CON-E-CO®

An Oshkosh Corporation Company

SITE - PREP

PJ980DI
BAGHOUSE

SOLID PRODUCTS. SOLID PERFORMANCE.
237 N. 13TH ST - PO Box 430 - Blair, NE 68008
Phone (402)-426-4181 Fax: (402)-426-4180 Engineering Fax: (402)-426-4190
E-MAIL: sales@con-e-co.com WEBSITE: www.con-e-co.com

TABLE OF CONTENTS

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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.*

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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.

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SPECIFICATIONS FOR MODEL PJ-980D DUST COLLECTION SYSTEM

MODEL CON-E-CO PJ-980D	
NUMBER OF BAGS	66
NOMINAL BAG DIAMETER	6"
NOMINAL BAG LENGTH	120"
TOTAL FILTRATION AREA	980 SQ. FT.
MIN. DESIGN EFFICIENCY OF DUST COLLECTOR	99.9%
AIR TO CLOTH RATIO	6.0 TO 1.0
BLOWER HP	15 HP
STATIC PRESSURE DROP	9" (INCHES OF WATER)
BLOWER AIR FLOW	5880 C.F.M.
DISCHARGE VELOCITY	60.7 FT. / SEC.
DISCHARGE AREA	1.60 SQ. FT.
DIRECTION OF AIR DISCHARGE	HORIZONTAL
DISCHARGE SHAPE	11 1/2" X 20" RECTANGLE
NORMAL OPERATING DISCHARGE TEMP & PRESSURE	AMBIENT
OUTLET MOISTURE CONTENT	IDEALLY ZERO
CLEANING MECHANISM	PULSE JET
FREQUENCY OF CLEANING	VARIABLE

BAG SPECIFICATIONS	
BAG DIAMETER	5.93"
BAG LENGTH	121"
CONSTRUCTION	SEAMED
FIBER	POLYESTER FELT
FINISH	SINGED
WEIGHT	16 OZ / SQ. YD.
PERMEABILITY (.5" WATER)	20-30 CFM
FIBER SIZE	2.5 DENIER AVERAGE

BATCH PLANT DUST EMISSIONS CALCULATIONS

INTO BAGS

CEMENT SILO	INTO BAGS
LB / HR	.177 LB/YD^3 * ___ YD^3/HR
GR / FT^3	.020 GR HR/LB FT^3 * ___ LB/HR

FLYASH SILO	INTO BAGS
LB / HR	.115 LB/YD^3 * ___ YD^3/HR
GR / FT^3	.020 GR HR/LB FT^3 * ___ LB/HR

CENTRAL MIX	
LB / HR	.153 LB/YD^3 * ___ YD^3/HR
GR / FT^3	.020 GR HR/LB FT^3 * ___ LB/HR

TRUCK MIX	
LB / HR	.281 LB/YD^3 * ___ YD^3/HR
GR / FT^3	.020 GR HR/LB FT^3 * ___ LB/HR

OUT OF BAGS

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

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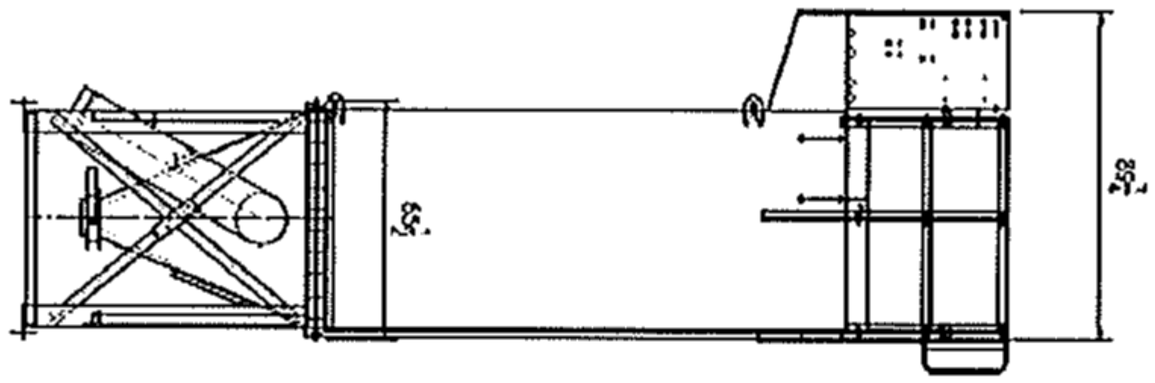

