CON-E-CO
CONCRETE EQUIPMENT COMPANY

CONCRETE BATCH PLANT

SITE - PREP

454L

ABIGROUP CONTRACTING
AUSTRALIA

C-7758SX

02/26/04

NATIONAL READY MIXED CONCRETE ASSOCIATION

QUALITY ■ PERFORMANCE ■ SERVICE
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CONCRETE PLANT MANUFACTURERS BUREAU CPMB
PLANT MIXER MANUFACTURERS DIVISION PMMD

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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.

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SPECIFICATIONS FOR MODEL PJ-850 DUST COLLECTION SYSTEM

MODEL PJ-850

NUMBER OF BAGS	108
BAG DIAMETER	6"
BAG LENGTH	60"
TOTAL FILTRATION AREA	848 SQ. FT.
MIN. DESIGN EFFICIENCY OF DUST COLLECTOR	99.9%
AIR TO CLOTH RATIO	5.9 CFM / SQ. FT.
FILTRATION VELOCITY	5.9 FT. / MIN
BLOWER HP	15 HP
STATIC PRESSURE DROP	8" (INCHES OF WATER)
AIR CAPACITY	5,000 C.F.M.
OUTLET AREA	1.92 SQ. FT.
OUTLET VELOCITY	43.4 FT. / SEC.
OUTLET MOISTURE CONTENT	IDEALLY ZERO
CLEANING MECHANISM	PULSE JET NOZZLES W/PRE-SET TIMERS
FREQUENCY OF CLEANING	ADJUSTABLE TIMER

*** INLET DUST CONCENTRATION (GR / MIN)**	**75,000 GR / MIN**
*** OUTLET EMISSIONS (GR / MIN)**	**75 GR / MIN**
*** OUTLET DUST LOADING**	**.015 GR / CF**

* THESE CALCULATIONS BASED ON INLET DUST LOADING OF 15 GR / FT.3

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SPECIFICATIONS FOR MODEL PJ-2000 DUST COLLECTION SYSTEM

MODEL CON-E-CO-PJ2000	
NUMBER OF BAGS	132
NOMINAL BAG DIAMETER	6"
NOMINAL BAG LENGTH	120"
TOTAL FILTRATION AREA	1962 SQ. FT.
MIN. DESIGN EFFICIENCY OF DUST COLLECTOR	99.9%
AIR TO CLOTH RATIO	5.4 ACFM / SQ. FT.
FILTRATION VELOCITY	5.4 FT. / MIN
BLOWER HP	20 HP
STATIC PRESSURE DROP	8" (INCHES OF WATER)
AIR CAPACITY	10,500 C.F.M.
DISCHARGE AREA	3.50 SQ. FT.
DISCHARGE VELOCITY	50 FT. / SEC.
DIRECTION OF AIR DISCHARGE	HORIZONTAL
DISCHARGE SHAPE	19 7/16" X 25 15/16" RECTANGLE
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

