



SMICOMPANIES

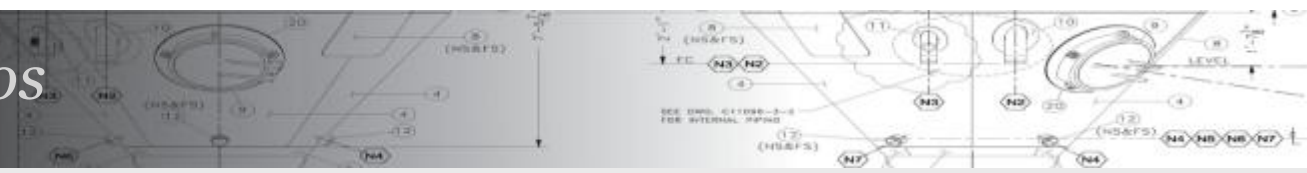
Smart-Iron Technologies™

Part II The Plant

1456 Hwy. 317 South Franklin, LA – USA
Phone: 800-264-9894 Website: www.smicompanies.com

Bulk Storage Silos

Smart-Iron Technologies™



The silos in our pressure/vacuum plants are non – ASME Code vessels. They are open vented to the dust collection system and are never placed under pressure or vacuum. They are secondarily protected by high capacity pressure and vacuum breakers.

Silos are available in various sizes, and quantities, 1,800 to 4,000 CF. These shown are 3,000 CF. They are standard with electronic scales and overfill protection.

This twelve pack of 3,000 CF silos will hold 36,000 sacks of inventory. Silos are available to suit your application needs.



3,000 CF Silo

Smart-Iron Technologies™



- Capacity ----- 3,000 CF
- Total Volume ----- 3,273 CF
- Certification ----- Non-Code
- Diameter ----- 11' 0"
- O A Height ----- 43' 6"
- Material ----- ¼" – A36 Steel
- Base Skid ----- W10x39 Beam
- Support Legs ----- 8" Sch. 80 Pipe
- Discharge Outlet ----- 1 - 5" Sch. 40
- Vent Outlet ----- 1 - 5" Sch. 40
- Fill Inlet ----- 1 - 5" Sch. 40
- Aeration System ----- 4 – 2" Sch. 40
- Flanges ----- 150# ANSI
- Electronic Scales ----- 4 – 150k ea.
- Manway ----- 1 – 20" Cam-bolt
- P/V Breakers ----- 3" – 750 SCFM
- Inspection Hatch ----- 4" Sch. 40



Blend Train & Waste Tank

Smart-Iron Technologies™

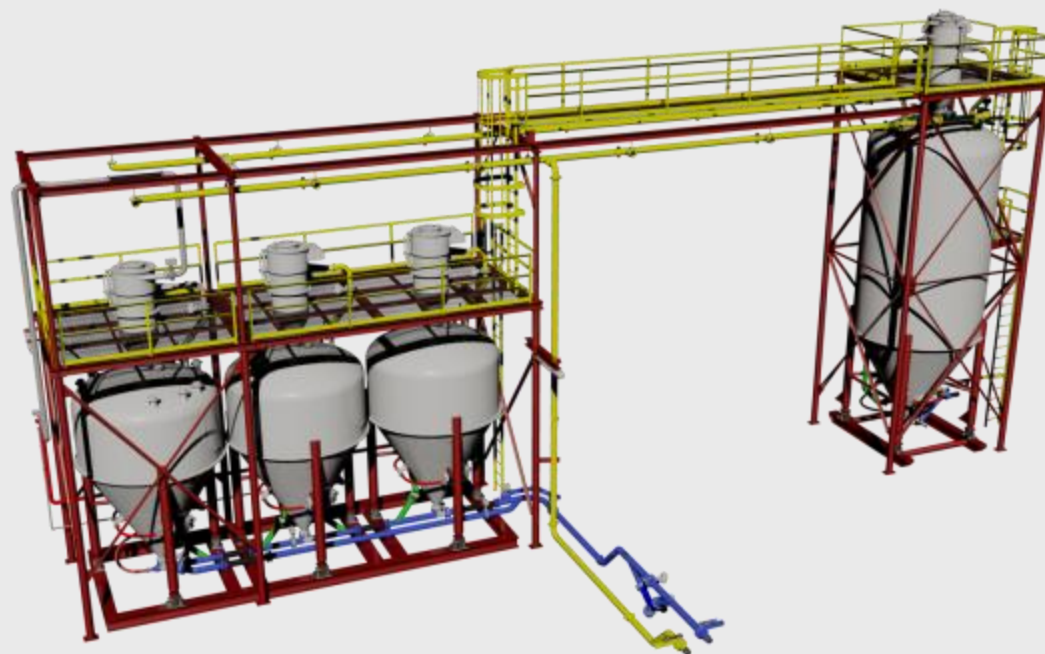
The Smart-Iron blend train uses a pneumatic three transfer blending process beginning with stacked and layered ingredients in the weigh batcher.

