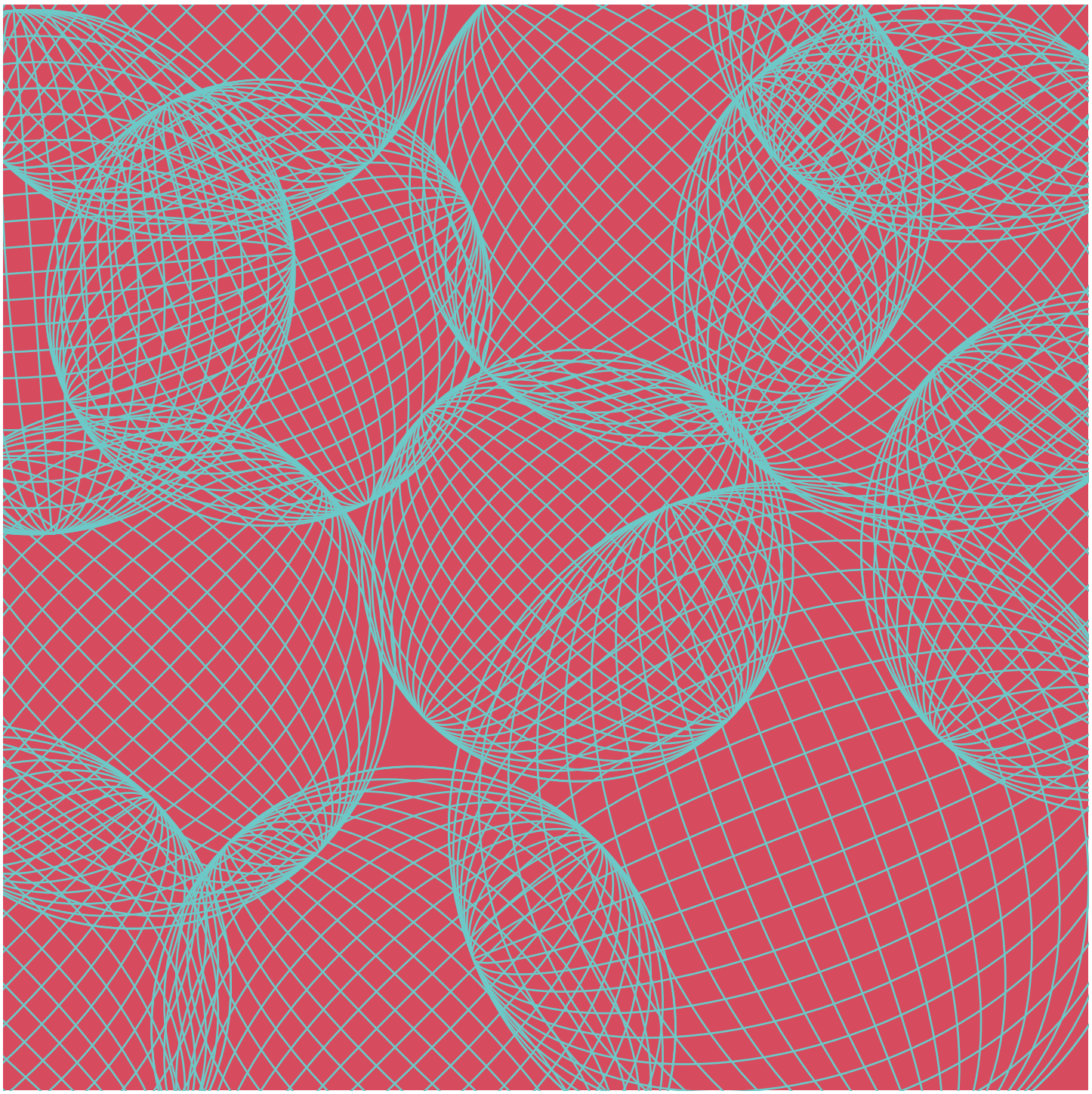
Bausano

Pelletizing
extrusion lines

Bausano's extrusion lines for PVC pelletizing deliver uniform, high-quality plastic compounds for applications such as recycling, masterbatch and industrial formulation, ensuring excellent output performance.