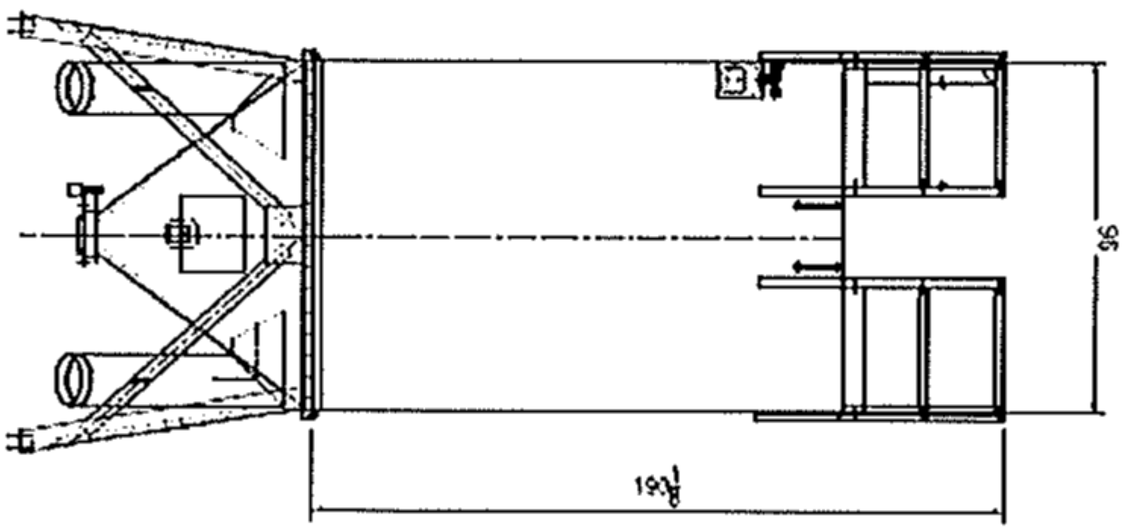

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PJ Series Central Dust Collector MAINTENANCE & OPERATION

OPERATION

The CON-E-CO Pulse Jet Series Dust Collectors are designed for continuous operation and cleaning. Contaminated air enters the dust collector, either through the collection hopper or the built in side plenum.

INTAKE AIR

Contaminated air enters the dust collector through the lower dust collection hopper. In this chamber, many of the heavy dust particles settle out of the air stream into the hopper bottom due to a reduction of air velocity.

If an intake duct connects to the top or side of the dust collector the dust laden air is connecting to the internal side plenum. From here the dusty air flows down into the hopper before turning and flowing up into the bag chamber.

BAG CHAMBER

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

BAG CLEANING

Cleaning of the bags is done 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 bags. Holes in the blowpipes centered over each bag opening direct air downward through a venturi into the bags.

Cleaning of the bags is accomplished by a jet of air directed downward through a venturi into the bags. 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 90 to 100 psi.
Less than 90 psi will reduce cleaning efficiency: Greater than 100 psi will cause excessive bag wear.

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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 less than 50 milliseconds will result in ineffective bag cleaning ON TIME greater than 300 milliseconds will result in excessive air usage
OFF TIME	Time between pulses: Reducing the "OFF TIME" will keep the bags cleaner and decrease bag life. Increasing the "OFF TIME" will allow more dust cake and increase bag life The best way to obtain optimum performance is to measure the partial vacuum above the bags, maintaining negative pressure of 4" to 7" of water.

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	150 milliseconds
OFF TIME	30 seconds

MAGNEHELIC GAUGE

The control panel is equipped with a magnehelic gauge which measures the partial vacuum above the bags in the baghouse. High readings indicate high resistance to air flow through the bags (dust covered bags). Low readings indicate low resistance to air flow (clean bags).

