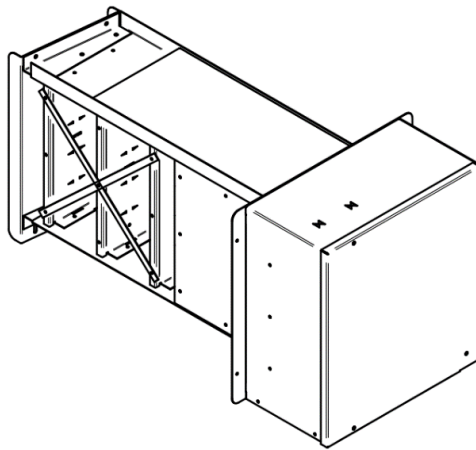




## INSTALLATION INSTRUCTIONS FOR OPTIONAL ELECTRIC ELEMENT

**PA01106**  
**20 kW 2 stages**

**CADDY ADVANCED CR FURNACE**



**WARNING:** WIRING OF THE HEATING ELEMENT MUST BE DONE IN ACCORDANCE WITH LOCAL ELECTRICAL LEGISLATION BY A CERTIFIED PROFESSIONAL.

**WARNING:** ENSURE THAT ALL CONTACTOR SCREWS ARE PROPERLY TIGHTENED DURING WIRING.

Verified and tested for Canada and the United States by an accredited laboratory.



*This manual is available for free download on the manufacturer's web site. It is a copyrighted document. Re-sale is strictly prohibited. The manufacturer may update this manual from time to time and cannot be responsible for problems, injuries, or damages arising out of the use of information contained in any manual obtained from unauthorized sources.*

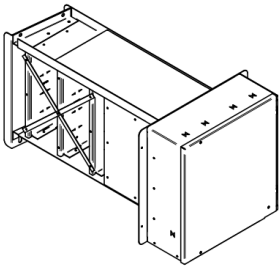
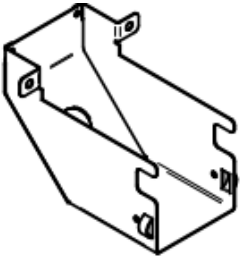
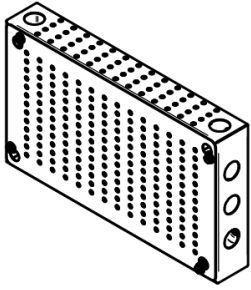
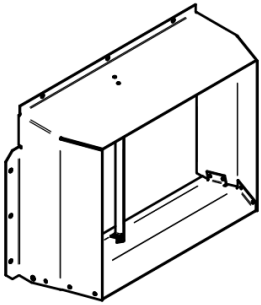
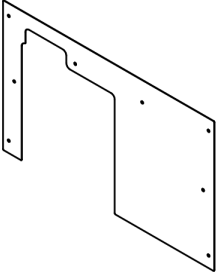
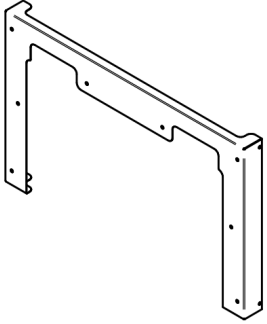
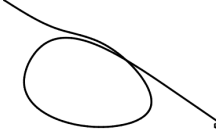


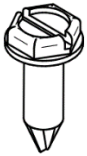
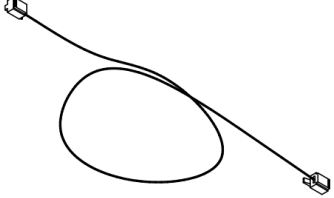

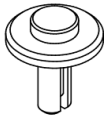


***Eco-energy at the hearth  
of your home***

**PSG**

250, Copenhagen street,  
St-Augustin-de-Desmaures (Québec)  
CANADA G3A 2H3

# 1. KIT CONTENT

		
<p>60117 – Electrical element (1x)</p>	<p>PL66355 –Wire chanel (1x)</p>	<p>SE44301 – Electronic card box (1x)</p>
		
<p>SE66319 – Deflector (1x)</p>	<p>PL66308 – Deco panel (1x)</p>	<p>PL66307 – Deco panel support (1x)</p>
		
<p>60463 – Stripped wire (3x)</p>	<p>31389 – Wire clip (6x)</p>	<p>31048 – Metal screw (10x)</p>
		
<p>30163 – Self-tapping screw (16x)</p>	<p>60462 – Ethernet cable (1x)</p>	<p>60024 – Wire with 1/4" quick connect (2x)</p>
		
<p>31366 – Plastic rivet (8x)</p>		

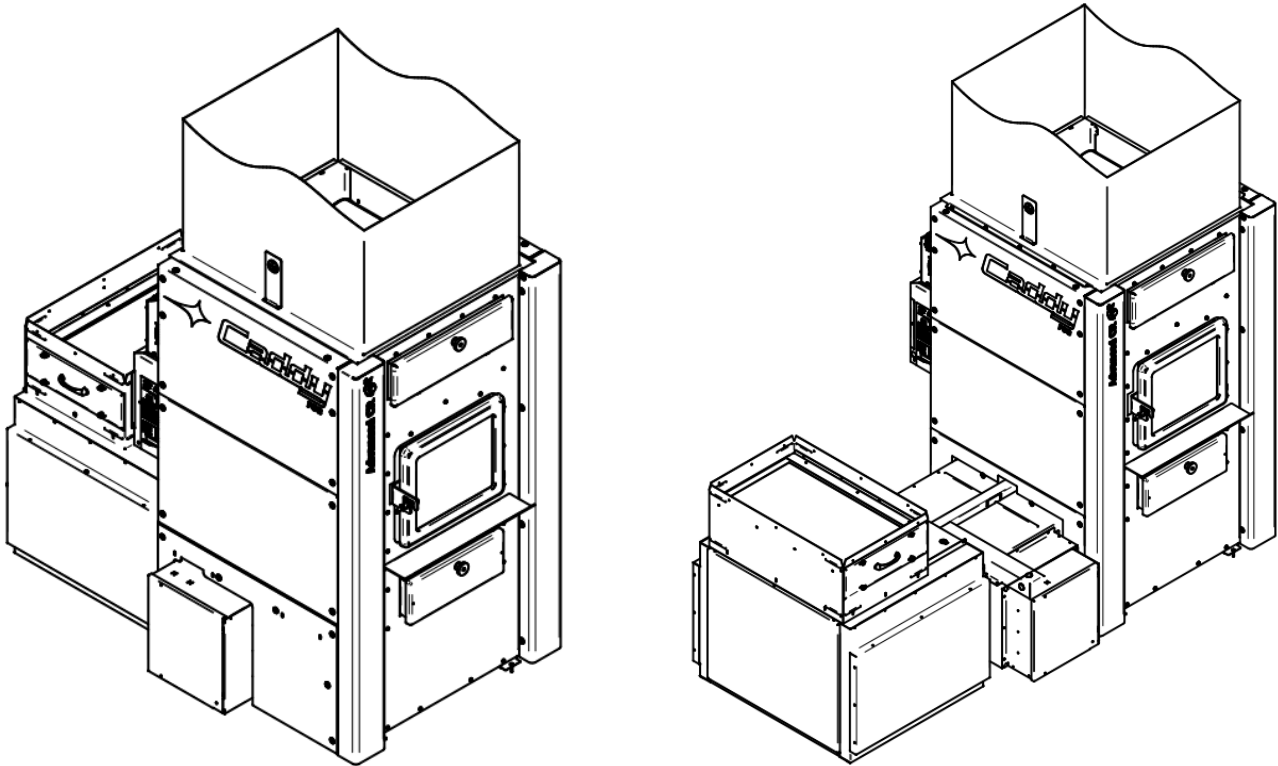
## 2. INSTALLATION OF THE ELECTRIC ELEMENTS

Your Caddy furnace can be equipped with a 2-stage electrical option (10 or 20 kW). This option can be installed on the left or right side of your furnace, or with the blower installed on the side with the side configuration kit (PA08587) and electric option. Please note that with the side configuration kit, the element can be installed on either the left or right side, as long as the blower is installed on the same side.

The installation must be carried out by a qualified professional, in compliance with local electrical codes and legislation.

**IMPORTANT:** Please note that the installation is identical regardless of the electrical element used or the installation side chosen (right or left), with the exception of an air deflector that **may need to be reversed on the electrical element**.

For simplicity's sake, only the installation with the electrical unit mounted on the left will be shown.



**Left side Installation (the element can also be mounted on the right side of the furnace)**

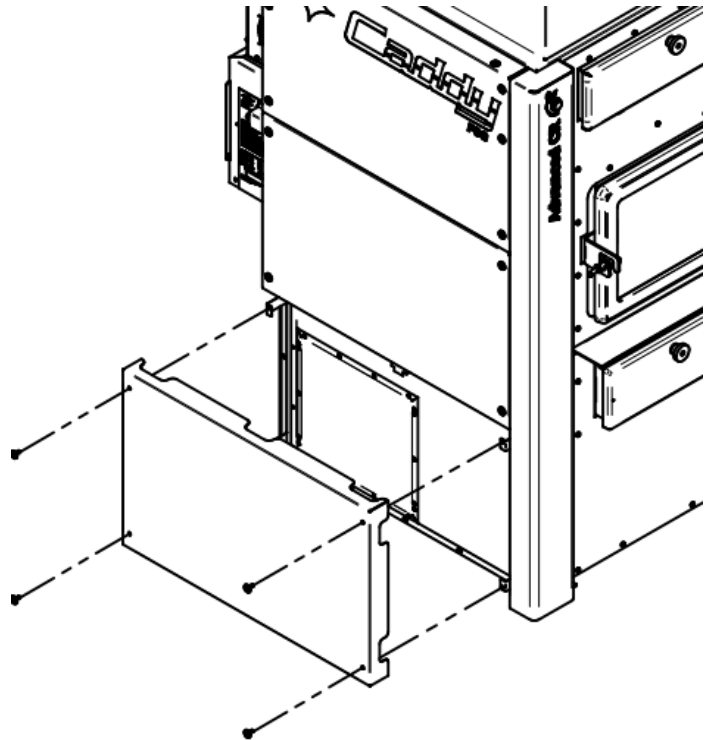
**Installation with side configuration kit (PA08587). (The unit can also be installed on the right-hand side)**

### 3. TECHNICAL SPECIFICATIONS – ELECTRIC ELEMENTS

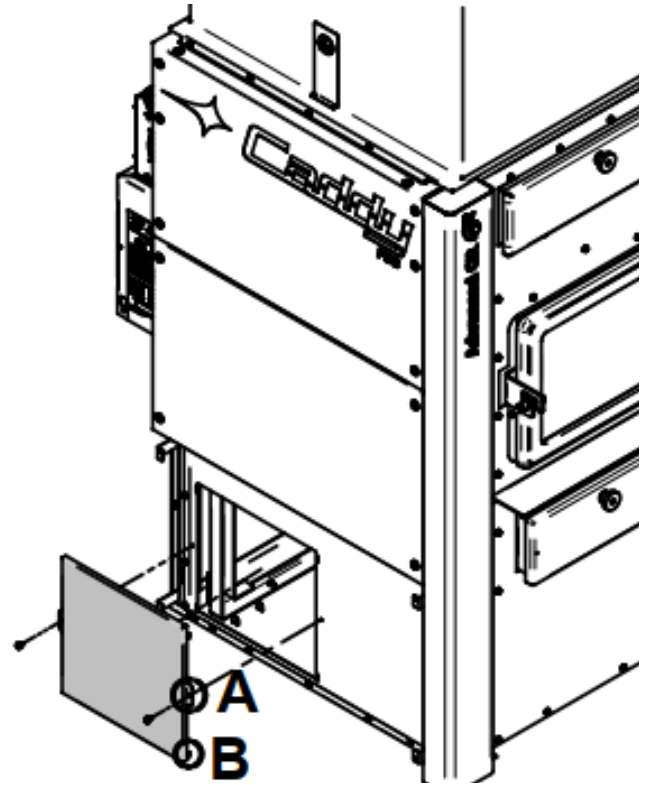
POWER (kW)	AIRFLOW (cfm)	TEMP. VAR. (°F)	BTU/H	TOTAL AMPS (A)	REQUIRED BREAKER	VOLTAGE 1 PHASE
20	950	93°F	68,260	83,3	125 A	240 V

### 4. INSTALLATION OF THE HEATING ELEMENTS AND THE CONTROL BOARD

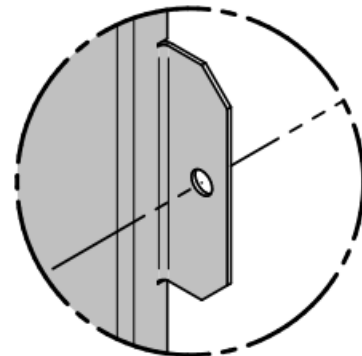
1. Remove the bottom decorative panel on the desired side by removing its 4 plastic rivets. You'll need to pry the rivet head away from the washer with a flathead screwdriver. See photos below.



