USTUNIS®
MAKINA

Plastic Recycling Systems

RECYCLING TECHNOLOGIES

PRODUCT CATALOGUE

BEXMAC®

MADE IN TÜRKİYE

RECYCLING

TECHNOLOGIES

ABOUT US

Established in 1982, Üstün İş Makina is a well-established manufacturer specializing in high-quality, long-lasting machinery for the plastic recycling industry.

With over four decades of experience, we design, manufacture, and test all our machines in-house at our state-of-the-art facility, spanning 20,000 m² of enclosed production space. By maintaining full control over every stage of the process, we consistently deliver reliable and sustainable solutions to our partners worldwide.

Our advanced CNC machining centers and robotic welding stations ensure precision and consistency throughout our manufacturing operations. Backed by a strong R&D infrastructure, we develop customizable systems tailored to diverse recycling needs, helping our clients maximize efficiency and productivity.

Our comprehensive product range includes shredders, granulators, washing lines, high-efficiency turbo washing systems, drying units, extrusion systems, automatic laser filters, and cutting solutions—all fully developed and assembled by our expert team. Every machine undergoes full-capacity testing and performance validation before shipment to ensure it meets the highest quality standards.

Beyond machinery supply, we offer turnkey recycling plant solutions, including engineering, facility layout planning, commissioning, and on-site training—delivering end-to-end services for a seamless operation.

Today, we proudly export to over 40 countries, earning global recognition as a trusted industry leader. With a deep commitment to sustainable manufacturing and environmentally conscious practices, we build long-term partnerships and shape the future of recycling—together.

GRANULE EXTRUSION SYSTEMS

PLASTIC SIZE REDUCTION SYSTEMS

PLASTIC WASHING AND DEWATERİNG SYSTEMS

PLASTIC RECYCLING LINES

BEXMAC®

USTUNIS® MAKINA

2 PE-LD 4 PE-HD 5 PP 6 PS ABS

GRANULE EXTRUSION SYSTEMS

Plastic Recycling Systems

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CRT® DENSIFIER-INTEGRATED EXTRUDER

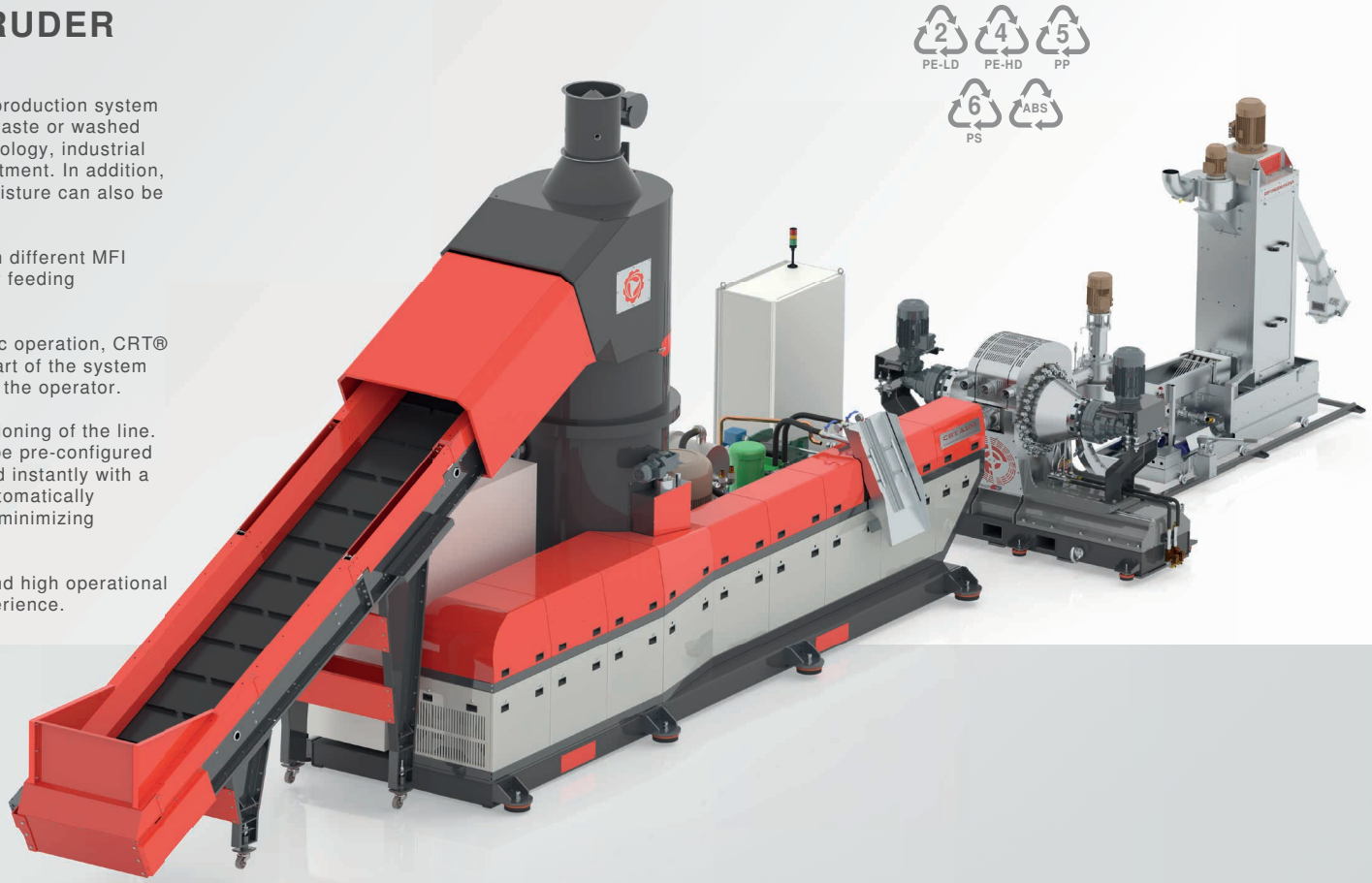
The CRT® Densifier-Integrated Extruder is a fully automatic, user-friendly production system designed for the high-efficiency, single-step pelletizing of clean industrial waste or washed plastics coming from washing lines. Thanks to its integrated densifier technology, industrial film waste can be processed continuously without the need for any pre-treatment. In addition, film or flake materials coming from washing lines with up to 5% residual moisture can also be processed automatically in a single stage.

The system's peripheral heat-control technology ensures that polymers with different MFI values quickly reach the ideal processing temperature, maximizing extruder feeding performance and significantly increasing overall operational efficiency.

With its compact design, optimized process architecture, and fully automatic operation, CRT® reduces labor requirements while offering high energy efficiency. At the heart of the system lies an advanced smart PLC control unit, providing superior ease of use for the operator.

• The one-touch start function enables fast, safe, and trouble-free commissioning of the line.
• The advanced recipe management system allows process parameters to be pre-configured according to the characteristics of the material being processed and applied instantly with a single touch. When changing materials, selecting the appropriate recipe automatically optimizes all parameters within seconds, enhancing process stability while minimizing operator dependency.

With its modern touch-screen interface, intelligent automation capability, and high operational stability, CRT® provides a seamless, reliable, and superior production experience.

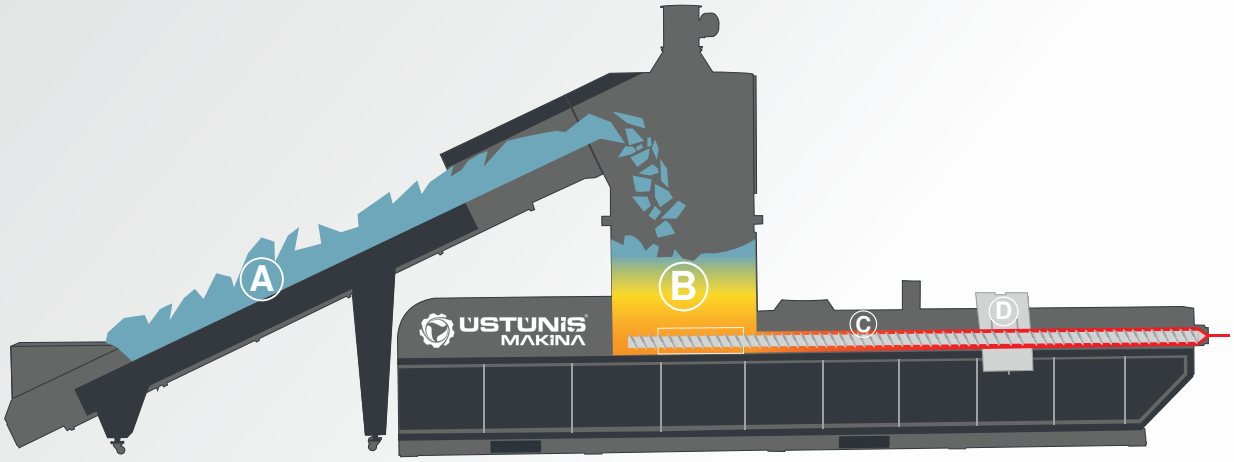


Advantages / Key Features

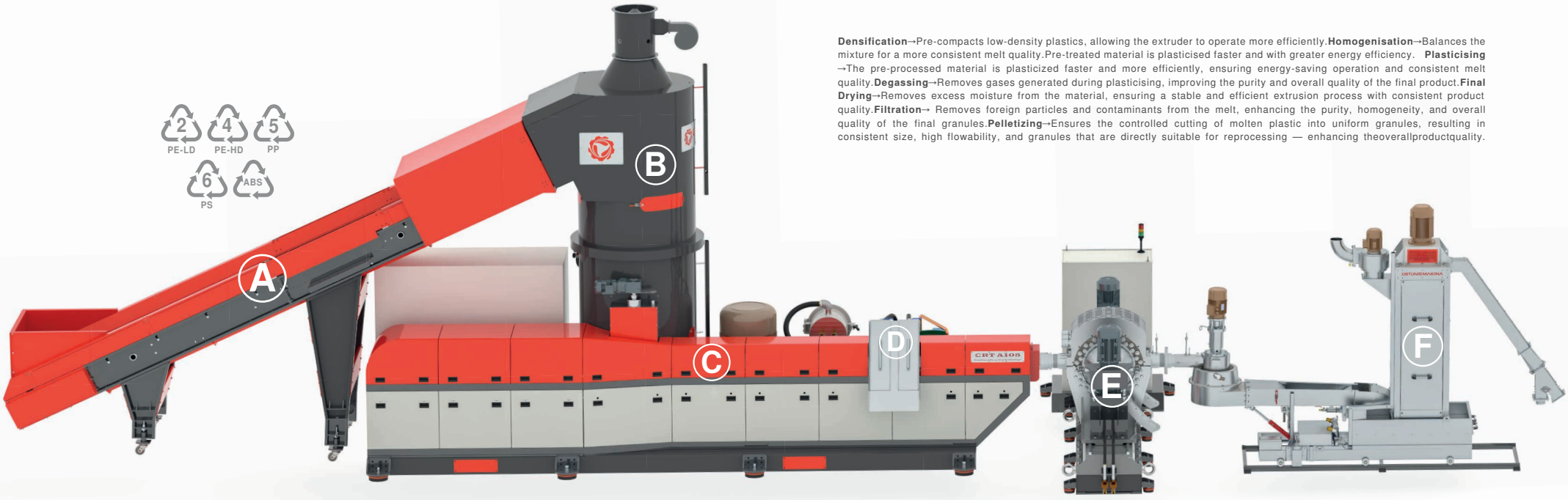
•**All Pre-Processing in a Single Unit:** The CRT-A system performs densification, homogenization, plasticizing, degassing, and final drying within the same unit, ensuring a simplified and highly efficient production process.
•**Modular and Flexible Configuration:** Thanks to its modular design, the CRT-A can be easily integrated into existing lines, even in cases where only the extruder unit needs to be replaced. It is designed to operate in combination with separate filtration and pelletizing machines, providing excellent adaptability and flexibility for both new installations and line modernization projects.
•**Wide Material Compatibility:** Capable of processing various types of plastics such as PE-LD, PE-HD, PP, PS, and ABS. The system operates smoothly with both film and regrind (flake) forms of materials.
•**Energy-Efficient Operation:** Through internal heat recovery during the process, the CRT-A ensures high performance with reduced energy consumption.
•**Easy Integration with New or Existing Lines:** The system can be seamlessly implemented in brand-new installations or adapted to existing lines. This feature helps optimize investment costs and facilitates gradual system upgrades.
•**User-Friendly and Smart Automation:** The CRT-A Series features an advanced PLC control system and a touchscreen interface. Predefined parameters for different material types can be stored in the recipe memory, allowing precise settings to be reloaded with a single touch. With its remote access capability, system performance can be monitored and adjusted online, minimizing operator errors and improving overall process efficiency.

System Process

A) Feeding Unit: The process begins with the fully automated feeding system, which ensures that plastic materials are transferred to the system continuously, consistently, and accurately via the conveyor. **B) Densification Unit:**At this stage, the material is pre-processed inside the agglomerator to achieve the desired density and homogeneity, after which the densified material is fed into the extruder screw barrel in a stable and continuous manner. **C) Extruder Unit (Screw & Barrel):**In the extruder unit, the material fed into the screw barrel is processed through controlled temperature zones, transformed into melt, and directed to the next stage with a stable, homogeneous, and continuous flow. **D) Degassing Unit:**In the degassing unit, the melt efficiently releases moisture, volatile compounds, and unwanted gases—such as ink vapors from printed materials—ensuring a cleaner, more stable, and higher-quality melt flow toward the filtration stage.**E)Filtration Unit:**In the filtration unit, the melt is purified from potential foreign particles, fiber residues, and non-melted contaminants, resulting in a cleaner, more homogeneous, and higher-quality flow that is directed to the pelletizing stage. **F) Pelletizing Unit:**In the pelletizing unit, the filtered melt is transformed into pellet form using the appropriate cutting technology, and after automatic separation and drying within the unit, the pellets are transferred directly to the Big-Bag filling station.



Densification | Homogenisation | Plasticising | Degassing | Final Drying | Filtration | Pelletizing



Densification→Pre-compacts low-density plastics, allowing the extruder to operate more efficiently.**Homogenisation**→Balances the mixture for a more consistent melt quality.Pre-treated material is plasticised faster and with greater energy efficiency. **Plasticising** →The pre-processed material is plasticized faster and more efficiently, ensuring energy-saving operation and consistent melt quality.**Degassing**→Removes gases generated during plasticising, improving the purity and overall quality of the final product.**Final Drying**→Removes excess moisture from the material, ensuring a stable and efficient extrusion process with consistent product quality.**Filtration**→ Removes foreign particles and contaminants from the melt, enhancing the purity, homogeneity, and overall quality of the final granules.**Pelletizing**→Ensures the controlled cutting of molten plastic into uniform granules, resulting in consistent size, high flowability, and granules that are directly suitable for reprocessing — enhancing theoverallproductquality.