CEMENT AND FLYASH INTO DUST COLLECTOR

TRUCK MIX

WEIGHT OF DUST TO BE COLLECTED

.04 LB/YD^3 X (____ YD^3 CONCRETE/HR) = ___ LB DUST/HR

WEIGHT OF DUST PER CUBIC FT. OF AIR

1.111×10^{-2} GR HR/LB FT^3 X (___ LB/HR)= ___ GR DUST/ FT^3 AIR

CENTRAL MIX

WEIGHT OF DUST TO BE COLLECTED

.07 LB/YD^3 ____ YD^3 CONCRETE/HR = ___ LB DUST/HR

WEIGHT OF DUST PER CUBIC FT. OF AIR

1.111×10^{-2} GR HR/LB FT^3 X (___ LB/HR)= ___ GR DUST/ FT^3 AIR

CEMENT & FLYASH SILOS

WEIGHT OF DUST TO BE COLLECTED

.07 LB/YD^3 ____ YD^3 CONCRETE/HR = ___ LB DUST/HR

WEIGHT OF DUST PER CUBIC FT. OF AIR

1.111×10^{-2} GR HR/LB FT^3 X (___ LB/HR)= ___GR DUST/ FT^3 AIR

TO DETERMINE TOTAL DUST INTO THE COLLECTOR

ADD THE ABOVE ___ LB DUST/HR

TO DETERMINE TOTAL WEIGHT OF DUST/ FT^3 AIR

ADD THE ABOVE ___ GR DUST/ FT^3 AIR

DUST OUT OF THE DUST COLLECTOR

MULTIPLY THE ABOVE VALUES FOR DUST INTO DUST COLLECTOR BY .001

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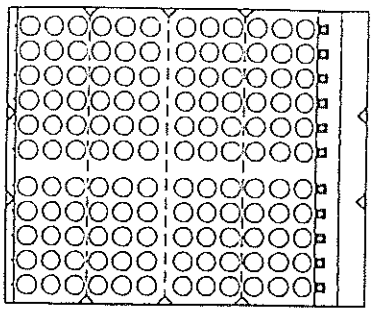
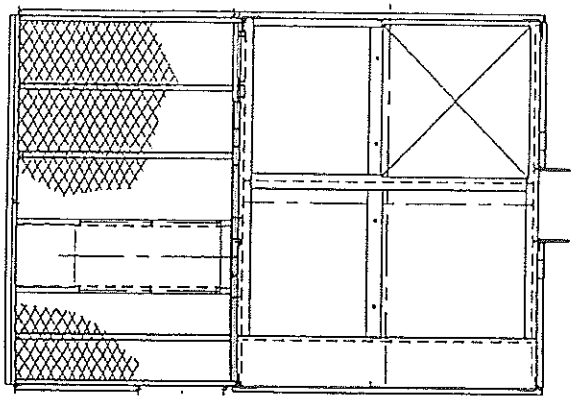
PJ 2000

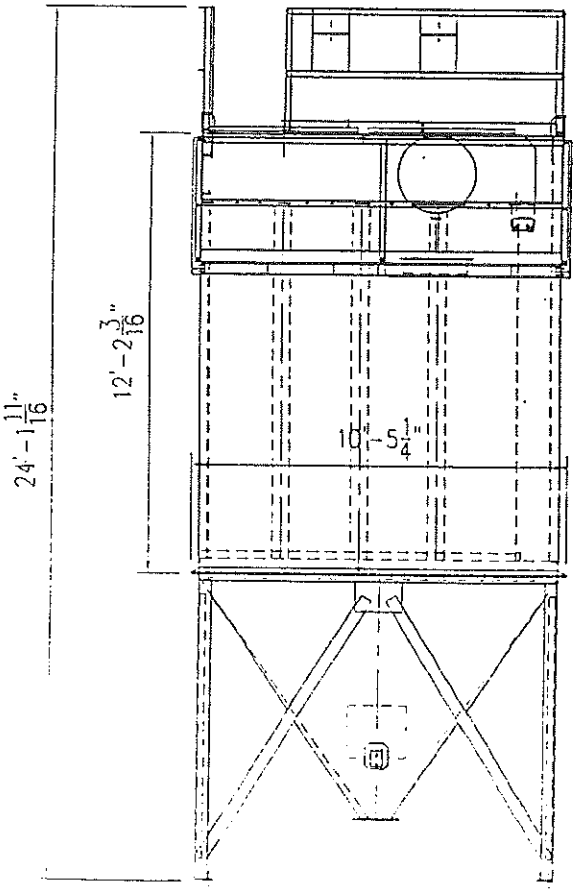
(20 HP BLOWER NOT SHOWN)



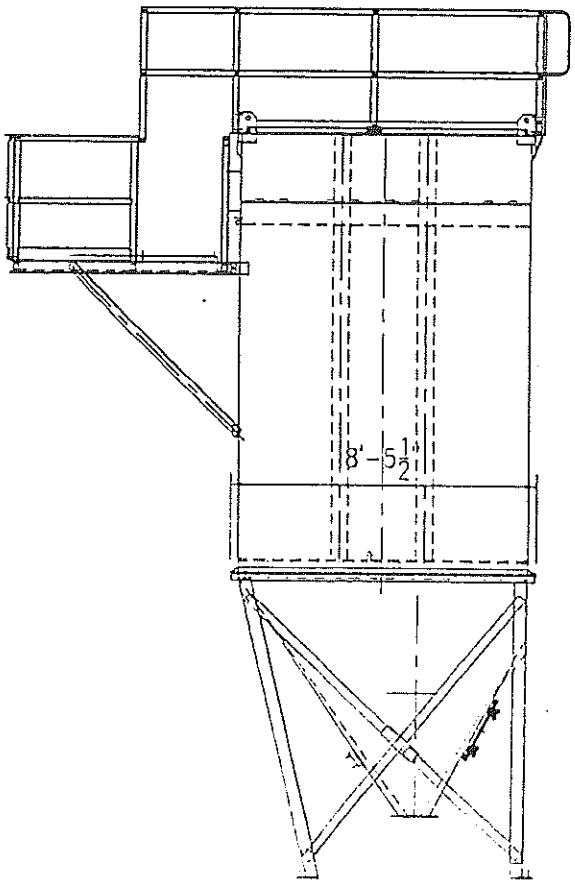
VIEW OF BAG SHEET



TOP VIEW



FRONT VIEW



SIDE VIEW

CON-E-CO
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PJ Series 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 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 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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ELECTRICAL REQUIREMENTS

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SYDNEY, AUS.

