The Double Shaft Paddle Mixer/Granulator engineered by Ingetecsa is a custom-made equipment. This robust and easy-to-maintain machine is able to produce 1.5mm-to-4mm-diameter granules. Standard capacities range from 5m³/h to 200m³/h. Larger capacities for special cases can also be manufactured.

Being tailor-made, the Ingetecsa Mixer/Granulator suits each customer's requirements and product properties. Special enhancements include the heated or cooled troughs, spray nozzles, airtight finishings, as well as design specifications to reduce maintenance requirements.
Working principle:
This equipment is used for continuous mixing and/or granulating of solids with solids, with liquids or with slurry. It is suitable for impregnation and granulation, generally to sizes between 1.5 and 4 mm, depending on the chosen geometry and speed. The design, angles, constructive materials and type of paddles and wear knifes, as well as the shaft seals etc. can be adapted to the requirements of each application. Standard capacities range from 5 to 200 m³/h. Two counter-rotating paddle shafts in an $\omega$-shaped trough mix/granulate the product.

Advantages:
- The paddles can be exchangeable and casted. In such case every shaft carries two double spirals, which greatly increases the radial mixing effect.
- Paddles can be equipped with wear knifes, coated with tungsten carbide.
- Usually driven by a special double shaft gearbox, in order to avoid spur gear, which needs more maintenance.
- Shafts can be simply sealed with seal rings, but we deliver also stuffing boxes, pressurised air or N₂ seals, liquid seals, etc.
- Adaptable to each customer needs and process requirements.
- Spray nozzles for binding agents, perfumes or general additives can be supplied.
- The troughs can be heated or cooled achieving optimum heat transfer rates thanks to our wide expertise in thermal processes.
- Airtight mixers/granulators can be manufactured if required by the process.

Robust equipment. Easy access for fast exchange of wear parts. Adapted to each specific process and product requirements.

Typical applications:
Mixing of products with different rheologies, especially difficult-to-handle products. Mixing of solids with liquids. Re-circulation of dry product in order to mix with slurry or sludge, impregnation, etc.

Food Industry
- Starches
- Products derived from corn, wheat, rice, soybeans and cereals
- Potatoes, vegetables and fruit
- Dairy and whey
- Proteins and animal sub-products
- Pulps and fibres

Chemical Industry
- Basic and intermediate chemistry
- Resins and ureas
- Monocalcium and dicalcium phosphate
- Fertilizers
- Biotechnology, cosmetic and pharmaceutical products, detergents

Metallurgy and Mining
- Metallurgy
- Mining industry

Recycling and Disposal
- Recycling
- Industrial and sewage sludge

FREQUENT COMBINATIONS:
Flash, Spiral Flash, Rotary Drums, etc.