



# SOUTHERN EARTH SCIENCES, INC.

Geotechnical, Environmental & Construction Materials Testing

**BATON ROUGE GEOTECHNICAL OFFICE**  
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*PETE'S STANDARD MATERIALS PLEASE LOOK*

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# CON-E-CO. HOME PRODU



## SALES/ENGINEERING

Each plant is custom engineered to fit the site.

Our sales representatives and engineers confer with you regularly. Together, we analyze location, elevations, and anticipated truck traffic flow. To minimize site preparation costs and improve performance, we take advantage of elevations and hilly property.

Custom drawings show how your plant will maximize productivity down the road. And we sweat the small stuff e.g., recommending circuit breakers instead of fuses for ease of operation.

The bottom line is that your plant will be easy to operate, easy to service, and optimally productive.

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## SITE - PREP

## SLP

## STANDARD MATERIALS MANDEVILLE, LA

## D-0782S

## 08-06-08

## Revised



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## SITE - PREP

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## FOOTING RECOMMENDATIONS

Adequate footings must be provided prior to set-up of plant. See plant assembly drawing, for column loadings, obtain a soil test and consult a professional Engineer for foundation design.

### **IMPORTANT:**

**BECAUSE OF THE RELATIVELY LARGE LOADS IMPOSED ON THE FOOTINGS, THE ALLOWABLE BEARING PRESSURE OF ALL UNDERLYING SOIL SHOULD BE DETERMINED AND OR CONFIRMED PRIOR TO AN APPROPRIATE FOOTING DESIGN. DUE CONSIDERATION FOR SETTLEMENT SHOULD BE INVESTIGATED INCLUDING THE POSSIBILITY OF A SOFT COMPRESSIBLE LAYER OF SOIL BENEATH THE TOP LAYER OF SOIL, AND ANY OTHER SOIL CHARACTERISTICS THAT MIGHT CAUSE EXCESSIVE SETTLEMENT. EXCESSIVE SETTLING OR THE LACK OF ADEQUATE UPLIFT RESTRAINT COULD CAUSE A DANGEROUS CATASTROPHE WITH COSTLY STRUCTURAL DAMAGE.**

The customer is required to furnish steel leveling plates of no less than 3/4" x 10" x 10" material for each column required. If plant is to be permanently located CON-E-CO recommends installation of additional footings and piers to accommodate future expansion of bins.

**NOTE:** *Portable footings may be used, if a reputable professional engineer is consulted for design of the portable footings.*

## **SPECIAL BRACING REQUIREMENTS**

CON-E-CO structural supports, are designed for normal wind and adequate foundations. It may be necessary in some locations to provide additional bracing in order to comply with the design criteria of local codes for hurricane force winds or seismic loadings.

## **CHARGING RAMPS AND BUILDING**

Charging ramps and buildings should be free standing and not dependent on the plant for structural support. CON-E-CO assumes no responsibility for damage to a plant caused by a charging ramp or building.

## **WATER REQUIREMENTS**

The plant water may be obtained from city systems, well or surge tank. A minimum flow rate of approximately 100 to 150 GPM is advisable in order to maintain batching speed. CON-E-CO water meter will operate with much lower flow rates if required, approximately 30 GPM for 2" meter or 50 GPM for 3" meter. CON-E-CO recommends that a maximum pressure of 150 PSI not be exceeded. (The CON-E-CO water meter will handle water at temperatures ranging from 32 degrees F to 200 degrees F.) See Page 2 showing waterline location. (Location shown will work with or without CON-E-CO furnished water pump.)

## **GENERAL NOTES**

CON-E-CO Structures are all designed to be mounted on level, rigid foundations. All foundations, permanent or temporary, must not allow more than 1/2" differential settlement or uplift between columns during or after repeated wind and/or live loads. Foundation loads are shown from specific plant configurations in site preparation drawings supplied by CON-E-CO. Added accessories such as cement silos, water tanks, conveyors, and dust control systems which are not shown on the plant's site preparation drawing cause higher stresses on the plant and larger foundation loads and/or uplifts. Consult CON-E-CO before adding anything to a plant not shown on its site preparation drawing.

