

# Poly Series

POLYMER PREPARATION UNIT



seko

# Polymer Preparation Unit

The **PolySeries** of Polymer Preparation Units, has been specifically designed to provide effective solutions to the needs of Water Treatment Customers and offers a complete range of polymer batching and metering systems.

The polymer preparation unit is designed to automatically prepare polymer solutions which are used as coagulants for the eventual removal of suspended particles in the water treatment processes of a number of industries from swimming pool maintenance through to the various stages of waste water treatment.

The **PolySeries** can use polyelectrolyte in either powder or liquid form and is mixed with water. The polyelectrolyte powder is dosed from the storage hopper using a shaft less screw feeder with an integrated lump breaker, into the wetting and mixing cone, in proportion to the water loaded in the tank. This special feature allows to carefully control the amount of powder used, optimising the process and reducing over consumption.

Fed by gravity, the prepared mixture falls into the first preparation tank and then passes through the traps into the maturing and batching tanks. These tanks are equipped with stirrers, which may also be present in the batching tanks. The volume of the deposits and the continuous action of the stirrers ensures that a homogenous mixture is obtained and that the retention time is suitable for perfect dilution. The electrical control panel ensures total system automation, guaranteeing correct preparation and the right batching.



## Function

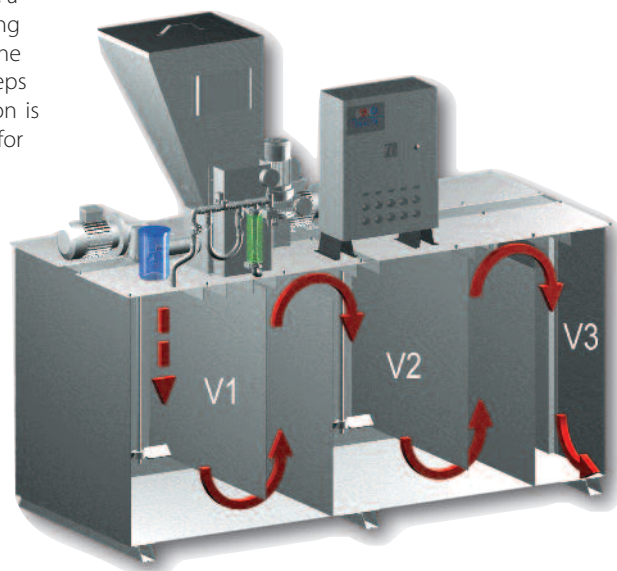
The preparation tank is divided into three sectors: dissolving V1, maturing V2 and storage V3, interconnected by siphons that form a perfect flow between the tanks necessary for the formation of a top quality solution. The polyelectrolyte from the dosing unit comes into contact with water, which is sprayed from a nozzle that ensures uniform dispersion.

The water/polyelectrolyte mixture then drops into the tank below where the dissolving phase begins. In this first, dissolving sector V1, a slow agitator keeps the contents of the tank moving ensuring thorough homogenization of the solution. The siphon transfers the solution to the maturing sector, V2, where another slow agitator keeps the solution uniform until maturing is complete. Then the solution is transferred to storage sector V3 from where it can be transferred for use.

The level switches installed in this sector, control plant automatic functions:

**High and normal level switch** when the solution reaches the high level, this switch stops the powder dosing unit and closes the water inlet solenoid valve. In the normal level position, it enables the dosing unit to function and opens the water solenoid valve.

**Low level switch** when the solution falls to minimum levels, this switch stops the dosing pump and sets off an alarm indicator on the electrical switchboard.



## Optional equipment

## Construction characteristics

- Automatic water supply system comprised of: a shut-off valve, filter, safety pressure switch, pressure gauge, pressure reducer, solenoid valve, control valve, flow meter and special dispensing nozzle.
- Tanks made entirely of stainless steel and PPH, with inspection covers and emptying valves for each compartment.
- Customised mixers, optimised to obtain a homogeneous mixture, are made of stainless steel.
- Batching screw made entirely of stainless steel, with batching adjustment actuated by precise speed regulator.
- Electric protection and control panel, with built-in or touchscreen panel, designed for manual/automatic operation, equipped with emergency stop and wiring to all system components.
- Conductivity level probes for high, low and very low levels with audible warning.

