



Drawing No.	- TPC364
Issue	- 7
Date	- 10/12/13

## EBAC MODEL CD200 INDUSTRIAL DEHUMIDIFIER OWNER'S MANUAL



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## UNIT PACKAGE CONTENTS

Item	Description	Quantity
10182GR-US	Dehumidifier	1
3086144	Quick release hose coupling	1
3944110	PVC Tube – 3/8" I/D	1
3035832	Free issue socket	1
TPC364	Manual	1



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## UNPACKING

Carefully remove the CD200 dehumidifier unit from its transit packaging and visually check for signs of transit damage. If there is evidence of damage DO NOT attempt to operate the unit, call your supplier for advice. Do not discard the packing, it will be useful when transporting the dehumidifier unit in the future.

## INTRODUCTION

The Ebac CD200 industrial dehumidifier removes moisture from the air through the refrigeration process.

The Ebac CD200 is basically comprised of:

- 1) A compressor
- 2) A refrigerant evaporator coil
- 3) A refrigerant condenser coil
- 4) One circulation fan
- 5) A humidistat
- 6) A condensate pump
- 7) A cabinet to house the above components

The fan draws the moist air through the cold evaporator coil which cools the air below its dew point. Moisture forms on the evaporator coil and is collected in the condensate tray which is equipped with a permanent drain. The cooled air then passes through the hot condenser coil where it is reheated using the same energy removed during the cooling phase, plus the additional heat generated by the compressor. The air is therefore discharged from the dehumidifier at a slightly higher temperature with a lower absolute humidity than with which it entered. Continuous circulation of air through the dehumidifier gradually reduces the relative humidity within the area.

The CD200 dehumidifier is a rugged, reliable drying unit designed to operate effectively over a broad range of temperature and humidity conditions.

The CD200 dehumidifier uses an adjustable humidistat to enable you to select the level of dryness.



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## SPECIFICATIONS

<b>MODEL:</b>	Ebac CD200
<b>HEIGHT:</b>	32.75" (832mm)
<b>WIDTH:</b>	29.5" (745mm)
<b>DEPTH:</b>	17.5" (445mm)
<b>WEIGHT:</b>	176 lbs
<b>AIRFLOW:</b>	Low 585 CFM High 664 CFM
<b>POWER:</b>	2250 W
<b>POWER SUPPLY:</b>	220V/60Hz/1ph
<b>FINISH:</b>	Powder-coated Epoxy
<b>REFRIGERANT TYPE/QTY:</b>	R407c



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## INSTALLATION

### POSITIONING:

Position the dehumidifier unit in the center of the room to be conditioned if at all possible. However if a damp patch is particularly apparent the outlet grille should be pointed towards it if possible.

This unit can also be used in a duct system where applicable, please see the diagrams on the following pages which identify the overall sizes of the unit and also the mounting points.

NOTE: Both inlet grille and outlet grille of the dehumidifier unit must have clear space around them and not be obstructed in anyway.

This unit should be connected to a single outlet circuit fused spur with a 20A rating.

Selecting the correct fan speed – The CD200 has a low fan speed and a high fan speed and the required speed must be chosen before installation. To select the correct fan speed firstly remove the filter cover via the 9 off screws, then remove the electrical box cover via the 4 off M4 hex head bolts. Once the electrical box cover is removed the supplied link wire must be wired between either the ‘C’ and ‘L’ or the ‘C’ and ‘H’ terminals on the terminal block. This is shown below. The default setting of the unit is high speed.





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## OPERATION

The following procedures should be followed to test the CD200 for correct operation:

- 1) After unpacking, examine all external features to confirm damage-free shipment. Report all defects and damage at once. Connect the power cable to a grounded power source.
- 2) Install drain tubing as required (detailed in step F).

