High Speed Container Mixers

ProMiXon
Born to Mix

Mixing equipment for Plastics, Powder Coatings, Powders, Additives and Colors.
Our vocation is to manufacture high quality mixing plants that boost the performance parameters of user companies and meet the needs of our customers in full. Our mission is to deliver tangible benefits to the plastics and powder coatings industries. Our speciality is our guarantee of fast and effective after-sales services. Our attention is entirely focused on customer satisfaction, and that’s the goal we pursue when we build our mixing plants of the latest generation.
**Pro** from the Latin “Prode”: Help, at defense, in favor, in advantage.

**Mix** English voice “to mix” = Misculare.
from the Latin “Misculare”: Putting together different substances to obtain a unique homogeneous mass.

**On** English voice turn on = Activate.
“Activate”: putting into action, making it effective, bring it to life.

*Corporate values, expressed in logo, acts to **achieve results** beneficial to you, working with you, for you.*
The new FX series of container mixers provide the best alternative to conventional high speed mixers when production conditions require a high versatility and a wide range of different products to be mixed with the same mixer.

Thanks to the container mixer special design divided into two separate units, mixing head and portable container, the cleaning time between batches is minimized therefore the risk of contamination too when switching from one type of production to another.

Mix, storage and transportation are optimized by directly using the same containers that can be easily inserted in a dosing system either to a weighing scale or an extruder feeder.

### TECHNICAL TABLE OF VARIOUS SIZES AVAILABLE

<table>
<thead>
<tr>
<th>Type</th>
<th>Total Volume</th>
<th>Useful Volume</th>
<th>Capacity Kg/batch</th>
<th>Motor Power kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>FX-150</td>
<td>150</td>
<td>120</td>
<td>60</td>
<td>11</td>
</tr>
<tr>
<td>FX-300</td>
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<td>240</td>
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<tr>
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<td>400</td>
<td>200</td>
<td>22</td>
</tr>
<tr>
<td>FX-600</td>
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<td>480</td>
<td>240</td>
<td>30</td>
</tr>
<tr>
<td>FX-700</td>
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<td>560</td>
<td>280</td>
<td>37</td>
</tr>
<tr>
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<td>800</td>
<td>400</td>
<td>45</td>
</tr>
<tr>
<td>FX-1200</td>
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<td>960</td>
<td>480</td>
<td>55</td>
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<tr>
<td>FX-1500</td>
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<td>1200</td>
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<td>75</td>
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<tr>
<td>FX-2000</td>
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<td>1600</td>
<td>800</td>
<td>90</td>
</tr>
<tr>
<td>FX-2500</td>
<td>2500</td>
<td>2000</td>
<td>1200</td>
<td>90</td>
</tr>
</tbody>
</table>

Note: The data shown in the table are indicative and must be confirmed by PROMIXON.
OUR STATE OF THE ART SOLUTIONS TO HELP YOU INCREASE PRODUCTIVITY
The containers are used in the mixer FX cold mixture of polymer powders or granules with pigments, fillers and additives in the following fields:

- Master-Batch of color pigments.
- Compound engineering plastics of all kinds.
- Powder Coating.
- Powders Pre-mixing of all kinds, even food applications.
Mixing, storage And transport container

Interchangeable and removable as equipped with trolley with wheels for moving, lifting with fork lift pockets and hooks for lifting by hoist. Built entirely in stainless steel with surfaces in contact with the product mirror polished. Discharge by means of butterfly valve.

Mixing tool

Designed to ensure intensive mixing in order to reduce the process time and ensure the perfect dispersion of the products even if heterogeneous.

Built in stainless steel with mirror polished surfaces in order to minimize deposits of material and thus optimize the cleaning time between batches. For a high versatility, PROMIXON makes available a variety of configurations to meet different mixing requirements.

ADVANTAGES AND HIGHLIGHTS OF CONTAINER MIXER
Mixing head
Mixing chamber made of stainless steel for parts in contact with the material and entirely mirror polished surface for better cleaning. The wide range of connection between the bottom and the vertical wall ensures the creation of the best mixing vortex enhancing the dispersion of the products.

Connecting the container to mixing head
Carried out by Qty 2 electro-mechanical worm jacks and intrinsically safe, ensures maximum safety and performance during the tipping phases. For this purpose, the mechanical jacks are selected with large service factors for a prolonged durability.

ADVANTAGES AND HIGHLIGHTS OF CONTAINER MIXER
Standard tools

A two-stage, both spinning in the same direction. The mixing intensity of the tool is controlled by the variable speed drive applied to the main motor.

