



EXCELLENT DEGASSING AND FILTERING PELLETIZING LINE

The Excellent Degassing and Filtering Pelletizing Line is a high-performance recycling system developed for efficient re-granulation of contaminated plastic waste. It is designed to deliver strong degassing and advanced filtration, helping prevent overheating and material degradation during processing. This results in stable output and consistently high-quality plastic pellets suitable for reuse in production.

At the core of the system is a newly developed standard recycling granulation platform combined with the SCF self-cleaning filtration system. This configuration allows continuous removal of impurities from the melt flow, effectively eliminating up to 5 percent of pollutants without interrupting production. By maintaining a clean and stable melt, the system improves pellet quality and reduces downtime caused by screen changes or clogging.

The Excellent Degassing and Filtering Pelletizing Line is especially suited for highly polluted and printed plastic materials that are difficult to process using conventional pelletizing systems. Its balanced processing design supports smooth plasticization, reliable degassing, and effective filtration in one continuous line. This makes it a practical and dependable solution for recycling operations focused on material recovery, quality improvement, and long-term operational stability.

Key Highlights

- Advanced pelletizing line with strong degassing and filtration performance
- Prevents overheating and material degradation during recycling
- Integrated SCF self-cleaning filtration system for continuous operation
- Removes up to 5 percent of impurities from the melt flow
- Produces consistent, high-quality recycled plastic pellets
- Designed for processing highly contaminated plastic waste
- Suitable for polymers such as PE, PP, PS, and ABS

APPLICATIONS

- **Film Recycling:** Processes PE, PP, PS, and ABS films with advanced degassing and filtering systems for clean, high-quality pellets.
- **Highly Contaminated Plastics:** Re-granulates printed, dirty, or heavily polluted plastic waste using an SCF self-cleaning filtration system.
- **Packaging Waste:** Recycles bags, wrappers, and multi-layer films into reusable plastic pellets for secondary applications.
- **Industrial Plastic Waste:** Handles production scraps, plastic profiles, and defective parts, turning waste into valuable raw material.
- **PET & BOPET Recycling:** Processes polyester and BOPET materials with high throughput and consistent quality results.
- **Injection & Extrusion Waste:** Converts injection molding rejects and extrusion offcuts into uniform, high-quality granules.
- **High-Capacity Recycling Plants:** Designed to support continuous, large-scale operations with production rates up to 2000 kg/h.
- **Pelletizing Flexibility:** Adapts to water-ring, water-strand, or underwater pelletizing methods based on production requirements.

FEATURES

Feeding System

FEEDING

Films, filaments, and raffia are conveyed to the compactor via a belt conveyor as standard, while roll stock can be handled with an optional roll-haul-off unit.

Both drives work with ABB inverters, automatically matching feed speed to the compactor fill level for steady, jam-free throughput.

A belt-mounted metal detector integrates with the control system to warn and stop the line upon detecting metal, protecting downstream components.

Compactor Air Exhaust System

COMPACTOR WITH AIR EXHAUST

Continuous cutting and friction in the compactor generate gentle process heat, lifting surface moisture and dust from the feedstock.

The integrated air-exhaust unit removes these volatiles without extra energy input, pre-dries the material before granulation, and reduces load on downstream degassing—boosting efficiency and final pellet quality.

Sliding Gate with Servo

SLIDING GATE WITH SERVO MOTOR

A servo-driven sliding gate controls residence time to suit both hard and soft materials.

Only clean, pre-dried feed proceeds to the barrel; off-spec material is retained for additional conditioning.

PLC logic precisely meters forced feeding to maintain target throughput with consistent results.

Protection System

PROTECTION SYSTEM

- Electrical safety interlocks guard all access points and rotating parts, prioritizing operator safety.
- Tight temperature control and optimized plasticization deliver uniform, high-quality pellets.
- Smart logistics across modules ensure each polymer type receives the right pre-heating and compacting—avoiding overheating and degradation.

Remote Monitoring and Data

REMOTE MONITORING & INFORMATION TRANSMISSION

Built-in program control and Bluetooth connectivity enable remote status checks, parameter adjustment, and performance data transfer—supporting proactive maintenance and faster decision-making.

Compactor Rotatory Blades

ROTATORY BLADES OF COMPACTOR

High-speed rotary and fixed blades reduce material to uniform flakes while frictional heat pre-shrinks and pre-heats them—stabilizing feed density and improving extrusion efficiency.