The PLC loads the weigh batcher with the silo ingredients and additives with great precision and speed.

Once the batch is transferred to the first blender the PLC begins to pull the ingredients for the next batch into the weigh batcher and will continue to process this way as long as there are batches in queue.

Each blend train vessel has a Metroplex dust collector on top. The dust collected in each transfer is returned to the process so there are no dust losses.

The waste tank collects the dust from raw purchases loaded into the silos and blended cement loaded into transports.



The blend train featured here is designed for use in land based bulk plants loading trucks that must stay under DOT weight limitations (Approx. 400 CF batches). The process is scalable for applications where larger batches are necessary.

Blend Train w/ Dust Collectors

Smart-Iron Technologies™

Capacity ----- 500 CF Each
Total Volume ----- 1,500 CF
Certification ----- ASME U Stamp
Diameter ----- 9' 0"
O A Height ----- 24' 6"
OA Width ----- 10' 0"
Material ----- ¼"– 516-70
Base Skid ----- W10x39 Beam
Support Legs ----- 6" Sch. 80 Pipe
Discharge Outlet ----- 1 - 5" Sch. 40
Vent Outlet ----- 1 - 5" Sch. 40
Fill Inlet ----- 1 - 5" Sch. 40
Aeration System ----- 4 – 2" Sch. 40
Flanges ----- 150# ANSI
Electronic Scales ----- 3 – 30k ea.
Manway ----- 1 – 20" Cam-bolt
Dust Collectors ----- Metroplex



Waste Tank w/ Dust Collector

Smart-Iron Technologies™



Capacity ----- 1,250 CF
Total Volume ----- 1,975 CF
Certification ----- ASME U Stamp
Diameter ----- 11' 0"
O A Height ----- 37' 4"
Material ----- 1/4" - 516-70
Base Skid ----- W10x39 Beam
Support Legs ----- 8" Sch. 80 Pipe
Discharge Outlet ----- 1 - 5" Sch. 40
Vent Outlet ----- 1 - 5" Sch. 40
Fill Inlet ----- 1 - 5" Sch. 40
Aeration System ----- 4 - 2" Sch. 40
Flanges ----- 150# ANSI
Electronic Scales ----- 4 - 100k ea.
Manway ----- 1 - 20" Cam-bolt
Inspection Hatch ----- 4" Sch. 40
Dust Collector ----- Metroplex