The peripheral speed of the bottom blade does not exceed 15 m/sec.

Dispersion type mixing tools

A two-stage, each driven by a transmission shaft independently controlled by the same motor and gear unit. The speed ratio between the bottom stage (slow) and the upper stage (fast) of fluidization is 1/8: 120 rpm/960 rpm. This solution is particularly suitable in those applications where a high intensity mixing without heating the material is required.
**Twin-engine dispersion tools**

A two-stage, each commanded by a transmission shaft independently controlled by independent motors. The speed ratio between the stage of the bottom (slow) and the upper stage (fast) of fluidization is infinite. Possibility of reverse rotation of the top fluidizing blade for a counter-rotating effect to enhance the mixing intensity. This solution is particularly suitable in those applications where a high flexibility combined with all kind of mixing intensity.

**Chopper tool**

A further development is the use of a side chopper device for a perfect dispersion at low speed. Particularly suitable for applications with heterogeneous materials and different density and fluiditysmoothness.
**Metallic Bonding tools**

A three-stage with cooling by the circulation of water to get cold surfaces and therefore minimize the deposit of pigments or powder coating on the surface. The geometry of the blade ensures the formation of an optimal vortex without stagnation points and a transfer of energy to ensure a perfect homogeneous bonding.

**Multi-stage heating mixing tools**

A three-stage for the highest level mixing intensity so as to heat the material by friction. Used for special applications such as the production of rigid or plasticized PVC Dry-Blend or Master-Batch preheated. The geometry of the blade ensures the optimal vortex formation without stagnation points and a homogeneous energy transfer.
In order to put the use in condition to get the maximum from the mixing plant it is often necessary to complete the supply with special accessories. Based on its own experience, PROMIXON is able to provide standard solutions or tailor designed for each production needs or safety.

**MIXING SOLUTIONS**

**Docking and discharge station**

The docking and discharge station is for the dust-free emptying of the mixed material into a further processing equipment (such as a sieving unit or and extruder feeder).

The mixing containers are manually pushed into the station and locked in position by a pneumatic jack.

The docking and discharge station consists of:

- A guide fork metal frame with the container detect switch to activate the pneumatic jack to lock the container in the exact position.
- Pneumatic actuated discharge flange to attach on the container butterfly valve. Circumferential seal made of EPDM rubber; neutral to avoid contamination and to ensure the dirt-free connection.
- A pneumatic box positioned on board of the station.
- The down-pipe made of AISI 304 stainless steel with interior surfaces mirror polished.
- Inside the discharge down-pipe the is a sensor switch to control when the container is empty.
- A pneumatic box to clamp with the container discharge valve for open/close operation (AUT/MAN).
- Electric vibrator to prevent the formation of the bridge of material in the container during the discharge phase.
ACCESSORIES

Liquid injection side valve

Applied to the mixing head for the injection of liquid directly on the mixing flow. In option the supply of the injection pump and storage tank oils.

HMI

Touch panels are available in various sizes for a better view and interface with the operator. Remote control and reporting available.

ATEX

For operation in various hazardous areas. ATEX-Zone 22, 21, 20. Using electrical and mechanical components intrinsically safe certified and marked for use in hazardous environments with risk of explosion.

Inerting and Oxygen % control

For the use of materials at high risk of explosion. Oxygen analyzer sensor with long-lasting thermoparamagnetic technology.
**Solutions available**

Our fully automatic electrical control cabinets are produced in-house and equipped with the very latest technology to ensure safe management of the mixing plant.

Our insistence on the use of internationally recognised brands of commercial components ensures ready availability and a worldwide after-sales service to ensure machine downtimes are kept to the absolute minimum.

All our electrical cabinets are equipped with inverters for management of turbomixer rpm and to allow the consequent flexibility and energy savings during use of the plant. PROMIXON supplies tailored solutions based on specific customer requirements. That’s why our expert software engineers developed the new user interface panels equipped with a S.C.A.D.A system, which makes the collection of production performance data and statistics even faster and more accurate.

**Online Support**

PFacility to set up remote assistance services. This system can be provided for the plant PLC and HMI for diagnostics, upgrades and troubleshooting.
SOFTWARE

From the easier system to the more sophisticated mixing plants, PROMIXON studies and implements the management software to provide the following advantages:

- Easy to use.
- Troubleshooting operational, providing instructions to the operator.
- Manuals on the HMI panel.
- Reporting the plant status: productivity, batch/hr performed, alarms.
- Charts.
- Setting in steps of mixing formulas: time, speed, temperatures, security.