BALTIMORE AIRCOIL COMPANY

Submittal Data Form

2010-10-21
2010-11-30
2010-12-15

Sold To : **J. MOORE AND COMPANY**
118 NAYLON AVENUE
Livingston, NJ, 07039-1006, USA

Project: Prudential Roseland Cooling Tower
Purchase Order No: E1083
Engineer:
BAC Order # U110074403 – Qty 2
Representative: NEWTON-METALLO, INC

All Information is Per Unit

Quantity: 2 Model 3473C-MM/X Cooling Tower Unit

Certified Capacity: 733.00 USGPM of water from 96.00°F to 82.00°F at 78.00°F entering air wet bulb.

Fan Motor(s): One (1) 20 HP fan motor(s): Totally Enclosed, Air Over (TEAO),
1 Speed/1 Winding - Premium Efficiency (Inverter Duty), suitable for 460 volt, 3 phase,
60 hertz electrical service. Drives are based on 0 inches ESP.

NOTE: Inverter Duty fan motors, furnished in accordance with NEMA Standard Mg.1 -- Part 31, are required for applications using variable frequency drives for fan motor control.

Submittal Information		Equipment Summary
Submittal Drawings/Diagrams		
UP-U110074403AXREVB	Unit Print	Induced Draft, Crossflow Cooling Tower
SS-U110074403X-QTY 2	Steel Support	Quality Assurance - ISO 9001 Certified
CG-U110074403-QTY 2	Center of Gravity	Unit Energy Efficiency per ASHRAE Standard 90.1-2004
BC-U110074403AXREVA	Bottom Connections	JE PREMIER SERIES Construction
BA-U110074403-QTY 2	Basin Accessories	Standard Fan Driven by Close-Coupled (internal) TEAO Fan Motor
HW-U110074403-QTY 2	Basin Heater Wiring	Gear Drive
ML-U110074403-QTY 2	Motor Location	Galvanized Steel Fan Guard
VL-U110074403-QTY 2	VCOS Location	Stainless Steel Casing Panels
VW-U110074403-QTY 2	VCOS Wiring	PVC Film Wet Deck Material & Drift Eliminators
EA-U110074403-QTY 2	External Access	Structure Designed in accordance with the 2006 IBC
IA-U110074403-QTY 2	Internal Access	8" Bottom Inlet EASY CONNECT® Piping Arrangement – (4.80FPS Fluid Velocity)
		8" Bottom Outlet Pump Suction Connection – Relocated to Match Old Unit
		One (1) 8" Equalizer Connection Each on Face A and B – Relocated to Match Old Unit
		Mechanical Float Valve Assembly
		Overflow and Drain Connections Relocated to Face A and Location Matched to Old Unit
BAC Terms and Conditions of Sale		½" Manual Drain Valve
Mechanical Specifications		Electric Immersion Heaters Sized to Maintain +40°F water at a 0°F Ambient with Electrical Requirements Matching Fan Motor(s)'
		Heater Control Panel with Contactor and Disconnect
THANK YOU FOR YOUR BUSINESS!		Mechanical Vibration Cutout Switch
Current Rigging and Installation Instructions, as well as Operating and Maintenance Instructions are available at our website: www.baltimoreaircoil.com		Extended Oil Fill Line
		Combined Air Inlet Shields
		Aluminum Ladder Located on the End Front Right of the Unit
		Safety Cage is Provided for each Ladder to the Fan Deck
		Perimeter Handrails
		Internal Walkway
		See Mechanical Specification & Drawings for more detail.

Revision 11/30/2010: Relocated make-up connection to Face A.
Revision 12/15/2010: Corrected weights on the unit print and steel support print.

BALTIMORE AIRCOIL COMPANY

Terms and Conditions of Sale

Pricing: Prices set forth in Seller's quotation shall remain firm for thirty (30) days. Within such period, the quotation shall convert into an order provided that all of the following have occurred: (1) Buyer submits either a purchase order or a copy of Seller's quotation displaying an authorized signature of Buyer within that thirty (30)-day period; (2) Buyer provides a release for fabrication; and (3) Buyer requests a shipment date that is no later than twelve (12) weeks from the date of Buyer's submission of a purchase order or signed quotation. In the event Buyer's requested shipment date is later than twelve (12) weeks beyond such submission date, Seller's price in effect twelve (12) weeks prior to such shipment date shall apply. In the event that Buyer requests for its convenience that Seller delay delivery of products subject to an order beyond the scheduled shipment date, pricing shall be subject to the same adjustment.

Payments: Terms of payment shall be net cash in thirty (30) days from date of invoice, subject to Seller's prior credit approval. If the Buyer shall fail to make any payments in accordance with the terms and conditions of sale, the Seller, in addition to its other rights and remedies but not in limitation thereof, may, at its option, without prior notice, cancel this order as to any undelivered products or defer shipments or deliveries hereunder, or under any other agreement between Buyer and Seller, except upon Seller's receipt of cash before shipment or such security as Seller considers satisfactory. Seller reserves the right to impose an interest charge (not exceeding the lawful maximum) on the balance of each invoice not paid on its due date for the period from the due date to the date of receipt of payment by Seller. In the event Buyer's failure to make timely payments to Seller results in Seller incurring additional costs, including but not limited to collection expenses and attorneys' fees, said costs shall be added to the amount due Seller from Buyer. Buyer shall have no right to any discount or retainage and shall not withhold payment as a set-off on Seller's invoice in any amount.

Taxes: Unless listed on the front (reverse) side of this document, prices do not include any federal, state or local sales, use or value-added taxes payable in connection with this order. All such taxes shall be paid by Buyer. Buyer shall indemnify Seller from and against such taxes, plus interest and penalties thereon, including, but not limited to, tax, interest and penalties resulting from a failure to collect such taxes because of Seller's reliance upon an invalid exemption certificate provided to Seller.

Allocation of Risk: Deliveries shall be considered made when the products subject to this order are loaded on the carrier. At such time, title to the goods and all risk of loss, damage or shortage shall pass to Buyer, and any claims based thereon must be filed by Buyer with the carrier.

Force Majeure: Seller shall under no circumstances be liable for any loss or damage resulting from delay or failure in the performance of its obligations under this contract to the extent that such performance is delayed or prevented by: fires, floods, war, terrorist activities, riots, strikes, freight embargoes or transportation delays, shortage of labor, inability to secure fuel, material, supplies or power at current prices, or on account of shortages thereof; acts of God or of the public enemy; any existing or future laws or acts of the federal, state or local government (including specifically, but not exclusively, any orders, rules or regulations issued by any official or agency of any such government) affecting the conduct of Seller's business with which Seller in its judgment and discretion deems it advisable to comply as a legal or patriotic duty, or to any case beyond the Seller's reasonable control.