**Caution: Do not operate the machine without the covers for any longer than necessary. Do not remove/ replace the covers when the unit is in operation.**

Check dehumidification process as follows:

- A. Place unit on a level surface.
- B. Start up unit as follows:
  - i. Ensure fan speed selection has been chosen as mentioned in previous pages.
  - ii. Rotate humidistat control knob to fully counter clockwise, minimum setting.
  - iii. Plug unit into power supply, switch unit on via on/off switch and rotate humidistat knob clockwise to desired setting.
- C. Check that the compressor is running.
- D. Leave the machine running for 15 minutes.
- E. Observe the evaporator coils behind the filter on the air inlet end of the unit to confirm frost formation.
  - i. If the air temperature is below 70°F, an even coating of frost should cover the entire evaporator coil, except for the last one or two coils.
  - ii. If the air temperature is about 70°F, frost and/or droplets of condensed water should cover the entire evaporator coil.
- F. As the drain tray fills, the condensate will automatically drain by gravity into the condensate pump. Using the supplied hose fit one end to the drainage outlet and secure and the other end of the hose must be located to a permanent drain. The pump has a lift capacity of 5 meters therefore ensure the attached hose is no more than 5 meters above the unit outlet point.

If after carrying out the above procedures, the unit does not appear to function properly, refer to the Trouble Shooting section or contact the Factory Service Center.

### WARNING:

- Due to the high pressures within the refrigeration circuit, under no circumstances must direct heat be applied to the evaporator coil in an attempt to remove the build up of ice.
- No attempt should be made to cut open any part of the refrigeration circuit due to high pressures and gas involved. If the unit is switched off at the mains power supply for any reason, the unit must be allowed to stand at rest for at least five minutes before restarting. Failure to do so may cause the unit to blow the fuses owing to the compressor due to there being a refrigerant imbalance.



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## **External Humidistat Option**

The CD200 has the option of using an external humidistat remotely mounted within a room, where available.

In the control box there is a connector that can be wired to, which will enable the use of an external humidistat. The following steps should be carried out to enable correct operation of the external humidistat.

- Locate the control box and remove the cover, keeping screws for re-attachment
- Locate the connector within the control box and remove the plug from the socket
- Dismantle the plug and remove the link wire from terminals 2 & 3
- Wire remote humidistat to terminals 1 & 3, ensuring wires pass through the plug back shell
- Re-assemble the plug and refit to the socket on the control box
- The CD200 internal humidistat will now be by-passed and the external humidistat will control the unit.



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## ROUTINE MAINTENANCE

**WARNING: ENSURE THAT THE POWER CORD TO THE MACHINE HAS BEEN DISCONNECTED BEFORE CARRYING OUT ROUTINE MAINTENANCE ON ITEMS 1, 2, 4, 5, AND 6.**

To ensure continued full efficiency of the dehumidifier, maintenance procedures should be performed as follows:

1. Clean the surface of the evaporator and condenser coils by blowing the dirt out from behind the fins with compressed air. Hold the nozzle of the air hose away from the coil (approx 6") to avoid damaging the fins. Alternatively, vacuum clean the coils.

**WARNING: DO NOT STEAM CLEAN REFRIGERATION COILS.**

2. Check that the fan is firmly secured to the motor shaft and that the fan rotates freely. **The fan motor is sealed for life and therefore does not need oiling.**
3. To check the refrigerant charge, run the unit for 15 minutes and briefly remove the cover. The evaporator coil should be evenly frost coated across its surface. At temperatures above 70°F, the coil may be covered with droplets of water rather than frost. Partial frosting accompanied by frosting of the thin capillary tubes, indicates loss of refrigerant gas or low charge.
4. Check all wiring connections.

**IF ANY OF THE PRECEDING PROBLEMS OCCUR, CONTACT THE EBAC SERVICE CENTER PRIOR TO CONTINUED OPERATION OF THE UNIT TO PREVENT PERMANENT DAMAGE.**





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## REPAIRS

1. Should an electrical component fail, consult the Factory Service Center to obtain the proper replacement part.
2. If refrigerant gas is lost from the machine, it will be necessary to use a refrigeration technician to correct the fault. Contact the Factory Service Center prior to initiating this action.

Any competent refrigeration technician will be able to service the equipment. The following procedure must be used:

- a. The source of the leak must be determined and corrected.
- b. The machine should be thoroughly evacuated before recharging.
- c. The unit must be recharged with refrigerant measured accurately by weight.
- d. For evacuation and recharging of the machine, use the crimped and brazed charging stub attached to the side of the refrigerant compressor.

The charging stub should be crimped and rebrazed after servicing. **NEVER** allow permanent service valves to be fitted to any part of the circuit. Service valves may leak causing further loss of refrigerant gas.

3. The refrigerant compressor fitted to the dehumidifier is a durable unit that should give many years of service. Compressor failure can result from the machine losing its refrigerant gas. The compressor can be replaced by a competent refrigeration technician.