- Automatic powder hopper loading.
- Minimum level probe in the powder hopper.
- Stirrer in the batching tank.
- Overflow probe.
- Prefabricated post-dilution systems. Heating resistor in the powder exhaust pipe

## Benefits

Using the **PolySeries** systems provides the following benefits:

- Considerable savings in terms of polymer usage and running costs.
- Precision in the preparation and batching stages, optimising the processes.
- Space saving and system centralisation.

## Applications

Using polymers and flocculants considerably facilitates the processes of removing particles and solids suspended in liquid in the following applications:

- Treating potable and industrial processing water.
- Purifying waste water.
- Treating sludge, in order to improve the performance of centrifuges and filter presses.
- Processes for the paper, chemical, petrochemical, mineral processing, canning industries.



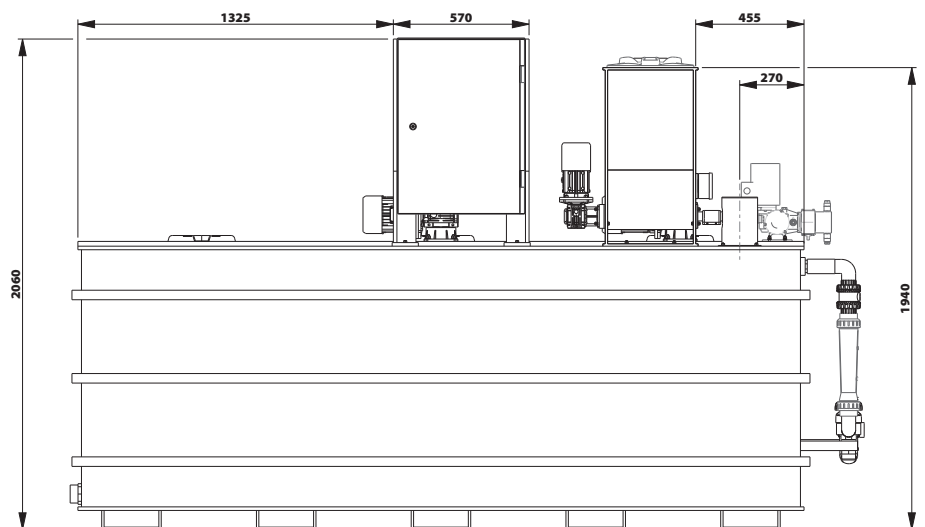
# PolyCendos

## Effective polymer Metering

The **PolyCendos System** is a triple chamber continuous flow system, used to batch flocculation aids for the preparation of polymer solutions, and features a storage tank subdivided into three chambers.



- Processing of liquid polymer (0.05–1.0 %) and powdered polymers (0.05–0.5 %)
- Offers minimal product carry-over
- Extraction of the polymer solution and drainage of the chambers via the front of the storage tank
- User-guided input of the solvent concentration, as well as calibration of the powder metering unit and liquid concentrate pump.
- Optional PIC Programmable Logic
- Controller with ProfIBUS module
- Version with terminal box available on request
- Extraction rate up to 8,000 l/h



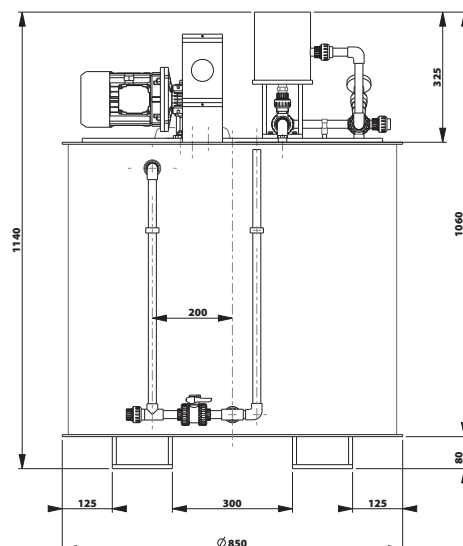
# PolyMan

## Producing polymer solutions in batch quantities

The **PolyMan System** offers batch operation for the manual batching of liquid and powdered polymers.