Warranties: Seller warrants that the equipment sold under this contract shall be free from defects in material and workmanship for a period of twelve (12) months from the date of equipment startup or eighteen (18) months from the date of shipment, whichever occurs first. The following original equipment components only are warranted against defects in materials and workmanship for a period of five (5) years from date of shipment: fans, fan shafts, fan motors, bearings, sheaves, gearboxes, driveshafts, couplings, and mechanical equipment support. Details of option-specific warranties follow:

- **JE Premier Series™ Construction** is warranted to be free from defects in material and workmanship for a period of five (5) years from date of shipment.
- **EVERTOUGH™ Construction** is warranted to be free from defects in material and workmanship for a period of five (5) years from date of shipment excluding heat transfer coils which are warranted to be free from defects in material and workmanship for a period of twelve (12) months from the date of equipment startup or eighteen (18) months from the date of shipment, whichever occurs first.
- **TriArmor® Corrosion Protection System** Cold Water Basins are warranted against leaks and corrosion for a period of five (5) years from date of shipment. For the purposes of this warranty, 'corrosion' means red rust formation on the interior of the cold water basin panels due to a failure of the TriArmor® Corrosion Protection System. The leak or corrosion must be caused by a defect in the application of the TriArmor® Corrosion Protection System. This warranty does not apply to cold water basin field connections, field installed options or modifications by others.
- **Welded 304 Stainless Steel** Cold Water Basins are warranted against leaks for a period of five (5) years from date of shipment. Only leaks from the factory seams of the cold water basin are covered; this warranty does not apply to cold water basin field connections, field installed options or modifications by others.

- **Replacement Parts** provided by Seller under its original equipment warranty obligations are warranted against defects in materials and workmanship for a period of twelve (12) months from date of shipment or until expiration of their original warranty, whichever occurs first. Parts purchased after expiration of the original equipment warranty are warranted against defects in materials and workmanship for a period of twelve (12) months from date of shipment.

Written notice of any defect shall be given to Seller immediately upon discovery by Buyer, and shall fully describe the claimed defect. Defective parts shall be repaired or replaced F.O.B. point of shipment, provided that inspection by Seller verifies the claimed defect(s). This shall be Buyer's exclusive remedy. **This warranty does not cover the costs of removing, shipping or reinstalling the equipment. Repairs made without the prior written approval of Seller shall void all warranties covering material and workmanship.** Any descriptions of the product(s) in the contract are for the sole purpose of identification and do not constitute a warranty. In the interest of product improvement, Seller reserves the right to change specifications and product design without incurring any liability therefore. The foregoing express warranties or those set forth elsewhere on this document are the only warranties of Seller applicable to the product(s) sold under this contract. **All other warranties, whether verbal or written, and all warranties implied by law, including any warranties of merchantability or fitness for a particular purpose, are hereby excluded. Failure on the part of Buyer or of other parties to properly maintain the product(s) sold under this contract, or the operation of such product(s), by Buyer and/or other parties under conditions more severe than those for which such product(s) were designed, shall void all warranties covering materials and workmanship. Seller's warranties do not apply to defects in product(s) for which payment in full has not been received by Seller, and said warranties do not cover normal wear and tear or the erosion, corrosion and/or deterioration of the product(s) from unusual causes. No warranties by Seller shall apply to accessories manufactured by others,** inasmuch as they are warranted separately by their respective manufacturers, except as stated above. Buyer assumes liability for and shall bear the costs of compliance with all laws, regulations, codes standards or ordinances applicable to the location, operation and maintenance of the product(s) sold under this contract, including those requirements pertaining to the distances between such product(s) and air-conditioning system duct intakes. No representative or agent of Seller is authorized to enlarge upon the express warranties of Seller.

Cancellation/Changes/Returns: Cancellation of or changes in any order by Buyer shall not be effective without Buyer's notice thereof received, agreed to, and confirmed in writing by Seller. If Seller, in its absolute discretion, approves Buyer's cancellation of an order, Buyer agrees to pay a reasonable cancellation charge. Seller's prior written consent must be obtained before Buyer returns any products, and when so returned will be subject to a handling charge and transportation costs payable by Buyer.

Liability/Indemnification: Seller shall not be liable for any damages caused by delay in delivery of the products. Buyer shall hold harmless and indemnify Seller from and against all liability, claims, losses, damages, and expenses (including attorneys' fees) for personal injury and property damage arising out of Buyer's improper unloading, handling, or use of the products subject to this order, and for Buyer's infringement of another's property rights. The Seller's maximum liability from any causes whatsoever, whether in breach of contract, tort (including negligence), strict liability, or otherwise, shall not exceed the contract price. Neither Buyer nor Seller shall in any event be liable to the other, whether such liability arises out of breach of contract, tort (including negligence), strict liability or any other cause or form of action, for any consequential, special, indirect or incidental damages, including but not limited to loss of actual or anticipated profits or loss of use arising out of this contract, other than such damages resulting from the willful misconduct of Buyer or Seller.

Storage: In the event that Buyer is unable to accept delivery of goods and the Seller is required to hold goods beyond two (2) working days from fabrication completion, a storage fee equal to the greater of $200/day or 0.20% of the total order value/day will be assessed by Seller for every day beyond two (2) working days from fabrication date which it is required to store goods on behalf of Buyer. Storage will be assessed monthly and will need to be paid in full prior to a new shipment date being scheduled.

Government Contracts: If Buyer's purchase order is for products to be used in the performance of a U.S. Government contract, those clauses of applicable procurement regulations mandatorily required by federal law to be included in U.S. Government subcontracts shall be incorporated herein by reference.

Export Transactions: Buyer shall comply with all applicable export laws and regulations of the U.S. Government, and shall hold harmless and indemnify Seller from and against all liability, damages, and expenses (including attorneys' fees) incurred by Seller as a result of Buyer's violation of any U.S. Government export and/or international antiboycott laws or regulations.

Agreement of Sale: Buyer's order is accepted on the terms and conditions stated herein and Seller's acceptance of Buyer's order is expressly made conditional upon Buyer's assent to such terms and conditions, including any of Seller's terms and conditions which may be additional to or different from those contained in Buyer's purchase order or otherwise. Such assent shall be deemed to have been given unless written notice of objection to any such terms and conditions (including inconsistencies between Buyer's purchase order and this acceptance) is given by Buyer to Seller promptly upon receipt of this acknowledgment. Any agreement or understanding, oral or written, which modifies or waives the terms and conditions herein (whether contained in Buyer's purchase order or other documentation) shall be deemed material and shall be rejected unless hereafter agreed to in writing and signed by Seller's authorized officer. Waiver by Seller of any breach or default hereunder shall not be deemed a waiver by Seller of any other or subsequent breach or default which may thereafter occur. Neither the rights nor the obligations of either Buyer or Seller are assignable without the prior written consent of the other party. This agreement of sale and all rights and obligations of Buyer and Seller shall be governed by and construed in accordance with the laws of the State of Maryland.

Electronic copy of the latest version is available online at http://baltimoreaircoil.com/english/terms. (Revised – **05/20/2010**)

BALTIMORE AIRCOIL COMPANY

MECHANICAL SPECIFICATIONS

2010-10-21
2010-11-30
2010-12-15

Project: Prudential Roseland Cooling Tower
Customer: J. MOORE AND COMPANY
Purchase Order No: E1083
Engineer:
BAC Order # U110074403 – Qty 2

All Information is Per Unit

Quantity: 2 Model 3473C-MM/X Cooling Tower Unit

Fan Motor(s): One (1) 20 HP fan motor(s): Totally Enclosed, Air Over (TEAO), 1 Speed/1 Winding - Premium Efficiency (Inverter Duty), suitable for 460 volt, 3 phase, 60 hertz electrical service. Drives are based on 0 inches ESP.

NOTE: Inverter Duty fan motors, furnished in accordance with NEMA Standard Mg.1 -- Part 31, are required for applications using variable frequency drives for fan motor control.