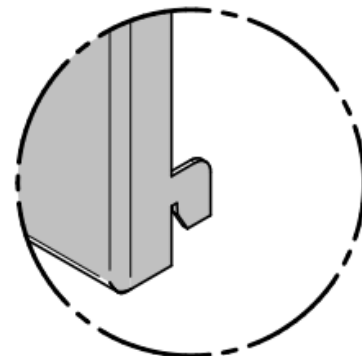
2. Remove the metal screws 31048. See **detail A**.



3. Remove the panel plug for the electrical unit by lifting it up. This will release the retaining claws. See **detail B**.



**DETAIL A**



**DETAIL B**

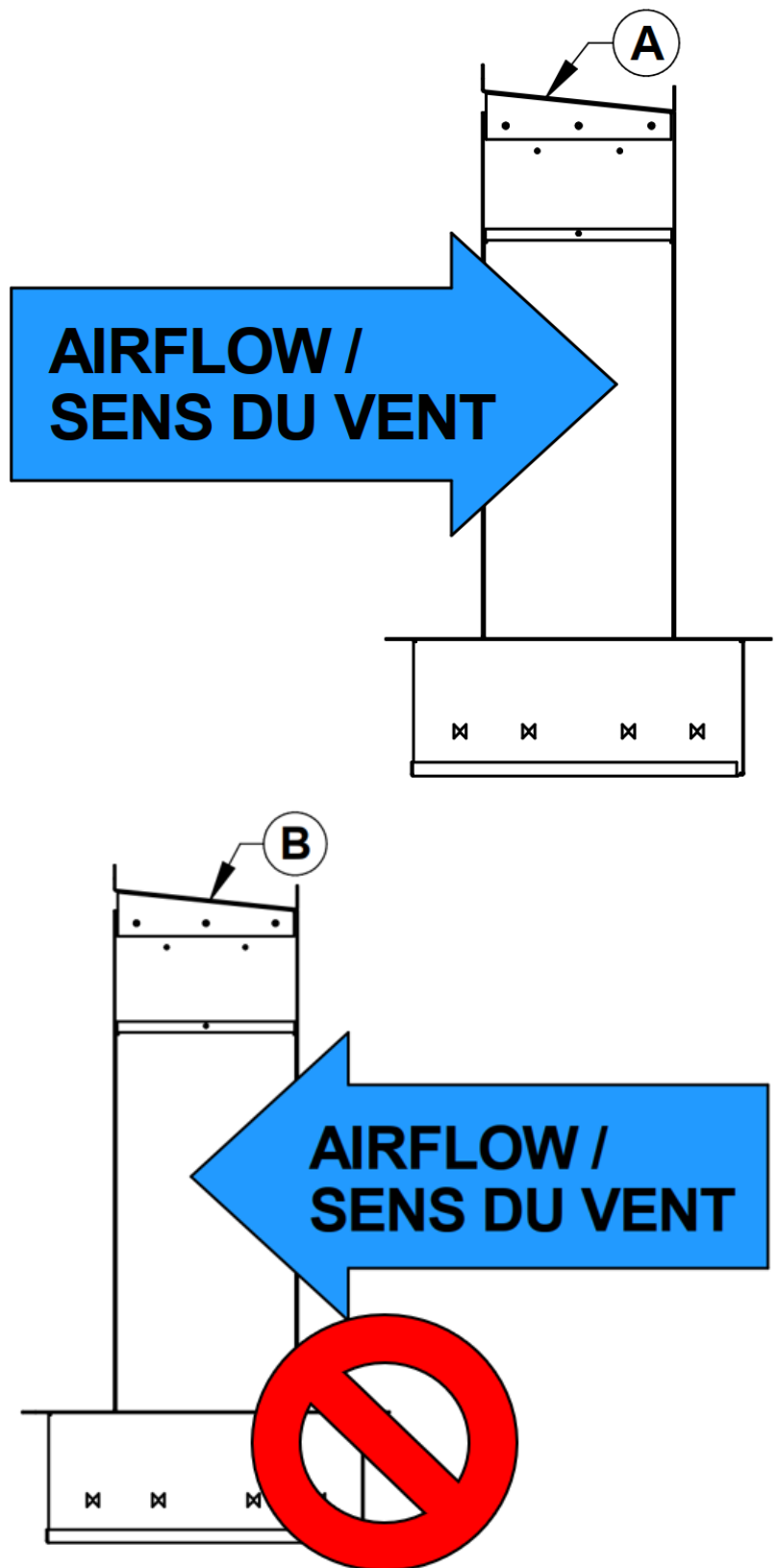
**WARNING :** The electrical unit is assembled by default to be on the left hand side. If the electrical unit is to be installed on the right hand side, the air deflector must be repositioned to prevent heat accumulation. (see section 3.1)

The drawings show a good (A) and bad (B) orientation of the air deflector in respect with the airflow.

**IMPORTANT:** The direction of air flow must always be the same in relation to the deflector on the electrical unit. As shown in the diagram for a left side installation.

If the airflow direction in relation to the electric unit deflector does not comply with the diagram (A), unhook the deflector from the unit and fix it on the opposite side so that it complies with the airflow direction.

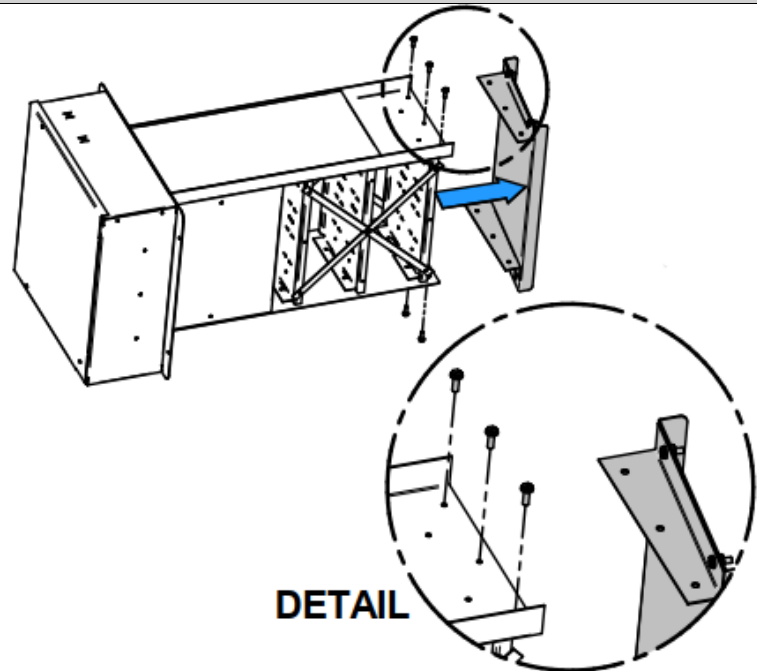
The electrical unit must always be positioned in respect with the "UP" sticker.



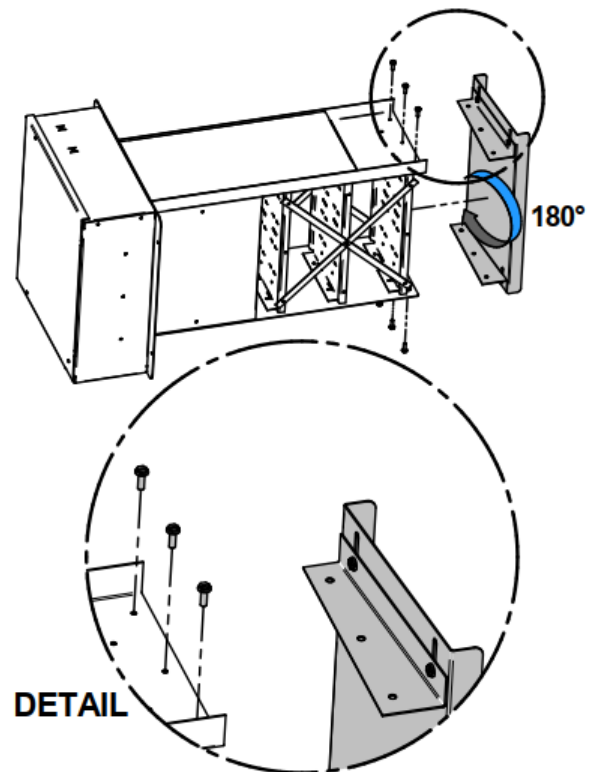
#### 4.1 INSTRUCTIONS FOR CHANGING THE DIRECTION OF THE AIR DEFLECTOR ON THE ELECTRICAL UNIT FOR INSTALLATION ON THE RIGHT SIDE OF THE FURNACE.

**CAUTION: ONLY DO IF THE ELECTRICAL UNIT IS INSTALLED ON THE RIGHT SIDE OF THE FURNACE.**

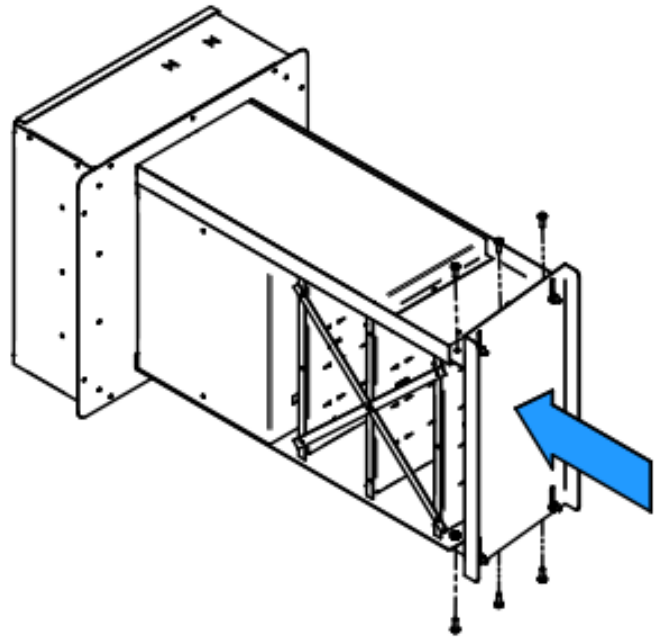
4. Unscrew the 6 screws on the electric heating unit and set them aside.
5. Remove the (highlighted) deflector from the electrical unit.



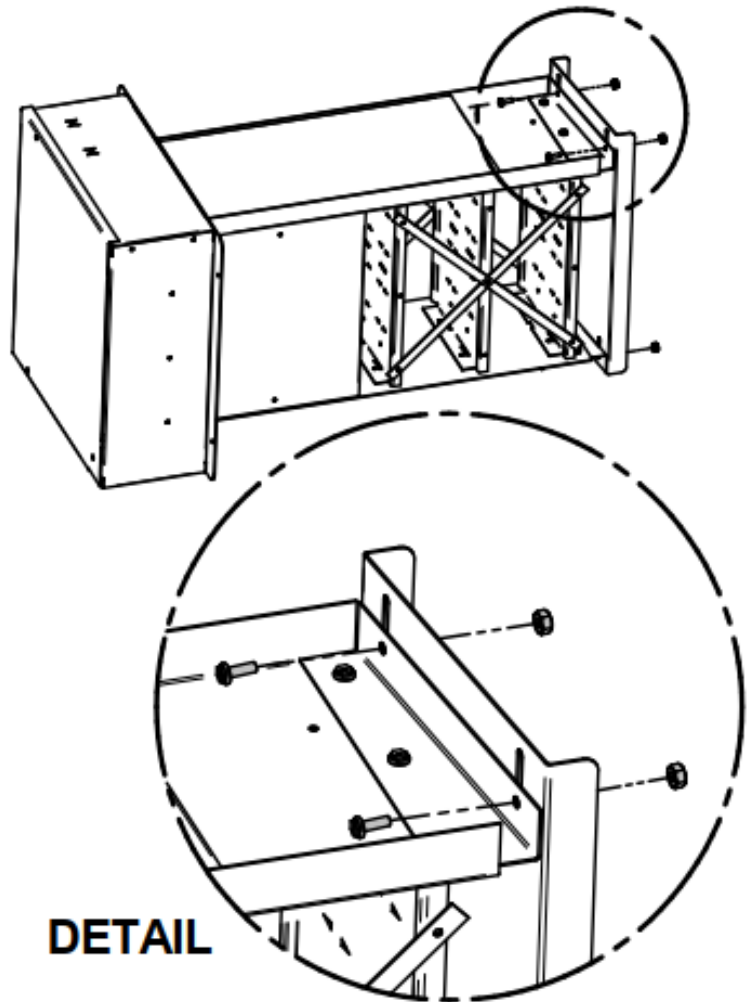
6. Turn the deflector on the electrical unit 180° so that it faces the other way.



