

<b>Product Handled</b>	Cement
<b>Particle Size</b>	Powder
<b>Bulk Density</b>	81 lbs. / Cu. Ft.
<b>Bag Type / Capacity</b>	Poly Woven Bulk Bags   4,000 lbs
<b>Rate</b>	50 Tons / Hr
<b>Plant Location</b>	Florida

## Application Summary:

Cement powder is transported via Barge to the Tampa Bay Port. Flatbed Semi-trucks receive the bulk bags and bring them to the unloading area of the facility. Ability to unload full truck loads of bulk bags quickly was paramount for two main reasons: A) Had limited amount of time the barge can sit in port unloading B) Unable to store bulk bags outdoors so unloading and transfer product to storage silos in an efficient manner was also key.

## Equipment Solution:

Magnum Systems provided a dual bulk bag unloading and transfer system. This side by side stack up allows the operators to unload (2) bulk bags at a time. The system is designed to handle 100,000 lbs / hr or 25 bulk bags / hour. The cement is transferred pneumatically via pressure system to one of two silos. The control system also allows the operator to select the destination silo of choice and product is diverted utilizing a slide roller valve to convey product to the desired location.



## Equipment Features:

### Custom Dual Bulk Unloading Stations / Pressure Conveying System

- IBC-2000 Upper Frame with Fork-Truck Loading Universal Pick Up Device (UPD)
- Hinged Access Doors when not unloading bags for Operator Safety.
- Bag piercer for quick unloading of product
  - Minimal operator interaction
  - Replaceable Serrated Knife Edge
- Removable grate for minimizing large particles to reach downstream equipment.
- Hopper Inspection Doors
- Integral Pulse Jet Bin Vent with Fan for dust collection of blow-by-air.
  - Model 72-BV-16

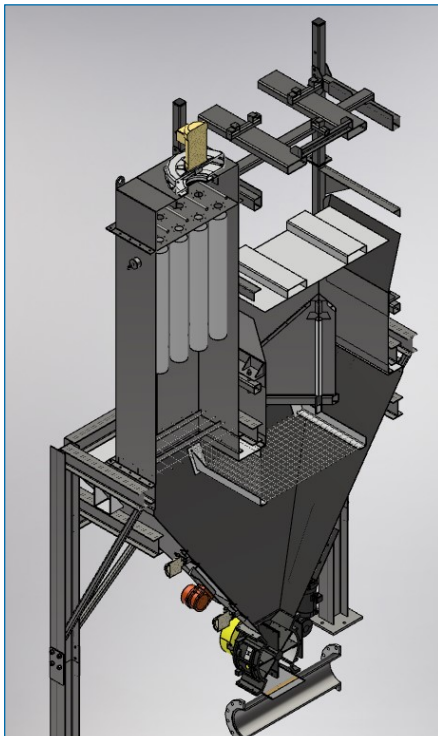
- Utilized existing 10" carbon steel pipe for convey line, total convey distance over 1,000 feet.
- All equipment is constructed of carbon steel and painted.

## Rotary Airlock Valves

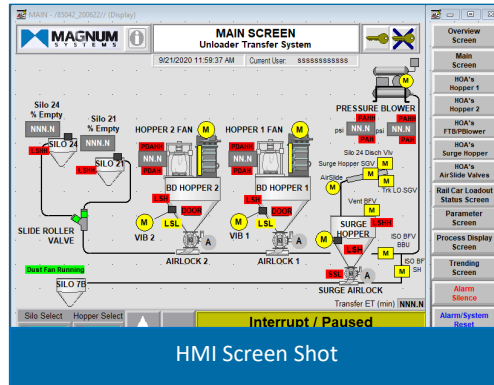
- (2) Model FT16 Type-2 Airlocks: Feed Rate = 50,000 lbs/hr each
  - 8 Vane, Closed-end rotor, Bolt on Tips with 400 Brinell (43Rc) Hardness
  - Cast Iron Housing with Hard Chrome coating
  - Shaft Air Purge

## Control System

- Main Control Panel
  - NEMA 4 Enclosure
  - Programmable Logic Controller (PLC) with local I/O for field control devices. Communicates to Plant's PLCs for operation of destination filters and routing valves 10" color operator interface touch screen with Ethernet communications to PLC.
  - Features:
    - + System Overview, Main, HOA, Parameter, Process Display, and Trending Screens
    - + Communicates Start/Stop and status to customer's PLC controlling the Pressure Blower.
    - + Analog displays for Blower Pressure and Filter Differential Pressure, and Silo Levels.



Section View of Bulk Unloading Station



HMI Screen Shot



FT16 Type 2 - Airlock



Operators Unload 2 Bulk Bags



Full Truck of Bulk Bags from barge