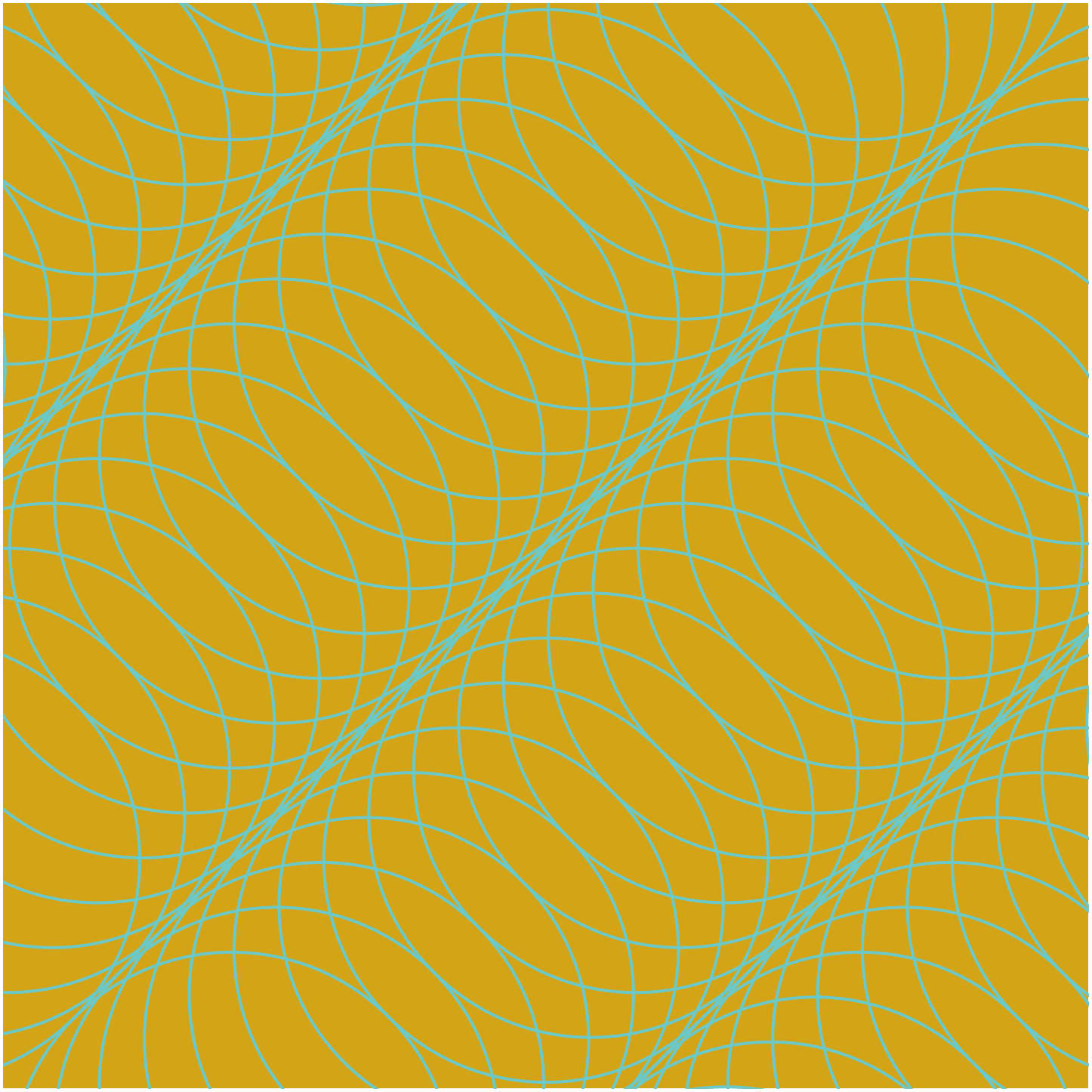
Bausano

Pipe
extrusion lines

Bausano designs pipe extrusion lines for accurate, high-efficiency output across varied diameters. Each solution ensures wall consistency and stable flow, ideal for utilities, housing, and industrial uses.

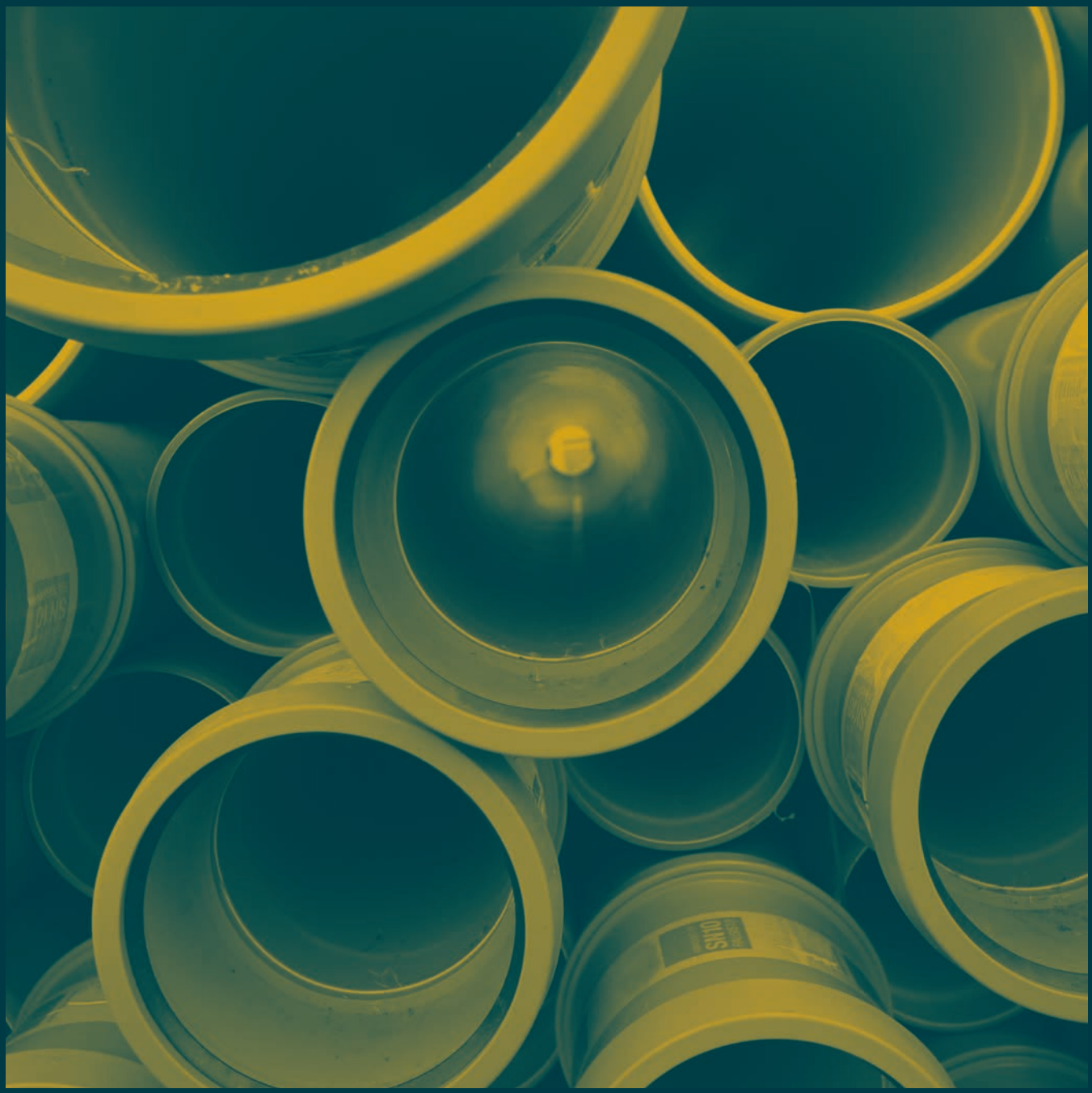


Pipe
extrusion lines

Bausano
Extrusion instinct

Efficient. Customizable. Ahead.

Each Bausano extrusion line for PVC pipes is a tailored system, engineered to ensure stable performance, precise control and full adaptability. A solution designed to support evolving production goals with measurable results.



Extrusion lines for PVC pipes and hoses

The widespread adoption of plastic pipes over the years is linked to their proven performance. PVC pipes are used in a broad range of applications: from drinking water networks to wastewater management and fire protection systems.

Their success is the result of a combination of key material properties. Among the main benefits of polyvinyl chloride are chemical resistance, mechanical strength, operational safety, durability, and recyclability. PVC is produced through the polymerisation of vinyl chloride monomer and is enhanced with additives – such as stabilisers and lubricants – to provide specific characteristics suitable for different uses. These technical properties make PVC pipes suitable for multiple sectors. The most common applications include water distribution, drainage systems, and electrical ducting. In addition, PVC prevents biofilm formation, which may lead to bacterial growth.

A notable area of development is double wall corrugated pipe production, thanks to its light weight, ease of handling, structural integrity, and long-term cost efficiency. PVC is also a highly recyclable material that retains its qualities through multiple cycles. Recycling contributes to environmental targets and supports resource conservation. For each kilogram of recycled PVC, approximately 2 kilograms of CO_2 are saved.

Across Europe, this translates into over 1.5 million tonnes of CO_2 savings annually. A PVC pipe extrusion line includes several key components. The process begins with the extrusion of material through the latest generation of Bausano pipe die heads. Given the specific mechanical stress of PVC processing, the extruders used must be designed for durability.

Bausano adopts twin-screw technology, ensuring optimal plasticisation, mechanical reliability, and a longer service life. Every component of the extrusion line is designed with the understanding that its precision directly affects the consistency and quality of the final pipe. The choice of technology, materials, and configuration reflects Bausano's commitment to supporting its partners with reliable and high-performing solutions.

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 the production of pipes, granules, profiles, medical tubing and film pockets in thermoplastic materials. Each extruder is engineered to ensure process stability, energy efficiency and consistent product quality.

Parallel twin-screw extruder series

The extrusion process enables the production of pipe solutions for various uses. Bausano offers parallel counter-rotating twin-screw extruders for every need and application.

Bausano offers quality and performance from the feasibility study, machinery design and production of the equipment to the start-up and after sales support every step is done in-house for total results control. Total in-house processes allow offering customizable parallel twin-screw extruders for PVC pipe. Bausano extrusion lines are highly customizable and therefore suitable for a material like PVC that is used in many applications with high flexibility in the end product. Bausano solution for PVC pipes are parallel twin-screw extruders from the MD series. All parallel twin-screw extruders series have different lengths and drive motors to assure a proper plasticizing and output.

