

PELLETIZING & PULVERIZING SYSTEMS >

> UNDERWATER PELLETIZING



PEARLO®

Underwater pelletizers for highly profitable throughput rates of up to 36,000 kg/h



The PEARLO® underwater pelletizer has been designed to process a wide range of polymers and thermoplastics. PEARLO® works perfectly with our process water system PURO® and pellet dryer eXso and produces mostly spherical pellets. This efficient and flexible system is applied in the production of raw materials, compounds, masterbatches, engineering plastics, wood polymer composites, thermoplastics elastomers, hot-melt adhesives, gum base and in the field of recycling. We help our customers to achieve the maximum level of profitability with the know-how of an installed base of more than 7,000 pelletizers.

Your benefits

- Outstanding pellet quality due to unique cutter hub design and optimized water flow within the cutting chamber
- Single-handed opening and closing of cutting chamber is quick, convenient and safe
- Fast product changeover -- cleaning, assembly and start-up are kept to a minimum
- Unrivalled long lifetime of the cutting tools supported by advanced designs of cutter hub and cutting chamber
- Maintenance-free automated (EAC) or manual blade adjustment for highest process stability

PEARLO®

Functioning and applications

Functioning of the PEARLO®

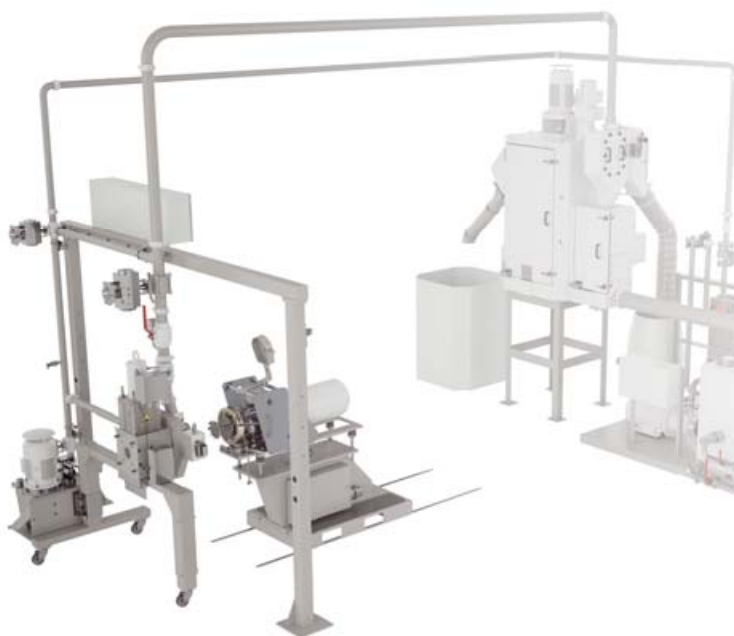
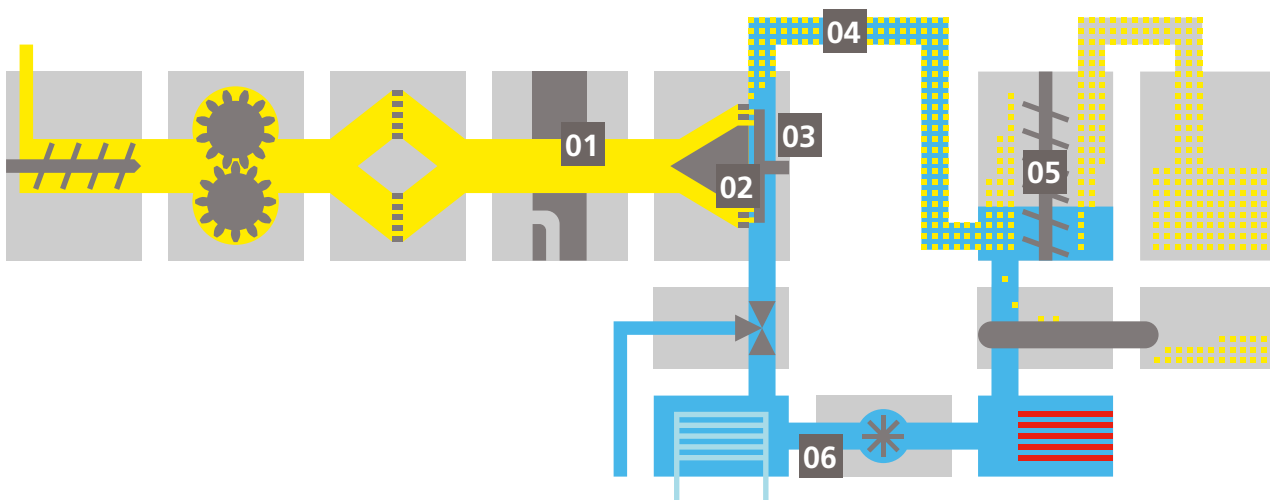
The plastic melt is conveyed in a process-controlled way to the die plate via the hydraulic start-up valve **01**.

In the heated die plate **02**, the melt is channeled into holes arranged in a ring shape and extruded into the cutting chamber **03**, which is flooded with process water.

The cutter head with the clamped blades is guided to the die plate where the polymer is cut into pellets and then conveyed to the dryer **04** by the process water.

In the dryer, the pellets are separated from the water and conveyed onward for subsequent processing **05**.

The process water is filtered, tempered, and then returned to the cutting chamber **06**.