Failure of the compressor can be confirmed by the following procedure:

- a. Establish that power is present at the compressor terminals using a voltmeter.
- b. With the power disconnected, check the continuity of the internal winding by using meter across the compressor terminals. An open circuit indicates that the compressor should be replaced.
- c. Check that the compressor is not grounded by establishing that a circuit does not exist between the compressor terminals and the shell of the compressor.



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## TROUBLESHOOTING

<u>SYMPTOM</u>	<u>CAUSE</u>	<u>REMEDY</u>
<b>Unit inoperative</b>	1. no power to unit	1. Check the power from the power supply panel
<b>Little or no airflow</b>	1. Loose fan on shaft 2. Fan motor burnt out 3. Dirty refrigeration coils 4. Loose electrical wiring	1. Tighten fan 2. Replace the fan motor 3. See <i>Routine Maintenance</i> Section 4. Check the wiring diagram to find fault and repair
<b>Little or no water extraction</b>	1. Insufficient air flow 2. Compressor fault 3. Loss of refrigerant gas	1. Check all of the above 2. Contact the Factory Service Center 3. Contact the Factory Service Center
<b>Unit vibrates excessively</b>	1. Loose compressor mounts 2. Damaged fan	1. Tighten the nuts on the compressor mounts 2. Replace fan
<b>Water flooding inside the machine</b>	1. Drain pipe blocked/frozen 2. Drain pipe too high	1. Clear the obstruction 2. Ensure that no section of the drain hose is above the level of the water outlet

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## RATING PLATE INFORMATION

	<b>CD200</b>
<b>MOISTURE REMOVAL (PINTS PER 24 HOURS) @ 80F / 60% RH:</b>	130
<b>REFRIGERANT:</b>	1250 Grams
<b>VOLTAGE:</b>	220 Volts
<b>POWER:</b>	3.1 KW
<b>PHASE:</b>	Single
<b>HZ:</b>	60 Hz
<b>CURRENT:</b>	14 A



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## LIMITED WARRANTY

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Our products carry a one-year unconditional warranty against any defects in workmanship or material. This warranty will cover all parts and labor required to repair your Ebac product. This warranty is invalid if the unit has been abused, damaged, whether intentional or accidental, or if any modifications have been made to the unit.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS ISSUED IN LIEU OF ALL OTHER WARRANTIES (WHETHER WRITTEN, ORAL, OR IMPLIED) INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. EBAC INDUSTRIAL PRODUCTS, INC. DISCLAIMS ANY LIABILITY FOR CONSEQUENTIAL DAMAGES, LOST PROFITS, OR INCIDENTAL DAMAGES FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY WITH RESPECT TO THE FOREGOING DESCRIBED MERCHANDISE.

For Your Records:    Model: \_\_\_\_\_  
   S/N: \_\_\_\_\_  
   Date Received: \_\_\_\_\_

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SAVE THIS SECTION FOR YOUR RECORDS  
-----  
CLIP AND RETURN THIS CARD  
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### PLEASE NOTE

To ensure that your Ebac Dehumidifier is accorded the full coverage provided by this warranty, please complete and mail this card at your earliest convenience.

