

WASHING AND PELLETIZING LINE



Complete Recycling Solutions from Sorting to Re-Pelletizing

A Washing and Pelletizing Line is the complete recycling solution that transforms post-consumer and post-industrial plastic waste into clean, uniform, production-ready recycled pellets. By combining sorting, size reduction, metal removal, cold and hot washing, friction washing, density separation, dewatering, drying, and pelletizing into a single synchronized production flow, a modern washing line removes the dirt, adhesives, labels, sand, ink, and oil residues that would otherwise compromise pellet quality — delivering recycled material that meets the demanding standards of blown-film, injection-molding, pipe, and bottle manufacturing.

Torontech proudly presents the ToronAWS™ Series — a comprehensive line of washing and pelletizing systems engineered around a modular architecture that adapts to virtually any plastic waste stream. Five purpose-built configurations cover every major recycling application: the TT-AWS-HDPE for rigid HDPE/PP bottles, barrels, and household plastics (1,000–4,000 kg/h); the TT-AWS-PE for soft PE/LDPE/LLDPE film, PP woven bags, and flexible plastics; the TT-AWS-PET for clear and colored PET bottles destined for food-grade and fiber recycling; the TT-AWS-PP woven bag washing line for soft and flexible PP/PE scraps; and the dedicated Waste Appliances Washing & Recycling Machine engineered for end-of-life refrigerators and 10 categories of WEEE / e-waste. Every line is built with SUS304 stainless-steel construction in all wet-contact zones, heavy-duty feeding systems with load-controlled conveyors and optional metal detectors, friction washers with reinforced rotors, density-separation tanks, autonomous water-treatment systems, and final humidity below 1% — delivering pellet-grade output for any downstream extrusion or compounding line.

Close the Loop with Torontech

Every recycled pellet that leaves a high-performance washing-and-pelletizing line is a story of circular economy made real — virgin plastic that didn't have to be produced, waste that didn't have to go to landfill, and resources kept in productive use for another generation. But that promise is only delivered when the line itself is engineered for the dirt, contamination, and material variability of real-world plastic waste streams. The recyclers and manufacturers who consistently deliver clean,

high-grade recycled pellets are the ones equipped with washing-and-pelletizing systems built for capacity, automation, and rigorous quality control — and the Torontech ToronAWS™ portfolio gives you exactly that.

Whether you are launching a new bottle-to-bottle PET facility, expanding an HDPE rigid-plastic recovery plant, processing agricultural film at industrial scale, or commissioning a state-of-the-art end-of-life appliance recycling line, Torontech has the washing-and-pelletizing platform engineered to meet your exact needs. From the dependable TT-AWS-HDPE to the comprehensive Waste Appliances Recycling Machine, every ToronAWS™ line is built to deliver world-class recycling performance backed by industry-leading service and support.

APPLICATIONS

Applications in Industries

- **Bottle Recycling** — HDPE milk bottles, oil bottles, shampoo/cosmetic containers, water bottles, and PET beverage bottles processed into clean recycled flakes & pellets for food-grade and non-food applications.
- **Film & Soft-Plastic Recycling** — Agricultural film, LDPE/LLDPE packaging film, greenhouse film, PE shopping bags, PP woven bags, and non-woven materials processed into uniform recycled pellets.
- **PET Bottle-to-Bottle & Fiber Recycling** — Caustic-soda hot-wash PET lines producing food-grade-adjacent rPET for new bottles, textile fiber, sheet, and strapping applications.
- **Rigid Industrial Plastics** — HDPE/PP barrels, boxes, IBC containers, daily-life rigid plastics, vegetable & fruit boxes, and crates from industrial and municipal collection streams.
- **End-of-Life Appliance & E-Waste Recycling** — Refrigerators, washing machines, IT/telecom equipment, consumer electronics, lighting, e-tools, medical equipment, and monitoring devices recovered to >98% ferrous, >92% non-ferrous, and $\geq 90\%$ plastic recovery rates.
- **Polyurethane Foam Recovery** — Refrigerator-line polyurethane foam captured at >90% efficiency with integrated cyclopentane alarm, dust-removal, and fire-protection safety systems.

- **Municipal & Industrial Waste Management** — Large-scale plastic reclamation facilities, MRF operators, and circular-economy programs converting mixed urban plastic waste into reusable manufacturing feedstock.

FEATURES

Why Choose Torontech for Your Washing & Pelletizing Needs

With more than two decades of experience supplying advanced industrial equipment to recyclers, manufacturers, and waste-management operators across more than 60 countries, Torontech delivers premium washing-and-pelletizing performance backed by global engineering and service expertise.