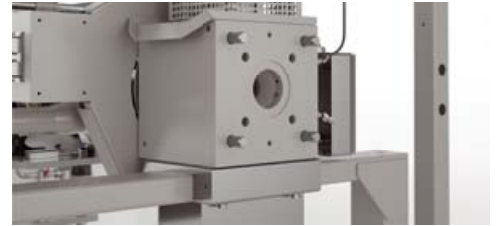
Range of applications

PEARLO® pelletizers are well-suited for the production of raw materials as well as for the manufacture of compounds, blends, masterbatches, and recycles based on:

- Polyolefins, e.g., LDPE, HDPE, PP
- Styrene polymers, e.g., PS, SAN, ABS
- Acrylic resins, e.g., PMMA, PAN
- Polyacetals, e.g., POM
- Polycarbonates, e.g., PC
- Polyesters, e.g., PET, PBT, PEN
- Polyamides, e.g., PA 6, PA 6.6, PA 11, PA 12
- Thermoplastic elastomers, e.g., TPE-S, TPE-E
- Polyurethanes, e.g., TPU
- Hot-melt adhesives
- Rubber
- Natural and synthetic resins
- Biopolymers, e.g., PLA, PHA, Bio-PA, Bio-PET, Bio-PP
- Other plastics available upon request

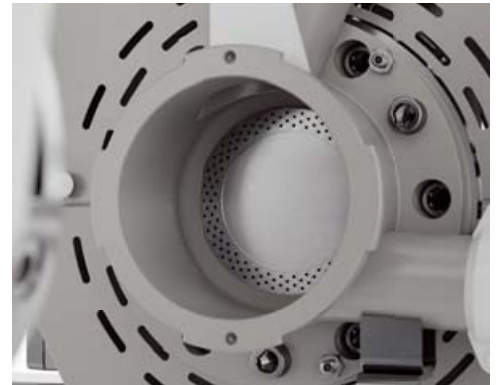
Start-up valve for process reliability:

- Hydraulic activation guarantees quick and reliable start-up
- Heated and optimally designed flow channel
- Flexible connection to upstream components
- Simplified and controlled start-up of the underwater pelletizing system



Die plates optimized for every product:

- Electric or liquid heating with multi-zone heating concept
- Thermally insulated die plate HeatFlux offers up to 70% savings in energy costs
- Silicone-free sealing method
- Operator-friendly, quick-change removable center die plate
- Narrow-width die face = wider operating window
- Die plate with special design for micropellets
- Optimal heating guarantees thermal continuity and uniform distribution of particle size
- Die plate online grinding tool for minimum downtime



Cutter hub with turbine-style plate design:

- Flexible cutting hub design
- Direct displacement of the pellets due to the hydrodynamic design of the blades
- Optimized product flow due to countersunk mounting screws -- wear, dust and agglomerates are minimized
- High machine availability and extended runs thanks to long wear zone of single-sided long blades



- EAC (electronically adjusted cutter) blade advance for precise blade adjustment
- Optional with manual adjustment (MAP)
- Safe connection of pelletizer to the cutting chamber by rotational clamp
- No need for additional safety keys
- Automatic start and stop at pelletizer



Cutting chamber with optimized flow conditions:

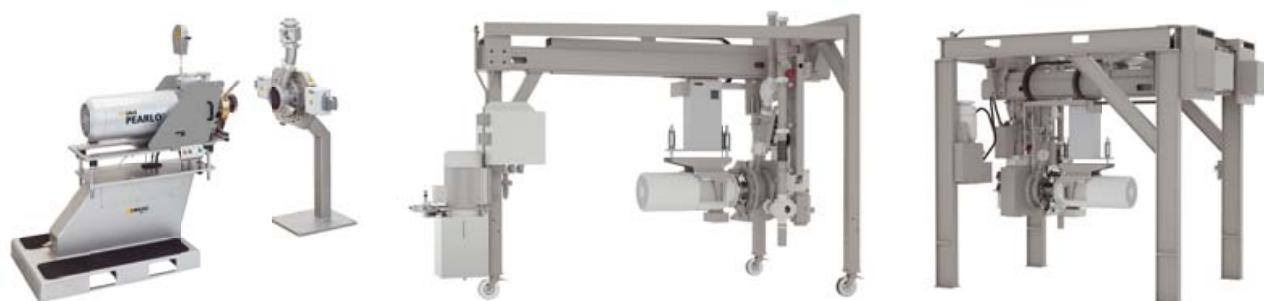
- Perfect start-up procedure by tangential cutting chamber in- and outlet
- Elimination of agglomeration for most applications
- Reduced pellet adherence
- Tangential design of inlet and outlet guides the water flow for optimized pellet cooling



PEARLO® setup options

Our system components are highly reliable, durable, and operator friendly and have been designed to optimize your pelletizing process. In close cooperation with you, we will find the right solution to increase efficiency and meet all your process-related demands.

PEARLO® is offered as a floor mounted and as a top-mounted version depending on your specific requirements. The top-mounted PEARLO® comes either on 3 pillars with all components suspended while the frame is fixed on the floor or completely movable. On the 4-pillar and customized versions, the suspended components are moveable sideways. Thanks to our outstanding process and engineering know-how, we will find a way to mount the pelletizing system to your ceiling or to a frame customized to your existing shop floor situation.



Technical data

PEARLO® Size	Rate window [kg/hr]	Mounting options			
		floor	top - 3 pillar	top - 4 pillar	customized
50	0 - 300	X			X
90	150 - 1,800	X	X		X
160	1,000 - 6,000	X	X		X
220	3,500 - 9,000	X	X	X	X
350	6,000 - 16,000	X	X	X	X
X-Size	10,000 - 80,000	X			