- Ideal for use where there is no need for continuous operation
- Manual addition of flocculants in batch quantities
- Robust design
- Cost-effective
- Batching tank manufactured from polypropylene, and includes flushing system
- Gentle mixing for constant performance (electric stirrer)
- Terminal box



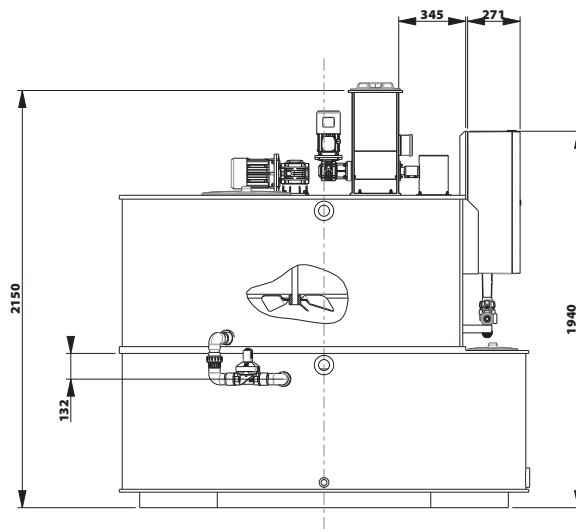
# PolyTower

## Compact double decker system



The compact PolyTower double-deck system is divided into two storage tanks stacked on top of each other and is designed to batch flocculation aids for the preparation of polymer solutions. The **PolyTower system** has been designed specifically with space efficiency in mind.

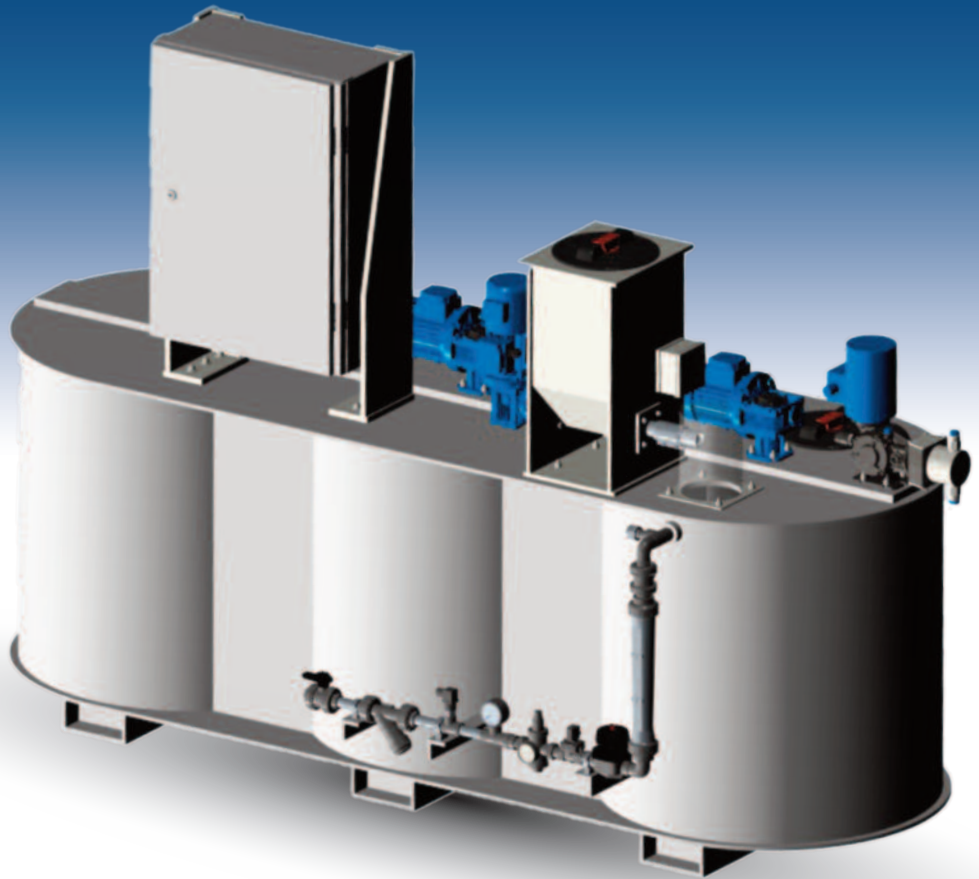
- Processing of liquid polymer (0.05–1.0 %) and powdered polymers (0.05–0.5 %)
- No mixing of fresh and matured polymer
- User-guided input of the solvent concentration as well as calibration of the powder metering unit and liquid concentrate pump water apparatus with flow meter and fitting set for the dilution water
- Gentle mixing for constant performance (electric stirrer)
- Optional PIC Programmable logic
- Controller with ProfIBUS module
- Version with terminal box available on request