It should be noted that the bags will require several weeks to establish a nominal operating pressure. This is because it takes time for the filter media to establish a small even coating on the bag skin to reach maximum operating effectiveness

FIELD OPERATION

Recommended operation of a PJ Series Central Dust Collector is as follow:

Blower Operation: The blower of the dust collector should be on whenever the mixer is being loaded or when loading silos/bins with central dust collector. It is not recommended that the blower is switched off after every load, if continuous loading is expected. Frequently starting and stopping of blower with cause increased wear and premature failure.

Pulse (Cleaning) Operation: The cleaning cycle of the dust collector should be activated whenever plant power in turned on. It is recommend that the cleaning operation of the bags continues for 5-10 minutes after the blower has turned off, this will allow for more efficient clean of the bags.

Discharge of Waste Material (Reclaiming): The frequency in which the reclaim hopper needs to be emptied is determined on a case by cases basis. The larger the volume of concrete produced by the plant the more often it needs to be emptied. Upon initial use of the dust collector the hopper should be emptied daily to determine the amount of material being generated and it is recommended that you should reclaim no more than 200-300 lbs at a time. If you reclaiming more than this amount the frequency needs to be increased.

With a reclaim system that blows the material into a silo a weight of material

being reclaimed will not be able to be determined. In this case after a day of normal production, remove inspection hatch on hopper of collector and see if hopper is empty. If not adjustments will need to be reclaim more frequently. Consult factory on recommendations of appropriate changes to timer settings that need to be made.

FIELD MAINTENANCE

DAILY

-Observe dust collector operation for leaks and dust escaping from pickup point.
-Inspect reclaim system for proper operation.
-Inspect all guards to assure they are in place.
-Observe and record Magnehelic Gauge reading.

WEEKLY

-Check blower from any vibration.
-Observe operation of pulse jet valves for proper operation.

MONTHLY

-Inspect interior of collector and bags for any leaks, build up and plugging.
-Inspect ducting for any leaks, build up and plugging.

FIELD ADJUSTMENT

Best performance of the dust collector is obtained by observing the magnehelic gauge on a timely basis (frequently at first and, as a steady state condition is established, a daily basis). Adjustment should be made to the timer with the following considerations:

* Since the dust collector is more or less continuously cleaned (one row out of 8 at every 30 seconds) there should not be a big change in the magnehelic gauge reading after a pulse.
* If blower is turned off for a period of time and restarted, there should be a noticeable drop in gauge reading compared to normal. High drop in gauge reading indicates the bags were too dust covered. Low drop in gauge reading indicates the bags are being over cleaned.
* Obtaining the best performance is best done by adjusting OFF TIME. Increase OFF TIME to decrease cleaning cycles and save compressor air.

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

CON-E-CO dust collectors, 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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ELECTRICAL REQUIREMENTS

It is very important to keep your electric utility company coordinated with your power requirements. The equipment listed below should be combined with other site loads such as area lighting, charging equipment, office HVAC, mixers, etc. If you are using an on site generator, we would be happy to coordinate a more detailed analysis of voltage stabilization and locked rotor amps with the company you select to supply the generator. Transformer sizes listed below assume a 96% eff., an impedence of .035 to calculate voltage drop, the largest motor is Code G, and show standard available size 3 phase transformers.

Setup for 460 Volt operation.

CONCRETE BATCH PLANT	HP	FLA	CB	Str	Heater	Wire Size Min	Wire Size Normal
0.5 KVA Transformer		1.09					
Baghouse Blower	15.00	21.00	45	#2	B32	10	4
Reclaim Blower	7.00	8.00	20	#1	B12.8	14	8
Rotary Vane Feeder	0.75	1.60	15	#00	B2.40	14	12
If not all motors run concurrently, *Amps not included in total.							
Total Connected	22.75	31.69					
+25% of Largest Moto	15.00	5.25				Actual	
Running Design Load		**36.94**	Running Design			29.43	KVA
+5 x Largest Motor		105.00					
Starting Design Load		141.94	Starting Design			113.08	KVA
45 KVA Transf. Volt Drop=	9.17%	Starting, and			2.39%	when running.	
75 KVA Transf. Volt Drop=	5.50%	Starting, and			1.43%	when running.	