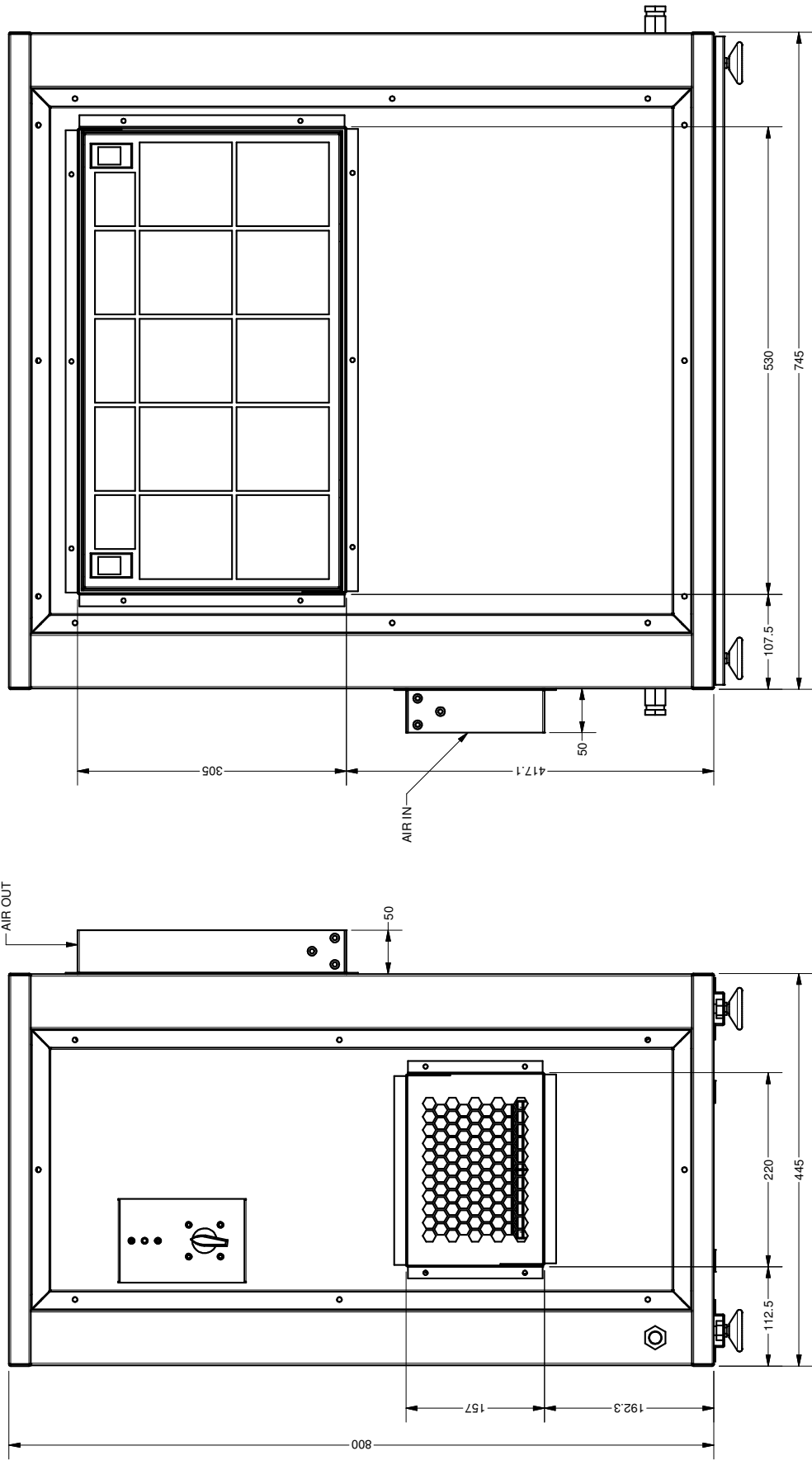
*Thank You*

WARRANTY REGISTRATION		
MODEL _____	S/N _____	DATE RECEIVED _____
OWNER _____		
ADDRESS _____		
CITY _____	STATE _____	ZIP _____
COMMENTS _____		
Ebac Industrial Products. 700 Thimble Shoals Boulevard, Suite 109, Newport News, Virginia. 23606-2575		



