

PELLET CONDITIONING SYSTEM (PCS)

Pellet Processing Systems for the Plastics Industry



The Pellet Conditioning System (PCS) is designed to allow pellets to have a longer time in the process water before going to a dryer. This could be due to the material needing additional time to crystallize, or simply because certain physical properties of the pellet are better with the additional time.

Your benefits

- Ideal for slow-crystallizing polymers
- Improved physical properties
- Great for product development
- Excellent for cooling pellets

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Gala's patented Rotary Valve

All of these systems are custom designed to meet the needs of the application, whether only a few minutes of residence time are needed or a few hours. The residence time can easily be changed on the touch screen of the control system. This offers much more flexibility than a long pipe spool, which only allows a small amount of change to the total residence time based on the water flow rate from the pump.

For crystallization applications, the pellets going into the PCS will be tacky and want to stick to each other. Because of this, it is important to minimize the areas where pellets can gather prior to being in the tank. To address this issue, Gala has designed a rotary valve that has a common inlet, but multiple outlets that will send the slurry of pellets to the appropriate tank when required. The valve design eliminates any dead areas that would allow pellets to gather and potentially stick together.

The tanks are equipped with an agitator to continually move the pellets while they are in the tank. The design of the tanks retains the pellets, but allows the water to return to the process and be reused, making the water a closed-loop circuit. Optionally, the tanks can be insulated, or fitted with a heater, as the application requires.

A lab-scale system has been installed in Gala's Technical Center in Eagle Rock, VA. It can be integrated to work with Gala's twin screw extrusion lab or the melt vessel that is on Gala's Hot-Melt Adhesive lab. Please contact Gala to discuss your application. A lab trial can be conducted with the material to confirm the parameters before sizing a production scale system.

Applications:

- **Ideal for slow-crystallizing polymers** – The PCS can be sized to fit any material rate and required residence time.
- **Improved physical properties** – For some materials, pellet hardness can be increased and pellet tack can be decreased due to the additional time in the process water.
- **Great for product development** – Residence time is easily adjusted for the various running conditions that may be required for product development.
- **Excellent for cooling pellets** – For materials that retain heat, additional residence time can be used to cool the pellets prior to packaging.

