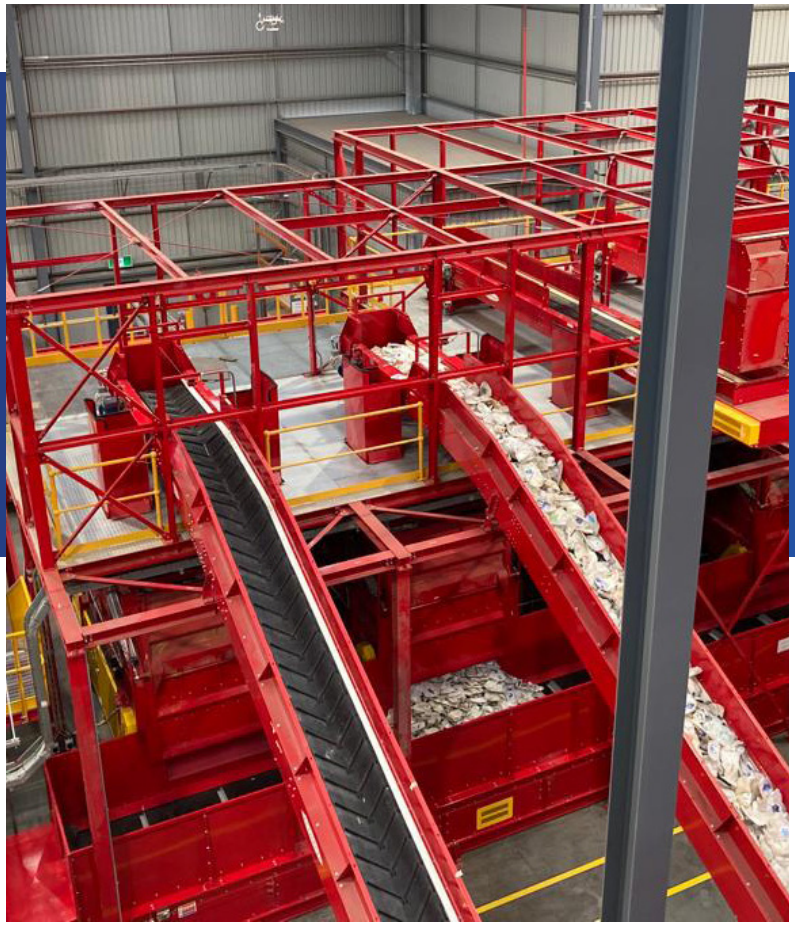
Recycling Lines

HDPE Bottles & LDPE Films



The HDPE and LDPE Recycling Lines from AMUT are advanced systems designed to process and recycle plastic materials, including packaging films, agricultural films, HDPE bottles and containers, and battery boxes. These recycling lines are modular, fully customisable, and provided as turnkey solutions, covering the entire process from project design to installation and startup.

These recycling lines represent a sophisticated solution for transforming waste plastics into reusable materials, supporting environmental sustainability and operational efficiency.

The recycling lines are equipped with advanced automation systems, including Programmable Logic Controllers (PLC) and supervision PCs. These systems allow for precise control and monitoring of the recycling process, ensuring consistent performance and quality. Key parameters such as temperature, water flow, and processing speed are managed electronically, reducing the need for manual intervention.

Standard plant sizes (output):
→ LDPE: 500, 1000 Kg/h
→ HDPE: 500, 1000, 3000, 4000 Kg/h

Key Features

- **Modular Configuration:** Allows customisation to meet specific customer requirements.
- **Automation:** Controlled by PLC (Programmable Logic Controller) and supervision PC, ensuring efficient operation.
- **Comprehensive Processing Capabilities:** Can handle various materials such as packaging and agricultural films, HDPE bottles, and battery boxes.
- **Standard Capacities:**
  LDPE lines: 500 and 1000 kg/h.
  HDPE lines: 500, 1000, 3000, and 4000 kg/h.
- **High Friction Washing:** Utilises a patented friction washer for effective cleaning of plastic flakes.
- **Water Treatment:** Incorporates systems for water recirculation, reducing fresh water consumption.

Key Benefits

- **Efficiency and Quality:** High friction washing ensures thorough cleaning, removing foreign substances, labels, and adhesives, resulting in high-quality recycled flakes.
- **Sustainability:** Water treatment systems recirculate 70-80% of the water used, minimising waste and fresh water usage.
- **Automation:** Reduces manual intervention, enhancing efficiency and consistency in the recycling process.
- **Customisability:** Modular design allows the recycling lines to be tailored to specific needs, optimising performance for different materials and capacities.
- **Turnkey Solutions:** AMUT provides end-to-end services, ensuring seamless integration and operation at the customer's facility.

GET IN TOUCH TODAY

We solve the most technically advanced plastics automation problems across all industries.

July 2024

info@summitsystems.co.uk
+44 (0) 1827 265 800

Summit Systems Ltd est. in 1989.
Registered in England 2489937. VAT no: GB 549 5321 27

www.summitsystems.co.uk

Recycling Lines
HDPE Bottles & LDPE Films Recycling Lines

Process

The AMUT recycling lines for HDPE and LDPE involve a series of well-integrated processes designed to maximise the quality and efficiency of plastic recycling. From initial shredding and cleaning to final pelletizing, each step is optimised to produce high-quality recycled material while minimising environmental impact through efficient water use and automation.

1. Pre-Shredding - Plastic waste is initially fed into a shredder to reduce it to smaller, more manageable pieces. This step prepares the material for further processing and helps improve the efficiency of subsequent stages.