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.

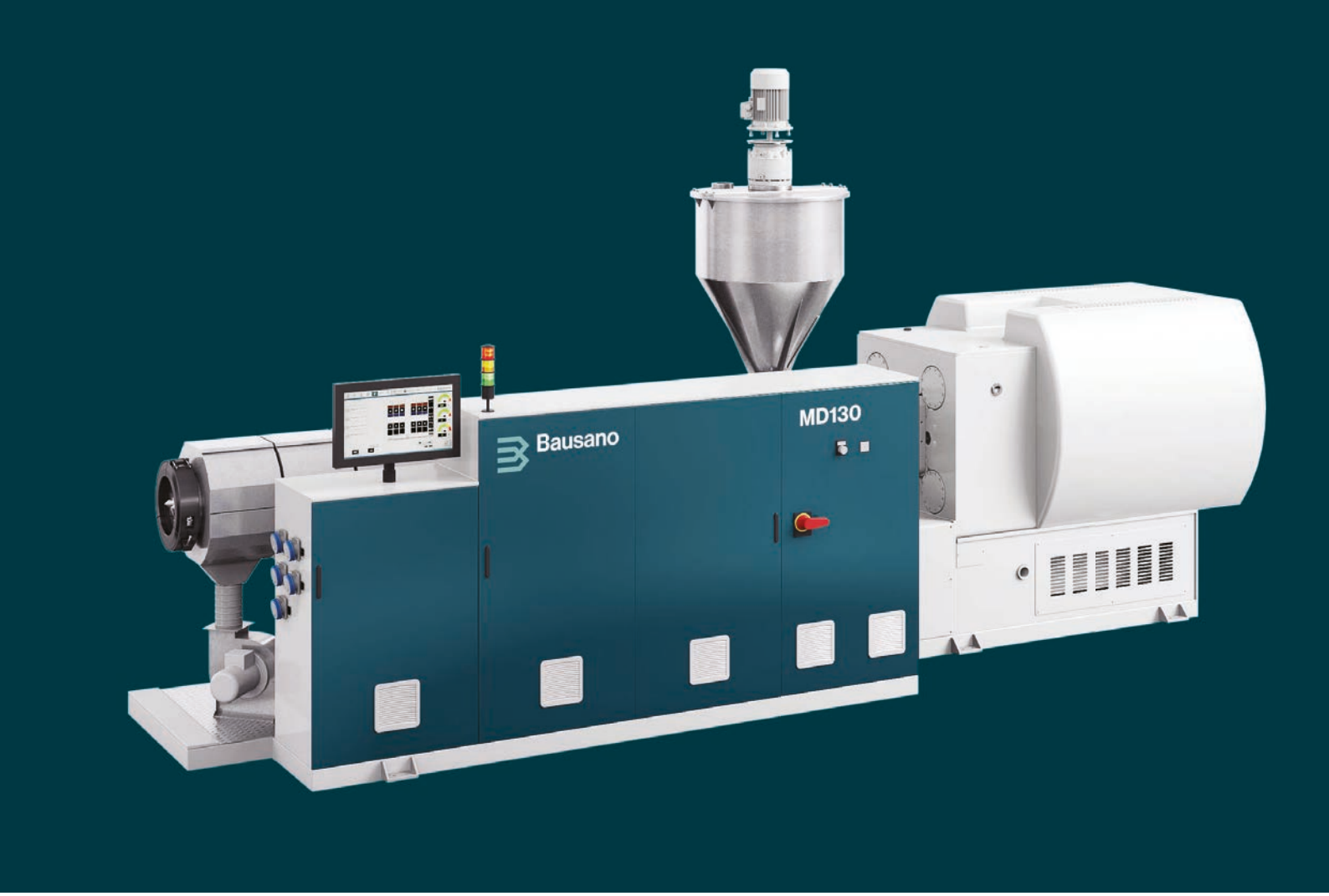
Optimized screw design for PVC and for customer needs.

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 / 100	127 / 165	205 / 210	240 / 260	260 / 286 / 338	411 / 435

Data contained in this catalogue are purely indicative and may change.

For specific needs in PVC extrusion, Bausano offers compact single-screw co-extruders designed for low-output applications: models E-GO 25 and E-GO 30 ensure reliable performance in small-scale PVC production or laboratory settings. Output reaches up to 17 kg/h for PVC, depending on the configuration.

Conical twin-screw extruder series

The E-ON conical twin-screw series by Bausano is designed for reliable PVC-U extrusion with high melt quality and stable output. Its modular frame, energy-saving motors, and IoT monitoring features make it ideal for corrugated pipes using virgin or recycled compounds in daily production.

Bausano guarantees full control and efficiency from the feasibility study to machine design, equipment production, commissioning, and after-sales service – every step is managed in-house.
Thanks to this integrated process, Bausano offers fully customizable conical twin-screw extruders for PVC-U applications. The E-ON series is engineered to handle the demands of corrugated pipes, offering flexibility, precision, and excellent compound processing, even with recycled or mineral-filled materials. E-ON lines are modular and versatile, ideal for new plants or upgrades of existing systems, ensuring long-term performance in high-load applications.

E-ON Series: conical twin-screw technology

Optimized output range from 50 to 400 kg/h for stable processing of PVC-U materials.

Dedicated screw and barrel designs for corrugated pipe extrusion.

High-quality melt with minimal section defects for excellent product surface finish.

Modular machine frame for quick configuration and easy integration into any production setup.

Energy-efficient AC motors for reduced costs.

Induction heating for fast response and heat uniformity across the barrel.

IoT-ready system for real-time monitoring and performance optimization with a focus on energy savings and process repeatability.



TECHNICAL DATA			
Models	**E-ON 53**	**E-ON 63**	**E-ON 80**
Screw diameter (mm)	53	63	80
L/D ratio	23	23	23
Total power (kW)	37	51	83
Degassing zone	1	1	2
Cooling zone	4	4	4
Heating zone	4	4	4
Guaranteed output for PVC-U pipes (kg/h)	50-150	50-270	150-400

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For specific needs in PVC extrusion, Bausano offers compact single-screw co-extruders designed for low-output applications: models E-GO 25 and E-GO 30 ensure reliable performance in small-scale PVC production. Output reaches up to 17 kg/h for PVC, depending on the configuration.

PVC pipe die head technology

The new Bausano PVC pipe heads are based on the long experience of the company design department. Bausano pipe heads are characterized by their ease of handling and a design that is adapted to the operating conditions. This design ensures that the melt flows together seamlessly downstream of the ribs at all working points. Die head comes also with individually controlled resistance-heating pads that ensure that all essential pipe head components are heated to the right temperature. The number of heating pads depends on the pipe head size. Bausano also offers a mandrel temperature-control option, which is beneficial particularly in processing temperature-sensitive materials. To reduce material consumption there is a continuous gravimetric melt throughput measurement and meter-weight adjustment and a thermal pipe head centering:

- Single exit heads range from 10 to 800 mm.
- Double exit heads up to 110 mm.

Consistent performance and reliability

The pipe heads are engineered to ensure long-term performance and durability, even under demanding production conditions. The choice of high-quality materials combined with precise manufacturing standards guarantees stable operation over time. This results in reduced downtime, lower maintenance requirements and consistently high product quality across different production cycles.

Advantages of the new pipe head

1
The optimized flow channel geometries are adapted to the sizes of the pipe heads this allows us to have a wide throughput and pipe dimension range.

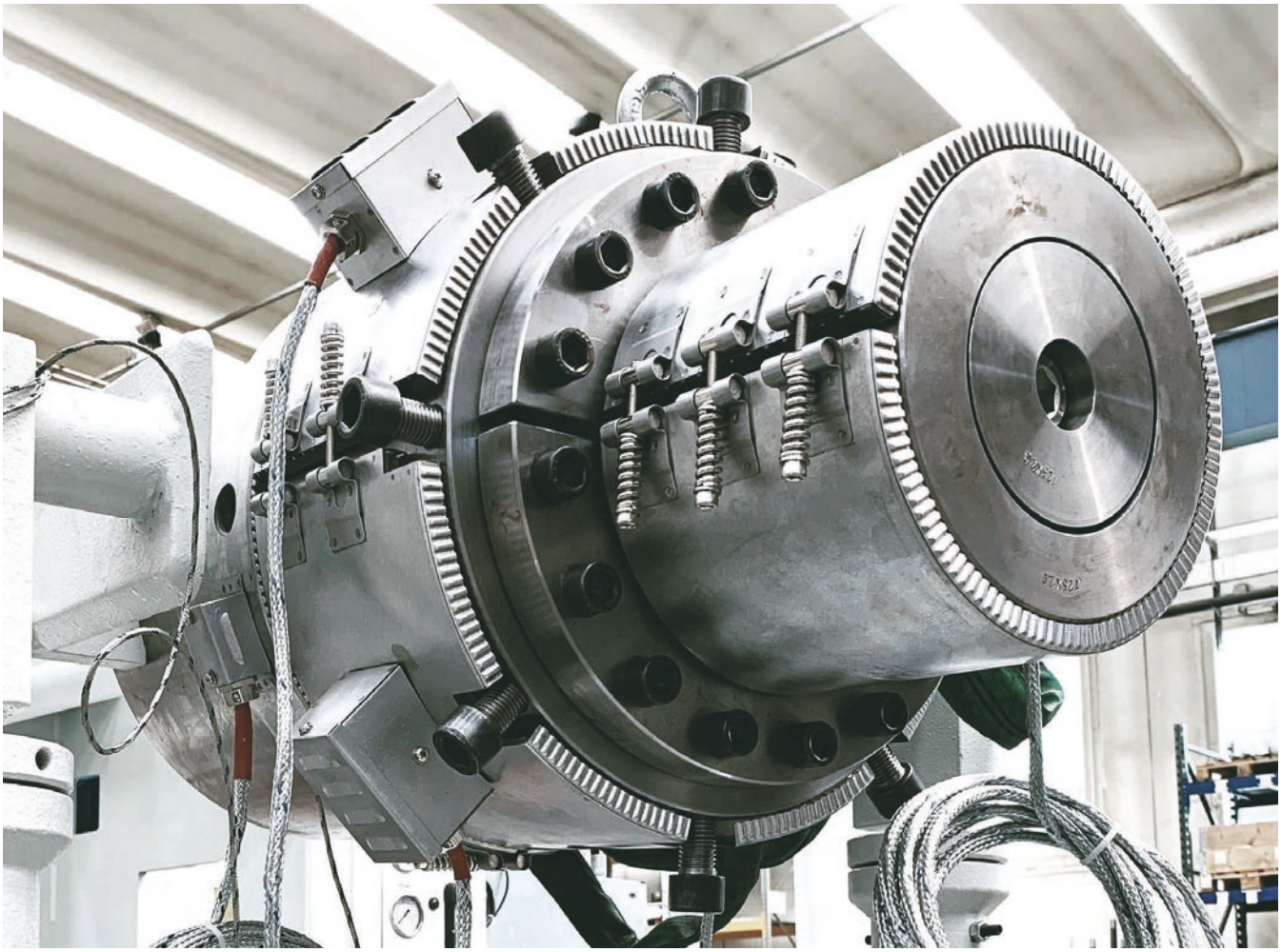
2
Low pipe overweight with excellent pipe surfaces and best pipe quality.

