



805 Dunn St.
Houma, LA 70360
Phone: 985-868-0001

Toll Free: 800-978-2627
www.submar.com

PLANETARY MIXER MODEL PM 1.5

1 Model PM 1.5 Planetary Mixer complete with the following features:

Manufactured by Mixer Systems, Inc. in the U.S.A.

- Maximum filling capacity of 5900 lbs. or 61 cu. ft., whichever comes first
- 40 spider revolutions per minute
- Drive 60hp, 230/460v, 3ph, 60hz, 1800 RPM, TEFC electric motor
- One mixing star with three arms
- Three (3) replaceable, 600 Brinell, Ni-hard paddles and one (1) wall scraper
- Replaceable AR steel side liners and AR floor liners
- Hinged access cover with safety cut-off switches and rubber gasketing
- One (1) pneumatically operated discharge doors with a manual hand lever control valve
- Water distribution system
- Cover and protection in accordance with the accident prevention and safety regulations
- Aggregate inlet chute into mixer
- Mixer weight is 9,800 lbs.

DISCHARGE CHUTE

1 - Discharge chute

MIXER STAND WITH CLEANOUT PLATFORM

1 Mixer clean out platform (3' wide x 7' long, one side only) welded to the mixer stand. The platform is complete with handrails, toe boards, open type grating and ladder with 6'-6" stand.

COMBINATION CEMENT AND WATER WEIGH BATCHER

1 17 cu. ft. capacity cement weigh batcher includes:

- Pneumatically operated butterfly cement discharge valve with single solenoid valve, limit switch, and air vibrator.
- Mounted above mixer and connected to mixer with canvas sock connections.

60 gallons capacity water weigh batcher includes:

- 1½" electrically operated single solenoid water inlet valve with strainer
- 3" pneumatically operated butterfly water discharge valve with single solenoid valve and limit switch.
- Mounted above mixer and connected to mixer with flexible hose connection.

This combination weigh batcher is suspended by load cells for accurate weighing of cement and water. Angle support and field welded inlet flanges for combination weigh batcher.

AGGREGATE STORAGE BIN

2 40 ton of CPMB rated 100 lbs. per cu. ft. water level (800 cu. ft.) capacity aggregate storage bin:

- 10' x 10' open top charge area
- Compartment has a pneumatically operated double clamshell discharge gate complete with air cylinder, single solenoid valve and adjustable gate stop.

- Bin will have load cells for accurate decumulative weighing of materials.
- One air line filter with moisture trap and one air line regulator is provided for use with one to six bins.
- Air line lubricator

HYDRO-PROBE II SENSOR (BIN)

1 Microwave Moisture Compensation System:

- Hydro-Bin Probe II Sensor
- Extension tube mounting bracket
- Panel-mounted Hydro-View Controller
- Cable
- Terminal box

AGGREGATE BIN VIBRATOR

1 Aggregate bin vibrator supplied for the sand bin complete with:

- 2" piston
- Air hoses
- Mounting hardware

POCKET BELT CONVEYOR

1 Pocket conveyor 24" wide belt complete with:

- 230/460 volt, 3 ph, 60 hz, TEFC electric motor drive assembly
- Flat idlers
- 4" diameter return rollers
- Belt - Corrugated sidewalls with cleats
- Loading skirt
- Tail pulley
- Head pulley
- Channel frame
- "A" frame supports
- Drip trays bolted to underside of conveyor to collect material carryover
- "Emergency stop" pull-cord switch and warning horn

CEMENT SILO

1 350 barrel capacity (1400 cu.ft./65.8 tons) cement silo with a 7' 6" discharge height, 8' 6" diameter complete with the following standard features:

- Emergency slide gate
- Outside ladder with safety cage
- Top handrail with toeboard
- 4" cement fill pipe
- Manhole entrance
- Dust collector (cartridge-style)

Total filtration area 293 sq. ft.

