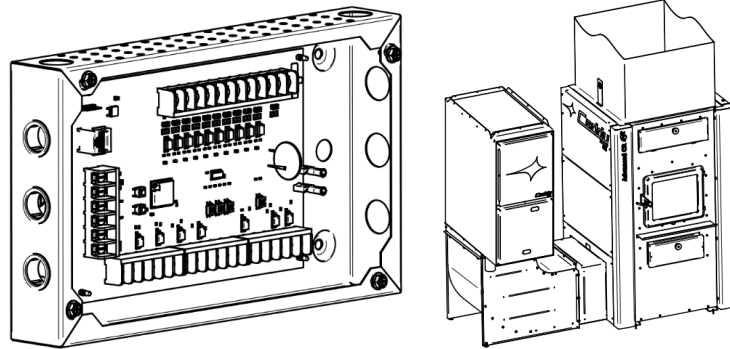




ASSEMBLY INSTRUCTIONS FOR CONTROL UNIT AND OPTIONAL ADD-ON MODULES PA03060 CADDY ADVANCED CR FURNACE



WARNING: THE CADDY ADVANCED CR FURNACE MUST BE COUPLED WITH A GAS FURNACE FROM A BRAND & MODEL RECOMMENDED BY PSG (SEE MANUAL)

WARNING: ELECTRICAL WIRING MUST BE DONE IN ACCORDANCE WITH LOCAL ELECTRIC CODE BY A LICENSED PROFESSIONAL.

WARNING: IN A HEATPUMP/AC SETUP, WITH A COIL IN THE COLD AIR RETURN, IT IS POSSIBLE THAT A CONDENSATION BUILDUP OCCURS IN THE COMBUSTION CHAMBER, HEAT EXCHANGER AND AROUND THE FURNACE. THE WARRANTY DOES NOT COVER RUST IN THIS TYPE OF SETUP.

WARNING: IN A HEATPUMP/AC SETUP, NEVER PUT THE COIL IN WOOD BURNING PLENUM, USE A BYPASS PLENUM. SBI IS NOT RESPONSIBLE FOR THE DAMAGES IF NOT RESPECTED

WARNING: IN A ADD-ON SETUP, THE PA08523 – WIRING KIT MUST BE INSTALLED. SBI IS NOT RESPONSIBLE FOR THE DAMAGES IF NOT RESPECTED

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



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

PSG

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

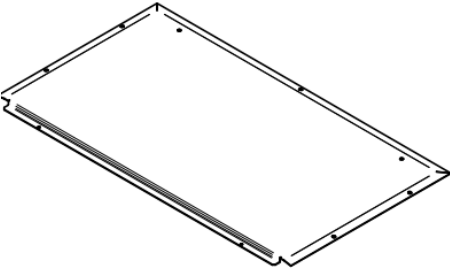
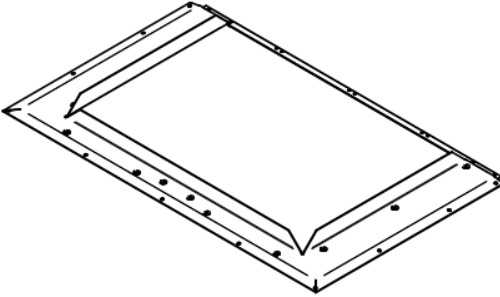
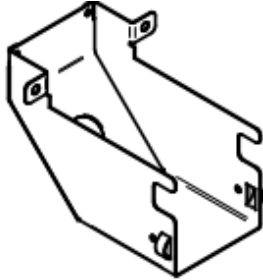
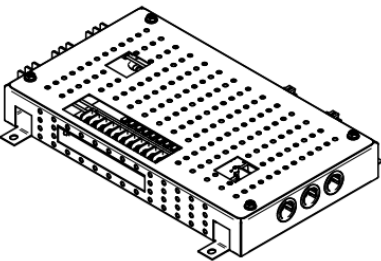
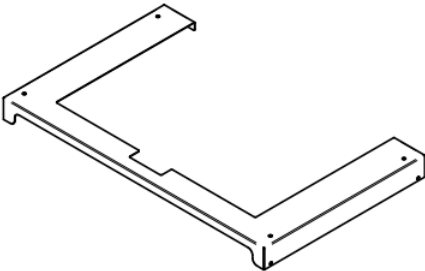
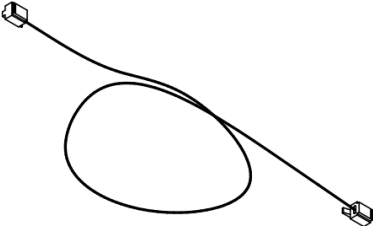
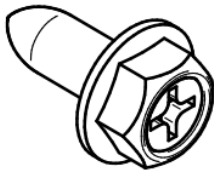
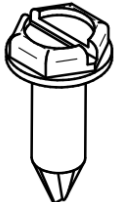
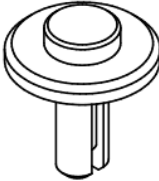
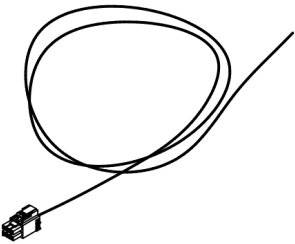
1. Introduction

Your Caddy Advanced CR furnace can be fitted with the add-on control unit kit. This option allows the installation of multiple accessories for unparalleled heating and comfort. This option allows you to connect:

- A gas furnace (PSG-recommended model only)
- A heat pump and its dampers
- A humidifier
- An electric heating element (PA01106)

The installation must be done by a qualified professional.

2. Kit Content

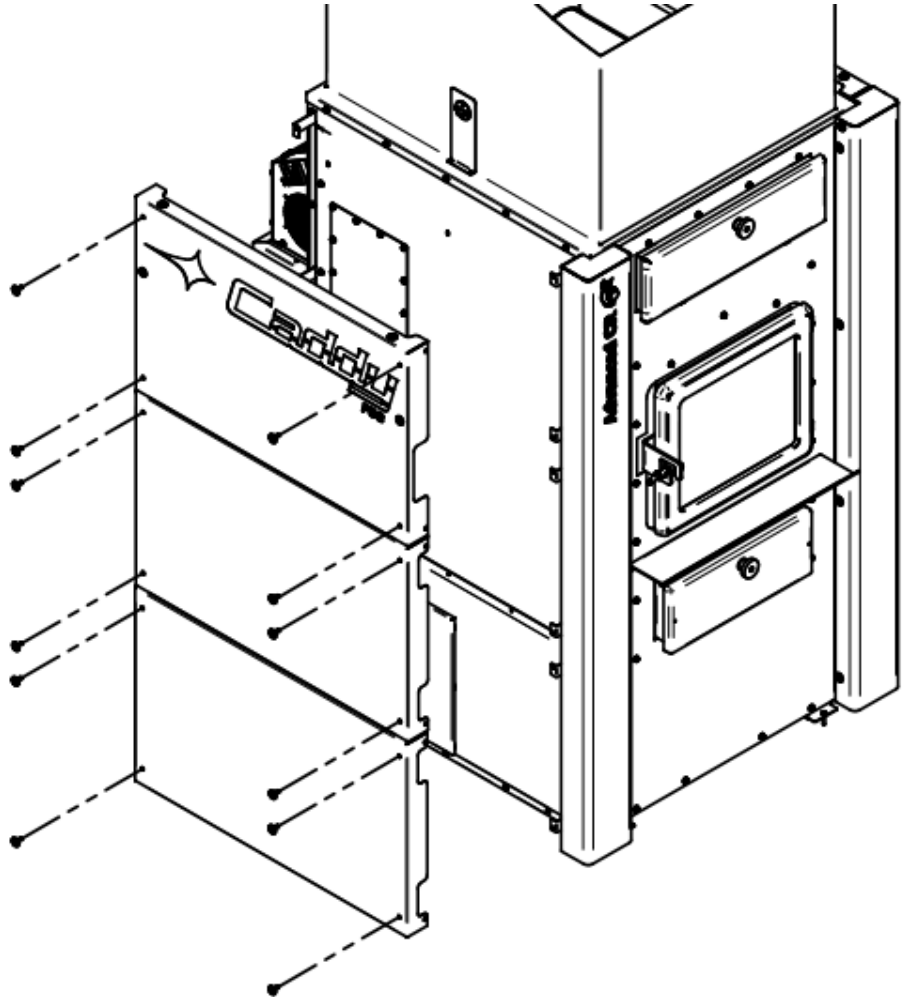
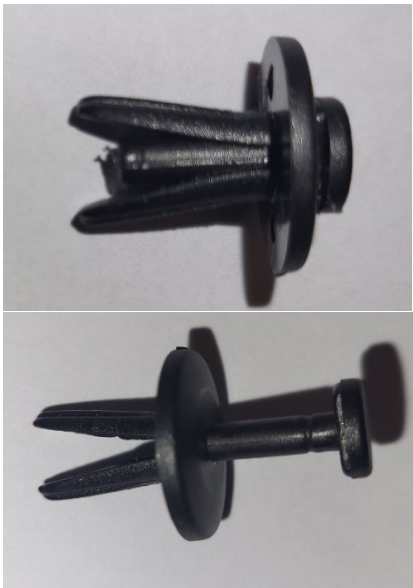
		
PL66310 – Jacket plug (1x)	PL66370 – Lateral plug (1x)	PL66355 – Wire channel (1x)
		
SE66322 – Link Card box (1x)	PL66367 – Decorative panel (1x)	31389 – Wire clip (6x)
		
60462 – Ethernet cable (1x)	31048 – Metal screw (25x)	30163 – self-tapping screw (10)
		
60024 – Wire with 1/4" quick connect (2x)	31366 – Plastic rivet (5x)	60473 – Gas furnace harness (1x)

3. Installation of the electronic link board

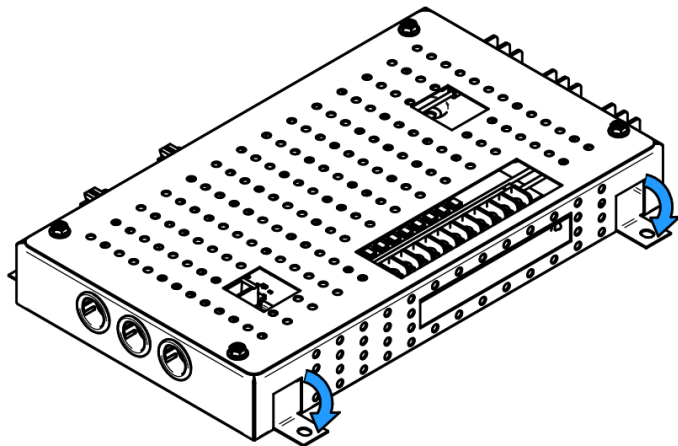
For simplicity reasons, only the left side installation of the gas furnace is shown. Right side installation is also possible.

1. Remove the desired side, bottom decorative panel, by removing its 4 plastic rivets. Use a flathead screwdriver to pry the rivet head away from the washer. **See photos below.**

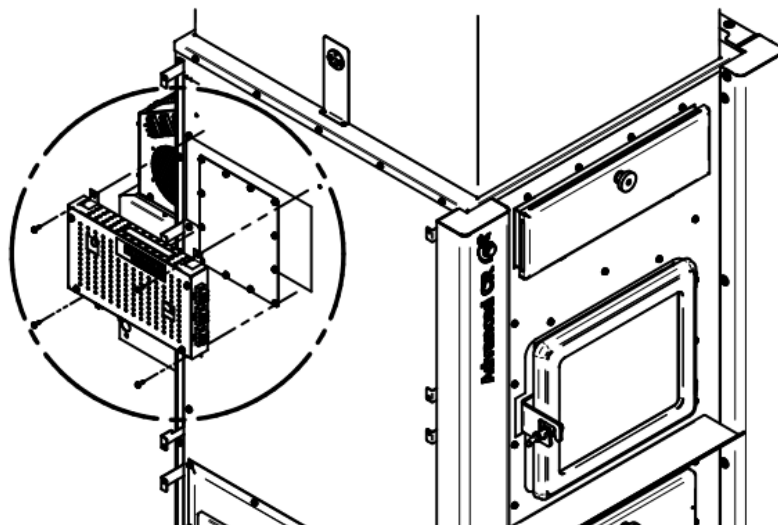
Keep the plastic rivets



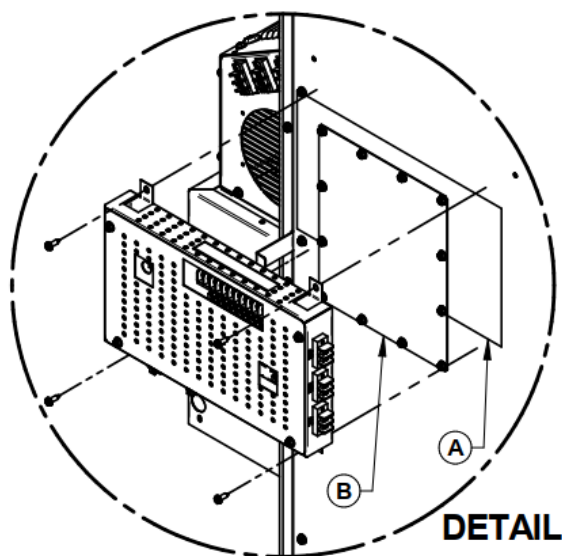
2. With a screwdriver, unfold the 4 tabs of the link card box SE66322.



3. Use 4 self-tapping screws 30163 to secure the link card box on the metal jacket. **A rectangle marking (A)** on the metal helps position the board housing.

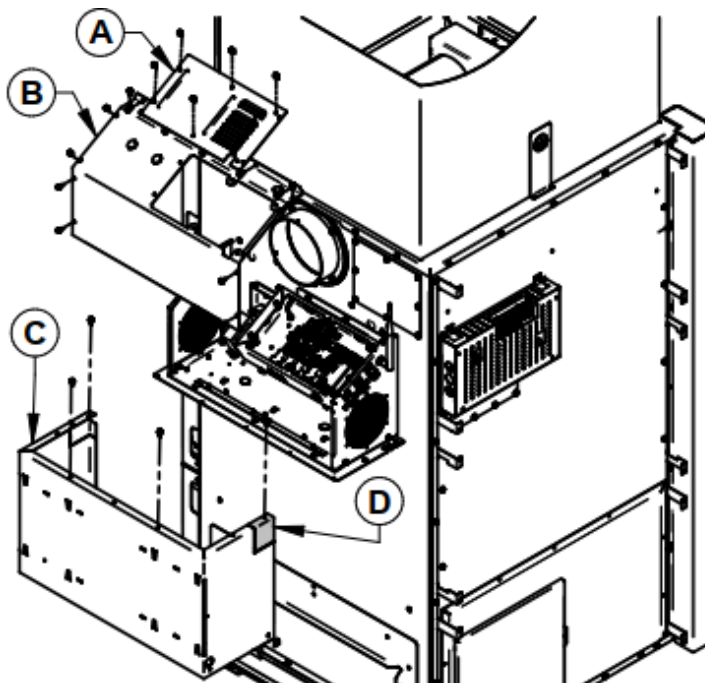


WARNING: For an installation on the **left of the furnace**, it is normal the link card box goes over the thermocouple access plate. **(B)**



4. Remove the control board cover **(A)** and the fresh air cover **(B)**. Keep the metal screws for later.

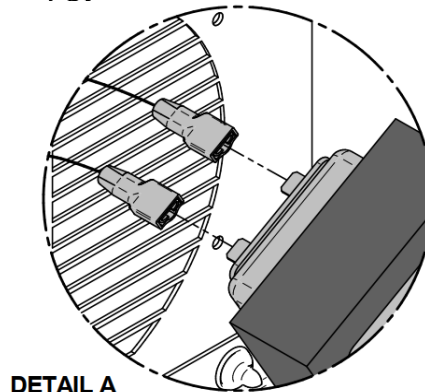
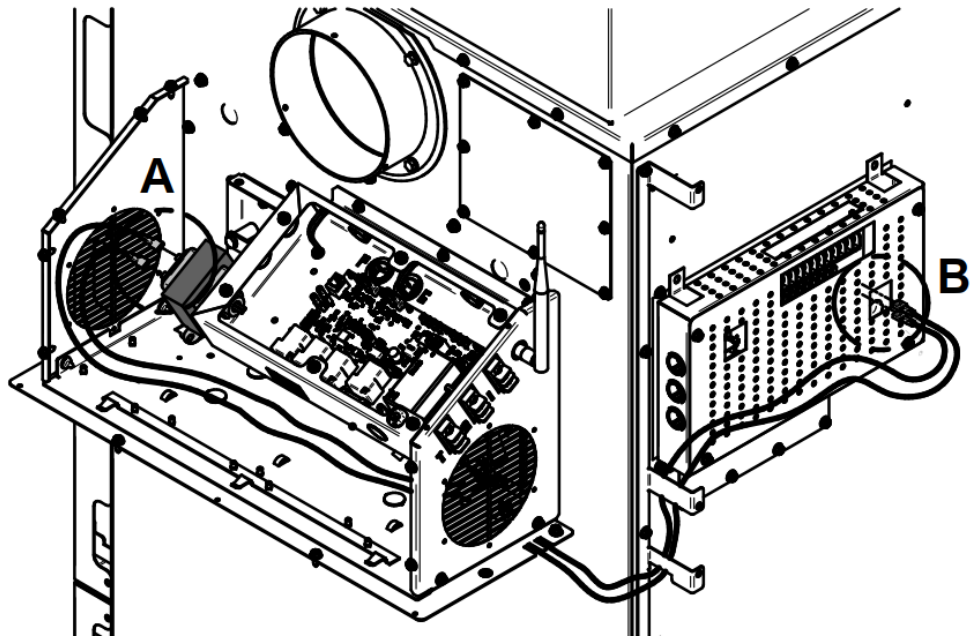
5. Remove the wire cover **(C)**. On the side the furnace is installed, with the help of metal snips, remove the corner of the wire cover. See **(D)**.



