**Biorotor Mixer**

**Capacity:** 48 to 5,000 liters  
**Objectives:** homogenization and mixing of products with different characteristics

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**Mixing and Homogenization of Several Materials (Successive Batches)**

The BPR double shaft mixer with blades is a continuous mixer with two parallel tanks, each fitted with blades which promote a homogeneous mixing regardless of the particle size and density. The intensive mixing action ensures, even with delicate or very brittle products, an optimal process without the formation of fine particles. The mixer can be started fully loaded.

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**Operating Mode**

The horizontal rotors, which rotate in opposite directions, create a fluidization zone which ensures accurate mixing of products. The fluidization zone is generated by combining two technologies, the first in turbulence and the second in conveying. In these fluidized zones, powders and granules are dispersed optimally within a very short time. The double shaft mixer with blades, BPR, guarantees high performance in terms of homogeneity and mixing speed.

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**Options**

- Double casing heating/cooling
- Tank and rotor shaft manufactured in 316 L stainless steel
- Parallel tanks, each fitted with blades which promote a homogeneous mixing regardless of the particle size and density
- The intensive mixing action ensures, even with delicate or very brittle products, an optimal process without the formation of fine particles. The mixer can be started fully loaded.

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**Technical Specifications**

- Coefficient of variation reached (CV): less than 3%
- Mixing ratio: 1 : 100,000
- High homogeneity (CV < 5%)
- Bearing end with rotor sealing group in various versions with optional air or gas pressurization
- Double bomb bay discharge
- Robust mixing tank made of carbon steel or 304 L stainless steel

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**Function**

The BPR batch mixer is used for dry solids (powders, granules, short fibers), dry solids + liquids (moistening, granulating, coating), as well as for liquid and low-viscosity pastes.

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**Dimensions in mm.**

- **Max. 140%** Recommended
- **Min. 40%**

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**Advantages**

- Shorter discharge time due to double discharge month
- Low residue (<5.5% of the volume)
- Short mixing time (5-30 sec.)
- Easy cleaning
Biorotor Mixer

Rate: 4 to 34 m³/hr.
Objectives: homogenization and mixing of dry or wet materials

SIMULTANEOUS CONVEYING AND MIXING OF TWO OR MORE PRODUCTS

PALAMATIC PROCESS continuous mixer with overlapping blades is ideal for homogenization and mixing of dry or wet materials. These machines, of simple and robust design, are fitted with double parallel rotors and ensure the mixing of two or more materials but also their conveying during the mixing process. These mixers are ideal to carry out neutralization of sludge with time, moisturizing of dust, extinction of quicklime etc..

Homogeneous conveying and mixing
- Possibility to add up to 20% of liquid material
- Robust mixing tank made of carbon steel or stainless steel 304 L/316 L
- Trough shaped tank with bolted or welded flanges
- Gasket at the passage of the shaft supporting the rotor, external bearings
- Driven by gear motor with hollow shaft or coupling

Most common application
- Powder handling
- Sludge granulation
- Inerting of sewage sludge
- Conditioning of dust, ash and sludge of industrial origin (metallurgy, fly ashes)

Pallets

Material outlet

Support bearings with sealing by stuffing box

The horizontal shaft continuous mixers consist of:
- a mixing vessel equipped with a filling mouth
- a discharge mouth
- two mixing rotors
- two end closure plates
- detached end bearings with passage of the shaft by packing gland
- gear units with power transmission

Blades Continuous

TECHNICAL SPECIFICATIONS
- Possibility to add up to 20% of liquid material
- Robust mixing tank made of carbon steel or stainless steel 304 L/316 L
- Trough shaped tank with bolted or welded flanges
- Gasket at the passage of the shaft supporting the rotor, external bearings
- Driven by gear motor with hollow shaft or coupling

OPERATING MODE
Double shaft mixers with blades BRPC are adapted to dust mixing, granulation, neutralization of sludge and moistening of dust, ash or sludge. The overlapping of the blades and the adjustment of their inclination ensure a very good adaptation to the products to be mixed. The continuous mixer is made of a tank which contains two parallel rotors fitted with blades which intersect during operation thus covering the entire surface of the trough. The start of the mixer is also possible when fully loaded.

DIMENSIONS in mm.

<table>
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<th>Models</th>
<th>D</th>
<th>B</th>
<th>A</th>
<th>K</th>
<th>J</th>
<th>O</th>
<th>L</th>
<th>I</th>
<th>C</th>
<th>T</th>
<th>Installed power in kW</th>
<th>Rate in m³/h</th>
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Advantages
- Possibility to add up to 20% of liquid material
- Robust mixing tank made of carbon steel or stainless steel 304 L/316 L
- Trough shaped tank with bolted or welded flanges
- Gasket at the passage of the shaft supporting the rotor, external bearings
- Driven by gear motor with hollow shaft or coupling

Options
- Antiwear coating
- Liquid additive system

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PALAMATIC PROCESS designs mixing tanks for preparing lime milk or activated carbon slurry. Our offer includes the incorporation of carbonate in smoke ducts, activated carbon dispersion or urea dissolution. The stirring methods we offer are various: homogenization, dissolution, suspension, dilution, flocculation...

- Lime milk preparation
- Urea dissolution
- Activated carbon treatment
- Smoke treatment

Typical diagram of a sludge liming facility.