PEARLO®

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

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

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 CYCLO® 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.
**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 recyclates based on:

- Polyolefins, e.g., LDPE, HDPE, PP
- Styrene polymers, e.g., PS, SAN, ABS
- Acrylic resins, e.g., PMMA, PAN
- Polycetals, e.g., POM
- Polycarbonates, e.g., PC
- Polystyrenes, 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
PEARLO®

Features

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®

Technical data and setup options

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

<table>
<thead>
<tr>
<th>PEARLO® Size</th>
<th>Rate window [kg/hr]</th>
<th>Mounting options</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>floor</td>
</tr>
<tr>
<td>50</td>
<td>0 - 300</td>
<td>X</td>
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<td>90</td>
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<tr>
<td>350</td>
<td>6,000 - 16,000</td>
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<tr>
<td>560</td>
<td>10,000 - 36,000</td>
<td>X</td>
</tr>
</tbody>
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Global contacts, see www.maag.com
Contact us at contact@maag.com