



RECYCLING WASHING AND PELLETIZING TT- AWS-PET

We offer diverse Recycling Washing and Pelletizing TT-AWS-PET, including LDPE/LLDPE film, PP woven bags, PP non-woven materials, PE bags, milk bottles, cosmetic containers, and vegetable and fruit boxes. Our advanced modular design allows seamless integration of standard modules to deliver tailored solutions to our customers.

Our product, the Recycling Washing and Pelletizing TT-AWS-PET for HDPE/PP/PS/ABS/PC/PET materials, caters to recycling projects in these domains. Materials sourced from urban and industrial collection sites vary in size, and their composition differs from country to country, even within the same country.

Our team amalgamated cleaning line technologies, continually refining them. This effort led to the development of 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, accommodating both hard and flexible plastics.

Our process involves sorting, size reduction, metal removal, cold and hot washing, high-efficiency friction washing, and drying modules. These modules efficiently eliminate ferrous and nonferrous metals, sand, oil, glue, paper, and numerous other contaminants.

APPLICATIONS

- **PET Bottle Recycling:** Processes beverage bottles, milk bottles, and cosmetic containers into clean flakes and pellets.
- **Film & Bag Recycling:** Handles LDPE/LLDPE films, PE bags, PP woven bags, and non-woven materials.
- **Rigid Plastic Recycling:** Recycles boxes, cups, barrels, buckets, and injection-molded waste into reusable materials.
- **Mixed Plastic Waste:** Treats HDPE, PP, PS, ABS, PC, and PET from post-consumer and post-industrial sources.
- **Contaminant Removal:** Eliminates metals, sand, oil, glue, paper, and other impurities to ensure high-purity output.
- **Food & Packaging Industry:** Produces recycled PET (rPET) suitable for packaging-grade and food-contact applications.
- **High**

FEATURES

Chain Plate Conveyor

CHAIN PLATE CONVEYOR

Wide chain-plate design provides stable, high-volume infeed of loose PET bottles—minimizing bridging and ensuring smooth, continuous delivery to the line.

De-Baler

DE-BALER

Purpose-built to loosen and separate compacted bottle bales, maintaining bottle integrity and feeding the downstream process without jams.

Bottle Belt Conveyor

BELT CONVEYOR

Inverter-adjustable belt delivers bottles to the next stage at controlled rates.

Specs: 1000 mm PVC belt • 2.2 kW motor—tuned for gentle handling and steady throughput.

Trommel

TROMMEL

Removes stones, dust, caps, and small metals prior to washing.

Build: Galvanized CS barrel Ø1500 mm × 5000 mm • 5.5 kW drive • 50 mm perforations • CS frame for durability.

Ferrous Remover

FERROUS REMOVER

Overbelt magnetic separator automatically lifts iron and other ferrous particles (e.g., Cr/Mn alloys) from the stream.

Power: 3 kW.

Label Remover

LABEL REMOVER

Dry mechanical action removes >90% labels from standard or compressed bottles with zero flake loss and no water use.

Specs: 15 kW main motor • 5.5 kW suction fan • 42 rotary blades (378 teeth) • 45×4 fixed blade sets (1080 teeth).

Pre-Washer

PRE-WASHER

SS304 tank removes fines and lowers the load on downstream washers.

Tank Ø1500 mm × 6000 mm • 7.5 kW drive • 2.2 kW screw (Ø250 mm). Pneumatic water in-feed, electronic level control, and energy-efficient design.

Screw Loader Screening

SCREW LOADER

Multi-roller screws convey and screen simultaneously—rolling action lets fines and debris fall to a dedicated collection port for cleaner transfer.

Disk Separator

DISK SEPARATOR

Disc/bouncing screen knocks loose labels, caps, and light contaminants from PET bottles—boosting downstream washing efficiency.

Bottle Sorting Machine

BOTTLE SORTING MACHINE

Automated sorting by customer-defined criteria (e.g., color) to maximize purity. Sorted PET streams move efficiently to the next step.

Manual Sorting

MANUAL SORTING

Dual manual stations enable targeted removal of off-spec materials—adding a final quality check before size reduction.

Bottle Crusher

CRUSHER

Reduces whole bottles to uniform PET flakes with controlled particle size—ideal for efficient downstream washing and drying.

Flake Screw Loader

SCREW LOADER

Purpose: Flake conveying • 4 kW motor • Ø310 mm screw.

All contact parts in stainless steel for hygiene and durability.

Separation Floating Tank

SEPARATION FLOATING TANK

Washes flakes and separates floatables (PP/PE) and chemical residues.

Specs: 5.5 kW screw loader • (3)×0.55 kW thumbwheels • Ø250 mm screw • SS contact parts • Integrated tank & pump.

Label Separator

LABEL SEPARATOR

Removes remaining label fragments from PET flakes to elevate end-flake purity before hot washing.

Hot Washer

HOT WASHER

Caustic hot wash softens glue and lifts oils for deep-clean flakes.

Specs: 5.5 kW drive • ~4.07 m³ chamber • Outer CS / inner SS / rock-wool insulation • NaOH 1-2% • 70-90 °C.

Continuous infeed/outfeed for constant throughput.

High-Speed Friction Washer

HIGH SPEED FRICTION WASHER

Intensive post-hot-wash cleaning to strip residual glue and fines.

Specs: 30 kW main motor • 1.5 kW pump • ~1200 rpm screw • SS contact parts.

Centrifugal Dryer

CENTRIFUGAL DRYER

High-G dewatering achieves ~2% moisture.

Specs: 22 kW main • 0.75 kW cover motor • ~2200 rpm screw • SS contact parts.

Pipeline Dryer

PIPELINE DRYER

Hot-air final drying to <1% moisture.

Specs: 48 kW electric heater (steam option reduces power draw) • 5.5 kW blower • 5.5 kW suction motor.

Vibration Dryer

VIBRATION DRYER

Vibratory sieve removes remaining surface moisture and fines—delivering free-flowing, conveyable PET flakes.

Intelligent Control System

INTELLIGENT CONTROL SYSTEM

CE/CSA/TÜV/SGS/ISO compliant—with a touchscreen HMI for full parameter control.

Premium components (Schneider, LS, ABB) including breakers, contactors, pushbuttons, and pilot lamps.

Safety interlocks throughout ensure reliable, user-safe operation.

TECHNICAL SPECIFICATIONS

Device parameters			
Size	Capacity	Motor Power	Equipment footprint
TT-AWS-PET10	1000kg/h	220KW	250m 2
TT-AWS-PET20	2000kg/h	260KW	350m 2
TT-AWS-PET30	3000kg/h	380KW	500m 2
TT-AWS-PET40	4000kg/h	500KW	700m 2
Unit energy consumption			
Content	Average energy consumption per ton of bottle		
Electricity	70-90KW		
Water	1-1.5T		
Compressed air	0.5-1m3		
Steam (optional)	550-880 lbs.		
Detergent (optional)	8.8-17.6 lbs.		
Bottle quality reference			
Description	AA ppm	A ppm	
PVC content	≤25	≤100	
PE/PP/colored bottle/metal/other	≤75	≤100	
Total impurity	≤100	≤200	



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