3
Processing of all standard pvc compounds and stabilizer systems.

4
User-friendly, robust design with easy handling in production and set-up cycles.

5
New design reduces heating power.

6
High quality of material and improved design gives high operational reliability as well as easy maintenance with little effort.



TECHNICAL DATA									
Models	**PV 63**	**PV 110**	**PV 160**	**PV 250**	**PV 400**	**PV 630**	**PV 800**	**PV 1000**	**PV 1200**
Dimension range OD pipe (mm)	16-63	50-110	63-160	110-250	250-400	315-630	400-800	500-1000	630-1200
Min. wall thickness (mm)	1,2	1,5	1,9	1,8	2	2,5	3,2	4	5
Max. wall thickness (mm)	4,7	8,2	11,9	18,6	29,7	30	30,6	30,6	29,3

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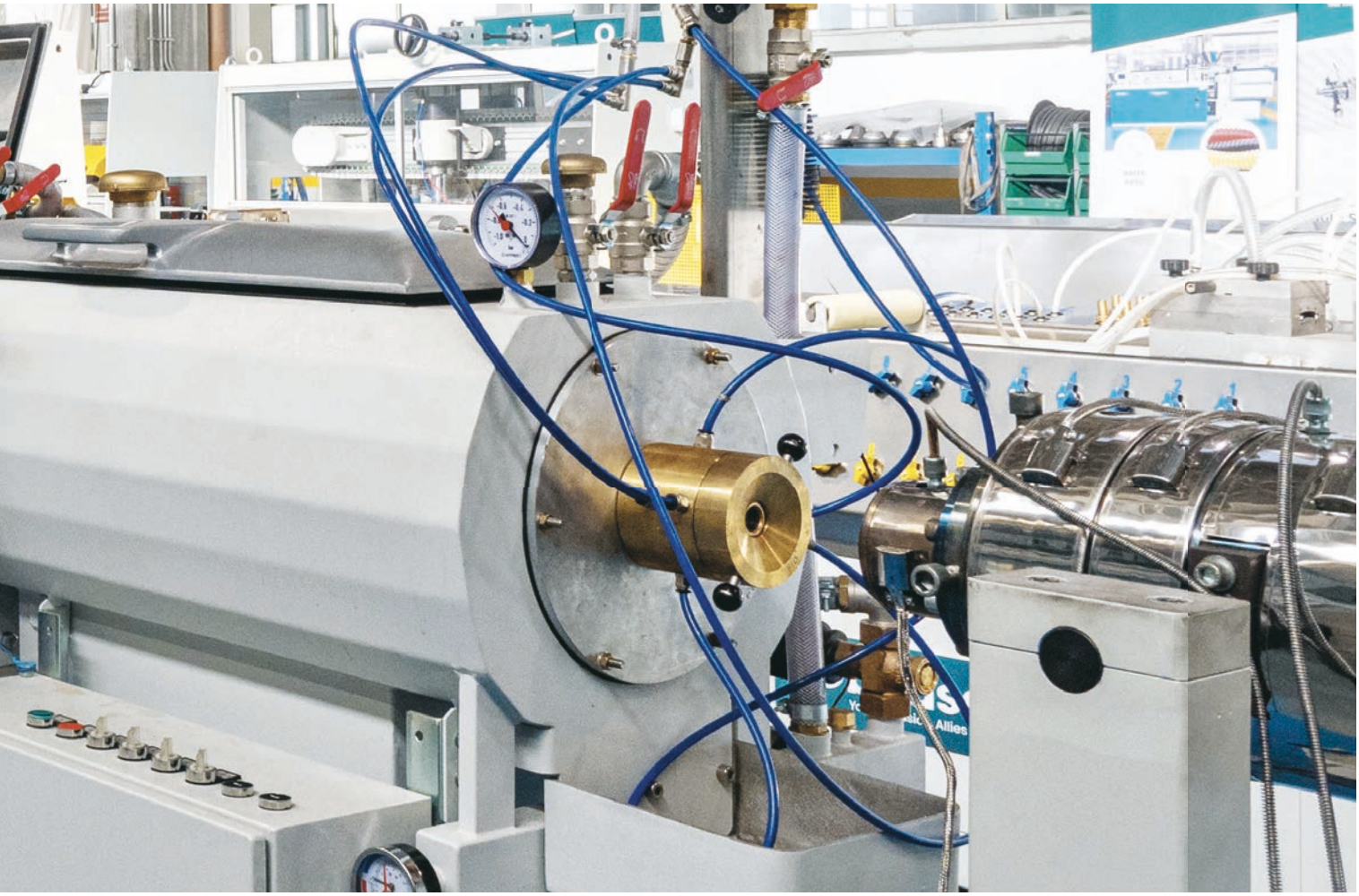


PVC pipe vacuum tank

Plastic pipe calibration has always been a delicate process, especially at today's extrusion speed. To minimise ovality and enhance performance, a well-engineered sleeve design is essential. Dimensional accuracy is achieved through calibration operating at different pressure levels. This setup allows for the creation of low internal pressure, which counters the ambient pressure inside the tank. By applying multiple pressure stages, the melt is pressed evenly against the inner wall of the tool, ensuring exact dimensions.

TECHNICAL DATA									
Models	**BT 63**	**BT 160**	**BT 250**	**BT 400**	**BT 500**	**BT 630**	**BT 800**	**BT 1000**	**BT 1200**
Working range OD pipe (mm)	10 - 63	10 – 160	40 – 250	90 – 400	160 – 500	250 – 630	400 – 800	400 – 1000	630 – 1200
Extra working range OD pipe (mm)	-	-	-	50 – 400	90 – 500	160 – 630	110 – 800	250 – 1000	400 – 1200
Vacuum zone	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2	2 / 3	2 / 3	2 / 3
Total cooling lenght (m)	6 / 9	6 / 9	6 / 9	6 / 9	6 / 9	6 / 9	10 / 13 / 16	10 / 13 / 16	10 / 13 / 16

Data contained in this catalogue are purely indicative and may change.



Calibration chamber

The image shows a calibration tank made of stainless steel, designed to match product needs. It ensures corrosion resistance and optimal cooling performance, helping to lower pipe temperature below the softening point and improve process efficiency.

The tanks are designed in different lengths to cool pipes up to higher diameters, with one or two chambers. The two chambers solution is an optional feature and is designed for bigger diameter pipes for a more performant vacuum section.

Vacuum sizing bench for PVC pipes

- Stainless steel vacuum tank for pipe calibration.
- Water ring vacuum pumps.
- Water recirculation pumps.
- Longitudinal translation of the tank by means of a gearmotor.
- Independent transverse, front and rear adjustment.
- Independent vertical, front and rear adjustment.
- Cooling with recycled and filtered nebulized water.
- Heads with flange for calibrator assembling.
- Water level control with float valve for water inlet.
- Temperature control with a sensor.
- Water filters with by-pass for quick cleaning.

Two vacuum pump features

- Automatic vacuum control.
- Water temperature control.
- Water level control.
- Motorized movement.
- Flow controller.
- Filter with bypass.

PVC pipe cooling tanks

Bausano has internally engineered a cooling system for pipes with diameters up to 800 mm. It supports high extrusion speeds while preserving dimensional stability. The cooling tanks are designed to provide consistent, uniform cooling along the entire line, avoiding deformation.
A ventilation unit cleans and dries the pipe as it exits the cooling chamber.
When properly integrated, the cooling tanks significantly improve the quality and performance of the extrusion process.

Main features
- Standard long-lasting air-controlled valves, suitable for contaminated water.
- New water level control, not sensitive to contaminated water.
- Construction of rigid and robust stainless steel.
- Stable vacuum and efficient cooling.
- Quick tool change that reduces costs.
- Highly efficient electronic motors.
- Water temperature control.
- System with nozzles.

Right sizing and quality
Cooling tanks play a key role in the extrusion process, as they ensure precise sizing and product quality. Designed in various lengths, they are ideal for cooling PVC pipes. Bausano develops tailored cooling systems based on the application and production needs. Proper pipe cooling is essential. That's why the company has engineered a reliable, high-performance solution, efficient at any speed and for all pipe sizes.