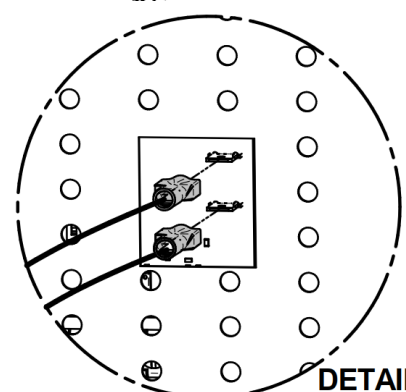
6. Connect the transformer to the link board using the 2 wires with 1/4" connectors, 60024.

7. Place wires 60024 as shown.

See **DETAIL views A & B** for details.



DETAIL A

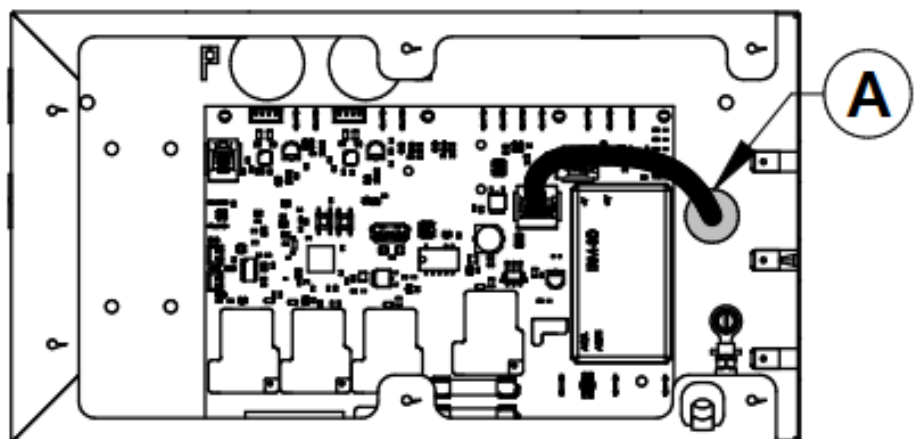


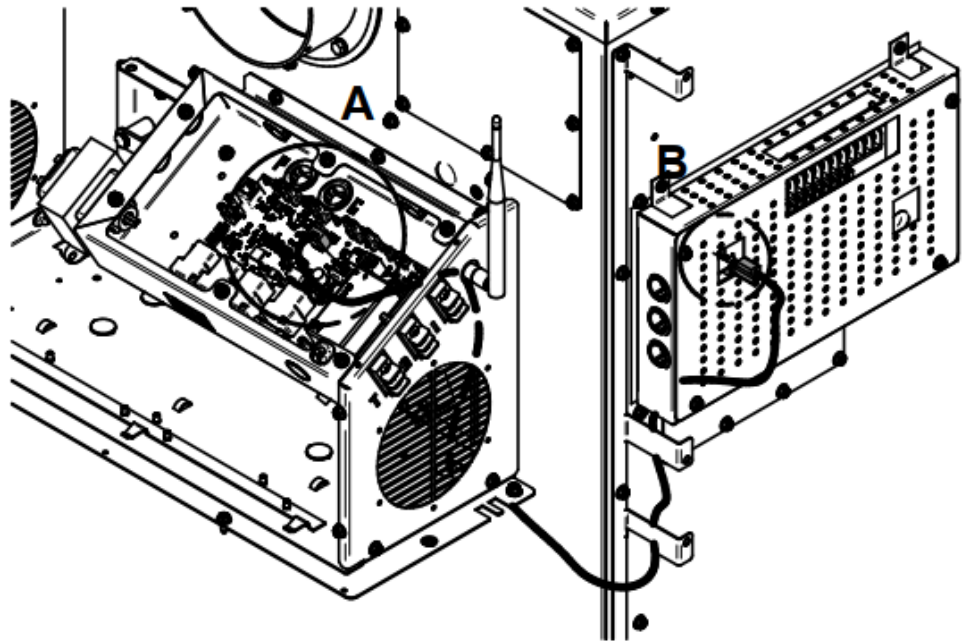
DETAIL B

8. Remove the knock-out right next to the control card (**A**).

9. Put a 7/8" grommet into the hole.

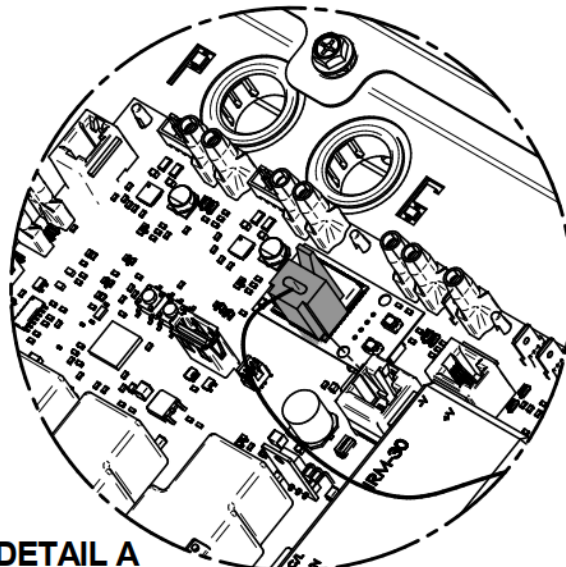
10. Plug the ethernet cable 60462 into its connector and pass it through the knock-out hole (**A**).



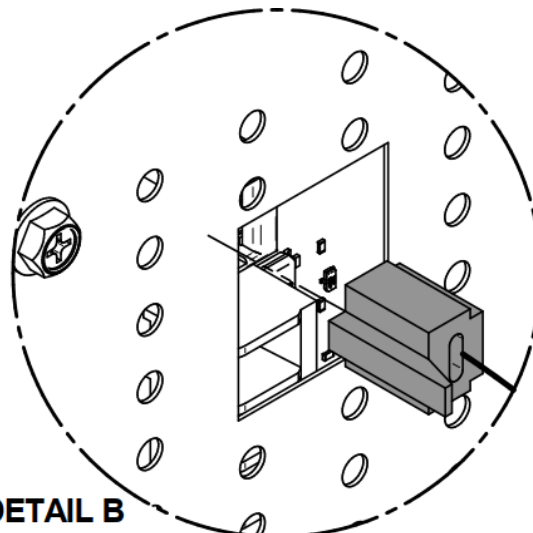


11. Run the ethernet cable 60462 between the furnace main circuit board and the link board.

Run the cable as shown.

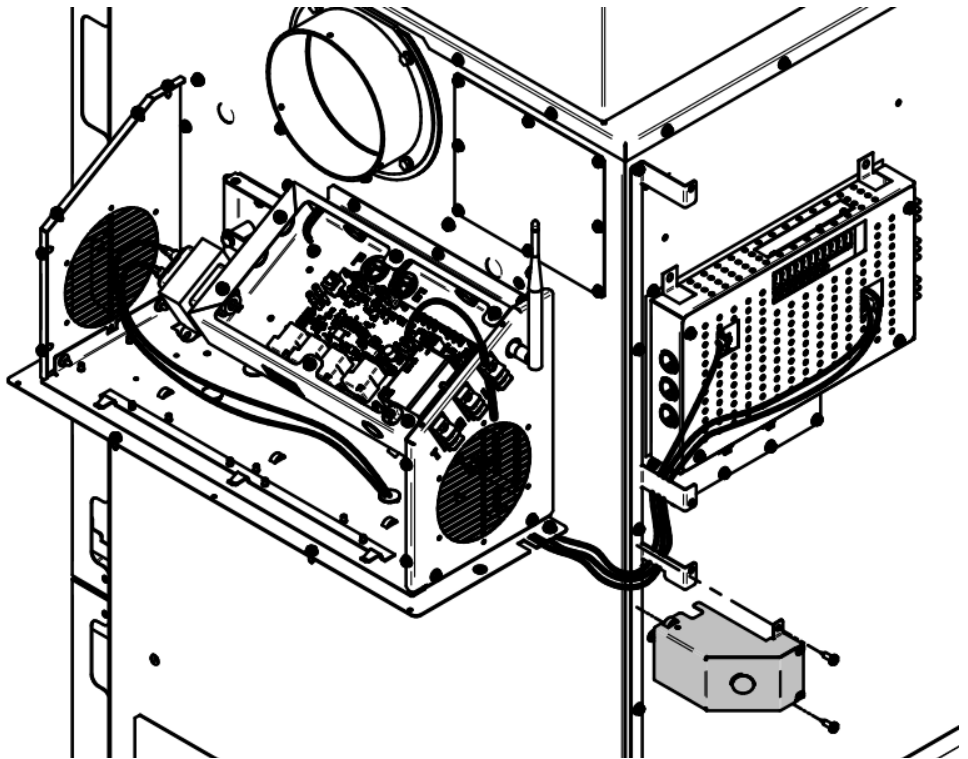


DETAIL A



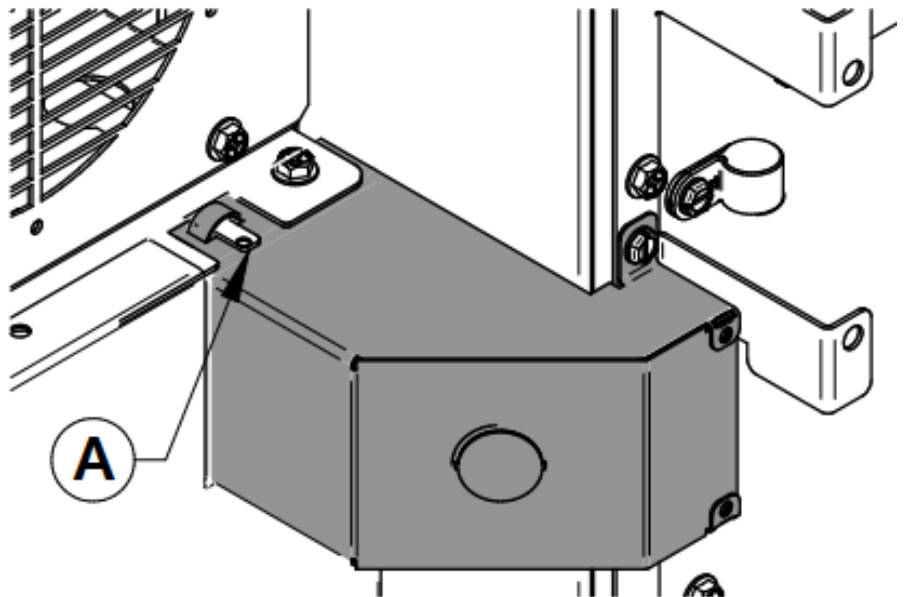
DETAIL B

12. Use 2 self-tapping screws 30163 to secure the wire channel PL66355 at the back so as to hide the wires.



13. The tab, as illustrated below, is inserted below the "bridge" of the wire channel (A).

WARNING:
IMPORTANT: DO NOT
PINCH THE WIRES.



4. Gas furnace installation with Caddy Advanced CR

Here is the list of gas furnaces that can be installed in series with the Caddy Advanced CR furnace. PSG cannot be held responsible if the customer chooses another brand and model of furnace. The 3 Brands and their models are:

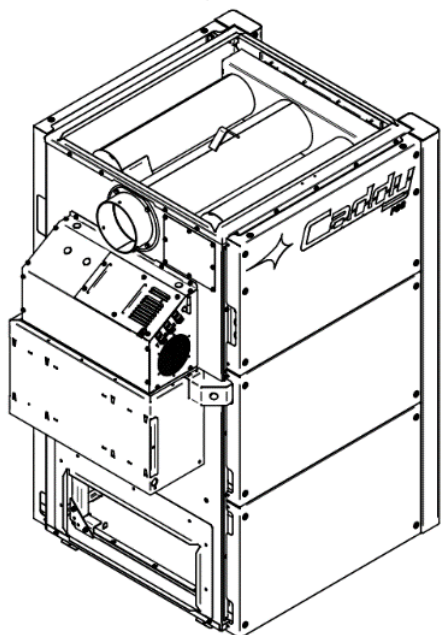
Brand	Series	Model	BTU/hr	Motor
Napoleon	Série 9600	**WPV070T4BA-N	70 000	3/4 HP
		WPV090T5BA-N	88 000	1 HP
		WPV105T5BA-N	105 000	1 HP
Continental	C96	**WPV070T4BA-C	70 000	3/4 HP
		WPV090T5BA-C	88 000	1 HP
		WPV105T5BA-C	105 000	1 HP
Dettson	Chinook	**C60-2-V	60 000	3/4 HP
		C75-2-V	75 000	3/4 HP
		C105-2-V	105 000	1 HP

****** The models shown are those preferred for installation with the Caddy Advanced CR.

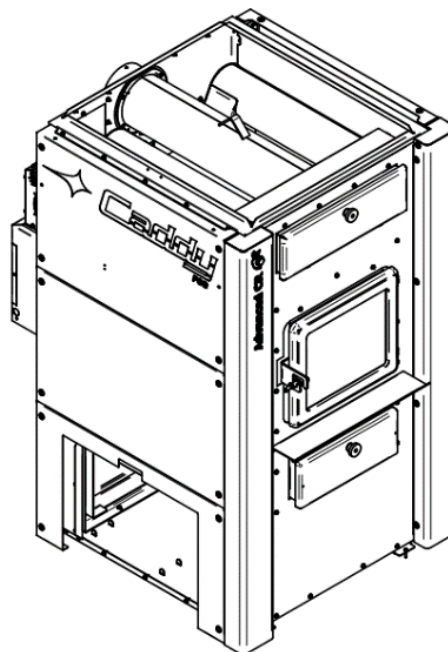
Installation in series of a gas furnace with the Caddy Advanced CR should always be done in accordance with the Caddy Advanced CR installation instructions. Failure to do so may result in damage to the furnace and its immediate environment. PSG accepts no responsibility in this eventuality.

