AUTOMATIC POLYELECTROLYTE PLANTS

TORO
WASTEWATER EQUIPMENT INDUSTRIES®

Process Description

The installation of the Automatic Polyelectrolyte Plant is indispensable for chemicals dosing in wastewater treatment. They are used for flocculation of solid particles in all types of wastewater, industrial and urban wastewater.

These plants allow the preparation (mixing with water), maturation and dosing of the polyelectrolyte in an automatic and simple way.

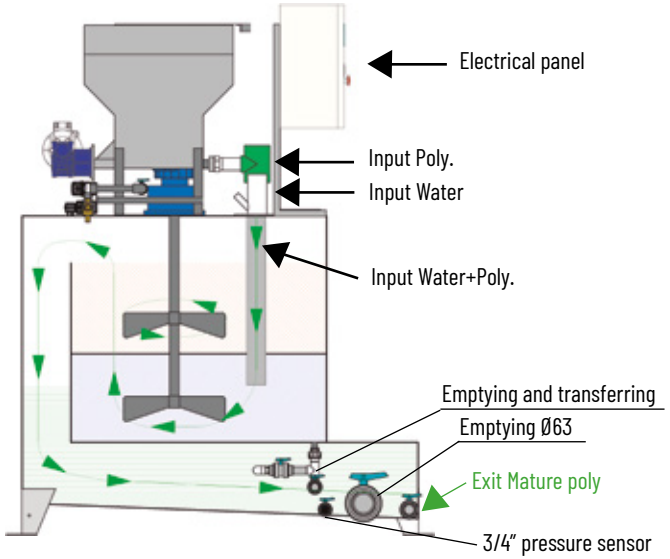
ADVANTAGES OF AUTOMATIC POLYELECTROLYTE PLANT

- The supply pressure supplied can be regulated as required by means of a control solenoid valve and pressure reducer with pressure gauge in the water circuit.
- It is corrosion resistant.
- It has automatic start and stop control of the agitator, the polyelectrolyte feeder and the water inlet.
- It is designed to prevent the formation of lumps.

WATCH VIDEO

PAP-3C INOX
AUTOMATIC POLYELECTROLYTE PREPARATION PLANT

- It consist on three chambers: one for mixing, another for maturation and a third that collects the mature polyelectrolyte at the optimum point for use.
- Retention time for each chamber is 30 minutes.
- It includes an anti-condensation nozzle for the exit of the polyelectrolyte.
- It has a double helix to promote mixing.
- It can work with both powder and emulsified polyelectrolyte.
- Continuous operation.
- Made of stainless steel.



Phase One: Start mixing Poly.

Intermediate Phase: The Poly. mixture has good characteristics

Final Phase: Poly. Macerated

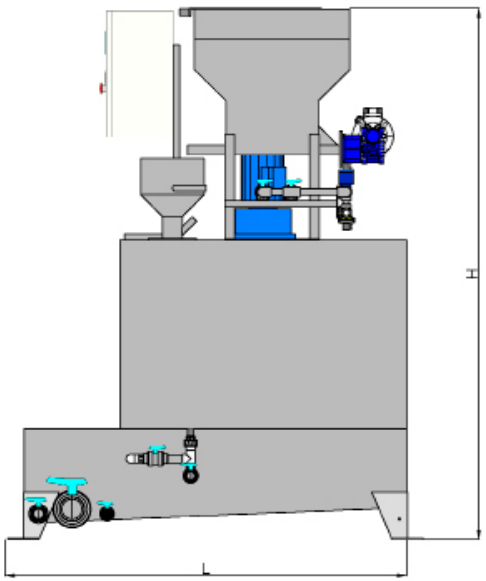
Solid Polyelectrolyte

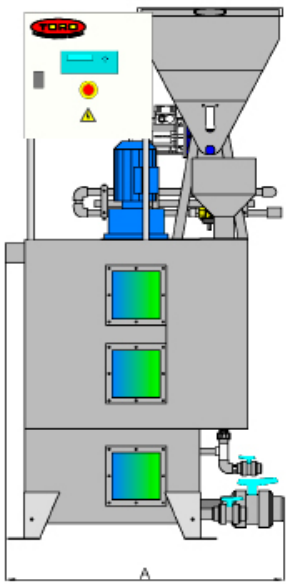
Clean Water

Mixture of Poly. and water

POLYELECTROLITE DOSAGE Kg/h			
Poly % concentration	**0,1%**	**0,3%**	**0,5%**
Maturation time 30 min	**2**	**6**	**10**
Maturation time 20 min	**3**	**8**	**15**

