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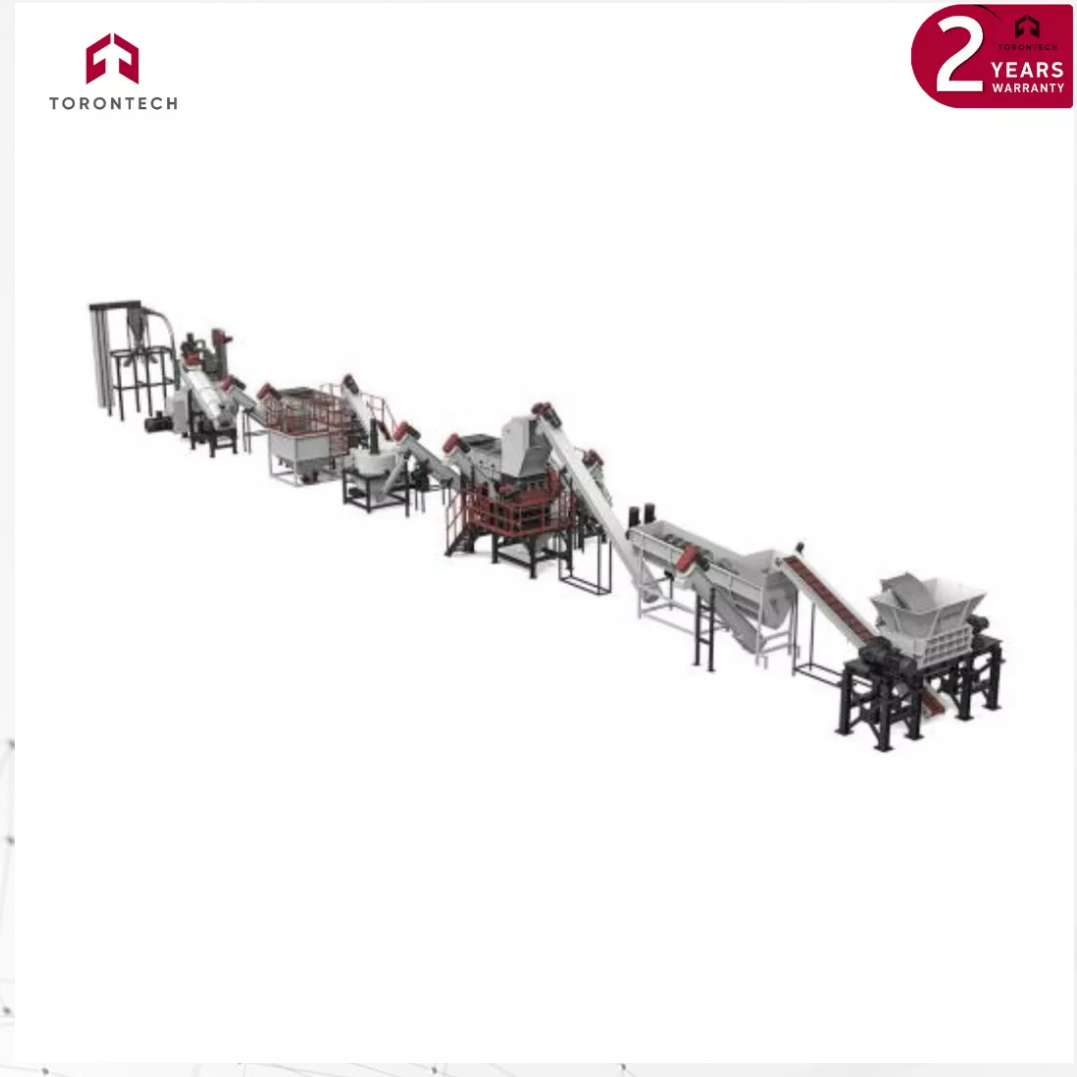

PLASTIC RECYCLING WASHING LINE MACHINE TT-AWS-HDPE

In the realm of recycling HDPE/PP/LDPE, most materials are sourced from urban and industrial collection sites. They vary in size, and the composition of raw materials differs from country to country, even within the same country for HDPE-PP-LLDP.

The Plastic Recycling Washing Line Machine TT-AWS-HDPE is tailored for reclaiming everyday plastic products. By sorting, crushing, and washing, it yields clean and reusable materials for subsequent use.

This system processes raw materials such as HDPE/PP bottles and utensils, HDPE/PP barrels and boxes, and HDPE/PP rigid plastics used in daily life.