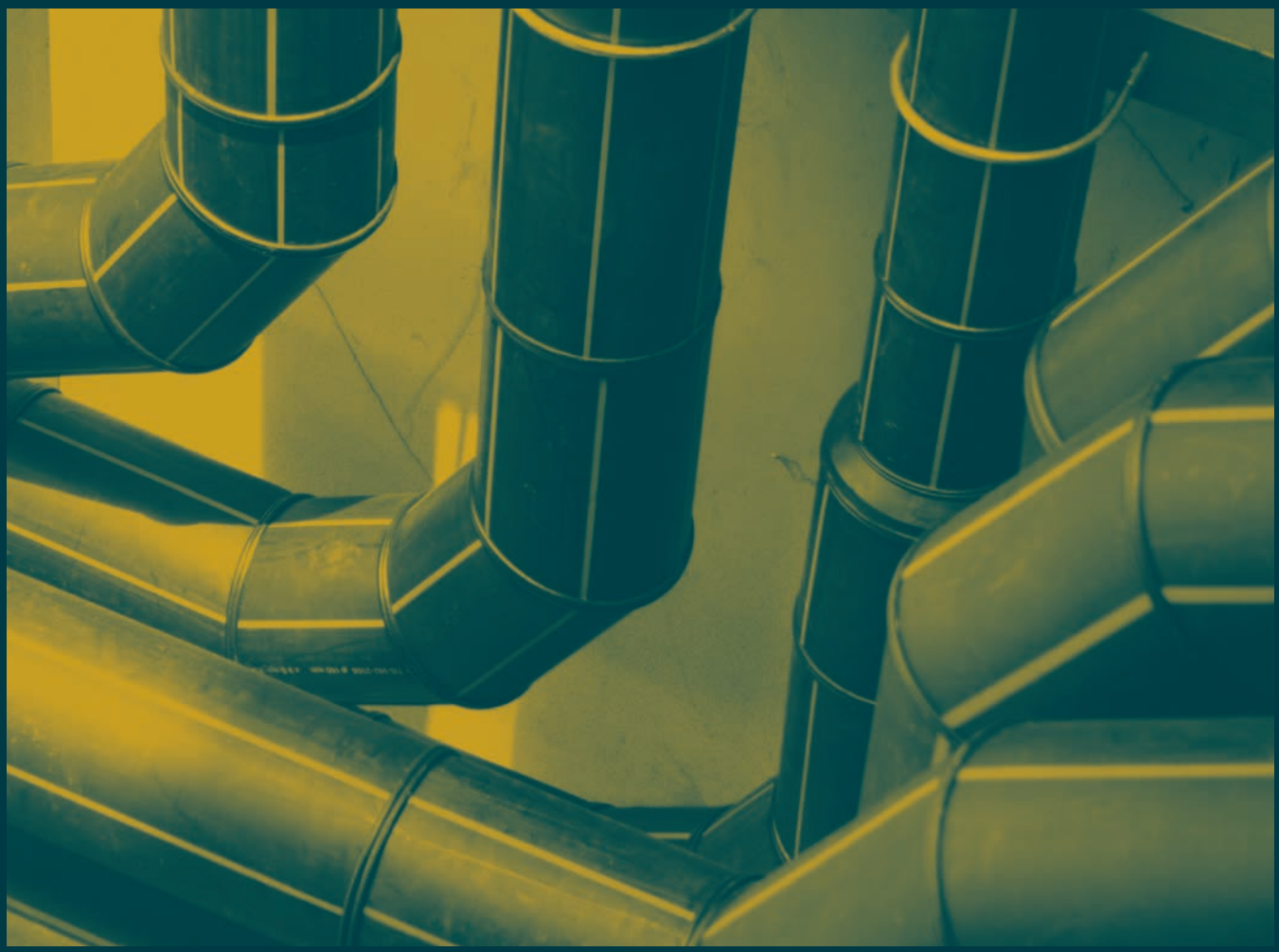
TECHNICAL DATA									
Models	**BTR 63**	**BTR 160**	**BTR 250**	**BTR 400**	**BTR 500**	**BTR 630**	**BTR 800**	**BTR 1000**	**BTR 1200**
Working range OD (mm)	10–63	10–160	40–250	90–400	160–500	250–630	250–800	400–1000	710–1200
Extra range OD (mm)		–	–	50–400	63–500	125–630	180–800	–	–
Cooling length (m)	6 / 9	6 / 9	6 / 9	6 / 9	6 / 9	6 / 9	6 / 9	6 / 9	6 / 9

Data contained in this catalogue are purely indicative and may change.

Precision engineered for every pipe

HDPE and LDPE pipe extrusion lines are designed to ensure consistent performance across a wide range of production needs. These systems offer flexibility, speed and reliability, supporting various pipe dimensions and applications.

Bausano focuses on delivering extrusion lines that combine durability with precise process control. Whether for large-scale infrastructure or smaller installations, each line is developed to ensure long-term efficiency and consistent output under any condition.



Extrusion lines for HDPE, LDPE and PP pipes

Polyolefins are macromolecules formed by the polymerization of olefin monomer units.
This means material like PP, PE, HDPE, LDPE and PEX. Polyolefin pipes can be used for many sectors and application. The current scenario shows a growing market demand for plastic piping material because, as a whole system, in addition to being a resource for new products, their features can outclass the environmental performance of other materials, also in terms of energy savings. In this connection, the production of polyolefin pipes has recorded exponential growth in many sectors, from infrastructure to civil construction, from industry to the Oil & Gas sector by virtue of the performance characteristics that make this family of plastic materials especially suitable for these applications.

As a matter of fact, polyolefins (PO) offer several advantages: first and foremost, polyethylene (PE) is the polymer with the highest production volume worldwide due to its unique combination of useful properties, guaranteeing high toughness, ductility, excellent chemical resistance, low permeability to aqueous vapour and minimal water absorption. The use of modern polymers such as PE100, the latest evolution of polyethylene, in pressurised ducting systems, guarantees resistance to external stress, specifically, to the risk of cracking, connected to the nature of the subsoil and installation methods. PE pipes rank first in trenchless installations, making laying easier and reducing the environmental impact, which also minimises risks for operators. What is more, multilayer pipes open new opportunities, in the case of applications with extremely high operating pressures, which were until now the domain of metal pipes.

Single-screw extruder series

Dynamic, flexible and international: these are the words that best describe the setting in which Bausano has been successfully active for over seventy years, and where it has stood out as a leading, world-class manufacturer of extrusion lines for processing plastic materials.
The company combines unique expertise and skills with an innovation-focused culture and actively addressing market needs, thanks to which it has developed E-GO, the new range of single-screw extruders for the production of PO pipes.

PO pipe: ranks first in many applications
Bausano stands out in the market owing to its strategic choice to pursue vertical integration, in terms of design as well as in-house production of extruders, to the advantage of superior efficiency of company processes, high quality standards and a well-balanced competitive position, thanks to full control over the value chain. In this context, it proactively deals with its customers, offering pre-sales consultancy aimed at identifying the most suitable formula to obtain the desired product and offer the best turnkey extrusion system.
E-GO single screw extruder range is the result of this evolution.

This new series is suitable for the productions of:
- PE, HDPE, LDPE pipes for water and gas distribution.
- PE-X, PE-RT mono and multilayer pipes for residential installation.
- PEX-A crosslinked district heating pipes.
- Latest generation polypropylene (PP-HM) suitable for drain pipes.
- PE 100 pipes for the mining industry.
- PO telecommunications and cable.

Screw design that drives performance
E-GO's strong plus is the geometry of its screw, which features customised design and differentiated pitch, and thus allows optimising the torque by increasing the machine output and making low-temperature processing possible also for materials like polyolefins. Recent developments in screw design have seen the creation of barrier screws with enhanced melting capability through shearing and mixing the material.

Main features
- Long effective life of grooved bush and processing unit.
- Constant output across the entire speed range.
- Lower melt temperature.
- Reduction of energy consumption thanks to induction heating system applied to the barrel.
- IoT technologies enable complete production monitoring, enhancing energy efficiency throughout the extrusion process.
- Reduced water cooling of the grooved feed bush and new drive concept.

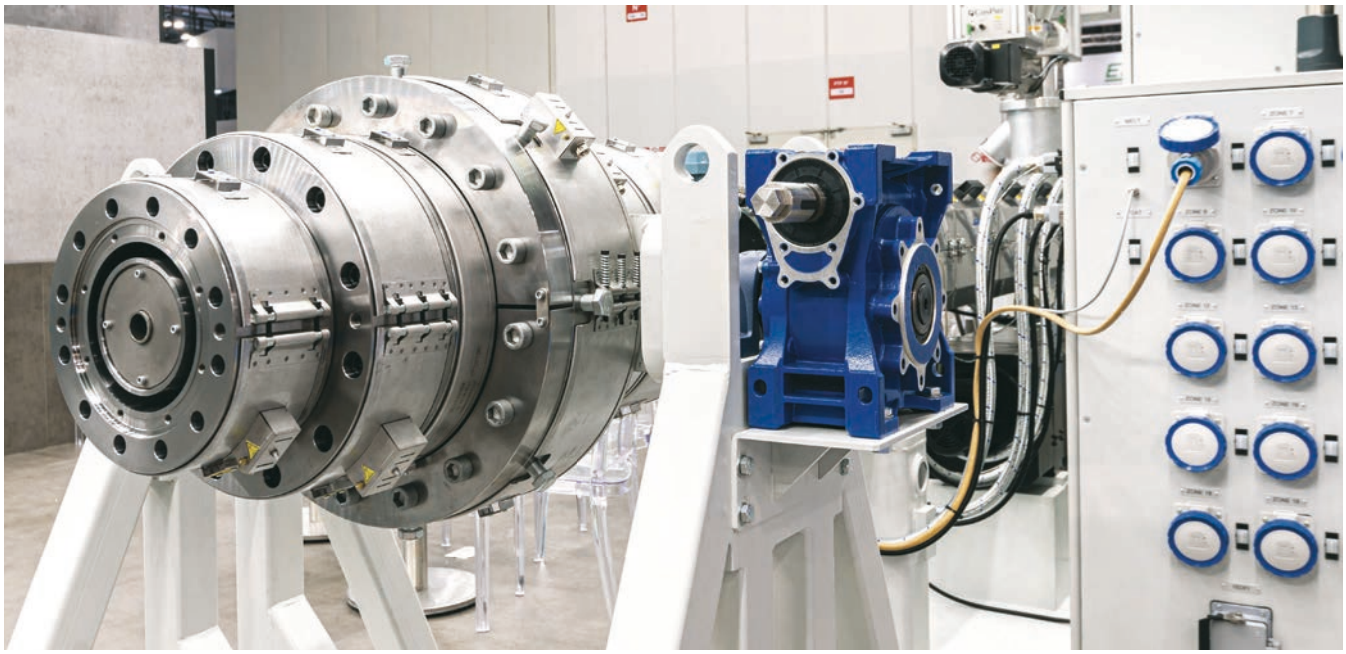


TECHNICAL DATA								
Models	**E-GO 45 LS / HS**	**E-GO 45**	**E-GO 60**	**E-GO 75**	**E-GO 90**	**E-GO 120**	**E-GO 125**	**E-GO 150**
Screw diameter (mm)	45	45	60	75	90	120	125	150
L/D ratio	30	37 / 40	30 / 37 / 40	30 / 37 / 40	30 / 37 / 40	30	37	37
PE100 output (kg/h)	100 / 200	350 / 520	350 / 600 / 830	550 / 850 / 1250	800 / 1200 / 1900	1100	1500	1700
PP-HM output (kg/h)	80 / 170	300 / 370	300 / 500 / 600	400 / 700 / 875	550 / 900 / 1200	800	1000	1200
Motor power (kW)	25 / 44	83 / 100	100 / 157 / 190	150 / 217 / 300	215 / 335 / 450	310	400	620
Cooling zone	4	5	4 / 5	4 / 5	4 / 5	5	6	8
Heating zone	4	5	4 / 5	4 / 5	4 / 5	5	6	8
Total power (kW)	38 / 55	95 / 140	120 / 175 / 230	180 / 245 / 340	290 / 365 / 500	360	480	730

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For specific needs or co-extrusion requirements, Bausano also offers a range of compact single-screw extruders: models E-GO 25, E-GO 30 and E-GO 35 ensure reliable performance even in low-output contexts. With screw diameters from 25 to 35 mm and L/D ratios up to 30, these machines are ideal for small-scale production or laboratory use. Output ranges from 4 to 80 kg/h.