To take up as little space as possible, we strongly recommend installing the furnace with downflow. The following illustration shows:

POSSIBLE INSTALLATIONS OF A GAS FURNACE WITH THE CADDY ADVANCED CR



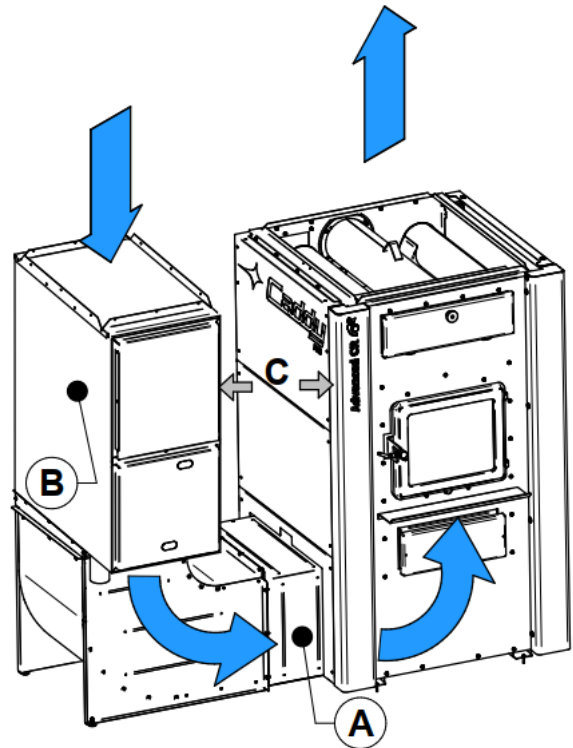
REAR INSTALLATION



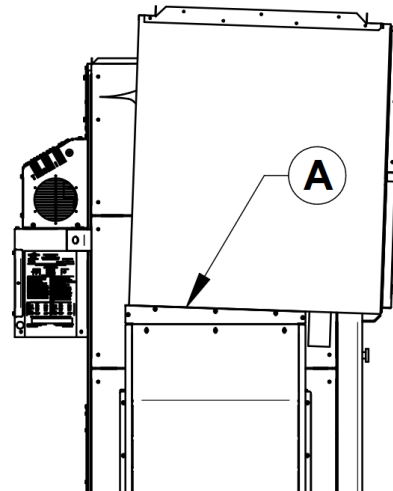
SIDE INSTALLATION (RIGHT SIDE INSTALLATION IS ALSO POSSIBLE)

IMPORTANT NOTES BEFORE STARTING ASSEMBLY

- The gas furnace connected as standard to the Advanced CR, blows into the latter. **SEE « A ».**
- The gas furnace is in the downflow position. **SEE “B”**
- **IMPORTANT: Clearance must be maintained between the gas furnace and the Caddy Advanced CR side panels to allow servicing of the thermocouples and access to the electronic link board. SEE “C”. (MINIMUM 20 in / 50cm)**



- The gas furnace will often have to be tilted (A) forward to allow condensation to drain away. Please refer to the gas furnace instructions in this regard.
- Refer to the manufacturer instruction manual to that effect



IMPORTANT: When installing with a gas furnace recommended by PSG, make sure the switches of the link board are in the **"Gas" position**.

The position of the switches is represented by the small **white filled square** on the **"Aux | Sw"** board.

In this case, the 2 small switches should be pressed **down**.



SERIAL ADD-ON CONNECTION TO THE **REAR** OF THE CADDY ADVANCED CR WITH A GAS FURNACE

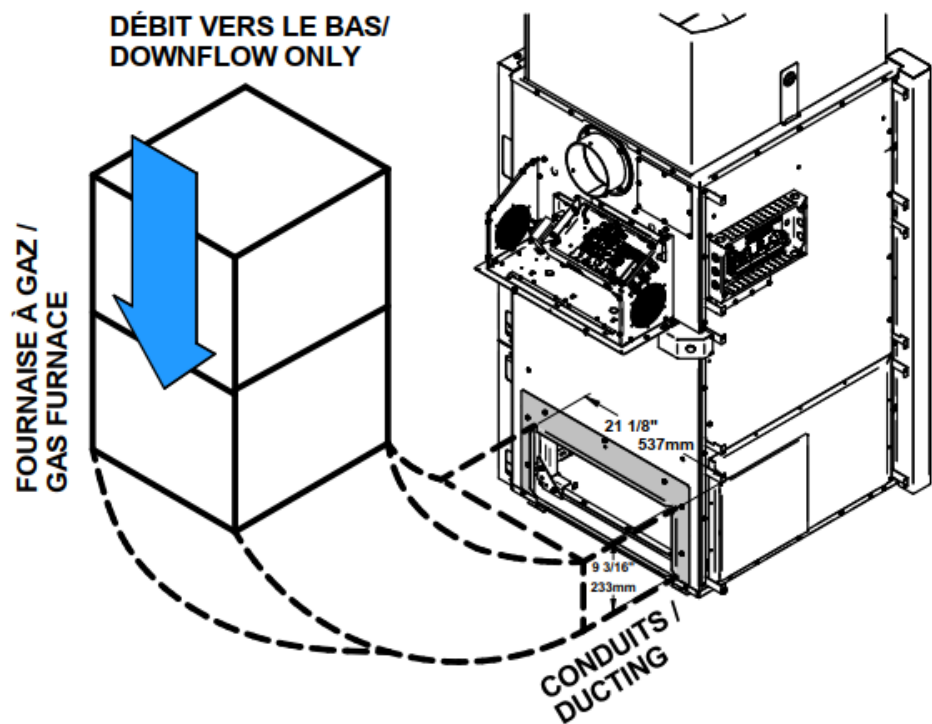
In the case of a serial add-on connection with a gas furnace at the rear of the Caddy Advanced CR, simply fit the ducts to the rear adapter.

CAUTION:

Make sure that the gas furnace can be installed with downflow.

FAILURE TO DO SO MAY RESULT IN DAMAGES TO THE APPLIANCES.

NOTE: The duct connecting to the Caddy Advanced CR must be 21 1/4" x 9 5/16" interior.

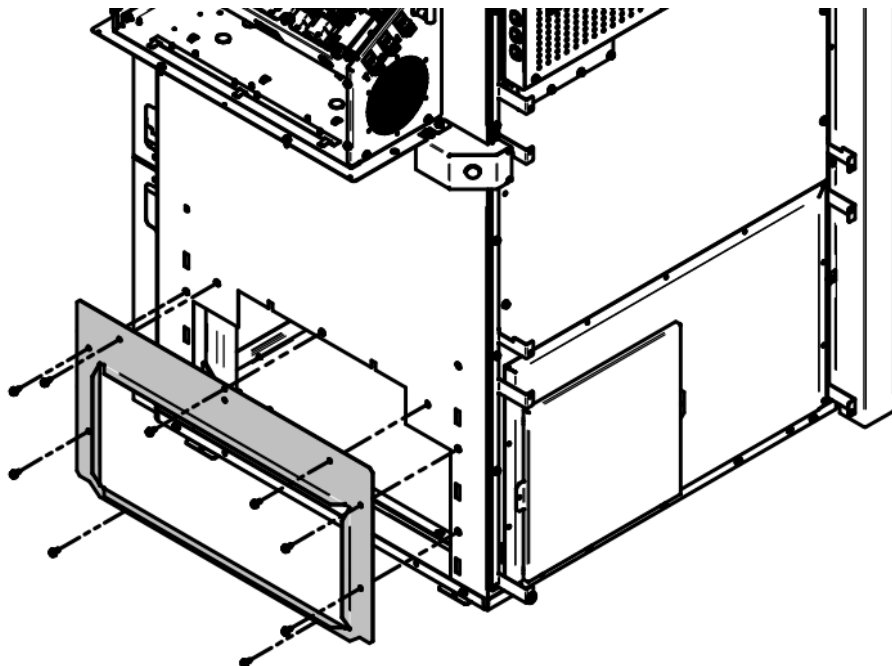


SERIAL ADD-ON CONNECTION WITH A GAS FURNACE TO **THE SIDE** OF THE CADDY ADVANCED CR

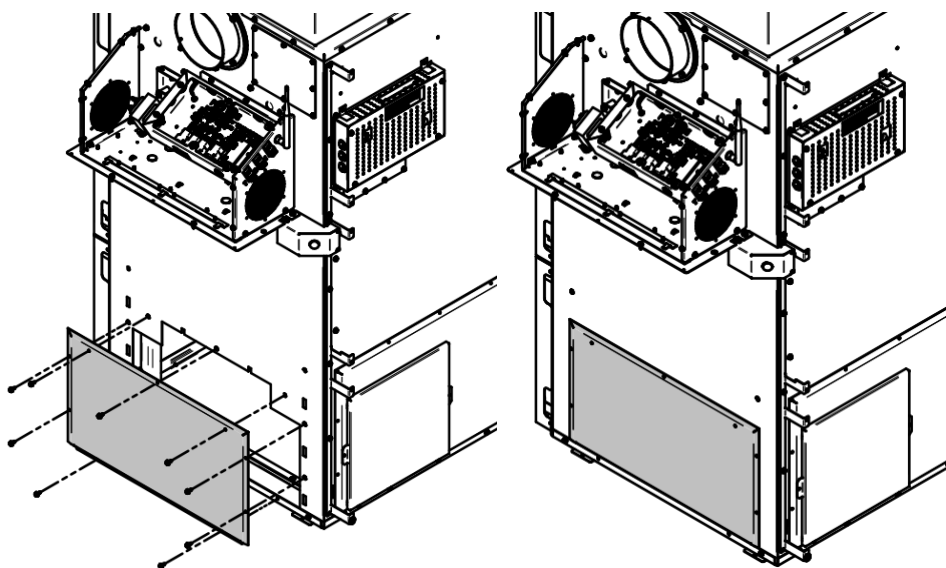
WARNING: INSTALLATION ON THE SIDE OF THE FURNACE IS DONE WITH THE ANGLED SUPPORT PA08555, THE CONDUIT EXTENSION PA08589 AND THE CORRESPONDING CONNEXION PLATE TO THE GAS FURNACE.

1. Unscrew the furnace rear adapter. **The adapter can now be recycled.**

Set aside the metal screws 31048.



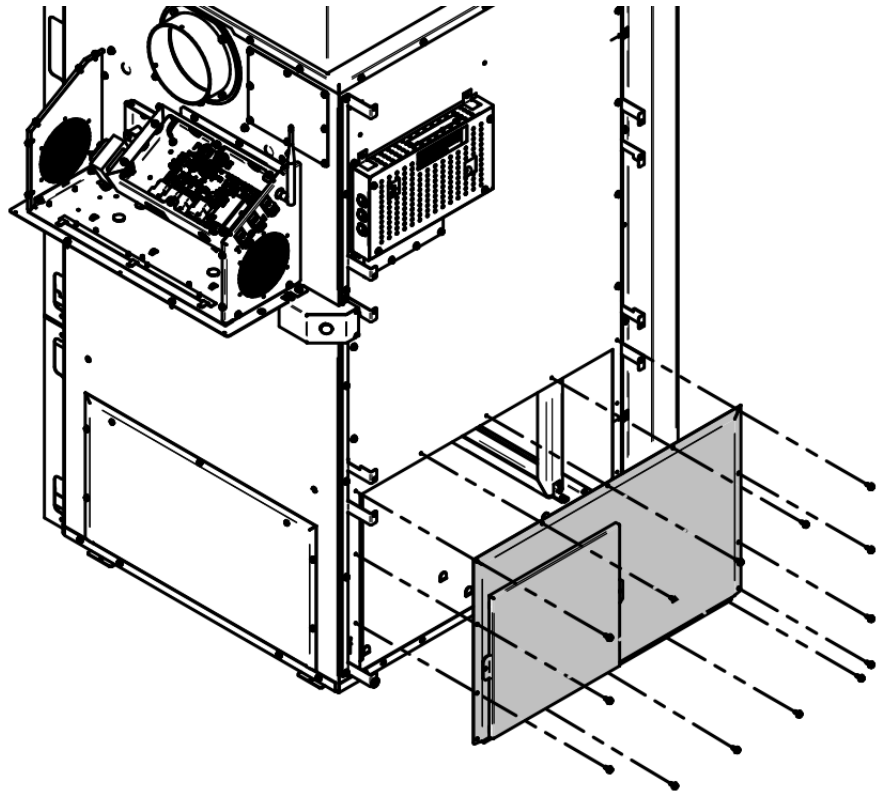
2. Screw the furnace backplate PL66310 in place using 9 metal screws 31048 set aside previously.



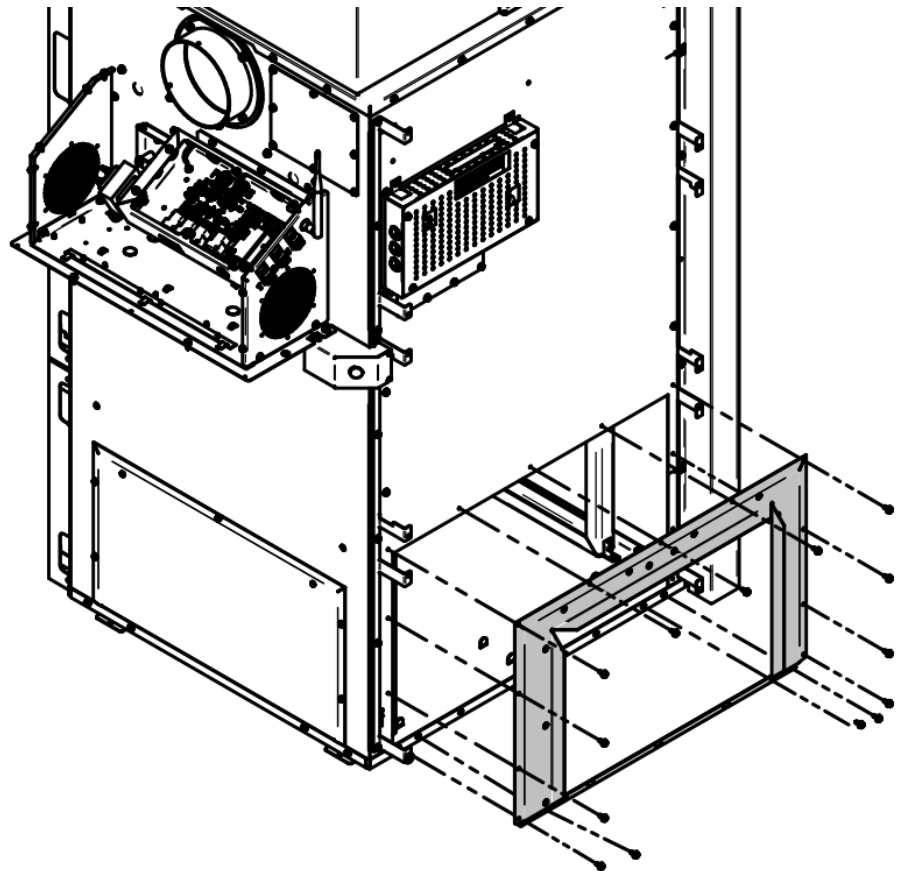
3. Unscrew the side panel on the bottom of the furnace. Set aside the metal screws.

The panel can now be recycled.

Set aside the metal screws 31048.



4. Take 15 metal screws 31048 and install the side panel adaptor to attach the serial add-on furnace duct PL66370.



INSTALLATION OF THE ANGLED SUPPORT PA08555, CONDUIT EXTENSION PA08589 AND CONNECTING PLATE FOR FURNACE (REFER TO THEIR RESPECTIVE MANUAL)

1. The resulting assembly of the angled support PA08555 (**A**), the conduit extension PA08589 (**B**) and the connexion plate (**C**) looks like the following image.