The AWS series for hard plastic (HDPE) recycling lines range in capacity from 1,000 kg/h to 4,000 kg/h. Using highly efficient treatment techniques can significantly boost recycling efficacy.

APPLICATIONS

- **Bottle Recycling**: Cleans and processes HDPE and PP bottles, containers, and household utensils for reuse in manufacturing.
- **Industrial Packaging**: Recycles HDPE and PP barrels, drums, and boxes into high-quality reusable raw materials.
- **Rigid Plastic Waste**: Handles hard plastics from daily use, including injection-molded products, utility plastics, and consumer goods.
- **Urban Waste Management**: Processes post-consumer plastic waste from municipal and industrial collection systems.
- **Pre-Treatment for Pelletizing**: Produces clean, sorted, and washed plastic flakes ready for extrusion and pelletizing lines.
- **Large-Scale Recycling Facilities**: Supports continuous, high-capacity recycling operations with throughput ranging from 1,000 to 4,000 kg/h.
- **Sustainable Manufacturing**: Enables closed-loop recycling for packaging, rigid containers, and other plastic components to promote a circular economy.

FEATURES

Input Belt Conveyor

INPUT BELT CONVEYOR

Heavy-duty feed conveyor with load-responsive control prevents overfeeding to the shredder.

Optional inline metal detector protects cutting components from ferrous contaminants.

PVC or rubber belt options available; inverter-driven speed ensures smooth, adaptive dosing.

High-Efficiency Shredder

SHREDDER

– +35% cutting chamber volume for higher throughput

– Integrated hydraulic ram with faster, variable stroke

– Compact footprint vs. horizontal-ram designs

– Enclosed chamber to prevent fly-outs and enhance safety

L-Type Belt Conveyor

L TYPE BELT CONVEYOR

Continuous clean-water washing with integrated mixing for 3D agitation.

~30-minute dwell time enhances contaminant removal.

Autonomous water treatment, optional hot-water pre-wash, and zoned temperature control (6/3 sections).

Magnetic Separation Belt

MAGNETIC SEPARATION BELT

Optional permanent-magnet separator mounted at shredder discharge automatically lifts ferrous metals—protecting downstream equipment and improving flake purity.

Pre-Washer Separation Tank

PRE-WASHER

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

Pneumatic water in-feed & electronic level control, plus blower-induced aeration for better separation.

Integrated platform design prioritizes safety, water savings, and energy efficiency.

Wet Crusher

CRUSHER

Water-assisted size reduction with 3/5/7-knife rotor configurations.

External knife adjustment for quick maintenance and consistent cutting gap.

Engineered for low-noise operation in continuous-duty environments.

Friction Washer

FRICTION WASHER

Heavy-duty, high-speed washer removes labels, organics, and fines.

Stainless steel housing & screen (3 mm holes), mild-steel reinforced rotor, oversized external bearings.

Stainless feed/discharge hoppers with bottom water outlet for efficient slurry removal.

Floating Washer

FLOATING WASHER

Separates >1 g/cm³ contaminants and non-PE/PP plastics from light flakes.

Screw-in/screw-out conveying with engineered paddles for reliable heavy impurity settling.

SUS304 stainless body, pneumatic water in-feed, and auto level control via electronic sensors.

Drying Systems

DRYING SYSTEM

Tailored drying packages for material type:

– Films/soft: squeezer or centrifugal dryer (post-dry moisture ~5–8%)

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

Optimized energy use with consistent, spec-ready moisture levels.

Storage Silo

STORAGE SILO

Intermediate buffer silo stabilizes line flow and ensures consistent dosing to pelletizing/extrusion.

Anti-bridging geometry prevents blockages; top-mounted cyclone removes residual dust for cleaner downstream processing.

Electrical Cabinet

ELECTRICAL CABINET

System controls use premium components—Schneider, LS, ABB—for reliability and safety.

Circuit breakers, contactors, pushbuttons, and pilot lights are interlocked to safeguard operations and streamline troubleshooting.

TECHNICAL SPECIFICATIONS

Size	Capacity	Motor Power	Equipment footprint
AWS-HDPE10	1000kg/h	150KW	150m 2
AWS-HDPE20	2000kg/h	190KW	260m 2
AWS-HDPE30	3000kg/h	250KW	380m 2
AWS-HDPE45	4000kg/h	400KW	450m 2
Unit energy consumption			
Content	Average energy consumption per ton of bottle		
Electricity	50-80KW		
Water	0.8-1.5T		

Compressed air	0.5-1m 3
Steam (optional)	0-100KG
Detergent (optional)	0-3KG

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