Unit Type:

Factory assembled, induced draft, crossflow cooling tower with vertical discharge.

Quality Assurance:

Each unit is manufactured under closely-controlled conditions using standardized parts to ensure each unit is built precisely to the same high-quality design and construction standards. The design, manufacture, and business processes of Baltimore Aircoil Company are ISO 9001:2000 certified.

Unit Efficiency:

The unit(s) complies with the energy efficiency requirements established by ASHRAE Standard 90.1-2004.

Materials of Construction:

All structural steel components are constructed from Type 304 stainless steel. All factory seams in the cold water basin will be welded to ensure watertight construction and shall be warranted against leaks for a period of five (5) years from date of shipment. Cold water basin includes a depressed section with drain/clean-out connection and the area under the fill sections is sloped toward the depressed section for easy cleaning. Hot water distribution basins are gravity type constructed of heavy gauge, Type 304 stainless steel. Polypropylene metering orifices are provided to assure even distribution of water over the wet deck surface. Heavy gauge, Type 304 stainless steel covers are furnished to prevent the accumulation of debris and algae in the hot water distribution basins.

Fan & Drive System:

Fan(s) are driven by close-coupled fan motor gear drive. Speed reducer is a right angle, gear drive designed specifically for cooling tower service. Spiral bevel or spiral bevel/helical gears are designed in accordance with the Cooling Tower Institute STD-111, "Gear Speed Reducers". All gears have a minimum service factor of 2.0 based on design fan horsepower and are suitable for both forward and reverse operation. An oil level fill port and sight glass are located on the gear drive to facilitate routine inspection and maintenance. The gear is doweled in position after alignment of the mechanical equipment.

Fan Guard(s):

A heavy gauge, G-235 (Z700 metric) hot-dip galvanized steel wire fan guard is provided over each fan cylinder.

Casing Panels:

Casing is constructed of heavy gauge Type 304 stainless steel panels. Hinged access doors are provided on both side walls of the tower for access to eliminators and fan plenum section for all cells.

Wet Deck Material:

The BACross® Wet Deck Surface and integral drift eliminators are formed from self-extinguishing (per ASTM D-568) polyvinyl chloride (PVC), having a flame spread rating of 5 per ASTM Standard E84-77a, and are impervious to rot, decay, and fungus or biological attack. The wet deck surface is elevated above the cold water basin floor to facilitate cleaning. The eliminators are designed to effectively strip entrained moisture from the leaving airstream with a minimum of air resistance. This wet deck is suitable for a maximum entering water temperature of 130°F (54.44°C).

Cooling Tower Structure:

The structure of this cooling tower has been designed, tested and independently certified in accordance with the wind and seismic load requirements of the 2006 International Building Code (IBC) and ASCE/SEI 7-05. Seismic qualification is based on tri-axial shake-table testing conducted at an independent test laboratory in accordance with the ICC-ES Acceptance Criteria AC 156, "Acceptance Criteria for Seismic Qualification By Shake-Table Testing of Nonstructural Components and Systems."

Water Inlet(s):

Inlet water enters the EASY CONNECT® Piping Arrangement through the customer supplied piping that penetrates the cold water basin through a factory supplied and installed pipe chase located in the base of the cold water basin. The customer supplied piping connects to the EASY CONNECT® Piping Arrangement connection that is grooved for mechanical coupling and beveled for weld. The EASY CONNECT® Piping Arrangement balances the flow to each side of the tower and includes a plugged blow-down connection to permit purging of dirt and debris. Polyvinyl chloride (PVC) piping connects the EASY CONNECT® Piping Arrangement to the hot water distribution basins.

Water Outlet(s):

The unit is provided with a bolt hole pattern(s) for mating with an ASME Class 150 flat face flange. The bolt hole pattern is located in the depressed area of the cold water basin and appropriately sized for design flow. The flat face flange, full face gasket, and hardware are supplied and installed by others. Also included is a large area, lift out strainer which matches the cold water basin material of construction and has perforated openings sized smaller than the water distribution nozzle orifices. Strainer includes anti-vortexing baffle to prevent air entrainment.

Basin Water Level Control:

A make-up valve with unsinkable polystyrene filled plastic float arranged for easy adjustment. The corrosion resistant make-up valve is suitable for water supply pressures between 15 psig (103 kPa) and 50 psig (345 kPa).

Basin Heater(s):

A minimum number of high-watt-density electric immersion heater elements, sized to maintain +40°F (+4°C) basin water at 0°F (-18°C) ambient with a 10 mph (16 km/h) wind speed, is provided. Electrical requirements match fan motor. Wiring is not included.

Basin Heater Control:

An electric immersion heater control package which includes a control panel in a NEMA 4 enclosure is provided. It includes contactor(s), disconnect, thermostat, 24V transformer, and Type 316 stainless steel probe for water level and water temperature sensing. Panel ships loose for field mounting and wiring by others.

Vibration Cutout Switch:

Fan system is provided with an appropriate number of vibration cutout switches to limit collateral damage to the unit in the event of a catastrophic fan failure. The vibration switch(es) is mechanically tripped with a frequency range of 0 to 3,600 RPM and trip point of 0.2 to 2.0 g's. No input power is required. Switch rating is 10 amperes at a maximum 480 VAC, and 1/4 ampere at 250 Vdc.

Extended Lubrication Lines:

Gearbox lubrication lines are extended to the fan deck.

Air Intake Option:

The air intake face of the unit is protected by a corrosion and UV resistant PVC shield. This shield prevents airborne debris from entering the unit(s).

External Ladder to Top of Unit:

An aluminum ladder is provided to access the top of the unit. The ladder meets pertinent OSHA standards and ships loose for field installation by others.

Safety Cage(s) for Ladder(s):

A galvanized steel safety cage is provided for each access ladder. Along with the ladder, the safety cage meets pertinent OSHA standards and ships loose for field assembly and installation by others.

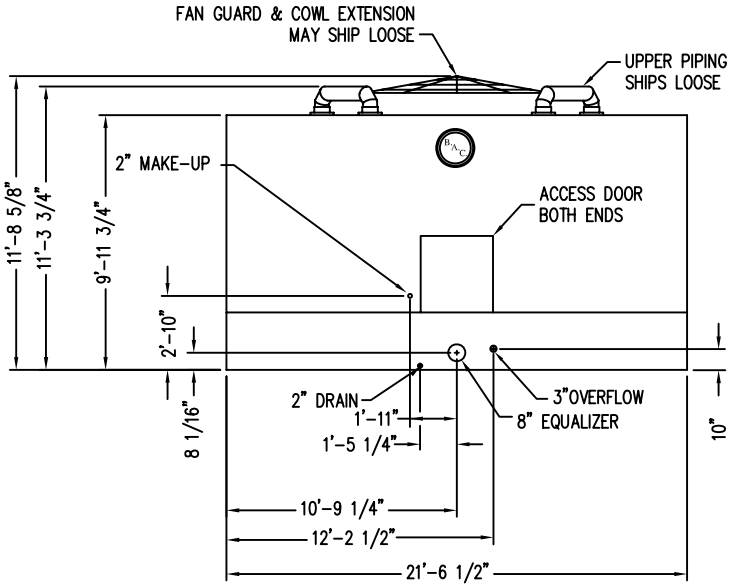
Safety Railings:

Perimeter safety railing constructed of 1-1/4" (32 mm) galvanized steel pipe is provided to facilitate access to the top of the unit. Railings meet pertinent OSHA standards and ship loose for field assembly and installation by others.