7. Once in place, secure the electrical unit deflector.



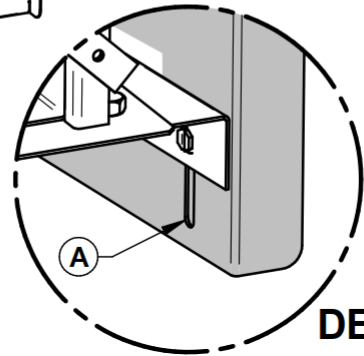
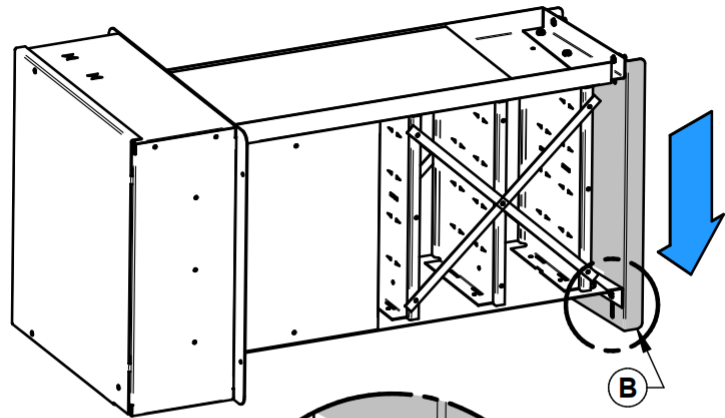
8. Unscrew or simply loosen the 4 screws and nuts as shown and set aside if need be.



9. Lower the metal sheet from the end as shown. The metal sheet should slide downwards along the oblong holes as shown **(A)**.

10. Replace or retighten the screws and nuts previously set aside.

The end of the metal sheet **(B!)** will now act as a support in the bottom of the furnace.

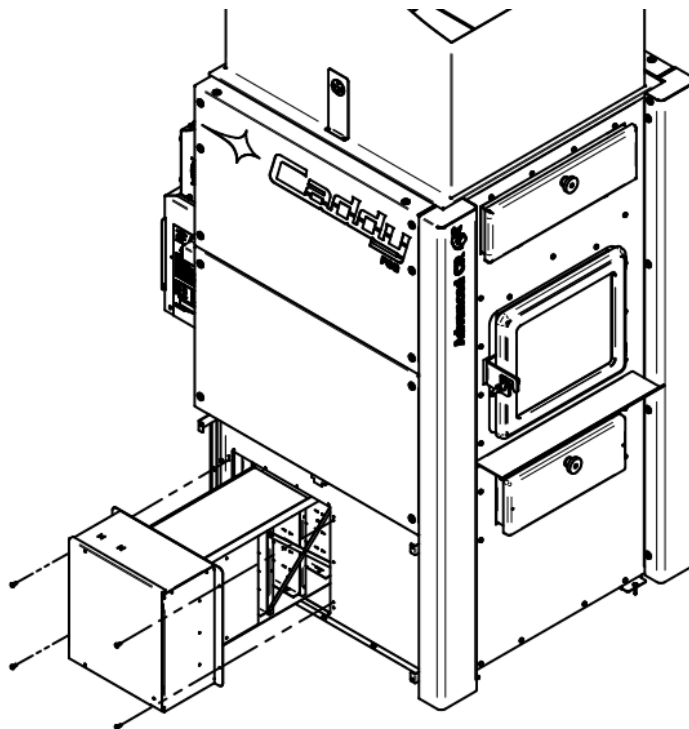


**DETAIL**

11. Slide the electrical unit into place.

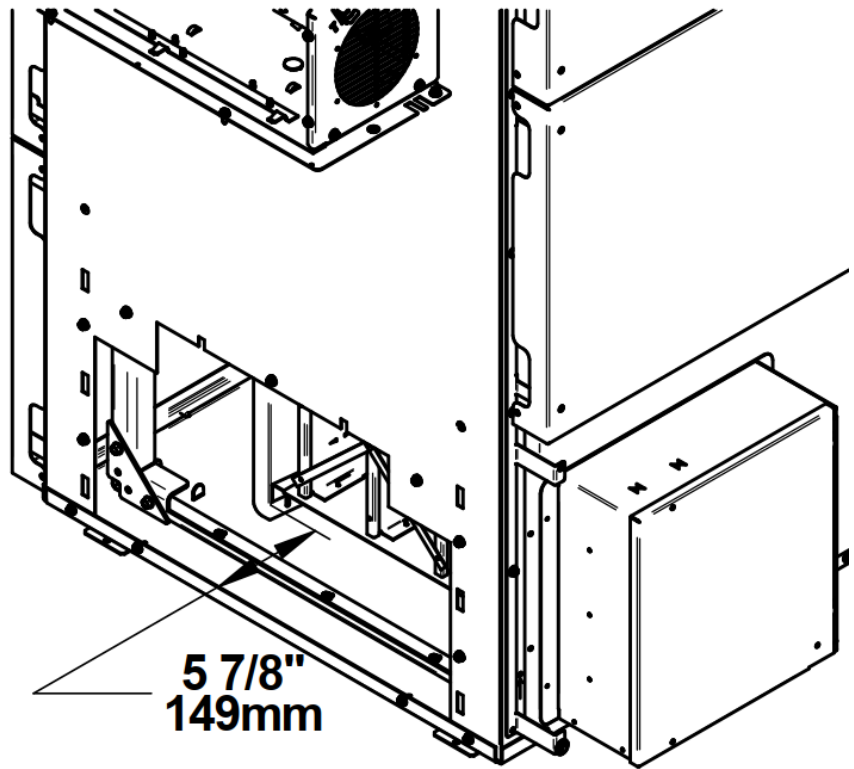
12. Secure the electrical unit with 4 self-drilling screws.

Recesses in the metal (4x) help position the self-drilling screws to secure the electrical element.  
**SEE PICTURE**

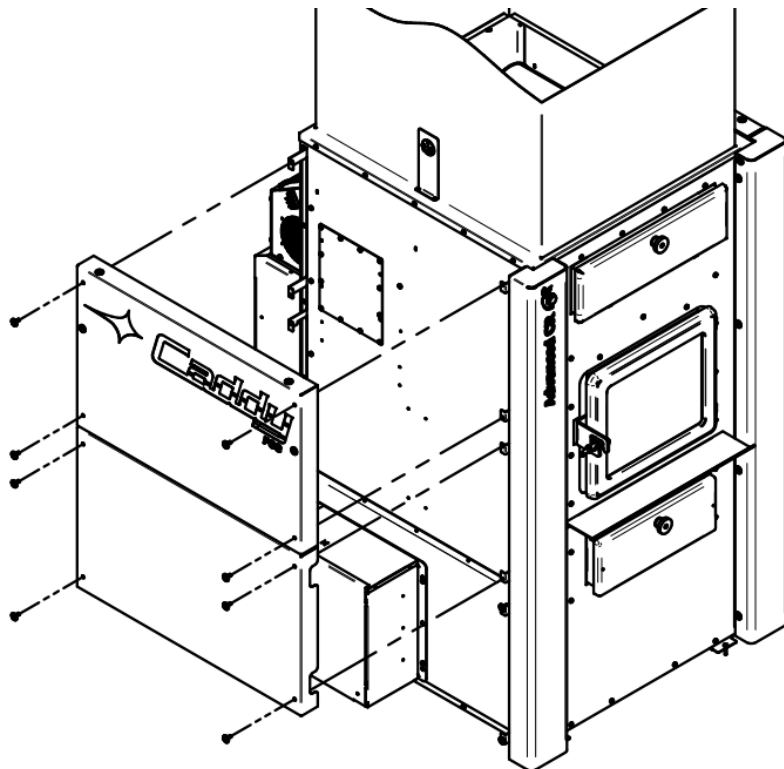


**CAUTION:**

Validate that the distance between the electrical element and the rear edge of the furnace is respected.

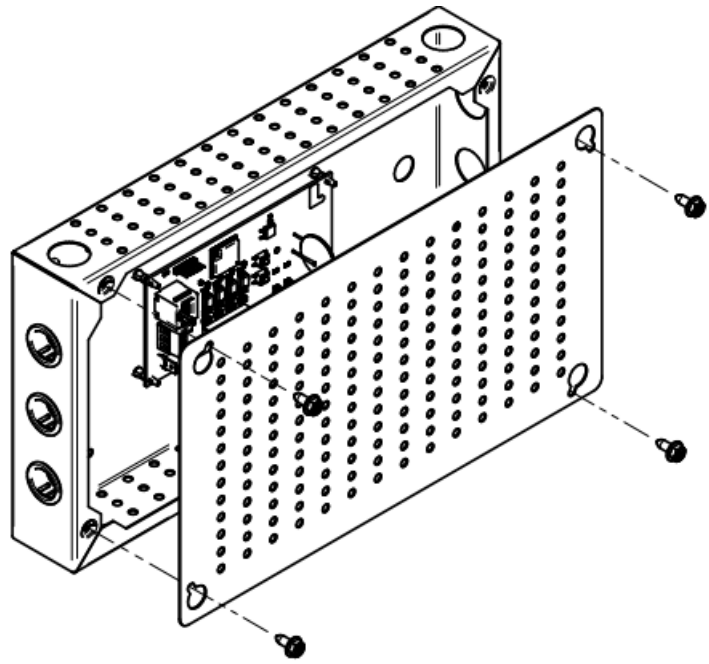


13. Remove the 2 remaining decorative panels from the side of the furnace by pulling out the rivets as previously seen in Step 1.



14. Remove the cover from the electronic board housing SE44301 by removing the metal screws 31048.

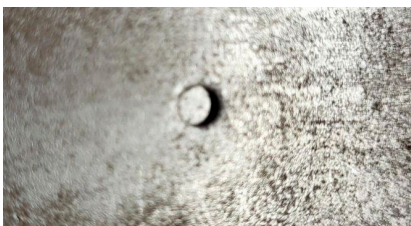
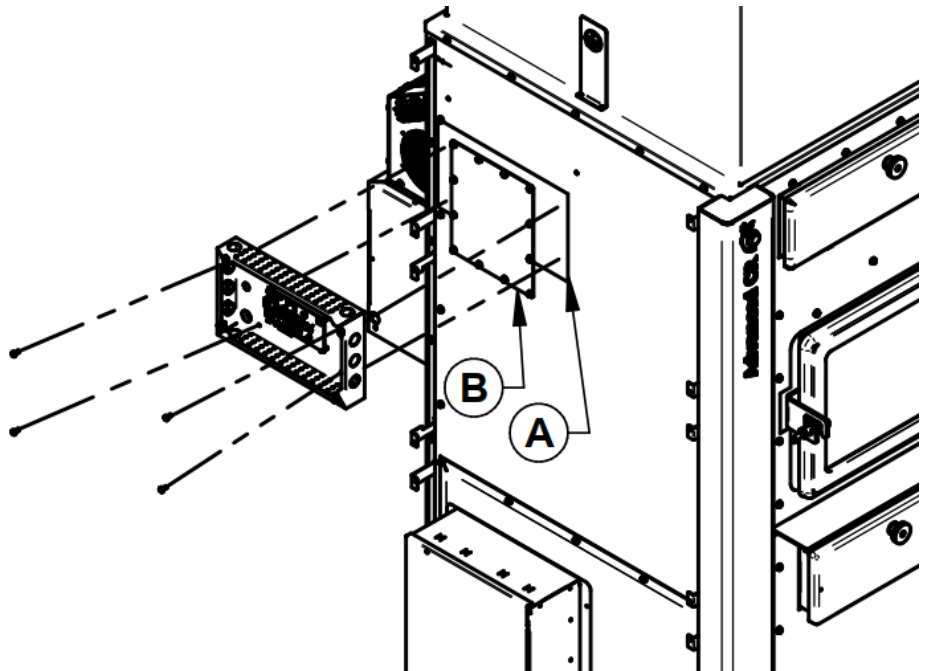
Keep for later the cover and screws.