Vacuum Additive Hopper

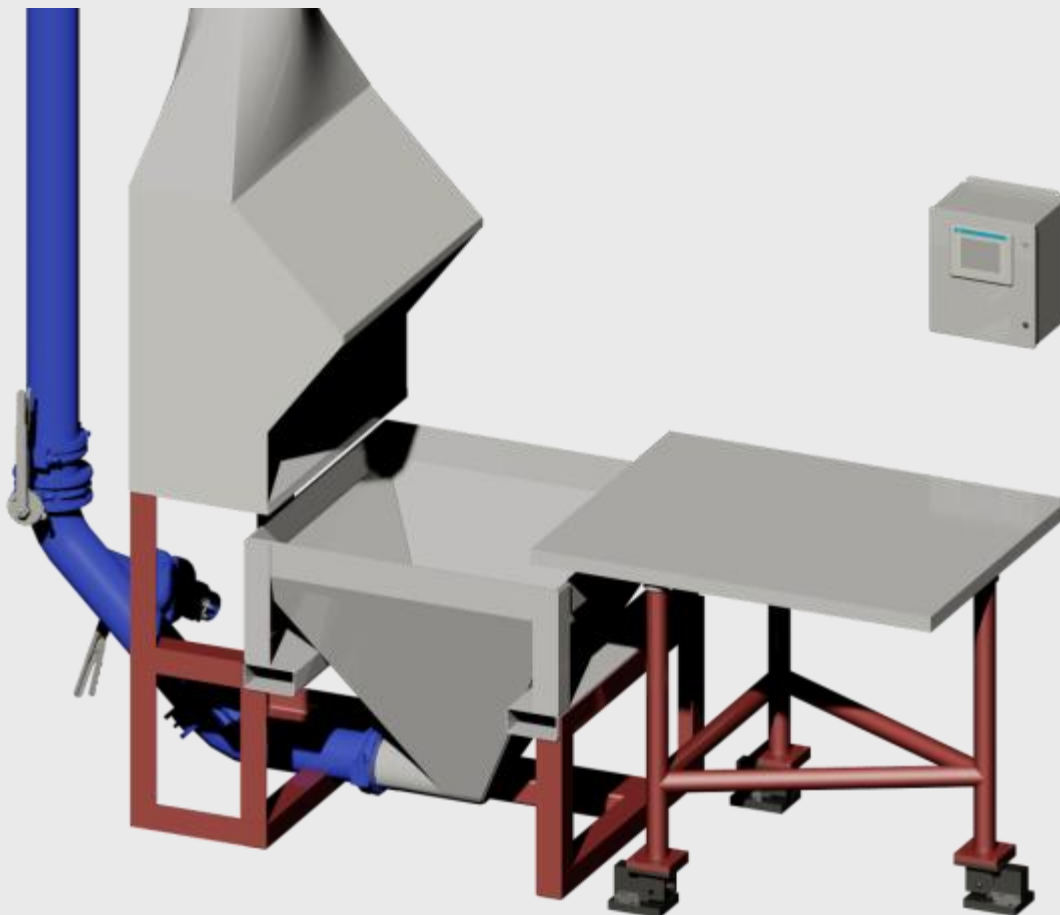
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The vacuum additive hopper sets up right outside the control room and is visible through the window to the operators left. It is integral to the Smart-Iron process via the scale table and the panel view touch screen interface. The dry add ingredients and weights appear on the panel view touch screen to be weighed in, confirmed and sent to the weigh batcher. The process is manual but directed by the PLC for the batch that is being run.

The hopper itself holds 10 to 12 sacks of material and It is easily removed for cleaning.

Safety Features

- The dust exhaust hood has a variable speed fan to safely remove transient dust from the area.
- The add hopper discharge valve has a vacuum verification feature in the PLC that prevents it from opening unless there is vacuum in the weigh batcher.



