

Model 515 Polyelectrolyte Preparation Module

For Dry and Liquid Polymers



Industrial and municipal chemical feed equipment.

Model 515 Packaged Polyelectrolyte Preparation Module



Cuts water and wastewater treatment cost by accurate feeding, positive dispersion, and complete wetting of dry and liquid polyelectrolytes.

The Model 515 Polyelectrolyte Preparation Module automatically prepares a homogeneous and precise solution from dry or liquid polyelectrolytes.

To accomplish this, a dry solids volumetric feeder meters polymer into a unique Wetting Chamber where the polymer combines with high energy, swirling water to form a thoroughly wetted solution, accomplished without eductors or other static restrictive orifices. When processing liquid polymer, a metering pump is used in conjunction with Acrison's novel "Dispersion-Injector" to blend the polymer and water. The prepared solution is transferred to the required arrangement of Mixing/Aging Tanks immediately upon wetting. The Model 515 Preparation Module is a complete packaged assembly mounted onto a "skid" type base, and includes control logic for most Tank Systems.

Features	Benefits
Model 105 Series Feeder	Double Concentric Auger, Dissimilar Speed Metering Mechanism ensures positive, accurate and reliable feed of dry polymer to the wetting chamber.
Wetting Chamber - Swirling Water Vortex	Ensures complete and thorough wetting without any agglomeration or "fisheyes"
Wetting Chamber - No Moving Parts	Maintenance-free operation
Wetting Chamber Containment Box	Includes level probe to prevent overflow conditions
Hydraulically Operated Slam Gate	Seals off the feeder discharge cylinder during periods of unused to prevent the hygroscopic polymer from absorbing moisture
Transfer Pump	Conveys wetted polymer to mix tank without damaging the fragile polymer chains
Water Pressure Switch	Prevents the system from operating should the water pressure drop
Flow Meter	Provides visual indication of water volume flowing through the Model 515 module
Hopper Low Level Probe	Warns the operator when polymer supply is low
Mix and Age Tanks Sized Based on Application	Customized systems allow for greater flexibility, especially in rooms with height or footprint limitations
Rugged Tank Construction	11 gauge stainless steel tanks ensure extended life and durability
Completely Enclosed Tanks	Prevents items and debris from falling in, and prevents solution from splashing out
Slow Speed Mixer	Gently mixes polymer solution without damaging the fragile polymer chains
Liquid Polymer Pump Assembly	Optional for the accurate metering and blending of neat liquid polymer
Advanced Control System	Allen-Bradley PLC, Ethernet capability, and 8" color touchscreen operator interface provide complete automatic control of the system with the latest technology
Model 515 Module - Compact Design	Minimizes floor space and headroom requirements
Open-Frame Design	Provides easy access to all system components
Convenient Polymer Filling Height	Facilitates operator loading of hopper
Various Hopper Sizes and Hopper Loading Devices Available	Bulk bag (super-sac) unloaders, extra-large hoppers, dust collectors with bag dump stations, and more...
Ultrasonic Level Transmitters	Optional for system control and continuous level display