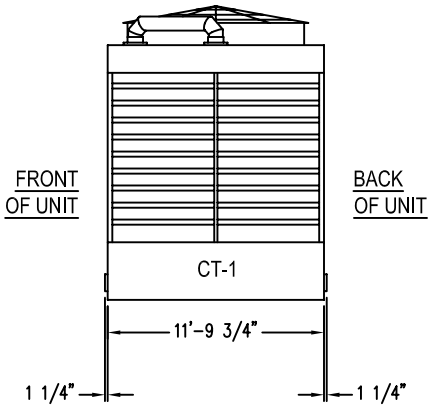
Internal Access Option:

A G-235 (Z700 metric) galvanized steel walkway complying with OSHA standards and regulations provides access to the plenum to facilitate servicing the unit. Walkway mounting supports match the cold water basin material of construction.

Data Version 1.11
DWG Version 1.0

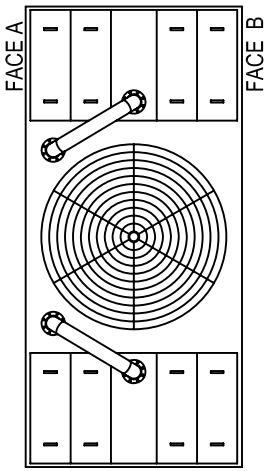


END ELEVATION (FACE A)



SIDE ELEVATION

Notes
1) Drawings are not to scale. All dimensions are in feet and inches. Weights are in pounds and include options and accessories.
2) Unless otherwise indicated, connections 3" and smaller are MPT. Connections 4" and larger are grooved to suit a mechanical coupling and beveled for welding.
3) Field piping should be fabricated at time of installation. Pre-fabrication of pipe work is not recommended.
4) Do not support piping from unit connections. All necessary piping supports to be supplied by others.
5) For weight loadings and support requirements, refer to the suggested unit support drawing.
6) The area above the fan discharge must be unobstructed.
7) Due to height limitations on truck shipments, some items shown may ship loose for field installation.



PLAN VIEW

Model Number	Shipping Weight	Operating Weight	Heaviest Section
3473C-MM/X	11940	23770	11640

STEEL CASING PANELS

ORDER NO: U110074403-QTY 2

DATE: 12/15/2010

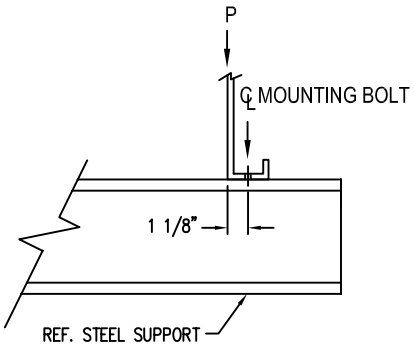
Baltimore Aircoil

3000C Unit Print
One Piece Units

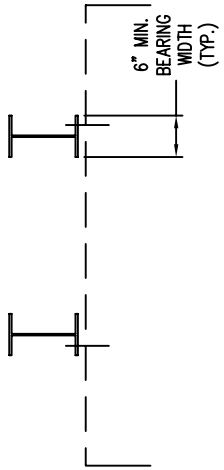
DRAWING NUMBER:
UP-U110074403AXREVB

B

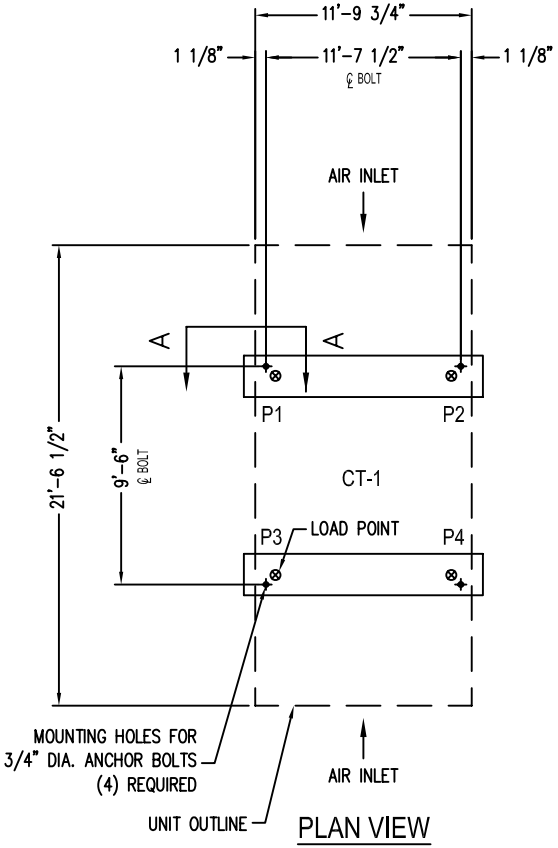
Data Version 1.11
DWG Version 1.0



SECTION "A-A"



END ELEVATION



PLAN VIEW

Notes
1) Drawings are not to scale. All dimensions are in feet and inches. Weights are in pounds and include options and accessories.
2) Operating weight and weight loading are for units with water level in basin at overflow.
3) Unit support beams and anchor bolts to be designed and furnished by others.
4) Support beams must be flush and level at top.
5) Steel frame members perpendicular to the support beams and under the air inlet edges of unit must be at least 2" below the top of the support beams.
6) For support beam spacing other than shown, mounting holes in the unit are to be drilled by others.

Model Number	Shipping Weight	Operating Weight	Point "1"	Point "2"	Point "3"	Point "4"	Point "5"	Point "6"	Point "7"	Point "8"	Point "9"	Point "10"
3473C-MM/X	11940	23770	5945	5945	5945	5945	0	0	0	0	0	0

ORDER NO: U110074403-QTY 2

DATE: 12/15/2010

Baltimore Aircoil

3000C Unit Support
Standard Basins

DRAWING NUMBER:
SS-U110074403X-QTY 2

Data Version 1.11
DWG Version 1.0

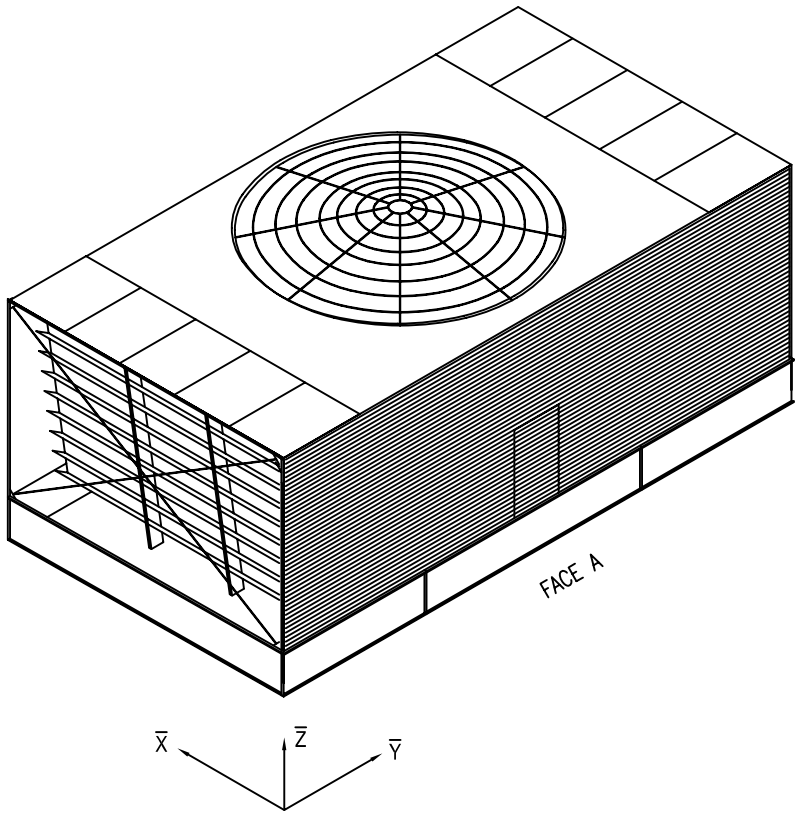
UNIT CENTER OF GRAVITY

$\bar{X}$		$\bar{Y}$		$\bar{Z}$	
DRY	OPERATING	DRY	OPERATING	DRY	OPERATING
5'-6"	5'-9"	10'-8"	10'-9"	4'-10"	3'-11"