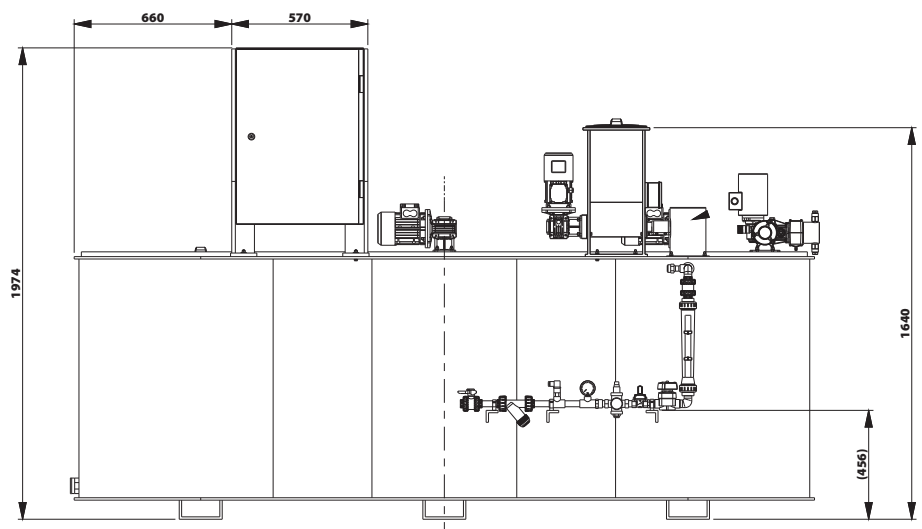
# PolyMaster

## Polymer batching system ready for operation

The **PolyMaster System** is an automatic triple chamber batching system for powdered flocculent, suitable for the preparation of 0.05 to 0.5% polymer solutions and offers the most complete systems of the Poly Series.



- System comes assembled ready for operation
- 3 individual cylindrical polypropylene storage tanks serve as batching, maturing and storage tanks
- Cylindrical storage tanks are hydraulically coupled via overflow channels
- Dry feeder with drive motor, dosing pipe heating and powder funnel with seal tight lid
- Flushing system for flushing and wetting of the powder
- Gentle mixing with two electric stirrers for constant performance
- Control cabinet for automatic control of the entire system



# A Worldwide Group at your service

seko is an International Group, developing, manufacturing and delivering its products in more than 50 countries, through its subsidiaries and an extended network of distributors, agents and authorized dealers.

seko is a leading manufacturer of dosing pumps and dosing systems with more than 40 years experience. This long activity allowed seko to acquire a vast experience in diversified applications and to confirm its international success in many industrial fields through the supply of reliable solutions for the dosing, injection and transfer of liquids.



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