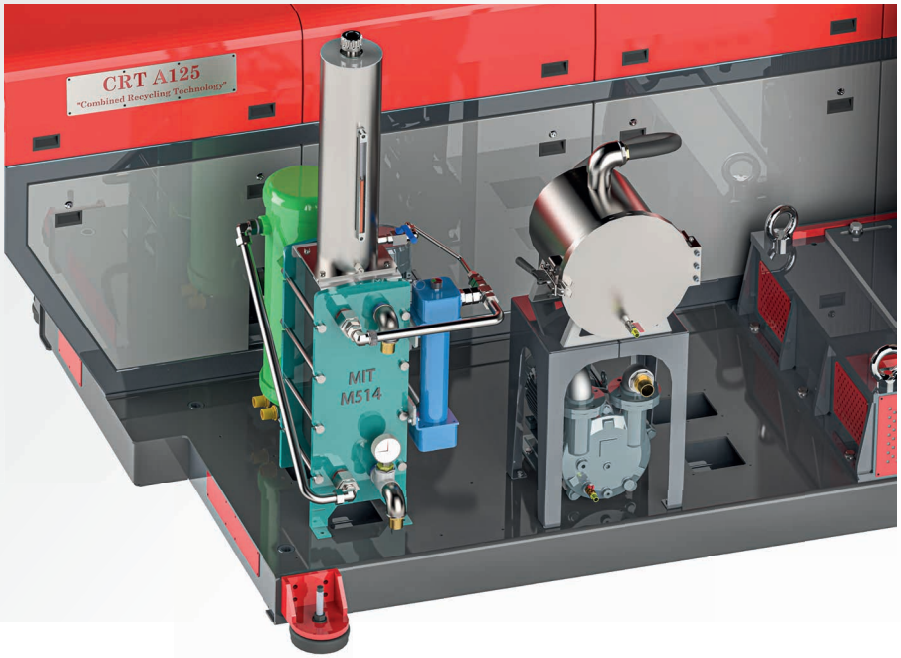
Barrel Cooling System

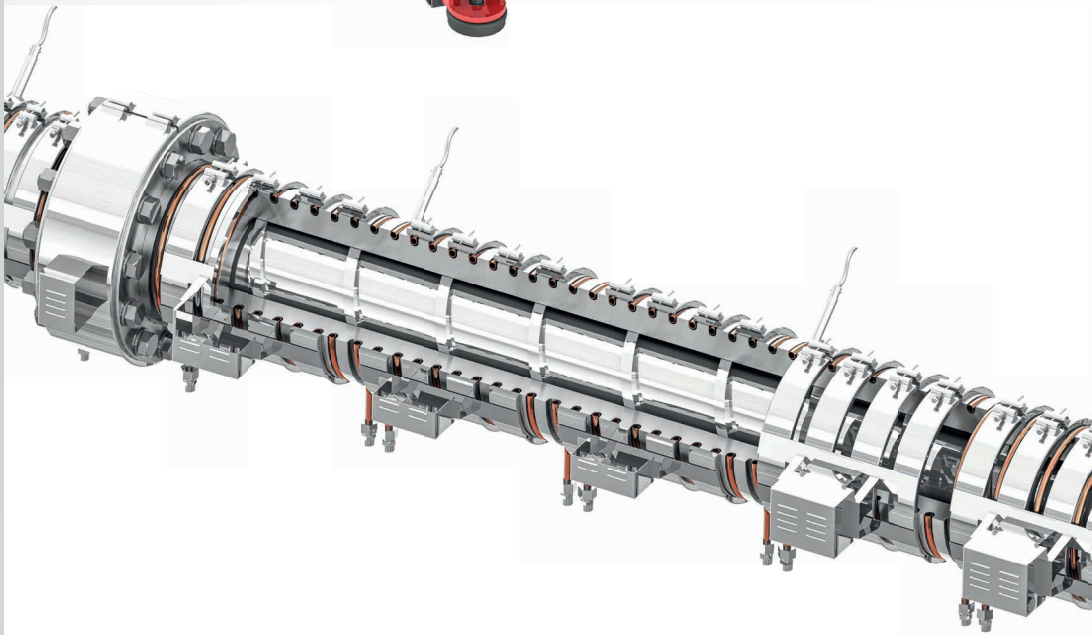
The barrel cooling system in an extruder is one of the most critical components that determines polymer processing quality and the final performance of the produced pellets. At Üstüniş Makina, we use an oil-based barrel cooling system in our extruders. High-conductivity copper pipes, placed inside specially machined cooling channels on the barrel surface, rapidly transfer heat away from the points where it is generated. Combined with the oil circulation loop, this design ensures exceptionally stable, homogeneous and precise temperature control throughout the entire barrel.

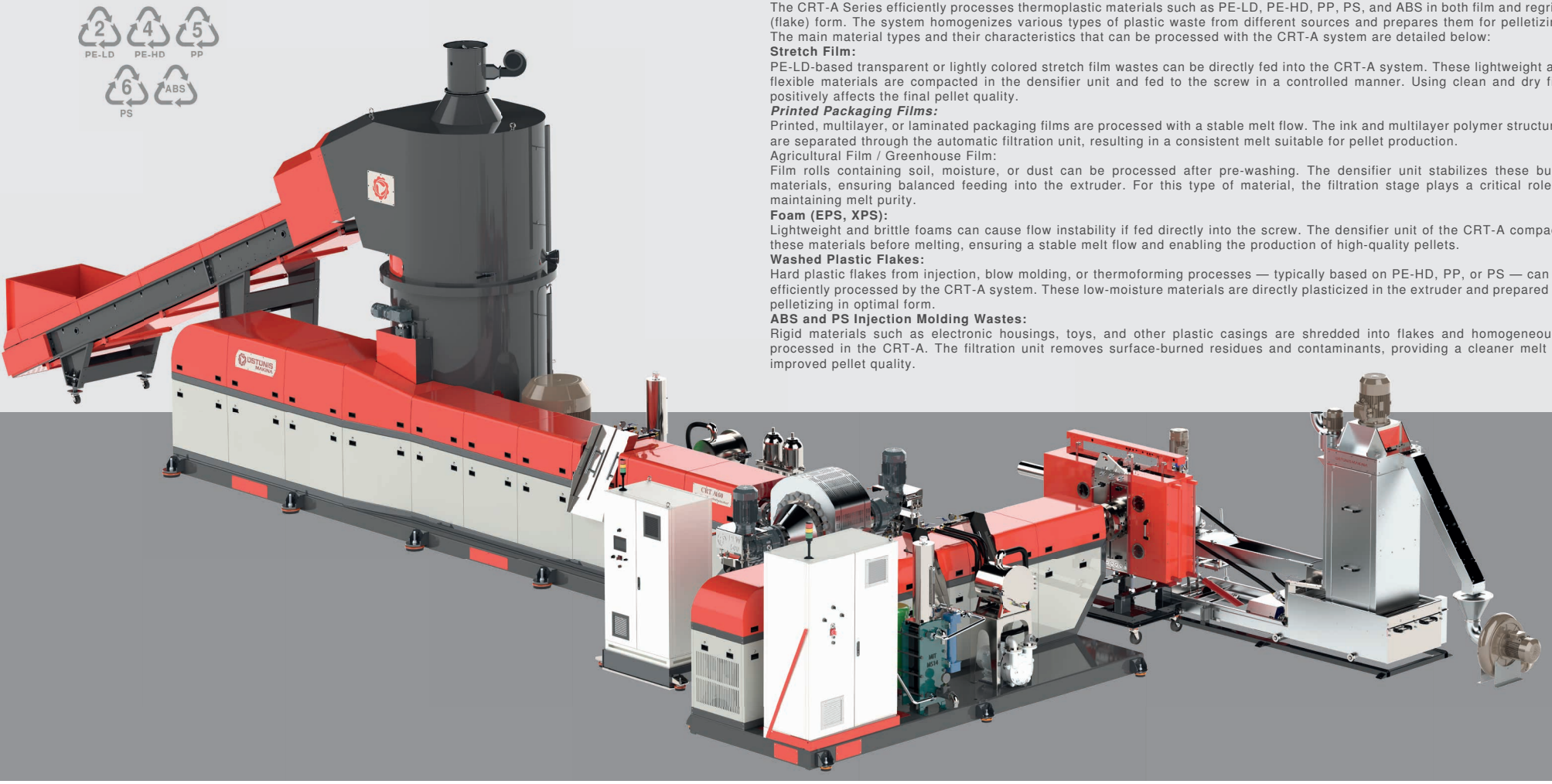
In recycling extruders, maintaining this thermal stability is crucial not only for process consistency but also for preserving the chemical integrity and visual quality of the polymer. Recycled materials vary widely in MFI, structure and contamination level, making them highly sensitive to temperature fluctuations. When barrel temperature is not adequately controlled, the polymer can easily overheat in localized areas, leading to chain degradation, thermal oxidation, yellowing, discoloration and even micro-burns. Such degradation affects both melt quality and significantly reduces the commercial value of the final pellets.

The oil cooling system prevents these issues by creating a perfectly stable temperature profile along the entire barrel. This ensures that the polymer never encounters excessive heat at any stage of the process. As a result, thermal degradation is avoided, the melt maintains a uniform structure, and color stability is preserved. This is particularly critical in the recycling of clear LDPE, LLDPE, PP or similar transparent-grade materials, which are extremely sensitive to temperature variations. Even minor thermal instability can cause visible yellowing, loss of clarity or burn marks. With properly controlled barrel cooling, transparent polymers retain their clarity, brightness and natural color, enabling production of pellets that approach virgin material quality.

A stable thermal profile also ensures that the melt reaches the filtration and pelletizer units in a consistent, homogeneous and process-ready condition. This leads to cleaner cutting, smoother pellet surfaces and superior performance in downstream applications. Üstüniş Makina's oil-cooled barrel design is therefore a key factor enabling the production of non-degraded, non-yellowed, thermally stable and high-quality pellets in recycling operations.







Applications and Compatible Materials

The CRT-A Series efficiently processes thermoplastic materials such as PE-LD, PE-HD, PP, PS, and ABS in both film and regrind (flake) form. The system homogenizes various types of plastic waste from different sources and prepares them for pelletizing. The main material types and their characteristics that can be processed with the CRT-A system are detailed below:

Stretch Film:
PE-LD-based transparent or lightly colored stretch film wastes can be directly fed into the CRT-A system. These lightweight and flexible materials are compacted in the densifier unit and fed to the screw in a controlled manner. Using clean and dry film positively affects the final pellet quality.

Printed Packaging Films:
Printed, multilayer, or laminated packaging films are processed with a stable melt flow. The ink and multilayer polymer structures are separated through the automatic filtration unit, resulting in a consistent melt suitable for pellet production.

Agricultural Film / Greenhouse Film:
Film rolls containing soil, moisture, or dust can be processed after pre-washing. The densifier unit stabilizes these bulky materials, ensuring balanced feeding into the extruder. For this type of material, the filtration stage plays a critical role in maintaining melt purity.

Foam (EPS, XPS):
Lightweight and brittle foams can cause flow instability if fed directly into the screw. The densifier unit of the CRT-A compacts these materials before melting, ensuring a stable melt flow and enabling the production of high-quality pellets.

Washed Plastic Flakes:
Hard plastic flakes from injection, blow molding, or thermoforming processes — typically based on PE-HD, PP, or PS — can be efficiently processed by the CRT-A system. These low-moisture materials are directly plasticized in the extruder and prepared for pelletizing in optimal form.

ABS and PS Injection Molding Wastes:
Rigid materials such as electronic housings, toys, and other plastic casings are shredded into flakes and homogeneously processed in the CRT-A. The filtration unit removes surface-burned residues and contaminants, providing a cleaner melt for improved pellet quality.

MODEL	CRT A55	CRT A70	CRT A85	CRT A95	CRT A105	CRT A125	CRT A140	CRT A150	CRT A160	CRT A170	CRT A180
Screw Diameter (mm)	55	70	85	95	105	125	140	150	160	170	180
Screw (L/D)	24/38	24/38	24/38	24/38	24/38	24/38	24/38	24/38	24/38	24/38	24/38
Maximum Power (kw)*	95	130	200	242	292	450	500	560	605	650	750
Maximum Throughput (kg/h)*	200	300	450	550	700	950	1000	1200	1350	1500	1600

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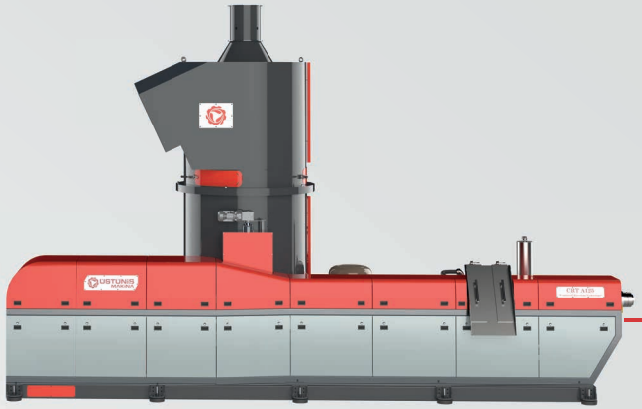
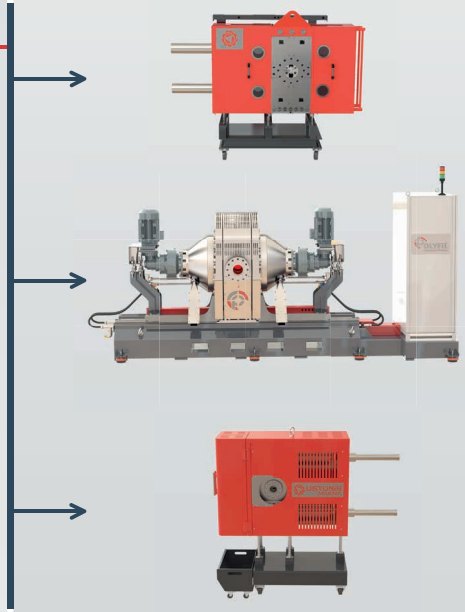


Integrated Densifier System

The integrated densifier system in the CRT®-A series is an advanced pre-conditioning technology that prepares plastic materials in the ideal form before they enter the extruder, increasing both process capacity and pellet quality. While its benefits apply to all material types, the densifier system delivers particularly strong performance with low-density materials such as films.

Within the densifier system, controlled compaction and friction-based preheating initiate the polymer's pre-plasticizing phase, reducing moisture, stabilizing the melt structure, and minimizing the formation of gas-laden melt inside the extruder. For printed or contaminated materials, inks and volatile components are evaporated and removed within the densifier before reaching the extruder, resulting in a more stable melt and significantly reducing gas formation in the final pellets.

Because the system is fully integrated with the extruder, the conditioned material is transferred directly and continuously into the screw without additional handling. This steady and uninterrupted feeding greatly enhances overall process efficiency, providing a notable increase in capacity along with clear improvements in pellet uniformity and quality.



Filtration Unit

The melt stream leaving the CRT-A extrusion section is routed to an independent filtration unit for further purification. At this stage, paper residues, wood fibers, foreign plastics with higher melting temperatures than the processed material, and all other contaminants are precisely removed. When a continuous self-cleaning laser filter is used, these impurities are separated with high efficiency, ensuring consistent pellet quality and improved process stability.

Because the filtration process operates independently from the CRT-A, it allows the selection of filtration systems tailored to project-specific needs. This modular structure provides greater flexibility to the production line while enabling a cleaner, more stable, and more reliable melt.

Pelletizing Unit

After the filtration stage, the homogenized polymer melt is directed to the *pelletizer unit, where it is transformed into its final pellet form. The pelletizing system is optimized according to the type of material being processed and the **melt flow index (MFI)*, which defines its flow characteristics. This ensures stable and reliable pellet formation across a wide range of polymers from highly fluid materials with high MFI values to dense, low-flow melts.

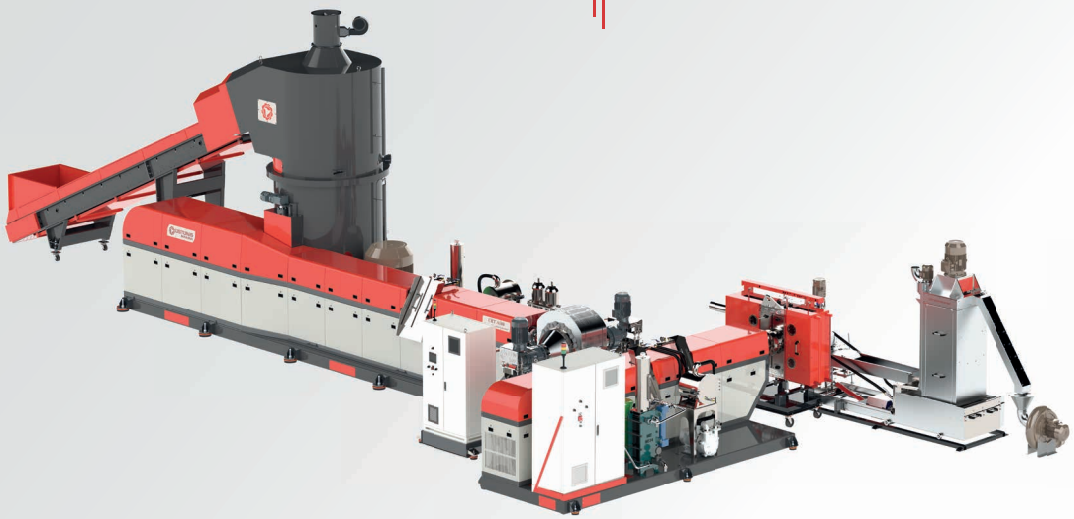
When the melt reaches the *die plate, designed according to the specific process conditions, it is pelletized by specially engineered cutting blades. **The geometry of the die plate is tailored to the material's characteristics and flow behavior*, ensuring that the melt exits the die surface smoothly, consistently, and uniformly before being pelletized.

All pelletizer units operate based on the *hot-face cutting principle, where the melt is maintained at a stable temperature directly on the die surface and the blades cut the pellets at the precise moment of discharge. This principle ensures that the resulting pellets are **uniform in size, consistent in shape, and high in surface quality*.

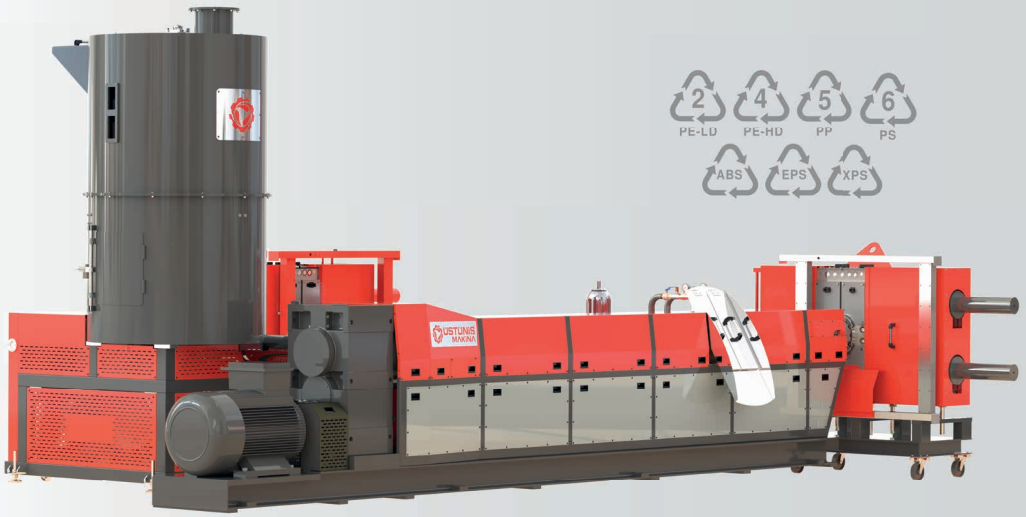
The freshly cut pellets are efficiently dewatered using a *high-speed centrifugal drying system, which removes surface moisture with high efficiency. As a result, the line produces **free-flowing, dust-free, high-quality pellets with strong commercial value*.