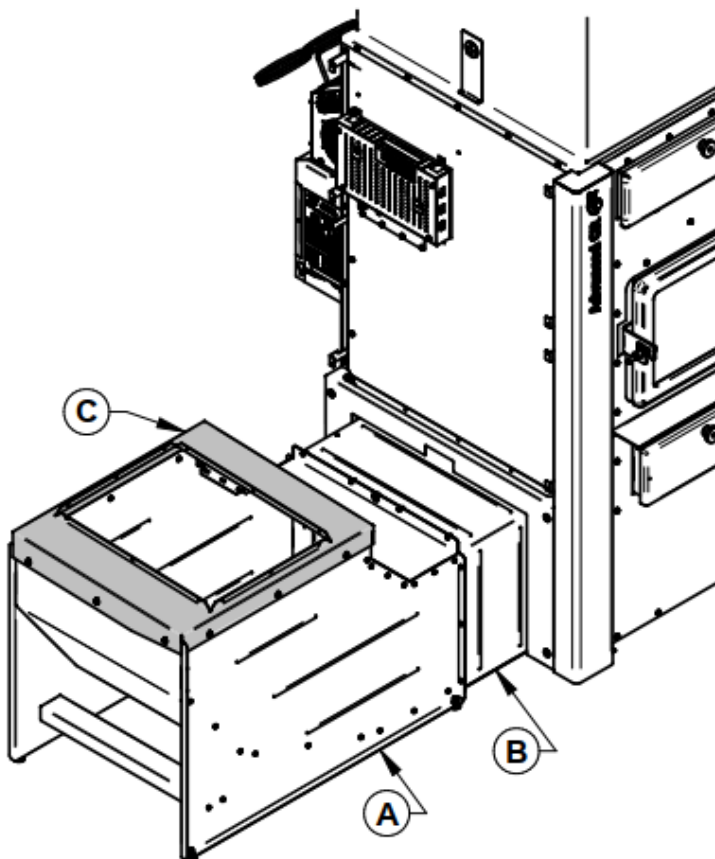
PA08592 :(DETTSON):

- PL66371 (60-75 kbtu/hr)
- PL66372 (105-120 kBTU/hr).

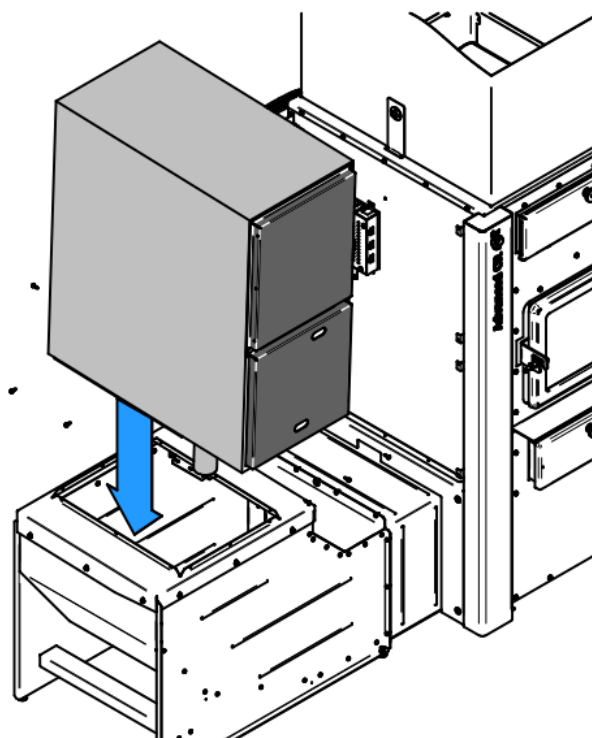
PA08593 :

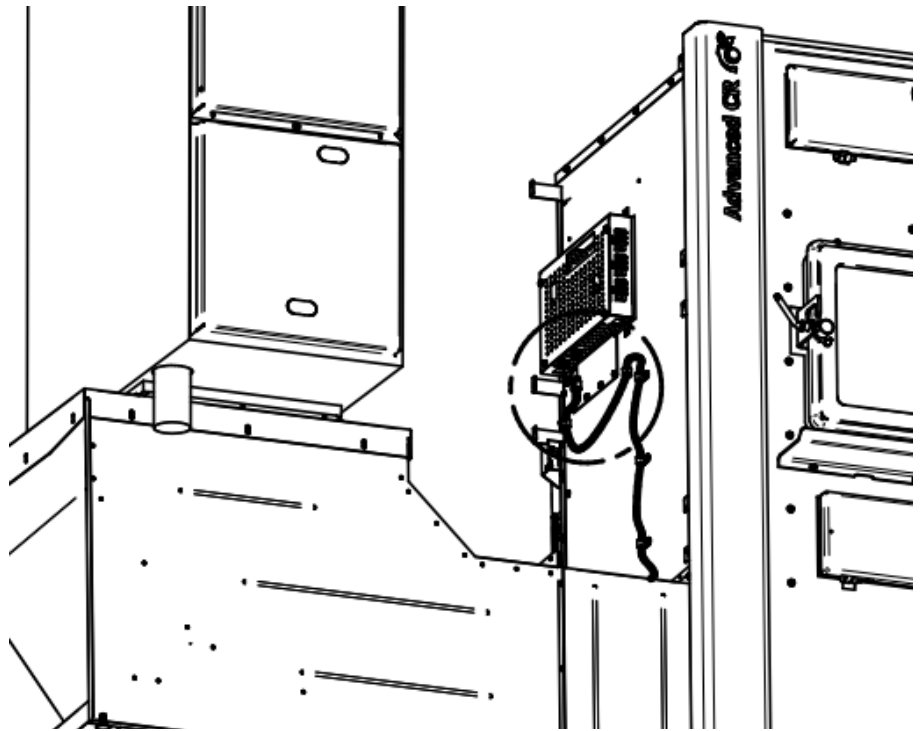
(NAPOLEON/CONTINENTAL):

PL66373 (70-120 kBTU/HR).

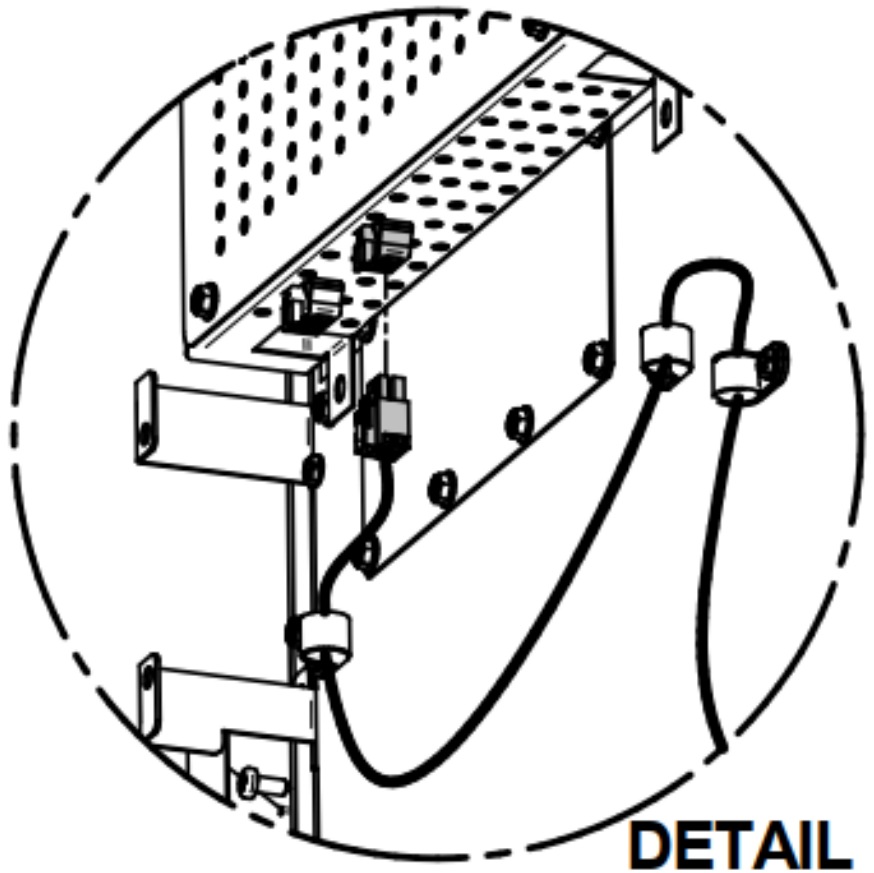


2. Install the gas furnace on the connexion plate. Use self tapping screw 30163 to fix the furnace in place.



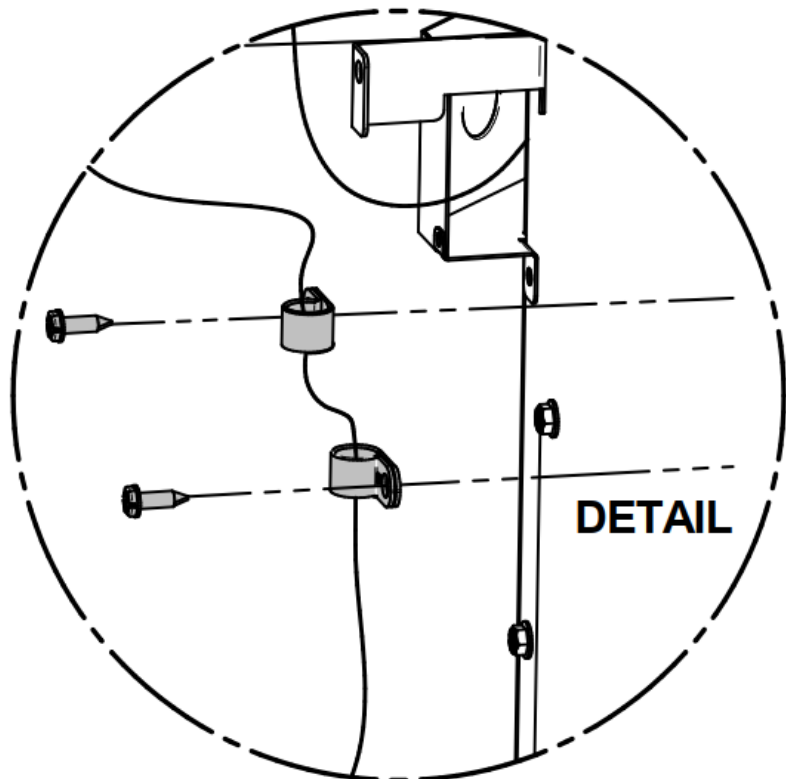
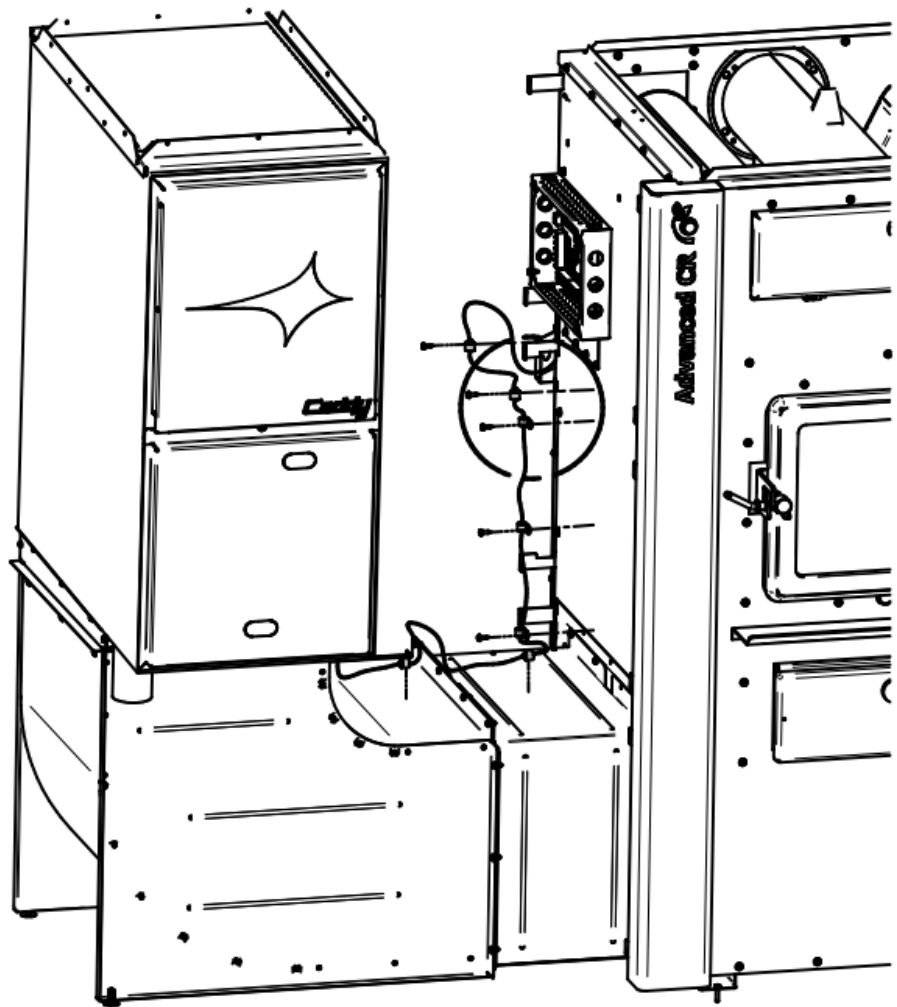
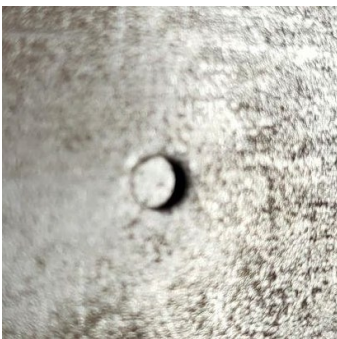


3. Connect the gas furnace harness 60473 on the link board box.

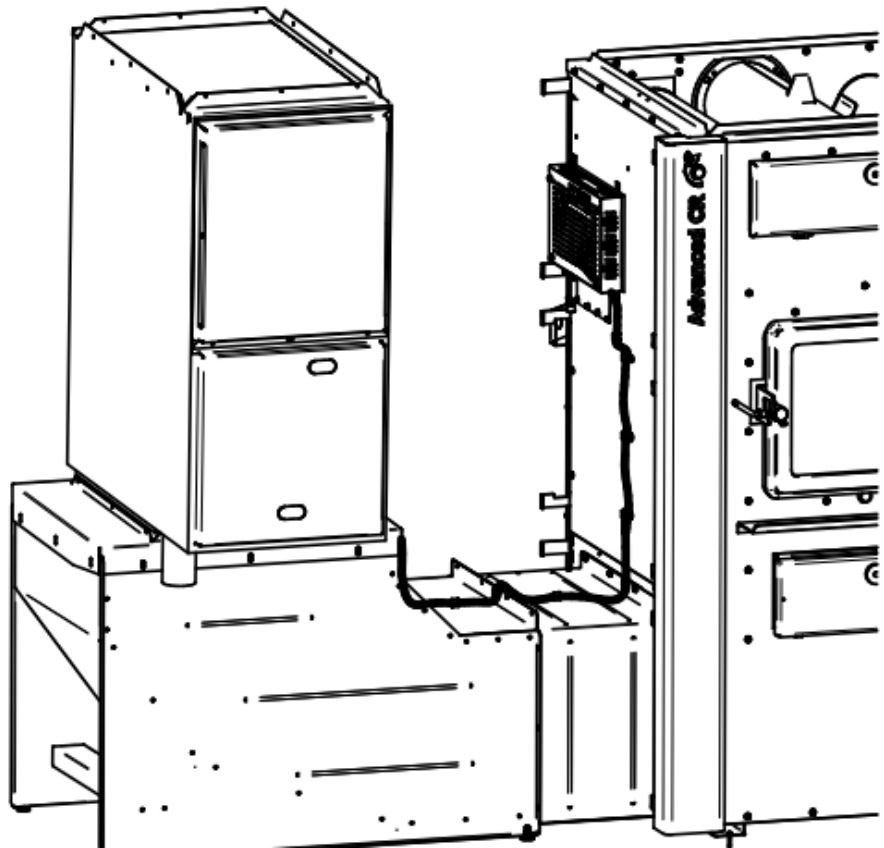


4. Pass the harness through the cable ties 31389 supplied in the manual kit.

5. Screw on cable ties with self-tapping screws 30163. Hollows are made in the metal to position the fasteners (**see image**).