# CON-E-CO®

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## SPECIFICATIONS FOR MODEL 14-23 CEMENT BATCHER VENT

### MODEL 14-23 SPECIFICATIONS

TOTAL CLOTH AREA	23 SQ. FT.
NUMBER OF BAGS	14
HOUSING HEIGHT	1'-10"
HOUSING WIDTH & LENGTH	0'-10" X 2'-11"
BAG CLEANING METHOD	REVERSE AIR FLOW (From batcher filling and emptying)
MAXIMUM OPERATING TEMPERATURE	170 DEGREES F
CAPACITY	180 CFM MAXIMUM
DISCHARGE SHAPE	(2) 2" X 12" SLOTS
CFM/FT <sup>2</sup> THROUGH BAGS	7.83 MAXIMUM
AIRSPED OUT OF DEVICE	545 FT / MIN
DIRECTION OF AIR DISCHARGE	DOWN
DISCHARGE AREA	.33 FT <sup>2</sup> (48 IN <sup>2</sup> )
NORMAL OPERATING TEMP & PRESSURE	AMBIENT
OUTLET MOISTURE CONTENT	IDEALLY ZERO

### BAG SPECIFICATIONS

BAG DIAMETER	4-1/2" DIA.
BAG LENGTH	16"
CONSTRUCTION	3 X 1 TWILL
FIBER	POLYESTER
FINISH	GREIGE
WEIGHT	7.1 OZ./SQ. YD.
THICKNESS	0.019"
MULLEN BURST	275 PSI (Min)
PERMEABILITY RANGE (0.5" WATER)	30-55 CFM/SQ. FT.
BAG EFFICIENCY	99.9% (*)

### BATCHER VENT

LB / HR  
GR / FT<sup>3</sup>

### INTO BAGS

.00144 LB/YD<sup>3</sup> \* \_\_\_ YD<sup>3</sup>/HR  
.648 GR HR/LB FT<sup>3</sup> \* \_\_\_ LB/HR

### OUT OF BAGS

FOR ALL OUT OF BAGS VALUES, MULTIPLY THE INTO BAGS VALUES BY 0.001.

\* BASED ON TESTS BY THE UNIVERSITY OF TENNESSEE.



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# CON-E-CO<sup>®</sup>

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## BV Series Batcher Vent    MAINTENANCE & OPERATION

### OPERATION

The CON-E-CO BV Series Batcher Vents are designed for efficient operation and cleaning. The contaminated air enters the dust collector through its bottom flanged opening at the top of the weigh batcher. In the weigh batcher, many of the heavy dust particles settle out of the air stream due to a reduction of air velocity. From the weigh batcher, the dust laden air flows up through the inside of the filter bags where the dust particles are trapped by the filter bags thus allowing the clean air to pass through the bags into the clean air chamber. From there, the air flows through the exhaust opening and into the atmosphere.

### BAG CLEANING

A vacuum is created inside the weigh batcher as the batcher is emptied. This vacuum reverses the air through the bags and pulls collected material from the bags back down inside the weigh batcher.

Examine the bags each week to check for excessive build up on the inside of the bags. The best efficiency and longest bag life is obtained by cleaning the bags as often as necessary. A thin even coating of material should coat the inside of the filter bags for the most effective filtration. The dust cakes on the inside of the bags to help filter the fine particles; so if bags are cleaned too often, part of their cleaning efficiency is lost.

### MAINTENANCE

The filter bags can be removed and inspected for tears and thin places. Laundering, mending or repair of the seamless bags is not recommended. The bags are made of seamless woven polyester fabric and if laundered shrinking may take place. Replacement bags are available from CON-E-CO.

### SPARE PARTS

Parts should be ordered from Manufacturer to insure compatibility. If parts are needed, obtain serial number from the name plate and call the factory. A complete detailed record of the vent is on file at CON-E-CO.