Die head features for PO pipe



The standard head essentially consists of a feed plate, a spiral distributor, and an external casing. The head size depends on the number of spirals. All heads have the same spiral channel (only the number of channels differs), therefore they have the same distribution behavior during melting.
The heads with diameters larger than 90 mm have a through hole for internal pipe cooling. The larger heads, hence requiring a very high flow rate, have internal air cooling directly on the pipe head.
The head concept operates –even at high throughput at low backpressure therefore main screws are designed for max. 300 bar which leads to less and smaller screws. The melt feed has very large cross sections to be able to operate at low pressure buildup. The flow channel, after the spiral distributor, is larger in the cross section and has minimal length, in order to avoid unnecessary heat, load a thermal degradation to the material.

Optional pipe head features

A
Co-extrusion unit for thin external layers.

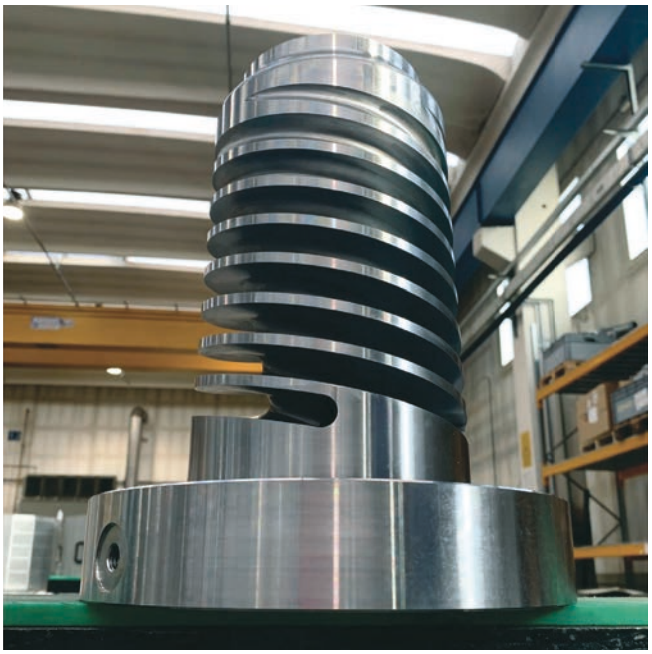
B
Colour strip ring on the nozzle.

C
Special adapter for the use of existing die sets.

D
Internal pipe cooling by air.

E
Internal head cooling by air, for the larger ones (from 90mm and above).

Pipe head distribution system

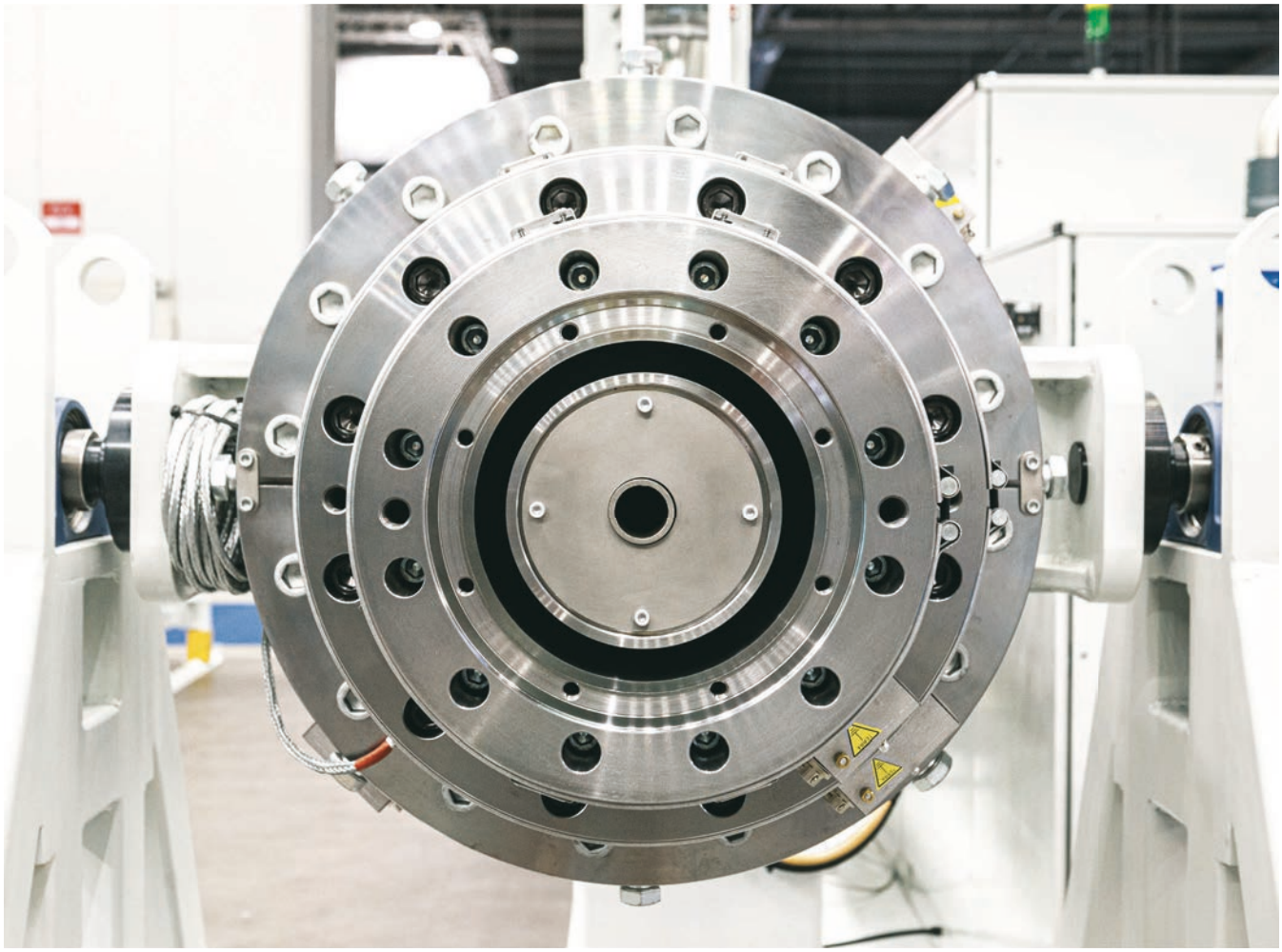


Spiral mandrel pipe heads ensure uniform melt distribution and boost product quality.
Their modular design allows flexibility for various pipe types and sizes, optimizing both process efficiency and output consistency.

The E-GO single-screw extruder features a set of specific components like a distribution system of the melt to be extruded. For the production of PE/HDPE/LDPE and PP pipes, a helical spiral or radial spiral distribution system is used.
These melt distribution systems are the most commonly used in extrusion for the production of pipes, blown film and for blow moulding in general. This is owing to the low overall dimensions and length and low buildup pressure of the system, excellent thickness distribution and a simple device for cooling within the pipe.

Also suitable for the coextrusion of melt flows with multiple helical spirals or helical radial and radial spiral, it is commonly used in cross heads for pipe coating.
Extruders are suitable for processing all plastics used in pipe applications like PP, PE, ABS, PPO, PEX, PPS, PA, fluor polymers as well as adhesive materials and EVOH. Application range goes from RTP pipes for high pressure and temperature application until speed pipes in size of 5 mm in multilayer structure.

HELICAL AND RADIAL DISTRIBUTION SYSTEM	
Pipe head distributors	**Suitable for materials like**
Helical spiral distributor with high operation capacity geometry for single layer heads and as main layer for co-extrusion heads.	PE 100, PE 80, PP high modulus, ABS, PVDF, also for filled and foamed polymers.
Helical spiral distributor with low operation capacity geometry for thin layer in case of co-extrusion.	PP-HM, PP-R, PP-R GF, PA, adhesives PE-X, EVOH and technical polymers.
Radial spiral distributor for low capacity for single layer heads in very short length and side feeding, or for thin coextruded layer.	PE, PP, adhesive, PA, EVOH, PE-X.



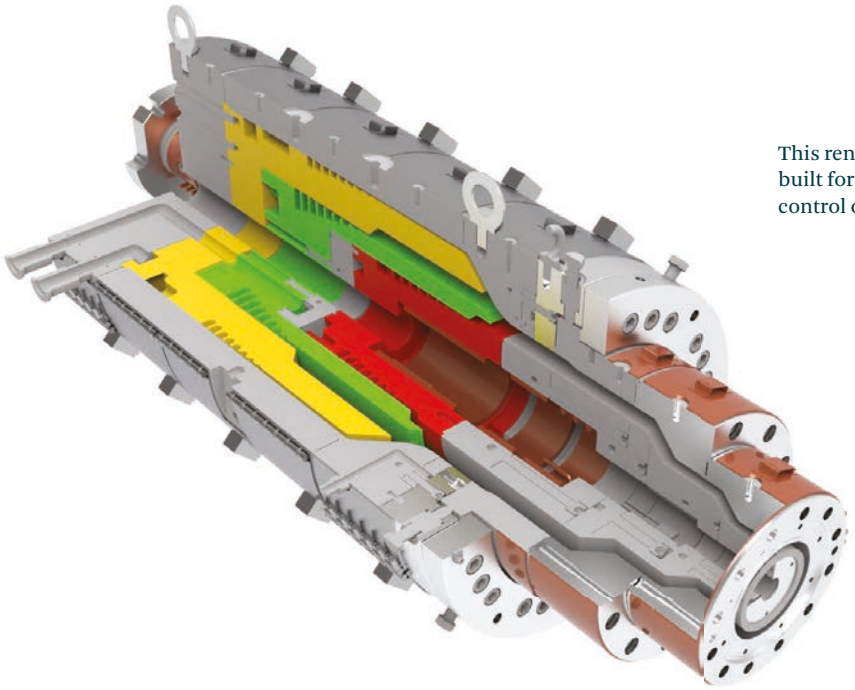
Mono-layer pipe die head

Bausano designs high-performance extrusion heads for single-layer pipes, ensuring productivity and quality. The modular setup with segmented mandrels and short dies allows fast changeover and reduced downtime. Constant flow ensures thermal stability and material homogeneity, while uniform wall thickness reduces overweight and raw material use. The IPC (Internal Pipe Cooling) system improves surface quality and significantly shortens cycle times.