6. See the result after the harness has been properly passed.

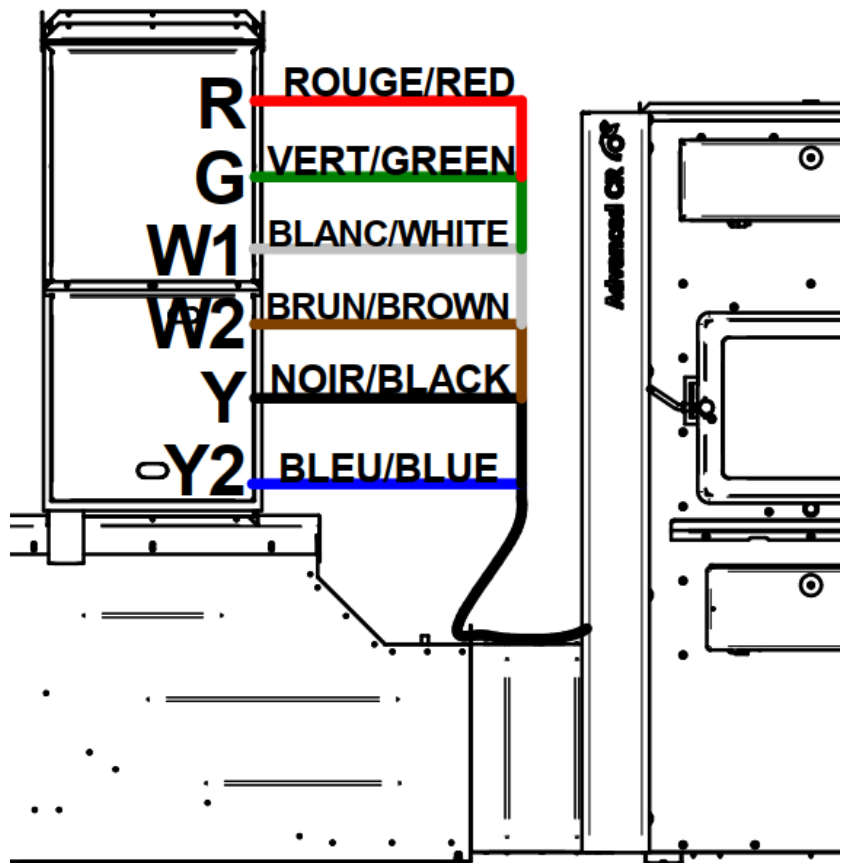


7. Connect the wires from the harness 60473 into the gas furnace respecting the color code in the following image.

Do refer to the gas furnace instructions to pass the harness into the furnace.

Wiring drawings are also present as reference at the end of this manual.

WARNING: “Y” and “Y2” must be connected even if no heat pump or A/C is present in the system. Not respecting this advice could use prematurely the furnace.

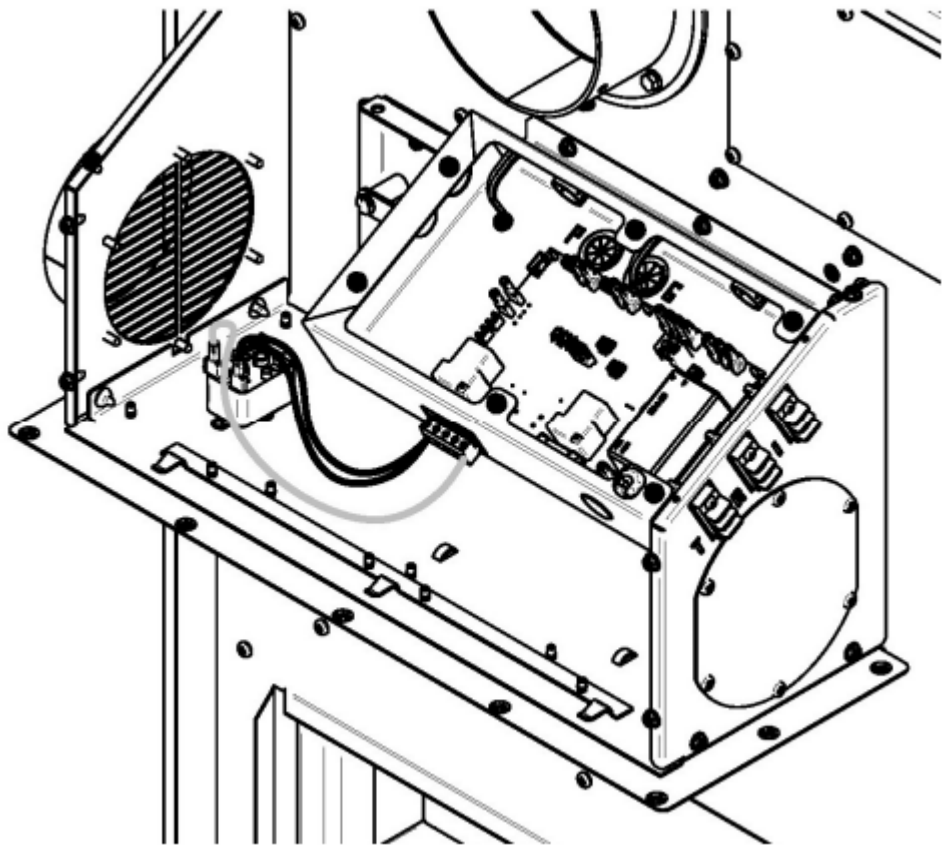


WARNING: For a furnace connected in add-on:

8. connect the PA08523
– Wiring kit for serial
installation.

**FAILURE TO DO SO WILL
VOID THE WARRANTY.
SBI IS NOT RESPONSIBLE
FOR DOMMAGES THAT
WOULD OCCUR IN THAT
CASE.**

For Further instructions, read
the instruction manual for the
PA08523

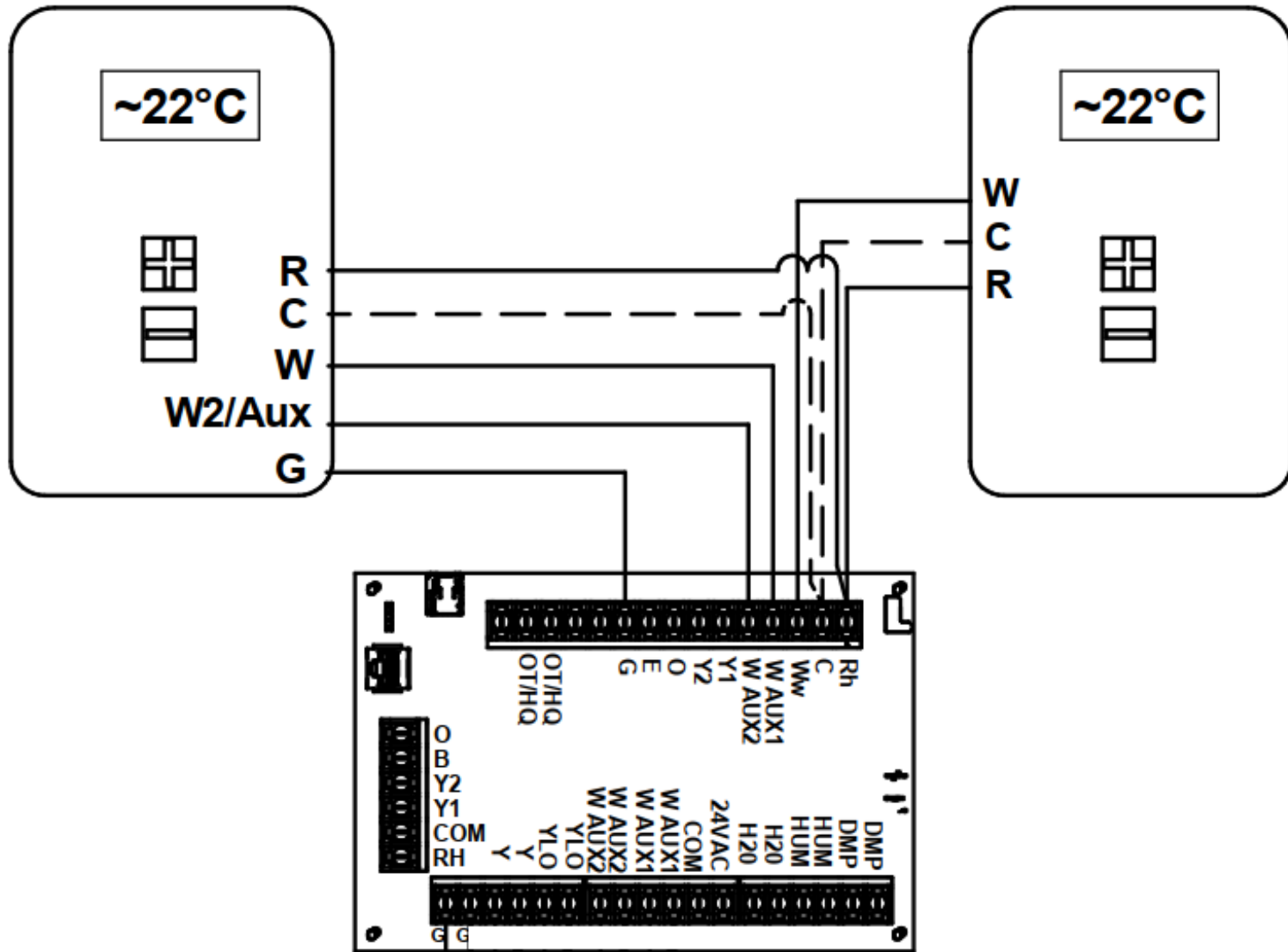


5. Thermostat Wiring

5.1 Wiring drawings for gas/electric/ furnace or air handler

Gas/Electric Furnace Thermostat

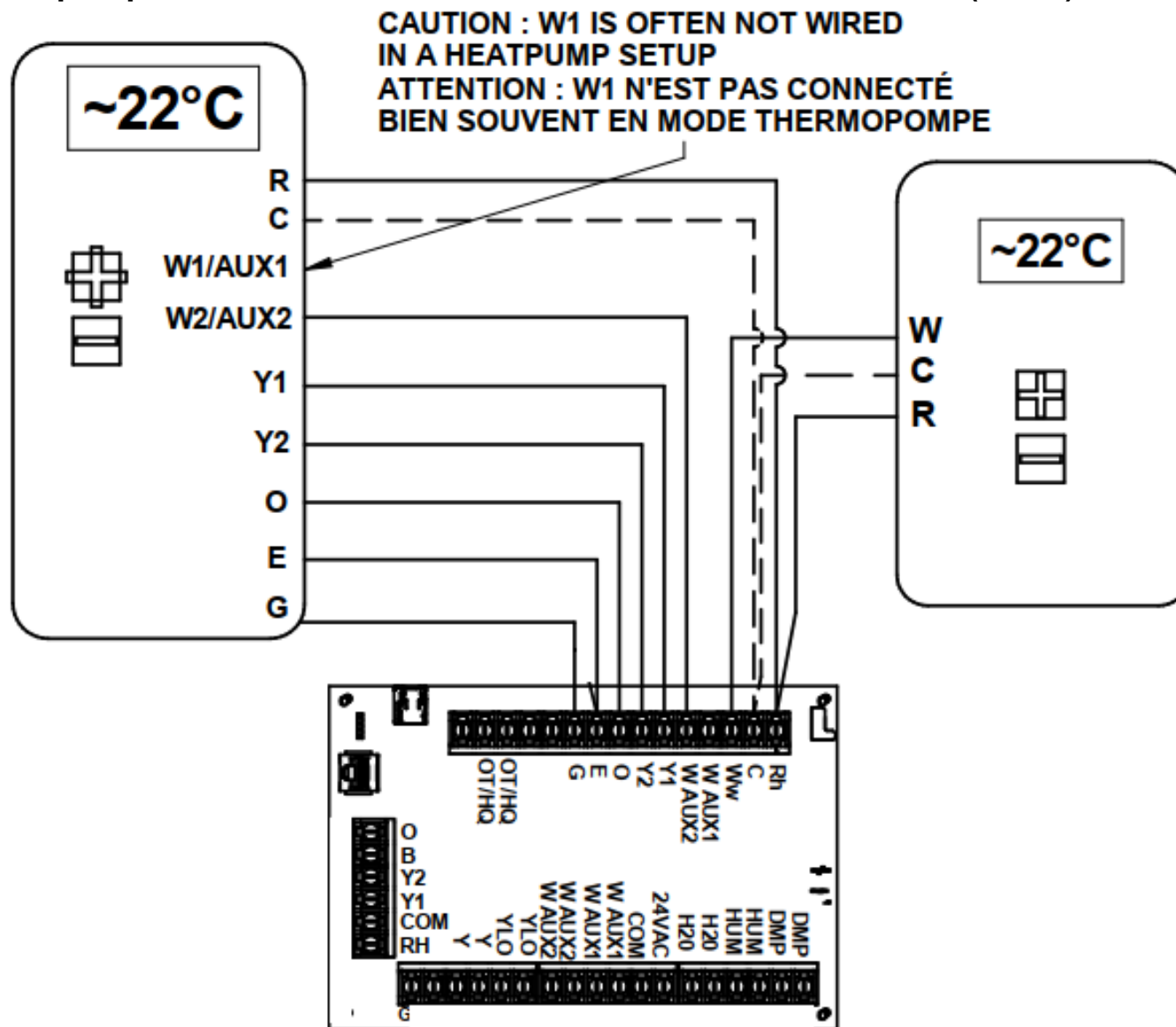
Caddy CR Thermostat (wood)



5.2 Wiring with a heatpump and gas/electric/ furnace or air handler

Gas/Electric furnace and
heat pump thermostat

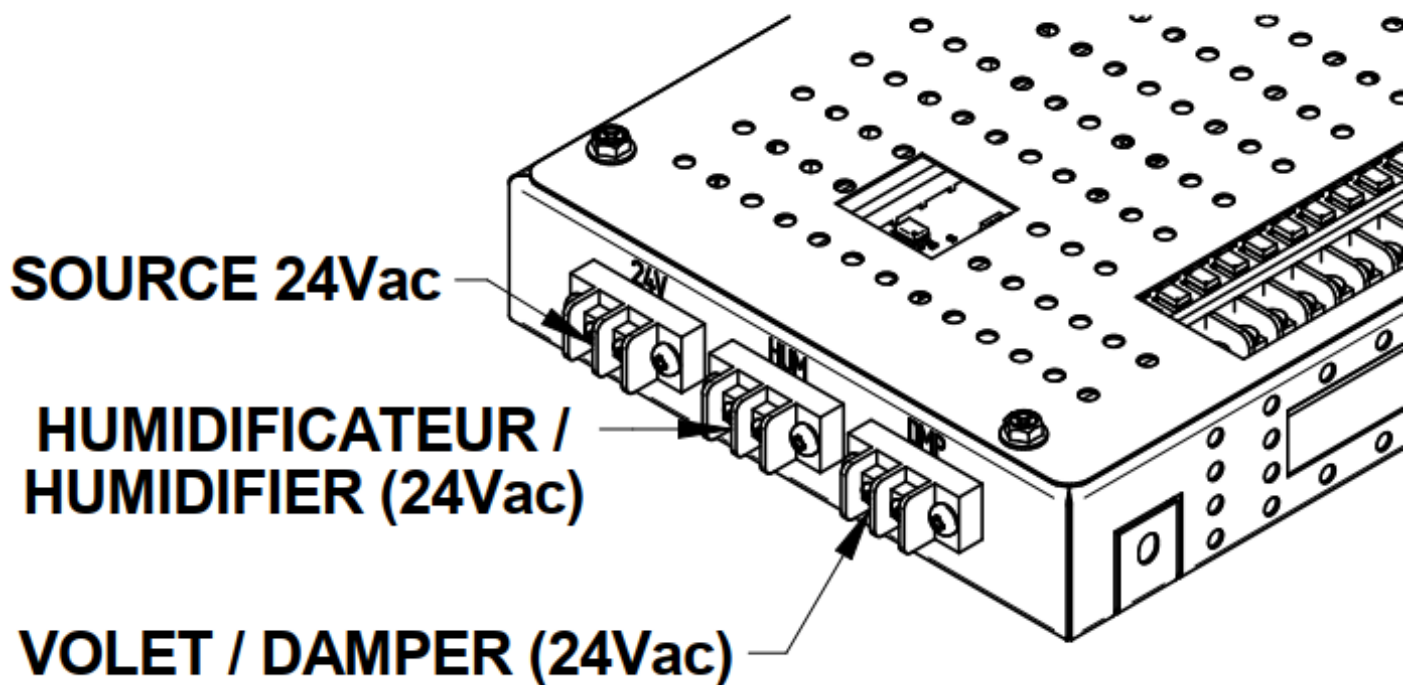
Caddy CR thermostat
(wood)