Models | Stainless PAP





*capacity calculated with a polyelectrolyte powder concentration of 0.1% and inlet water flow at 3m/s

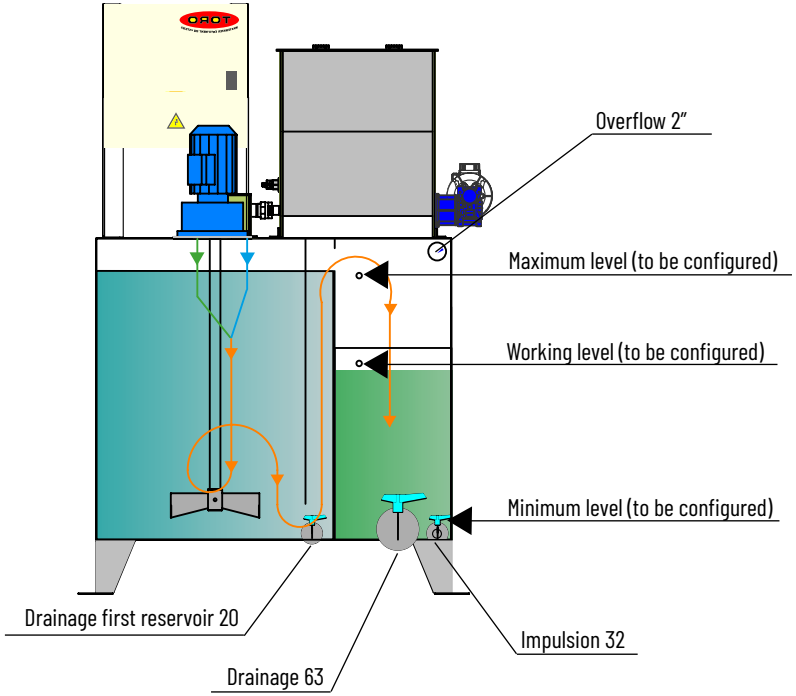
TECHNICAL SPECIFICATIONS PAP- INOX SERIES

MODELO	PAP 3C-500	PAP 3C-1000	PAP 2C-500
Storage			
Total capacity (l)	500	1.000	550
Capacity per chamber l	166	333	367/183
Production capacity (l/h)	750	1.500	367
Length (mm) (L)	1.304	1.400	1.565
Width (mm) (W)	873	1.163	1.153
Height (mm) (H)	1.689	1.765	1.643
Material	AISI-304 / AISI-316	AISI-304 / AISI-316	AISI-304 / AISI-316
Overflow	Ø63mm. AISI-316	Ø90mm. AISI-316	Ø63mm. AISI-316
Emptying	Ø63mm. AISI-316	Ø63mm. AISI-316	Ø63mm. AISI-316
Pump discharge	Ø32mm. AISI-316	Ø32mm. AISI-316	Ø32mm. AISI-316
Pressure sensor outlet	Ø3/4". AISI-316	Ø3/4". AISI-316	-
Drainage 1st tank	Ø20mm. AISI-316	Ø20mm. AISI-316	Ø32mm. AISI-316
Dispenser			
Material	PP	PP	GRP
Polyelectrolyte hopper			
Capacity (l)	60	60	60
Dosage (l/min)	0,1-0,5	0,1-0,5	0,1-0,5
Material	AISI-304	AISI-304	AISI-304
Auger	AISI-304	AISI-304	AISI-304
Power (kW)	0,18	0,18	0,18
Geared motor	NMRV040	NMRV040	NMRV040
Mixer			
Power (kW)	0,37	0,55	0,18
Shaft and propeller material	AISI-316	AISI-316	AISI-316

PAP-2C INOX

AUTOMATIC POLYELECTROLYTE PREPARATION PLANT

- It consists of two chambers, one chamber for the mixing of the product and another chamber that is reached by overflow for maturation..
- Continuous operation.
- Made of stainless steel.



