

# POLYELECTROLYTE MAKE-UP UNIT

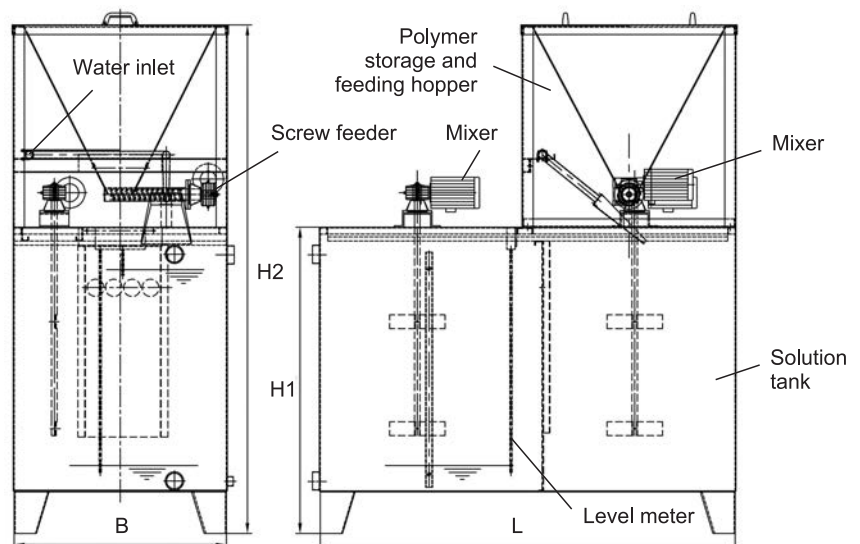
Polyelectrolyte is an agent used in potable water or waste water treatment plants to aid flocculation process. In addition, it is utilized in sludge dewatering systems for conditioning of sludge. Powder polyelectrolyte must be desolved in water before feeding to the system. Polyelectrolyte make-up units are fully automated and provide continuous polyelectrolyte solution preparation with minimum labor requirement.

## Operation principle:

Powder is filled manually in to a conical tank (inlet hopper). A vibrator is located on the inlet hopper to assist powder movement. Powder polymer is fed to inlet compartment by means of a dry feeder. A heater installed around the dry feeder prevents bridging of polymer due to humidity.

Polymer solutions with different concentrations can be prepared by using a frequency converter to change the dry feeder motor speed. Fresh water flow is also controlled by a valve in order to prepare different solution concentrations between %0,5 and %0,1.

Unit consists of 2 or 3 compartments. A mixer is located in each compartment. Polymer-water mixture runs from 1st compartment, to 2nd, and from 2nd compartment to 3rd from the top of the compartments through openings. Dosing pump inlets are connected to last compartment where solution is well matured and homogeneous. In larger capacities, the number of compartments are increased to three in order to provide better maturation.



Polyelectrolyte make-up unit consists of following main parts;

## Solution tank and mixers

Solution tank has two or three compartments depending on model and a turbine type mixer is located in each solution tank in order to provide agitation.

## Polymer storage and feeding hopper

A feeding hopper is located on the top of solution tanks to store powder polyelectrolyte. A vibrator is installed on the hopper to provide better flow of powder.

## Screw feeder

Powder polyelectrolyte is dosed in to solution tank by means of a screw feeder is located under the feeding hopper. A resistor is rolled around screw feeder housing to prevent powder bridging due to humidity.

## Level meter

In order to control solution levels in unit, a level meter is located in the last compartment. It can be capacitive, ultrasonic or conductive type depending on Client's request.

Model	Capacity, l/h	B, mm	L, mm	H1, mm	H2, mm	Volume, l	No. of mixers	PE feeder
PMU 1000	1000	750	1500	950	1830	900	2 x 0.25 kW	0.10 kW
PMU 1500	1500	1000	1500	950	1830	1200	2 x 0.25 kW	0.10 kW
PMU 2000	2000	1000	1750	950	1830	1400	2 x 0.37 kW	0.10 kW
PMU 3000	3000	1000	2000	1200	2080	2100	3 x 0.37 kW	0.10 kW
PMU 4000	4000	1250	2000	1200	2080	2625	3 x 0.37 kW	0.18 kW
PMU 5000	5000	1250	2500	1200	2080	3281	3 x 0.55 kW	0.18 kW
PMU 6000	6000	1250	2500	1450	2330	4063	3 x 0.55 kW	0.18 kW
PMU 8000	8000	1500	2750	1450	2330	5363	3 x 0.75 kW	0.18 kW
PMU 10000	10000	1700	3000	1450	2330	6630	3 x 1.1 kW	0.18 kW

MAN 8500 06.09-E



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