SYDRY

ROBYC

Continuous high-efficiency regrader

ROBYC is the new continuous high-efficiency regrader designed to dry, decontaminate and regrade polymers with low consumption, while also ensuring an effective storage for the material. Robyc aims to maximize the return on investment on recycled polymers.

OPERATING PRINCIPLE

The material conveyed in a typical loader is discharged inside a reactor, within which the simultaneous action of IR lamps to heat the material, a vacuum pump to suck the gases and a mixing shaft ensures an homogeneous process of both drying, decontamination and regrading of the polymer; the reactor itself also works as a special tank that preserves its conditions and quality for long time.

MAIN FEATURES

HIGH EFFICIENCY

Taking advantage of the heating principle made by IR lamps in a vacuum a lot of heat is granted to the polymer in a very small span, considerably shortening the process time; the reactor is designed to also minimize the heat dispersion, avoiding almost any kind of energy waste.

TRIPLE FUNCTION

Robyc can be set on three different temperature thresholds, performing three different functions on demand: a 180 °C the material is dried by extracting the water vapor, at 200 °C the contamination of now volatile compounds such as acetaldehyde is removed, and at 220 °C the material undergoes the process of Solid State Polycondensation (SSP) which improves its quality via intrinsic viscosity (IV).

LONG-TERM STORAGE

The high-insulation reactor is designed to preserve the high temperature, vacuum and low humidity conditions of the material for long time, an thus can also serve as a storage tank.

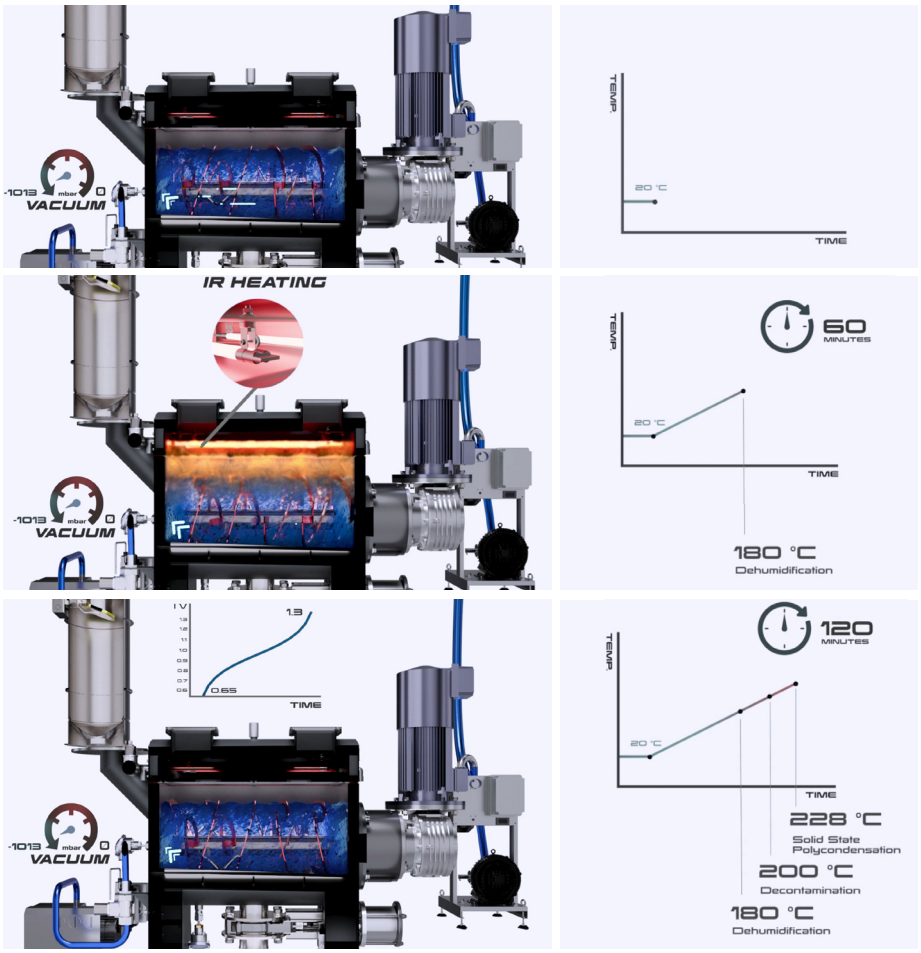
CONTINUOUS OPERATION

Robyc is designed to work in continuous operation, making it ideal for in-line integration. The various sizes from 50 L to 6000 L is able to cover all the throughput requests.

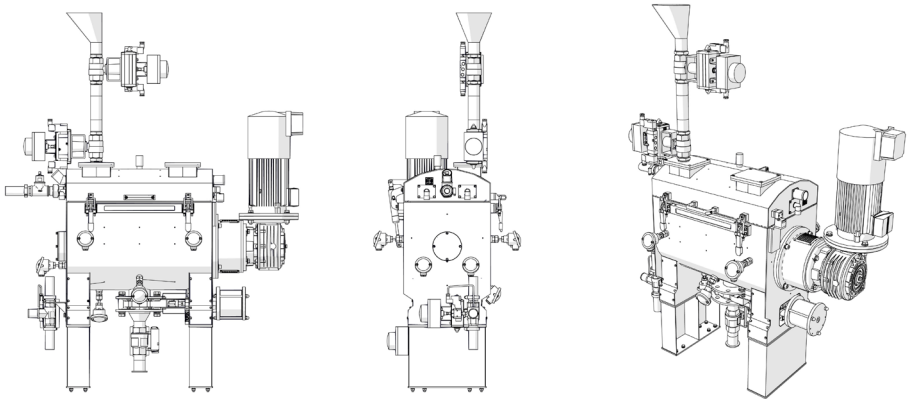
COMPACT DESIGN

The design aims to optimize the space by focusing on a horizontal direction, which minimizes the vertical dimension and allows an easier installation even in the shortest plants

REGRADER PROCESS



TECHNICAL DATA



Model	Robyc 3000	Robyc 5000	Robyc 10000
Net volume of the reactor (m^3)	3	5	10
Max. output with flakes (decontamination) (kg/h)*	540	900	1800
Max. IV boost with flakes (SSP) (dL/g/h)	0,07		
Max. IV boost with granules (SSP) (dL/g/h)	0,03		
Max. surface moisture of input material (%)	1		
Output humidity (ppm)	<50		
Food grade according to	EFSA		
* The values shown are calculated cosidering the bulk density of 0,36 kg/dm^3 after 2 hours of processing.			

SYNCRO GROUP
TEL +39 0331 677716 sales@sy-dry.com