

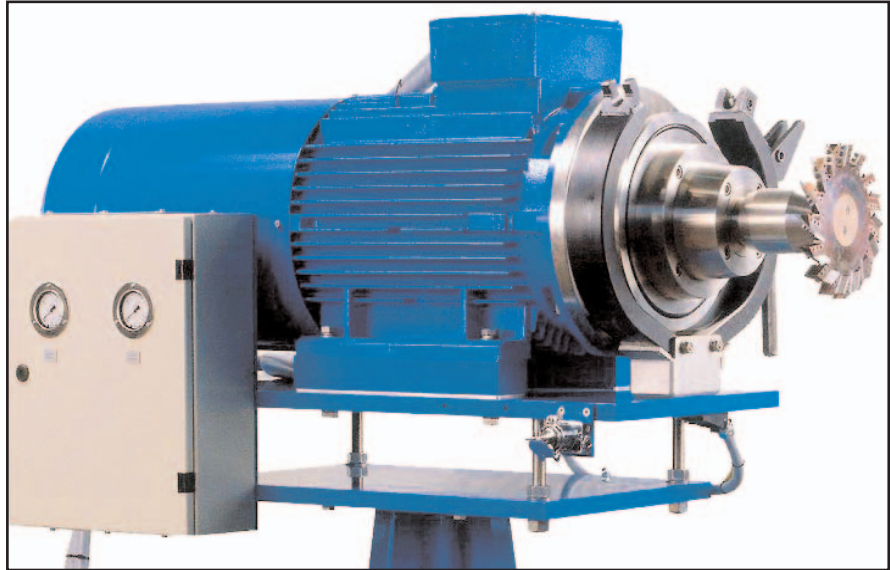


UNDERWATER PELLETIZERS

Gala Underwater Pelletizers are used to produce marketable pellets from a wide variety of thermoplastics and elastomers, partially filled plastics, virgin resins, and polymers having very low viscosity.

Gala Underwater Pelletizers are used worldwide for —

- R&D
- Pilot operations
- Virgin resin production
- Secondary compounding
- Masterbatch operations
- Post-industrial & post-consumer repelletization

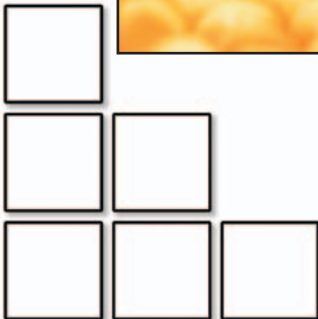


There are thousands of Gala systems in the field being used for producing pellets at rates of 2 kg/h to 15,000 kg/h (5 lbs/hr to 33,000 lbs/hr), which demonstrates the strength of this technology and the position of Gala in the worldwide market.



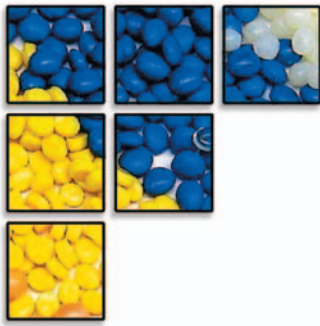
Advantages of Gala Underwater Pelletizers —

- Easy and simple to clean
- Energy efficient
- Compact, less space required
- Ideal horizontal melt flow; no 90° angles or dead areas
- Designed for various polymers
- Low maintenance
- Low production costs
- Pellet sizes from 0.2 mm to 12.0 mm
- Low noise emissions
- Support by 24-hour service, 365 days a year worldwide



UNDERWATER PELLETTIZERS





GALA'S UNDERWATER

A5-PAC Hydro-Pneumatically Adjustable Pelletizer

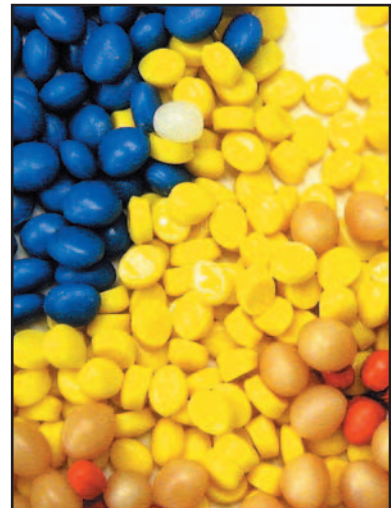
The Gala A5-PAC pelletizer offers the newest technology available in underwater pelletizing with fully automated control of blade adjustment, positioning and monitoring. Gala's patented hydro-pneumatic design incorporates the ease of use and cleanliness of pneumatic controls with the precision and stability of hydraulic controls, yielding improved blade and die face life and minimal need for operator supervision.



While constantly monitoring the operating conditions of the A5-PAC pelletizer, the Gala control system automatically makes any necessary adjustments to the blade position in order to provide a clean cut pellet without creating excessive blade-to-die forces that can cause premature wear on these components. As the blades eventually approach the end of their wear life, a signal is given to the operator so that the system can be temporarily shut down for a blade change, which normally takes no more than 2 or 3 minutes. Since these monitoring and adjustment processes are handled within the Gala A5-PAC control system, the user has the advantage of a totally reproducible pelletizing process with maximum service life of components.

