

AUTOMATIC SOLUTION PREPARATION SYSTEMS



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General Description and Intended Use

Automatic solution preparation systems are full automatic systems consist of 3 main tanks and 2 mixers as a standard. Automatic solution preparation systems are generally used in sludge dewatering units to prepare sludge conditioning polyelectrolyte solution at chemical and biological wastewater treatment plants. It is also used for preparing solutions at chemical wastewater treatment plants.

Working Principle Of Equipment

Automatic solution preparation systems consist of 3 main containers. These containers are; dissolution, ripening and storage containers. Except for these, it has a conical container used for dry chemical substance storage and dosing. The chemical powder in the dry chemical substance container is fed to dissolution container with the help of screw. The chemical powder is dissolved in the dissolution and ripening container with the help of mixers and chemical substance solution in intended concentration obtained. The solution is stored in storage container and fed to the system at required amount. Since automatic solution preparation systems are full automatic systems, they minimize energy and time consumed during the solution is prepared and derive a profit in terms of costs and time.



ADVANTAGES

- Easy to Operate with PLC PANEL,
- Possibility to Control and Follow the System Operation over SCADA,
- Remote Intervention Possibility,
- Automation Operation,
- Compact Design,
- Easy Transportation and Mounting, Demounting,
- Low Operation and Maintenance Costs,
- Easy Maintenance possibility,
- Low Energy Consumption,
- Long Operation Life,
- Economical and Resistant Design,
- Accessory Diversity.

Material Details

- Frame: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
 - Mixers: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Front Piping: They can be manufactured as PPRC.

"Different materials can be preferred in accordance with the request of the customer."



TECHNICAL SPECIFICATIONS

- It is manufactured in accordance with the solution amount required between capacities of 500 16.000 lt/h.
- If a heater is placed in dry chemical substance container, moisture formation and lumping of chemical substance can be prevented.
- Thanks to vibrator motor on the dry chemical substance container, chemical substance is prevented from sticking to container sides and it is enabled to pour onto screw.
- Thanks to its special design feed structure, clean water is drained from a wide surface into dissolution center and lumping of chemical substance pouring on it is prevented.
- Mixing is conducted at high speed in dissolution and ripening containers so that chemical substance and clean water mix homogeneously.
- Solids entry into the system is prevented by strainer that placed in clean water line.
- Pressure of the incoming water is kept under control with pressure transmitter placed in the clean water line.
- Thanks to pulse output water meter placed in clean water line, clean water flow rate is followed and dry chemical substance amount is adjusted as optimum.
- Water level is checked with pressure type measuring sensor in the storage container and system is operated as level controlled.
- There are low and high level switches to check stock status in dry chemical substance container.
- It is operated under PLC control.
- Available alarms, clean water flow rate, dry chemical substance amount, solution concentration, solution mixers and working periods of dosing pumps, solution stock status are monitored from PLC screen.
- Resistance adjustment is made on local power and control panel.
- One can check interior of the container via sight glasses placed on container covers without lifting cover. Thanks to sight glasses, occupational accidents are prevented. Precautions are taken in regards to OHS.



No	Part Name
1	Main Frame
2	Local Power and Control Panel with PLC
3	Overflow Pipe
4	Storage Control / Sight Cover
5	Solution Outlet Pipe
6	Mixer Motor (2 pcs)
7	Special Design Feed Structure
8	Dry Chemical Substance Dosing Screw
9	Dry Chemical Substance Storage
10	Vibration Motor
11	Dry Chemical Substance Dosing Screw Motor / Reducer

Accessories

- Manual Valve
- Strainer
- Pressure Adjustment Valve
- Manometer
- Solenoid Valve
- Pulse Output Water Meter
- Hydrostatic Type Level Meter
- Dry Chemical Substance Resistance
- Dry Chemical Substance
 Vibration Motor
- Special Design Feed Structure
- Level Switches for Dry Chemical Substance Container Decreased and Over
- Warning Light
- Emergency Button
- Local Power and Control
 Panel with PLC
- Clean Water Line Thermostat
- Dosing Pumps*
- Dry Chemical Substance Suction System*
- * Optional accessories are defined.



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