Üstüniş Makina pelletizer units deliver high capacity, stable performance, and long service life across a wide range of materials including PE, PP, PS, ABS, and PET, as well as technical polymers and mineral-filled compounds. With specially designed die plate geometries, durable blade systems, and advanced automation infrastructure, the system provides continuous, reliable, and high-standard pelletizing performance for demanding production environments.

AUTOMATIC GRANULATION SYSTEM



GRANULE EXTRUDER (SIDE FEED)



CASCADE EXTRUDER - STATE OF ART DEGASSING TECHNOLOGY

Sealed Degassing Cascade (Second Stage) Extruder Advantages

Closed-type second-stage extruder systems are ideal for processing transparent or color-sensitive materials. Since the molten plastic does not come into contact with air, issues such as discoloration, oxidation, or burning are effectively prevented. Controlled gas removal and stable melt pressure ensure a consistent and reliable extrusion process. The vacuum-assisted degassing system minimizes emissions and improves energy efficiency. A steady flow before filtration enhances the overall filtration performance. The closed design not only improves product quality but also contributes to operator safety and better environmental control.

Side feeding extruder systems are designed for efficient processing of low bulk density materials. A secondary screw feeder mounted on the side of the main extruder screw enables the stable and consistent feeding of lightweight materials such as film flakes, foam, or textile-based production waste. Inside the side feeding hopper, an integrated agitator prevents bridging and ensures a continuous flow of material. This setup allows the main extruder to operate steadily without interruptions or feeding fluctuations. Additionally, additives or secondary material streams can be easily introduced through the side feeder. Side feeding extruders offer reliable and flexible solutions for recycling applications.

MODEL	G 105	G 125	G 150	G 160	G 180
Screw Diameter (mm)	105	125	150	160	180
Screw (L/D)	24/38/47	24/38/47	24/38/47	24/38/47	24/38/47
Maximum Power (kw)*	190	237	295	360	450
Maximum Throughput (kg/h)*	500	750	1000	1200	1500

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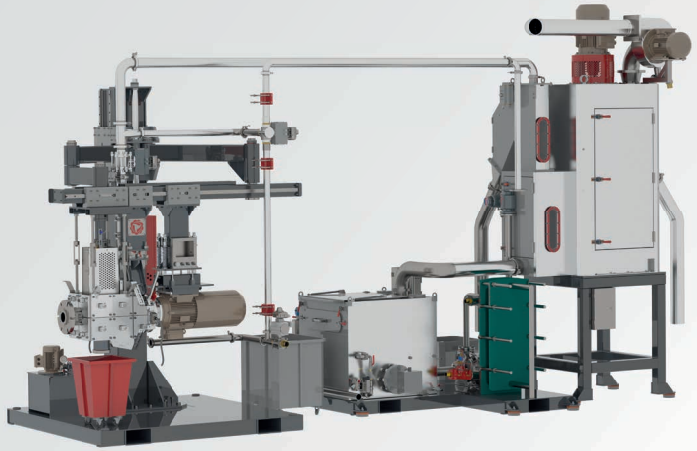
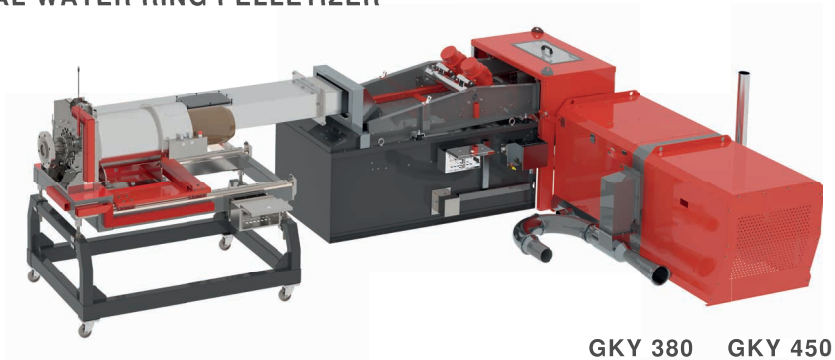
PELLETIZERS

UNDERWATER PELLETIZER



Pelletizers are used for cutting plastic melt into granular form. Underwater Pelletizers, Vertical or Horizontal Water Ring Pelletizers are chosen according to type and viscosity of plastics. All pelletizers are equipped with integrated centrifugal dryers. Pelletizers are capable of pelletizing PE, PP, PS, ABS, PET with different capacities.

HORIZONAL WATER RING PELLETIZER



MODEL	GKY 380	GKY 450
Centrifuge Dimensions (mm)	Ø270*730	Ø320*730
Pelletizer Diameter (mm)	380	450
Installed Power (kW)*	21	25
Vibrating Screen Dimensions (mm)	400*2100	530*210
Maximum Throughput (kg/h)*	1000	2000

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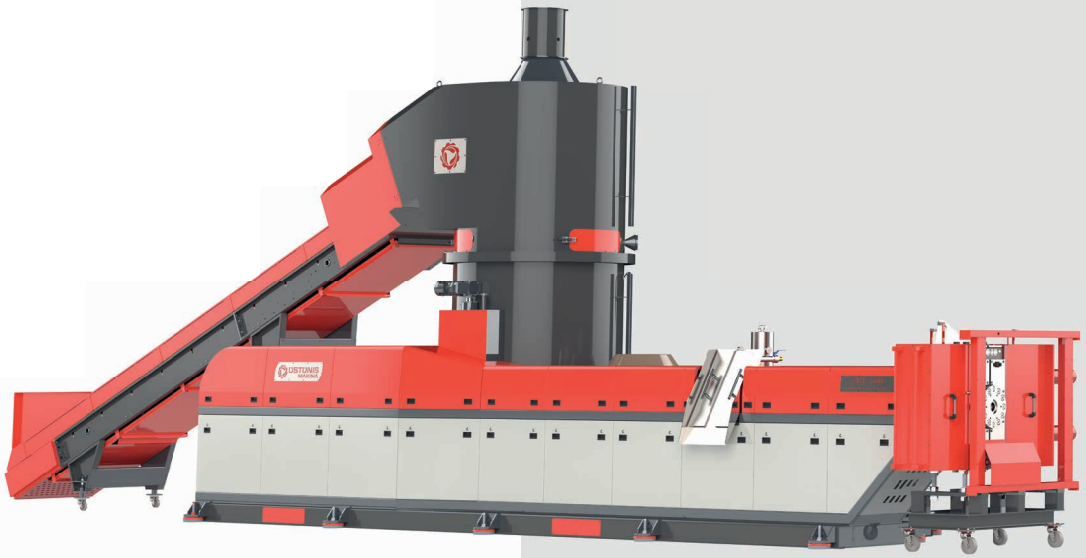
* May differ according to type of plastics.

VERTICAL WATER RING PELLETIZER

MODEL	GK 200	GK 320	GK 430
Centrifuge Dimensions (mm)	Ø200*100	Ø320*1500	Ø430*1500
Installed Power (kW)*	17	24	24
Steam Fan	O	S	S
Maximum Throughput (kg/h)*	400	800	1800
S: Standart O: Optional			

MELT FILTRATION SYSTEMS



Screen Changers are used at extruders. By using special screens, filters are used for cleaning contaminants in melt (sand, metal, different plastics) which reduce granule quality. Plastic Melt Filters are made of special alloy steel suitable for high pressure and temperature. Melt Filters are hardened by PTA hard welding. Single Plate and Double Plate models are suitable for manual operation. Filter diameter is chosen according to contaminants, type of plastic and extruder capacity.

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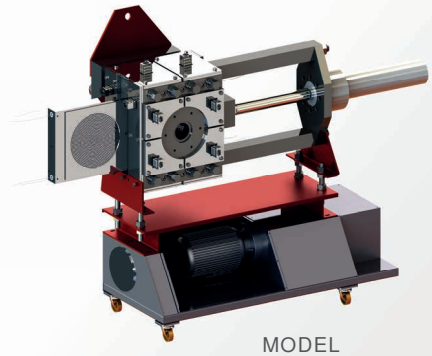
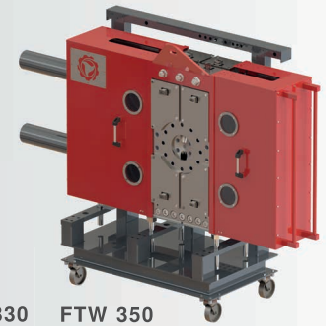


FTS SINGLE PLATE SCREEN CHANGERS

MODEL	FTS 200	FTS 250	FTS 300	FTS 350
Screen Diameter (mm)	200	250	300	350
Screen Qty	2	2	2	2
Maximum Throughput (kg/h)*	1000	1600	2000	2500

FTW DOUBLE PLATE SCREEN CHANGERS



MODEL	FTW 200	FTW 250	FTW 300	FTW 330	FTW 350
Screen Diameter (mm)	200*2	250*2	300*2	330*2	350*2
Screen Qty	4	4	4	4	4
Maximum Throughput (kg/h)*	2500	3200	4250	5000	5500

FTB BACKFLUSH FILTER

MODEL	FTB 150	FTB 170	FTB 200
Screen Diameter (mm)	110	135	160
Cylinder (mm)	150	170	200
Maximum Throughput (kg/h)*	800	1000	1400

BEXMAC®

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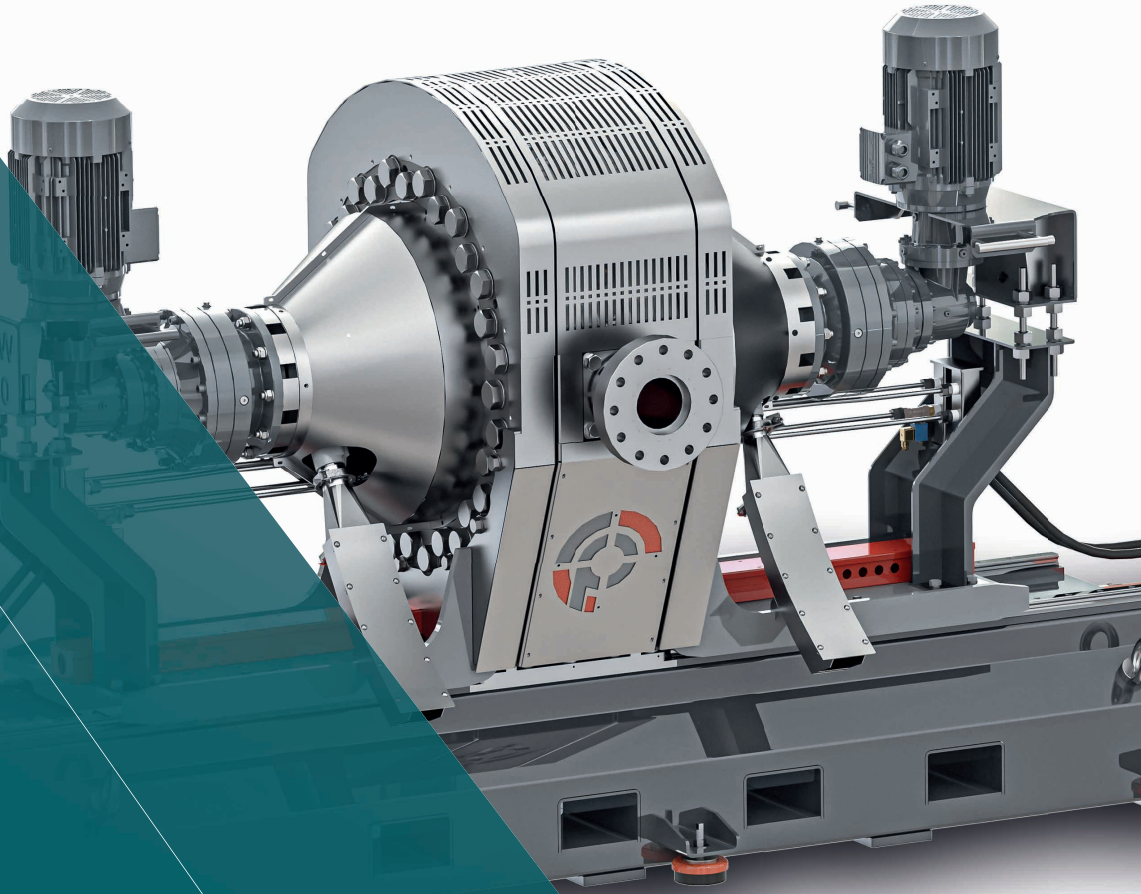
Polymer Melt Filtration

PolyFil®

Continuous Self Cleaning Laser Filter



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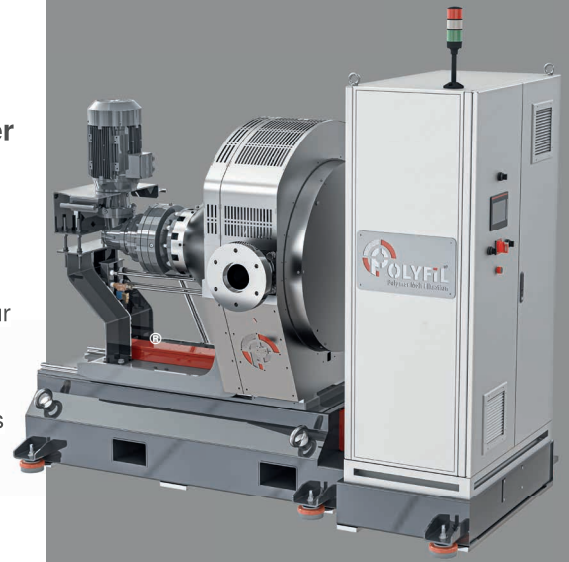
Continuous Self - Cleaning Laser Filter

Uninterrupted and Automatic Cleaning

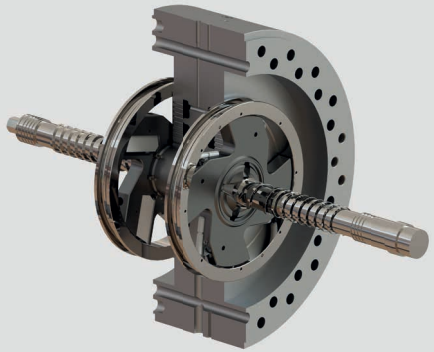
Our machine continuously and fully automatically filters contaminants such as paper, wood, and high-temperature melting plastics from the plastic melt coming from the extruder. This advanced technology enables uninterrupted operation in your production processes and significantly enhances your product quality. The automatic filtration, requiring no operator intervention, helps you save time and increase labor efficiency. The continuous filtration feature minimizes downtime in your production line, maximizing operational efficiency.



Four Scraper Blade Technology

High Filtration Efficiency: Developed with our patented technology, the four scraper blades effectively clean contaminants accumulated on the screen surface, preventing the clogging of screen holes and enhancing the screen's service life and filtration quality.

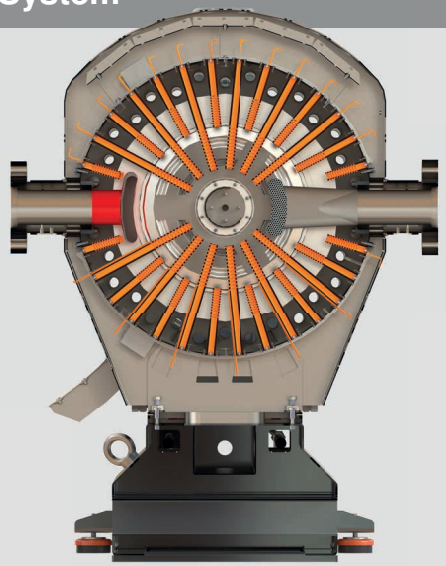
Reduced Maintenance Frequency: In our patented system, the increased number of blades reduces wear per blade, extending their lifespan to 12-14 days. This extends replacement intervals, reduces maintenance frequency, and improves operational efficiency.