Intelligent Control

INTELLIGENT CONTROL

Intelligent Start: One-button startup synchronizes all modules.

Intelligent Stop: One-button stop brings the line down safely and quickly.

Emergency Stop: Dedicated E-stop circuits protect operators and equipment in unexpected scenarios.

Single Screw Extruder

SINGLE SCREW EXTRUDER

The precision single-screw extruder gently plasticizes and homogenizes the melt.

A bi-metallic barrel/screw package delivers outstanding wear and corrosion resistance for long, stable service life.

Extruder Barrel

BARREL

An extended L/D design enables single-stage processing with double-stage performance.

Positioned after a mid-line double-piston screen, an optional final filter further elevates pellet purity and stability.

Double Vacuum Degassing

DOUBLE VACUUM DEGASSING ZONES

Dual degassing ports remove moisture, micro-molecules, and volatile contaminants—ideal for heavily printed or mixed feeds—resulting in cleaner melt and higher-grade granules.

Liquid Outlet

LIQUID OUTLET

Designed to improve melt filtration and throughput, the line can be configured with multiple single-screw extruders feeding a second-stage extruder—scaling capacity and refining quality.

Non-stop Piston Filter

NON-STOP PISTON TYPE FILTER

Choose single/double-station or continuous four-station piston screen changers for high filtration capacity.

Large filter areas extend screen life, and quick, on-the-fly changes keep production continuous—reducing costs and downtime.

Plate Type Filter

PLATE TYPE FILTER

A continuous dual-plate layout keeps one filter active during screen changes.

A ring heater ensures uniform, stable temperature for consistent filtration performance.

Self-Clean Filtration System

SELF-CLEAN FILTER

The SCF system enables continuous extrusion with highly contaminated streams, removing up to ~5% impurities.

It reliably separates paper, wood, aluminum, unmelted plastic, rubber, and more—keeping lines running and pellets clean.

Water Ring Pelletizing

WATER RING PELLETIZING SYSTEM

A self-adjusting head keeps blade pressure optimal for consistent granulate quality and uptime.

Blade RPM adapts to melt pressure, and quick blade changes require no re-tuning—saving valuable maintenance time.

Underwater Pelletizing

UNDER-WATER PELLETTIZING SYSTEM

Highly automated for high-MFI resins and large capacities, this package includes pelletizer, valve, piping, dewatering vibration screen, and silo—delivering uniform pellets at scale.

Vibration Drying

VIBRATION DRY

A high-efficiency dewatering vibration sieve pairs with horizontal centrifugal drying to cut energy use and deliver drier pellets.

Screw-assembled sieves (no welds) speed future changeovers and reduce maintenance effort.

Plastic Pellets Output

PLASTIC PARTICLES

The line produces high-quality recycled pellets suitable for reuse in premium plastic applications—closing the loop and maximizing material value.

Packing System

PACKING SYSTEM

Final pellets are efficiently dried with a shaker and horizontal centrifuge before storage.

Online capacity monitoring and precise weighing ensure accurate inventory and shipment readiness.

System Advantages

ADVANTAGES

- Integrated crushing, compacting, and pelletizing reduces labor and footprint
- Optimized feeding for film, filament, raffia, and foamed materials
- Lower CAPEX with durable, long-life components
- Energy-efficient operation with higher output per kWh
- Global installation and training available
- Warranty support with stocked spare parts for rapid service

TECHNICAL SPECIFICATIONS

Heater of barrel	Ceramic heater or Far-infrared heater
Cooling of Barrel	Air cooling of fans through blowers

Vacuum deashing exhaust	Two Double-zone vacuum degassing system (Standard)				
Pelletizing type	Water-ring pelletizing/ water-strands pelletizing/ Under-water pelletizing				
Optional device	Metal detector, Roll hualing off device, Masterbatch and additives feeder				
Technical services	project design, factory construction, installation and recommendations, commissioning				
Model	Compactor Volume (L)	Screw diameter(mm)	L/D ratio	Productivity(kg/h) for LDPE/LLDPE	Productivity(kg/h) for BOPET/PET
TT-ACS-PRO1008	800	100	50	400-500	500-600
TT-ACS-PRO1414	1400	140	50	900-1000	900-1150
TT-ACS-PRO1616	1600	160	50	1300-1500	1200-1600
TT-ACS-PRO1828	2800	180	50	1800-2000	1800-2100



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