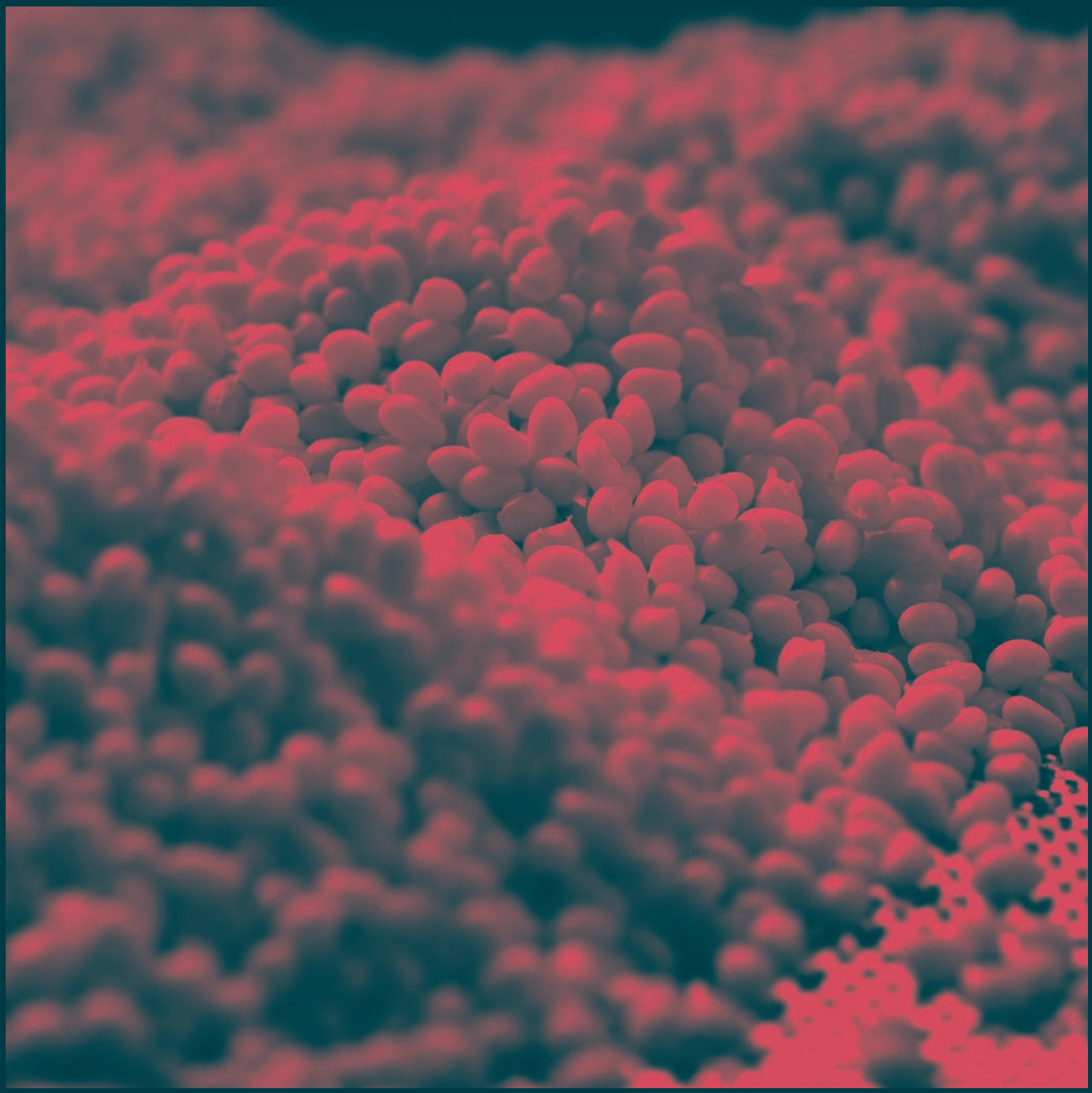


Pelletizing
extrusion lines

Bausano
Extrusion instinct

Efficient. Customizable. Ahead.