Five Purpose-Built Lines — One Trusted Source

From the rigid TT-AWS-HDPE to the soft TT-AWS-PE film line, the high-purity TT-AWS-PET bottle line, the TT-AWS-PP woven-bag platform, and the specialized Waste Appliances Recycling Machine — Torontech offers a coordinated portfolio that matches every plastic waste stream, contamination load, and pellet-quality requirement to a purpose-built ToronAWS solution.

Modular Architecture & Customization

Every ToronAWS line is built on a modular platform that adapts to local waste-stream composition, throughput targets, and downstream pellet-quality requirements. Standard modules can be combined and customized to deliver tailored solutions — sorting, crushing, magnetic separation, cold/hot washing, friction washing, density separation, dewatering, drying, and pelletizing — all integrated into a single synchronized production flow.

Premium Engineering & SUS304 Construction

All wet-contact components are constructed from SUS304 stainless steel with welded construction, ensuring excellent corrosion resistance and long service life. Friction washers feature reinforced mild-steel rotors with oversized externally-mounted bearings, 3 mm stainless steel screens, and stainless feed/discharge hoppers. Heavy-duty shredders include 35% larger cutting chambers with built-in hydraulic rams and enclosed cutting chambers for safety.

Intelligent Water Treatment & Automation

Autonomous water-treatment systems significantly reduce fresh-water consumption and discharge. Hot-water heating with 6-section and 3-section independent temperature control enables effective contaminant removal. Pneumatic water in-feed valves, electronic level sensors, ABB/Schneider inverter-controlled conveyors, optional permanent-magnet metal-detection belts, and full-line PLC integration deliver consistent automated operation.

Industry-Leading Safety Architecture

The Waste Appliances line includes a cyclopentane alarm system, dust-removal system, and fire-protection system — critical safeguards when processing refrigerators containing flammable refrigerants. All ToronAWS lines incorporate enclosed cutting chambers, load-related overfeed prevention, optional metal detection, and emergency-stop architecture meeting international workplace safety standards.

Cost-Effective Value & Global Support

Torontech delivers premium washing-and-pelletizing performance at a transparent, competitive price point — backed by overseas installation, operator training, and stocked spare parts with prompt global delivery. With offices and authorized partners across the USA, Canada, UAE, KSA, GCC, EU, India, APAC, Africa, and Latin America, expert support is always within reach.

Product Comparison Table

Model	Target Materials & Capacity	Key Process Stages & Features
TT-AWS-HDPE — Hard Plastic Washing Line	HDPE/PP bottles, barrels, boxes, daily rigid plastics, utensils; 1,000–4,000 kg/h	Heavy-duty feeding conveyor + shredder; friction washer (welded SUS304, reinforced rotor, 3 mm screen, oversized external bearings); 3D mixing; ~30-min retention; autonomous water-treatment system; optional hot-water pre-wash
TT-AWS-PE — PE Film Washing Line	LDPE/LLDPE film, PP woven bags & non-woven, PE bags, milk bottles, cosmetic containers, vegetable/fruit boxes	Heavy-duty feeding conveyor with load-related belt control (prevents over-feeding); 35% larger cutting chamber with built-in hydraulic ram; enclosed cutting chamber; optional metal detector; cold + hot washing; friction washer; >1 g/cm³ contaminant separation tank with paddle settling
TT-AWS-PET — PET Bottle Washing & Pelletizing	PET bottles (clear and colored); modular for HDPE/PP/PS/ABS/PC/PET	Wide chain plate conveyor (1000 mm PVC belt, 2.2 kW) → de-baler → manual sorting dual-stations → rotating drum (Ø1500×5000 mm, 5.5 kW, 50 mm holes — stones/dust/caps/metals) → overhead magnetic separator (3 kW) → crusher → SUS304 screw conveyor → caustic-soda hot/cold friction washing → dewatering
TT-AWS-PP — Woven Bag Washing Recycling	PP woven bags, PP non-woven, HDPE/PP/PS/ABS/PC/PET — soft & flexible plastic streams	Sorting → size reduction → metal removal → cold + hot washing → high-efficiency friction washing → drying; 6-section & 3-section independent water-temp control; magnetic separation belt; pneumatic water in-feed valve + auto level control; compressor blower at tank bottom; ~30-min retention

Waste Appliances Washing & Recycling Machine	End-of-life refrigerators & WEEE (large/small appliances, IT/telecom, consumer electronics, lighting, e-tools, medical, monitoring); 40-55 or 80-100 units/hour	Refrigerator recycling line with cyclopentane alarm system, dust-removal & fire-protection systems; density separation (salt water) to recover high-purity PS & ABS; recovery rates: ferrous metals >98%, Al & Cu >92%, plastics ≥90%, polyurethane foam >90%
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