### SAFETY INFORMATION

This CON-E-CO dust collector, like other industrial equipment, must be operated and maintained in accordance with our instructions and sound engineering practices. The user of this equipment must always be aware of the physical and chemical properties of the dust particles being collected. Materials or processes presenting such hazards must be identified by the user.



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# CON-E-CO®

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## SPECIFICATIONS FOR MODEL PJC-450 CARTRIDGE DUST COLLECTOR

### MODEL PJC-450 w/ BLOWER

NUMBER OF CARTRIDGES	6
TOTAL FILTRATION AREA	456 SQ. FT.
MIN. DESIGN EFFICIENCY OF DUST COLLECTOR	99.99%
AIR TO CLOTH RATIO	5.0 ACFM / FT. <sup>2</sup>
FILTRATION VELOCITY	5.0 FT. / MIN
BLOWER HP	5 HP
STATIC PRESSURE DROP	6.8" (INCHES OF WATER)
AIR CAPACITY	2280 C.F.M.
OUTLET DIMENSIONS	9.0" WIDE X 15.0" HIGH
OUTLET AREA	.94 FT. <sup>2</sup>
OUTLET VELOCITY	36.2 FT. / SEC.
OUTLET MOISTURE CONTENT	IDEALLY ZERO
NORMAL OPERATING TEMP & PRESSURE	AMBIENT
CLEANING MECHANISM	PULSE JET NOZZLES
FREQUENCY OF CLEANING	ADJUSTABLE TIMER

### CARTRIDGE SPECIFICATIONS

CARTRIDGE SIZE	8" DIA. X 78" LONG –
FABRIC	100% POLYESTER
WEIGHT	APPROXIMATELY 8.1 OZ.
AIR PERMEABILITY	28 CFM @ 1/2" WG
EFFICIENCY	99.99% @ .2 - 2 MICRON & ABOVE
HEAT	275, 200 DEGREE F. STD. CONSTRUCTION

### DISCHARGE INTO BAGS

#### CEMENT SILO

LB / HR  
GR / FT<sup>3</sup>

#### INTO BAGS

.177 LB/YD<sup>3</sup>\* \_\_ YD<sup>3</sup>/HR  
.051 GR HR/LB FT<sup>3</sup>\* \_\_ LB/HR

#### FLYASH SILO

LB / HR  
GR / FT<sup>3</sup>

#### INTO BAGS

.115 LB/YD<sup>3</sup>\* \_\_ YD<sup>3</sup>/HR  
.051 GR HR/LB FT<sup>3</sup>\* \_\_ LB/HR

### OUT OF BAGS

FOR ALL OUT OF BAGS VALUES, MULTIPLY THE INTO BAGS VALUES BY .001



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**PJC Series Dust Collector MAINTENANCE & OPERATION**

**PJC-450**

**OPERATION**

The CON-E-CO Pulse Jet Series Dust Collectors are designed for continuous operation and cleaning.

**CARTRIDGE CHAMBER**

Contaminated air enters from the bottom of the cartridge chamber and flows from the outside toward the inside of the cartridges, leaving dust particles on the outside of the cartridges. Clean air exits through the top where it is discharged.

**CARTRIDGE CLEANING**

Cleaning of the cartridges is done on one row at a time. Pulse jet valves are mounted on a manifold inside the bag house and control air to the blowpipes located above the rows of pulse jet cartridges. Holes in the blowpipes centered over each bag opening direct air downward through a venturi into the bags.

Cleaning of the cartridges is accomplished by a jet of air directed downward into the cartridges. The jet of air is short duration, high velocity and directs enough air volume to reverse the flow of air for a very short time to dislodge the dust from the outside of the bag.

**AIR PRESSURE**

Air pressure at the manifold (located inside the baghouse) should be maintained at 70 to 80 psi. Less than 70 psi will reduce cleaning efficiency: Greater than 80 psi will cause excessive bag wear

**CONTROL**

The pulse jet valves are controlled by an adjustable solid state timer board. (See timer instruction for technical and programming instructions) This timer board controls several functions as described below:

- ON TIME      Pulse duration: Time that a pulse jet valve is open  
ON TIME should be set between 200 and 300 milliseconds
- OFF TIME     Time between pulses:  
Reducing the "OFF TIME" will keep the bags cleaner and increase bag wear.  
Increasing the "OFF TIME" will allow more dust cake and increase bag life

**INITIAL SETTINGS**

The dust collector timer control should initially be set as shown below. These settings should give the best balance of cleaning efficiency, air efficiency, and bag life for most common applications.