6 Reverse pulse filter cartridges

- 8 Externally mounted aeration pads with manifold
- Solenoid valve for aerating silo during batching
- Air line moisture trap and regulator

- Low level probe

SILO PIPING

1 - Silo fill pipe - approximately 60'

SCREW CONVEYOR

1 9" diameter screw conveyor complete with:

- Helicoid flighting with half pitch inlet flights, full pitch intermediate flights, and double full pitch outlet flights
- Mounting flanges
- Adjustable support to cement weigh batcher
- Canvas connection to cement weigh batcher
- 230/460 V, 3 PH, 60 Hz, TEFC electric motor and gear reducer drive case
- Drive is mounted on the inlet end of the screw conveyor
- Swivel ball joint at silo connection end for ease of field installation

AIR COMPRESSOR

1 Two stage air compressor complete with:

- Tank mounted reciprocating compressor
- 120 Gallon tank
- 42.2 CFM @ 90 PSI
- Start-stop control
- 10 hp, 230/460 v, 3 ph, 60 hz, 1800 RPM, TEFC electric motor; 7.3 FLA @ 460 v
- Automatic pressure switch that stops and starts by itself to keep a pre-determined pressure in the reservoir
- Pressure gauge
- ASME approved safety valve
- Discharge air valve
- Intake filter silencer
- 3/4" npt outlet
- Drain valve

PRE-WIRING

1 PRE-WIRING OF PLANT COMPONENTS INCLUDES THE FOLLOWING:

- Fiberglass NEMA 4x junction box mounted on the cement and water batcher. All solenoid and limit switches wired to a labeled terminal strip and factory set.
- Fiberglass NEMA 4x junction box mounted on belt conveyor. All safety switches and warning horn wired to a labeled terminal strip. Not included pre-wiring of conveyor electric drive motor.
- Fiberglass NEMA 4x junction box mounted on aggregate bin. All solenoid valves wired to a labeled terminal strip and factory set.
- Fiberglass NEMA 4x junction box mounted on mixer. All solenoid valves wired to a labeled terminal strip and factory set.
- Pre-wiring on skid assembled portions only.

NOTE:

Load cells are already pre-wired into a junction box.

MATERIAL HANDLING SYSTEM

1 Material Handling System:

10' x 10' lip mounted aggregate truck hopper includes:

- 3/16" plate with external stiffeners for an unobstructed cone section.
- Live bottom with a manually adjustable gate for regulating the flow of material.
- Supported above grade in customer designed concrete foundations

Incline conveyor 24" wide belt complete with:

- 230/460 volt, 3 ph, 60 hz, TEFC electric motor drive assembly
- 35° troughing idlers
- 4" diameter return rollers
- Cleated belt
- Loading skirt
- Tail pulley
- Lagged head pulley
- Channel frame
- Belt cleaner
- "Emergency stop" pull-cord switch and warning horn
- "A" frame supports
- No belt covers
- No walkway supports and railings

Aggregate two-way flop gate complete with:

- AR steel liners
- Air cylinder
- Double solenoid valve
- Limit switch
- Chutes

Material handling control includes:

- Power on/off switch
- High & low level bin indicator lights
- Conveyor start/stop switches
- Bin selector switches
- Emergency stop push button
- High level probes
- Low level probes

MULTI MOTOR STARTER PANEL

1 480 volt multi motor starter panel to include the following:

- Mixer motor starter(s)
- Pocket belt conveyor motor starter(s)
- Screw conveyor motor starter(s)
- Material handling conveyor motor starter(s)

Motor starters include the following:

- One (1) control transformer
- One (1) fusible disconnect switch
- One (1) NEMA 4 control box with back panel
- Power distribution blocks
- Includes all control wiring run to marked terminal strip

- All parts and labor included for assembling starter panel
- Only includes M.S.I. supplied motors

SKID MOUNT

1 Plant skid mount

- Structural steel support system
- Easy loading and unloading
- Convenient foundation installation
- Equipment pre-assembled
- Provides faster installation time
- Split skid assembly

MODEL E-100D BATCH CONTROL

1 Fully automatic sequential batching of materials. Control utilizes micro computer; one (1) scale for cement/water. Up to six (6) scales for up to 6 aggregates maximum, seven (7) scales maximum. Note: Control has the capability of only one (1) cement /water scale.

