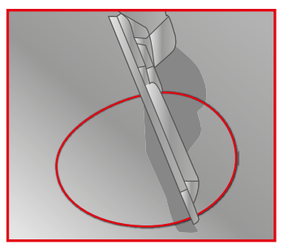

Side Injection Nozzle

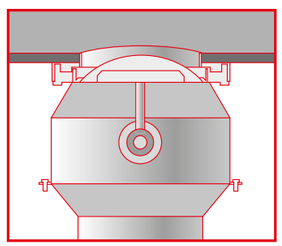

Lid Tilting

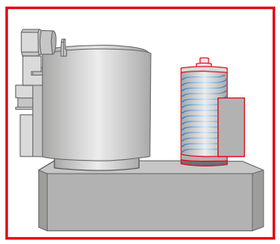

Hinged Lid

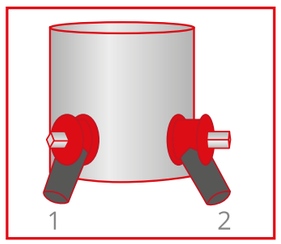

Closed Loop Heat Exchanger


Wear Resistant Probe

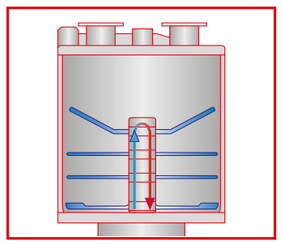

Contour Shaped Valve

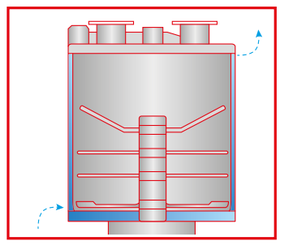

Semi-Spherical Valve

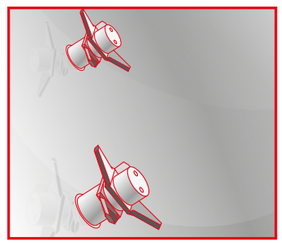

Water Cooled Motor

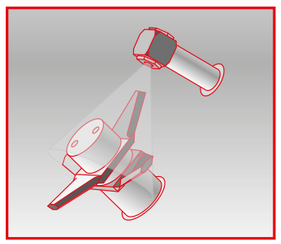


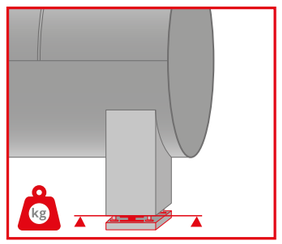
Dual Discharge


Water Cooled Tools

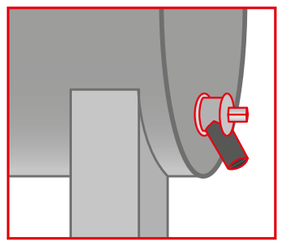

Vessel Tempering

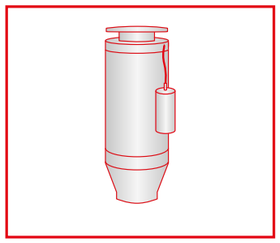

Choppers

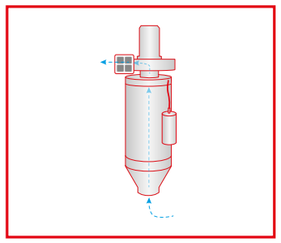

Liquid Spraying

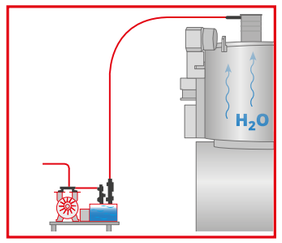


Cooler Weighing

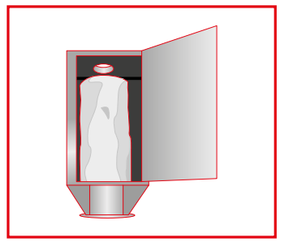

Sample Pickup

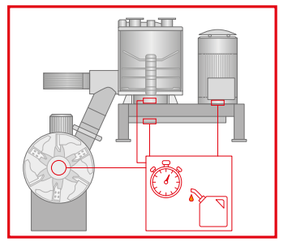

Jet-Filter


Aspiration Jet Filter

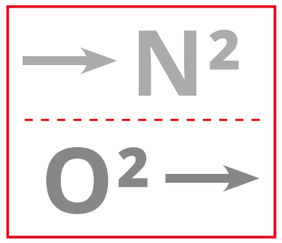


Vacuum Dehumidifying

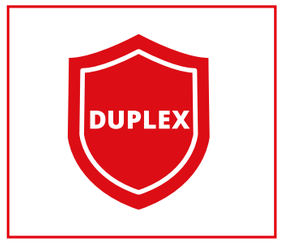

Bag Filter Box


Automatic Greasing

Explosion Safety



Nitrogen Blanketing



Wear Resistant Vessel

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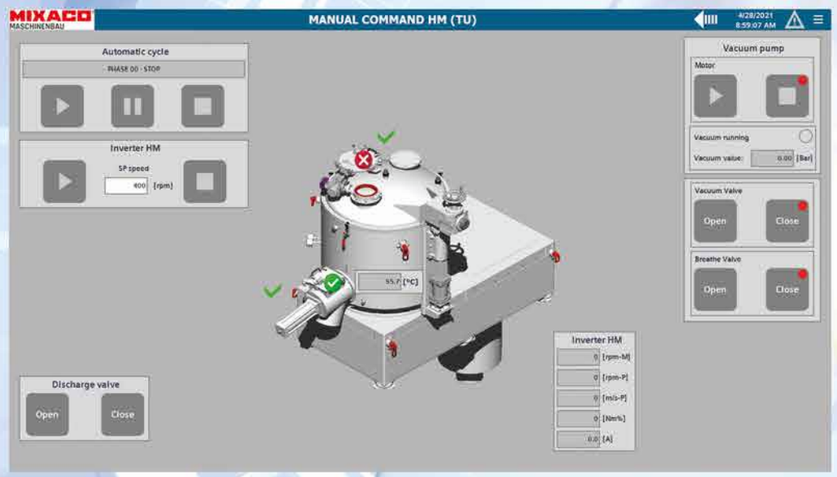
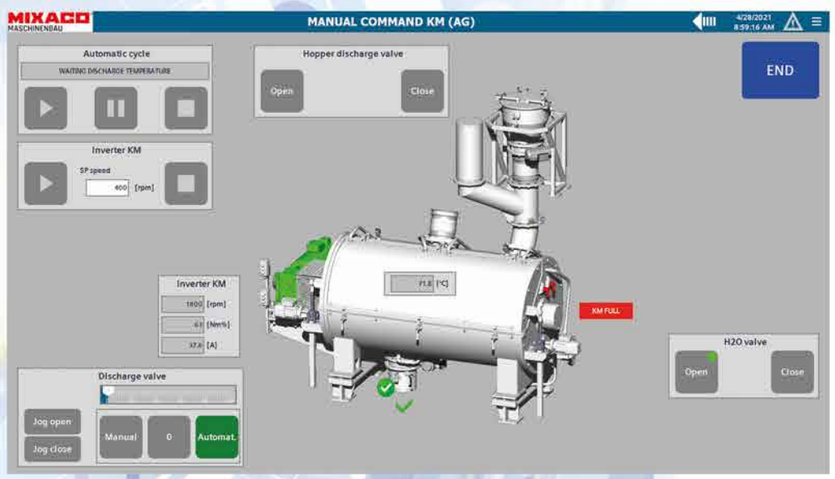
Requirements for Safety, Efficiency and Cost effectiveness.