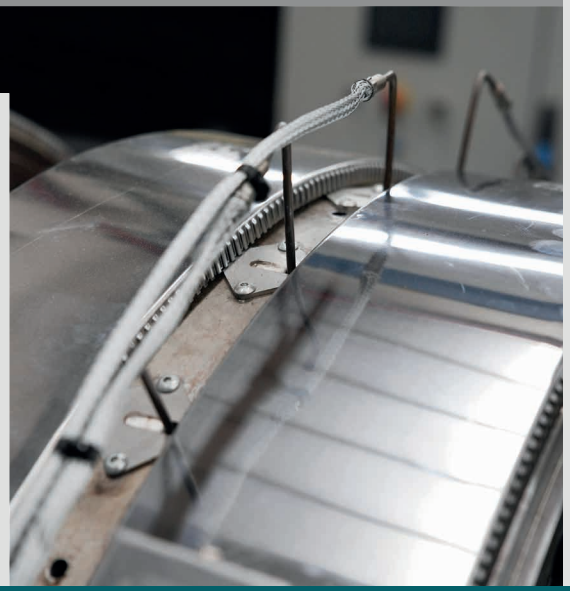


Key Advantages of the Core Heat® System

Faster Heating Time

Filtration machines typically require long heating times. Equipped with our patented Core Heat® System, our filter offers up to 50% faster heating compared to traditional systems. This system, which ensures efficient heating to the core of the body, accelerates your production processes and enables seamless, uninterrupted operation.



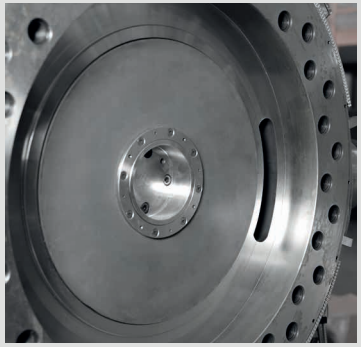


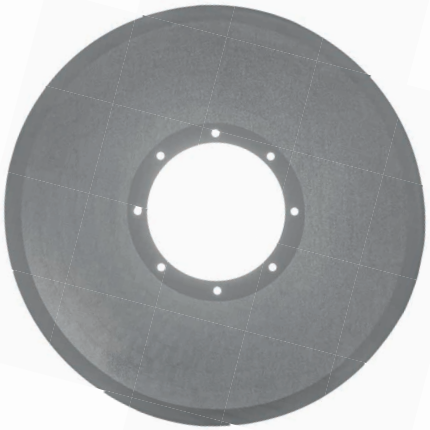
Efficiency During Long Idle Periods

In conventional systems, only the surface of the filter body is heated, which requires significant preparation after long idle periods. Residual molten plastic solidifies inside, rendering the machine inoperable. This necessitates disassembling the machine, removing the blades and screens, cleaning the parts by heating, and reassembling them—a process that causes substantial time loss. With our filter, however, the patented Core Heat® System provides efficient heating to the core of the body. As a result, the need for disassembly and cleaning is eliminated, and the machine becomes ready for operation quickly.

LASER SCREEN

Our specially designed steel screen, featuring high hardness and wear resistance, ensures a long service life under challenging working conditions. Manufactured using advanced laser cutting technology, its precise conical holes provide superior filtration and separation performance. The conical structure optimizes material flow, minimizing the risk of clogging and enabling high-precision separation. This design enhances material fluidity while maintaining dimensional accuracy during separation, maximizing efficiency. With its heat-treated and reinforced structure, it offers dimensional stability and durability. Combining quality and efficiency, this product stands out in laser filter applications.

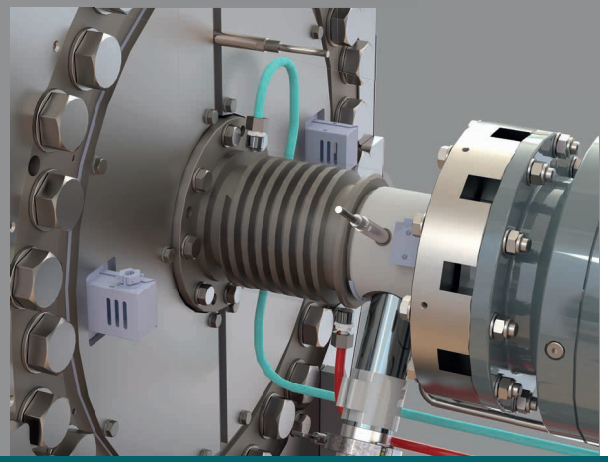




From 120 µm to 350 µm

WASTE COOLER

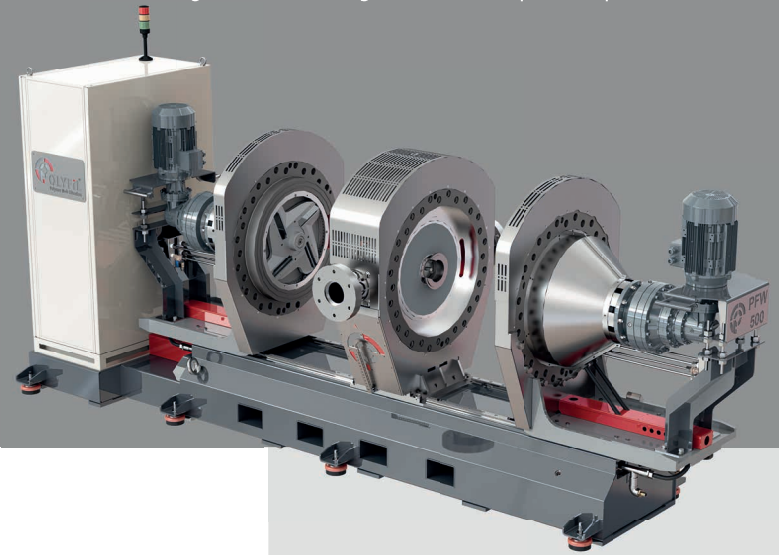
The waste cooler system efficiently converts molten waste plastics from liquid to semi-solid form, enabling effective discharge.
Very low melt losses even at high contamination levels.



Key Advantages of the Rail Cleaning

Enhanced Workplace Safety and Expanded Working Area

Our patented Rail Cleaning System technology ensures the safe and controlled opening of the filter body as it moves along rails. This eliminates the risk of collisions and burns that can occur with crane systems, providing a wider and safer workspace.
This innovative system accelerates maintenance and repair processes, making them effortless. It reduces maintenance and cleaning times, ensuring minimal disruption to production.



Benefits

- Fully Automatic and Continuous Operation: The PolyFil® Laser Filter is designed for uninterrupted production with fully automatic operation.
- Extremely Low Melt Losses: Ensures high efficiency with minimal material loss.
- Stable Pressure: Provides a more reliable process with consistent pressure at the filter outlet.
- Specially Cooled Melt Waste Screw: Equipped with a dedicated cooling system to efficiently manage melt waste.
- Long-Lasting Filter: Can operate for weeks without the need for screen replacement, depending on the material and application.
- Completely Closed System: Prevents air entrapment with its fully enclosed design, enhancing process safety.

Applications and Melt Loss Data

PolyFil® Laser Filter ensures effective separation of various contaminants in recycling processes while minimizing melt loss. The table presents materials used in different applications, associated contaminants, and melt loss rates.

Applications	Material	Contaminants	Melt Loss
Bigbag	PP	Polyester, dust, paper, %3	%1-2
Cosmetic Packaging	HDPE	Paper, %1-3	%1-2
Household Waste	PE/PP	Paper,wood, other polymers, rubber, %3-5	%3-4
Pipes	PE/PE	Aluminum%1, low-melting polymers %5	%3-4
Nonwoven / Diapers	PP	Silicones, rubber, %3-4	%2-3
Recycled Bumpers	PP/EPDM	Paint, rubber, %2-3	%1-2
Detergent Bottles	HDPE	Paper, aluminum, %1-2	%1-1,5
Polystyrene Sheets	PS	EPS, wood, %2-3	%1,5-2
Bottle Caps	HDPE	PET, paper, %2-5	%2-4
Printed Food Packaging	BOPP	Laminated aluminum, paper, wood, %2	%1-2
Packaging Film	LDPE	Paper, %1-2	%1-1,5

TECHNICAL DATA AND MACHINE CONFIGURATION

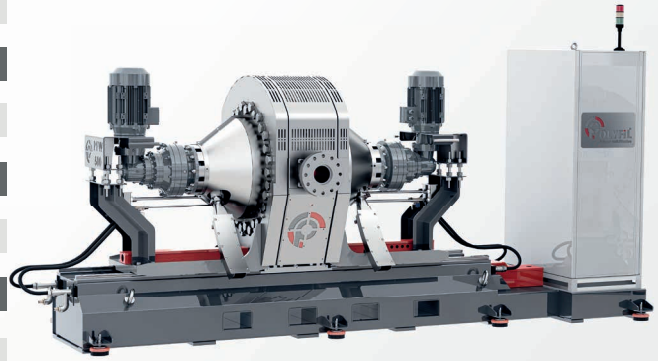
PolyFil®Laser Filter

Model	Filter Diameter (mm)	Disc Amount	Effective Filtration Area (cm²)	Optimum Capacity ±%20	Installed Power (kW)	Effective Outer Diameter (mm)
PFS 300	Ø300	1	593	200-400 Kg/h	35 kW	300 mm
PFS 400	Ø400	1	1029	300-500 Kg/h	39 kW	400 mm
PFS 500	Ø500	1	1736	400-800 Kg/h	40 kW	500 mm
PFW 400	Ø400	2	2058	700-1500 Kg/h	45 kW	400 mm
PFW 500	Ø500	2	3471	1000-2000 Kg/h	59 kW	500 mm

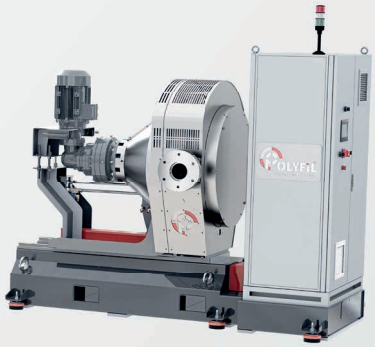
POLYFiL
Polymer Melt Filtration

Custom-Produced Filter Solutions for Polyfil®

The filter elements specifically designed for our automatic filter system Polyfil® are manufactured in our own facility using high-precision laser technology. Combining quality and durability, these filters ensure maximum performance.



PFW 400-500



PFS 300-500

PolyFil by Ustunis Makina meets the demands of the industry with its custom-manufactured filter solutions.

BEXMAC®

USTUNIS® MAKINA

PLASTIC

SIZE REDUCTION SYSTEMS

Plastic Recycling Systems

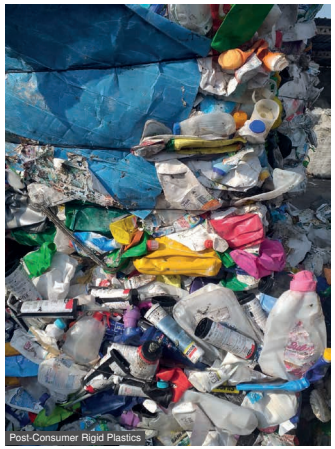
www.ustunismakina.com.tr
www.bexmac.com

APPLICATIONS

Plastic

Our shredders are designed to process a wide range of plastic waste, providing effective and reliable solutions for recycling processes. The materials we can handle include baled big bags and bulk bags, BOPP packaging rolls, compressed film plastics, plastic pipes, compressed IBC containers, plastic drums, edge trims and strips, plastic blocks, scraps, post-consumer rigid plastics, polyester, agricultural films, and greenhouse films. Our products are engineered to deliver maximum performance in turning plastic waste into recyclable materials.

SHRED 'EM ALL!


Post-Consumer Rigid Plastics


Agricultural Film,Greenhouse Film


Trim Waste-Strips


Compressed IBC containers


Plastic Drums


Compressed Film Plastics


Baled Big Bags and Bulk Bags


BOPP Packaging Rolls


Plastic Pipes


Plastic Crates


Plastic lumps and Purgings

Wood

Wood is a valuable resource for both recycling and energy production. Shredded wood waste can be used for heat energy generation or transformed into briquettes.
Our systems efficiently process a wide range of materials, from old wood to OSB and MDF scraps, plywood, and pallets. Foreign objects such as nails and screws are easily separated using magnets, ensuring an optimized recycling process.
Our machines provide an eco-friendly and cost-effective solution by processing all types of hard and soft wood waste with high efficiency.

Applications
Paper and Cardboard

Paper and cardboard are among the most important raw materials in recycling, playing a vital role in eco-friendly solutions. Especially in today's rapidly growing e-commerce industry, the sustainable disposal of corrugated cardboard and paper-based materials has become a critical necessity, offering both economic and environmental benefits.
Our shredders can efficiently process a wide range of materials, including waste paper, documents, paper rolls, cardboard, filter paper, labels, books, and packaging. These systems enable the effective size reduction of paper waste, accelerating the recycling process.
Recycling paper and cardboard not only reduces the negative impact on the environment but also allows these materials to be repurposed for new uses, such as energy generation. This creates long-term benefits for both businesses and the environment.

APPLICATIONS

Waste and Alternative Fuel Solustions

These innovative systems provide effective solutions for waste management, whether as standalone equipment or integrated into production lines. They can efficiently process various types of waste, including industrial and commercial waste, municipal waste, bulky materials, and household waste. Designed for both single-stage and multi-stage processes, they adapt to a wide range of operational needs.

The processed material is ideal for producing high-calorific refuse-derived fuel (RDF), which offers a sustainable alternative for energy production. These robust shredders handle even large and bulky materials effortlessly, ensuring a more efficient recycling process. Additionally, such systems support energy savings and sustainability goals, contributing to environmentally friendly waste management practices.

separated, ensuring clean and reusable recycled materials.

Recycling paper and cardboard not only reduces the negative impact on the environment but also allows these materials to be repurposed for new uses, such as energy generation. This creates long-term benefits for both businesses and the environment.

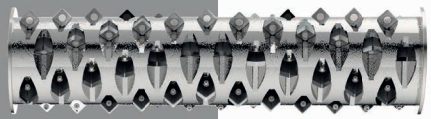
As one of the core components of shredding systems, rotors are designed to meet the needs of various materials and processing requirements. Each rotor model is tailored to deliver maximum efficiency and durability for specific applications.

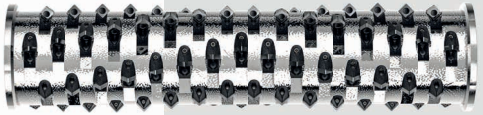
Versatile V-Knife Rotor Designed

Versatile rotor design for effective shredding of various plastic waste types

Cross-Cut Rotor

High-torque cutting ideal for tough, thick, and rigid plastic parts.





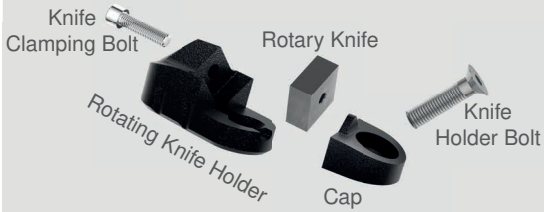
HeavyDuty Rotor

Reinforced rotor ideal for shredding metal-containing and extremely tough materials.

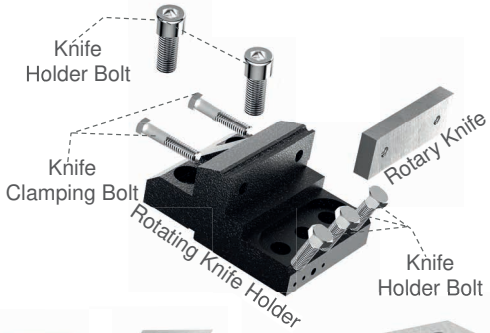
Flat - Edge Knife Rotor Designed

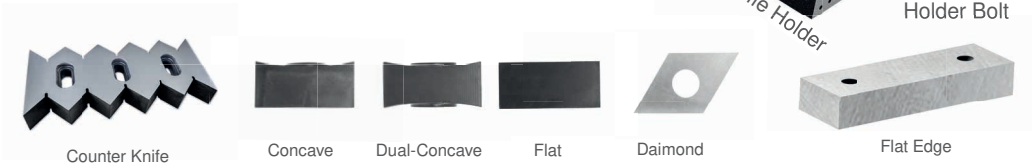
Straight blade layout designed for precise shredding and fine size reduction.