TECHNICAL DATA							
Models	**PO 63**	**PO 160**	**PO 250**	**PO 450**	**PO 630**	**PO 800**	**PO 1200**
Dimension range OD pipe (mm)	5 – 63	16 – 160	20 – 250	50 – 450	50 – 630	63 – 800	250 – 1200
Throuput PE 100 / PP (kg/h)	200 / 150	500 / 400	800 / 600	800 / 600	1200 / 1000	1500 / 1200	1500 / 1200
IPC	–	–	√	√	√	√	√

Data contained in this catalogue are purely indicative and may change.

Multi-layer pipe die head



This render shows the PO 250 multilayer pipehead, built for high-volume production with independent control of inner and outer layer distribution.

Bausano designs multilayer die heads for optimal melt distribution and process reliability. The multi-spiral flow system allows a wide range of thickness ratios, ensuring uniform layers and preserving material integrity. Short dies and segmented mandrels enable fast changeovers and reduced downtime. Low backpressure minimizes melt temperature rise, preventing thermal degradation and ensuring dimensional stability. Die sets include compact gap rings for accurate calibration.

A dedicated IPC (Internal Pipe Cooling) system improves surface finish and significantly cuts cycle times in high-output extrusion. The spiral geometry ensures even wall thickness, while die sets remain compatible with single-layer head setups. Each die set enables a broader production range, and the compact design reduces heating needs and allows faster assembly. The integrated air-based IPC system enhances cooling efficiency for better productivity.

TECHNICAL DATA						
Models	**PO 3 63**	**PO 3 160**	**PO 3 250**	**PO 3 450**	**PO 3 630**	**PO 3 1200**
Dimension range OD pipe (mm)	5 – 63	16 – 160	20 – 250	50 – 450	50 – 630	250 – 1200
Throuput PE 100 / PP (kg/h)	500 / 400	800 / 600	1200 / 1000	1500 / 1200	1700 / 1300	2000 / 1500
IPC	–	√	√	√	√	√

Data contained in this catalogue are purely indicative and may change.

Cross die head

Designed for demanding extrusion tasks, these crossheads support a wide range of applications – from single-layer to complex multi-layer products. Built with advanced metallurgy and treated for durability, each unit ensures balanced flow and dimensional stability across varied process conditions. Suitable for high-throughput lines, they offer precision and flexibility even on large diameters, with configurations tailored to process needs.

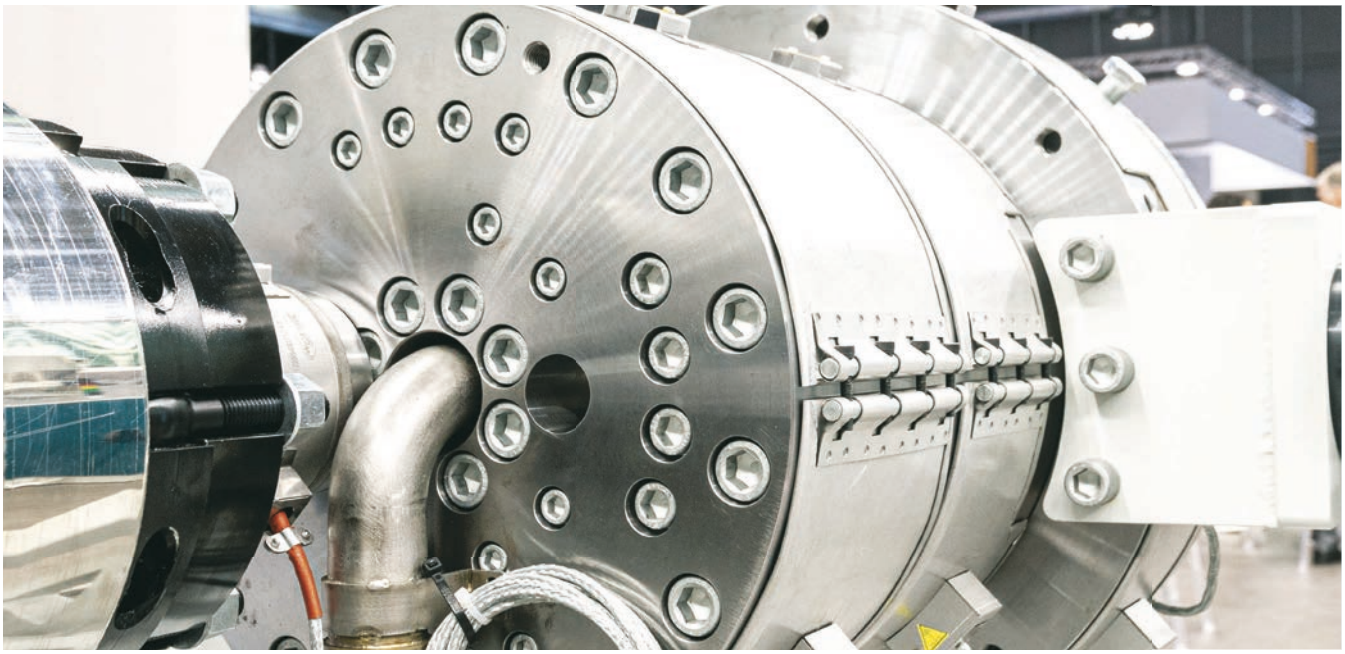
Main technical features

- Fixed or adjustable centering.
- Multiple steel options available.
- Heat-treated for extended life.
- Balanced multi-channel flow.
- Assembly tool kits included.
- Certified quality checks.

TECHNICAL DATA						
Models	**PO 63 CR**	**PO 160 CR**	**PO 250 CR**	**PO 450 CR**	**PO 630 CR**	**PO 800 CR**
Dimension range OD pipe (mm)	16 – 63	16 – 160	50 – 250	63 – 400	180 – 630	250 – 800
Throuput PE 100 / PP (kg/h)	150	300	600	800	1000	1200

Data contained in this catalogue are purely indicative and may change.

Internal Pipe Cooling (IPC)



The IPC system consists of a flow chamber, a calibrated distributor, and an external casing. The unit size depends on the pipe diameter. All systems share the same air channel layout (only the number of channels varies), so the cooling effect remains constant.
Units with a diameter above 90 mm feature a channel for internal pipe cooling.
Larger units, requiring a higher airflow, include internal air cooling directly on the pipe head.
The system works efficiently even at high output and low pressure. This allows the use of screws rated up to 300 bar and reduces their size and number. Air is distributed evenly to cool the inner pipe surface, reducing stress and oxidation.
The airflow path is wide and short to avoid heat buildup and prevent thermal degradation.

Optional IPC system features

A
Co-cooling unit for thin external layers.

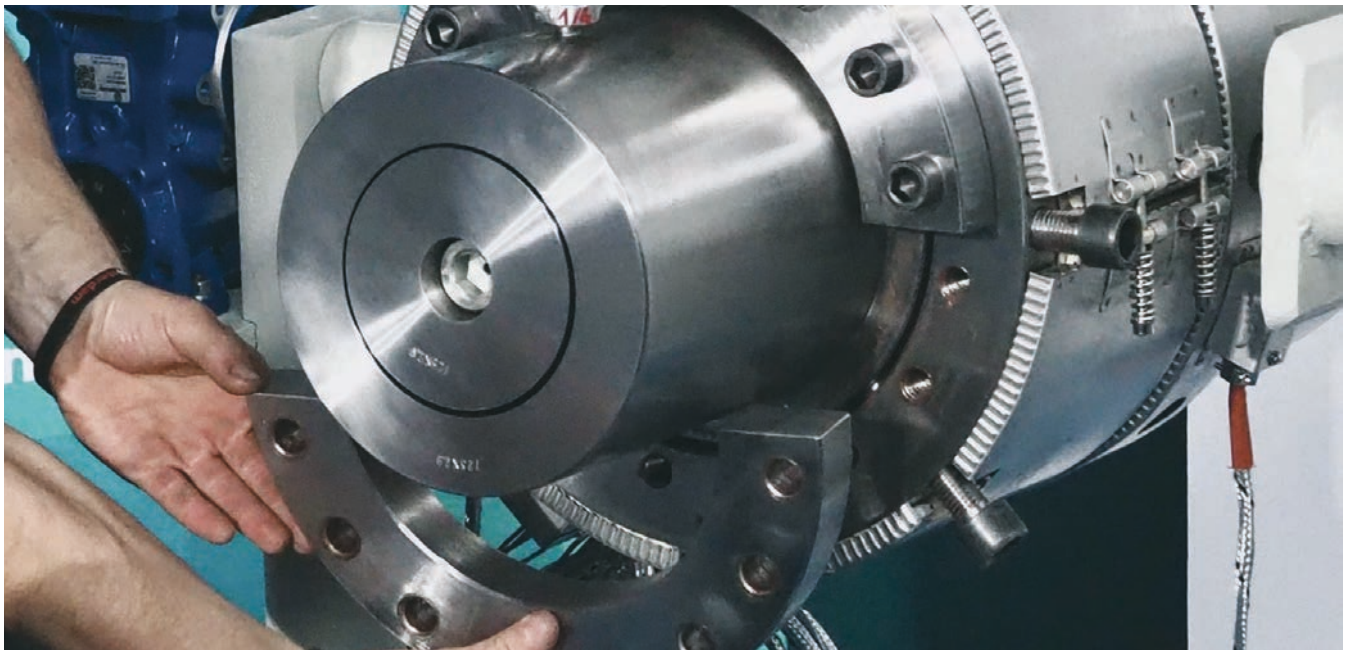
B
Color strip ring integrated at the nozzle.

C
Adapter for existing die compatibility.

D
Wide and short airflow path to minimize thermal stress.

E
Internal head air cooling for larger units.

