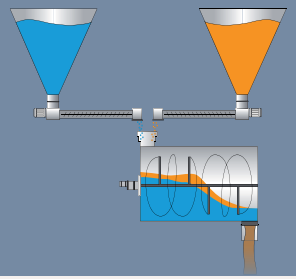
# Monorotor Mixer

## Ploughshare & Blades - Continuous



**Capacity:** 75 to 25,000 litres
**Objectives:** high capacity and high quality mix



### CONTINUOUS MIXING OF MATERIALS

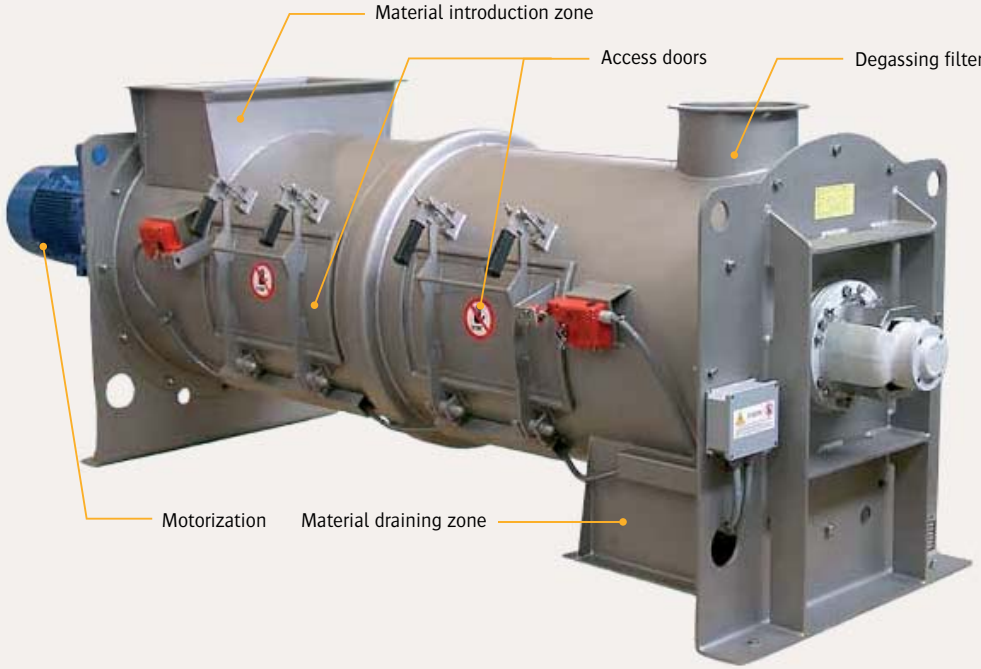
The continuous process is suitable for mixtures with a limited number of components and important manufacturing campaigns. The feeding of materials to be mixed is continuous, without interruption. MRSC continuous mixers are suitable for dry solids (powders, granules, short fibers), dry solids + liquids (moistening + granulating), sludges and low-viscosity pastes.

### TECHNICAL SPECIFICATIONS

- **Manual cylinder or pneumatic actuator for slide valve**
- **Adjustable slide valve**
- **Adjustable flow by slide valve on outlet**
- **Adjustable filling rate from outside without stopping the mixer**
- **Minimum Residual in case of complete draining**
- **Rate from 2 to 1,000 m³/h. according to mixing recipe and mixer configuration**
- **Stand-by state of mixing**

### OPERATING MODE

Maximum quality of mixing is obtained when the material reaches the outlet opening.
Continuous mixers MRSC operate on the principle of mechanically produced fluidized layer. Ploughshare or inclined blade shaped tools rotate closer to the horizontal cylindrical tank by lifting the components to be mixed from the material layer towards the open mixing area.




Management of rate and duration of stay of the material in the tank are carried out according to two technologies:

- The diaphragm valve, that is a controlled and sealed valve for powders, powdered or granulated material. It consists of a diaphragm which is held by rings at each end. The upper ring is fixed, while the lower ring rotates to gradually reduce the passage opening. In a 180° rotation position, the passage is completely closed. This version is better for monoproduct processes in which setting operations rarely occur.

- The slide gate valve which cuts the passage of the fluid via the central blade and provides a complete sealing. Height adjustment from the outside allows simple and easy setting of batches changing.