Rotary Knife and Holder Assembly



Rotary Knife and Holder Assembly

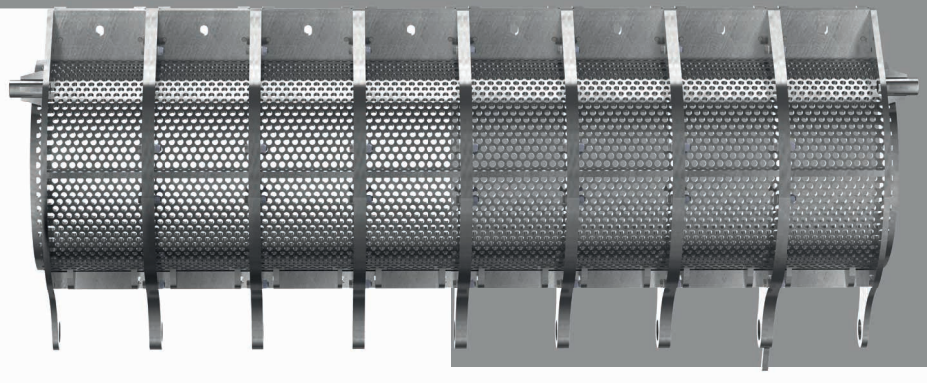




SCREEN SYSTEMS AND APPLICATIONS

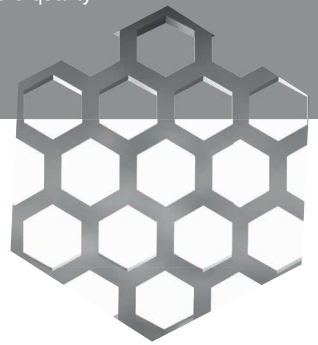
Screen Systems and Applications

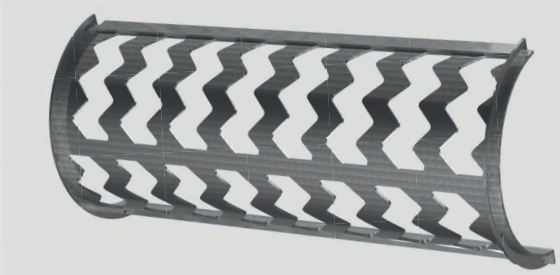
Screens are essential components in shredding processes, determining the size of the processed material. Placed below the rotor, these elements define the final particle size. Larger screen openings result in coarser material, while smaller openings produce finer outputs.



Honeycomb Screens

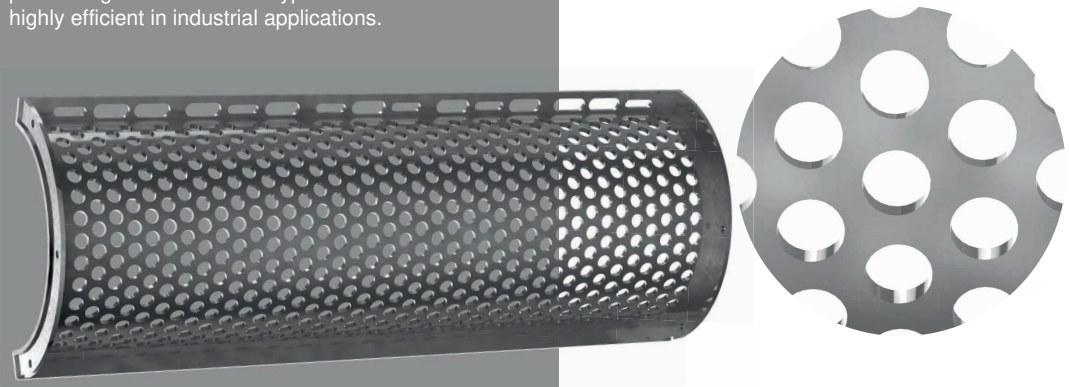
The honeycomb screen used in the shredder ensures uniform output size by guiding the material through precision-shaped openings. Its robust structure supports stable shredding while preventing oversize particles from passing through. The hexagonal hole pattern increases durability, improves throughput, and ensures consistent granule quality.





Standart Round Screens

Round-holed screens are known for their durability and versatility. With hole diameters ranging from 10 mm to 150 mm, they offer flexible solutions for processing various material types. This makes them highly efficient in industrial applications.

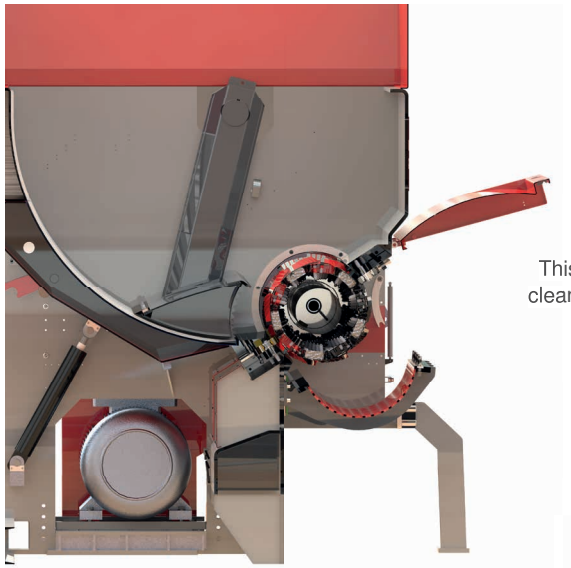


Zigzag Screens

Widely used in the plastics industry, zigzag screens offer an effective solution for shredding large bags and tough fibers. The design optimizes material flow and ensures uniform size reduction with uninterrupted processing. Screen openings can be adjusted according to the characteristics of the material, providing flexibility for different applications.

Screen Basket Solutions

Various screen basket designs have been developed to simplify machine maintenance and enhance user convenience. With movable and easily accessible structures, these designs offer flexible solutions for different operational needs. By providing practical advantages during screen changes, blade maintenance, or cleaning, they help reduce downtime and improve operator efficiency.

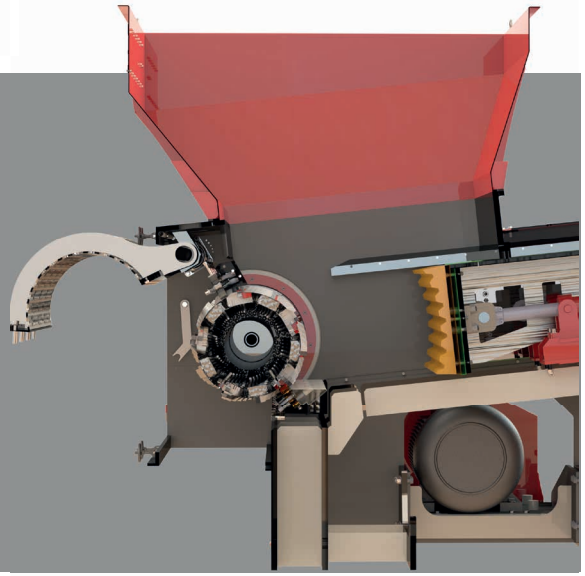


Drop-Down Screen

This basket can be lowered hydraulically, making cleaning and part replacement simple and efficient.

Lift-Up Screen

Equipped with a hydraulic mechanism, this model can be lifted upward for easy access and quick maintenance.



These designs provide optimal solutions tailored to the needs of your operation.

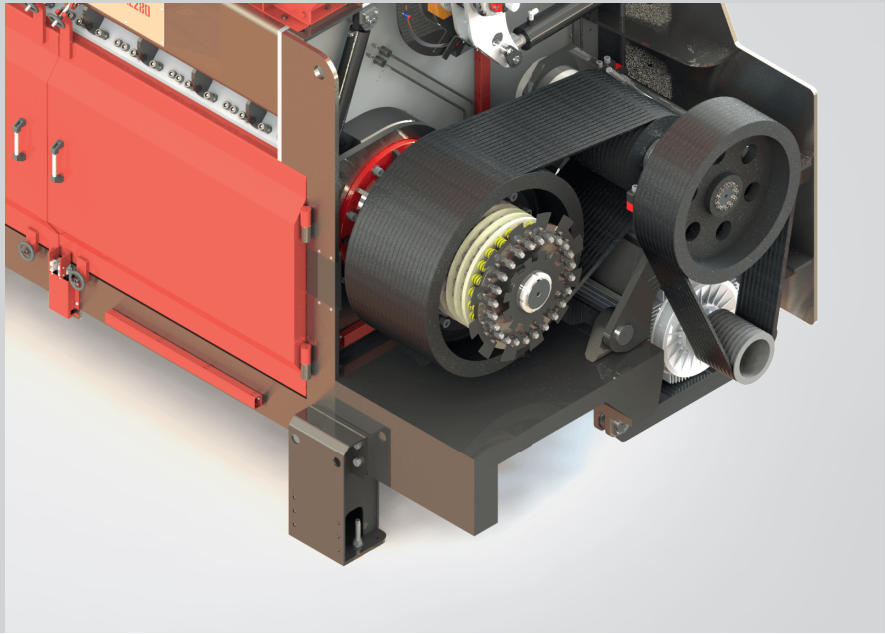
Robust and Flexible Drive Systems for Shredder Machines

Superior Performance in Challenging Operating Conditions

The drive systems used in shredder machines are designed to deliver maximum durability and efficiency for demanding shredding applications. These high-performance systems adapt to different operational requirements, ensuring reliable and long-lasting use.

Flywheel System

The flywheel system is an energy storage component integrated into the drive mechanism. In shredder machines, it enhances rotor stability by absorbing sudden load variations and increasing resistance to peak loads. With its high moment of inertia, the flywheel helps regulate energy fluctuations, ensuring smooth and continuous rotor operation. This system reduces sudden stress on the motor, prolonging the lifespan of mechanical components. It is particularly effective in handling high and variable material flows, improving overall efficiency.

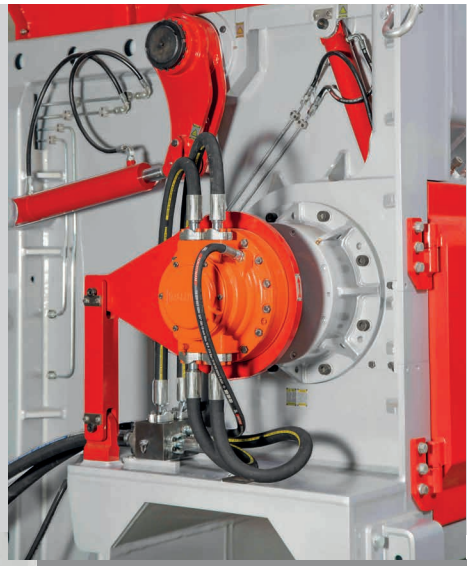


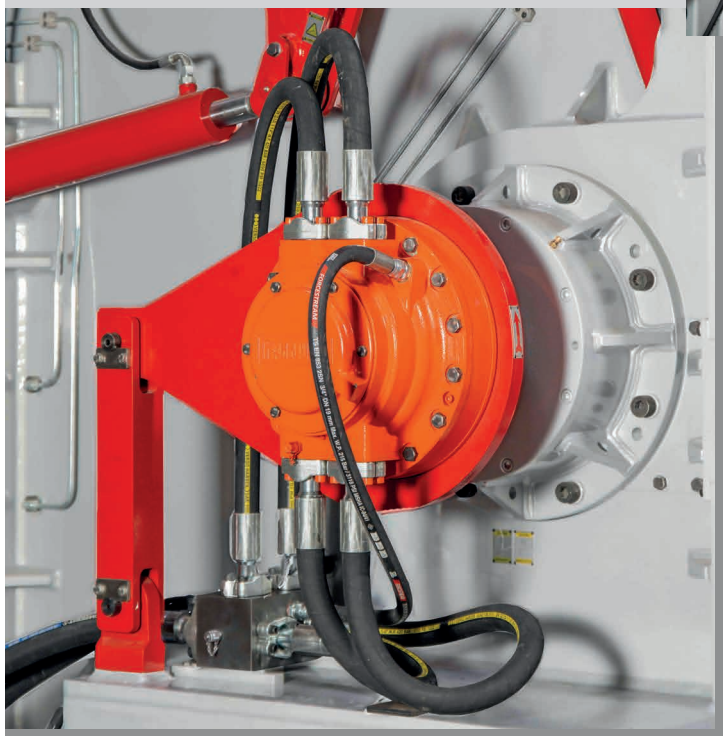
DRIVES

Hydraulic Motor Drive System

In applications requiring the shredding of dense and tough materials, hydraulic drive systems offer a robust and stable solution. Hydraulic power transmission delivers high torque and precise speed control, enabling efficient processing of demanding materials. Its shock-absorbing structure protects the system from sudden load changes, ensuring reliable performance under heavy-duty conditions.

Note: The hydraulic drive systems used in our shredder machines can be applied to all shredder models without



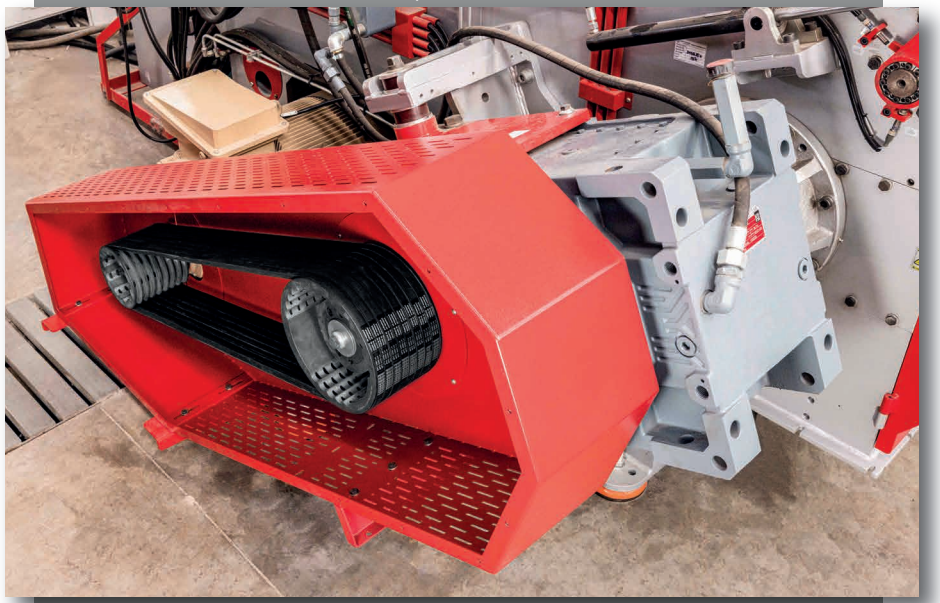


Gearbox Drive System

(Belt-Pulley Mechanism)

In standard shredding applications, high-durability gear drive systems are utilized. The belt and pulley mechanism distributes the load evenly between the motor and the rotor, preventing overloading and extending the lifespan of system components. Soft-start functionality reduces impact forces, ensuring smoother and more stable operation. Low maintenance requirements and energy efficiency provide long-term cost benefits.

Note: The gearbox drive systems used in our shredder machines are also compatible with all models and can be

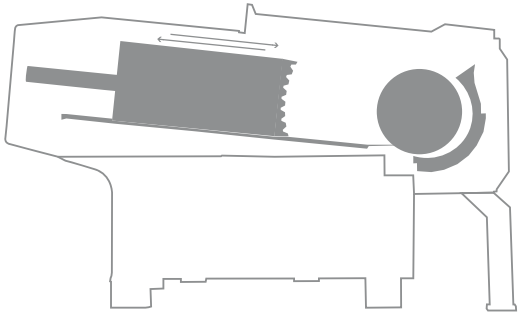


These drive system configurations are designed to ensure high-performance, efficient, and safe operation of shredder machines. Each option can be selected based on specific operational requirements, providing flexibility and durability in industrial shredding applications.

HYDRAULIC PUSHER SYSTEMS

Linear Ram Pusher

The linear ram pusher is a classic hydraulic system that moves back and forth to feed material toward the rotor. It ensures steady and controlled contact between the material and the cutting chamber. This design offers reliable and balanced feeding performance for a wide range of plastic types and shapes..



R-Type Rams and Their Advantages

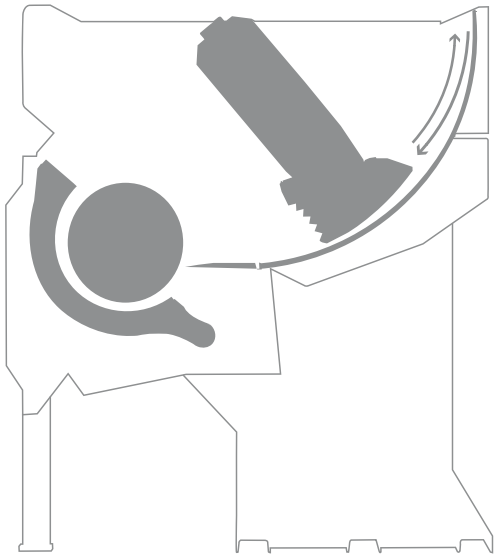
Linear pushers maintain consistent material flow even in high-torque operations. They prevent capacity loss, balance rotor load, and contribute to energy efficiency.

Swing-Type Pusher

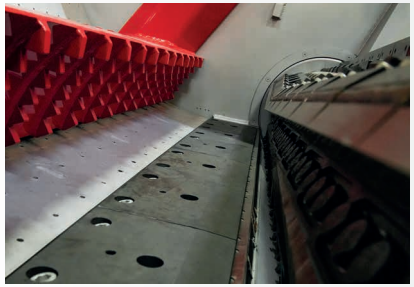
The swing-type pusher directs material into the cutting zone with a radial movement. This design is particularly effective for bulky, irregularly shaped, or low-density materials. The system swings from a fixed pivot point to provide efficient feeding.

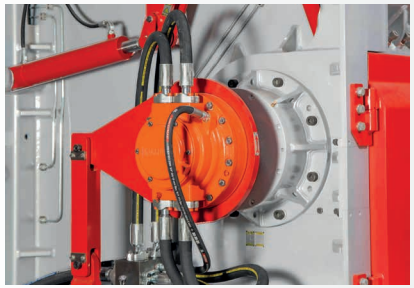
Optimized Feeding Technology with Swing Mechanism

The swing mechanism reduces bridging and prevents material jams. It ensures continuous contact with the rotor for improved throughput. In specific applications, it offers smoother operation and better energy efficiency compared to linear systems.