15. Using 4 self-drilling screws 30163, fasten the electrical unit board housing. **A rectangle marking (A)** shows the position of the board housing should be.

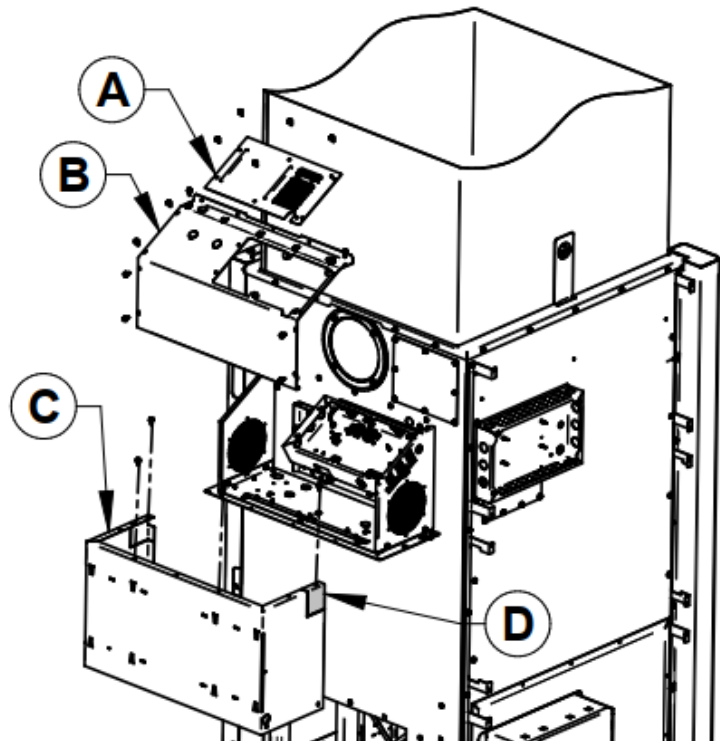
**NOTE :** It is normal the housing comes on the thermocouple access plate **(B)**.

Recesses in the metal (4x) help position the card housing. **(SEE PICTURE)**



## 5. FURNACE WIRING

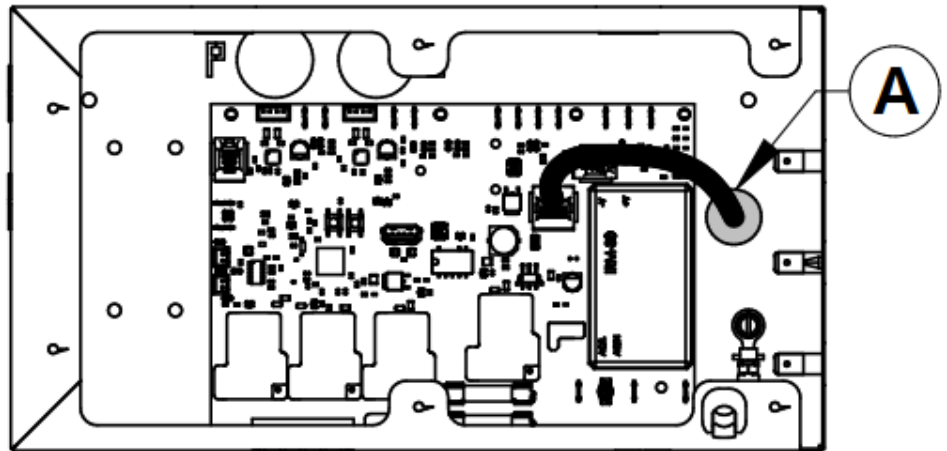
1. Remove the electronic card cover plate **(A)**
2. Remove the fresh air inlet and control board covers **(B)**
3. Remove wire cover **(C)**.
4. Cut the corner of the wire cover on the side where the control board has been positioned. **See (D)**.



5. Remove the knockout (!) shown.

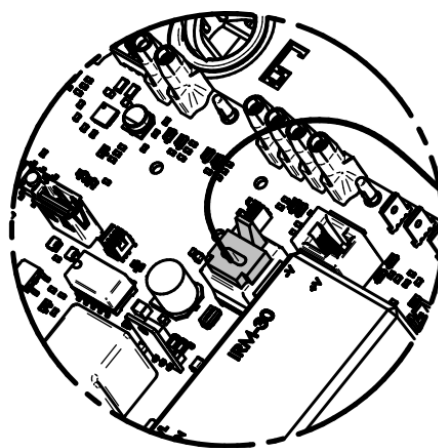
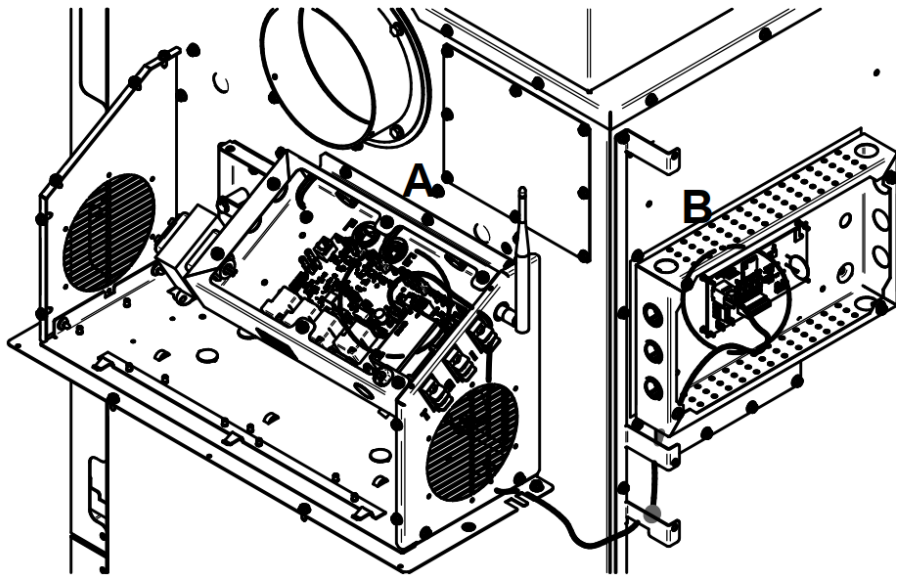
### ETHERNET CABLE:

6. Connect the network cable to the main board.
7. Feed the network cable through the hole **(A)**.

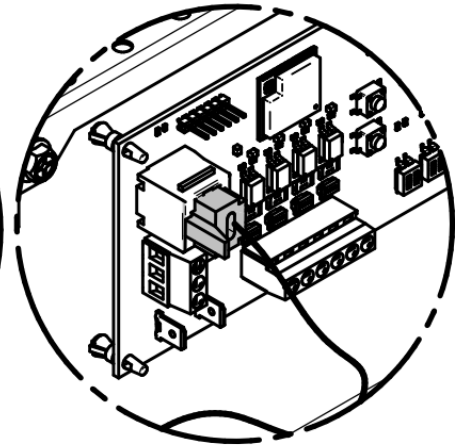


8. Route the network cable through the wiring channels as shown in the illustration.

9. Connect the network cable to the electrical unit board.



**DETAIL A**



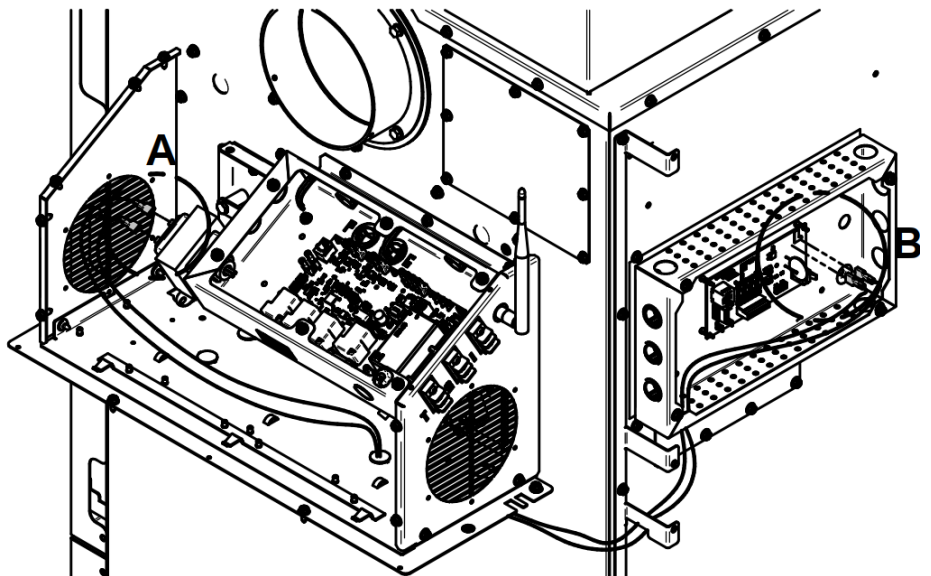
**DETAIL B**

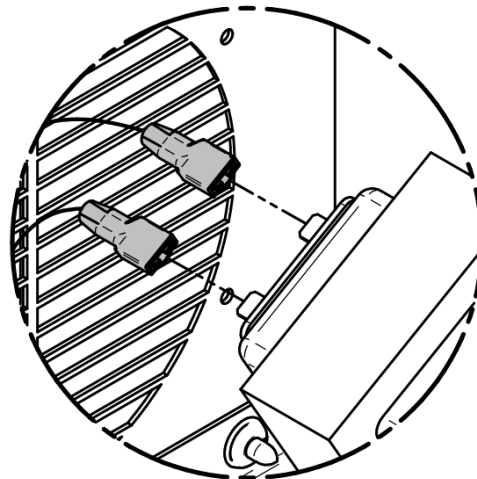
**TRANSFORMER WIRES (2x):**

10. Take the 2 wires with 1/4" connectors at each end.

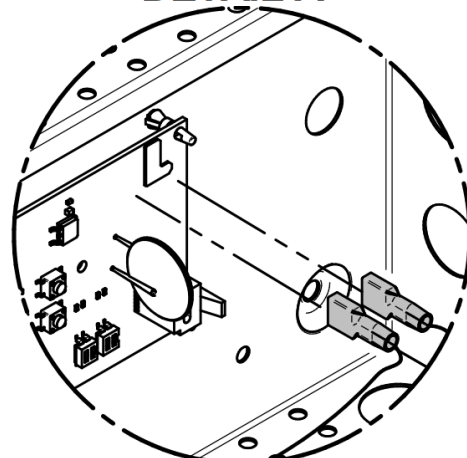
11. Connect the wires to the transformer (**DETAIL A**) and run the wires as shown.

