

# Cemco Model 275

Specification Sheet



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## Cemco Model 275 Technical Specifications

The Cemco Model 275 is completely portable with leveling cylinders on all four corners of unit and a self-erecting 58 ton silo. The plant is completely self-contained, powered by an on board 140 Horsepower John Deere Diesel Engine.

### Aggregate Handling

The Plant can be configured with 2, 3, or 4 aggregate bins. Additional 12 cubic yard automatic feeder conveyors may be added per aggregate bin.

<b>2-bin Aggregate Storage</b>	
<b>Aggregate Storage Bin</b>	<b>Storage (cubic yards)</b>
Sand	10-15*
Rock	13-18*
<b>3-bin Aggregate Storage</b>	
<b>Aggregate Storage Bin</b>	<b>Storage (cubic yards)</b>
Sand	10-15*
Rock 1	13-18*
Rock 2	13-18*
<b>4-bin Aggregate Storage</b>	
<b>Aggregate Storage Bin</b>	<b>Storage (cubic yards)</b>
Sand	10-15*
Rock 1	13-18*
Rock 2	13-18*
Rock 3	13-18*

\*the higher storage ratings are achieved by adding bin extensions

Note: An additional 12 cubic yards can be added per aggregate bin by utilizing the automatic aggregate feeder conveyors.

<b>Aggregate Gate Control</b>		
<b>Aggregate Storage Bin</b>	<b>Gate Area (in<sup>2</sup>)</b>	<b>Flow Control</b>
Sand	336	Hydraulic inching clam gate*
Rock 1, 2, or 3	406	Hydraulic inching clam gate

\*Sand bin also has a computer controlled vibrator in order to foster flow

## Water Handling

The Model 275 Cemco Plant includes a hydraulically driven water pump which pushes water into an overhead water storage bin. The plant is hard wired to keep the storage tank full without operator interference. From the storage tank, water is gravity fed via a 6 inch, hydraulically actuated butterfly valve.

<b>Water Pump</b>	
<b>Brand</b>	<b>Rated Maximum Flow</b>
2 inch hydraulically driven Pacer Pump*	240 GPM (908 LPM)

\*The water pump can be upgraded to a 3 inch 280 GPM (1060 LPM)

<b>Water Storage and Transfer</b>		
<b>Water Storage Bin</b>	<b>Capacity</b>	<b>Butterfly Gate size</b>
Overhead Water Storage Tank	660 Gallons (2500 Liters)	6 inch
Water Weigh Batcher	400 Gallons (1500 Liters)	6 inch

## Cement Handling

The Model 275 batch plant includes a self-erecting 58 ton silo which feeds a cement weigh batcher via a 12 inch butterfly valve. The Cemco cement weigh batcher has a 10 inch flow controlled inching gate as well as a transfer screw and a vibrator in order to create a constant and controllable flow of cement based upon the users desired flow rate. In addition, aerators and a vibrator are included on the silo to increase weigh up speed. In the case of a clump in the cement silo, a guillotine plate and cutout have been provided so that the silo gate may be removed without cement spillage.

<b>Cement Storage and Transfer</b>		
<b>Cement Silo/Weigh batcher</b>	<b>Capacity</b>	<b>Butterfly Gate size</b>
Silo (self-erecting)	58 tons	12 inch
Cement Weigh Batcher	4 tons	10 inch inching gate

\*The batch plant comes standard with one 4" fill pipe. Additional fill pipes may be added.

<b>Cement Weigh Batch Auger Specifications</b>	
dimension (length x diameter)	50" x 10"
Max Motor Torque	8300 lbs·in (938 N·m)
Auger RPM (variable speed)	0-320 based upon hydraulic flow

\*The auger does not have to be running for cement to flow out of the gate; it simply helps maintain constant flow.

## Scale Capacities and Functionality

The Model 275 NTEP Certificate No. is 99-029.

<b>NTEP approved scale capacities</b>			
<b>Scale</b>	<b>Nominal Capacity (lbs.)</b>	<b>Load Cell Capacity (lbs.)</b>	<b>Grad Size (lbs.)</b>
Water	3,500	5,000	1
Cement	8,000	15,000	5
Aggregate	40,000	60,000	10

<b>Scale Weighing Method</b>	
<b>Scale</b>	<b>Accumulative/Decumulative</b>
Water	Accumulative
Cement	Accumulative
Aggregate	Decumulative*

\*If automatic aggregate feeder conveyors are used, then the Aggregate scales can accumulate

## Transfer Conveyors

All transfer conveyors are hydraulically driven. As such, they can start under full load and their speeds are easily adjustable.