Each Bausano extrusion line for PVC compounds is a custom-built solution, designed to guarantee material uniformity, stable throughput and precise control. A system developed to meet specific compounding needs with consistent and measurable performance.



Extrusion lines for PVC compounding

Bausano designs and manufactures complete extrusion lines for the production of PVC compounds, offering tailor-made solutions for transforming thermoplastic materials into high-quality pellets. Each line is engineered to ensure process stability, energy efficiency, and consistent output quality.

PVC compounds are used across sectors such as construction, automotive, and electrical, due to their mechanical strength, chemical resistance, and versatility. Each formulation is customised with selected additives to meet specific technical needs and ensure reliable performance.

Bausano compounding lines use parallel counter-rotating twin-screw extruders that provide optimal mixing, precise temperature control, and material homogenisation. Integrated systems for degassing, filtration, and pelletizing guarantee uniform pellets with defined size and density.

The entire process is automated and controlled by advanced systems to enhance productivity, reduce waste, and ensure repeatability. PVC compounds are also recyclable, supporting sustainability and resource efficiency in industrial production.

Made in Italy quality
Choosing Bausano means relying on a strategic partner in plastic processing. The company designs and builds customised extrusion lines, entirely Made in Italy, for pipes, PVC compounds, profiles, medical tubing and film pockets. Each extruder ensures stability, efficiency and quality.

Parallel twin-screw extruder series

The extrusion process enables the production of plastic compounds for multiple industrial uses. Bausano offers parallel counter-rotating twin-screw extruders for every formulation and processing requirement.

Bausano offers quality and performance throughout every stage of the process – from feasibility analysis and machine design to production, commissioning and after-sales support. All steps are managed in-house to ensure complete control and consistency. This integrated approach allows Bausano to deliver tailor-made parallel counter-rotating twin-screw extruders for compounding applications.
These extruders are particularly suitable for processing complex formulations with high filler content, such as PVC combined with 100 p.h.r. calcium carbonate. This additive enhances the stiffness and impact resistance of the polymer, while improving the dispersion of all components within the blend. Each extruder in the series is available in multiple configurations, with different lengths and drive motors, to guarantee optimal plasticising and throughput. Moreover, the systems are fully synchronised with all downstream components, ensuring a stable and efficient process for every production requirement.

MD Series: parallel twin-screw technology

High specific output for gentle plasticization of PVC.

Optimized material feeding system for stable production of PVC-U powder.

Optimized screw design for PVC and for customer needs.

Patented Multidrive system reduces stress on motor shafts, gears and screws with a positive impact in terms of both precision and energy savings.

AC motors for low energy consumption.

Induction barrel heating system, more efficient heating, and less dispersion.