2. Pre-Washing - This machine subjects the plastic flakes to high friction, effectively removing dirt, labels, and adhesives. The friction action, combined with water (either cold or hot depending on the specific needs), ensures thorough cleaning of the material.

3. Wet Grinding - The pre-cleaned plastic pieces are further reduced in size through a wet grinding process. This not only continues the cleaning process but also facilitates easier handling and processing in the following stages.

4. Rinsing - After grinding, the plastic flakes undergo a rinsing process to remove any remaining impurities. This step is crucial for achieving the high purity required for quality recycled material.

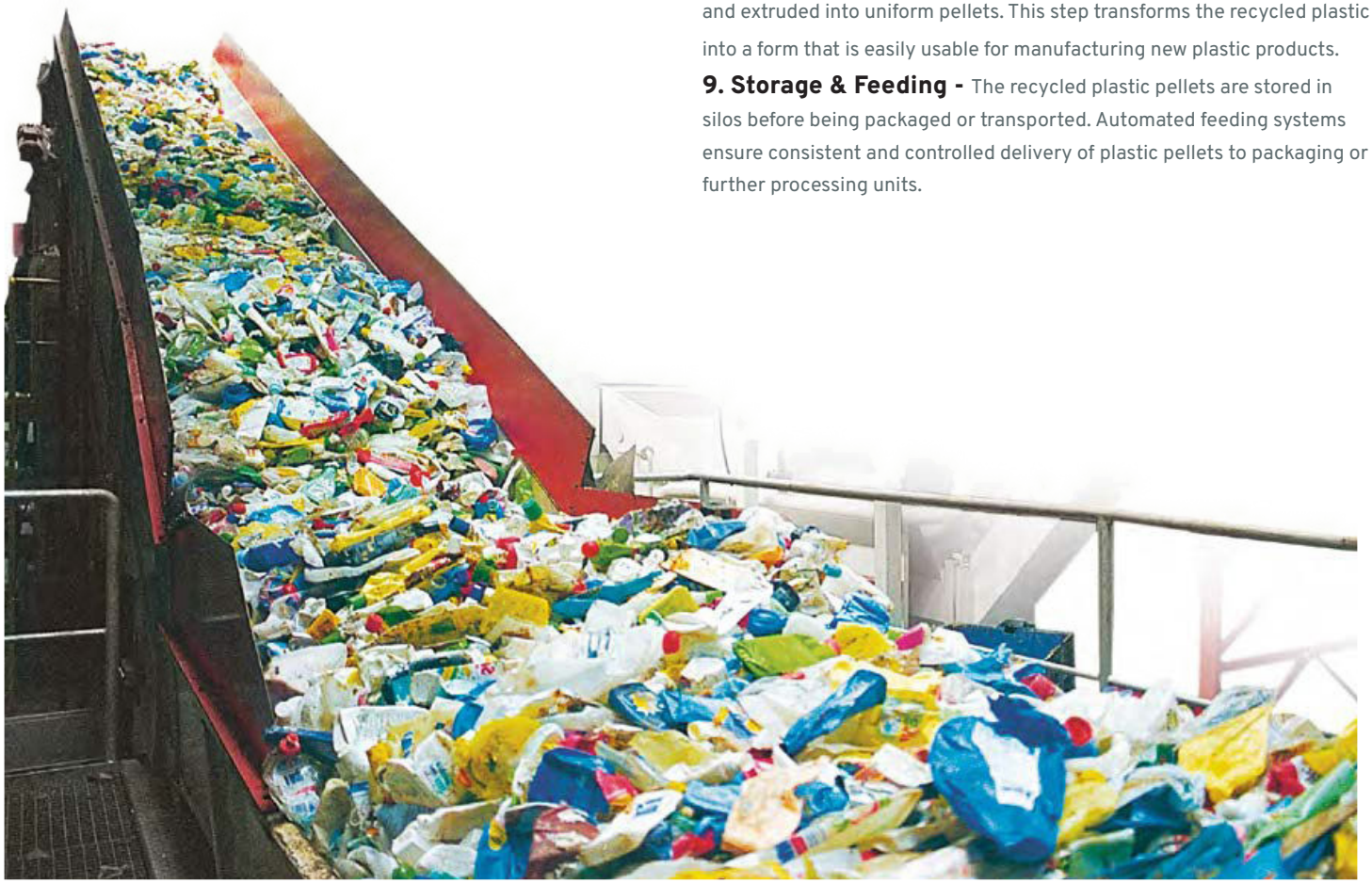
5. Drying - The plastic flakes are subjected to a drying process to ensure they are free from any residual moisture. Proper drying is essential for maintaining the quality and consistency of the recycled plastic.

6. Centrifugation - The plastic flakes are spun at high speeds to remove excess water. This drying process prepares the material for further processing steps by reducing moisture content.

7. Agglomeration - In this stage, small plastic particles are fused together into larger, more uniform agglomerates. This helps improve the flow and handling characteristics of the material in subsequent processes.

8. Extrusion & Pelletizing - The dried plastic flakes are melted and extruded into uniform pellets. This step transforms the recycled plastic into a form that is easily usable for manufacturing new plastic products.

9. Storage & Feeding - The recycled plastic pellets are stored in silos before being packaged or transported. Automated feeding systems ensure consistent and controlled delivery of plastic pellets to packaging or further processing units.



July 2024

info@summitsystems.co.uk
+44 (0) 1827 265 800

Summit Systems Ltd est. in 1989.
Registered in England 2489937. VAT no: GB 549 5321 27