6. Wiring of a Humidifier or Conduit Damper

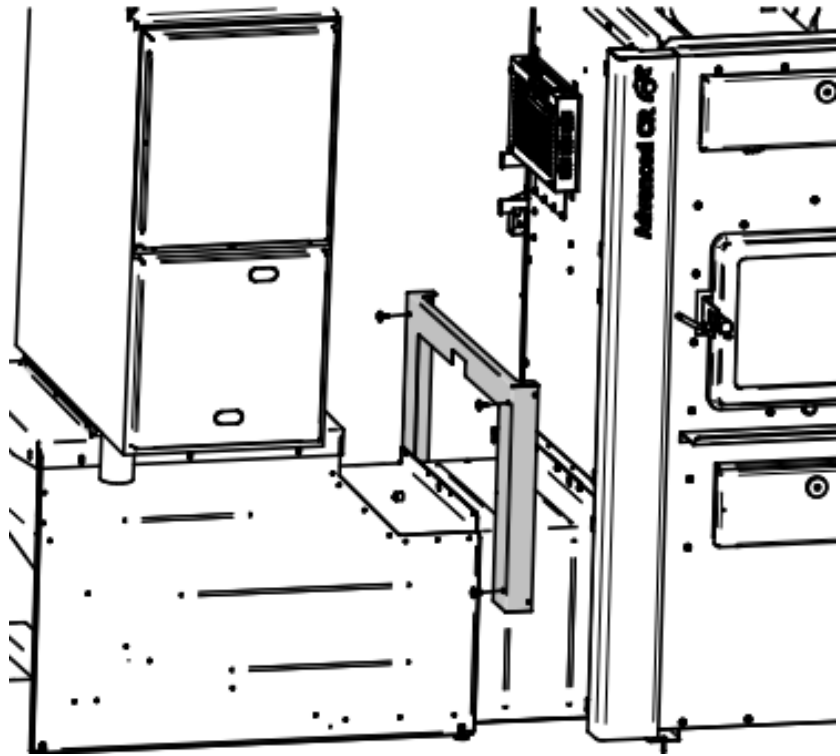
There are 3 block terminals on the link board box:

1. 24V block terminal: 24 Vac source
2. "HUM" block terminal: Connect the humidifier at this bloc terminal. When heat will be felt by the captors of the furnace the 24Vac signal will be present at the terminal.
3. "DMP" block terminal: Connect the conduit damper for a bypass plenum on this terminal. 24Vac will be present between the terminal poles when the thermostat request heatpump heating/cooling.



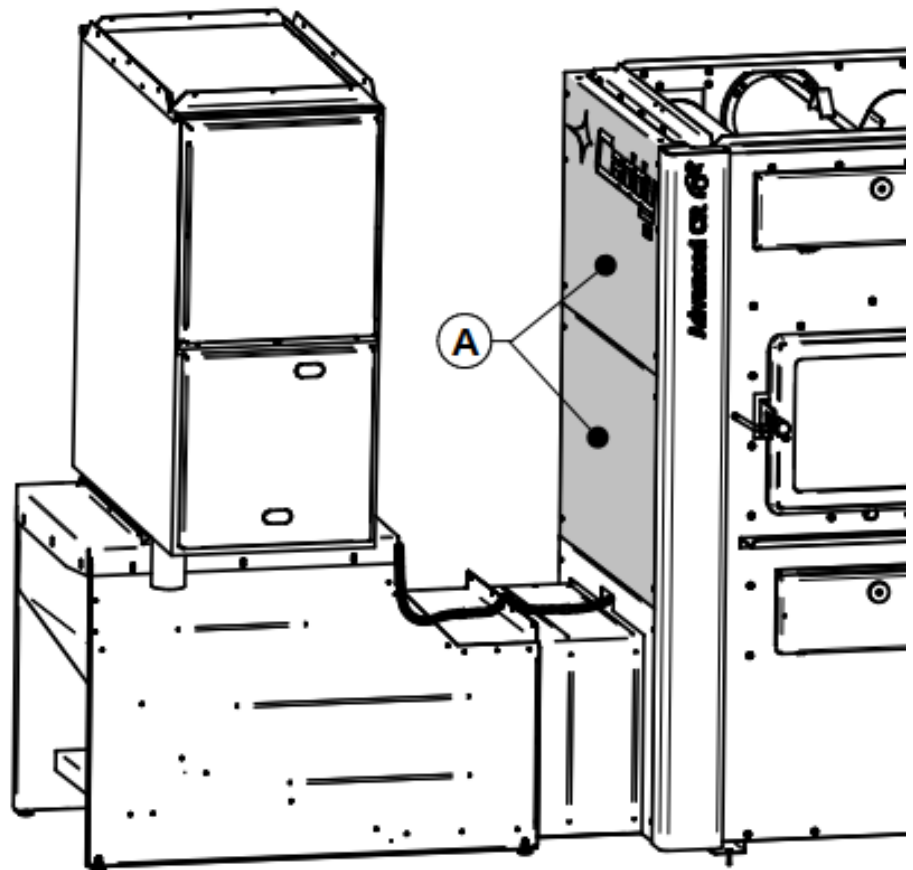
7. Decorative panels

1. Put in place the bottom decorative panel **PL66367**, (coming from the PA03060 kit) with the plastic rivets 31366.



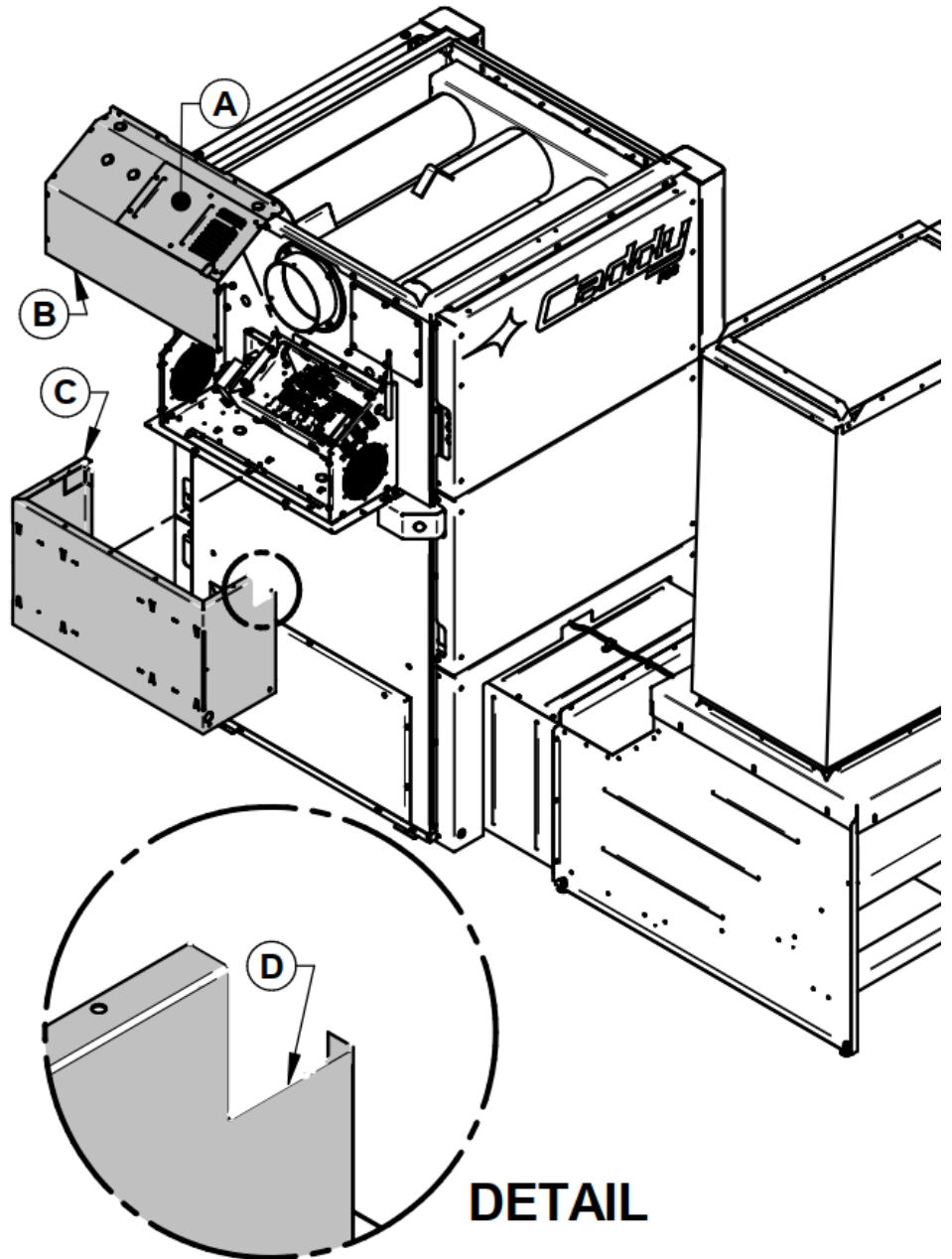
2. Put back in place the middle and top decorative panels from the furnace **(A)**.

Use plastic rivets 31366 saved previously at step 3.



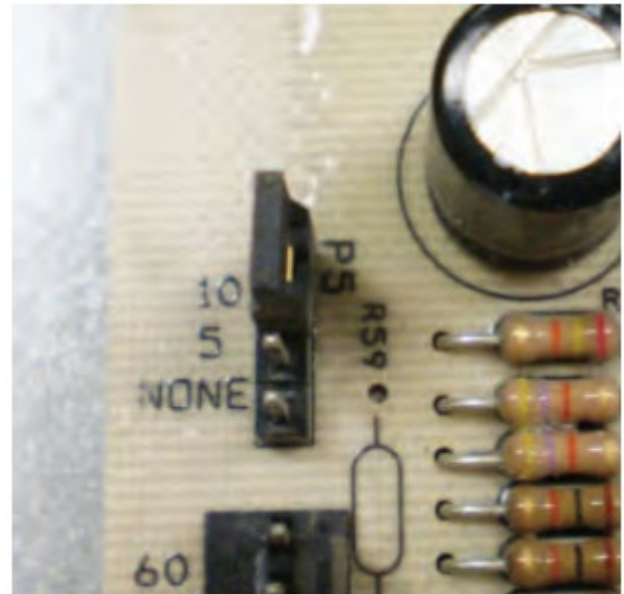
3. Reinstall the main board cover (A), fresh air intake cover (B) and finally the wiring cover (C)

Be sure to cut the corner of the wire cover (D) (see **DETAIL**), to allow installation of the wiring channel.



8. Special features of installation with NAPOLEON furnaces

On the Napoleon gas furnace control board, remove the “P5” jumper and set it over “NONE”.



9. Installation of electric element option PA01106

FOR FURTHER INFORMATION ON CONNECTING AND INSTALLING THE PA01106 ELECTRICAL ELEMENT, PLEASE REFER TO ITS INSTALLATION MANUAL.

WARNING: When installing the PA01106 electrical element kit, make sure the switches are in the “Elec” position.

The position of the switches is represented by the small “white” filled square on the “Aux | Sw” board.

In this case, the 2 small switches should be turned upwards.



10. Heat pump Coil installation

CAUTION: When installing a cooling or heat pump coil, ensure that **the coil is isolated** from the wood-burning plenum. **Failure to do so may result in damage to your cooling coil. SBI declines all responsibility if this condition is not respected.**

IMPORTANT: Installing the A/C coil in the furnace cold air return or directly above the heat exchangers of the wood furnace (plenum) will create condensation inside the furnace and the heat exchangers and therefore create rust on the metal parts. **Rust damages are not covered by the warranty.**

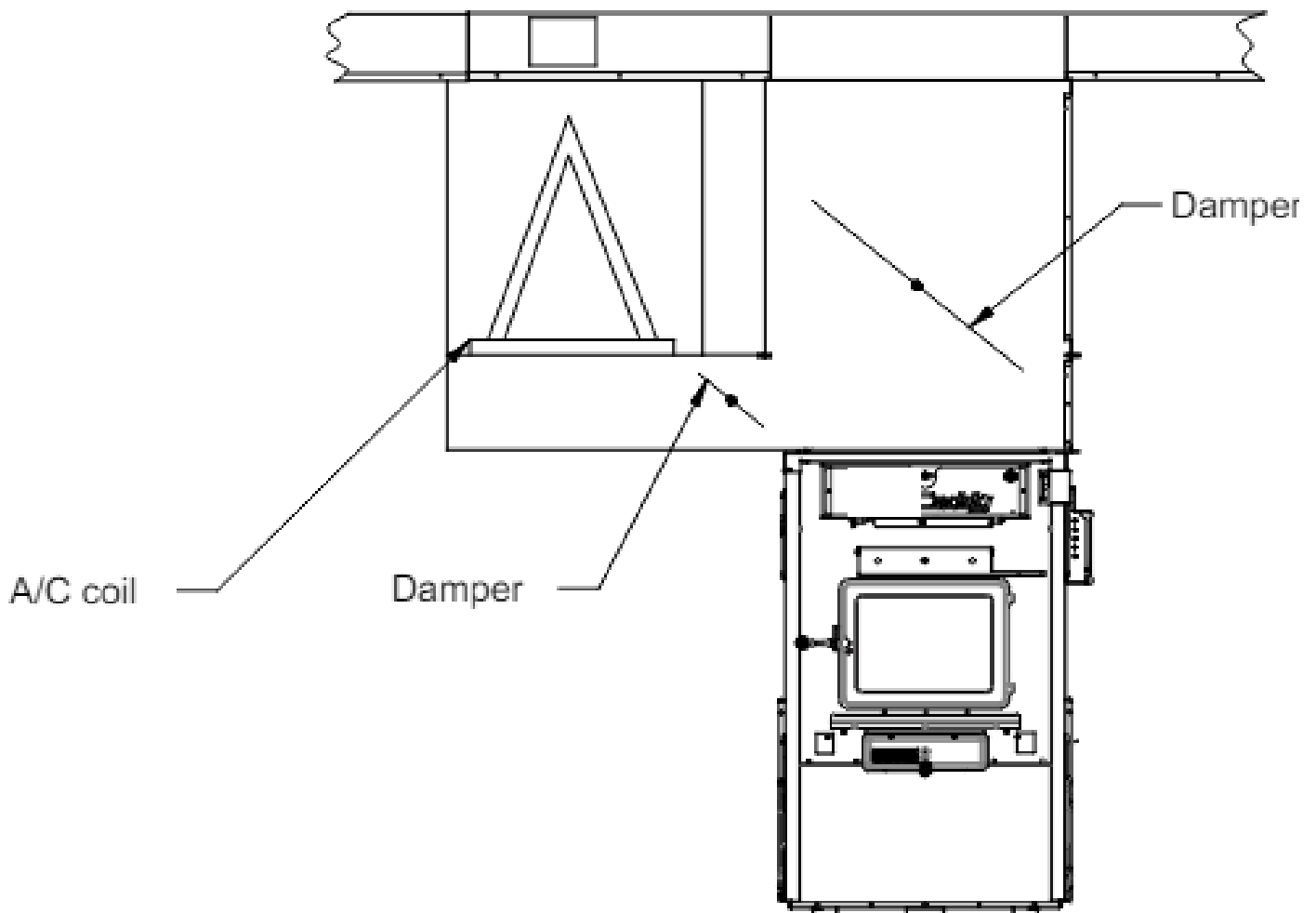
WARNING: The max cooling power is **2.5 tons** when the furnace is coupled with the PA08581(PSC) or PA08582(ECM) blowers.