WEIGHT BREAKDOWN FOR FIELD INSTALLED ACCESSORIES

VELOCITY RECOVERY STACK (EACH):	N/A
INTAKE ATTENUATION (EACH):	N/A
DISCHARGE ATTENUATION (PER CELL):	N/A
FAN COWL EXTENSIONS (EACH):	N/A
LOUVER FACE PLATFORMS (EACH):	N/A
ACCESS DOOR PLATFORMS (EACH):	N/A
EXTERNAL MOTOR PLATFORMS (EACH):	N/A
FAN DECK EXTENSION (EACH):	N/A
FAN DECK HANDRAILS (TOTAL):	190 LBS

Notes
1) Drawings are not to scale.
2) Accessory weights shown above are included in the total unit Operating, Shipping and Heaviest Section values located on the Unit Print and Unit Support drawings. Ladder and cage weights are not shown above but are included in the totals.
3) These accessories ship loose for field assembly and installation.



ORDER NO: U110074403-QTY 2

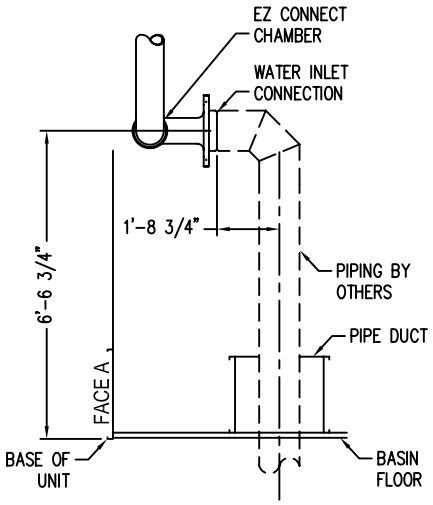
DATE: 10/21/2010

Baltimore Aircoil

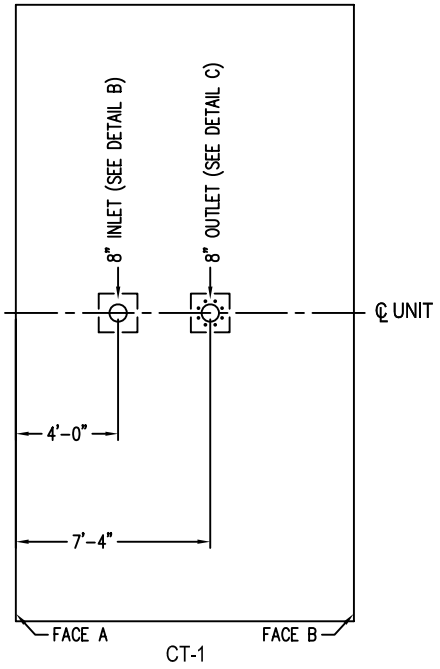
3000C Center of Gravity

DRAWING NUMBER:
CG-U110074403-QTY 2

Data Version 1.11
DWG Version 1.0

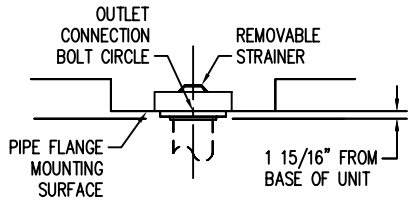


DETAIL B
ELEVATION VIEW
BOTTOM INLET



PLAN VIEW

Notes
1) Drawings are not to scale.
2) Do not support piping from unit connections. All necessary piping supports to be supplied by others.
3) Field piping should be fabricated at time of installation. Pre-fabrication of pipe work is not recommended.
4) Connections 3" and smaller are MPT. Connections 4" and larger are grooved to suit a mechanical coupling and beveled for welding unless stated otherwise.
5) Bolt hole patterns are drilled to mate with an ASME Class 150 flat face flange with holes straddling transverse and longitudinal centerlines. The flat face flange and full face gasket are to be furnished by others for mating with the unit.
6) Outlet connections are sized for pump suction application at the design flow rate. They are based on the maximum flow rate through the strainer with basin water at standard operating level.



DETAIL C
ELEVATION VIEW
BOTTOM OUTLET

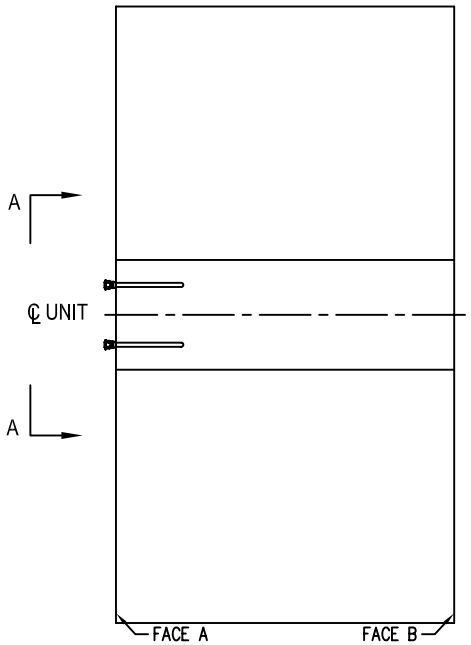
ORDER NO: U110074403-QTY 2	Baltimore Aircoil	3000C Bottom Connections
DATE: 11/30/2010		DRAWING NUMBER: BC-U110074403AXREVA A

Data Version 1.11
DWG Version 1.0

ELECTRIC IMMERSION HEATERS

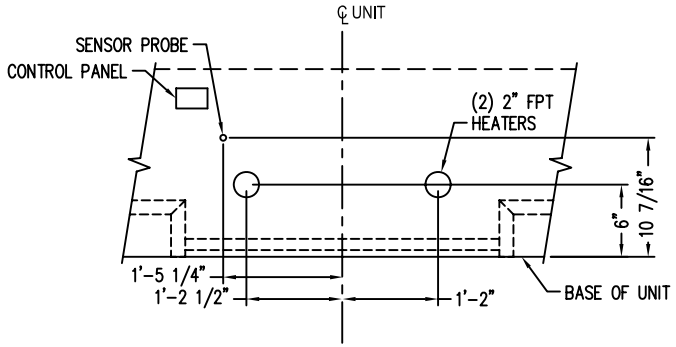
AMBIENT TEMPERATURE: 0°F
HEATER QTY (TOTAL): 2
POWER (EACH): 10 KW
VOLTAGE: 460 V
PHASE: 3
FREQUENCY: 60 HZ

Notes
1) Heater elements and controls ship loose for field installation (by others).
2) Refer to the appropriate wiring diagram for heater wiring details.