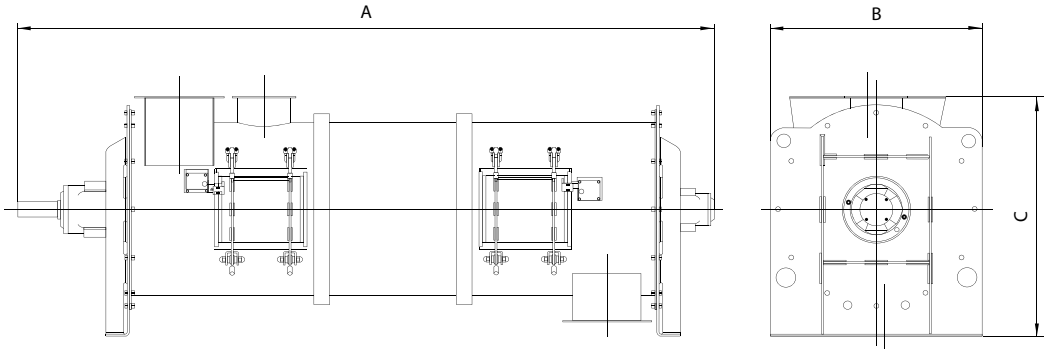
## Mixing tools

Ploughshare

Blades



### DIMENSIONS in mm.




| Models | A | B | C | Rate per duration of stay in dm³/h. 50% filling | | Tare weight (kg) |
|---|---|---|---|---|---|---|
| | | | | 60 s. | 180 s. | |
| MRSC 75 | 1,690 | 485 | 556 | 2.022 | 674 | 210 |
| MRSC 150 | 1,960 | 570 | 634 | 4.031 | 1.344 | 350 |
| MRSC 300 | 2,220 | 670 | 801 | 7.892 | 2.631 | 580 |
| MRSC 500 | 2,550 | 770 | 920 | 13.716 | 4.572 | 840 |
| MRSC 1000 | 3,140 | 930 | 1,118 | 27.993 | 9.331 | 1,390 |
| MRSC 1800 | 3,670 | 1,100 | 1,265 | 50.170 | 16.723 | 2,100 |
| MRSC 3000 | 3,920 | 1,340 | 1,472 | 82.577 | 27.526 | 2,800 |
| MRSC 4800 | 4,510 | 1,500 | 1,800 | 134.281 | 44.760 | 3,800 |
| MRSC 6000 | 4,816 | 1,600 | 1,860 | 165.708 | 55.236 | 4,500 |
| MRSC 8800 | 5,325 | 1,810 | 2,133 | 245.796 | 81.932 | 5,840 |
| MRSC 10500 | 5,580 | 1,910 | 2,237 | 295.322 | 98.441 | 6,600 |
| MRSC 15000 | 6,090 | 2,110 | 2,465 | 411.885 | 137.295 | 8,200 |
| MRSC 20000 | 6,617 | 2,312 | 2,665 | 549.180 | 183.060 | 11,903 |
| MRSC 25000 | 6,888 | 2,432 | 2,735 | 686.475 | 228.825 | 13,653 |

# Examples of Installations

## Ploughshare & Blades Monorotor Mixer

Inside view of the mixer with blades and chopper made of stainless steel

Loading of the mixer by means of pneumatic conveying

Mixing skid the debacterization of seaweed powder (cosmetic application)

Multi-choppers mixer for incorporation of high proportion of liquid

Laboratory mixing skid with incorporation of liquid

Direct loading of the mixer with big bags

Feed industry mixer

Installation of several mixers for high rate production

Mixer for testing



# Process Integration

**Our design office teams perform precise and detailed drawings of your installations via the Solidworks software for a perfect integration of the process in your site.**

## MIXING AND ENSURING HOMOGENEIZATION

PALAMATIC PROCESS meets the needs of manufacturers from various sectors. Petrochemical, water treatment, chemical, pharmaceutical, food or cosmetics, we offer the industrial mixer that meets specific needs of your production line.
The configurations of mixers are numerous: feeding with weighing tippers for raw material dosing, under big bag unloading structure, screw conveyor or sack tip unit, in-line on a pneumatic conveying system, upstream of a collecting hopper, a bagging machine, a drum filling installation...


www.palamaticprocess.com/powder-machine/powder-mixer
Download videos & layouts from our website

# OPTIONS Ploughshare & Blades Monorotor Mixer

## SURFACE TREATMENT

**Wear lining (Hardox), carbide charging of the tools, wear-resistant coating with easily replaceable plates, ceramic coating, Teflon® coating, stainless steel mesh.**

## INSPECTION HATCH

**To monitor and control the mixing of materials.**
The inspection hatch allows to control and validate the quality of the materials mixing. In addition, the hatch provides easy access to all internal parts of the mixer to ensure complete cleaning.

## LIQUID INJECTION DEVICE

**For the addition of additive to the mix.**
The liquid spray device is located at the level of the ploughshares and the dispersers and thus enables the controlled addition of liquids in small quantities to the mix. The chopper, positioned beneath the device, creates a vortex for better dispersion of the liquid.

## PNEUMATIC SAMPLING DEVICE

**Validation of the quality of the batch.**
The sampler takes a sample of the mixture to verify its quality.

## AIR OR NITROGEN BLOWING BOX

**For the management of air or nitrogen blowing in.**
The pneumatic control box manages the speed and pressure of the air or nitrogen and ensures the sealing of the bearings.

## DOUBLE CASING - HEATING / COOLING

**To control the temperature of the mix inside the mixer.**
The double casing of the mixer allows heating of its contents through the circulation of the coolant fluid in the doule casing, or cooling by circulation of chilled water.



## STAINLESS STEEL, STEEL, FOOD-GRADE PAINT MANUFACTURING

**Materials adapted to your process constraints.**
The manufacture of building materials in direct contact with the powders are set to be in line with their specificities.

## DISPERSER

**For agglomeration, granulating and coating process.**
Dispersers, also known as choppers or knives, are tools that break the lumps and agglomerates and allow the production of high quality and homogeneous final product.

## TEMPERATURE SENSOR

**Set on the mixing tank.**
The temperature sensors transmit reliable temperature measurements for applications dealing with sensitive products (eg for sanitary/cosmetic/pharmaceutical applications).

## DETACHED PRESSURIZED BEARING WITH AIR OR NITROGEN BLOWING

**To ensure sealing of the shaft.**
To avoid the introduction of fines in the rotation mechanism of the mixing shaft, air or nitrogen is blown continuously at low rate and pressure through the lantern ring.

## INTEGRAL DISCHARGE HATCH

**For a full discharge of the mixer.**
The integral discharge hatch allows to limit cross-contamination by reducing the maximum retention of product in the mixer.
Opening size: 15 ° or 60 °.

## PRESSURIZED TANK FOR LIQUID ADDITION

**A pressurized tank allows the addition of liquid during the mixing phase.**
In order to ensure the introduction of fluids (oil, fat, aromas ...), we offer pressure tanks or metering pumps to ensure the spraying of the liquid amidst the mixture. This option must be combined with the implementation of choppers/dispersers.