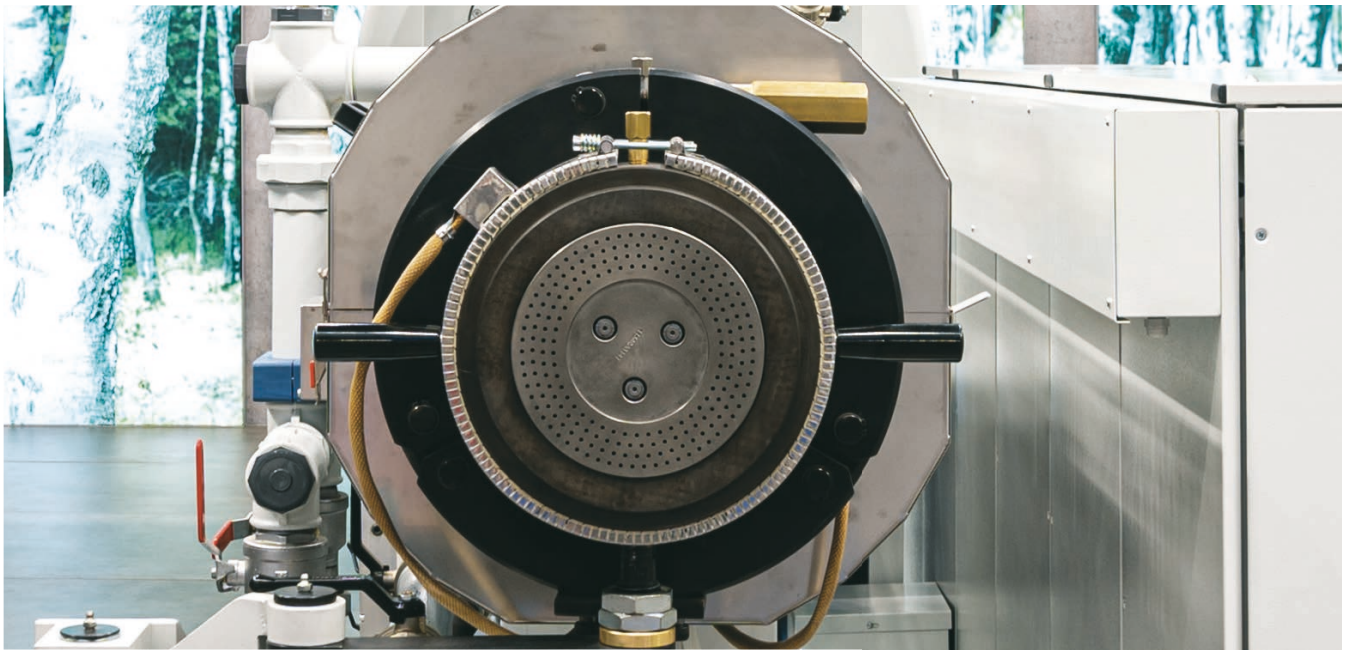
IoT technologies enable full monitoring and analysis of production parameters, with a special focus on improving energy efficiency across the entire extrusion process.



TECHNICAL DATA							
Models	**MD 66**	**MD 75**	**MD 92**	**MD 118**	**MD 130**	**MD 158**	**MD 170**
Screw diameter (mm)	66	75	92	118	130	158	170
L/D ratio	19 / 30	24 / 30	25 / 30	26 / 30	25 / 30	21 / 26 / 30	24 / 28
Heating zone	5 / 6	5 / 6	6 / 7	7 / 8	8 / 10	9 / 9 / 10	8 / 9
Cooling zone	3 / 4	3 / 4	4	4	5 / 6	7	8 / 9
Total power (kW)	45 / 55	85 / 108	127 / 165	205 / 210	240 / 260	260 / 286 / 338	411 / 435

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Pelletizing die head



Granulation die head
Pelletizing die heads are key components of strand pelletizing systems used in the extrusion of plastic compounds. They are engineered to provide optimal melt distribution on the die plate while ensuring efficient flow dynamics. The structure is developed to simplify access during maintenance and cleaning phases, thereby significantly reducing downtime and improving process continuity.

Pelletizing plate
This specific type of die head is designed for use in masterbatch, compounding and pelletizing operations. Fully adaptable to different formulations and process parameters, it can be integrated downstream of Bausano's MD series counter-rotating twin-screw extruders or melt filtration units. The construction enhances product flow uniformity and supports optimal transition to the cutting phase. The design of this type of die head is optimized for melt channel flow, with excellent accessibility and minimized dead spots in the product area. This makes it an ideal solution for fast material changeovers and demanding cleaning requirements.