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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 **415 Volt operation.**

CONCRETE BATCH PLANT	HP	FLA	CB	Str	Heater	Wire Size Min	Wire Size Normal
KVA Transformer		0.00	40				
Incline Drive A	75.00	100.00	125	#4	CC156	1	1
Incline Drive B	75.00	100.00	125	#4	CC156	1	1
Cement 2 Feed	20.00	28.00	60	#2	B45	8	8
Hydraulic Pump	7.50	11.20	20	#1	B19.5	14	8
Low Press Blower	7.00	6.75	20	#1	B11.5	7 Hp Fuji	8
Air Compressor	30.00	40.00	80	#3	CC59.4	8	8
Water Pump	15.00	15.00	45	#2	B22	10	4
Bag House Blower	20.00	28.00	60	#2	B45	8	8
Reclaim Blower	10.00	13.50	30	#1	B22	12	8
Conveyor 1	40.00	53.00	90	#3	CC81.5	6	6
Conveyor 2	40.00	53.00	90	#3	CC81.5	6	6
Conveyor 3	40.00	53.00	90	#3	CC81.5	6	6

If not all motors run concurrently, *Amps not included in total.

Total Connected	379.50	501.45			
+25% of Largest Mot	75.00	25.00		Actual	
Running Design Load		**526.45**	Running Design	378.40	KVA
+5 x Largest Motor		500.00			
Starting Design Load		1026.45	Starting Design	737.79	KVA

500 KVA Transf. Volt Dro	5.38%	Starting, and	2.76%	when running.	
600 KVA Transf. Volt Dro	4.49%	Starting, and	2.30%	when running.	

ELECTRICAL REQUIREMENTS

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MIXER DUST CONTROL 1 & 2

	HP	FLA	CB	Str	Heater	Wire Size Min	Wire Size Normal
KVA Transformer		0.0					
Blower 1	15.00	15.0	45	#2	B22	10	4
Blower 2	15.00	15.0	45	#2	B22	10	4
Discharge Screw 1	3.00	4.2	15	#0	B6.25	14	12
Discharge Screw 2	3.00	4.2	15	#0	B6.25	14	12
Return Blower 1	10.00	13.5	30	#1	B22	12	8
Return Blower 2	10.00	13.5	30	#1	B22	12	8
Total Connected	56.00	65.40					
+25% of Largest Mot	15.00	3.75				Actual	
Running Design Load		**69.15**	Running Design			49.70	KVA
+5 x Largest Motor		75.00					
Starting Design Load		144.15	Starting Design			103.61	KVA

75 KVA Transf. Volt Drop 5.04% Starting, and 2.42% when running.
113 KVA Transf. Volt Drop 3.36% Starting, and 1.61% when running.

AUX. MIXING EQUIPMENT

	HP	FLA	CB	Str	Heater	Wire Size Min	Wire Size Normal
KVA Transformer		0.0					
Mixer Drive 1A	75.00	100.0	125	#4	CC156	1	1
Mixer Drive 1B	75.00	100.0	125	#4	CC156	1	1
Mixer Drive 2A	75.00	100.0	125	#4	CC156	1	1
Mixer Drive 2B	75.00	100.0	125	#4	CC156	1	1
Hydraulic Pump 1	50.00	67.0	100	#3	CC103	4	4
Hydraulic Pump 2	50.00	67.0	100	#3	CC103	4	4
Total Connected	400.00	534.0					
+25% of Largest Mot	75.00	25.0				Actual	
Running Design Load		**559.0**	Running Design			401.80	KVA
+5 x Largest Motor		500.0					
Starting Design Load		1059.0	Starting Design			761.19	KVA

500 KVA Transf. Volt Drop 5.55% Starting, and 2.93% when running.
600 KVA Transf. Volt Drop 4.63% Starting, and 2.44% when running.

GRAND TOTAL

	HP	FLA					
Total Connected	835.50	1100.85					
+25% of Largest Mot	75.00	25.00				Actual	
Running Design Load		**1125.85**	Running Design			809.24	KVA
+5 x Largest Motor		500.00					
Starting Design Load		1625.85	Starting Design			1168.63	KVA

750 KVA Transf. Volt Drop 5.68% Starting, and 3.94% when running.
Note: This will create a 7.90% continuous overload w/listed items.
1000 KVA Transf. Volt Drop 4.26% Starting, and 2.95% when running.
1500 KVA Transf. Volt Drop 4.26% Starting, and 2.95% when running.