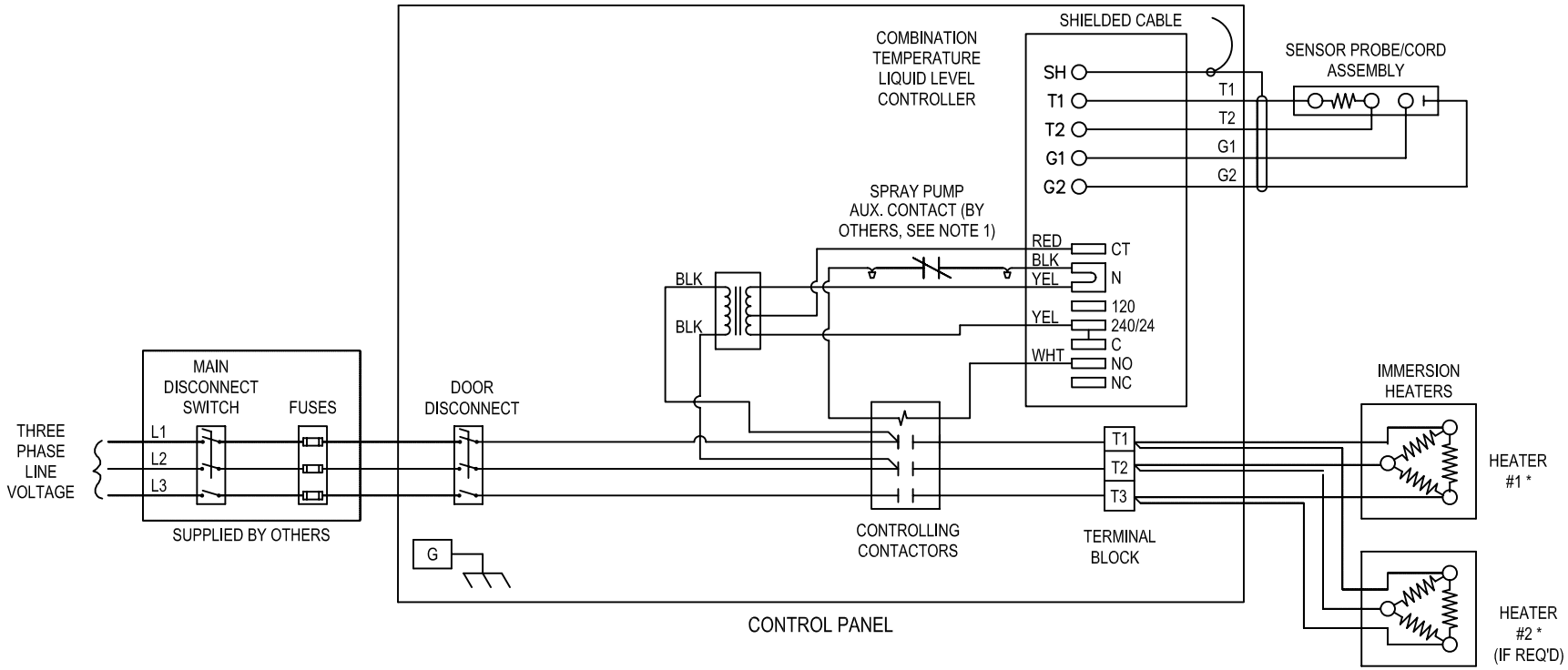
CT-1

PLAN VIEW



END ELEVATION VIEW A-A
CONTROLS IN ALL CELLS

ORDER NO: U110074403-QTY 2	Baltimore Aircoil	3000C Basin Accessories
DATE: 10/21/2010		DRAWING NUMBER: BA-U110074403-QTY 2



NOTES:

1. INTERLOCK IMMERSION HEATERS WITH SPRAY WATER CIRCULATING PUMP TO DE-ENERGIZE HEATERS WHEN SPRAY PUMP IS RUNNING.
2. CONTROL THERMOSTAT IS TO BE AT 40°F. DO NOT SET THERMOSTAT LOWER THAN 40°F.
3. FUSE PROTECTION AND POWER SUPPLY WIRING ARE TO BE SIZED TO MATCH HEATER REQUIREMENTS. WIRING MUST COMPLY WITH APPLICABLE CODES AND ORDINANCES.
4. THIS DRAWING IS SUPERSEDED BY ANY DRAWING SUPPLIED WITH PANEL BY MANUFACTURER.

* Refer to heater package drawings for heater power values.

SYMBOLS	DESCRIPTION
- - - -	BROKEN LINES INDICATE WIRING AND COMPONENTS SUPPLIED BY OTHERS.
———	SOLID LINES INDICATE WIRING AND COMPONENTS SUPPLIED BY BAC.