Key advantages of the pelletizing system

1
Robust construction for stable and reliable operation.

2
Uniform pellet quality across all formulations.

3
High flexibility for processing diverse raw materials.

4
Large chamber ideal for low bulk density compounds.

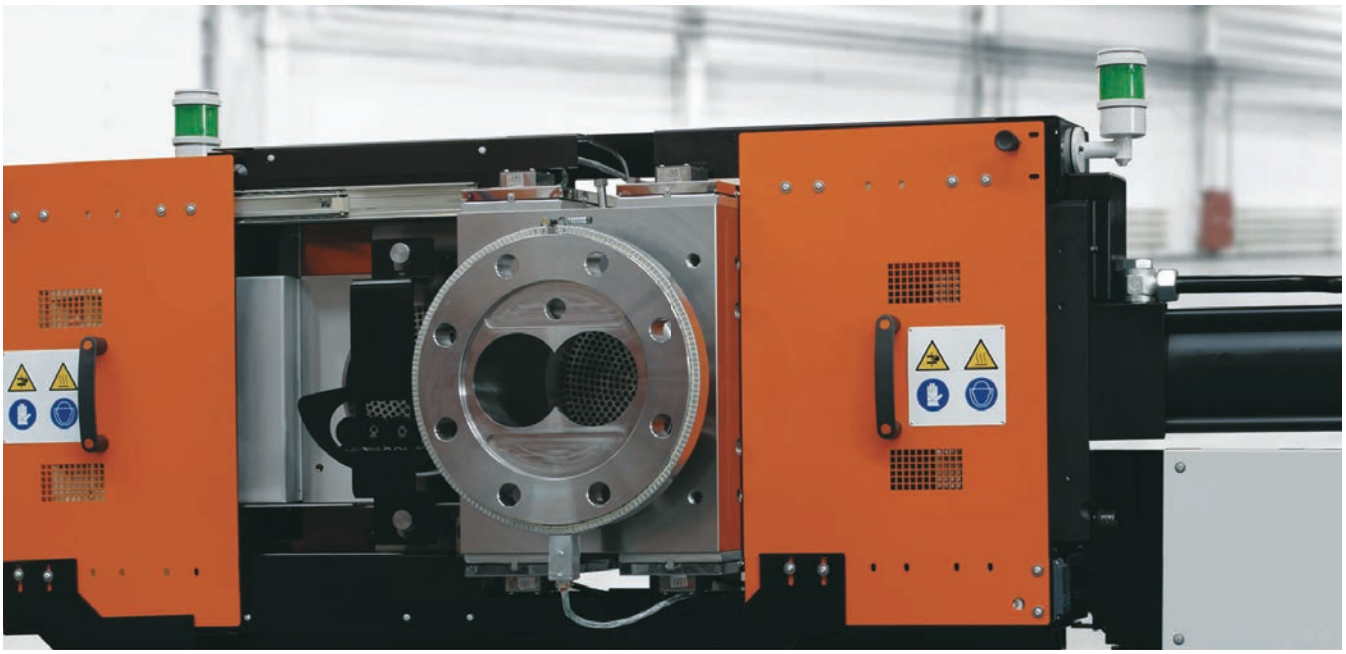
5
Long-lasting components with low wear rates.

6
Lubricant-free process ensuring product purity.

7
Quick die change for reduced downtime.

8
Low energy use and minimal operating costs.

Screen changer and melt filtration



Screen changer
The screen changer enables the reprocessing of a wide range of thermoplastic materials – such as PVC, PE, PP, PC and ABS – through extrusion compounding lines, efficiently removing impurities and contaminants. Developed to meet the specific needs of plastic material regeneration, Bausano screen changers can be mounted directly on the barrel outlet and are fully compatible with all standard pelletizing die heads. An integrated alert system, featuring visual and acoustic signals, is activated when the filter screen requires replacement, ensuring continuous and safe operation.

Melt filtration
The technical specifications of the melt filtration system depend on the characteristics of the input material and the intended quality of the final plastic compound. To meet varying levels of filtration demand, Bausano systems integrate either non-stop single-plate double-station configurations or two-piston double-station systems.
These technologies ensure high melt purity and optimal flow under all processing conditions, particularly in applications involving post-consumer or highly contaminated materials.