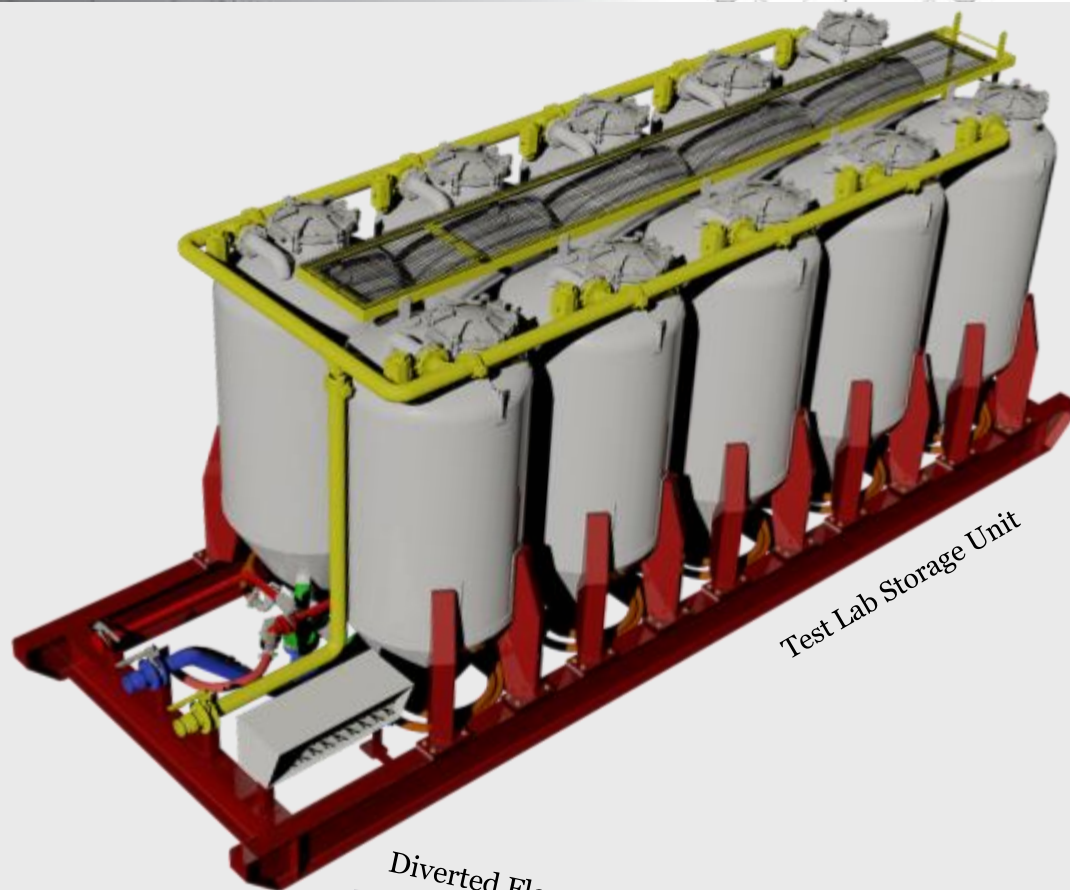
Quality Assurance

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The SMI **Test Lab Storage Unit** and **Diverted Flow Sample Catcher** are the absolute best way to insure your plant is producing consistently homogenous blended batches of oilfield cement every time.

The storage unit comes complete with 10 – 100 CF ASME Code certified vessels, 20” cam-bolt manways, all process piping, pneumatic control panel and cam-lock connectors to tie right into your new or existing blend train.

The diverted flow sample catcher comes complete with its own controller to be installed on your existing blend train or can be incorporated into the Smart-Iron control system. It takes a .25 CF sample (per API specs.) and gives you a true indication of blend consistently.