12. Connect the other end of the wires to the terminal connectors on the circuit board (**DETAIL B**).





**DETAIL A**

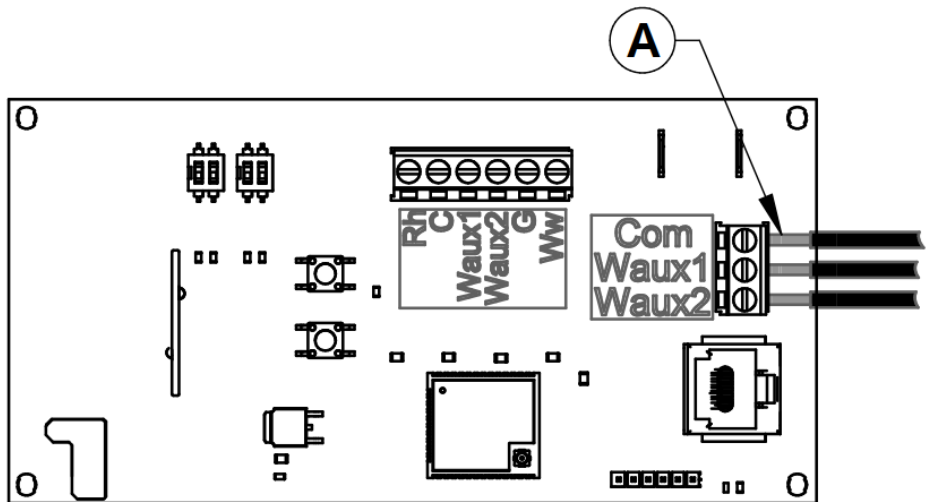


**DETAIL B**

13. Connect the 3 stripped wires, provided with the manual kit, to the shown terminal block (A)

- The first under "COM"
- The second under "Waux1"
- The third under "Waux2"

**USEFUL TIP:** Flag each wire at the end to help retrieve which is which.



## 6. ELECTRICAL WIRING

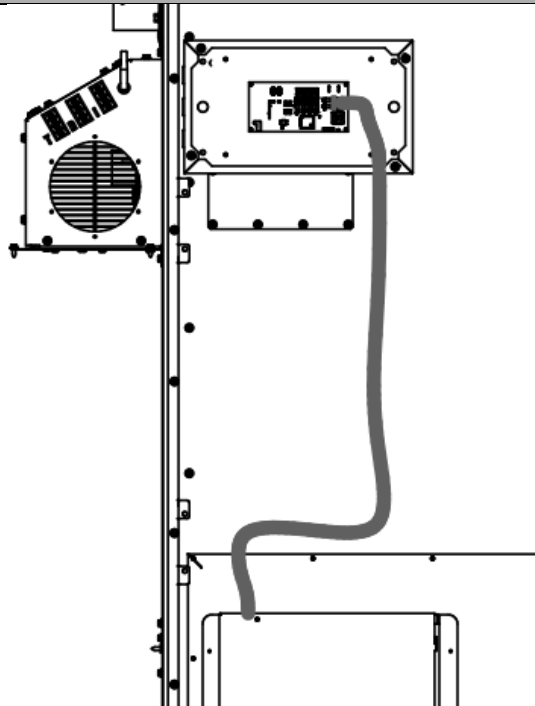
**WARNING: THE POWER SUPPLY TO THE ELECTRICAL UNIT MUST ALWAYS BE DISCONNECTED DURING INSTALLATION.**

**WARNING: FOLLOW LOCAL LAWS AND ELECTRICAL CODES WHEN INSTALLING AND CONNECTING THE UNIT.**

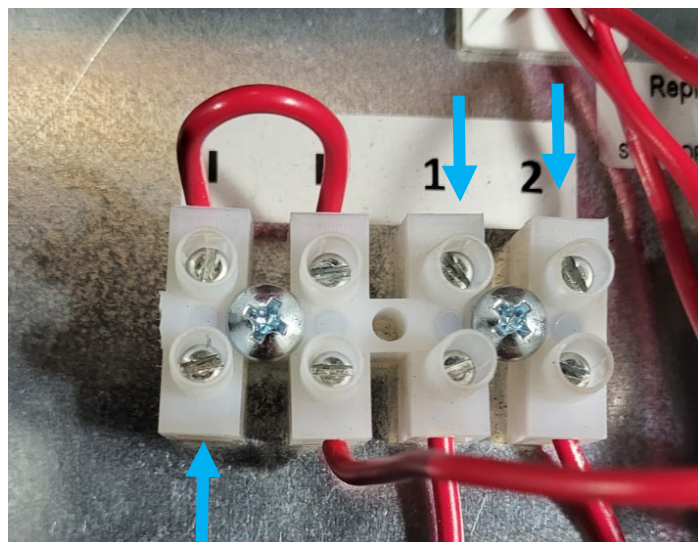
**WARNING: ENSURE THAT ALL CONTACTOR SCREWS ARE PROPERLY TIGHTENED DURING WIRING.**

**NOTE :** It is possible you have to cut the wires 60463 with PA01106 installed under the furnace.

1. Pass the 3 wires 60463 as shown.
2. Remove the knockout and insert a grommet.
3. Insert a cordgrip in the 0.875" holes. Slide the 3 wires inside the electrical unit.



4. Insert "**Com**" wire under "**I**" on the terminal block.
5. Insert "**Waux1**" wire under "**1**" on the terminal block.
6. Insert "**Waux2**" wire under "**2**" on the terminal block

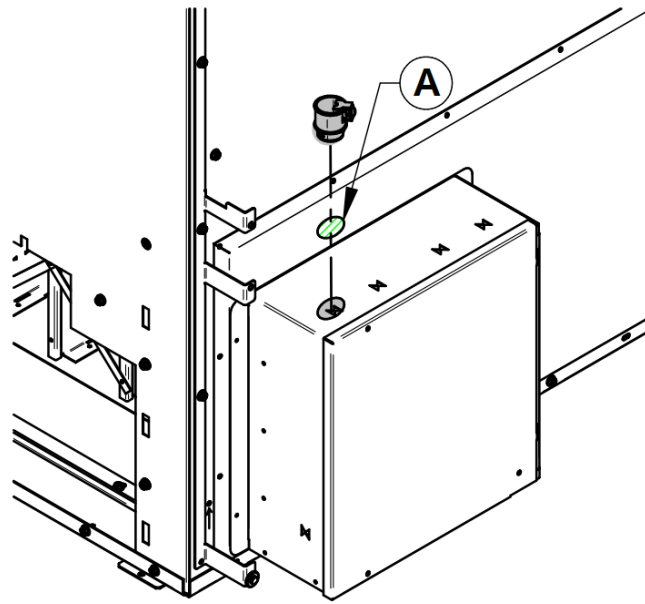


**DO NOTE :** It could be necessary to cut the exceeding wire length when the blower is installed at the rear of the furnace.

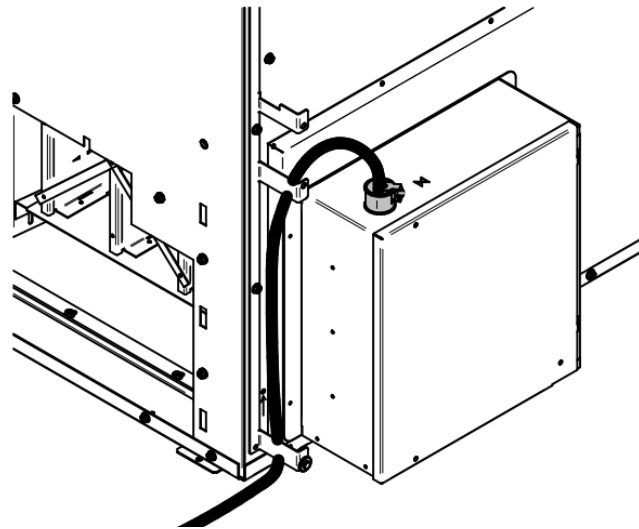
## 240V POWER

Respect the local legislation.

7. Remove the knockout from the electrical unit and insert an electrical box connector (not supplied).

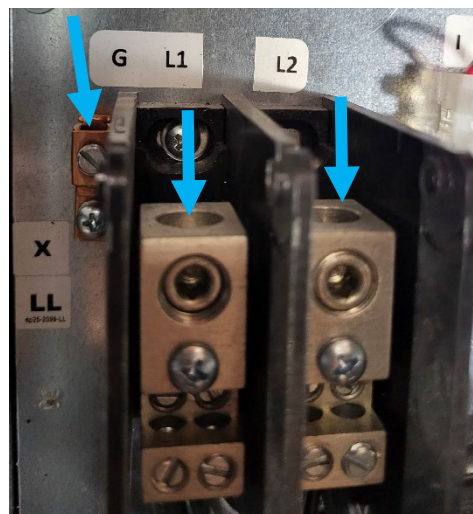


8. Run an electrical cable (not supplied) to supply the unit with 240 V single-phase power. Always respect local electrical code.

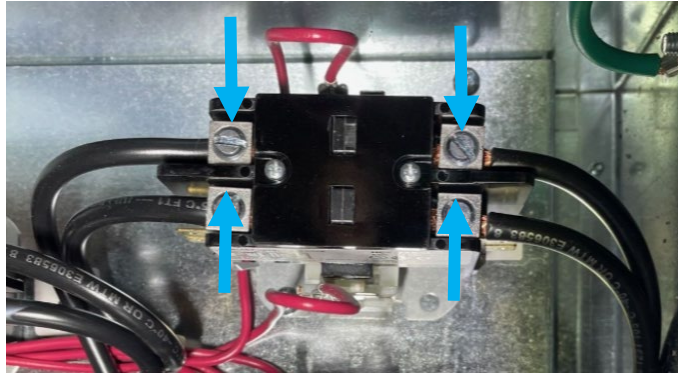


9. Open electrical unit panel. Connect the main power supply (240V AC) to terminals **L1**, **L2**, and **G** located on the inside of the unit.

**IMPORTANT: Verify that all screws are properly and securely tightened.**



10. Check all contactors and ensure that each screw is securely tightened.



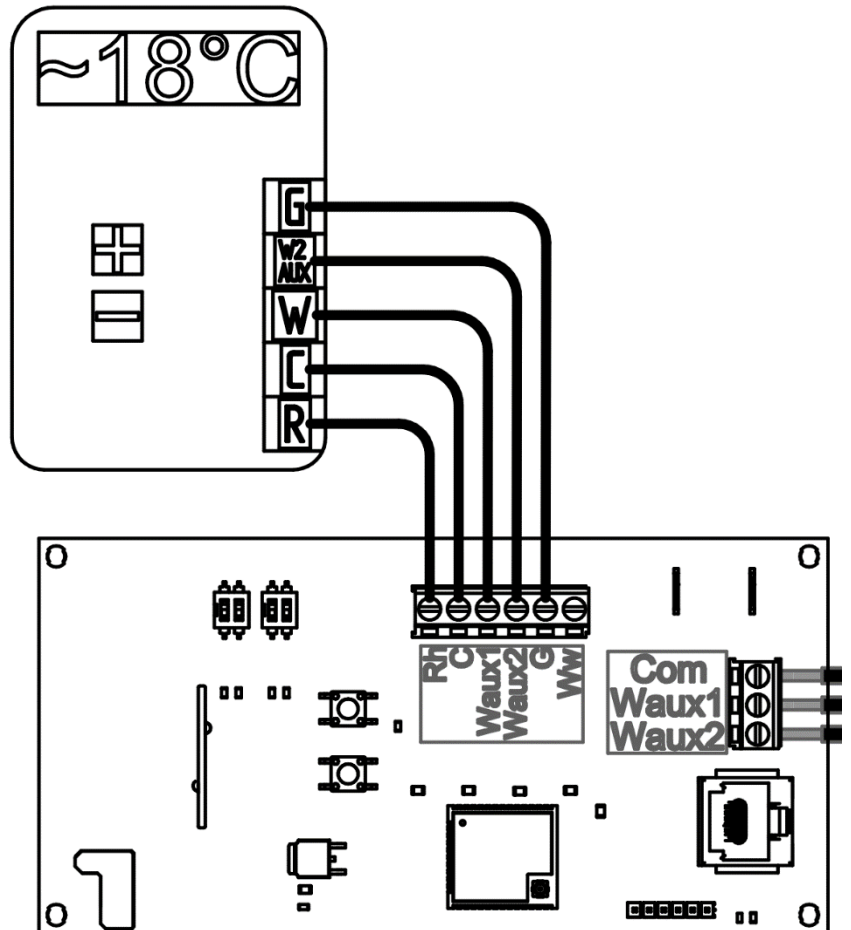
## 7. THERMOSTAT WIRING

1. Install the thermostat (**not supplied**) dedicated to the electrical unit at the determined location on your wall.

THERMOSTAT  
UNITE ÉLECTRIQUE  
ELECTRICAL UNIT

2. Then take a 4 or 5 strand thermostat wire (**not supplied with the accessory**) of the desired length and connect the thermostat to the electrical unit board.

- The « R » with “R”.
- “W” with “Waux1”.
- “W2/AUX”.with “Waux2”.
- And “G” with “G”.
- **Optional:** “C” with “C” if the thermostat is to be supplied with 24V.