STANDARD FEATURES:

General:

- One start button to begin automatic sequence
- One recycle switch for pre-weighing cements and water (sequentially by net weight)
- 25 Mix designs

Materials:

- 2 of 2 Aggregates, batched decumulative, by net weight
- 1 of 1 Cement (or fly ash) batched by screw or gravity, by net weight
- 1 Weighed water, by net weight
- Pre-batching of cements and water

Controls

- Control is powered by 110 volt AC, 60 hertz, single phase electric power (dedicated power is recommended)
- NEMA 4 control enclosure, 30" x 24" x 8"
- All switchgear is rated NEMA 4x
- Key locked power on-off selector switch
- Manual-auto selector switch
- Manual controls for batching and discharge of all materials
- LCD (backlit) menu driven display readout with 4 lines of 20 characters per line.
- Emergency stop switch located on control panel
- Start-stop switch for incline conveyor
- 10 Second warning alarm for start up of one incline conveyor
- Start-stop switch for mixer
- Aggregate gate jog control
- Automatic gate chatter if no flow is detected through batch gate
- Automatic material free fall correction
- Refill mode for suspending batching while refilling aggregate bins in automatic
- One cement silo low level indicator light
- Material inventories of cement, water and aggregates batched in automatic
- Over/under weight checks
- Tolerance band for each material weighed

- Load size selection anywhere from 25%-100% of the selected mix
- Manual moisture compensation for all 6 materials (aggregates) from 0%-25% moisture
- Yield compensation of the various materials will also be compensated
- Plus/minus water adjustment in pounds for all mix designs (slump)
- One time total water deduct in pounds
- Full digital calibration of scales
- Shielded signal cable (summing junction box to control)
- Service technician for three day start up (SEE DOMESTIC START-UP)

4 OF 4 ADMIXTURES

1 4 of 4 Admix

- Provides an interface with an admix tube system (supplied by others) to automatically control when and how much admixture is added to a batch
- Requires 110 volt signal coming in
- Is part of the mix design (not just a start pulse)
- Uses counts that are calibrated to a certain amount of admix, e.g.: three ounces = 1 count
- Will count only the number of pulses received from the admix meter attached to the tube. The control will recognize whatever unit of measure the meter has been calibrated for (Quarts, Pints, Liters, Ounces, etc.) One pulse for each unit calibrated.
- If control has a printer and is in the automatic mode, it will print out the target # and the actual # of counts of admix that were added to each batch
- Will automatically reduce, in the appropriate ratio, the number of counts for a smaller batch, e.g. if a 3/4 yard batch size is needed, it will reduce amount added by 25%
- Offered ONLY as a 4 of 4 admix system; will handle a minimum of one (1) admix tube and a maximum of four (4) admix tubes.
- The admix hardware supplied by the customer/admix supplier for MSI to control MUST be #2053-08C Page 6 of 9
the clear tube model and be within sight of the E-100 control panel so that it is possible to see the liquid admix level when batching in the manual mode.
- Each admix comes with its own delay timer so that the admix can be discharged into the mixer at the desired time during the mix cycle. e.g.: superplasticizer can be added at the end of the mix cycle, 2 ½ minutes after the batch is started.
- Consists as the following hardware items: Four 3 position momentary switch operators mounted on the face of the control panel, eight (8) Opto 22 input modules, eight (8) Opto 22 output modules and one 50 pin header ribbon cable, 36" long.
- Each admix requires a total of four modules (two input modules & two output modules): One 110 VAC input from the tubes meter to count the pulses, one 110 VAC input from an empty float in the tube, one 110 VAC output to open the tube fill valve and one 110 VAC output to discharge the tube.