

PLASTIC PE FILM RECYCLING WASHING LINE MACHINE TT-AWS- PE



Plastic PE Film Recycling Washing Line Machine TT-AWS-PE - After years of technological advancements and extensive process refinement, we offer a range of solutions for recycling PP and PE scraps (such as LDPE/LLDPE film, PP woven bags, PP non-woven, PE bags, milk bottles, cosmetic containers, vegetable and fruit boxes). Our advanced modular design allows for the flexible combination of standard modules to deliver specialized solutions to our customers.

Our product, the Plastic PE Film Recycling Washing Line Machine TT-AWS-PE, is designed for HDPE/PP/PS/ABS/PC/PET materials. These recycling projects primarily source materials from urban and industrial collection sites, with varying sizes and compositions that differ from country to country, and even within the same country.

Our team has integrated cleaning line technology, continually refining and optimizing it. This effort has resulted in a series of modular equipment capable of adapting to the diverse characteristics of HDPE/PP/PS/ABS/PC/PET materials. Our focus lies in recycling blow-molded packaging bottles, boxes, cups, barrels, buckets, and injection waste. Our system handles both hard materials and flexible plastics, enabling a comprehensive cleaning and recycling process.

The process includes sorting, size reduction, metal removal, cold and hot washing, high-efficiency friction washing, and drying modules. These modules efficiently eliminate ferrous and non-ferrous metals, sand, oil, glue, paper, and various other contaminants.

APPLICATIONS

- **Film Recycling:** Processes LDPE, LLDPE, agricultural films, and packaging films into high-quality reusable flakes.
- **Bag Recycling:** Reclaims PE and PP bags, woven sacks, and non-woven plastics from consumer and industrial waste streams.
- **Bottle & Container Recycling:** Handles HDPE, PP, PET, and PC bottles, including cosmetic containers, milk bottles, and household packaging.
- **Box & Barrel Recycling:** Cleans and recycles rigid plastics such as vegetable and fruit boxes, cups, buckets, and barrels.

- **Injection & Blow-Mold Waste:** Processes defective products and production waste from injection molding and blow-molding lines.
- **Mixed Plastic Recycling:** Treats flexible and rigid plastics together while removing contaminants such as metals, sand, paper, and adhesives.
- **Urban & Industrial Waste:** Recycles plastics collected from municipal, agricultural, and industrial sources for sustainable reuse.
- **Pre-Treatment for Pelletizing:** Produces clean, dried, and contaminant-free plastic flakes ready for extrusion and pelletizing systems.

FEATURES

Input Belt Conveyor

INPUT BELT CONVEYOR

Heavy-duty feeding conveyor with load-responsive control prevents overfeeding of the shredder.

Optional metal detector identifies metallic contaminants to protect the shredder.

Belt available in PVC or rubber, with inverter-driven speed regulation.

Shredder

SHREDDER

- 35% increased cutting chamber space
- Built-in hydraulic ram with variable, faster stroke
- Compact footprint compared to horizontal ram units
- Enclosed chamber prevents fly-outs, improving safety

L Type Belt Conveyor

L TYPE BELT CONVEYOR

1. Continuous washing with fresh water
2. 3D blending via mixing function
3. ~30 minutes material retention time
4. Autonomous water treatment system
5. Optional hot water pre-wash capability
6. Independent multi-zone temperature control

Magnetic Separation Belt

MAGNETIC SEPARATION BELT

Optional discharge conveyor upgrade with permanent magnet belt.

Automatically removes ferrous metals, protecting downstream equipment and improving flake purity.

Pre-Washer

PRE-WASHER

Stainless steel tank with discharge drum and dual heavy-material outlets.

Pneumatic water in-feed with electronic level control, plus blower aeration at tank base.

Platform design emphasizes safe access, water savings, and energy efficiency.

Crusher

CRUSHER

Water-flushed crushing with 3, 5, or 7 rotor designs.

External knife adjustment for easy maintenance.

Built for low-noise operation.

Friction Washer

FRICTION WASHER

Durable stainless steel housing with reinforced mild-steel rotor.

High-speed washing removes most contaminants.

3 mm stainless steel screen, oversized external bearings, and stainless hoppers.

Bottom water discharge for efficient slurry removal.

Floating Washer

FLOATING WASHER

Separates contaminants & plastics with SG >1 g/cm³ from PE/PP flakes.

Screw-in/out conveying with paddle agitation for heavy impurity settling.

SUS304 stainless body with pneumatic water in-feed and auto level sensors.

Drying System

DRYING SYSTEM

Configurable drying solutions:

- Films/soft plastics: squeezer or centrifugal dryer (5-8% moisture)

- Rigid plastics: centrifugal + pipeline dryer (<1% moisture)

Optimized for energy efficiency and consistent dryness.

Storage Silo

STORAGE SILO

Buffer silo ensures continuous feed to pelletizing/extrusion line.

Anti-blockage design with cyclone dust-removal at silo top for cleaner flow.

Electrical Cabinet

ELECTRICAL CABINET

Electrical control built with trusted brands (Schneider, LS, ABB).

Circuit breakers, contactors, push buttons, and pilot lamps use safety interlock design.

Ensures safe, reliable, and efficient system management.

TECHNICAL SPECIFICATIONS

Size	Capacity	Capacity	Equipment footprint
TT-AWS PE 05	500kg/h	150KW	120m 2
TT-AWS PE 10	1000kg/h	190KW	260m 2
TT-AWS PE 20	2000kg/h	290KW	380m 2
Unit energy consumption			
Content	Average energy consumption per ton of bottle		
Electricity	180-250KW		
Water	1.5-3T		
Compressed air	0.5-1m 3		
Steam (optional)	0-100KG		
Detergent (optional)	0-5KG		



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