AUTO POLYMER

Preparation Unit

WASTEX

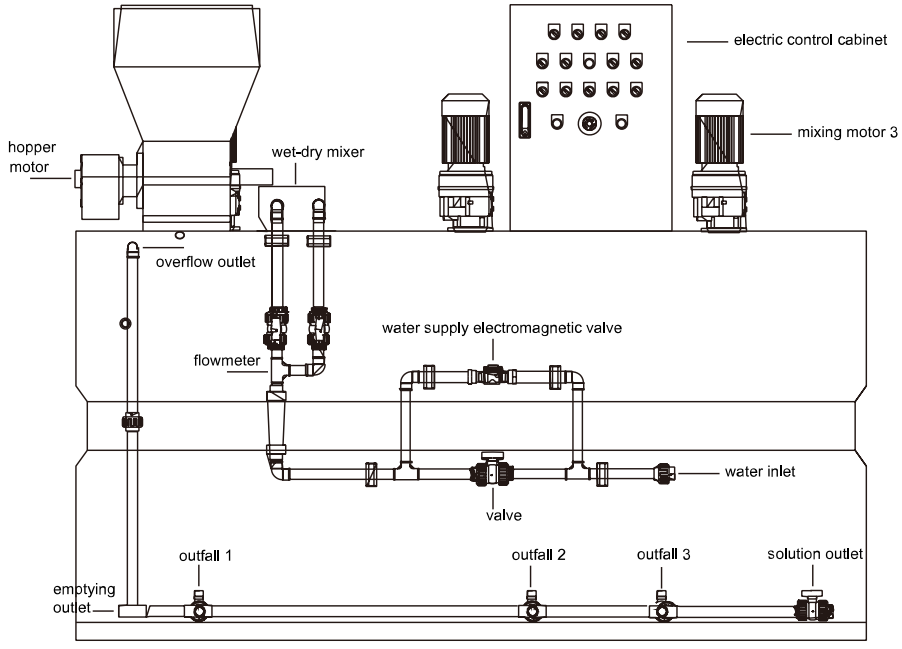
Product Introduction

Automatic Polymer Preparation Unit is an equipment which can feed and dissolve dry chemical powder, and then produce chemical liquid automatically and continuously.

Automatic Polymer Preparation System can select PAM Based on demand.

It is safe, convenient, reliable and has a wide range of applications. It is especially suitable for papermaking industry, industrial wastewater treatment and municipal wastewater treatment plants, waterworks and Industries requiring the use of flocculant solution.

PRODUCT ADVANTAGES:



1. Continuous preparation of three tanks (mixing tank, equalizing tank and storage tank) is easy to operate and maintain with the lowest manpower cost.
2. Uniform and moderate formulation concentration can reduce the occurrence of granulation (block) caused by improper manpower allocation, avoid pipeline or pump blockage, and increase unnecessary personnel maintenance costs and powder expenditure.
3. The equipment is controlled by PLC in the whole preparation process. It can automatically intermittent, continuous operation and stop cross stirring function to make solution fusion uniform.

Product Advantages

1. **Precision Dosing**

   Eliminate human error with AI-driven algorithms that adjust chemical injection in real time, ensuring optimal treatment while reducing overuse.

2. **Labor Savings**

   Automated systems minimize manual intervention, cutting operational costs and allowing staff to focus on higher-value tasks.

3. **Enhanced Treatment Efficiency**

   Consistent chemical delivery maintains ideal water quality parameters, improving pollutant removal rates and compliance with strict environmental standards.

4. **Real-Time Monitoring & Control**

   IoT-enabled sensors provide live data on chemical levels, flow rates, and system performance, enabling proactive adjustments and troubleshooting.

5. **Environmental Sustainability**

   Reduce chemical waste and energy consumption through smart optimization, aligning with global green initiatives.

6. **Cost Reduction**

   Long-term savings come from minimized chemical usage, lower maintenance, and extended equipment lifespan.

7. **Scalability & Flexibility**

   Adaptable to various wastewater types and plant sizes, from municipal facilities to industrial complexes.

Specification Parameters

Model	Capacity (L/h)	Powder hopper capacity(L)	Material	Power (KW)	L(mm)	W(mm)	H(mm)	Weight (kg)
TNW-500L	500	65	SUS304	0.99	1400	1520	1870	280
TNW-1000L	1000	65	SUS304	0.99	2000	1300	1660	410
TNW-2000L	2000	65	SUS304	1.36	2440	1520	1965	550
TNW-4000L	4000	65	SUS304	1.36	3000	1800	2115	680
TNW-5000L	5000	65	SUS304	3.55	4000	1550	1830	960
TNW-6000L	6000	65	SUS304	3.55	4000	1800	2080	1050
TNW-8000L	8000	65	SUS304	4.65	4500	1800	2100	1280
TNW-10000L	10000	100x2	SUS304	4.9	5000	1800	2100	1560

1. Composition of automatic polymer preparation unit

The automatic polymer preparation unit is composed of a solution tank, a number of flanges, valves, etc. Equipped with two metering pumps, two metering pumps for one use and one standby, so that users in the state of non-stop maintenance, replacement parts.The main components of the device are:

1. solution tank 2. agitator 3.level gauge 4.filter 5.safety valve 6. metering pump 7.buffer 8.ball valve, check valve, globe valve 9. pressure gauge and corresponding pipelines, etc.