WARNING: It is important to install a drain to evacuate the water from condensation that builds up around the coil.

NOTE: If a heat pump is connected to the Caddy Advanced CR, **an electrical element** or a **gas furnace** must be installed to ensure an auxiliary heat source.

10.1 Coil installation with bypass plenum

The use of bypass dampers is important to direct the airflow to the coil or to bypass the coil in heating mode.



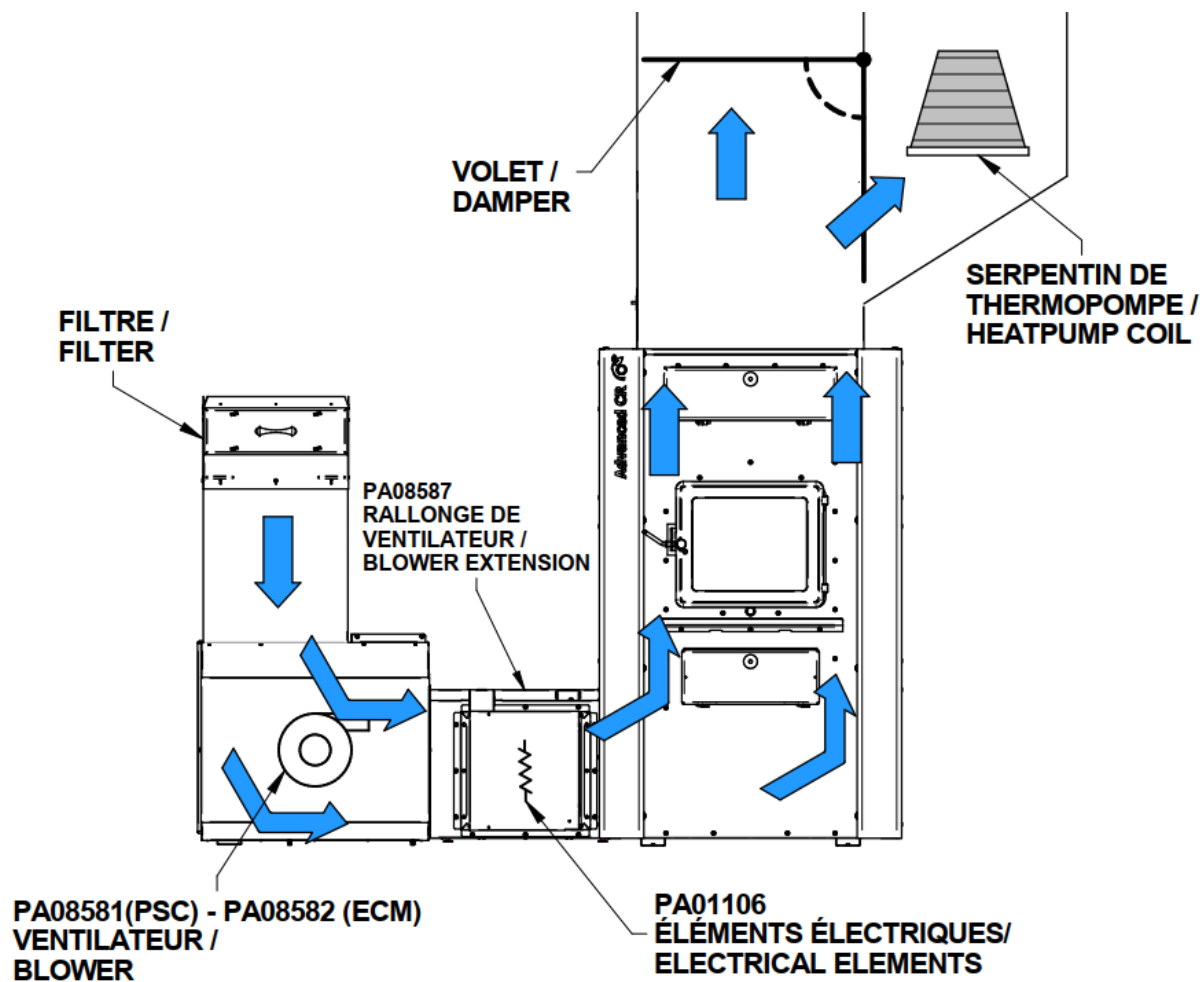
10.2 Heat pump / AC Coil installation in pair with an electrical element PA01106

WARNING: The max cooling power is **2.5 tons** when the furnace is coupled with the PA08581(PSC) or PA08582(ECM) blowers.

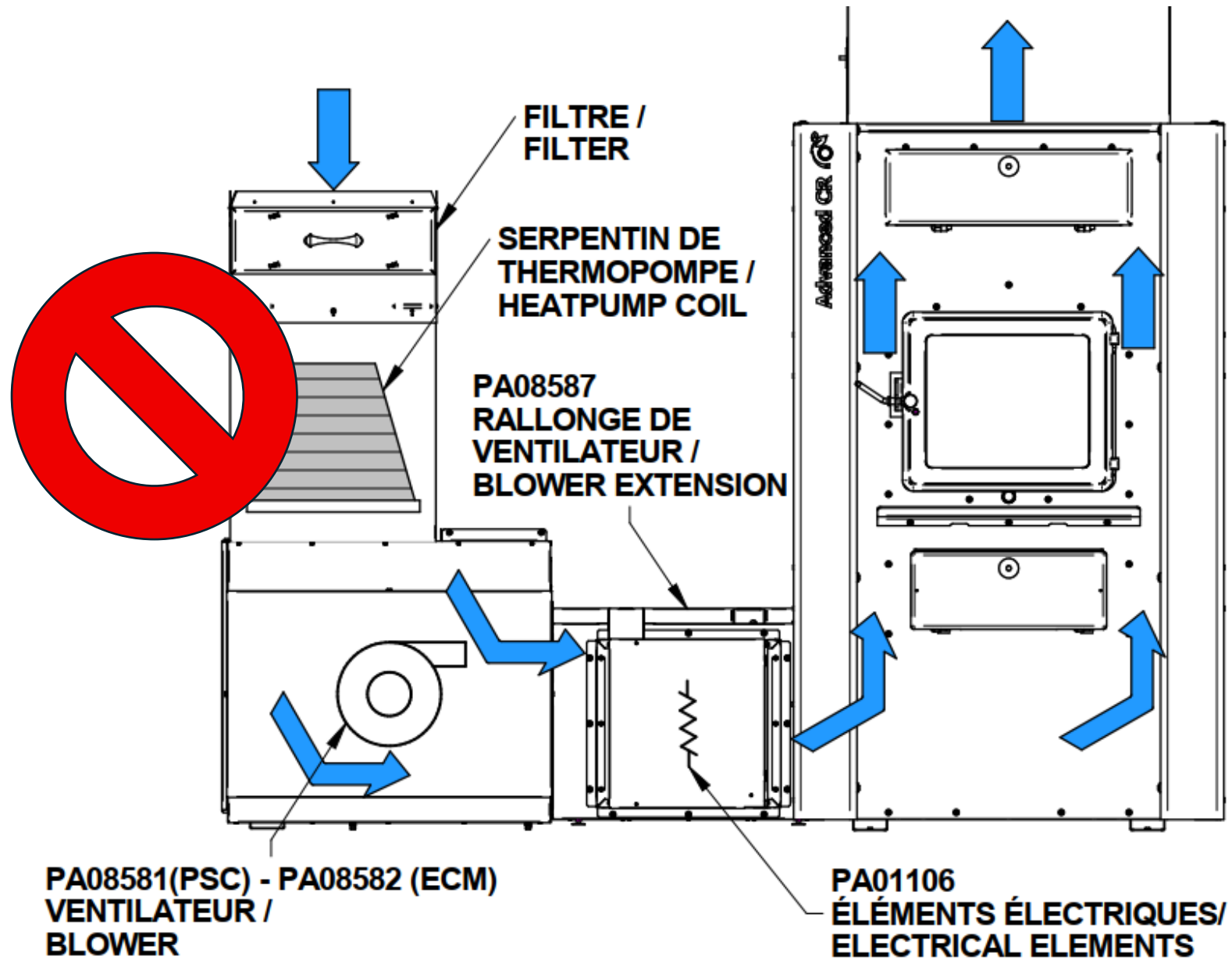
WARNING: The installation of the refrigeration coil could age prematurely the furnace. Traces of rust could appear. Rust is not covered in the warranty.

WARNING: It is important to plan a water drain where is located the refrigeration coil to evacuate the condensation water.

To have an electrical element PA01106 at the same time as a heat pump coil, a **bypass plenum** must be installed.



It is prohibited to place the heat pump coil in the air return as illustrated below. However, **an air conditioner coil is allowed** in the air return.

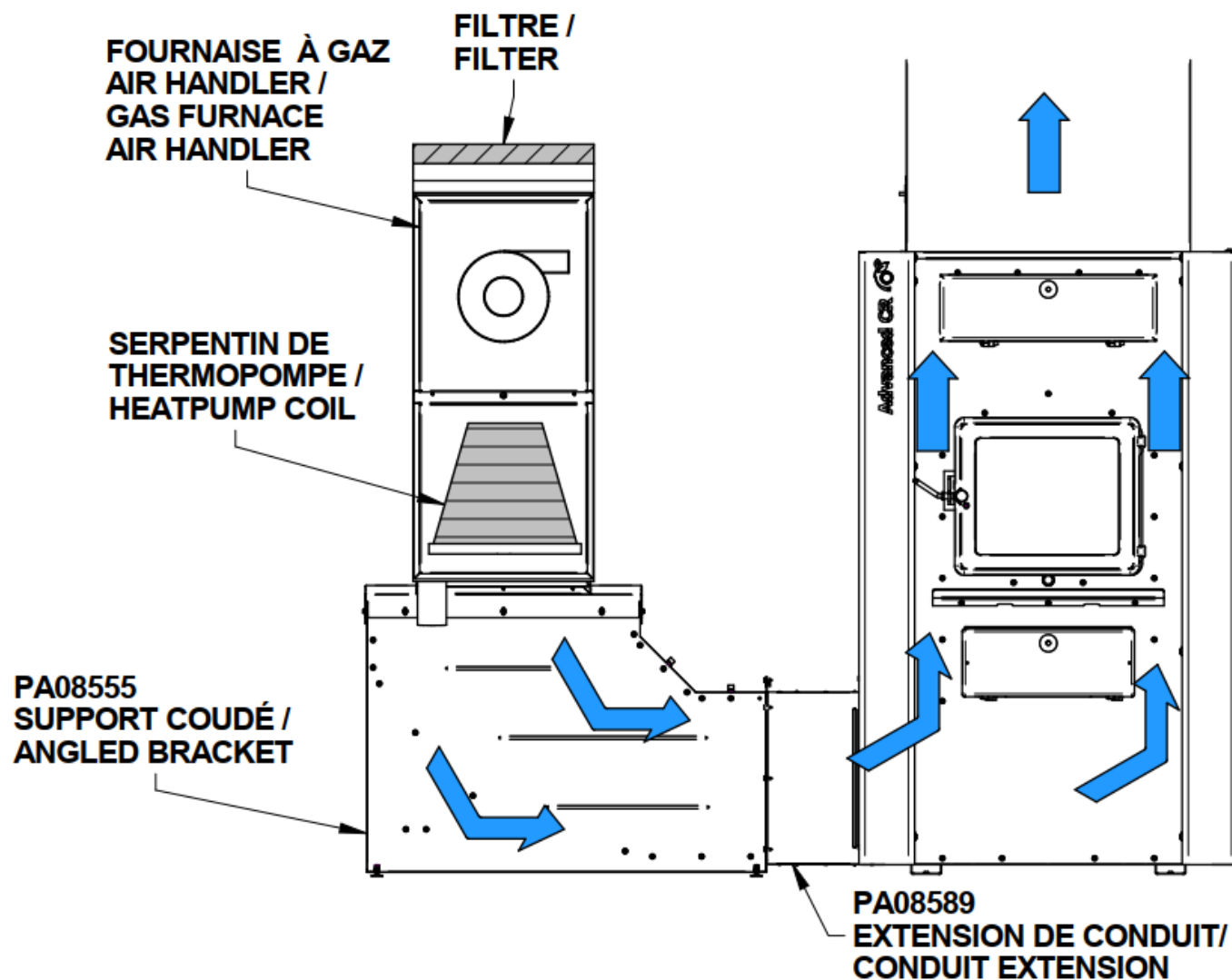


10.3 Heat pump Coil installation in the cold air return in pair with a gas/electric furnace or any air handler

WARNING: The max cooling power is **2.5 tons** when the furnace is coupled with a furnace / air handler

WARNING: The installation of the heat pump or A/C coil could age prematurely the furnace. Traces of rust could appear. Rust is not covered in the warranty.

WARNING: It is important to plan a water drain where is located the refrigeration coil to evacuate the condensation water.



11. Blower speed settings

IMPORTANT: THIS SECTION ONLY APPLIES IF THE CADDY ADVANCED CR FURNACE IS INSTALLED WITH A CADDY BLOWER (PA08581 / PA08582)

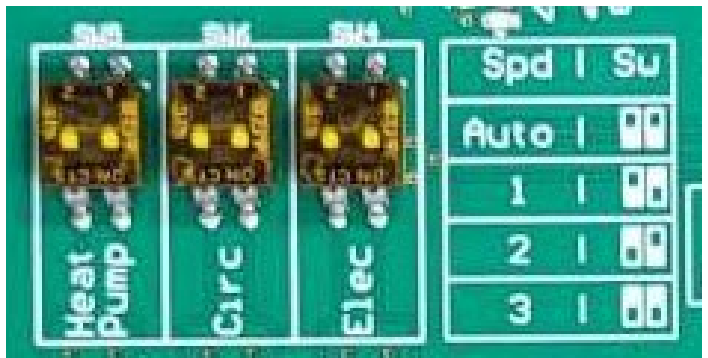
IN THE CASE OF A GAS FURNACE, **RECOMMENDED BY PSG** AND INSTALLED AS A SERIAL ADD-ON WITH THE CADDY ADVANCED CR, REFER TO THE GAS FURNACE MANUAL TO VARY THE SPEEDS.

To adjust blower motor speed during operation, adjust the 2 small switches on the linkage circuit board. Refer to the “**Spd | Sw**” table.

- **“Heat Pump”**: For fan operation during heat pump mode.
- **“Circ”** For fan operation in air circulation mode **ONLY** (no heating/cooling).
- **“Elect”** for fan operation during electric heating mode.