First Phase: Start mixing the poly with the water (emulsion)

Final Phase: The polymer mixture has good characteristics

Solid polyelectrolytes

Clean water

Mixture of Poly. and water

PAP
AUTOMATIC POLYELECTROLYTE PLANT

Preparation, maturation and dosing of polymer powder

- Toro Equipment's PAP is an equipment formed by a main tank made of GRP where the preparation and maturation of the polymer powder is carried out, with an upper nozzle for manoeuvre and a lower one for drainage. It has an agitator. The polyelectrolyte is dosed in the hopper, which is made of stainless steel.

PAP TECHNICAL SPECIFICATIONS

MODEL	PAP 500	PAP 1000	PAP 1500	PAP 2000	PAP 2500	PAP 3500
Storage						
Capacity (l)	500	1.000	1.500	2.000	2.500	3.500
Production capacity (l/h)	500	1.000	1.500	1.800	1.800	1.800
Height (mm)	1.210	1.200	1.260	1.520	1.560	1.660
Length (mm)	800	1.400	1.635	1.690	1.860	2.000
Overall width (mm)	800	955	1.095	1.160	1.260	1.380
Overall height (mm)	1.750	1.910	1.970	2.230	2.310	2.410
Material	GRP	GRP	GRP	GRP	GRP	GRP
Hopper						
Capacity (l)	60	22	22	22	45	45
Dosing rate (l/min)	0,37	0,3	0,3	0,3	0,3	0,3
Power (kW)	0,18	0,122	0,122	0,122	0,122	0,122
Material	Acero Inox.	Acero Inox.	Acero Inox.	Acero Inox.	Acero Inox.	Acero Inox.
Auger	Acero Inox.	Acero Inox.	Acero Inox.	Acero Inox.	Acero Inox.	Acero Inox.
Mixer						
Power (kW)	0,37	0,75	0,75	1,1	1,1	2,2
Shaft and propeller material	AISI-316	AISI-316	AISI-316	AISI-316	AISI-316	AISI-316

*capacity calculated with a polyelectrolyte powder concentration of 0.1% and inlet water flow at 3m/s

PAPE
AUTOMATIC POLYELECTROLYTE EMULSION PLANT

Preparation, maturation and dosing of emulsified polymer

- The automatic emulsified polyelectrolyte plant for sludge conditioning prior to dewatering consists of a main tank made of GRP, an agitator and a disperser to achieve the optimum concentration of liquid polymer.
- It is part of the sludge skid

TECHNICAL SPECIFICATIONS PAPE

MODEL	PAPE 500	PAPE 1000	PAPE 1500	PAPE 2000	PAPE 2500	PAPE 3500
Storage						
Capacity (l)	500	1.000	1.500	2.000	2.500	3.500
Height (mm)	1.214	1.200	1.260	1.520	1.560	1.660
Length (mm)	800	1.400	1.635	1.690	1.860	2.000
Overall width (mm)	800	955	1.095	1.160	1.260	1.380
Overall height (mm)	1.905	1.910	1.970	2.230	2.310	2.410
Material	GRP	GRP	GRP	GRP	GRP	GRP
Flow meter						
Measuring range (l/h)	60	100-1000	100-1000	100-1000	400-4000	400-4000
Mixer						
Power (kW)	0,37	0,75	0,75	1,1	1,1	2,2
Shaft and propeller material	AISI-316	AISI-316	AISI-316	AISI-316	AISI-316	AISI-316

Fábrica Villavaquerín - Valladolid

WORLD REFERENCES

- Algeria
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REDUZCO COMPENSO CALCULO 2020 CO2

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UKAS MANAGEMENT SYSTEMS 0001

Automatic Plants
for Polyelectrolyte