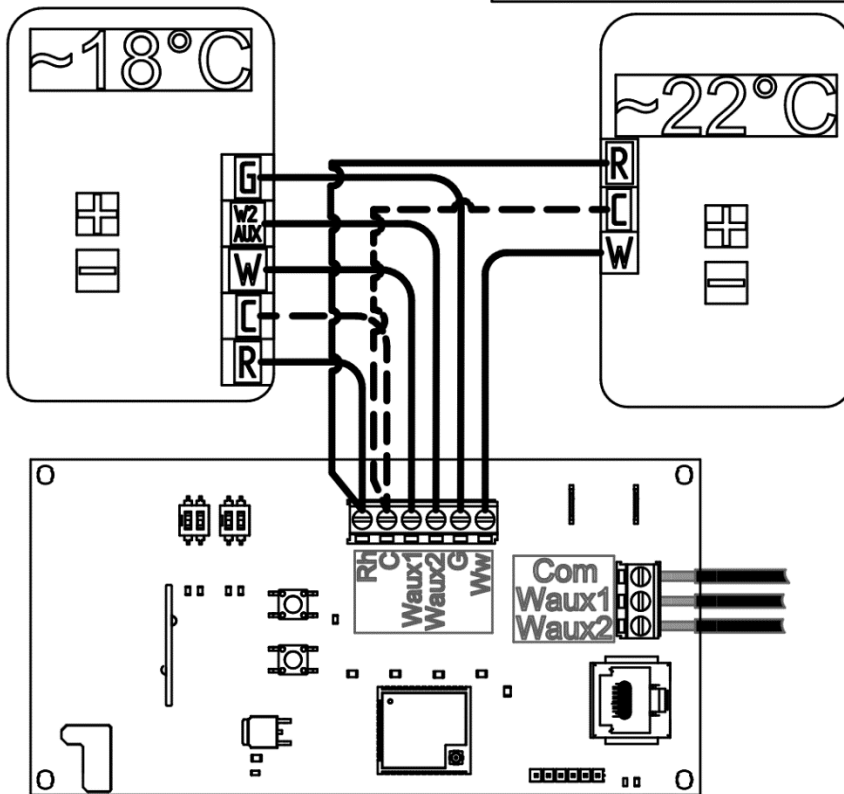
**CAUTION: IF A THERMOSTAT WAS PREVIOUSLY CONNECTED DIRECTLY TO THE FURNACE, IT MUST BE DISCONNECTED AND RECONNECTED AS SHOWN IN THE FOLLOWING INSTRUCTIONS.**

**Wiring of wood thermostat:**

3. Install the thermostat (**supplied**) for the wood furnace at the desired location on your wall.
4. Take a 2 or 3 strand thermostat wire (not supplied) and connect the thermostat to the electrical board.
  - The « R » with “R”.
  - “W” with “Ww”.
  - **Optional:** “C” with “C” if the thermostat is to be supplied with 24V.

THERMOSTAT  
UNITE ÉLECTRIQUE  
ELECTRICAL UNIT

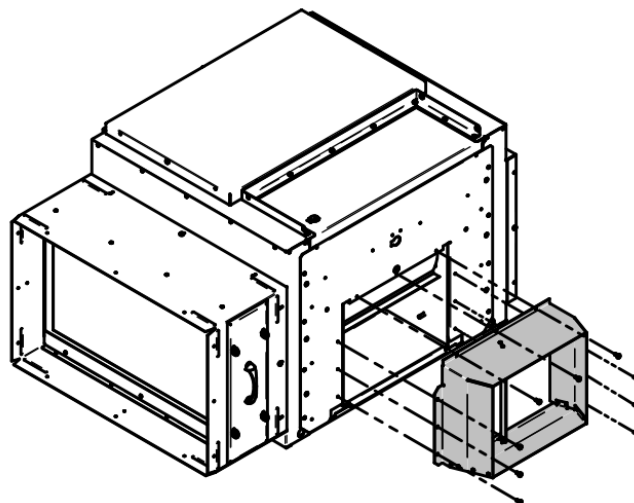
THERMOSTAT  
BOIS/WOOD



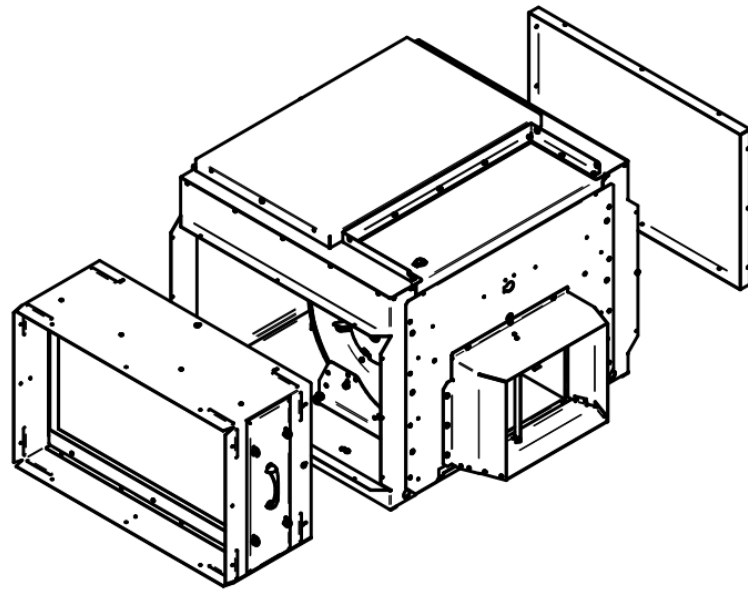
## 8. DEFLECTOR AND BLOWER HOUSING INSTALLATION

1. Install the electrical unit deflector on the blower housing using the 9 metal screws.

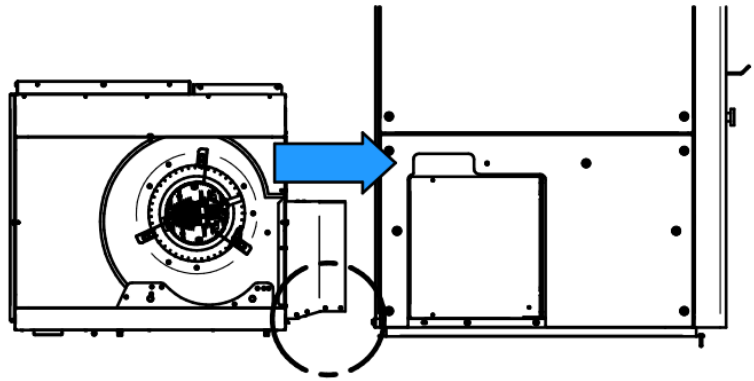
**\*NOTE:** The deflector can also be installed after the motor has been attached to the furnace. At this point, the electrical unit and its panel must be removed.



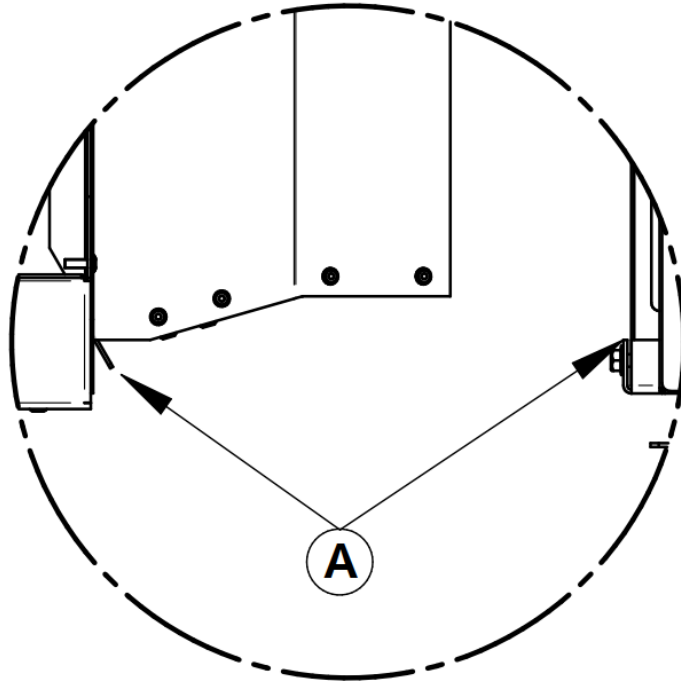
2. Remove the filter support and blower side panel so that the blower can be attached to the furnace.



3. Bring the blower up to the furnace and press it onto the furnace.

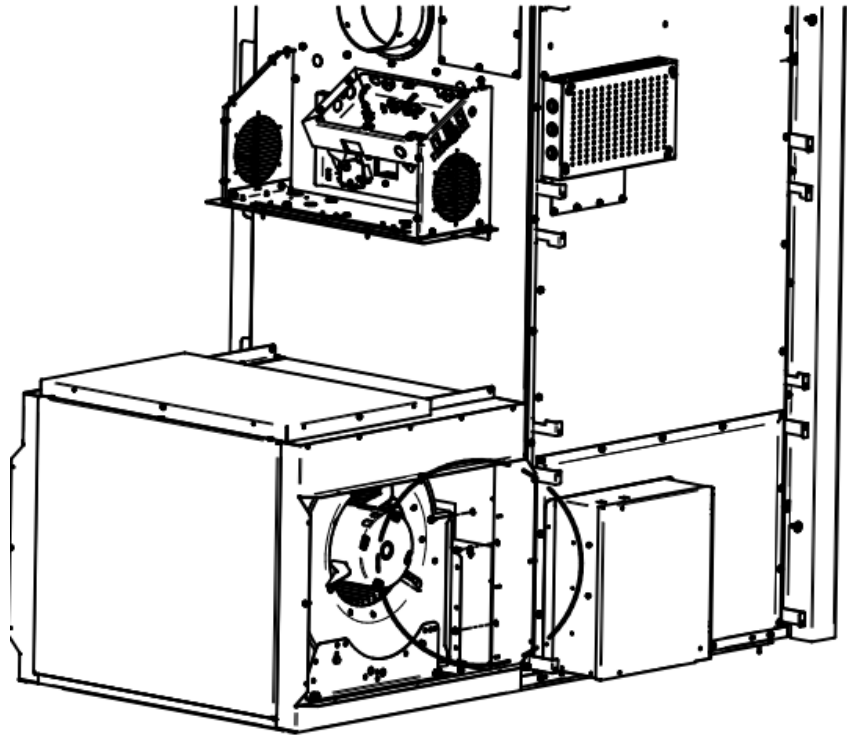


**IMPORTANT:** Make sure the metal lip of the blower fits over the edge of the furnace as shown (A).

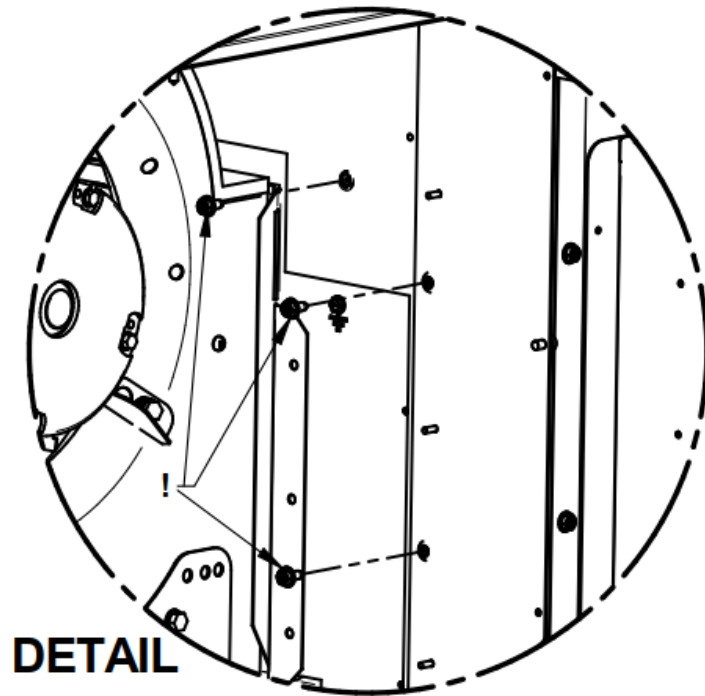


**DETAIL**

4. Secure the left side of the blower with 3 metal screws.

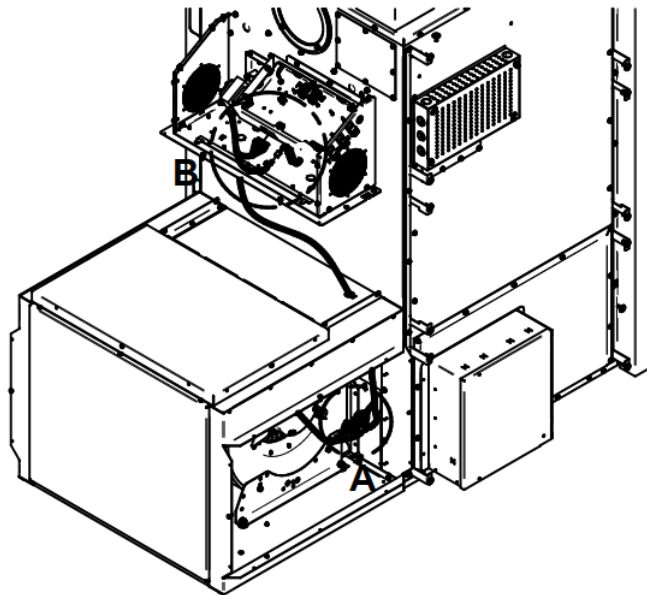


5. Then do the same to the right side.



6. Connect the motor to its extension cable using the 5-pole connector (supplied with the installation manual kit). **SEE DETAIL A.**

