



DOUBLE STAGE CUTTER COMPACTOR PELLETIZING LINE

The Double Stage Cutter Compactor Pelletizing Line is a high-performance recycling system designed to process challenging plastic waste materials that are difficult to handle with standard pelletizing equipment. It integrates crushing, compacting, plasticizing, filtration, and pelletizing into a single, continuous production flow. This streamlined design improves efficiency while delivering stable and consistent pellet quality.

Engineered with a two-stage extrusion process, the system provides an extended processing path that significantly enhances melt quality. The dual-stage configuration allows impurities, moisture, and gases to be removed more effectively during processing. As a result, heavily printed, contaminated, or moist plastic waste can be converted into clean, production-ready recycled pellets suitable for downstream manufacturing.

The two-stage design also enables gentler material handling, helping protect temperature-sensitive polymers from thermal degradation. Built for industrial use, the Double Stage Cutter Compactor Pelletizing Line is designed for continuous 24/7 operation, making it a reliable solution for high-capacity recycling plants that demand consistent output, high filtration performance, and long-term operational stability.

Key Highlights

- All-in-one system for crushing, compacting, extrusion, and pelletizing
- Two-stage extrusion for improved melt quality and process control
- Double filtration for more effective impurity removal
- Enhanced degassing to remove moisture and ink residues
- Gentle processing for heat-sensitive plastic materials
- Produces high-quality recycled pellets ready for reuse
- Designed for continuous, industrial-scale operation

APPLICATIONS

This line is the professional choice for re-pelletizing a wide variety of polymers, including PE, PP, PS, ABS, XPS, EPS, and PVB.

1. Film & Flexible Packaging

- **Printed Materials:** Easily process HDPE, LDPE, BOPP, and CPP films with heavy ink coverage.
- **Stretch & Shrink Films:** Efficiently recycle thin, high-stretch materials into uniform granules.
- **Bags & Raffia:** Ideal for woven bags, shopping bags, and raffia strings.

2. Foamed Plastics (EPS/XPS)

- **Volume Reduction:** Convert bulky foamed materials like EPS and XPS into dense, high-quality pellets suitable for secondary manufacturing.

3. Industrial & Post-Consumer Waste

- **High-Moisture Scraps:** The multiple exhaust systems handle materials with high water content.
 - **Manufacturing Offcuts:** Turn defective products, sheets, and factory scraps back into usable raw materials.
 - **Rigid Plastics:** Process ABS, PS, and PC scraps into durable pellets for injection molding.
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Optimized for Downstream Production

The pellets produced by our Double Stage system are of such high quality that they can be used directly in:

- Blown Film Lines
- Pipe & Tube Extrusion
- Injection Molding Systems

FEATURES

Feeding Conveyor

FEEDING

Films, filaments, and raffia are fed to the compactor via a belt conveyor as standard, while roll stock is handled by an optional roll haul-off unit.

Both drives are controlled by ABB inverters, automatically tuning feed speed to the compactor's fill level for steady, jam-free throughput.

A conveyor-mounted metal detector ties into the control system to alarm and stop the line if metal is detected—protecting equipment and operators.

Crushing & Compacting

CRUSHING AND COMPACTING

The compactor integrates size reduction, pre-heating, and pre-drying in one step.

Rotor and stator knives generate frictional heat that drives off surface moisture and dust; the air-exhaust system removes these volatiles without extra energy demand.

Result: faster, more consistent feeding and reduced load on downstream degassing.

Intelligent Control

INTELLIGENT CONTROL

One-Touch Start: Launches the entire line and synchronizes all interlocked modules.

One-Touch Stop: Brings each module to a safe halt, quickly and cleanly.

Emergency Stop: Dedicated E-stop circuits protect the Double Stage Cutter Compactor Pelletizing Line from unexpected events.

Remote Monitoring

REMOTE MONITORING AND INFORMATION TRANSMISSION

The system supports program-based remote monitoring and Bluetooth data transmission, enabling real-time status checks, parameter updates, and production analytics from a distance.

Rotatory Blades

THE ROTATORY BLADES OF COMPACTOR

High-speed rotary blades work against fixed blades to cut material into uniform flakes.

Frictional heat simultaneously pre-shrinks and pre-heats the feed, stabilizing bulk density and improving downstream extrusion.

Single-Screw Extruder

SINGLE SCREW EXTRUDER

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

Bi-metal construction delivers exceptional wear and corrosion resistance, extending service life and process stability.

Extruder Barrel

BARREL

The extended L/D ratio achieves double-stage performance in a single-stage layout.

After a mid-line double-piston screen, an optional final filter boosts cleanliness—elevating pellet quality and repeatability.

Double Vacuum Degassing

DOUBLE VACUUM DEGASSING ZONES

Two independent vacuum ports remove moisture, volatiles, and micro-molecules—especially effective for heavily printed or contaminated inputs—ensuring cleaner melt and higher-grade granules.