Data Version 1.11
DWG Version 1.00

ORDER NO: U110074403-QTY 2

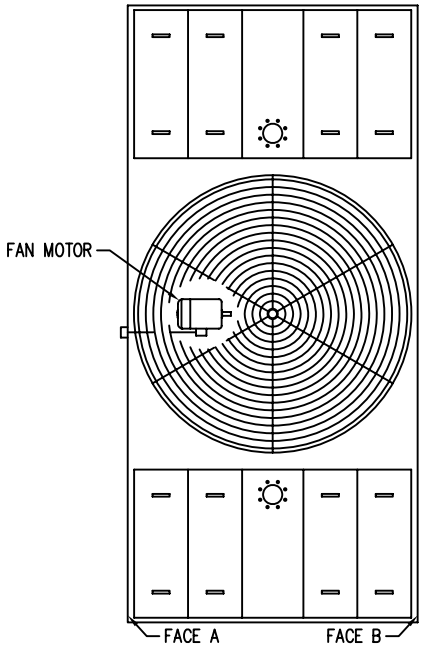
DATE: 10/21/2010

Baltimore Aircoil

Electric Immersion Heater Wiring
Single Contactor with Terminal Block

DRAWING NUMBER:
HW-U110074403-QTY 2

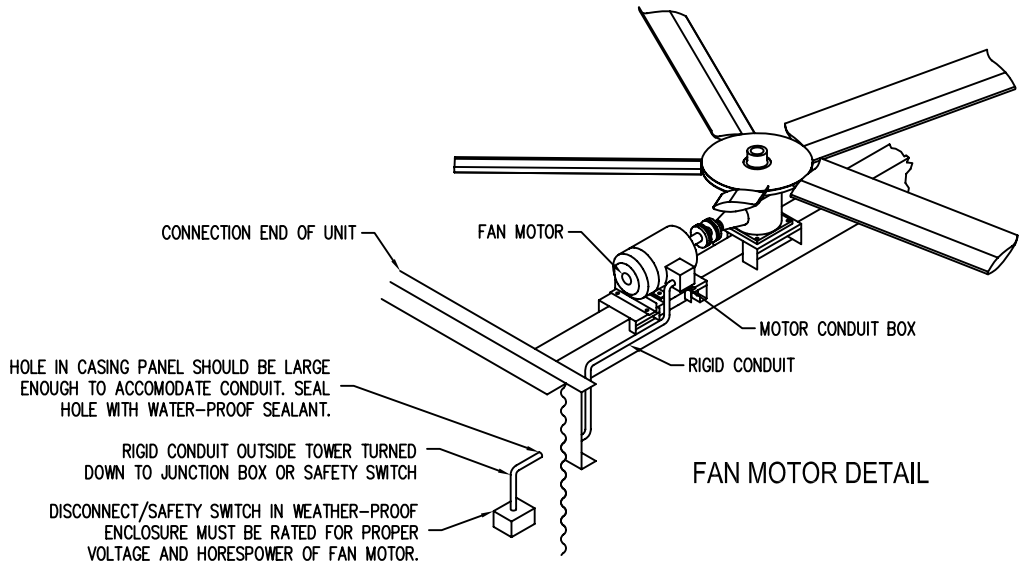
Data Version 1.11
DWG Version 1.0



CT-1

PLAN VIEW

Notes
1) Drawings are not to scale.
2) Conduit must be water tight and pitched downward to allow condensation to drain away from fan motor conduit box. Therefore, do not run the conduit through fan deck.
3) All wiring must conform to local and national electrical codes. Junction box/safety switch and all conduit from fan motor conduit box to be sized, provided, and installed by others.
4) Rigid conduit outside casing panel must turn down to junction box.
5) For proper motor orientation see plan view.



FAN MOTOR DETAIL

ORDER NO: U110074403-QTY 2

DATE: 10/21/2010

Baltimore Aircoil

3000C Motor Location

DRAWING NUMBER:
ML-U110074403-QTY 2

OPERATING INSTRUCTIONS

Follow the installation drawings and wiring diagram to ensure the proper operation of the vibration switch. Direct any questions to your local BAC Representative.

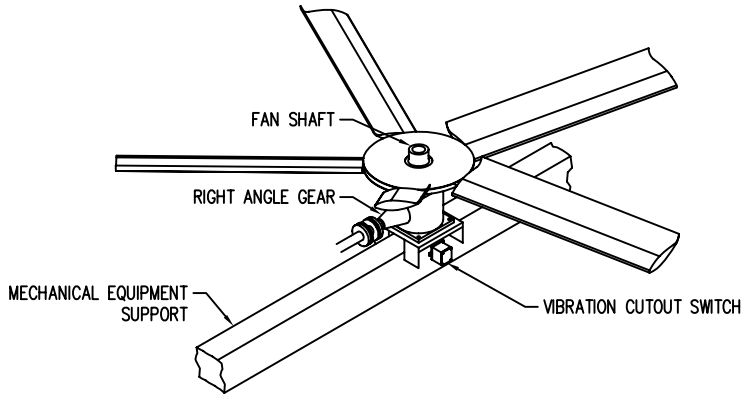
NOTE

Moisture inside the switch can lead to switch failure. Care must be taken when replacing the cover on the vibration switch to ensure that the proper watertight seal is obtained.

CAUTION

Before performing any maintenance, adjustment or inspection of the switch, make certain that all power has been disconnected and locked in the off position.

SWITCH LOCATION
Gear Drive Units



ORDER NO: U110074403-QTY 2

DATE: 10/21/2010

Baltimore Aircoil

3000C VCOS Location

DRAWING NUMBER:
VL-U110074403-QTY 2

NOTES:

1. LOCAL PUSH BUTTON RESET.

2. TO MAINTAIN HAZARDOUS DUTY RATINGS, THE FACTORY INSTALLED WATER TIGHT CONDUIT/CABLE CONNECTION FITTINGS MUST BE REMOVED AND THE FOUR CONDUCTOR CABLE MUST BE ROUTED INSIDE OF A SUITABLE EXPLOSION PROOF CONDUIT. NOTE: THE CONNECTORS CAN EASILY BE REMOVED WITHOUT HAVING TO UN-WIRE THE CONDUCTORS FROM INSIDE THE CUTOUT SWITCH.

3. THE MECHANICAL VIBRATION CUTOUT SWITCH COMES WITH TWO WATER TIGHT CONDUIT/CABLE CONNECTORS. ONE CONNECTOR IS USED TO PROVIDE A WATER TIGHT CONNECTION TO THE VIBRATION CUTOUT SWITCH AND THE OTHER IS PROVIDED FOR THE ELECTRICIAN TO CONNECT THE WIRE CABLE TO A JUNCTION BOX LOCATED IN THE VICINITY OF THE VIBRATION CUTOUT SWITCH.

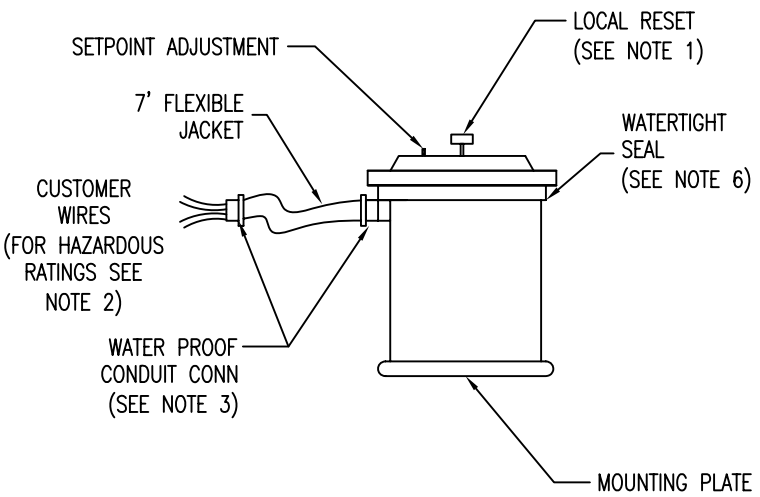
4. THE SWITCH IN THE NORMALLY CLOSED CIRCUIT (BLACK WIRE) WILL OPEN WHEN THE DEVICE EXPERIENCES VIBRATION LEVELS ABOVE THE SETPOINT VALVE. IF REVERSE CONTROL LOGIC IS DESIRED, CUT OFF THE BUTT END CONNECTOR ON THE WHITE WIRE AND INSTALL A WIRE NUT OR BUTT CONNECTOR ON THE NORMALLY CLOSED WIRE (BLACK).

5. THIS MECHANICAL VIBRATION CUTOUT SWITCH COMES WITH ONE SINGLE POLE DOUBLE THROW SWITCH. THE SWITCH CONTACTS ARE "DRY CONTACTS" WHICH CAN BE SUCCESSFULLY USED DIRECTLY IN THE FAN STARTER CONTROL (TYPICALLY A/C VOLTAGE) CIRCUIT OR DIRECTLY IN A BUILDING MANAGEMENT SYSTEM (TYPICALLY D/C VOLTAGE).
CONTACT RATINGS: 3 AMPS@ 125 OR 480 VAC, 1/2 AMP@ 125 VDC, 1/4 AMP@ 250 VDC.

6. CAUTION: MOISTURE INSIDE THE SWITCH CAN LEAD TO SWITCH FAILURE. CARE MUST BE TAKEN WHEN REPLACING THE COVER ON THE VIBRATION SWITCH TO ENSURE THAT THE PROPER WATERTIGHT SEAL IS OBTAINED.

