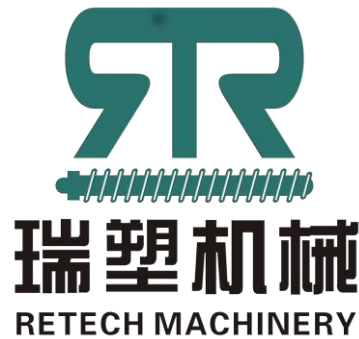


PET Bottle Recycling Solution



Overview

- PET Bottle Recycling Solution is a complete turnkey system for post-consumer waste PET bottles.
- It covers bottle pre-sorting, label removal, crushing, multi-stage washing, sink-float separation, rinsing, dewatering and drying.
- The system turns dirty waste PET bottles into clean, dry PET flakes, which can be used for fiber production, sheet extrusion, pelletizing and bottle-to-bottle recycling. Modular design allows flexible configuration according to raw material contamination level, required flake purity and production capacity.

Applicable Materials

- Post-consumer PET bottles: mineral water bottles, beverage bottles, juice bottles, edible oil PET bottles



Full Process Flow

- **Pre-sorting & Feeding** Manual or automatic sorting to remove PVC, metal, glass and other non-PET contaminants. Belt conveyor feeds bottles continuously into the line.
- **Label Removing** Rotary label remover peels off paper and plastic labels; blower separates stripped labels.
- **Bottle Crushing** Rigid plastic crusher cuts whole bottles into uniform PET flakes.
- **Friction Washing** High-speed friction washer scrubs flake surfaces to remove glue, printing ink, dust and light dirt.
- **Hot Caustic Washing (Optional for heavy pollution)** Hot alkaline tank (80–95°C) dissolves stubborn sticker residues and heavy oil stains for high-grade flake quality.
- **Sink-Float Separation** PET flakes sink in water; PP/HDPE caps and light impurities float and are skimmed away. Sand, stones and metal sink to bottom for discharge.
- **Multi-stage Fresh Water Rinsing** Wash away residual alkali and fine impurities to improve flake cleanliness.
- **Dewatering & Hot Air Drying** Centrifugal dewaterer removes bulk water; hot air dryer further reduces moisture. Final moisture $\leq 1-2\%$.
- **Optional Color Sorting & Flake Collection** Color sorter separates transparent, blue and green flakes. Clean dry PET flakes are collected for downstream use.

Core Advantages

- **High efficient cap & label separation:** Reliable sink-float tank separates PET from PP/HDPE caps.
- **Customizable purity:** Configure hot washing unit and color sorter to reach fiber grade or bottle-grade PET flakes.
- **Circulated water system:** Water recycling filtration reduces water consumption and operating cost.
- **PLC centralized control:** Stable continuous running, low labor requirement.
- **Modular layout:** Expand or reduce units based on customer site condition and output.
- **Wide capacity range:** 500kg/h ~ 6000kg/h customizable.

Key Units: Bale Opener



Label Remover



Key Units:

Grinder



Hot Washer



Key Units:

Floating washer



Friction washer



Key Units:

Dewatering machine Zigzag Separator