Instruction： Diaphragm metering pump flow 500L/h, pressure 1.0MP . The motor power of diaphragm metering pump is 0.75W, and the insulation class is F class. The agitator is composed of a motor, a reducer and a stirring rod. The motor power is 0.55KW and the reduction ratio is 45:1.

2. The use of automatic polymer preparation unit

The use of automatic polymer preparation unit

The user allocates the reagent according to the proportion of the feeding solution, and precisely doses it through the dosing pump

1. Connect the dosing device, then check each flange interface and tighten it to avoid fluid leakage.

2. Connect the power supply to the metering pump:

(1) Open the junction box of the electric control cabinet, and connect the three-phase

four-wire power cord that meets the requirements of the metering pump motor to the corresponding terminal.

(2) Start the mixer instantaneously by controlling the operation switch, observe the

motor steering, if the steering is correct, fix the junction box. If the steering is not

correct, adjust the phase sequence and then fix the junction box.

3. Close the blowdown valve. Fill the container with liquid medicine.

4. Open the valve of the dosing system and start the metering pump.

5. The dosing device is equipped with two metering pumps, one of which is the dosing pump and the other is the standby pump.

Special remarks:

1. When dosing, open the corresponding pipeline of the starting metering pump

(to ensure that the metering pump and related pipelines are smooth and intact) and close the other pipeline.

2. The overflow pipe is provided at the top of the device to prevent the overflow of the liquid medicine and flow out through the sewage pipe.

3. A tubular filter is provided at the entrance of the dosing metering pump to prevent large particles of solid matter from entering the metering pump and damaging the metering pump.

3. Maintenance of automatic polymer preparation unit

The pipeline of the dosing device should be kept unblocked at any time, and the connection parts, filters, inlet and outlet of the device should be checked periodically and irregularly to observe whether there are deposited substances in these parts. If these symptoms are found, they should be cleaned up in time.

It is necessary to check regularly whether the metering pump feed port is

Regularly check the stirring device to see whether the stirring shaft rotates flexibly, whether the impeller is distorted and deformed, and whether the coupling sleeve is loose, so as to avoid excessive shaft torque and consumption of stirring power. If there is damage, it should be replaced in time.

The safety valve, pressure gauge and each pipeline valve should be checked regularly to avoid leakage events. Alternate pump and use pump should be used to avoid long-term use or deactivation of the same pump.

Malfunction	Cause	Solving method
The safety valve does not discharge liquid or the rated displacement is insufficient. (Note: Instructions for hydraulic diaphragm pumps)	The inlet pipe is blocked or the resistance is too high	Dredge the inlet pipeline and take corresponding measures to reduce the resistance
	Air enters the inlet pipe joint	Tighten the connection wire or seal the interface
	Serious leakage of filler	Tighten or replace packing
	Air in the line inside the pump	Eliminate air
	Air in the hydraulic chamber	Eliminate air
	The inlet and outlet check valve is not tightly closed	Check the seat and clean or replace the ball
	The gasket at the inlet and outlet check valve leaks	Check the sealing surface or replace the sealing ring Adjust the tightness of the oil valve spring
	Oil valve does not fill oil, insufficient oil, frequent oil or leakage	or repair the sealing surface of the oil valve, clean and replace the steel ball Close the release valve tightly Adjust the spring
	The bleed valve is not tightly sealed	tightness, find out the cause
	The safety valve takes off frequently	and take corresponding measures to eliminate Purify by filtration, etc
	The conveying medium is not clean	

	The diaphragm cavity is not tightly sealed at the limiting plate	Tighten the screw at the end of the pump head or find the cause to remove it
	The bulkhead screw is not tightly sealed	Tighten the dull screws
	The hydraulic oil is not clean, causing the three valves to work improperly	Replace the clean hydraulic oil
Reduction of measurement accuracy	Same reasons as above	Eliminate through the above-mentioned corresponding methods
	Themotorspeedisunstable	Stabilizethefrequencyandvoltageofthe electric valve
	The adjusting screw of the flow regulating mechanism is worn or elimination channeled	Replacewornpartsorfindoutthecauseof
Drive reducer vibration and noise	Pumpoverloadoperation	Reducetheload
	Hydraulic chamber overpressure, safety valve does not jump	Adjustorreplacethereliefvalvespring
	Packing is too tight, heat friction is too large	Relax or change the filler
	Thewormflutters	Findoutthecauseandeliminateit
	Thegapoftransmissionpartsincreases	Findoutthecause,adjustthegaporreplace the worn parts

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