Performance benefits

1
Reliable filtration of contaminants for improved pellet quality.

2
Modular integration with standard extrusion and pelletizing lines.

3
Automated alarm system for timely screen replacement.

4
Consistent melt flow and reduced production interruptions.

5
Optimised for both low and high contamination input streams.

6
Minimal pressure drop and extended screen life for efficient operation.

TGPO – Frontal air-cooled pelletizing system

The TGPO frontal air cutter by Bausano is a highly efficient cutting unit specifically designed for processing temperature- and shear-sensitive thermoplastics. At the core of the system is a set of knives mounted on a self-centring rotor that rotates directly on the die plate of the extruder. This configuration allows for a smooth, controlled cutting process that preserves the integrity of the processed material.

By maintaining a consistently low surface temperature on the blades, the system prevents thermal degradation and avoids the formation of residues that could compromise the quality of the pellets. The cutting mechanism operates with precision, ensuring excellent pellet geometry and minimal dust generation – a key factor in maintaining high product standards across applications.

Mechanical configuration and operating features
The unit is equipped with three rotating knives supported by an oscillating, self-centring system that ensures constant alignment with the die plate. This setup allows for fine adjustment of both the cutting angle and the coplanarity of the knives in relation to the granulation head.

The cutter is driven by a 4 kW three-phase asynchronous motor, controlled via a frequency converter (0–100 Hz), providing adaptable speed and performance based on process requirements.

Pellet discharge is managed through an aluminium cover and conveyor with forced air circulation, ensuring effective granule transport while maintaining the integrity of the product.
The entire assembly is mounted integrally with the granulation head on sliding rails, allowing for fast disassembly and easy access during cleaning operations.

Additional components include a high-efficiency granule launcher, a water-cooled delivery pipe, galvanized distribution piping, and two stainless steel double-jacketed elbow pipes, both cooled to maintain optimal thermal conditions during transfer.



Designed for temperature- and shear-sensitive thermoplastics, Bausano's TGPO ensures a smooth and accurate cut directly on the extruder die plate. The self-aligning, oscillating blade system guarantees optimal pellet shape, low dust generation and thermal integrity of the processed material.

Operational benefits

1
Gentle and controlled cutting for heat- and shear-sensitive materials.

2
Precision blade alignment for high pellet uniformity and reduced fines.

3
Variable speed control via frequency converter for process optimisation.

4
Forced air cooling system for consistent pellet handling.

5
Integrated sliding support for fast and safe maintenance access.

6
Corrosion-resistant and durable materials for extended service life.

L4/M – Frontal air-cooled pelletizing system

The L4/M frontal cutter by Bausano is a compact yet highly efficient unit developed for precision cutting in plastic pellet extrusion lines. The system integrates three blades mounted on a self-centring ball joint, engineered to maintain constant pressure on the granulating head. This configuration simplifies blade adjustment and ensures uniform contact during operation, significantly reducing dimensional variations among the produced pellets.

The cutter operates via a 2.2 kW motor, managed directly from the extruder's control panel through an integrated inverter. This setup allows precise speed control, adapting the cutting dynamics to different materials and production conditions. The forced air cooling system, enclosed within a dedicated cover, maintains ideal temperature conditions around the cutting zone. An internal inspection lamp provides direct visibility into the granulator during operation, facilitating real-time monitoring and maintenance checks.

Design features and functional integration
Mounted on a sliding base with guide rails, the cutter allows fast disassembly and reassembly, making cleaning operations quick and safe. Granule discharge is supported by galvanized launch tubes and two stainless steel elbows. These elbows are jacketed and water-cooled, a feature that enhances thermal management and assists in the smooth separation of pellets as they are directed towards the cooling unit.

The transport of the pellets from the cutter to the cooler is managed by a blower system, also operated directly from the extruder's control panel. This integration ensures streamlined coordination across the entire granulation line, improving process efficiency and product quality.



Compact and precise, the L4/M cutter ensures uniform pellet geometry thanks to its self-centring blade system. Integrated cooling and guided disassembly make operation efficient and maintenance safe.
All functions are controlled directly from the extruder.

