TEMPERED WATER SYSTEMS

TWS-20 with IS water tank and 2016BF Dryer

INTEGRATED SIEVE (IS™) TEMPERED WATER SYSTEM

Gala's IS (Integrated Sieve) Tempered Water System features a V-wire screen mounted directly under the dryer water outlet to filter solids from the process water prior to recirculation to the pelletizer. The screen is easy to remove for cleaning, reducing downtime between product changes. TWS 20 – 80 systems are skid mounted.

Quick Specs:

- Quick and easy access for cleaning
- Fully enclosed system
- No hidden corner areas
- Integrated filtration
- Minimum floor space

Tempered water system tank with band filter medium to remove down to 20 µm particles

Tempered water system tank with integrated fines removal screen system to remove down to 300 µm particles

CONTINUOUS BAND FILTRATION (CBF)

Gala's continuous Band Filtration (CBF) system is designed as a retrofit for the pellet production line where there are fines created regularly on some products and operator attendance would normally be required to clean the IS (integrated sieve) drawer frequently during production. After installation of the CBF, the operator does not need to monitor the system. The advance of the filter media is continuous and needs no activation to catch fines larger than 150 µm. Process water contamination is eliminated in most cases. The fines are continuously separated from the process water and collected in a mud cart.

Continuous Band Filte

TEMPERED WATER SYSTEMS

Support

Supported by 24-hour Service Worldwide!

Technical Support:

Gala has earned its reputation for providing prompt, dependable service – before, during and after the sale. The mobile phone number of every technician is published on our website so they are available 24 hours a day. Every Customer call is handled with priority.

Training:

Customers are able to order classroom and hands-on training for operators and maintenance personnel on all of our Gala-manufactured equipment, either at the Customer's facility or at Gala's Technical Center.

Technical Centers:

Gala's technical centers are available to Customers who wish to evaluate the suitability of a Gala System for purchase, for assistance in product development, R&D, or for product market sampling.

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Global contacts, see **www.maag.com**
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TEMPERED WATER SYSTEMS

Pellet Processing Systems for the Plastics Industry

Gala TECHNOLOGY

Gala's tempered water systems are typically used with the Gala pelletizing systems, but are also available for high-capacity pelletizing systems.

Your benefits

- Automated start-up & shutdown
- Redundant safety interlocks
- Optional: steam-tight | insulated | hot face protected
- Clean operation with easy access
- Low energy consumption
- Efficient closed-loop filtered water system
- Low noise
- Suitable for various polymers
- Minimal floor space
- Low maintenance
- Minimal water consumption
- Low production costs

TEMPERED WATER SYSTEMS

Function and Application

INNOVATIVE WATER SYSTEM AND DRYING TECHNOLOGY – These modern water systems were upgraded especially for compounders and manufacturers of masterbatch performing frequent product changes. Any fines produced during the cutting or drying process are filtered out, eliminating the need to change the process water after product or color change in most cases. This saves resources and energy consumption, reduces cleaning time and heat-up time for fresh process water.

The Tempered Water System

(TWS) is the internal conveying system of the Gala underwater pelletizing system at rates up to 15,000 kg/h. The capacity of the TWS depends on the production volume and the product to be pelletized. Gala's tempered water systems are typically used with the Gala pelletizing systems, but are also available for high-capacity pelletizing systems. Temperature, water flow rate and residence time of the pellets in the process water are the key factors for sizing a TWS. The tempered water system is a compact unit including the following main components:

- Agglomerate catcher
- Centrifugal dryer
- Exhaust fan
- Water tank with heater and integrated sieve (IS) filtration
- Pump
- Heat exchanger

Model TWS-30.9 with Model 2016ECBF Dryer

The process water heated by the pellet flow is separated in the centrifugal dryer. The process water remains in the closed loop and is collected in the process water tank. A heat exchanger ensures constant water temperature. The process water is filtered and recirculated to the pelletizer cutting chamber. The TWS can be installed on suitable stands or be distributed across several floors, depending on the floor plan.

Optional integration is possible for:

- Continuous Band Filtration (CBF)
- Fines Removal Sieve (FRS)
- Dynamic Fines Removal Sieve (DFRS)
- Pellet Diverter Valve (PDV)

Quick Specs:

- Easy access for cleaning
- Fully enclosed system
- No hidden corner areas
- Pressure loss independent filtration method
- Integrated sieve (IS) design water filtration is standard
- Integrated secondary filter to collect fines during fines removal

TEMPERED WATER SYSTEMS

Different systems to meet any challenge

MB500™ TEMPERED WATER SYSTEM

For pellet rates up to 500 kg/h. The innovative MB500™ is the first system specifically designed to permit fast product changes in masterbatch and compounding applications. This system is suitable for throughputs up to 500 kg/h and is characterized by the easy access and simple cleaning of all system components.

The dryer is designed to be raised and rotated to the side for efficient cleaning using an electropneumatically operated lifting device. This allows simple and easy removal of the dryer housing and one-piece screen, which exposes the rotor for easy cleaning.

The water tank is designed for easy access and efficient cleaning. A sloped bottom with vertical drain allows complete draining and thorough cleaning. A fines removal sieve is integrated into the system.

A high-efficiency blower is installed on the system to provide sufficient air flow for pellet drying. The dryer base section is bolted to one of the two tank lids for quick, easy access for cleaning and service by simply raising the lid.

The MB500 System uses an easy-to-clean integrated sieve for water filtration with a 300 µm filter material, while the MB500-BF2 System uses a band filter for fines removal down to 20 µm. Both systems have fast drain tank designs with v-shaped bottom for easy cleaning. An agglomerate catcher is included to remove oversized clumps of polymer before they enter the dryer. Agglomerates fall into the fines removal waste tray from the slurry inlet.

- Easy to clean
- Energy-efficient
- Compact, less space required
- Low maintenance
- Low production costs

MB 500-BF2 with band filter in tank

MB500 with fines removal sieve tray in process water tank

The dryer on the MB500 TWS is designed to be raised and rolled to the side for easy access and thorough cleaning

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FINES REMOVAL SIEVE (FRS) DESIGN

The Gala fines removal sieve removes fine particles as fine as 0.15 mm from the process water. Clean process water avoids contamination of the product and the settling of fines in key system components. The curved screen, including the collection basin, is made of stainless steel. A self-priming pump and internal piping may be used to convey the process water from the dryer over the curved screen. If the gradient is appropriate, gravity feeding will be sufficient. The process water contaminated with particles is first conducted into a steadying chamber and then flows evenly over the curved screen. The fines, or particles, as fine as 0.15 mm are separated and collected in a collection basin. The filtered water is recycled.

Fines Removal Sieve (FRS)

Dynamic Fines Removal System

DYNAMIC FINES REMOVAL SIEVE (DFRS)

Gala has developed dynamic fines filtration for continuous cleaning of the entire water flow, removing particles down to 0.14 mm from the process water. Clean process water prevents product contamination and blockage of important line components. The fines are automatically separated from the water flow and are collected in a container outside the water tank. Water dripping from the container is recycled into the process. By actuating a valve, the vibrating screen can be bypassed in the process. The process water is then directly conveyed into the tank in the traditional way. Safety, continuity and environmental (water) protection during production were key considerations driving the development of the DFRS. The system is suitable for a large variety of applications and can be fitted or retrofitted as a module for small but demanding pelletizing systems with low water volumes as well as for lines with the largest production rates and water volumes.