



JNE Environmental

AUTOMATED POLYMER PREPARATION SYSTEMS



The JNE PM Series are economical, load cell based, PLC controlled dry polymer make up systems designed to ensure optimal polymer usage and quality every batch.

OPERATION

BATCH BASED SYSTEMS + CONTINUOUS FLOW UNITS

Incoming city water (min. water feed pressure = 65 psi) is used to fill the aging tank. Once the programmable logic controller (PLC) detects that the level in the aging tank has reached the required set point, the mixer is turned on and the polymer auger is actuated. The PLC measures accurately how much polymer (in grams) has been dispensed into the wetting cone via dual load cells. Once the desired amount of polymer has been added, the polymer auger is stopped and the top tank is filled.

AGING PROCESS

An operator adjustable timer is used to age the polymer while the agitator is running. When the mixing timer completes, the mixer is turned off and the transfer valve is opened. The polymer solution is then gravity drained or pumped to a run tank for use. Once the PLC detects that the aging tank is empty, the transfer valve is closed and the aging tank is then refilled for the next batch of polymer.



SPECS

DESIGN FEATURES + BENEFITS

- **Supplied with PLC** to control and alarm operators of problems. PLC based systems are more reliable and provide feedback to the operators that timer and relay systems cannot. PLC based systems can also be incorporated into balance of plant automation systems to further increase communication with the operator.
- **Incorporated load cells** to accurately measure and dispense the desired amount of dry polymer. This type of system is significantly more accurate and repeatable than timer based systems.
- **Heavy duty stainless steel hopper** with industrial gear box and motor. This provides robust trouble free operation and excellent corrosion resistance. The low feed rate of this hopper ensures excellent wetting and polymer dispersion.
- **Small footprint.** The small footprint of this unit allows for installation flexibility as well as ease of access for operations and maintenance.

CONSTRUCTION

These units have a zinc-coated modular frame construction; the hopper is constructed using 304 stainless steel; the panel is NEMA 4 rated. All instruments are IP 67. The available continuous flow aging tank is constructed from 304 stainless steel. The units are fully assembled and tested prior to shipment.

DRIVE UNITS

All supplied motors are totally enclosed, fan-cooled (TEFC) wash down duty motors with a supply voltage of 120 VAC for the auger motor and 120 VAC for the continuous aging tank mixers, suitable for use in an unclassified area.

MAINTENANCE REQUIREMENTS

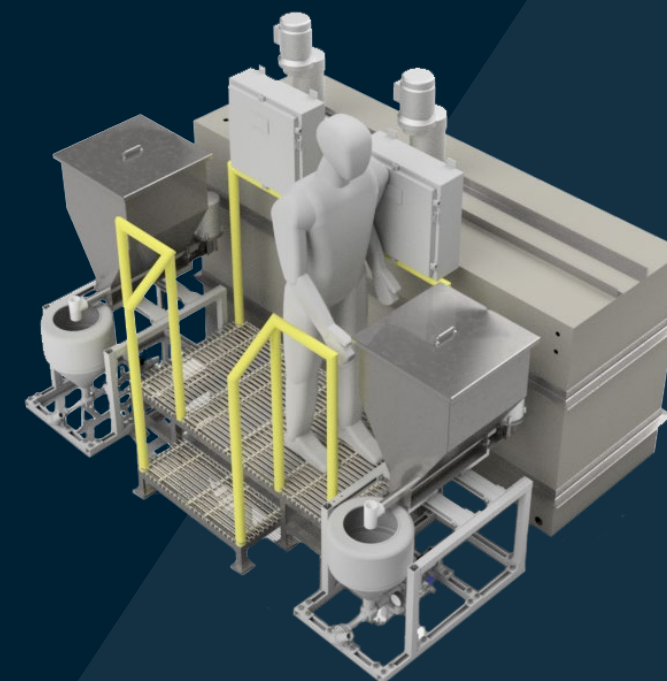
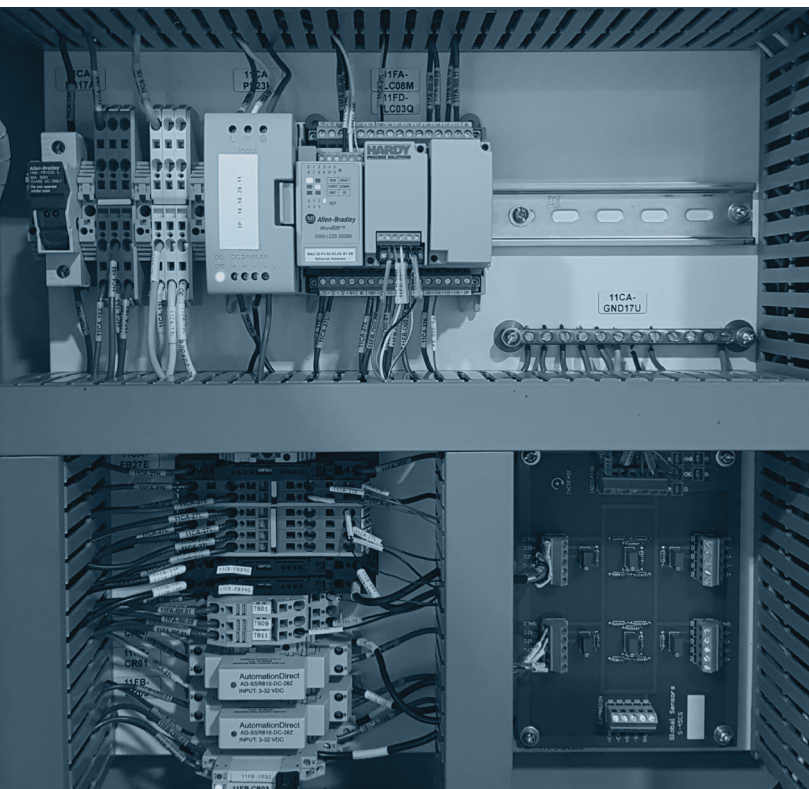
1. Daily visual inspection of wetting cone, dry polymer build-up and hopper polymer level.
2. Monthly clean-out of auger discharge and wetting bowl if required.
3. Yearly gearbox oil changes.

