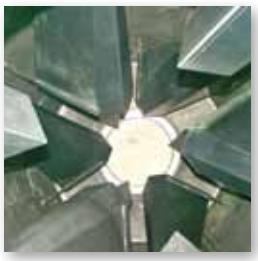
MIXING

EXCELLENCE WITH MINIMUM OF TIME AND ENERGY

Lessine's aim is to provide you with an optimum mixing solution: the quickest and the least expensive. For this we put our know-how, our wide range of machines as well as our lengthy experience in designing and manufacturing mixers at your disposal.



FIELDS OF APPLICATION

- Environment and recycling
- Fuels
- Minerals, fertiliser, mineralogical chemistry
- Food, pharmacy, fine chemistry
- Metals

ANALYSIS OF YOUR NEEDS AND SPECIFICITIES

In addition to your economic and technological constraints, we examine different criteria to propose the most efficient mixing procedure and equipment. Including:

- the **nature of the materials**, their density, the size of the particles and their tendency for segregation and/or agglomeration
- the **recipe of the mix**: the number of ingredients and their quantity
- the **desired homogeneity**: the distribution and the concentration of the different ingredients
- the **sensitivity of the materials to speed and mix duration**, a inadequate mixing process can lead to a chemical deterioration of the product

A TECHNIQUE FOR EACH NEED

INTENSITY OF THE MIX	LITTLE ENERGETIC < 1 KW/M³	3-5 KW/M³	VERY ENERGETIC 10 KW/M³
ROTATING TANK	Rotating bucket blender		
	Cubic blender		
	V blender		
	Biconic blender		
	Barrel blender		
FIXED TANK			Blade or ploughshear blenders
			Paddle blender
		Ribbon blender	

LESSINE
TAILORED BULK TECHNOLOGIES

LESSINE BENEFITS

TAILOR-MADE SOLUTIONS:

- **ACCORDING TO THE SPECIFICITIES OF YOUR PROJECT: TECHNOLOGY, DIMENSIONS, INVESTMENT, COST, CONSTRUCTION...**
- **ACCORDING TO ON YOUR NEED: TRANSPORT, AUTOMATION, INSTALLATION, COMMISSIONING, SPARE PARTS...**
- **FROM THE CONCEPTION STAGE > R&D, DEVELOPMENT, TEST AND FEASIBILITY.**

A TECHNIQUE FOR EACH TYPE OF SPECIFIC MIX

ROTATING TANK

BATCH PROCESS

- **Cubic blender: Triple mixing action**

The materials are homogenised in a cubic tank that turns around a spindle passing by one of its big diagonals. The mix endures an action around the horizontal axis and two others on the tank corners.

- **V blender: Very easy to clean**

This V tank formed by 2 cylinders turning around a horizontal pin, the V-shape ensures a perfect and quick homogenisation of the components of the mix.

- **Barrel blender: flexibility in production**

The recipes are prepared in adapted recipients that attach very easily to the support of the blenders and follow its rotation movement. A high energy device may be added for difficult products.

- **Biconic blender: Facility of moving from one mix to another**

A horizontal pin goes through a biconic shaped tank from end to end. The materials to mix endure a rolling movement.

CONTINUOUS PROCESS

- **W blender: quick homogenisation**

The products are fed into a drum thus forming a pre-mix that slides from the drum into the successive legs of the W. The blender is fully emptied at the end of production.

DISCONTINUOUS OR CONTINUOUS

- **Rotating bucket blender: the versatile solution for delicate or abrasive mixes**

A turning tank equipped with bucket shaped lifters, especially studied for each application, ensures the homogenisation, with 4 effects, of products. The emptying of the blender, by outlet troughs, is complete.

FIXED TANK- ROTATING INSERTS

DISCONTINUOUS PROCESS

- **Ribbon blender: for a delicate treatment of the material**

A helical ribbon rotor (simple, double or triple effect) forces the different product layers to mix intimately. The discharge opening is central or at the end, depending on the application.

DISCONTINUOUS OR CONTINUOUS

- **Blade or ploughshare mixer: the compact solution**

Ideal for the mixing or homogenisation of dry or slightly humid materials or pastes. The rotor causes an energic agitation of the recipe.

- **Paddle mixer: incorporation of products**

One or several additives are incorporated and homogenised by the counter-rotating movement of the two paddle shafts. The paddles have an adjustable direction to modify the retention time, the flow and the mix quality.