MECHANICAL VIBRATION CUT-OUT SWITCH

(ONE-SINGLE POLE DOUBLE THROW SWITCH)



ADJUSTMENTS OF BAC MECHANICAL VIBRATION CUTOUT SWITCH

BAC RECOMMENDS THAT EACH VIBRATION CUTOFF SWITCH BE FIELD ADJUSTED AT START-UP TO OPTIMIZE THE TRIP POINT RELATIVE TO THE FINAL MOUNTING POSITION AND VIBRATIONAL CHARACTERISTICS OF THE INSTALLED EQUIPMENT.

NOTE: INSTALLATION AND ADJUSTMENT MUST BE PERFORMED BY A QUALIFIED, COMPETENT TECHNICIAN

1. FOR SAFETY SAKE, TURN OFF, THEN LOCK & TAG-OUT THE ELECTRICAL SUPPLY TO THE FAN MOTOR(S).

2. TURN ADJUSTMENT SCREW COUNTERCLOCKWISE (CCW) 1/8 TURN AT A TIME UNTIL YOU HEAR THE CONTROL TRIP.

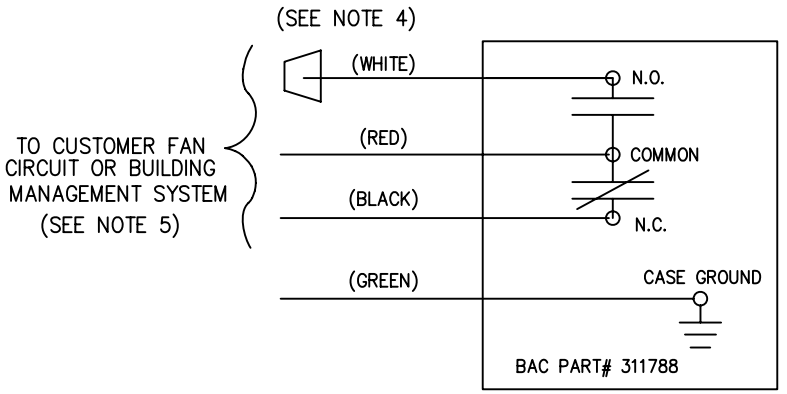
3. ONCE TRIPPED, ROTATE ADJUSTMENT SCREW 1/4 TURN CLOCKWISE (CW) AND THEN PUSH IN MANUAL RESET BUTTON.

4. START UP FAN(S) TO DETERMINE IF THE START-UP WILL CAUSE THE CUT-OUT SWITCH TO TRIP.

5. IF THE VIBRATION CUTOUT SWITCH DOES NOT TRIP, THEN START AND STOP THE FAN TWO MORE TIMES AND IF THE CUTOUT SWITCH STILL DOES NOT TRIP, THEN CALIBRATION IS COMPLETE. IF THE VIBRATION CUTOUT SWITCH DID TRIP, THEN TURN OFF, THEN LOCK & TAG-OUT THE ELECTRICAL SUPPLY TO THE FAN MOTOR(S). ADJUST THE SET POINT SCREW AN ADDITIONAL 1/4 TURN CW AND THEN DEPRESS THE RESET BUTTON. RE-START THE FAN(S) TO DETERMINE IF THE START-UP WILL CAUSE THE SWITCH TO TRIP. REPEAT THIS ADJUSTMENT PROCESS UNTIL THE CONTROL DOES NOT TRIP. ONCE THE FINAL ADJUSTMENT HAS BEEN MADE, START AND STOP THE FAN TWO MORE TIMES AND IF THE CUTOUT SWITCH STILL DOES NOT TRIP, THEN CALIBRATION IS COMPLETE.

WIRING DIAGRAM

(ONE-SINGLE POLE DOUBLE THROW SWITCH – SEE NOTE 5)



BEFORE PERFORMING ANY MAINTENANCE, ADJUSTMENT OR INSPECTION OF THE SWITCH, MAKE CERTAIN THAT ALL POWER HAS BEEN DISCONNECTED AND LOCKED IN THE OFF POSITION.

Data Version 1.11
DWG Version 1.00

ORDER NO: U110074403-QTY 2

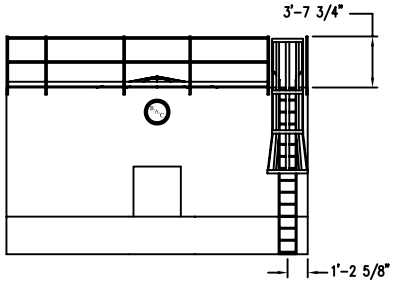
DATE: 10/21/2010

Baltimore Aircoil

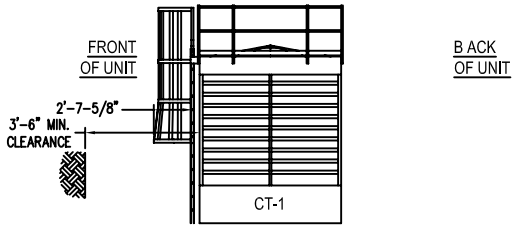
Mechanical VCOS Wiring
Shut Off with Local Reset

DRAWING NUMBER:
VW-U110074403-QTY 2

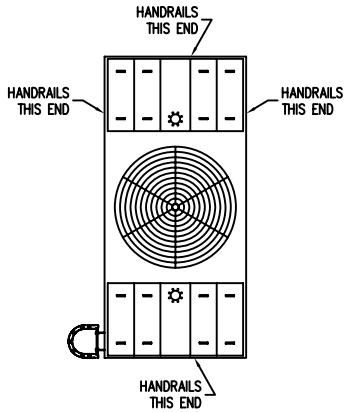
Data Version 1.11
DWG Version 1.0



END ELEVATION (FACE A)



SIDE VIEW



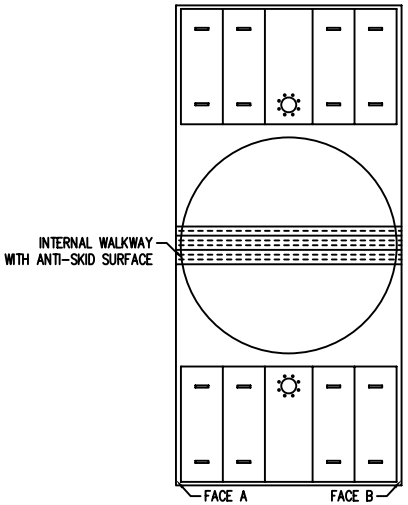
PLAN VIEW

Notes
1) Drawings are not to scale.
2) External unit access accessories ship loose for field installation (by others).
3) Field piping must be kept clear and supported independently of all unit access accessories.
4) Refer to OSHA and local occupational safety regulations to determine if safety cages and/or self closing safety gates are required.

ORDER NO: U110074403-QTY 2	Baltimore Aircoil	3000C External Access One Piece Units
DATE: 10/21/2010		DRAWING NUMBER: EA-U110074403-QTY 2

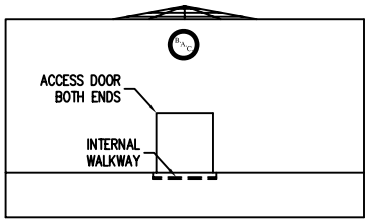
Data Version 1.11
DWG Version 1.0

Notes
1) Drawings are not to scale.
2) Field piping must be kept clear and supported independently of all unit access accessories.



CT-1

PLAN VIEW



ORDER NO: U110074403-QTY 2	Baltimore Aircoil	3000C Internal Access
DATE: 10/21/2010		DRAWING NUMBER: IA-U110074403-QTY 2