



B&R
VENTURES
Built to Run.....



**ADVANCED R-PET
RECYCLING TECHNOLOGY**



ABOUT US

B&R VENTURES is a dedicated Indian brand committed to providing cost-effective, high-quality packaging solutions for the FMCG sector, Pharmaceutical, Rigid Packaging, Flexi packaging, R-PET and all types of Industrial Equipment.

Our dedicated team in India specializes in:

■ **SALES** - With a strong pan-India presence, our sales professionals ensure, economical solutions, timely response, solution-oriented consultations, and seamless coordination with after-sales teams for end-to-end client support.

- **Project Evaluation:** – Comprehensive assessment of client needs like feasibility report, site survey, project consultation and production goals.
- **Customized Product Design:** – We design the product that is Tailor-made to suit specific product, primary packaging, and line requirements.
- **Production Upscale:** – Our team helps you to upgrade the existing lines and implement systems to improve line efficiency.

■ AFTER-SALES

- **Installation & Commissioning:** – Our expert team ensures seamless handling from material unloading to production start-up, all within the committed timeline.
- **Technical Training & Support:** – We provide comprehensive training to technical staff and operators to ensure smooth and efficiency to operations.
- **Spare Parts:** – We provide quick delivery with our readily available spare parts Inventory in Bangalore to minimize downtime.
- **Service and Tailored AMC Schemes:** – B & R offers structured Annual Maintenance Contracts and responsive service plans to ensure consistent performance, reduced breakdowns, and long-term equipment reliability.

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Food Grade R-PET Pelletizing Line

100% Reuse



Features:

- The vacuum compaction bin equipped with pre-crystallization drying functionality ensures that the raw materials are thoroughly dried and prevents yellowing of the bottle flakes due to oxidation.
- Precrystallization drying using frictional heat is more energy-saving compared to electric heating.
- A set of three-stage Roots vacuum pumps ensures the effective removal of volatile substances.
- Automatic backwashing waste discharge filters ensure filter accuracy and reduce the frequency of replacement for the melt filter screen.
- Online viscometer for real-time detection of melt viscosity, visualizing the viscosity of the extruded melt.
- Automatic strands cutting and pelletizing saves labor and ensures uniform final chips' dimensions.



The food-grade PET granulating system consists of a pre-crystallization drying system for bottle flakes, an optimized extrusion system with a powerful decoloring function, back-flushing filters, and a water-jet automatic strand cutting unit, among other components. The entire PET food-grade granulating line is equipped with an online viscosity meter to ensure production yield while monitoring the quality of the products in real-time.

Solid State Polymerization (SSP)

Solid state polymerization (SSP) is used to increase the molecular weight of polyethylene terephthalate (PET), which in turn enhances the melting point, mechanical properties, and chemical stability of PET. This process is commonly employed in the production of bottle preforms and other PET products. The solid state polymerization process takes place at temperatures below the glass transition temperature and above the melting point of PET, allowing the PET particles to remain in a solid state. The advantage of SSP lies in its ability to increase the molecular weight of PET without compromising the material's properties. SSP is an indispensable step in the manufacturing of PET bottles, containers, packaging tapes, and other engineering plastic products, especially for applications that require high-performance PET.



Preliminary Treatment

PET pellets first need to undergo drying treatment to remove moisture, as water can cause degradation reactions during the polymerization process.



Heating

After removing the moisture, the material is gradually heated to a temperature approaching but below the melting point of PET, typically between 180°C to 220°C, to promote the polymerization reaction.



Solid phase polymerization

Under controlled temperature conditions, PET particles are kept in an inert gas (nitrogen) for a period of time (depending on the desired increase in viscosity). At this time, the PET molecular chain continues to polymerize, and the molecular weight increases.



Cooling

The polymerized PET material needs to be slowly cooled to room temperature to prevent internal stresses that may be caused by rapid cooling.



Post-processing

According to requirements, subsequent sorting and packaging processes are carried out.



Features:

- Higher viscosity increase efficiency, with a maximum actual viscosity increase of 0.02 per hour.
- Two sizes, 12000L and 24000L, modular design, can be freely combined according to production capacity.
- Digital control, user-friendly interface, easy to operate.
- Compared to traditional polymerization processes, the production assembly is modularized and miniaturized, making post-maintenance and operation simple.

PET Bottles Washing Line

The ACERETECH team has integrated plastics washing technology from Europe and China and continuously optimized it. Ultimately, they have developed a series of modular equipment that can adapt to the different characteristics of materials such as HDPE/PP/PS/ABS/PC/PET



PET bottles



PET bottles flakes

The R-PET bottle-grade bottle washing technology includes the dispersal and conveyance of bottle bricks, pre-treatment of impurities, full-bottle optical sorting, label removal and cap separation, crushing, washing (including hot washing), drying, and optical sorting of bottle flakes. Additionally, it can be optionally equipped with an online alkali solution metering and purification reuse system, water treatment system, and other features.



Product Parameters

Model	Capacity (KG/H)	Installation Power (KW)	Steam (KG/H)	Water Consumption (T/H)	Space (M ²)
PET 1000	1000	385	500	2-3	1200
PET 2000	2000	520	800	4-6	1400
PET 3000	3000	720	1000	6-8	2200
PET 6000	6000	1180	1600	10-12	2600

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