AUTOMATION

The PLC monitors the system to ensure proper operation, including:

- Checking the correct amount of polymer was added
- Failure to fill the top tank (transfer valve failure)
- Lack of flow when solenoid open (no fresh water feed)
- Presence of flow when solenoid closed (solenoid failure)
- High level in wetting cone (eductor discharge blockage)
- Low dry polymer level in hopper (hopper needs to be filled)

The PLC will change the screen to red when an alarm condition is present and requires operator intervention. It also has a full manual mode for testing and operation of the unit.



UTILITY SPECS

ECONOMICAL + VERSATILE PM-2000

- 1000L batches every 2.5 hours, mixed and aged for 2 hours
- 12A, 120VAC, 1/2HP mixer
- 1" npt water supply, 65psi
- 2" npt outlet

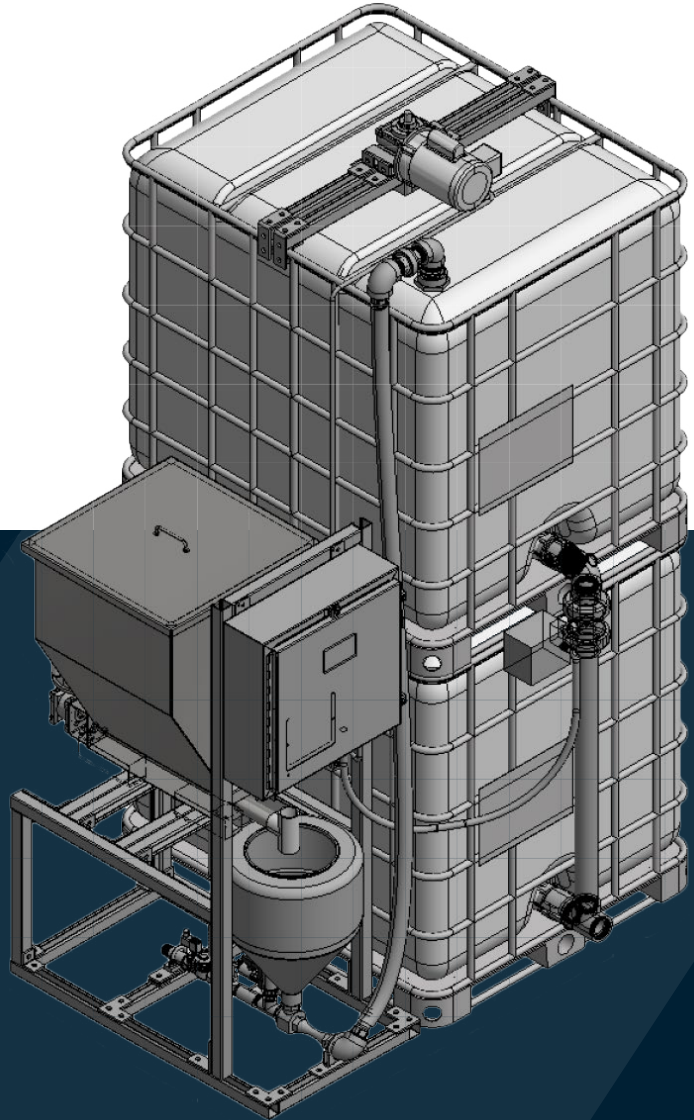
CUSTOM CONFIGURATIONS

- Many other configurations available
- Any polymer flow rate possible
- Continuous run tanks
- Various hopper sizes
- Can be custom designed for various polymer concentrations



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