Advanced pipe heads for adaptive sizing and flow control

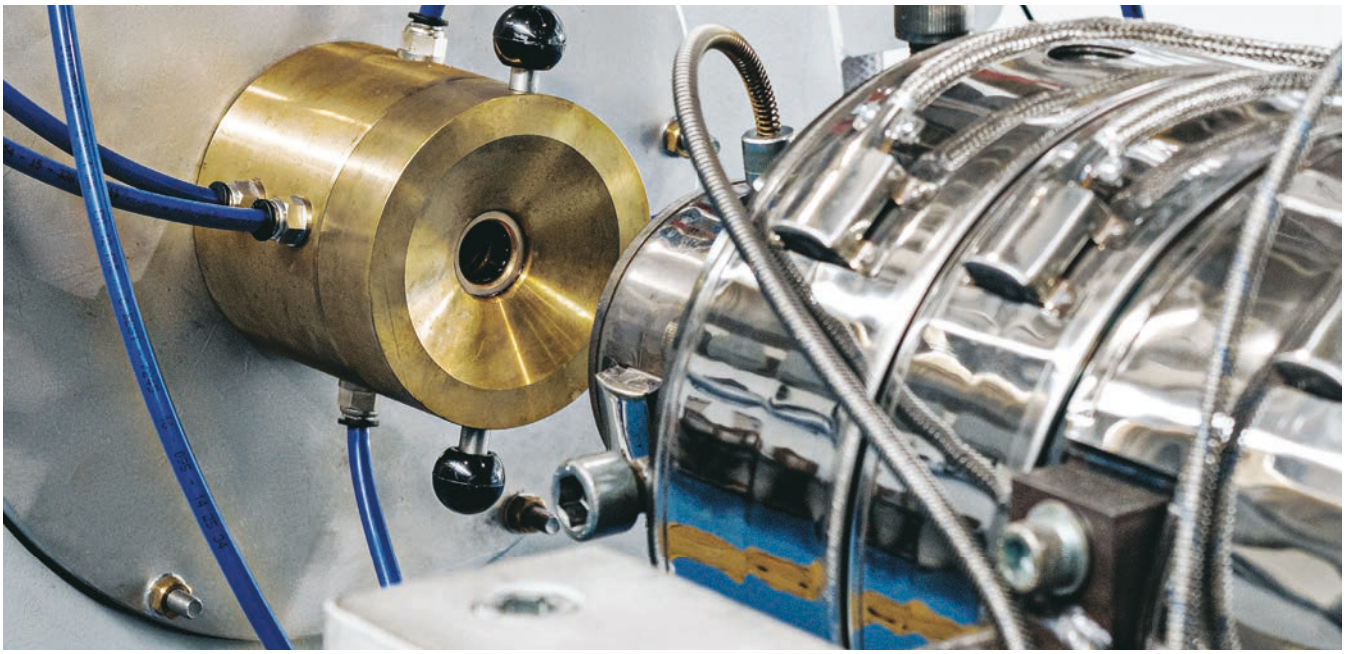


Polyolefin pipe heads have special features depending on the required production and the material being processed.

Co-extrusion unit
For the application of thin layers, a co-extrusion unit is installed between the basic head and the centring unit. The melt connection can be at the top left or right and may even include two co-extrusion units. These units are designed based on the radial distributor and have the advantage of uniform melt distribution and low operating pressure.

Centring unit
This is the part where the main extrusion set is fitted and where the melt hole is centred, by adjusting appropriate screws.
The unit allows fine-tuning of wall thickness and concentricity during production. The system is easy to access and adjust, making it ideal for frequent format changes. Mechanical settings are stable even under continuous use, ensuring high precision and consistent pipe quality.

PO pipe vacuum tanks



Through vacuum tanks the initial shape of the PO pipe is formed. In this phase, initial cooling is done, and polyolefin pipe will reach a steady shape. The calibration sleeves are short.

Short length of calibration sleeve features

- Lower friction and less pulling force.
- Better handling because of lower weight.
- Best influence of diameter via vacuum and cooling.
- Water temperature.

The number of calibration sleeves is reduced for the complete SDR range max

- Dry execution for bigger sizes ensures the best surface quality.
- Wide diameter range available from 5 to 1600 mm.
- Line speed depends on the tank version.

Bausano designs vacuum tanks adaptable to specific applications, providing effective solutions for a wide range of polyolefin types, sizes and production needs.

Two chamber option

The tanks are designed in different lengths to cool pipes up to higher diameters, with one or two chambers. The two chambers solution is an optional feature, but for materials like HDPE it is an important, if not essential, feature to be considered. The tanks are manufactured in-house with the highest quality and with a design that facilitates installation, operation and maintenance.

Two vacuum pump features

- Automatic vacuum control.
- Two vacuum pumps.
- Two circulation pumps.
- Water temperature control.
- Water level control.
- Motorized movement.
- Flow controller.
- Filter with bypass.

MAX. LINE SPEED FOR VACUUM TANKS			
Material	**Speed ranges**	**Execution to reach speed**	**Front ring**
LDPE & HDPE	Max. 150 m/min for	2 chambers in full immersion water cooling	Adjustable waterfront ring with water inlets and water outlets, with water hight container
HDPE & LDPE	Max. 35 m/min	2 chambers tank in water spray cooling	
PP-R	Max. 30 m/min for	2 chambers in full immersion water cooling	
PE-RT	Max. 35 m/min	2 chambers in full immersion water cooling	
EVOH on outside	Max. 20 m/min	2 chambers in full immersion water cooling	

Data contained in this catalogue are purely indicative and may change.

PO pipe cooling tanks



Bausano produces in-house stainless steel cooling tanks for PO pipes. Tanks are designed to provide constant pipe cooling and to avoid any deformation throughout pipe extrusion line.
A ventilation system cleans and dries the pipe as it exits the cooling chamber. The cooling tank is the last step before the pipe exits, fully formed and cooled.

An option tailored to your process
Bausano cooling tanks are built to ensure excellent pipe quality. They can be equipped with various features depending on the specific requirements of each custom project.

Cooling options and auxiliaries
- Full immersion water cooling.
- Flow filters and by-pass, for water treatment.
- Vacuum spray cooling / spray cooling.
- Air cooling inside the pipe IPC.
- Air cooling outside.
- Rounder rollers.
- Easy height and lateral adjustment.
- Water temperature control by thermostatic valve.
- Circulation pump.
- Water temperature and level control.
- Water filter.
- Saddles to maintain the pipe shape during calibration and cooling process.

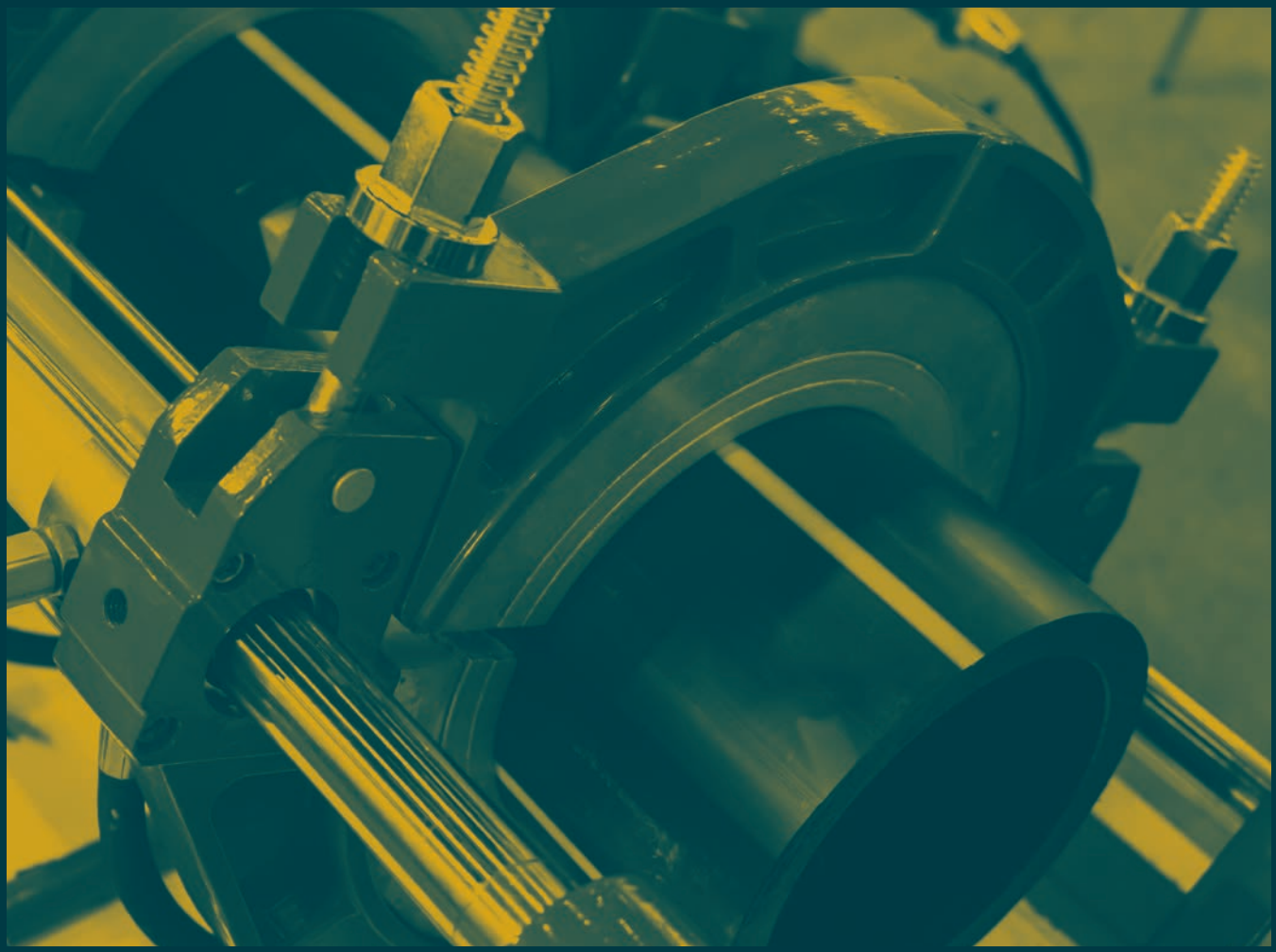
Optional features
- Special lengths available upon customer request.
- Possibility to equip the tanks with wheels and rails for longitudinal movement.