Performance highlights

1
Constant blade pressure for uniform pellet dimensions.

2
Inverter-driven motor for controlled cutting speed.

3
Air-cooled cutter head with integrated inspection lighting.

4
Easy-access sliding base for quick maintenance operations.

5
Water-jacketed elbows for improved granule separation.

6
Integrated blower for efficient granule transfer to the cooling system.

TGL – Lateral air-cooled pelletizing system

The TGL lateral cutter by Bausano is designed for the efficient transformation of cylindrical strands into uniform plastic pellets. Cutting is carried out by rotary knives mounted on an ergonomically engineered rotor, arranged eccentrically with respect to the die plate. This configuration ensures accurate and stable cutting performance, even with temperature- and shear-sensitive materials.
The die plate design – number, diameter and geometry of the holes – is customised based on the physical properties of the polymer and the specific production requirements, ensuring optimal adaptation to each application.

Integrated cooling and air management
To maintain process efficiency and pellet quality, the TGL cutter is equipped with a cover for forced air circulation and a soundproof fan system.
The cut pellets are conveyed through stainless steel pipes toward the cooling unit, where a cooled cyclone with a dual air gap separates air and vapour from the granules. This ensures controlled material handling, thermal stability and reduced contamination risk.

Comprehensive system integration
With decades of experience in compounding technology, Bausano designs and manufactures complete systems for the processing of heat- and shear-sensitive plastics. Each line includes solutions for feeding, dry blend preparation, compounding, pellet cooling and final storage. Every phase is fully engineered to ensure consistent performance and complete process integration.



TGL cutter transforms extruded strands into precise pellets, even with sensitive materials. The eccentric rotor and integrated cooling system ensure stable performance and safe, clean pellet handling throughout the process.

Key advantages

1
Eccentric rotor for high-precision strand cutting.

2
Custom die hole configuration for application-specific results.

3
Ergonomic blade design for optimal pellet quality.

4
Forced air cooling system with soundproof fan.

5
Stainless steel conveying for hygienic pellet transfer.

6
Cooled cyclone with double air gap for clean separation.

7
Ideal for sensitive and highly filled materials.

8
Full system compatibility for seamless line integration.

Cooling system

Bausano has developed an advanced cooling system for plastic compound processing, designed to ensure high thermal efficiency and precise granule conditioning. The system includes a vertical transport pipe connected to the cyclone via a quick coupling, allowing fast and secure assembly.
The collecting cyclone, entirely made of stainless steel, integrates a mesh filter to retain fine particles, ensuring clean separation.

The vibrating cooling tray is self-cleaning and easily removable, simplifying maintenance operations. Cooling is carried out through holed stainless steel surfaces, with forced air circulation generated by vertical flow valves positioned in the machine base. The vibratory motion of the tray, regulated by dual counter-rotating mass vibrators, guarantees uniform granule distribution across the entire cooling surface.

Fan speed can be controlled via inverter, adapting the airflow to specific material and process needs. Air intake filters are wall-mounted and equipped with a quick-release system to facilitate inspection and replacement. At the end of the cooling line, a granule separator with selector discharge and interchangeable nets ensures precise separation and smooth transfer to subsequent processing stages.

Main features
- Quick coupling between pipe and cyclone for fast setup.
- Stainless steel cyclone with internal mesh filter.
- Removable vibrating tray with self-cleaning function.
- Inverter-controlled fan speed for precise airflow management.
- Quick-release wall filters to prevent contamination.
- Counter-rotating vibrators for uniform granule distribution.
- Adjustable tray vibration intensity for cooling optimisation.
- Integrated separator with interchangeable filtering nets.

Granule quality and process efficiency
A reliable and efficient cooling phase is essential in pellet production, as it influences both dimensional stability and product integrity. Bausano's system ensures uniform air distribution, optimal surface contact and contamination-free flow.
Engineered to support high-throughput applications, it offers a dependable solution adaptable to a wide range of thermoplastic compounds.



TECHNICAL DATA				
	RG 1	RG 3	RG 4	RG 5
Total power (kW)	2	14	18	18
Water consumption at 15°C (m3/h)	-	-	1,6	1,6

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Bausano
Pelletizing extrusion lines

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Extrusion instinct

Bausano, international company founded in Italy in 1946, is a leader in developing high-tech industrial solutions for plastic processing.

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