SINGLE ROTOR SHREDDERS





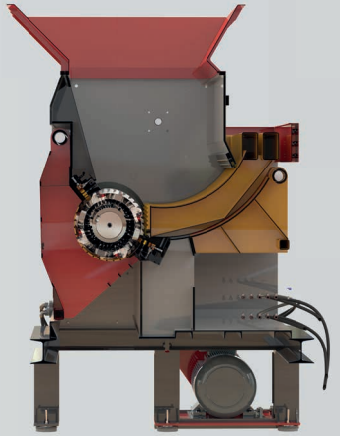
XL TYPE SHREDDERS

XL TYPE	XL 220	XL280	XL350
Rotor diameter (mm)	680	680	680
Rotor lenght (mm)	2200	2800	3500
Rotor speed (rpm)	10-140	10-140	10-140
Drive power (kW)	132*2 160*2	160*2 200*2	200*2 250*2
Number of knives (pcs)	54 60 69 144	69 80 93 188	90 100 117 240
Rotating knife size (mm)	57*172*28 87*87*28 65*65*28 43*43*20	57*172*28 87*87*28 65*65*28 43*43*20	57*172*28 87*87*28 65*65*28 43*43*20
Screen hole diameter (mm)	10-100	10-100	10-100
Hopper chamber (mm)	2321 x 3310	2321 x 4000	2321 x 4690
Shredding chamber (mm)	2200 x 1000	2800 x 1000	3500 x 1000
Width (mm)	2095	2718	3048
Lenght (mm)	5078	5768	6458
Height (mm)	4300	4300	4300
Weight (approx. kg)	20100	30753	41620

Technical details are for information only. Producer reserves right to change catalogue data without notice.

X TYPE SHREDDERS

X TYPE	X 150	X 200	X 250	X 300
Rotor diameter (mm)	640	640	640	640
Rotor lenght (mm)	1500	2000	2500	3000
Rotor speed (rpm)	10-140	10-140	10-140	10-140
Drive power (kW)	200-250 132*2	132*2 160*2	160*2 200*2	160*2 200*2 250*2
Number of knives (pcs)	20 96 48	57 78 140 155	72 96 175 195	87 114 210 235
Rotating knife size (mm)	115*115*37 80*80*28 50*50*22 60*60*25	80*80*28 60*60*25 50*50*22 43*43*20	80*80*28 60*60*25 50*50*22 43*43*20	115*115 80*80 60*60 50*50
Screen hole diameter (mm)	10-100	10-100	10-100	20-150
Hopper chamber (mm)	2028 x 2027	2028 x 2417	2028 x 2808	2028 x 3198
Shredding chamber (mm)	1500 x 868	2000 x 891	2500 x 915	3000 x 891
Width (mm)	2590	2590	2590	2590
Lenght (mm)	5330	5768	6600	7400
Height (mm)	4035	4035	4035	4035
Weight (approx. kg)	19076	21819	24563	27306



Technical details are for information only. Producer reserves right to change catalogue data without notice.

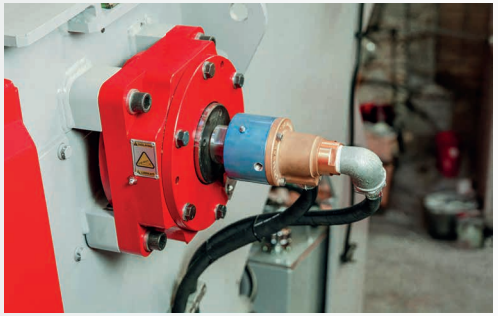
R TYPE SHREDDERS

R TYPE	R100	R120	R150	R+120	R+150	R+200
Rotor diameter (mm)	460	460	460	590	590	590
Rotor lenght (mm)	1000	1200	1500	1200	1500	2000
Rotor speed (rpm)	30-120	30-110	30-100	30-110	30-100	30-90
Drive power (kW)	132	160	200	160	200	160x2
Number of knives (pcs)	45 72	60	75	60-80 54-72 120	78-104 75-96 160	140 96-128 78-104
Rotating knife size (mm)	61x39 43x43	43x43	43x43	61x39 50x50 43x43	61x39 50x50 43x43	60x60 50x50 43x43
Screen hole diameter (mm)	20-100	20-100	20-100	20-100	20-100	20-100
Hopper chamber (mm)	1715 x 2100	1975 x 2100	2270 x 2100	1975 x 2100	2350 x 2100	2860 x 2100
Shredding chamber (mm)	1000 x 1200	1200 x 1200	1500 x 1200	2000 x 1200	1500 x 1200	2000 x 1200
Width (mm)	2800	3100	3400	3100	3400	4500
Lenght (mm)	4400	4400	4400	4500	4500	4500
Height (mm)	2600	2600	2600	3000	3000	3200
Weight (approx. kg)	9500	13000	14000	15000	16500	22800

Technical details are for information only. Producer reserves right to change catalogue data without notice.

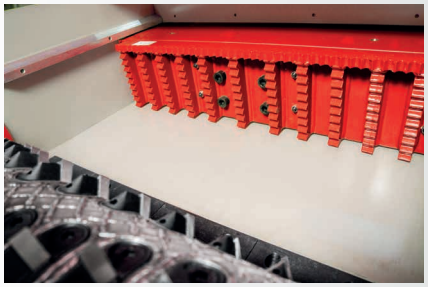
S TYPE SHREDDERS

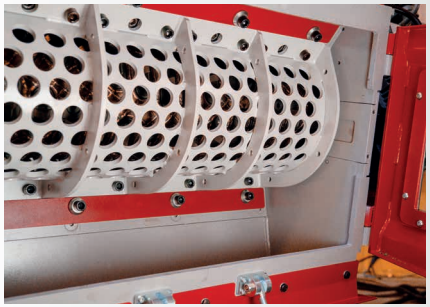
S TYPE	S 120	S 150
Rotor diameter (mm)	600	600
Rotor lenght (mm)	1200	1500
Rotor speed (rpm)	30-110	30-100
Drive power (kW)	160	200
Number of knives (pcs)	54 60 72 80 90 100 120 150	72 78 96 104 120 130 160 200
Rotating knife size (mm)	50*50*22 43*43*20 38,5*60,5*20	50*50*22 43*43*20 38,5*60,5*20
Screen hole diameter (mm)	10-100	10-100
Hopper chamber (mm)	2957 x 2385	2957 x 2760
Shredding chamber (mm)	2200 x 1000	2800 x 1000
Width (mm)	3000	3000
Lenght (mm)	3471	3916
Height (mm)	3440	3435
Weight (approx. kg)	12097	13785



Technical details are for information only. Producer reserves right to change catalogue data without notice.

E TYPE SHREDDERS



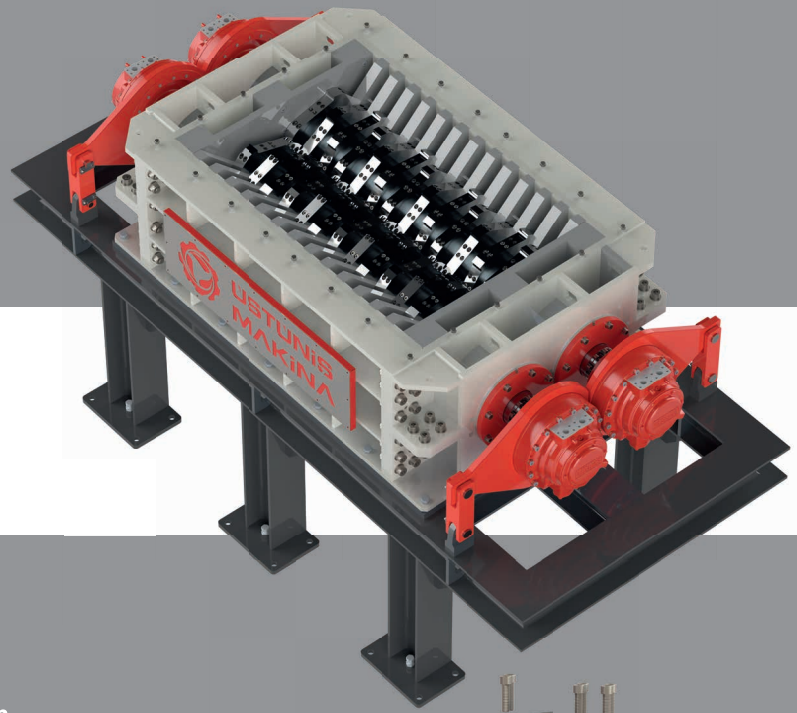


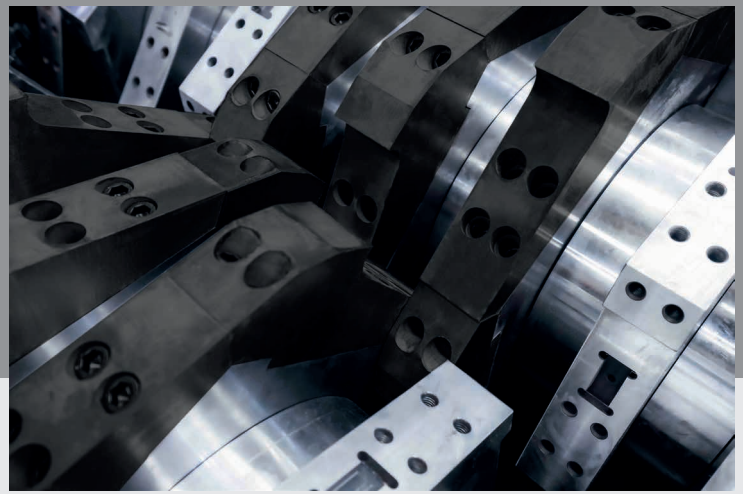
E TYPE	E 60	E 80	E 100
Rotor diameter (mm)	680	680	680
Rotor lenght (mm)	600	800	1000
Rotor speed (rpm)	30-140	30-140	30-140
Drive power (kW)	45	90	110
Number of knives (pcs)	63	84	105
Rotating knife size (mm)	30*52*15	30*52*15	30*52*15
Screen hole diameter (mm)	10-100	10-100	10-100
Hopper chamber (mm)	720 x 1483	940 x 1535	1170 x 1535
Shredding chamber (mm)	660 x 644	880 x 612	1110 x 635
Width (mm)	1683	2036	2405
Lenght (mm)	2673	2673	2673
Height (mm)	2367	2369	2367
Weight (approx. kg)	3562	4544	5753

Technical details are for information only. Producer reserves right to change catalogue data without notice.

DOUBLE ROTOR SHREDDERS

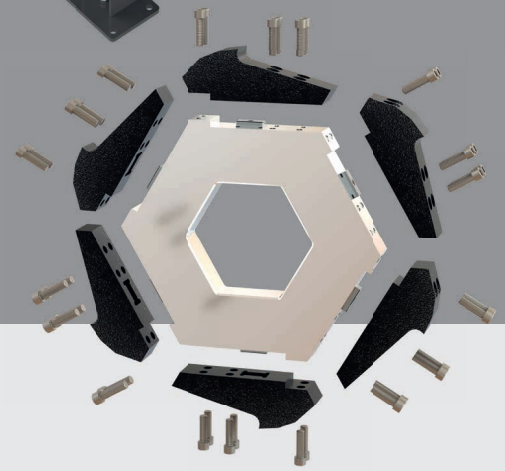
WR and WR+ series dual-rotor shredders are designed for demanding recycling applications requiring high torque and continuous performance.
The WR series, with its dual-motor configuration, ensures efficient shredding of medium-density materials such as plastics, RDF, and pallets.
The WR+ series, featuring a four-motor heavy-duty body, delivers superior performance in processing metals, aluminum, and mixed waste.
Both gearbox and hydraulic drive options provide compatibility with various material types.
With its durable blade structure and large hopper design, the WR series guarantees continuous, reliable, and long-lasting operation.





Modular Knife System

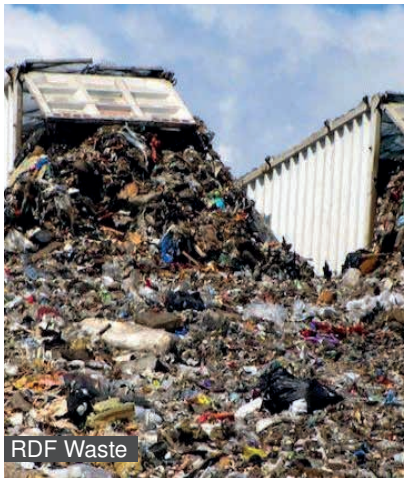
The modular knife system used in WR and WR+ shredders is designed to deliver uninterrupted performance even under heavy-duty conditions.
Each knife consists of replaceable modules mounted on a robust carrier body.
Only worn components are replaced, eliminating the need for complete rotor disassembly.
This design enables quick maintenance, minimizes downtime, and ensures long-lasting cutting precision.



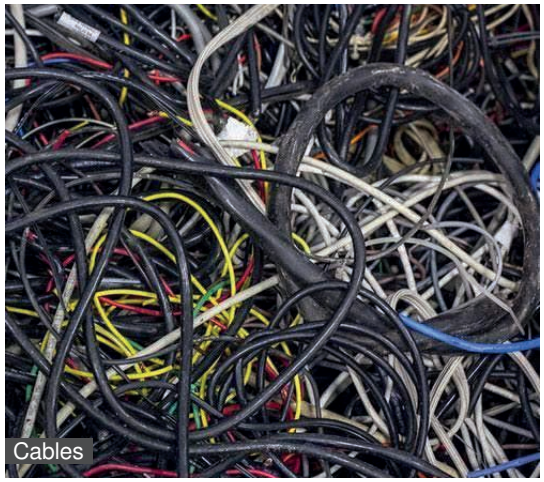
Rotor Design

The rotors used in WR and WR+ shredders are made of high-strength alloy steel to ensure maximum torque transmission and long service life.
Heat-treated cutting surfaces combined with a rigid body minimize vibration and deliver consistent performance even under demanding conditions.
The modular rotor design reduces maintenance time and increases efficiency, while its optimized cutting geometry ensures uniform particle size and continuous operation.


Tires


RDF Waste


Car Shells


Cables


Electronic Waste


Metal Barrels


Plastic Drums

DOUBLE SHAFT SHREDDERS

WR TYPE	WR800	WR1000	WR1200	WR+1000	WR+1500	WR+2000
Rotor diameter (mm)	350-450	350-450	350-450	600	600	600
Rotor lenght (mm)	800	1000	1200	1000	1500	2000
Rotor speed (rpm)	20-40	20-40	20-40	7-12	7-12	7-12
Drive power (kW)	45x2	55x2	55-75x2	75x2	90x2	100x2
Number of knives (pcs)	42x2	52x2	62x2	52x2	78x2	104x2
Rotating knife size (mm)	60x274x94	60x274x94	60x274x94	60x274x94	60x274x94	60x274x94
Hopper chamber (mm)	1062 x 1035	1328 x 1293	1594 x 1552	1328 x 1293	1992 x 1940	2656 x 2587
Shredding chamber (mm)	557 x 835	696 x 1044	835 x 1253	696 x 1044	1044 x 1566	1392 x 2088
Width (mm)	1118	1397	1677	1397	2096	2795
Lenght (mm)	2091	2613	3136	2613	3920	5227
Height (mm)	3000	3000	3000	3000	3000	4000