TECHNICAL DATA	
Cooling method	**Diameter range (mm)**
Full immersion cooling	5-32
Full immersion cooling & spray cooling	5-32
	40-63
	40-110
Spray cooling	20-110
	110-1600
Internal pipe cooling	110-1600

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Downstream systems

Measuring systems are designed to verify pipe geometry throughout the extrusion process. They support dimensional accuracy, help maintain quality parameters and ensure compliance with production requirements. Suitable for various pipe sizes and materials, they operate without interfering with line speed.



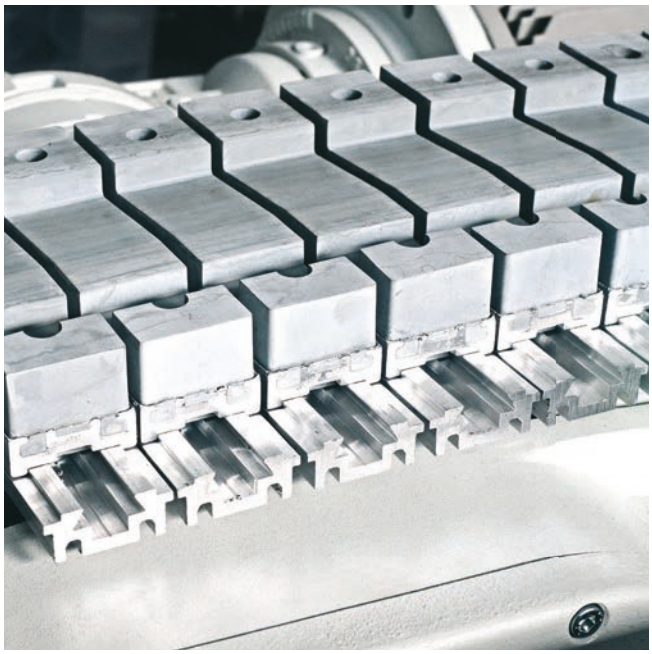
Precision handling in pipe extrusion

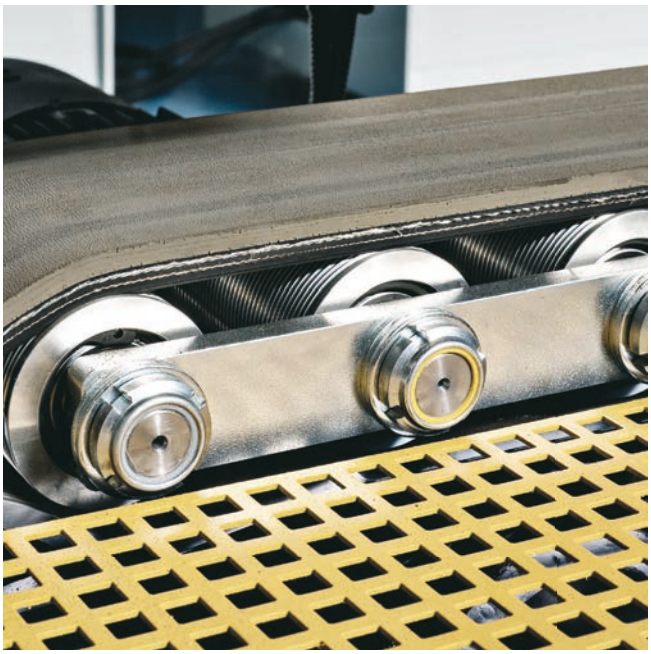
Haul-off and cutting systems are essential in maintaining process stability throughout the extrusion line. They ensure that the pipe is guided with constant speed and consistent force from the cooling stage to the final cut. Designed to adapt to a variety of materials and diameters, these systems help preserve surface integrity while keeping the extrusion flow uniform. The controlled movement reduces stress on the pipe and allows accurate calibration during downstream handling. In addition, the combination of mechanical grip and synchronised automation supports high production speeds and dimensional consistency under all working conditions.

Precision cutting for reliable results
Cutting units complete the pipe extrusion process, ensuring clean separation without affecting the pipe structure. Depending on the diameter and application, the system can include rotating blade cutters or planetary saws, both capable of delivering sharp, burr-free cuts. Every cutting unit is designed to work in full synchronisation with the haul-off, minimising vibration and material waste. This results in high efficiency, reduced maintenance and a reliable cycle, even under continuous or multi-shift operation.

Integrated systems for continuous performance
Bausano integrates haul-off and cutting units into the overall control architecture of the extrusion line. Operators can manage speed, torque and cutting intervals directly from the main interface, ensuring a seamless process from melt to final product. Each system is engineered for long-term durability, using high-quality components tested for industrial use. This allows manufacturers to meet demanding production standards while optimising energy use and reducing downtime. Whether for infrastructure, gas, cable protection or pressure applications, Bausano's downstream systems deliver trusted performance with every meter produced.

Haul-off unit





To complete its extrusion lines, Bausano provides haul-off units with 2, 3 or 4 tracks, featuring flat or profiled rubber pads. Special versions include adjustable pick-up systems to suit specific production needs. Each unit is powered by dual independent epicyclic gear reducers with frequency inverters for accurate, continuous speed control. The upper track features pneumatic tilting with micrometric adjustment, while the lower track includes a vertical mechanical system.
Bausano haul-off units are designed to ensure precise handling, regardless of pipe size. Strong and stable in structure, they guarantee uniform traction without marks or deformation.

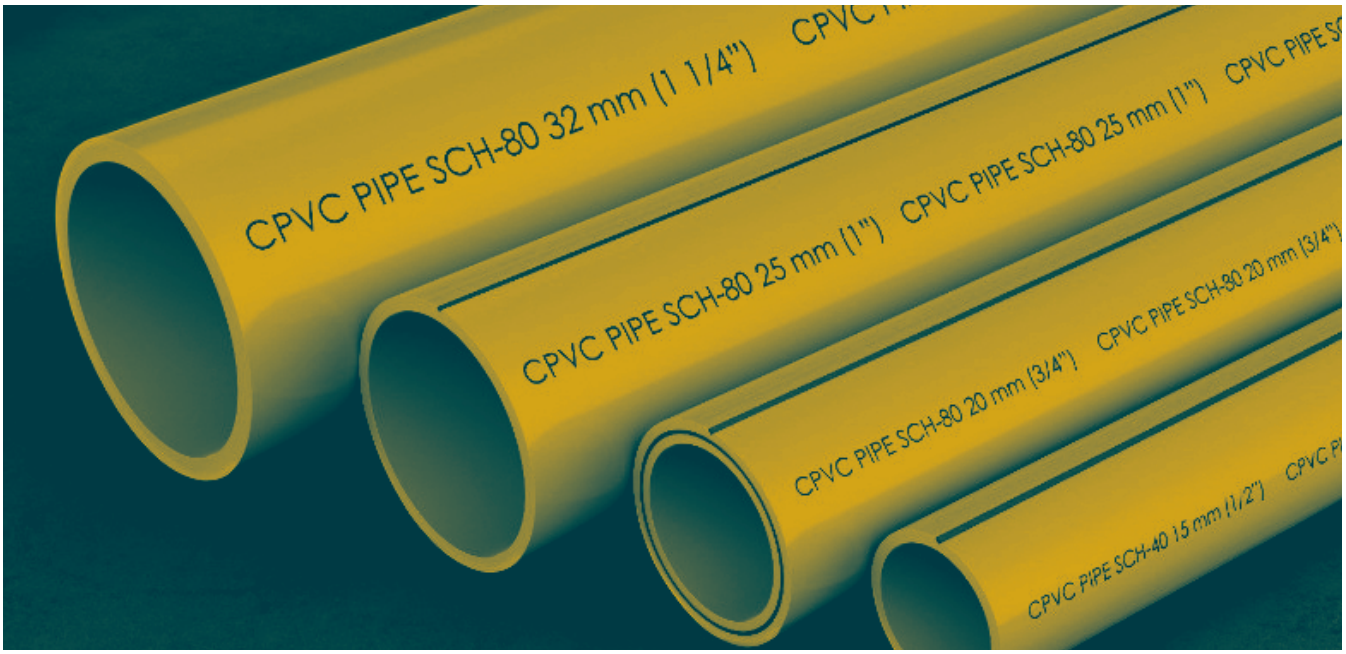
Caterpillar haul-off
Bausano pad haul-offs are designed for durability, flexibility and ease of maintenance. Compact and robust, they allow quick access to tracks for cleat replacement. Key features include:

- Different dowel sizes to remove pipes gently without affecting shape or surface.
- Cleats customised to fit the profile geometry.
- Quick-change system for fast cleat replacement.
- Full front access to both chain carriages for easy maintenance.

For both configurations, a wide selection of contact lengths, widths, speeds and pulling forces is available. All chassis are precision-welded to ensure maximum structural stability.

Belt haul-off
Bausano supplies a wide range of haul-off belts which ensure high resistance to abrasion, excellent grip properties and a precise finishing that guarantee an homogeneous coating, for a perfect adherence to the extruded material.
The Bausano belt haul-offs are used for continuous extrusion of pipes. They are known for especially consistent performance even at high production speeds. The belts are driven by brushless AC servo drives. Both belts can be mechanically or pneumatically adjusted in height. The belts can also be supplied with a cellular vulcanised or rubber layer.

Cutting unit



Bausano offers a wide range of PVC and PO pipe cutting units and planetary cutting devices that can be also controlled with an integrated touch screen. Bausano cutting units are modular and ergonomic and are provided with automatic pneumatic movement that does not require manual operation for adjustments such as cut length, trolley forward and backward speed.

Features

- Vertical pneumatic cutter.
- Longitudinal traverse.
- Milling cutter-holder carriage.
- Ball-bearings sliding on hardened and chromeplated guides.
- Electronic device for the presetting of cutting length, controlled by encoder.

Advanced features

- In-line automatic planetary cutter with double cutting arm for cutting and chamfering rigid plastic pipes from.
- Combined cutting cycle, without leaving cuttings inside the pipe.
- Complete with cuttings and dust suction and collection device, with jumbo bag (bigger capacity bag) and automatic dust and cuttings bag change.
- Electrical system with PLC including the function of 3-presetting length measurer for cutting control enabled by an encoder.

On the previous page
Haul-off units can be equipped with either smooth pads or cleated pads. Smooth pads are ideal for preserving the pipe's surface finish, while cleated versions offer greater grip for heavy or thick-walled pipes. Each type is selected based on the required traction and pipe protection needs.

Bausano
Pipe extrusion lines

Bausano S.p.A.
Corso Indipendenza 111
10086 Rivarolo Canavese (TO) - Italy
Tel. +39 0124 26 326
www.bausano.com

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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.

Bausano

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