NGR further improves the field of PET bottle-to-bottle recycling

Beverage brand owners worldwide rely on the LSP technology of Next Generation Recyclingmaschinen GmbH (NGR) for the processing of post-consumer PET. In order to meet the growing interest, a further LSP plant will be available for demonstration and testing purposes from March 2021.

NGR has been the technology leader in LSP technology (Liquid State Polycondensation) for years. In the NGR process, all impurities are removed from the PET melt already in the liquid phase to such an extent that the necessary requirements for food packaging, including water bottle grade, are achieved. The process produces EFSA- and FDA-compliant products with excellent results, as demonstrated by extensive testing and certification.

Since the proportion of recycled material in food packaging is to be significantly increased, especially in the beverage bottle and tray production sector, the major brand owners worldwide are now relying on NGR technology from Austria. Numerous projects that have been completed and are currently being implemented confirm the effectiveness and efficiency of the process. By mid-2021 at the latest, plants for processing post-consumer PET will be operating on every continent.

Compared to conventional systems, the NGR process offers an energy-efficient and, in terms of melt quality, better physical cleaning process. The intrinsic viscosity (iV value) is constantly measured and adjusted to the customer's target value via automated control of the vacuum unit.

This makes it possible to finely tune the material quality to the customer's product specifications, including ultra-tight IV control, which is essential for downstream production.

For the operator, time-consuming batch production is eliminated and no cost-intensive additional processes are required. Thus, no addition of nitrogen or similar process aids are required for iV increase.

The efficiency of LSP technology is also demonstrated by direct coupling with production processes such as film manufacture, spun yarn production or the manufacture of preforms for subsequent bottle production. This eliminates a complete re-melting step and the associated iV degradation resulting from a downstream process. The elimination of the pelletizing process again significantly increases energy efficiency.

To better demonstrate the LSP process and carry out customer trials, NGR is expanding the PET pilot plant with an additional line. Customers will thus have two LSP lines available for testing purposes at NGR from March 2021, so that both bottle-to-bottle trials and other applications can be successfully tested. This will enable all customers the chance to personally convince themselves of the efficient LSP process on their own materials.