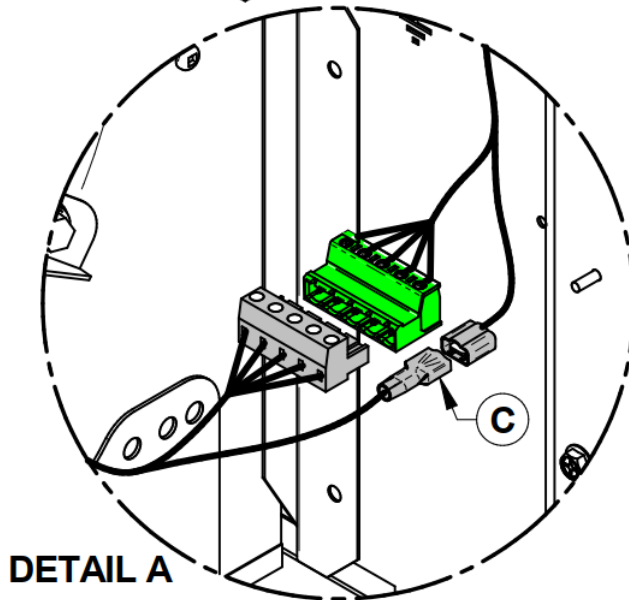
**NOTE :** For ECM motors, connect the black wire with 1/4" connector (C). **In the case of a PSC motor, do not connect the 1/4" connector.**



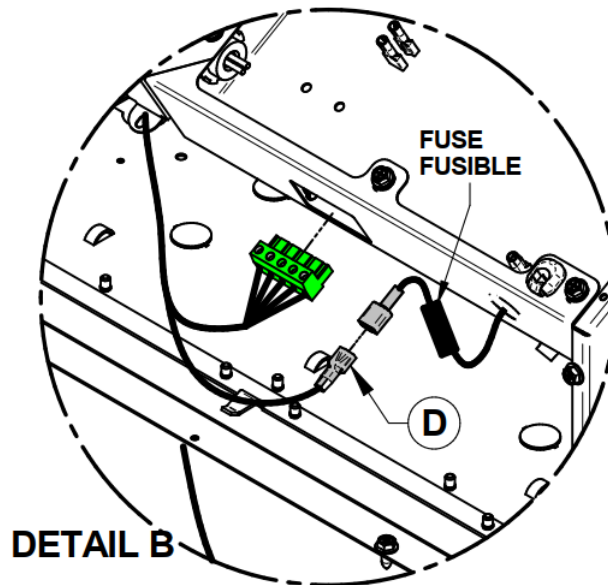
7. Connect the motor extension lead to the control board. **SEE DETAIL B.**

For an ECM motor, connect the wire with the 1/4" connector to the << Y >> wire connected to the 120V power supply (D). (This step might already be done)

**In the case of a PSC motor, do not connect the wire with the 1/4" connector (D)**



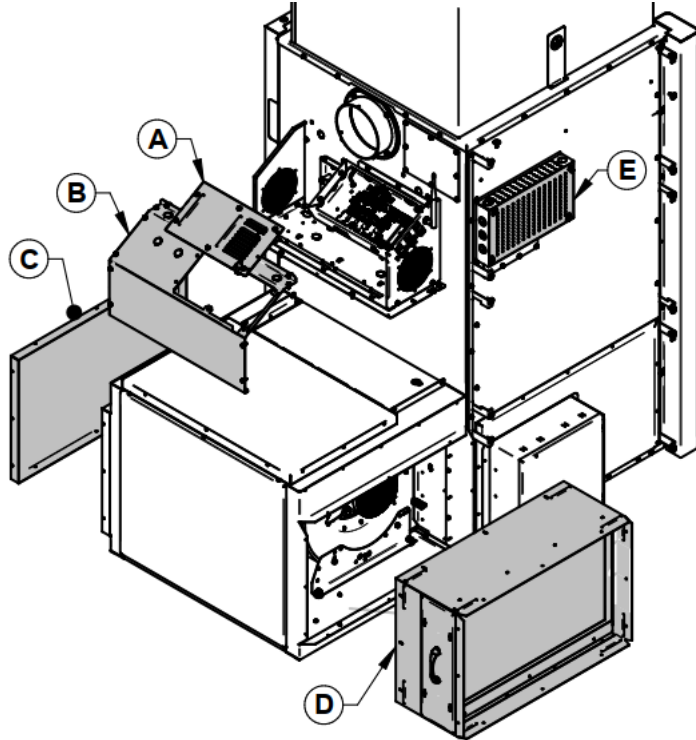
**DETAIL A**



**DETAIL B**

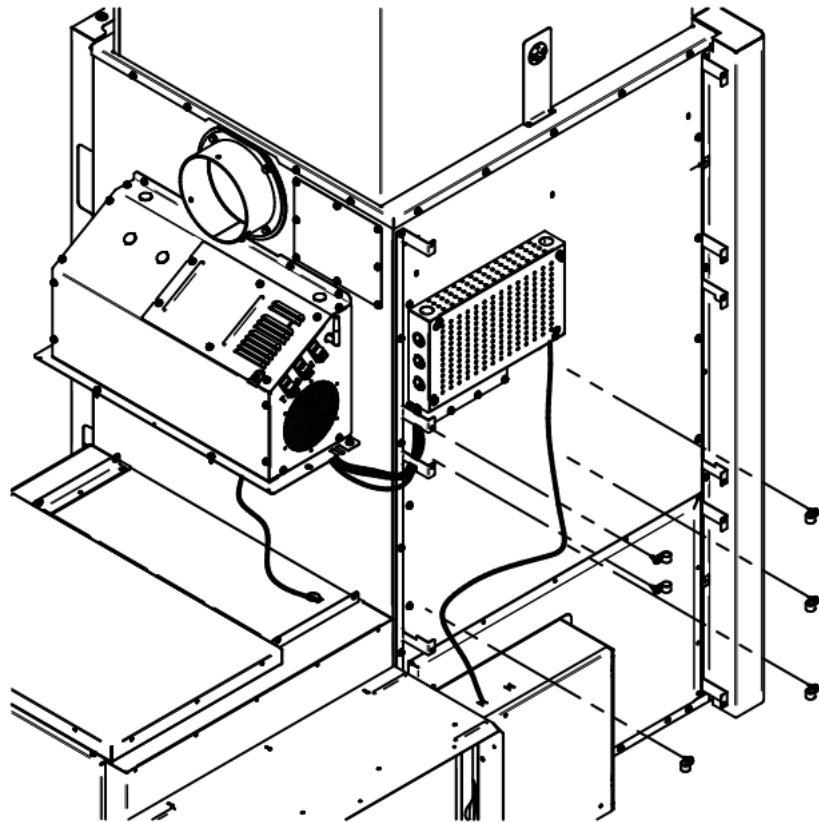
## 9. PUTTING BACK FURNACE COVERS

1. Replace the control board cover (A), motor cover (B), blower access panel (C), filter support (D) and electrical elements control board cover (E).

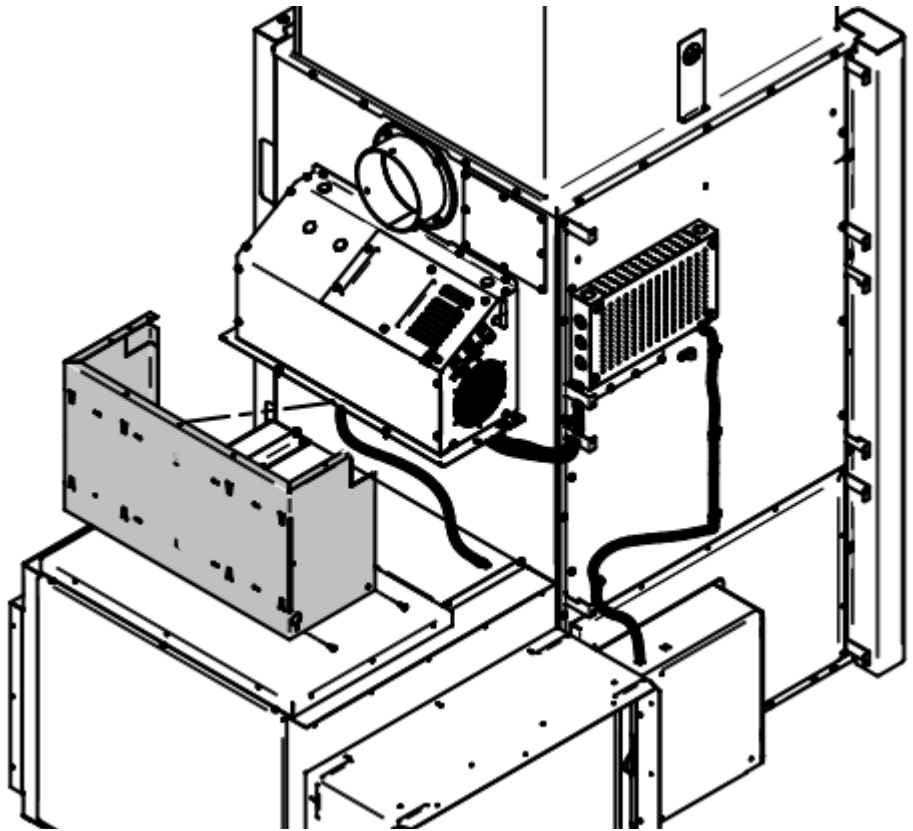


2. Screw the wire retainers 31389 to the side of the furnace jacket using self-drilling screws 30163

Recesses in the metal help position the screws (SEE PICTURE).