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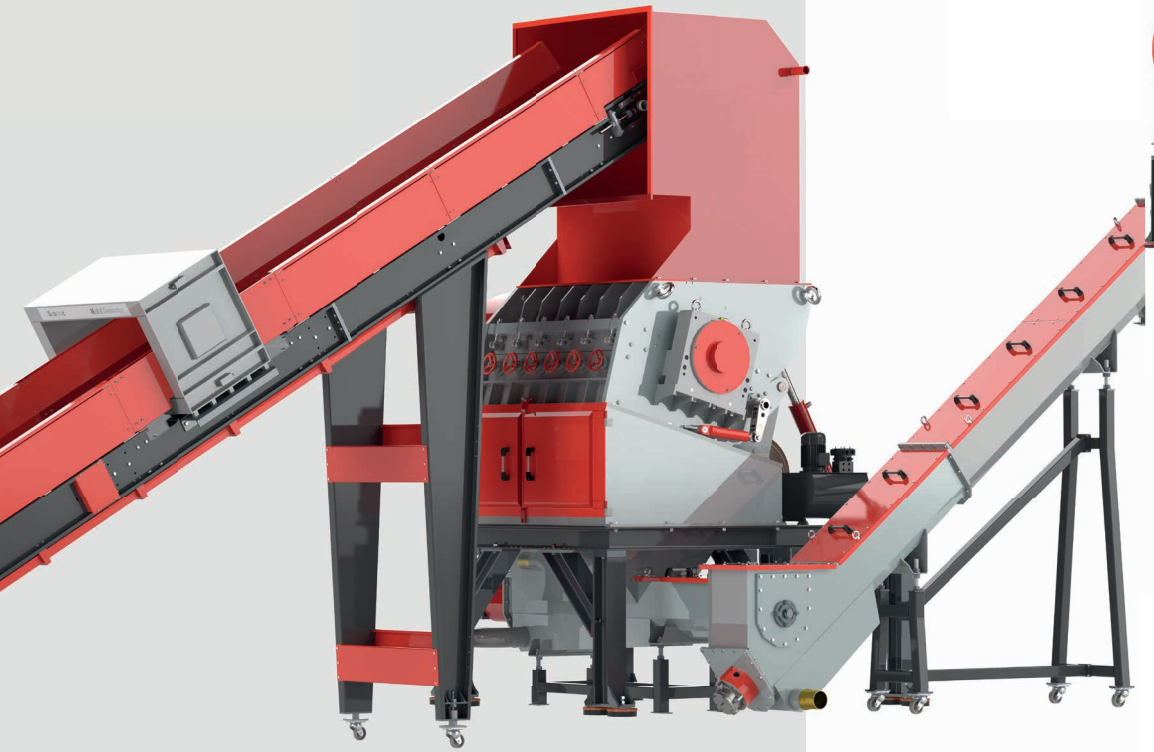
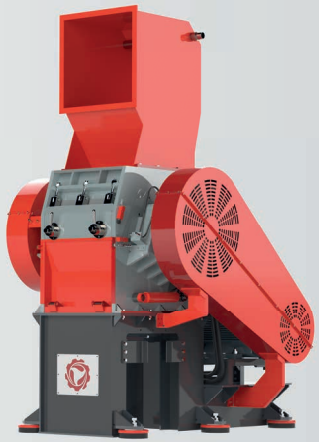
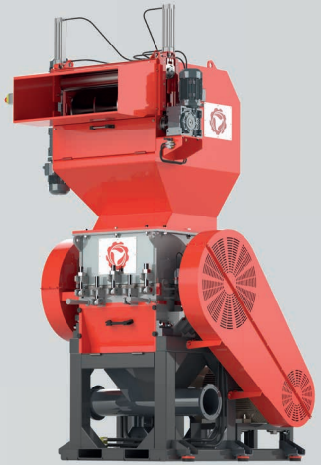
PLASTIC GRANULATOR (GRINDER)



WET GRANULATOR



DRY GRANULATOR



SHETT GRANULATOR

Plastic Granulators are used for size reduction of plastic waste and scraps by rotating and fixed blades. All types of plastic scrap can be grinded with high capacity by blades and rotor which are chosen according to type and form of plastic. Bearings are insulated outside of the grinding chamber so wet grinding with water is available. Heavy duty bearings can easily handle grinding process. Blades are made of special alloy steel and can be multiused. Screen type is chosen according to the type and form of plastic.

MODEL	**GRD** 40	**GRD** 50	**GRD** 60	**GRD** 70	**GRD** 80	**GRD** 100	**GRD** 120	**GRD** 150	**GRD** 200
Rotor Length(mm)	400	500	600	700	800	1000	1200	1500	2000
Rotor Diameter(~mm)	200-350	300-450	350-500	400-600	400-650	500-800	550-900	600-1100	7006-1200
Blade Length(mm)	100-200	100-250	200-300	350	200-400	250-500	400-600	250-500	200-500
Rotating Blade Qty	6-12	6-15	6-10	6-10	6-12	6-14	6-18	9-27	12-90
Fixed Blade Qty	4	4	4	4	4-6	4-6	4-6	6-9	8-12
Power(kW)	15-22	22-30	37-45	45-55	75-90	90-132	110-160	132-250	132-320
Weight(kg)	2700	3250	4250	5000	6700	9500	11500	14000	18000

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PLASTIC

WASHING AND DEWATERING SYSTEMS

Plastic Recycling Systems

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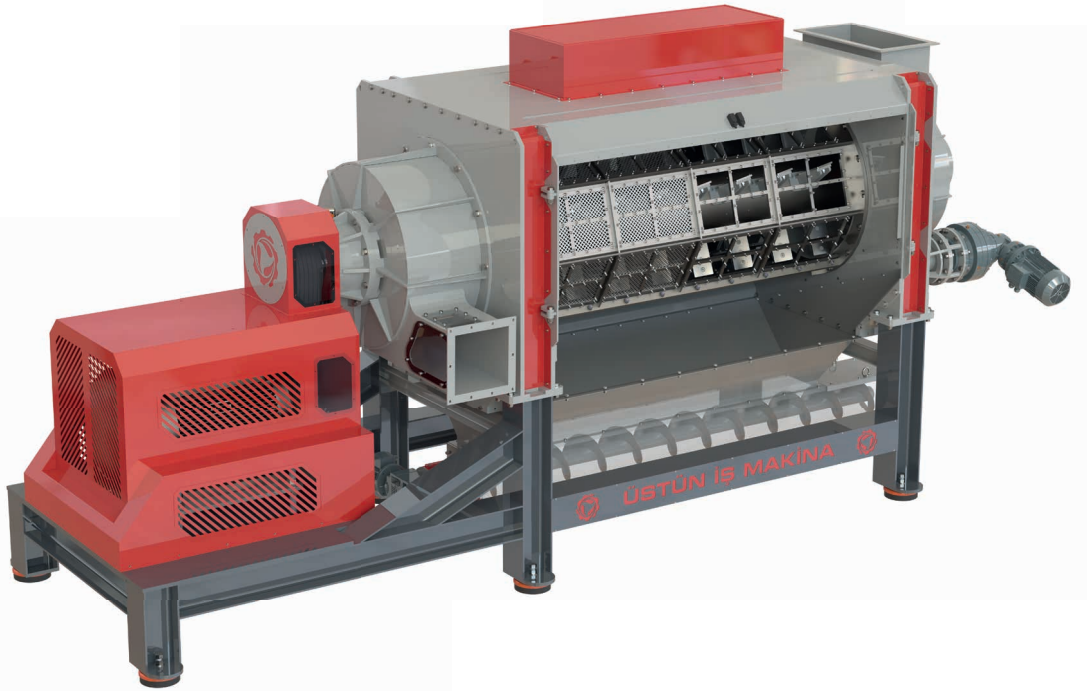
TURBO WASHERS AND TURBO DRYERS



Turbo Washer are used especially for cleaning film plastics. Improved rotor wings and screen desing, big sized fast rotating rotor provides maximum friction effect. Designed for removingstiky contaminants on plastics. Turbo Dryers are used for drying plastics with high speed and specially designed rotor. Easily accesible screen minimizes cleaning and maintenance duration.

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Improved Rotor Wings and Screen Design, Big Sized Fast Rotating Rotor

MODEL	TW 1560	TW 1590	TW 2090	TW 2012	TW 3090
Rotor Diameter(mm)	600	900	900	1200	900
Rotor Lenght(mm)	1500	1500	2000	2000	3000
Power(kw)	45-75	55-110	132-200	160-200	200-315

FILM DRYERS

The most efficient drying and compacting system for film (flexible) plastics. Friction occurred by the specially designed screw dewaters and softens the plastics, and softened plastics are cut into flakes by the rotating blades after the die plate. Flakes are cooled by air and transferred to the next step.

0,5 – 2% residual humidity is guaranteed even for the thinnest film.

MODEL	DRY 330	DRY 430
Screw Diameter(mm)	330	430
Power(kw)*	132-200	200-250
Throughput(kg/h)*	500-800	1000-1500
Residual Humidity(~%)	0,5-2	0,5-2

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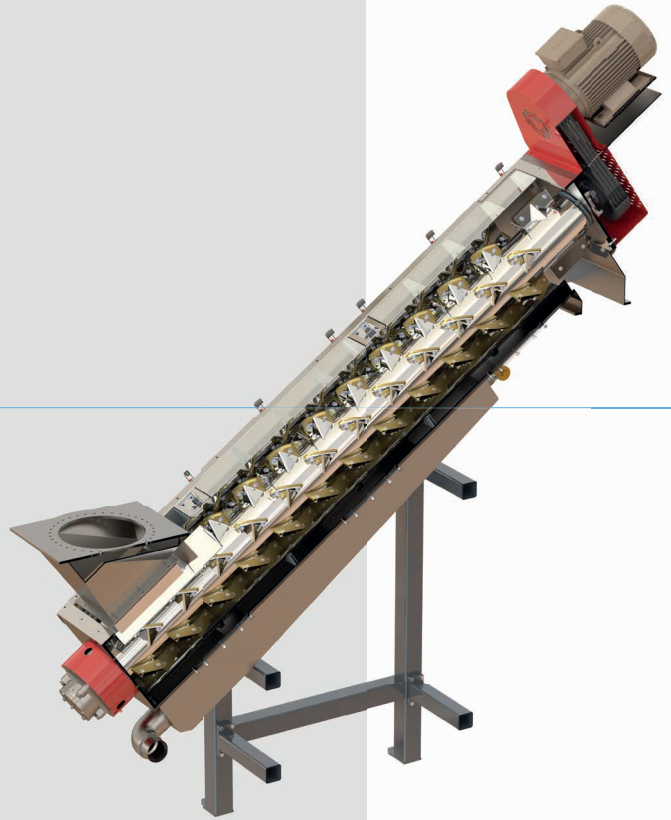
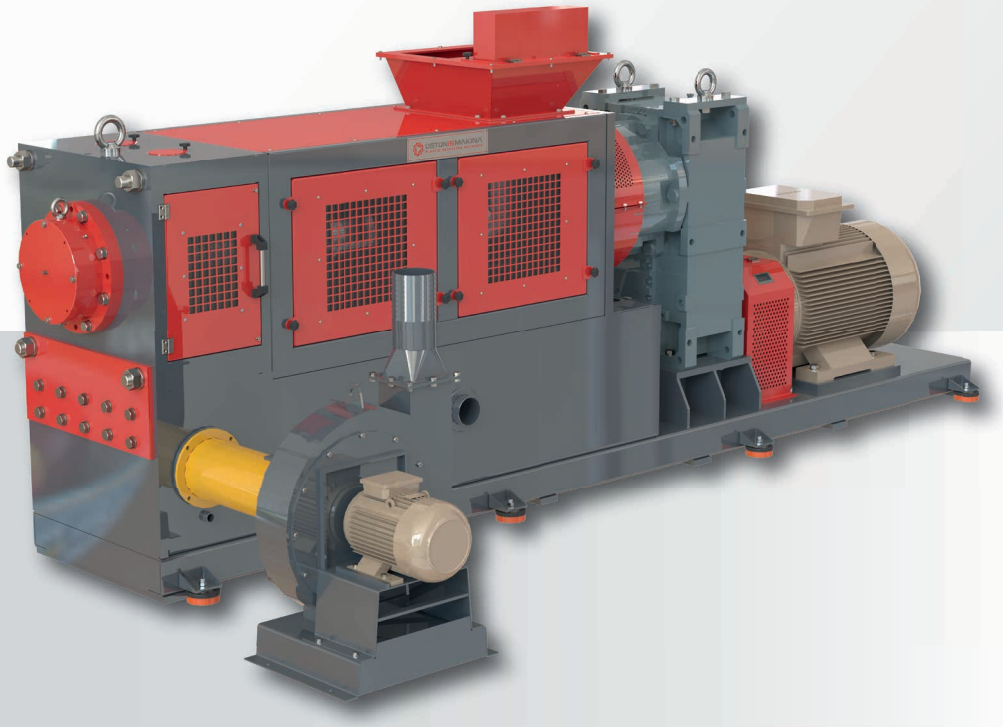
FRICTION WASHERS

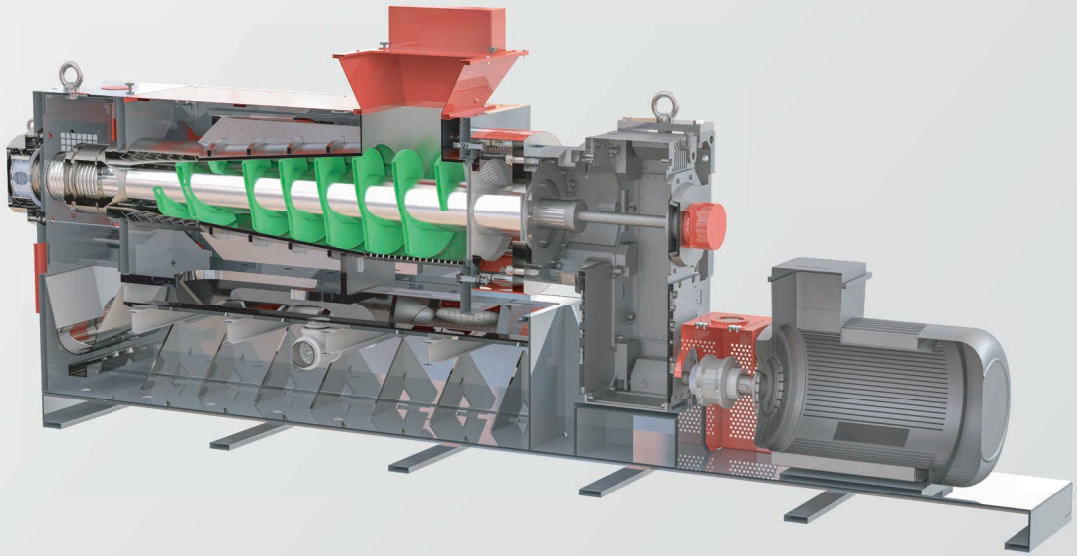


Innovative
Rotor Design

Friction Washers are designed for washing plastics with water under high speed. Cleaning is realised by friction created by speed and special rotor design. Innovated rotor design allows processing of both film and rigid plastics. “Replaceable Hardox rotor wings” feature extends the lifetime of rotor.

FILM DEWATERING MACHINE





Film Dewatering Machines are used for dewatering wet film (flexible) plastics by mechanical squeezing method. Residual moisture is between 4-8% according to thickness and type of film. Film Dewatering Machine is not affected by fluctuation of material flow from the washing lines thanks to the innovated screw design. Comparing to hot air dryers and centrifugal dryers, Film Dewatering Machines are the most efficient systems in Film Dewatering when considering energy efficiency, operation costs, capacity and easy operation.

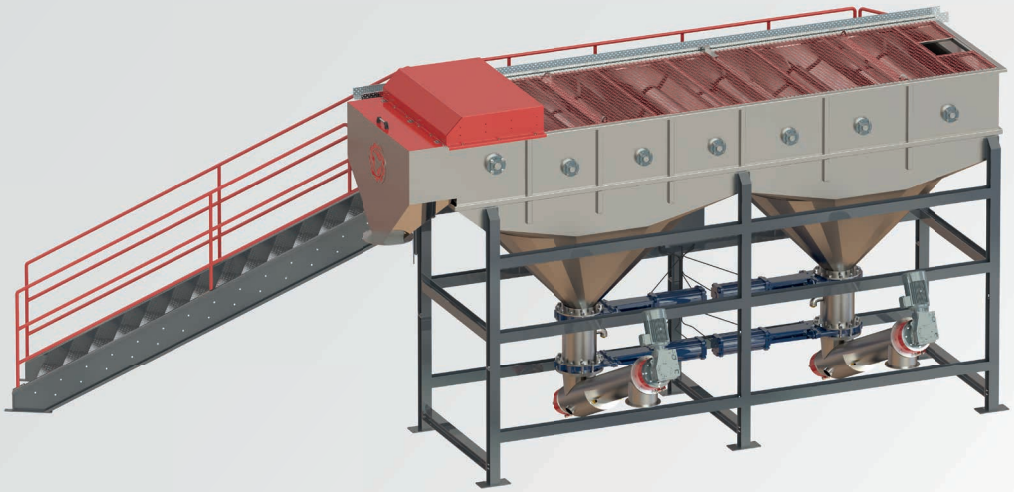
MODEL	KNS250/45	KNS300/55	KNS300/75	KNS300/90	KNS300/110	KNS400/110	KNS400/132	KNS400/160
Screw Diameter(mm)	250	300	300	300	300	400	400	400
Power(kw)*	45	55	75	90	110	110	132	160
Throughput(kg/h)*	200 - 300	300-400	350-500	500-650	700-850	750-900	1000-1200	1200-1350
Residual Humidity(~%)	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5

Technical details are for information only. Producer reserves right to change catalogue data without notice.

SINK FLOAT TANKS

Sink Float Tanks are used for washing and cleaning plastics in Washing Lines. Type of Sink Float Tank is chosen according to the type of plastic. For floating plastics, tanks that can transfer material on water are used, for sinking (heavy) plastics, tanks with screws are used for processing heavy plastics.

Tank Design According to Density of Plastics



AUX EQUIPMENT

LABEL SEPARATOR

Innovative and effective solution for separating light impurities from heavy rigid flakes. They are used especially at PET Washing Lines to separate PVC labels from PET flakes, which can't be seperated by conventionel washing methods. By speacially designed cyclone and propeller system, separation and de-dusting is realised with high efficiency and minimum loss.