<b>Transfer Conveyor Specifications</b>			
<b>Belt Location</b>	<b>Torque</b>	<b>Belt Speed</b>	<b>Belt Width</b>
Plant Conveyor	19560 lbs·in (2210 N·m)	0-400 ft./min	30 inches*
Aggregate Feed Conveyor	10475 lbs·in (1184 N·m)	0-400 ft./min	30 inches

\*36 inch plant conveyors are an option

## Pneumatic System

The Batch plant has an onboard, hydraulically driven 50 CFM air compressor which supplies air for all pneumatic functions. All air storage tanks have a manual water drain for periodic maintenance. In addition, Cemco utilizes a parker filter and automatic water drain just after the air is compressed as well as a Wilkerson automatic particulate filter with automatic water drain further downstream to capture additional water droplets once the air has cooled from initial compression.

Two Wilkerson oilers are used to oil plant vibrators. Each oiler allows the operator to adjust oil flow to the vibrators.

<b>Standard Pneumatic Functions</b>	
<b>Function</b>	<b>Air Consumption if used continuously</b>
Silo Dust Collector Pulse Jets	2.65 CFM @ 87 psi
Cement Weigh Batcher Dust Collector Pulse Jets	1 CFM @ 87 psi
Vibrators	7.1 CFM @ 87 psi
Vibra-Pad Aerators (pulsing)	10-15 CFM @ 7-15 psi
Central Dust Collector*	5-12 CFM @ 90-100 psi

\*The 4,000CFM Central Dust Collector is an option and comes silo mounted (does not need separate trailer and does not affect the portability of the plant)

## Dust Collection

Cemco batch plants come standard with a silo top and cement weigh batcher dust collectors. As an option, a load point dust collector may be purchased.

<b>WAM R01 Silo Top Dust Collector</b>	
Cartridge Area	264 ft. <sup>2</sup>
Cartridge Material / weave	Spun Polyester / 10 micron
Efficiency	99.8 – 99.9 %
Air to Cloth ratio	6:1
Method of Cleaning	Pulse Jet
Maximum Capacity	1500 ACFM
Collection Type	Venting

\*If 2-3 fill pipes are required, then an additional silo top dust collector must be added. The standard plant comes with one 4" fill pipe and one silo top dust collector.

<b>WAM Cement Weigh Batcher Dust Collector</b>	
Cartridge Area	25 ft. <sup>2</sup>
Cartridge Material / weave	Spun Polyester / 10 micron
Efficiency	98 – 99.9 %
Air to Cloth ratio	6:1
Method of Cleaning	Pulse Jet
Maximum Capacity	150 ACFM
Collection Type	Venting

Cemco's optional central dust collector is a C & W CP-535-678. The dust collector does not have any effect on portability as it pulls with the plant and is literally mounted directly to the silo. When the silo

self erects the dust collector rises along with it. The dust collector is mounted on the bottom portion of silo in between the plant frame and the conveyor belt.

The Central Dust Collector is hardwired to collect dust whenever a load is discharging. During the next load's weigh up, dust from the previous load is deposited into the cement weigh batcher. In this manner the central dust collector's filters are cleaned every time a batch is weighed up.

<b>C &amp; W CP-535-678 Load Point Dust Collector</b>	
Cartridge Area	535 ft. <sup>2</sup>
Efficiency	99.99%
Air to Cloth ratio	7.48:1
Method of Cleaning	Pulse Jet
Normal Air Capacity	4,000 CFM
Collection Type	Blower (Suction)

## **Plant Power**

The Cemco Model 275 utilizes a factory mounted 140 Horsepower John Deere Industrial Diesel engine. The engine has a 120 amp alternator which sustains the plant's power system. All functions aside from the 120 VAC silo high level indicators and dust collector pulse jets operate via 12 VDC. In order to run the operating system and few 120 VAC functions a dedicated 10 amp 120 VAC circuit is necessary. The plant comes standard with a factory mounted batch house. If this option is chosen then Cemco provides a 2000 watt, 12 VDC to 120 VAC power inverter. If the Cemco supplied batch house is not utilized, then the customer needs to provide a dedicated 10 amp 120 VAC circuit for the aforementioned items. While the power inverter is rated at 2000 Watts, the plant only generates enough power to sustain itself. There is not enough power to run lights, tools, or anything aside from the plant.

As an option, Cemco plants may be purchased with a 100HP electric motor in lieu of the 140HP diesel motor. Also, both power packs may be purchased for the ability to run off electricity or diesel depending on job constraints. Please consult the factory for additional information.

## **Plant Production**

The Cemco model 275 is rated at 275 cubic yards per hour. This rating is based upon a 2:32 cycle time with 12 yard mixer trucks. The plant is fully capable of delivering a load as quickly as any truck can take it, and therefore, plant production is ultimately limited by the maximum truck feed rate and the time it takes for a loaded truck to leave and the next truck to get in place for a load. When continually batching, the plant can have the next load ready while trucks are transferring. On the high end of the production scale, Cemco has customers who routinely dry batch at 220+ cubic yards per hour.