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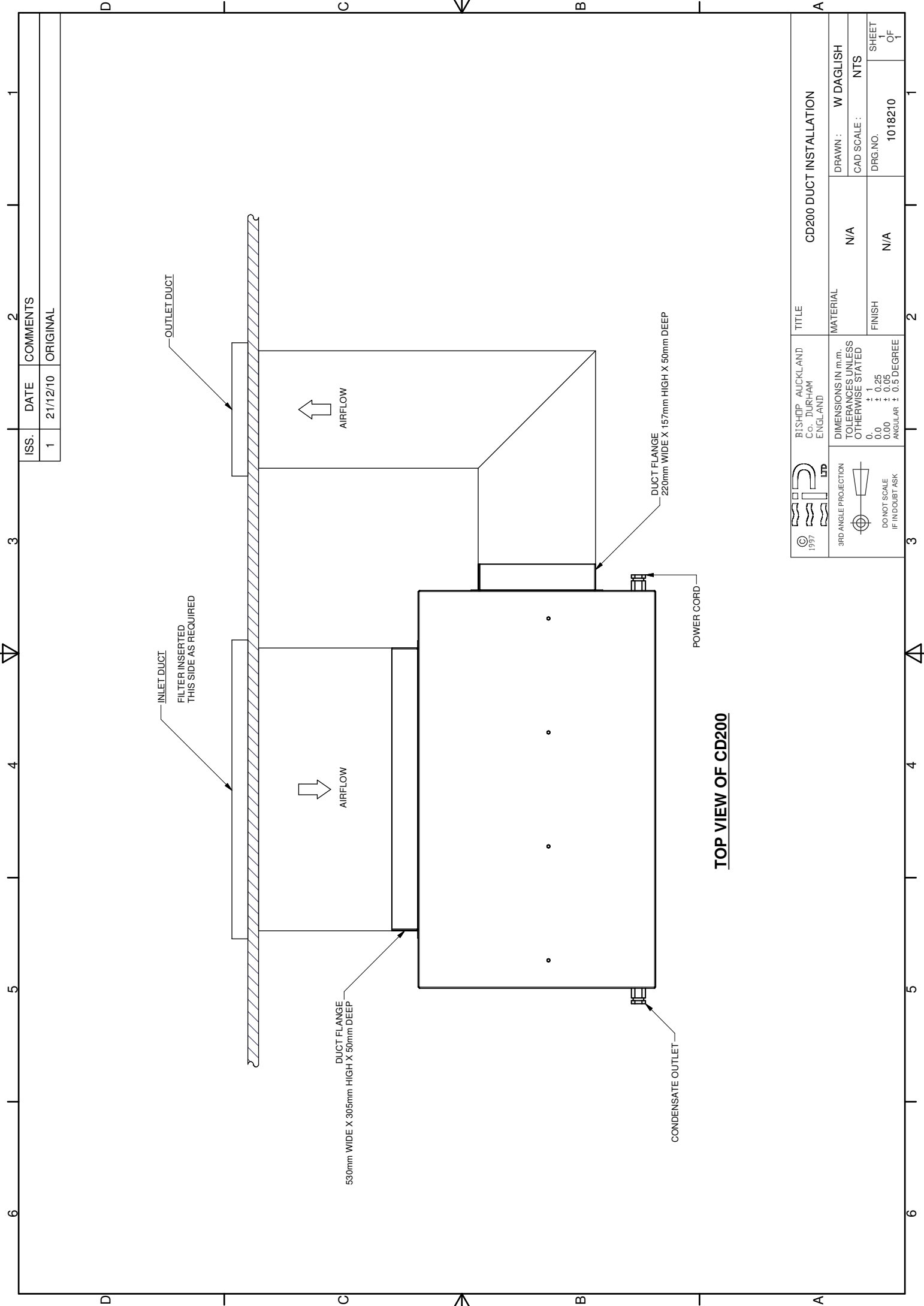
ISS.	DATE	COMMENTS
1	06/07/11	ORIGINAL
2	09/09/11	AIR DIRECTION ADDED - WDA



BISHOP AUCKLAND Co. DURHAM ENGLAND		CD200 DUCT FLANGE LOCATIONS	
 1997 3RD ANGLE PROJECTION DO NOT SCALE IF IN DOUBT ASK	DIMENSIONS IN m.m. TOLERANCES UNLESS OTHERWISE STATED	MATERIAL	TITLE
	0 ± 1 0.0 ± 0.25 0.00 ± 0.05 ANGULAR ± 0.5 DEGREE	N/A	N/A
	DRAWN : W DAGLISH CAD SCALE : 1/5 DRG.NO. 1018211	FINISH	N/A

D C B A

1 2 3 4 5 6



ISS.	DATE	COMMENTS
1	21/12/10	ORIGINAL

BISHOP AUCKLAND Co. DURHAM ENGLAND		CD200 DUCT INSTALLATION	
DIMENSIONS IN m.m. TOLERANCES UNLESS OTHERWISE STATED 0.0 ± 1 0.0 ± 0.25 0.00 ± 0.05 ANGULAR ± 0.5 DEGREE		MATERIAL	N/A
3RD ANGLE PROJECTION DO NOT SCALE IF IN DOUBT ASK		FINISH	N/A
		DRAWN :	W DAGLISH
		CAD SCALE :	NTS
		DRG.NO.	1018210
		SHEET	1
		OF	1

**TOP VIEW OF CD200**



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