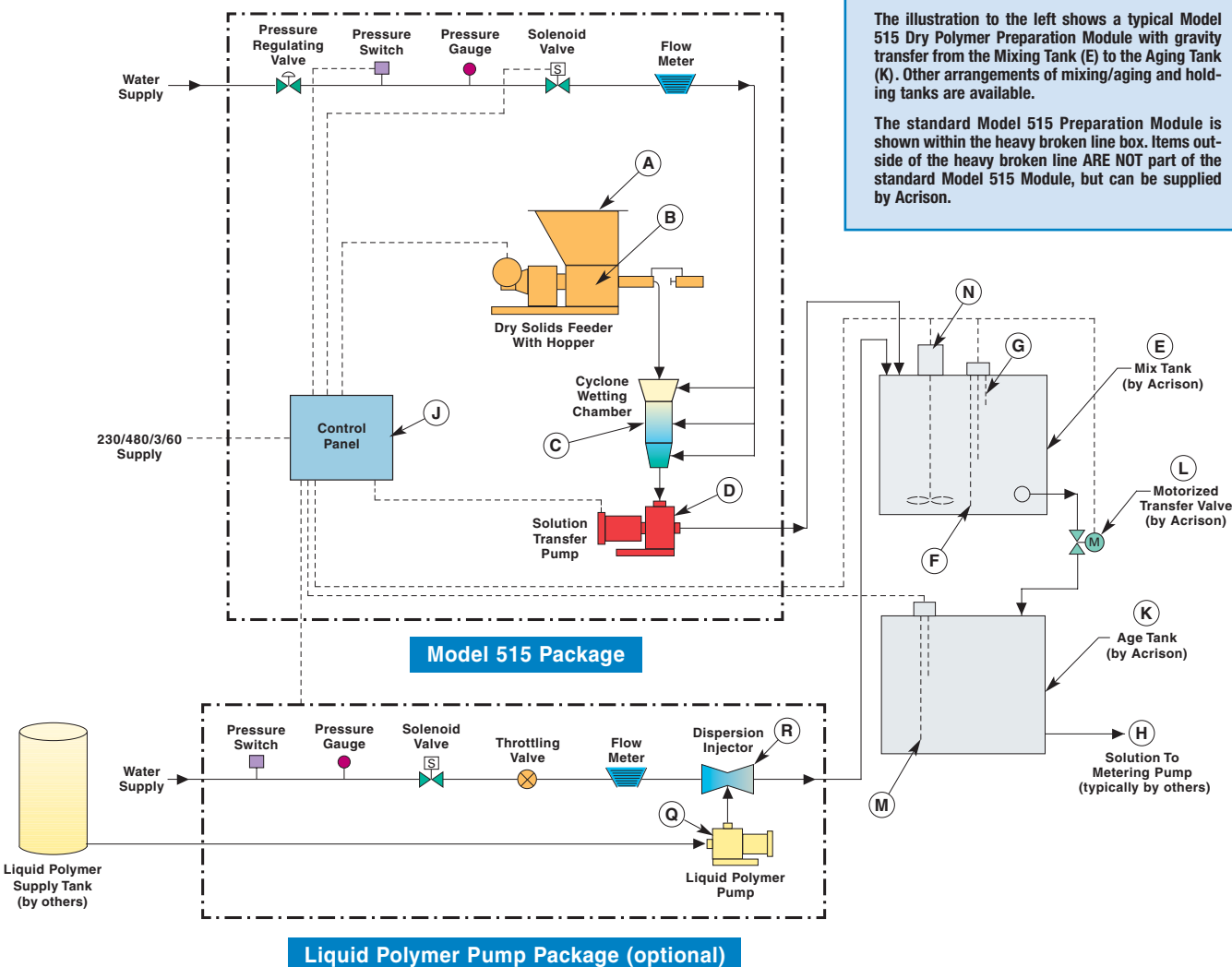
Provides Value to System Functionality/Operation

Facilitates Maintenance/Increases Safety

Provides System/Application Flexibility

A compact, economical and advanced Polyelectrolyte Preparation Module for the highly efficient preparation of both dry and liquid polymers.

Model 515 System Operation



The illustration to the left shows a typical Model 515 Dry Polymer Preparation Module with gravity transfer from the Mixing Tank (E) to the Aging Tank (K). Other arrangements of mixing/aging and holding tanks are available.

The standard Model 515 Preparation Module is shown within the heavy broken line box. Items outside of the heavy broken line ARE NOT part of the standard Model 515 Module, but can be supplied by Acrison.

Principle of Operation

Standard Dry Mode

The Model 515 System operation can be easily understood by following the Flow Diagram above. Dry polymer is loaded into the Feeder Hopper (A) and then accurately metered at a preset rate by Feeder (B) into Wetting Chamber (C) where it mixes with water.

Within Wetting Chamber (C), turbulently flowing water effectively and efficiently wets the polymer without clumping, agglomeration or "fisheyes." The completely wetted polymer then drops directly into Solution Transfer Pump (D) and is immediately and continuously transferred into a Mixing Tank (E) without in any way damaging the polymer chains. A slow speed Mixer (N) is included in this tank.

Low Level Probe (F), located in the Mixing Tank (E), initiates start-up of the system; its High Level Probe (G) shuts-off the Processing Module. Logic for the automatic transfer of solution to the Aging Tank (K), through Transfer Valve (L), is provided upon command from Level Probe (M). The entire Model 515 System operation is performed from a Control Panel (J). Prepared polymer solution is then fed into the process at the desired rate by a Metering Pump (H).

Principle of Operation

Optional Liquid Mode

As indicated in the above Flow Diagram for liquid polymer addition, Pump (Q) accurately meters liquid polymer directly into Acrison's unique Dispersion-Injector (R) where the polymer is simultaneously dispersed and mixed with vigorously flowing water to produce a superior, high quality solution. The solution is then immediately transferred into the Mix Tank (E), typically provided with an Acrison Model 515 Polyelectrolyte Preparation System.

Constructed of clear Acrylic so that its internal area is entirely visible, the Dispersion-Injector (R) also contains and completely isolates the liquid polymer whenever the Metering Pump (Q) is not operating, or when the Liquid Polymer Preparation System is not in use. Very notably, Acrison's Dispersion-Injector is also non-clogging, self-cleaning, corrosion-proof and maintenance-free.