Requirements of a state-of-the art pelletizer:

- Variable options for controlling the force of the cutter hub advance
- Operator independent and reproducible pelletizing process
- Optimization of the service life of die plate and blades
- Automatic message at the end of the service life of the blades
- High wear resistance and low maintenance requirements
- Full control of blades
- Minimum number of parts
- Fully automated control



PELLETIZERS



MAP Manually Adjustable Pelletizer

The MAP pelletizer features a manual hand wheel to adjust the blades to the die face. The manual adjustment system requires extremely low maintenance. This simple blade adjustment design allows for visual blade wear indication. The unique design of the axial advance system replaces the need for a bearing housing assembly. The MAP design requires only one long life thrust bearing for accurate adjustments.

Many complex polymers combined with customer preference having created a demand for this simple and robust design. The operator adjusts blades as necessary. Accurate adjustment provides maximum manual operator control and blade position.



SLC Spring Loaded Pelletizer

The SLC (Spring Loaded Cutter) pelletizer utilizes a spring loaded cutter to adjust blades against the die face. Different springs are provided in order to properly match blade, die, and polymer combinations.



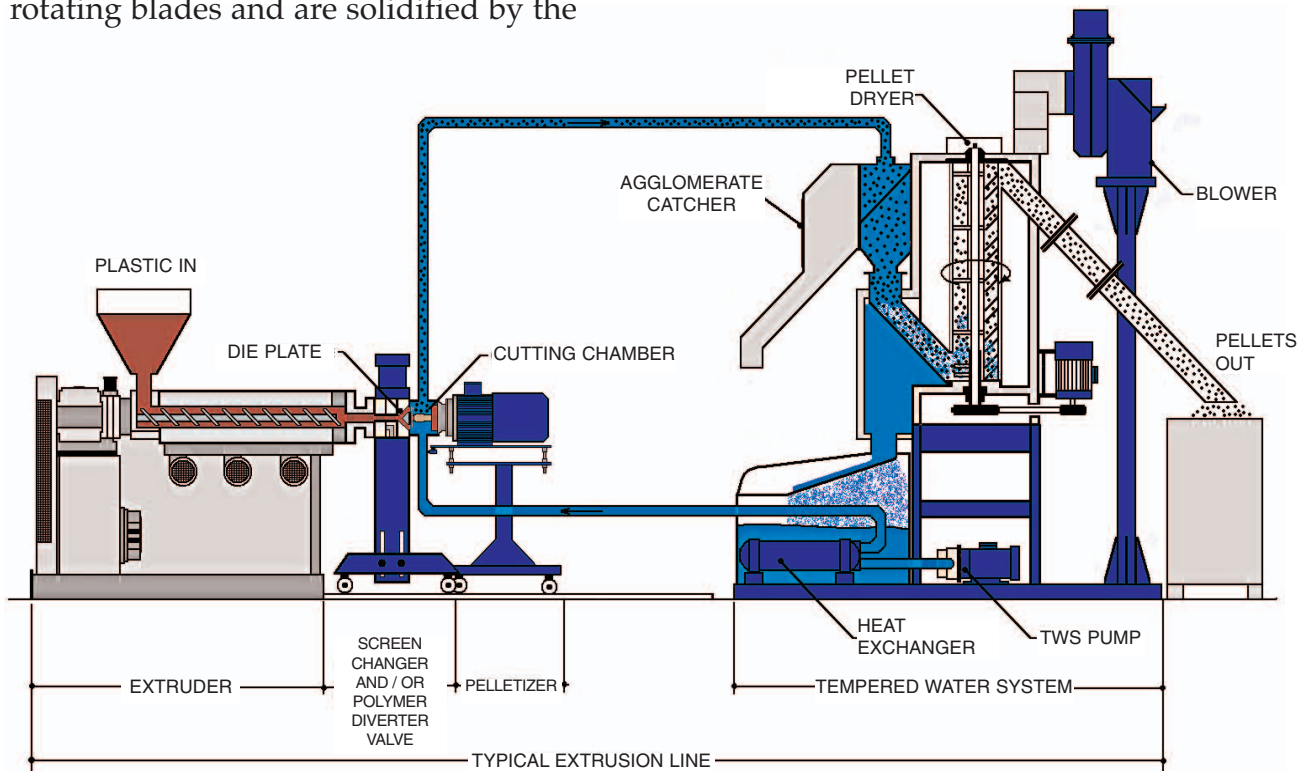
Underwater Pelletizing System

UNDERWATER PELLETTIZERS

PROCESS SCHEMATIC

The process schematic shows the flow of resin through a Gala Underwater Pelletizing System. Material is fed into an extruder or melt pump, which forces the molten polymer through a screen changer and/or polymer diverter, then through the pelletizer die plate. As the polymer emerges from the die, pellets are cut by rotating blades and are solidified by the

process water flowing across the die face inside the cutting chamber. The process water transports the pellets to a centrifugal dryer where the water is removed and the dry pellets are discharged. The process water is contained in a closed loop so there is minimal water loss and very little housekeeping involved.



Covered by all or more of U.S. Patent Nos. 4,728,276; 4,447,325; 4,621,996; 4,888,990; 4,896,435; 5,059,103; 5,403,176; 5,265,347; 5,624,688; 5,638,606; 6,138,375; 6,237,244B1; 6,332,765; 6,551,087B1; 6,739,457; 6,793,473; 6,807,748B2; and Patents Pending, as well as foreign patents and applications. Gala trademarks are registered under US Registration Nos. 2846928, 2333008, 2045090, 2034576, as well as foreign registrations and pending applications for registration.

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