Twin Single-Screw Configuration

TWO SETS OF SINGLE-SCREW EXTRUDERS

A dual extruder configuration is ideal for high-ink, high-moisture, temperature-sensitive, or impurity-rich materials.

It enables double filtration, multiple exhaust stages, and longer residence time to meet demanding specifications.

Liquid Outlet

LIQUID OUTLET

For higher output and cleaner melt, multiple single-screw extruders can feed a second-stage extruder.

This arrangement elevates filtration efficiency and scales production capacity.

Non-Stop Piston Filter

NON-STOP PISTON TYPE FILTER

Fit single/double-station or continuous four-station piston screen changers for high filtration throughput.

Large filter areas extend screen life; quick, on-the-fly changes keep production continuous and operating costs low.

Plate Type Filter

PLATE TYPE FILTER

A continuous dual-plate design ensures at least one filter remains online during screen changes.

Ring-style heating maintains stable temperature for consistent filtration performance.

Self-Cleaning Filter

SELF CLEAN FILTER

The SCF self-cleaning system sustains continuous extrusion even with heavily contaminated streams—removing up to ~5% impurities such as paper, wood, aluminum, rubber, and unmelted plastics.

Water Ring Pelletizer

WATER RING PELLETIZING SYSTEM

A self-adjusting head maintains ideal blade pressure for consistent granulate quality and longer uptime.

Blade RPM auto-adapts to melt pressure, and tool-less blade swaps require no readjustment—saving maintenance time.

Underwater Pelletizing

UNDER-WATER PELLETIZING SYSTEM

For high-MFI resins and large throughputs, this automated system includes pelletizer, valve, piping, dewatering vibration screen, and silo—delivering uniform pellets at scale.

Vibration Dry

VIBRATION DRY

A dewatering vibration sieve paired with horizontal centrifugal drying achieves low-energy, high-efficiency pellet drying.

Screw-assembled sieves (no welds) make future changeovers fast and simple.

Plastic Pellets Output

PLASTIC PARTICLES

The finished product is high-quality recycled pellets, ready to re-enter production as consistent, reliable raw material.

Packing System

PACKING SYSTEM

A drying shaker and horizontal centrifuge ensure well-dried pellets before storage.

Online capacity monitoring and quantitative weighing deliver accurate inventory and shipment control.

System Advantages

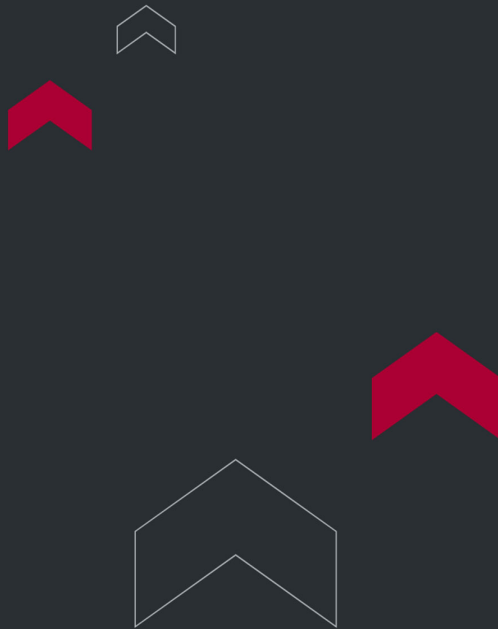
ADVANTAGES

- Single system integrates crushing, compacting, and pelletizing to reduce labor and footprint
- Optimized feeding for films, filaments, raffia, and foamed materials
- Lower upfront costs with durable, long-life components
- Higher output per kWh for superior energy efficiency
- Global installation & training support
- Robust warranty with stocked spare parts for fast service

TECHNICAL SPECIFICATIONS

Target Recycled Material	HDPE, LDPE, PP, BOPP, CPP, OPP, PA, PC, PS, PU, ABS,PET
System composition	Belt Conveyor, Cutting Compactor, Single Screw Extruder, Filtration, Pelletizer, Water Cooling Device, Dehydration Section,Conveyor Fan, Product Silo.
Feeding Device	Belt Conveyor (Standard), Roll Hauling off device (Optional)
Material of screw	38CrMoAlA (SACM-645), Bimetal (Optional)
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
Technical services	project design, factory construction, installation and recommendations, commissioning
TT-ACSS-HTM series single-stage compactor-granulator machine	

Model	Compactor Volume (L)	Compactor motor	Screw diameter(mm)	L/D ratio	Power(kw)	Productivity(kg/h)
TT-ACSS-H80/120	300	37	80	42	45/55	160-220
			120	10	22	
TT-ACSS-H100/120	500	55	100	42	90/110	300-380
			120	10	30	
TT-ACS-H120/150	800	90	120	42	132	450-500
			150	10	37	
TT-ACS-H140/150	1000	110	140	42	160/185	500-650
			150	10	45	
TT-ACS-H160/180	1200	132	160	42	220/250	800-1000
			180	10	55	
TT-ACS-H180/200	1600	160	180	42	315	1000-1200
			200	10	75	



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