ON TIME	300 milliseconds
OFF TIME	30 seconds



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# ELECTRICAL REQUIREMENTS

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MANDEVILLE, LA

It is very important to keep your electric utility c with your power requirements. The equipmen combined with other site loads such as area light office HVAC, mixers, etc. If you are using an c would be happy to coordinate a more detaile stabilization and locked rotor amps with the c supply the generator. Transformer sizes listed l an impedance of .035 to calculate voltage dro Code G, and show standard available size 3 ph

*100 A TO conveyor  
460V 80500 VA  
250 A 460 TO  
Plant Power  
201250  
TO BATCH House  
8" PVC  
grounding - each tower  
and conveyor*

Setup for **460 Volt operation.**

CONCRETE BATCH PLANT						Wire Size	
	HP	FLA	CB	Str	Heater	Min	Normal
1.5 KVA Transformer		3.26					
Agg Incline Conv	20.00	24.60	60	#2	B40	8	8
Low Press Blower 1	4.50	5.50	15	#0	B8.20	14	10
Low Press Blower 2	4.50	5.50	15	#0	B8.20	14	10
Low Press Blower 3	4.50	5.50	15	#0	B8.20	14	10
Air Compressor	15.00	18.30	45	#2	B32	10	4
PJC-450 Blower 1	5.00	6.40	15	#0	B10.2	14	10
PJC-450 Blower 2	5.00	6.40	15	#0	B10.2	14	10
PJC-450 Blower 3	5.00	6.40	15	#0	B10.2	14	10
If not all motors run concurrently, *Amps not included in total.							
Total Connected	63.50	81.86					
+25% of Largest Motor	20.00	6.15				Actual	
Running Design Load		<b>88.01</b>	Running Design			70.12	KVA
+5 x Largest Motor		123.00					
Starting Design Load		211.01	Starting Design			168.12	KVA
75 KVA Transf. Volt Drop=	8.18%	Starting, and			3.41%	when running.	
113 KVA Transf. Volt Drop=	5.45%	Starting, and			2.27%	when running.	

*TRACI*

# ELECTRICAL REQUIREMENTS

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**D0782 STANDARD MATERIALS**  
**MANDEVILLE, LA**

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## AUX. CHARGING CONVEYORS

	HP	FLA	CB	Str	Heater	Wire Size	
						Min	Normal
1.5 KVA Transformer		3.3					
Conveyor 1	25.00	31.0	70	#2	B56	8	8
Traversing Drive	2.00	2.7	15	#00	B4.15	14	12
Total Connected	27.00	36.96					
+25% of Largest Motor	25.00	7.75				Actual	
Running Design Load		<b>44.71</b>	Running Design			35.62	KVA
+5 x Largest Motor		155.00					
Starting Design Load		199.71	Starting Design			159.11	KVA
75 KVA Transf. Volt Drop=	7.74%	Starting, and			1.73%	when running.	
113 KVA Transf. Volt Drop=	5.16%	Starting, and			1.16%	when running.	

## GRAND TOTAL

	HP	FLA			
Total Connected	90.50	118.82			
+25% of Largest Motor	25.00	7.75			Actual
Running Design Load		<b>126.57</b>	Running Design		100.84
+5 x Largest Motor		155.00			
Starting Design Load		281.57	Starting Design		224.33
75 KVA Transf. Volt Drop=	10.91%	Starting, and		4.91%	when running.
Note: This will create a	34.46%	continuous overload w/listed items.			
113 KVA Transf. Volt Drop=	7.27%	Starting, and		3.27%	when running.
150 KVA Transf. Volt Drop=	5.46%	Starting, and		2.45%	when running.