

# TEI Fluidizer

## Air-Slide Booster Benefits Cement Plants!

### Cement Silo Clean Out

- Provides low cost solution to silo clean out problems
- Easy connection to existing pipework on outside of silo
- Fluidizes stagnant powders when continuous air flow fails
- No entry into silo is required (equipment or personnel)
- Clean out performed during active operations
- Low power consumption — uses 50% less air than normal continuous flow
- Once pipework fitted, system up and running in minutes
- Cleans out cement down to air slide fabric
- Recovers bin bottoms
- Rejuvenates air-slide chutes
- Short-term rental & trials

CALL 630-879-0297

SCHEDULE A TRIAL TODAY

### **PATENTED PNEUMATIC TECHNOLOGY:**

What makes the TEI Fluidizer an innovative technical leap is its ability to harness the existing energy of an air-slide system, and apply multiple frequencies to the cement / air-slide fabric interface, where the vibrations are most effective. This pneumatic modulation technology (PMT) inhibits the coalescence of air bubbles. Simpler said, the TEI Fluidizer can **eliminate rat holes**.

**ENERGY SAVINGS:** The multiple sub sonic frequencies are so effective in vibrating product, that when compared to a traditional air-slide system, only **one-half the air flow** is needed. That means a facility using multiple compressors for air slides may be able to eliminate one of the units.

**ENVIRONMENTAL VALUE:** Because PMT requires only one-half the air to move the same amount of product, bag house collectors receive **less particulate loading**.

**OPERATING FLEXIBILITY:** Every hour is critical when a plant is not operating. The TEI Fluidizer gives cement manufacturing plants **operating flexibility** - clean a silo during routine operations or empty a silo of all product before preparing for shutdown. With more usable storage capacity, sales and production can continue with less interruption.

**FASTER TRANSFER RATES:** Cement moves faster when a TEI Fluidizer is connected to an air-slide system. Results of field trials have shown a dense phase transfer rate increase of 70% for Class C Fly Ash. Cement plants show a dilute phase **transfer rate increase of 20%**. More throughput, more sales, more profit.

**INCREASED CAPACITY:** Many storage units equipped with air slides have difficulty accessing the last 10% to 15% of product, holding stagnant cement *for years*. With the TEI Fluidizer, the stagnant cement can be recovered down to the air-slide, recapturing 10% to 15% of unusable capacity and lost inventory.

With a fully-loaded capital cost for storage capacity running near \$200 per ton, the value of recapturing active storage capacity is clear. A ten percent gain on a 50,000 ton storage unit can save \$1 million of cash flow. Maximizing asset utilization is one simple way to hold production costs down.

**MULTIPLE APPLICATIONS:** The TEI Fluidizer **decreases the effects of pack set** and is suitable for large domes, bunkers and silos sized 2,000 tons to 200,000 tons. The TEI Fluidizer works best when a storage unit is partially full. It connects to existing pipework on the outside of a storage unit and can also work with air-slide chutes.

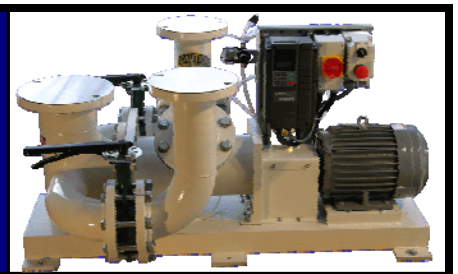
### Trial Unit

1x 6" Flange inlet  
2x 4" Flange outlets  
460V: 3PH: 5Amps  
— 230V option  
NEMA 4 controls  
1250 to 3000 CFM



### 6" Production Unit

Easy to install  
Multiple frequencies  
Amplitude control



# CEMENT PLANT BENEFITS

# ADDING VALUE

## ENERGY SAVINGS

Reduction in number of compressors  
 Reduction in energy costs  
 Flexibility in scheduled maintenance services  
 Environmentally 'friendly'  
 New technology provides energy savings  
 Reduces load on bag house  
 Lower production cost per ton  
 Smaller replacement compressor

100 HP ~ \$52,000/YR  
 (\$0.08/kwH, 24 hrs, 365 days)

## CAPACITY INCREASE

Better asset utilization - lower cost per ton  
 10% to 15% gain in storage capacity  
 Longer production runs help eliminate changeover  
 Recovery of stagnant inventory

\$60,000 per silo  
 (3,000 T, 10% recovered @ \$200/T capital )  
 \$70,000 each  
 (1 MMT/YR, 1 Day, \$25/T)  
 \$225,000  
 (30,000 tons storage, 10% recovered, \$75 per ton)

## SPEED INCREASE

Transfer rates  
 70% dense phase (Class C Fly Ash)  
 10% to 20% dilute phase (Cement)  
 Better ability to plan  
 Less overtime  
 More throughput, increased revenue  
 Less maintenance  
 More uniform flow

Plant Specific  
 Plant Specific

## DESIGN

New facilities  
 Double chute reach  
 Half slope of air-slide working angle

Plant Specific

## CEMENT MANUFACTURING



**FIND THE PROBLEM**



**STUCK CEMENT  
(OVER 12 FEET)**



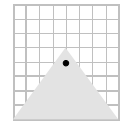
**TEI FLUIDIZER**



**HAPPY  
CUSTOMER**

### **Technology Evaluations Inc.**

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*Licensed: TEI Fluidizer is patented, designed and manufactured under license. Companies interested in this technology, its application and licensing rights, should contact Technology Evaluations, Inc.*

*Note: As with any piece of equipment that incorporates a vibrating energy source, whether it be pneumatic, hydraulic or direct mechanical connection, stresses on infrastructure & equipment will occur. Plant is responsible to ensure equipment is compatible and properly secured.*

*Warranty: Field tests are used to ascertain the TEI Fluidizer's performance under site specific conditions. We offer a return policy on purchased equipment not meeting the field test unit's performance.*