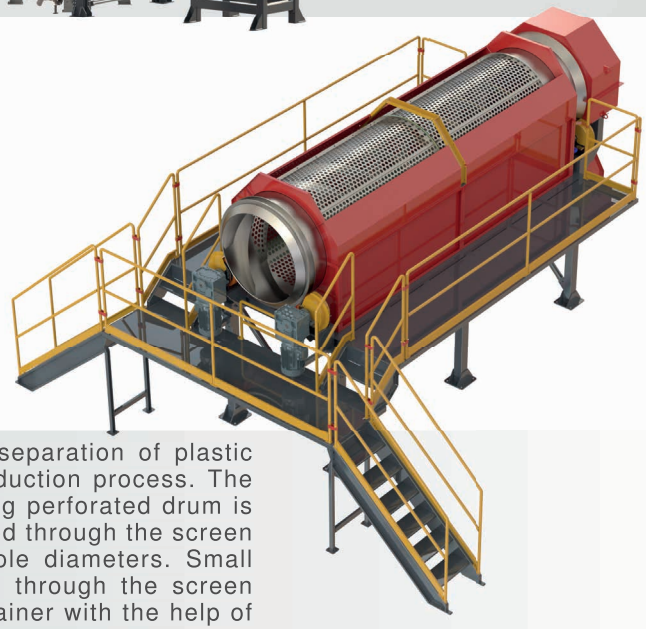
HOT WASHING TANK

The Hot Washing System is especially used for the cleaning of adhesive wastes on PET burrs and pollutants that cannot be cleaned with cold water. Hot water with chemical cleaning agent is used.

n addition to fully automatic PLC controlled systems, manual controlled Hot Washing Systems are also produced. They are produced with double layer insulation in terms of energy efficiency.

BIGBAG FILLING STATION

The Big Bag Filling Station ensures efficient filling of bulk bags while providing precise weighing through its integrated weighing mechanism. The piston-assisted shaking system helps evenly distribute the material, enhancing stability during transportation. With its user-friendly design, this system offers easy operation, delivering efficient and reliable filling solutions.



TROMMEL SCREEN

It is specifically used for the preliminary separation of plastic materials in bottle form before the size reduction process. The plastic material conveyed inside the rotating perforated drum is processed as smaller particles are separated through the screen on the drum, based on the designated hole diameters. Small particles and foreign materials discharged through the screen holes are transferred to the collection container with the help of a waste screw conveyor.

It can be manufactured from AISI 304 stainless steel or Carbon Steel material.

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2 PE-LD 4 PE-HD 5 PP 6 PS

PLASTIC
RECYCLING LINES

Plastic Recycling Systems

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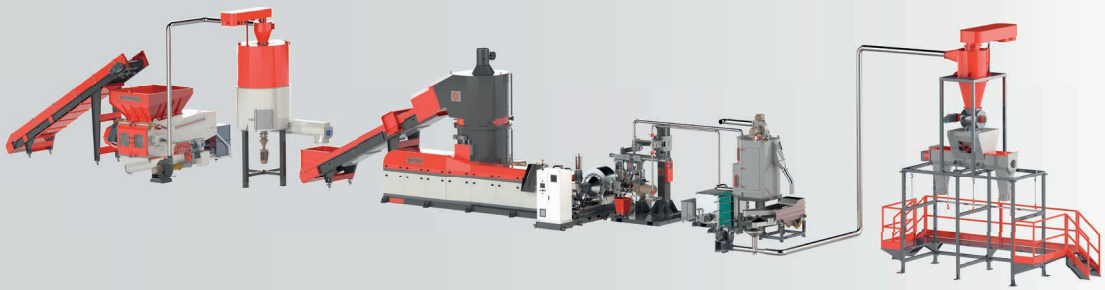
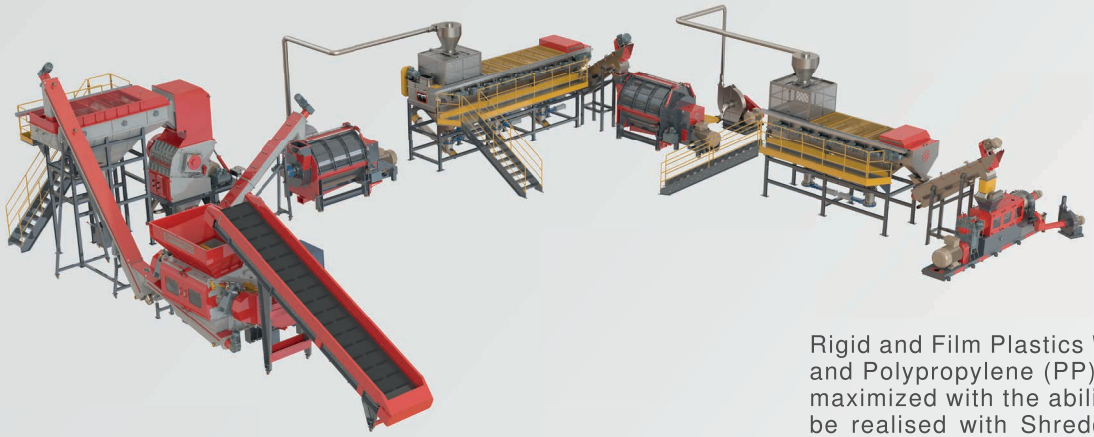
PLASTIC GRANULATING LINES



Plastic Granulating Lines are used for granulating PE, PP, PS and ABS post-industrial clean plastics in film, rigid or foam form. Machines of the Granulating line are chosen according to type, form and required throughput. Size reduction can be done by Granulator or Shredder according to the form, dimensions and capacity of the line. Form of plastic is important for choosing the right feeding type for extruder. Also, moisture of the material is important for the line. Drying before extrusion can be done by full automatic CRT Extruder or with manual Agglomeration Machine. Lines are designed according to the contamination and capacity.

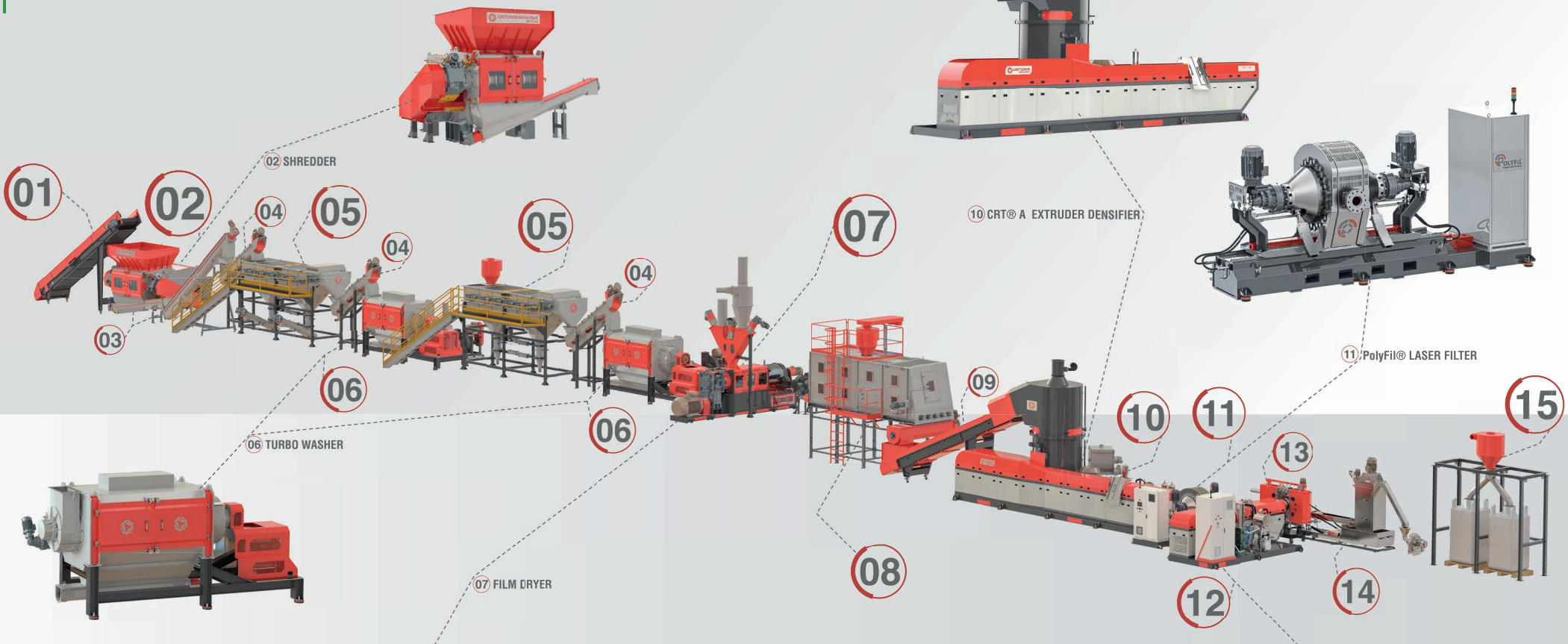
RIGID AND FILM PLASTICS RECYCLING WASHING LINES

Washing Solutions For Different Contaminations



Rigid and Film Plastics Washing Lines are used for washing and drying of Polyethylene (LLDPE, LDPE, HDPE) and Polypropylene (PP) scrap plastics in rigid or film form. Variety of scrap that can be recycled on the line is maximized with the ability of washing film and rigid forms on the same line. Size reduction of scrap plastic can be realised with Shredder or Granulator at the beginning of the line. Plastics are washed intensively with Friction Washers and Turbo Washers and separated from heavy plastics and heavy contaminants in Sink Float Tanks. According to the form of plastic, dewatering is done with the dedicated drying machine. After washing and dewatering, plastics can be recycled into granules with the Granulating line or cleaned and dried flakes can be used.

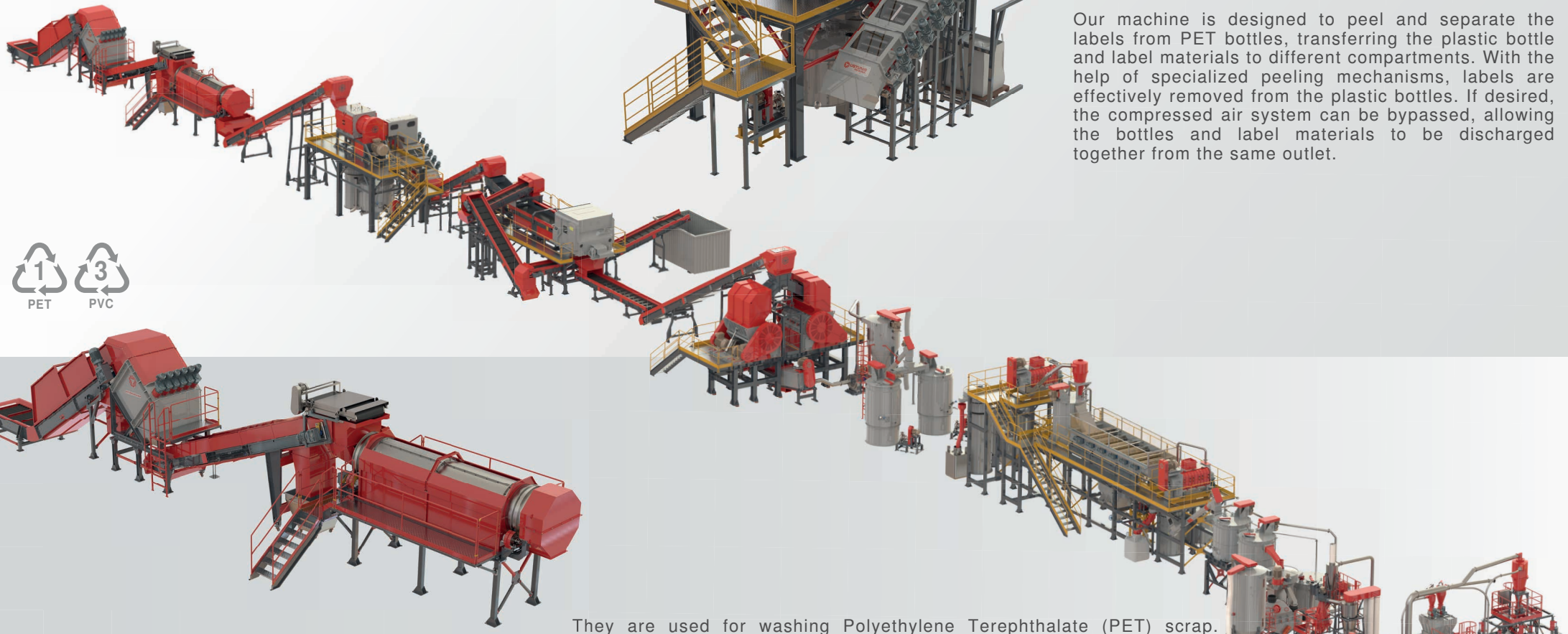
RIGID AND FILM PLASTICS RECYCLING LINES



2 PE-LD
4 PE-HD
5 PP
6 PS
ABS

01 SHREDDER FEEDING CONVEYOR
02 SHREDDER
03 SHREDDER OUTPUT SCREWS
04 FRICTION WASHER
05 SINK FLOAT TANK
06 TURBO WASHER
07 FILM DRYER
08 BUFFERING SILO
09 EXTRUDER FEEDING CONVEYOR
10 CRT® A EXTRUDER DENSIFIER
11 PolyFil® LASER FILTER
12 CASCADE
13 MANUEL FILTER
14 WATER RING PELLETIZER
15 BIG BAG FILLING STATION

PET WASHING LINES



LABEL REMOVAL

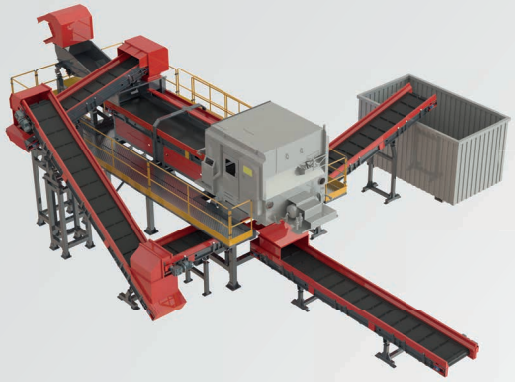
Our machine is designed to peel and separate the labels from PET bottles, transferring the plastic bottle and label materials to different compartments. With the help of specialized peeling mechanisms, labels are effectively removed from the plastic bottles. If desired, the compressed air system can be bypassed, allowing the bottles and label materials to be discharged together from the same outlet.

1 PET 3 PVC

BALE OPENER & TROMMEL SCREEN

The Bale Opener and Trommel Screen are used to remove glass, metals, wood, paper/cardboard, and other minor contaminants from plastic bottles before they are granulated. This process improves the quality of the recycling process by removing unwanted materials from the plastic bottles.

They are used for washing Polyethylene Terephthalate (PET) scrap. Usually PET is used for beverage bottles, food containers or industrial film. PET flakes that are produced by PET Washing Lines can be used for yarn, fabric, fiber or packaging product manufacturing. PET Washing Lines consist of PreWashing and Separation, Size Reduction, Sink and Float, Cold and Hot Washing, Label Separation and Drying process. Scrap PET material is cleaned externally in the PreWashing part and separated manually “or automatically”. In size reduction part prewashed material is grinded and after that flakes are cleaned intensively in cold and hot washing parts. After washing and drying PET flakes are separated from light label impurities. Lines are designed according to the contamination and capacity.



BOTTLE SORTING SECTION

The Bottle Sorting Section is designed to automatically sort PET bottles from mixed input streams before size reduction. Equipped with advanced optical and sensor-based technologies, this section enables the separation of different polymer types, colors, shapes, metals, and other contaminants. It plays a critical role in improving flake purity and process efficiency downstream.

HOT WASHING SECTION

The Hot Washing Section performs effective surface cleaning of PET flakes using heated water and chemical additives. This stage removes adhesives, labels, organic residues, and stubborn contaminants. It plays a key role in achieving high-purity flakes suitable for food-grade or high-quality applications.

TURBO WASHING & SINK - FLOAT

Turbo washing machines utilize specially designed blades and screen systems combined with a large-diameter, high-speed rotor to create frictional force. This high-speed operation ensures maximum cleaning efficiency and effectively separates adhered plastics. The mixing tank is used to feed material evenly into the sink-float tank. Unwanted floating materials are separated in the float-sink tank, while sinking PET materials are transferred to the second turbo washing machine through a pump located at the bottom of the tank.

FLAKE SORTING

After the Washing and Drying section, PET flakes are optionally passed through the Label Separation system. This system improves the quality of recycling by separating the label residues from the flakes. Separation lines are designed according to the pollution status and capacity of the material. In this way, the process of separating the labels is carried out efficiently and the performance of the recycling plant is optimized.

SIZE REDUCTION SECTION
KIRMA BÖLÜMÜ

The Size Reduction Section is responsible for shredding PET bottles into uniform flakes suitable for washing and further processing. Equipped with robust, high-performance granulators, this section ensures consistent flake size, optimal throughput, and efficient cutting performance. Stable feeding systems and wear-resistant cutting tools provide reliable operation even under high loads.

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