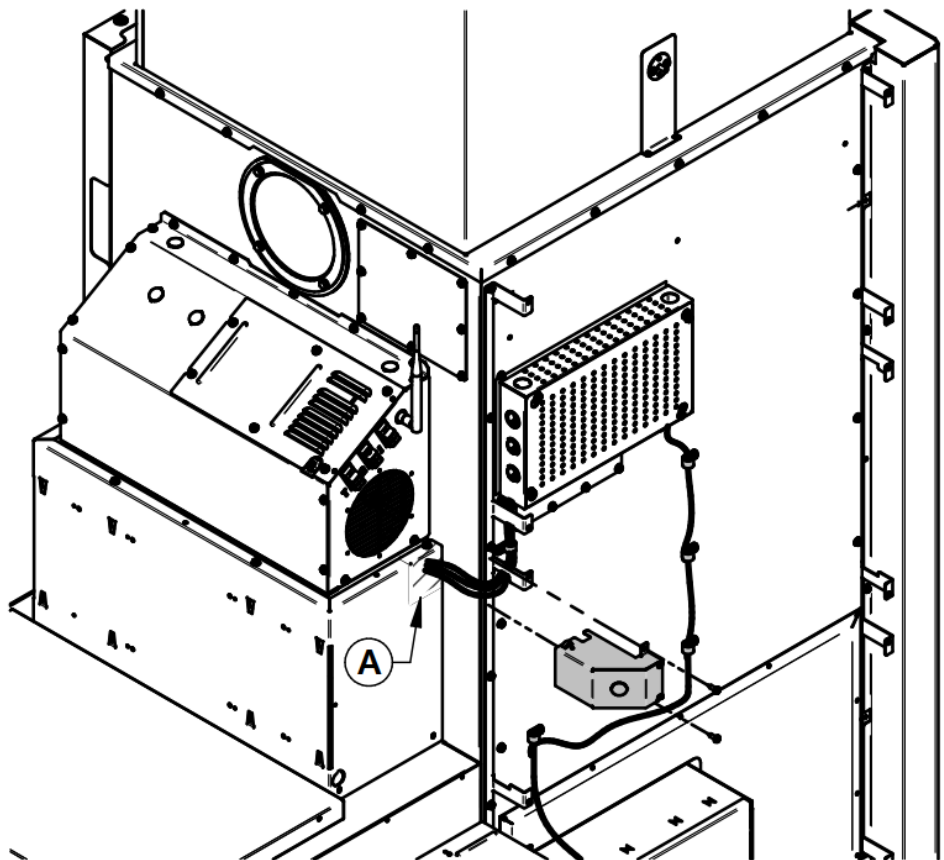


3. Replace wire cover and secure with 8 metal screws 31048.

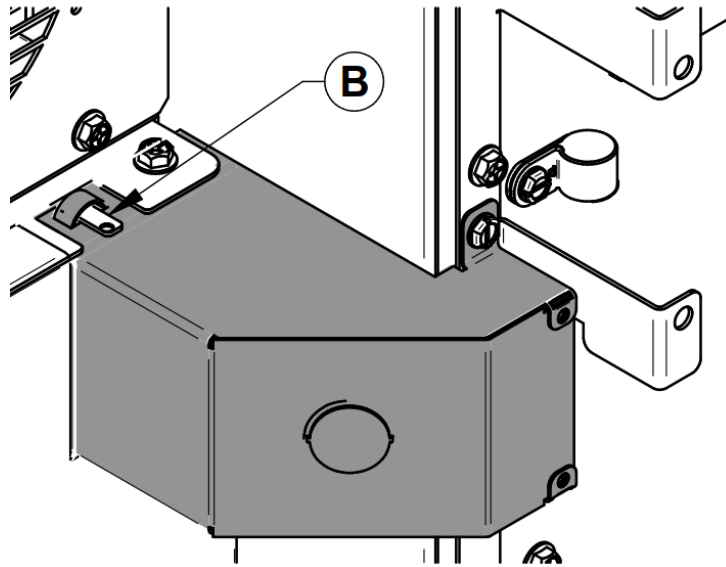


4. Use 2 self-drilling screws 30163 to secure the wire channel PL66355 at the rear to hide the wires.

**CAUTION: DO NOT PINCH WIRES!**  
Make sure the metal corner of the wire cover (A) is cut.

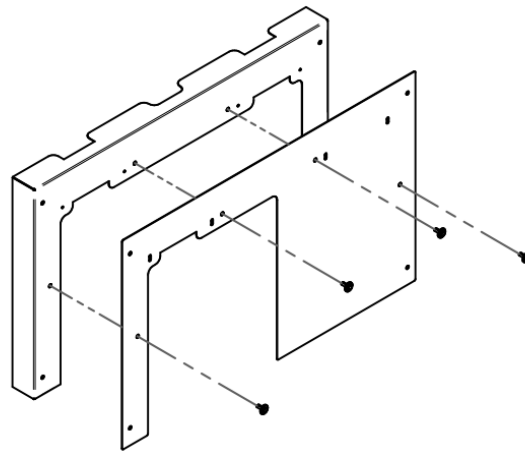


**NOTE:** The tab, as illustrated, is inserted below the "bridge" of the channel (B).

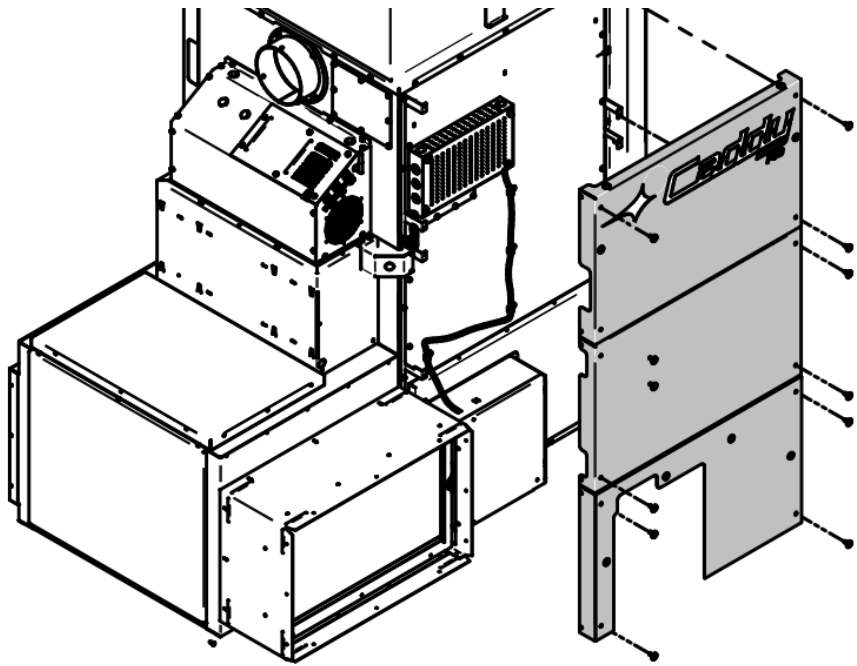


5. Take the bottom decorative panel PL66308 and frame supplied PL66307 with the accessory and secure them together using 4 plastic rivets 31366.

**The bottom panel supplied with the furnace can be recycled.**



6. Replace the 3 decorative panels and secure them with the plastic rivets.



## 10. BLOWER SPEED ADJUSTMENT

**IMPORTANT! Do not adjust blower speed unless required.**

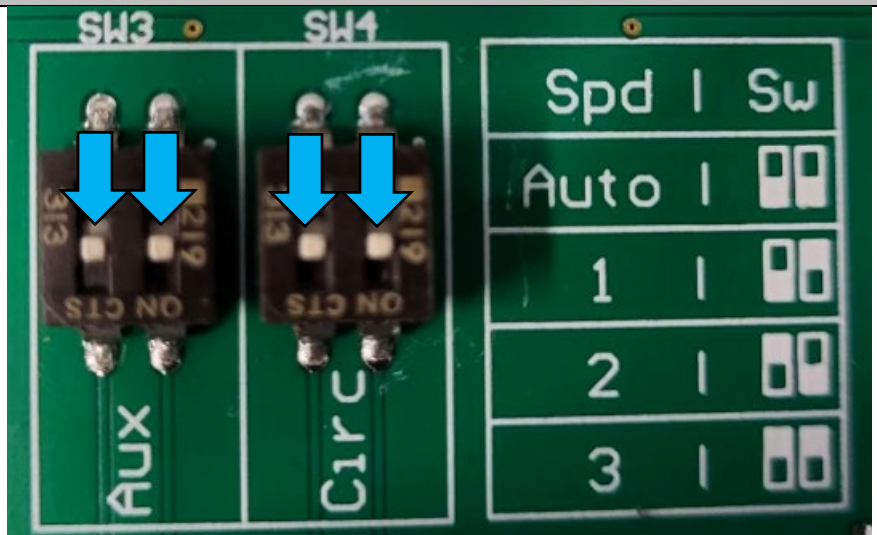
To adjust motor speed during heating, adjust the 2 small “Aux” switches. Refer to the “Spd | Sw” chart.

To adjust motor speed during thermostat airflow setpoint, adjust the 2 small “Circ” switches, referring to the “Spd | Sw” chart.

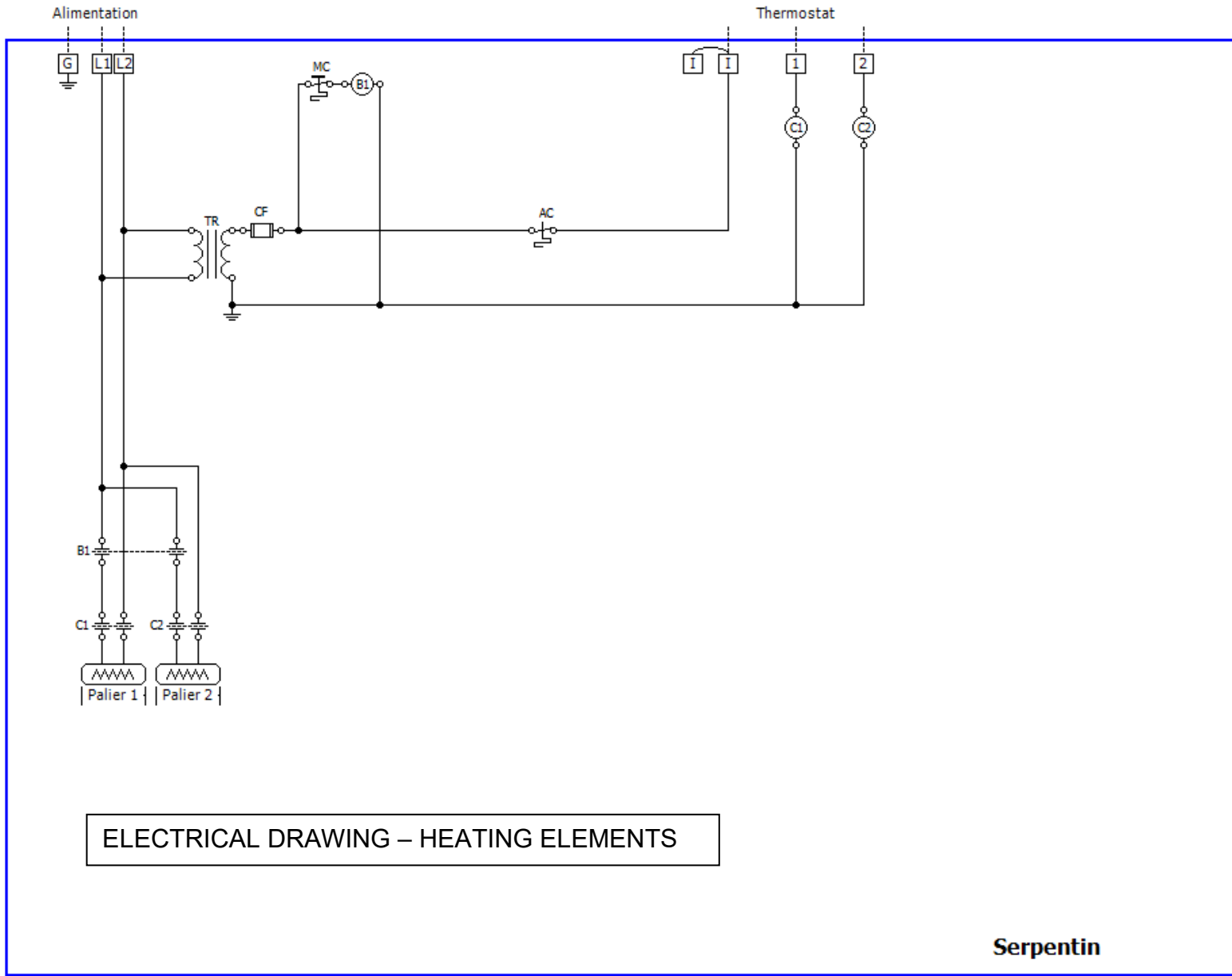
**PLEASE NOTE:**

The position of the switches is represented by the small “white” filled squares on the “Spd | Sw” chart.

**For example:** For “Auto”, the 2 small switches are **downwards**.



# 11. ELECTRICAL DIAGRAM FOR ELECTRICAL HEATING UNIT



- Légende**
- AC - Protection Automatique
  - MC - Protection Manuelle
  - Bobine Contacteur
  - Contacteur Secondaire
  - Élément Chauffant
  - TR - Transformateur
  - Contact(N.O.) Normal. ouvert
  - Fusible

ELECTRICAL DRAWING – HEATING ELEMENTS

Serpentin

**AVERTISSEMENT:**  
Déconnecter l'alimentation avant de travailler sur l'appareil.

**IMPORTANT:**  
Suivre les codes électriques pour connecter l'appareil. Employer des fils de cuivre pour un minimum de 105C.

**NOTE:**  
Tout ce qui est en dehors du cadre est un filage fait par autres.