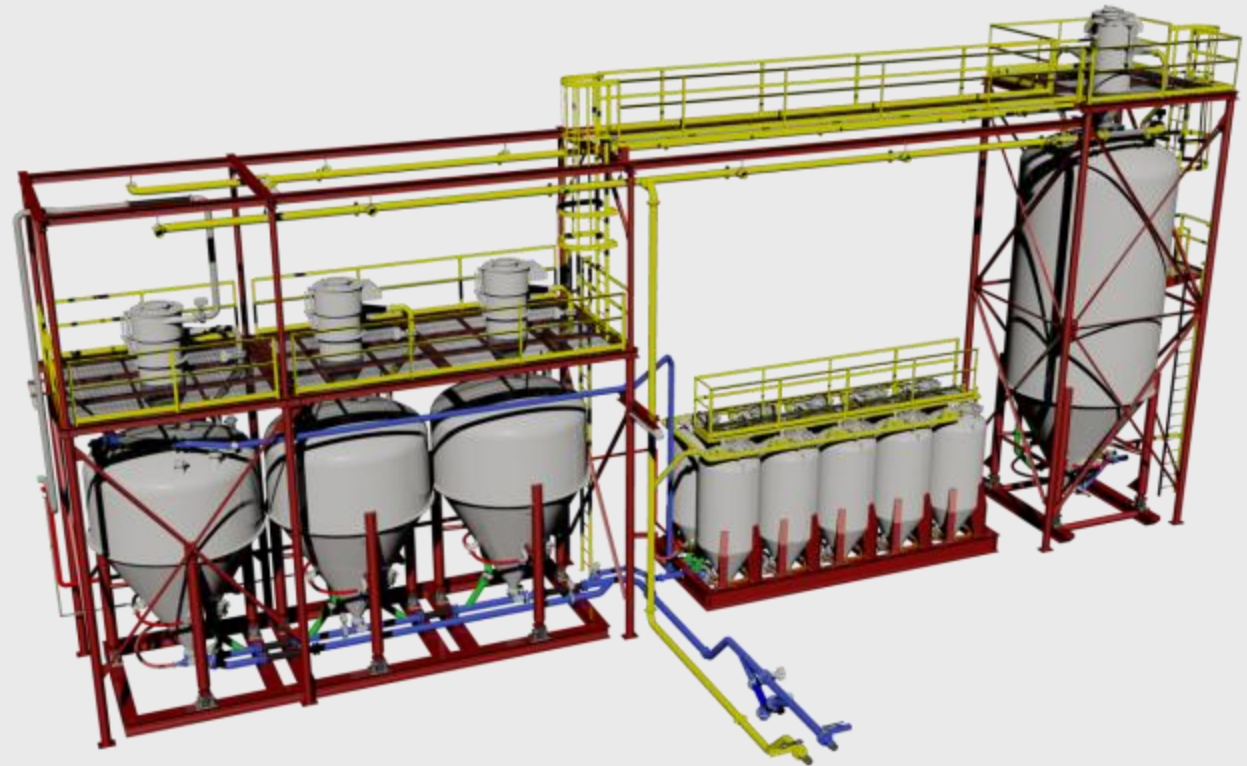
Blend Train w/Test Lab Storage Unit

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Each Smart-Iron blend train is designed to have the test lab storage unit installed as shown in this graphic.

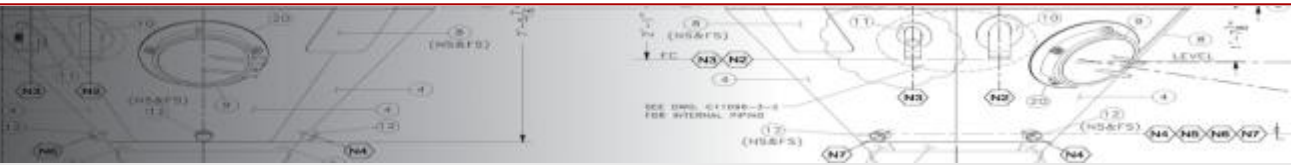
The unit can be part of the Smart-Iron operating system or it can stand alone with its own pneumatic control panel.

With or without a Smart-Iron plant, the test lab storage unit can be integrated into your blend train along with a diverted flow sample catcher.



Compressor Room

Smart-Iron Technologies™



The graphic to the right gives you a perspective of the front a typical dry storage warehouse with our control room, add hopper station and compressor room in place. Our equipment takes a foot print of approximately 70' W (across the front) x 25' deep.

The profile of the compressor room shows the exterior wall with the 3/4" dry wall, 4" mineral wool insulation and the perforated interior panel.

With all the machines running and all doors closed sound levels are 72 db (decibels) at 36" inside the warehouse. This is the equivalent volume of the normal human voice