# Control

## Highest efficiency and maximum usability





Our combined heating-cooling mixers are controlled with a Siemens S7-1500 PLC and meet today's requirements for safety, efficiency and cost-effectiveness. And because the control is developed and programmed by one and the same company, it is virtually ensured that the mixer components are optimally integrated. Alternatively, you can also use Allen Bradley components (incl. the Panelview operating panel), or the control can be implemented pursuant to UL/NEMA. The controller can also be equipped with an interface for data exchange with a higher-level controller.

### Operating modes

- Manual operation
- Automatic operation
- Cleaning operation

### Process parameters

- Mixture temperature
- Mixing time
- Mixing tool speed
- Mixing drive power consumption
- Torque (optional)
- Liquid injection (optional)

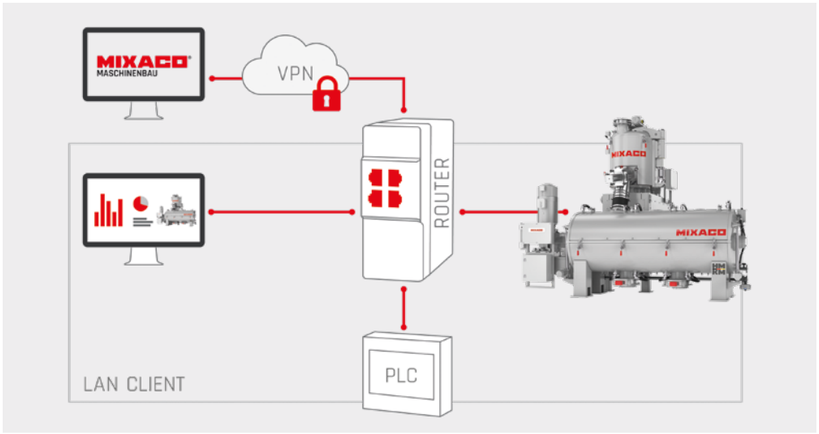
### Process visualization

- System status
- Process parameters
- Machine settings
- Fault management

A Siemens TP1200 operating panel (12" color display with touch operation and Ethernet interface) is used to visualize the processes. Depending on the operating panel, the combined heating-cooling mixer can be operated in manual or automatic mode. The mixing parameters are entered and managed in a specific recipe section. Parameters like tip speed, dehumidifying, discharge, liquid injection, double batching and much more can be activated and defined. The recipes are saved in a directory for future useage. The control can be optionally equipped with integrated remote maintenance.