PLEASE NOTE:

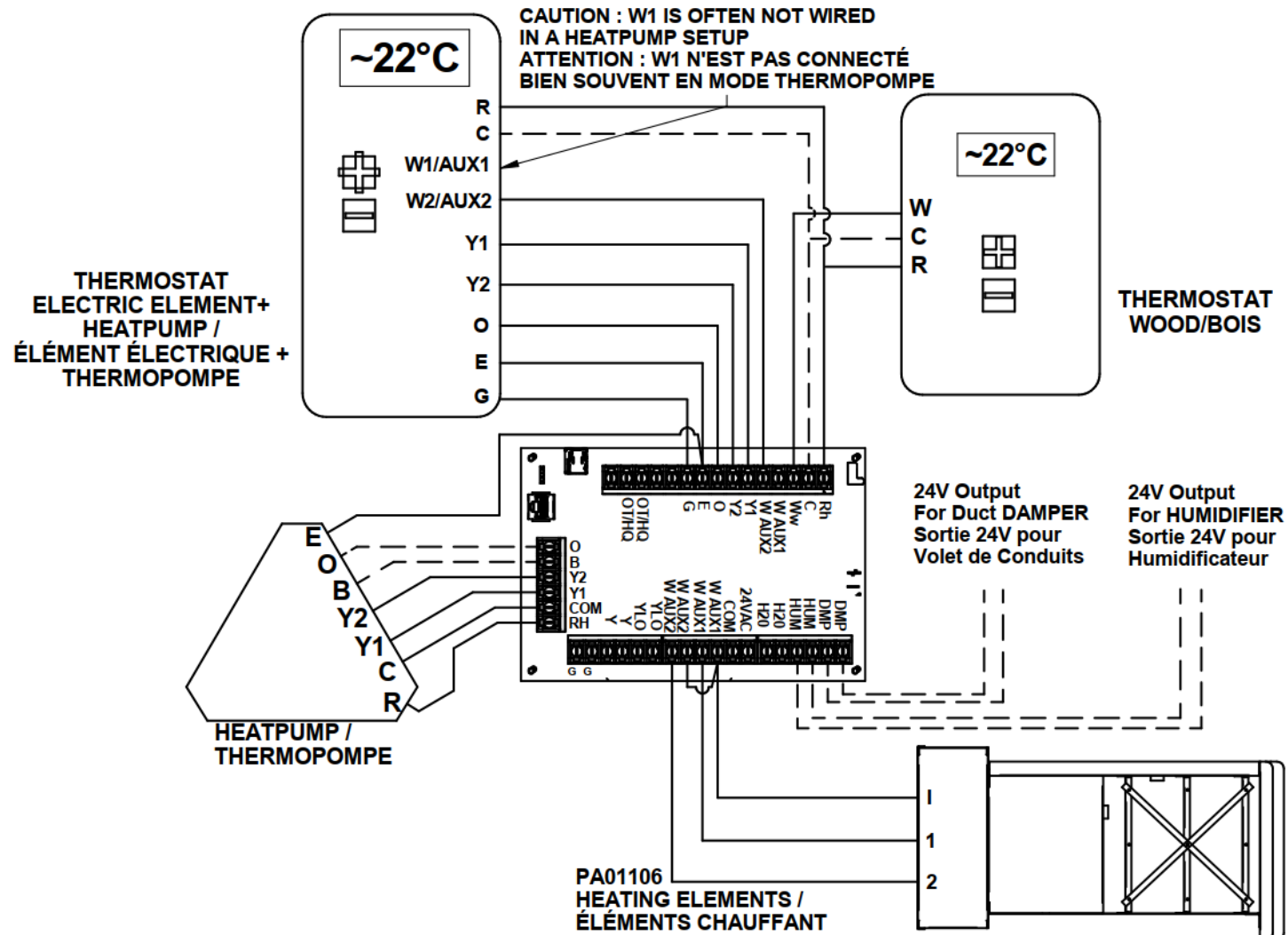
The position of the switches is represented by the small “**white**” filled square on the “**Spd | Sw**” chart.



12. Wiring diagram for CADDY Advanced CR furnace with heat pump and PA01106 electric element kit.

NOTE: For further information on wiring and installation of the PA01106 electrical element, please refer to the PA01106 manual.

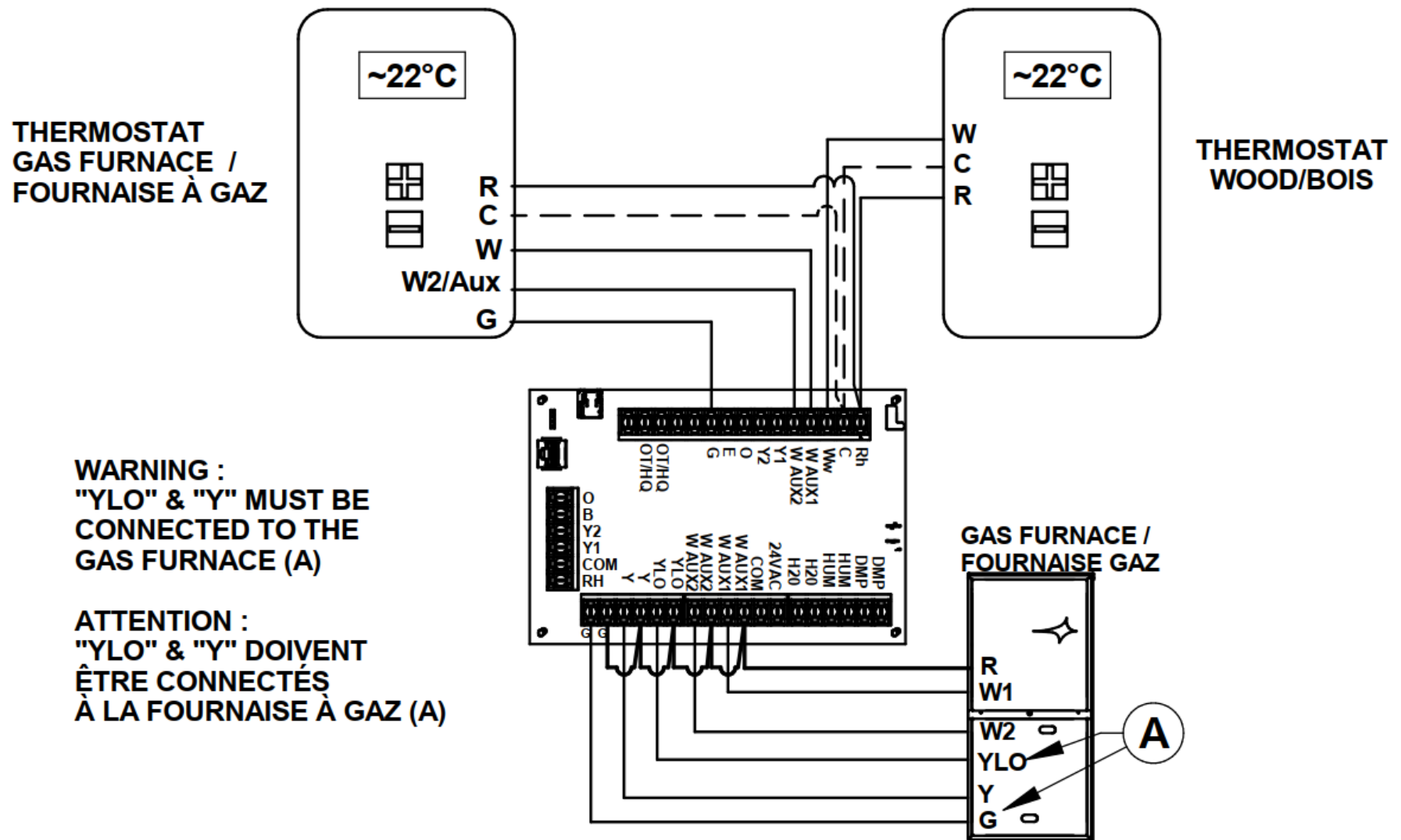
WARNING: If a wood-burning thermostat was previously connected to the furnace, **disconnect it** and connect it to the electronic link board. As shown in the following diagram.



13. Wiring diagram for CADDY Advanced CR with a gas furnace

WARNING: IT IS MANDATORY TO CONNECT YLO AND Y (SOMETIMES CALLED Y1, Y2) EVEN IN THE CASE THE SYSTEM DOES NOT INCLUDE HEATPUMP/REFRIGERATION COIL. PSG WILL DECLINE RESPONSIBILITY IF THIS NOTE IS NOT RESPECTED.

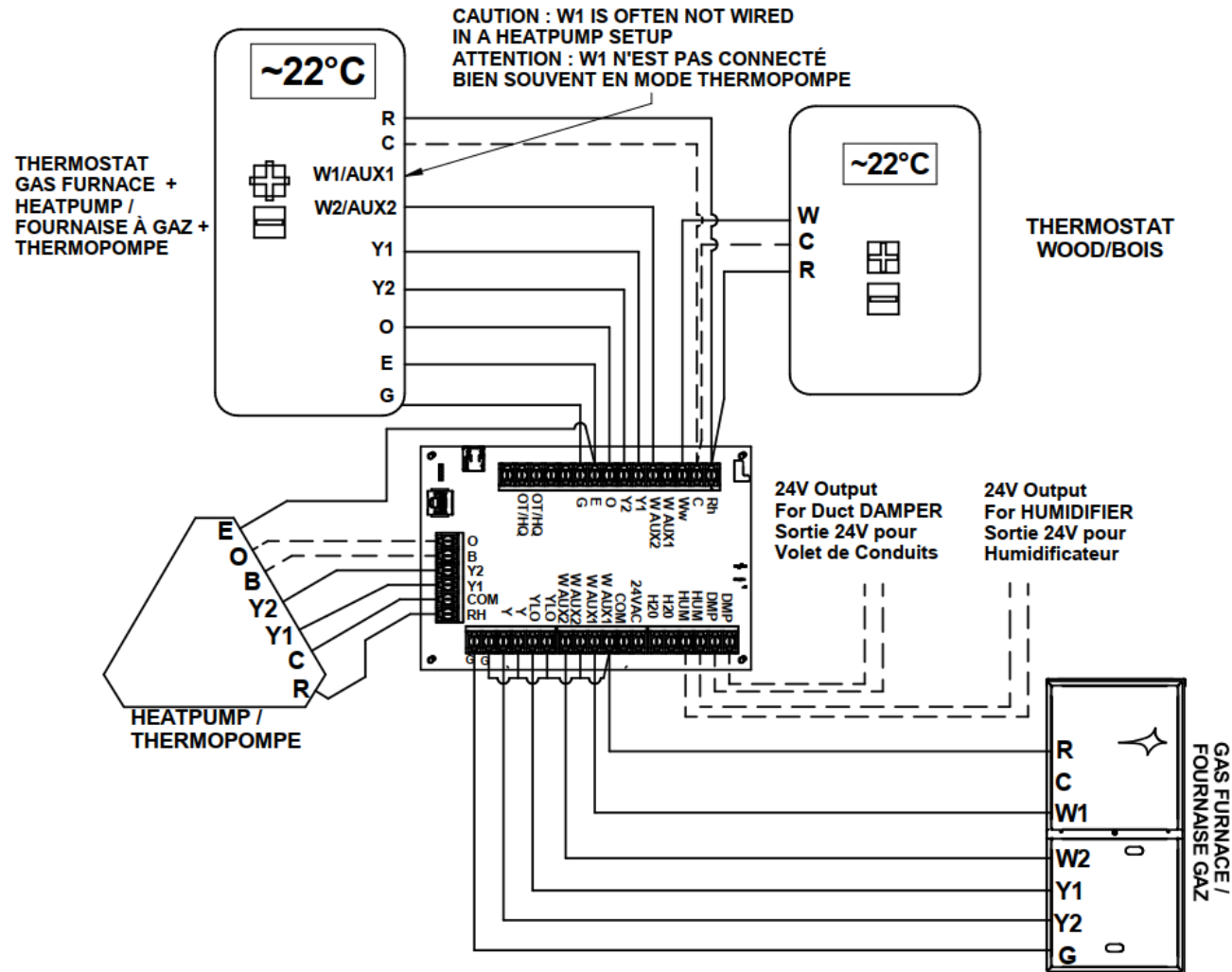
WARNING: If a wood-burning thermostat was previously connected to the furnace, disconnect it and connect it to the electronic link board. As shown in the following diagram.



14. Wiring diagram for CADDY Advanced CR furnace with gas/electric furnace and heat pump

WARNING: IT IS MANDATORY TO CONNECT YLO AND Y (SOMETIMES CALLED Y1, Y2) EVEN IN THE CASE THE SYSTEM DOES NOT INCLUDE HEATPUMP/REFRIGERATION COIL. PSG WILL DECLINE RESPONSIBILITY IF THIS NOTE IS NOT RESPECTED.

WARNING: If a wood-burning thermostat was previously connected to the furnace, disconnect it and connect it to the electronic link board. As shown in the following diagram.



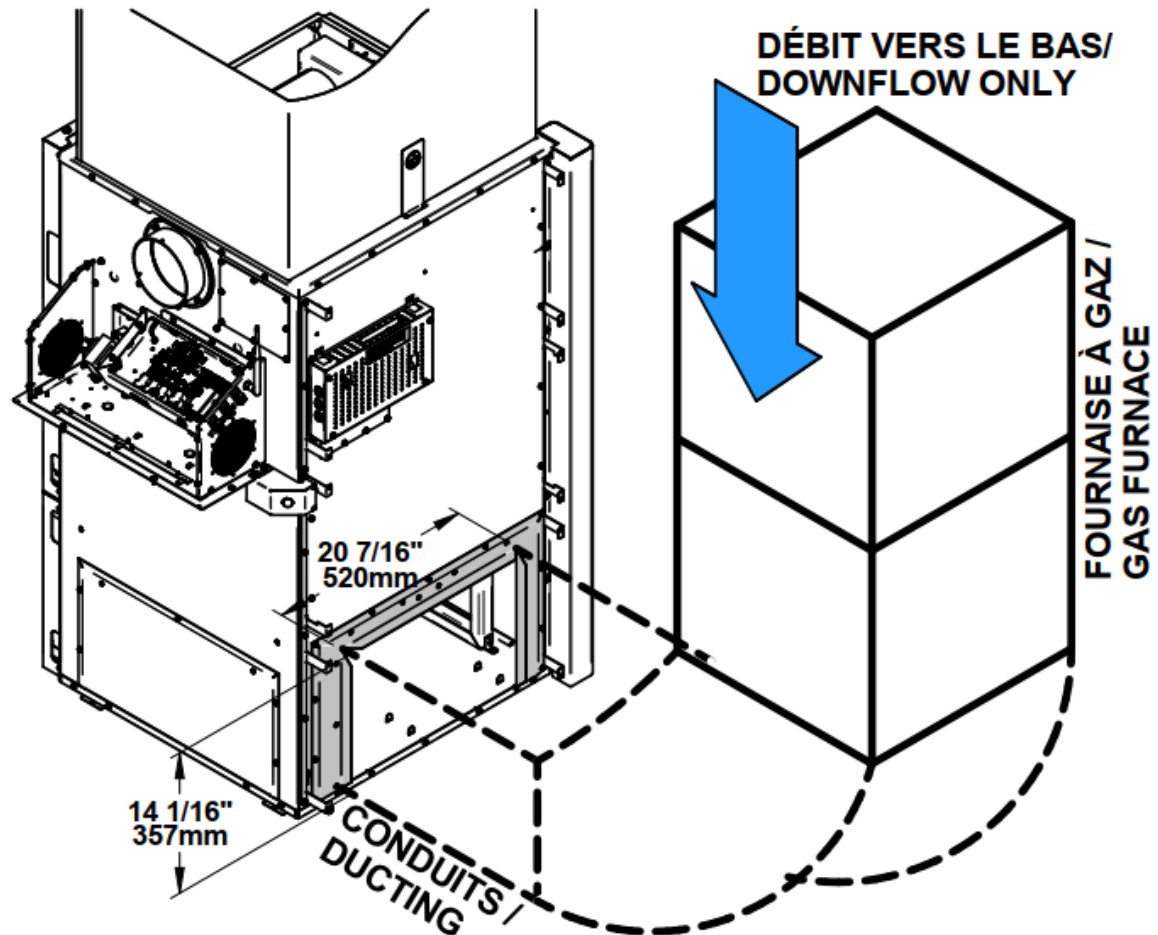
15. Reference for ventilation conduit without conduit accessories

REFERENCE FOR INSTALLATION WITHOUT ELBOW SUPPORT PA08555, DUCT EXTENSION PA08589, AND CONNECTION PLATE.

Build the metal ducts to connect to the furnace.

CAUTION: The furnace must be able to be installed in a downflow position.

IMPORTANT: The ductwork connected to the Caddy Advanced CR must be 19 3/8" X 14 1/8" to allow the decorative panel supplied with the accessory to fit properly after duct installation.



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



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