# Control

## Highest efficiency and maximum usability

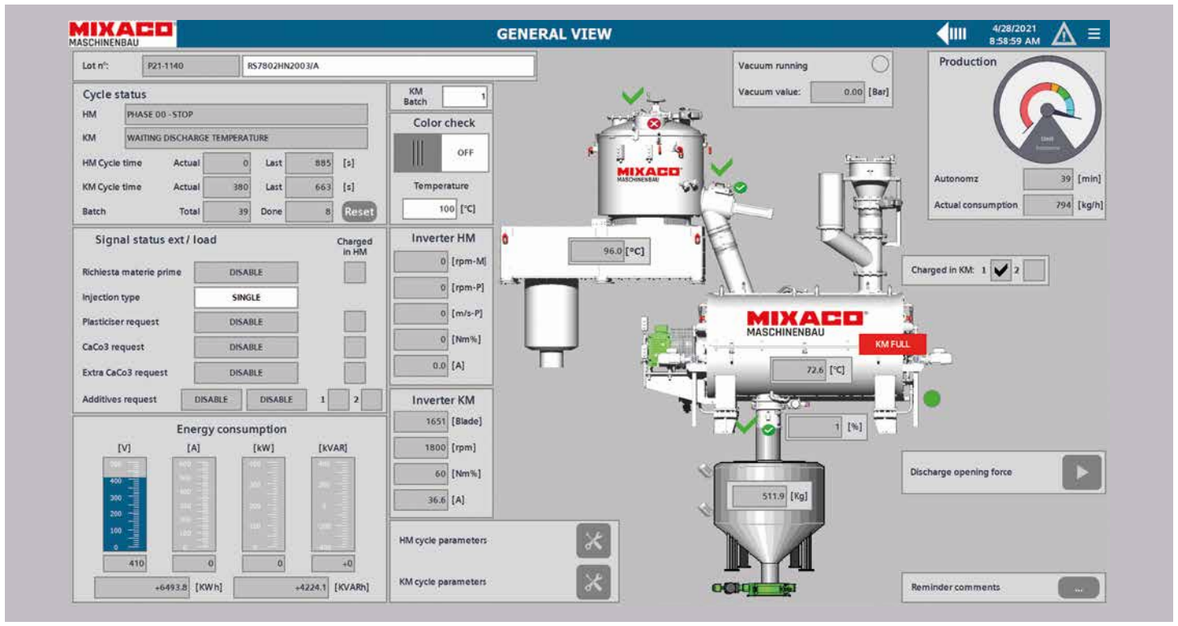



### Remote maintenance module

The remote maintenance module enables fast and secure access to the combined heating-cooling mixer controller via a VPN tunnel. This in turn allows our service team to diagnose and rectify any malfunctions without having to visit the site.

### Visualization

The informative and clear MIXACO process visualization on the operating panel ensures that the entire combined heating-cooling mixer can be safely and reliably operated.

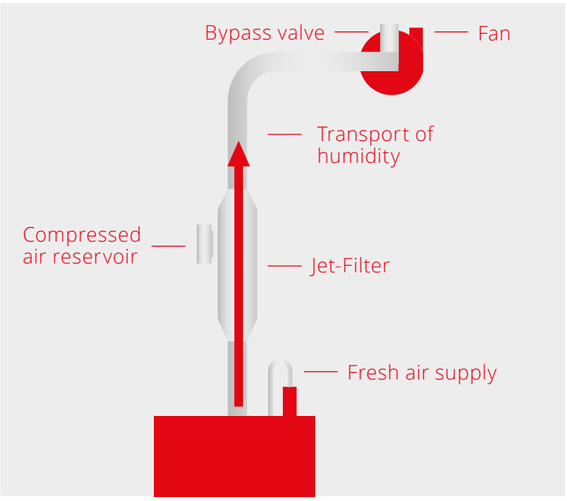



# Your Choice

MIXACO machines are distinguished by their unique features, ensuring that each customer gets precisely the machine that meets their requirements and yields the best possible mixing outcome. We therefore offer additional options, such as:

## Filter/ Aspiration

Dehumidification of the mixture via aspiration is vital for optimum dry-blend quality. A constant flow of air removes humidity from the heating mixer in order to prevent caking in the mixer.





## ATEX

Depending on the version, our mixers can be used in potentially explosive dust and gas atmospheres of all ATEX zones. The machine acceptance is carried out and documented by an official inspecting authority or a correspondingly certified employee.

| ATEX classification | | | |
|---|---|---|---|
| Equipment for use in potentially explosive dust atmospheres | | | |
| Zone | 20 | 21 | 22 |
| Hazard | continuously, for long periods or frequently | occasionally | seldom or for a short period of time |

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MIXACO.COM

## Good ideas are conceived.
## But the right solutions are put to the test.

Contact us for your mixing trials and benefit from the extensive experience of our design and application engineers:

- Tests on various mixing systems
- Adaptation of mixing parameters
- Recording and documentation of mixing tests
- Analysis of mixing results


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