



Installation Steps

1. Before setting the unit in place - determine the position of the heat pump based on your needed clearance, access to the control box (panel under the air coil), desired position of the disconnect and return air duct.

TO AVOID DAMAGE: Leave shipping foam and cardboard covering air coil in place until the unit is in its final position

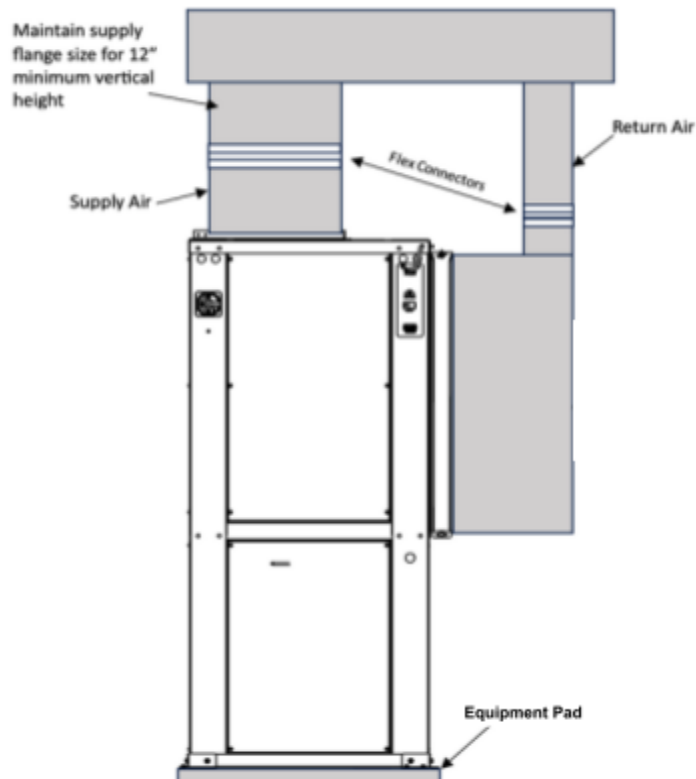
2. Once the unit is in place, remove the front top access panel, then **locate and remove each of the following:**
 - a. The blower shipping foam support
 - b. The blower motor shipping support bracket
 - c. The accessory kit

If needed, remove additional access panels to confirm that all the above have been removed.

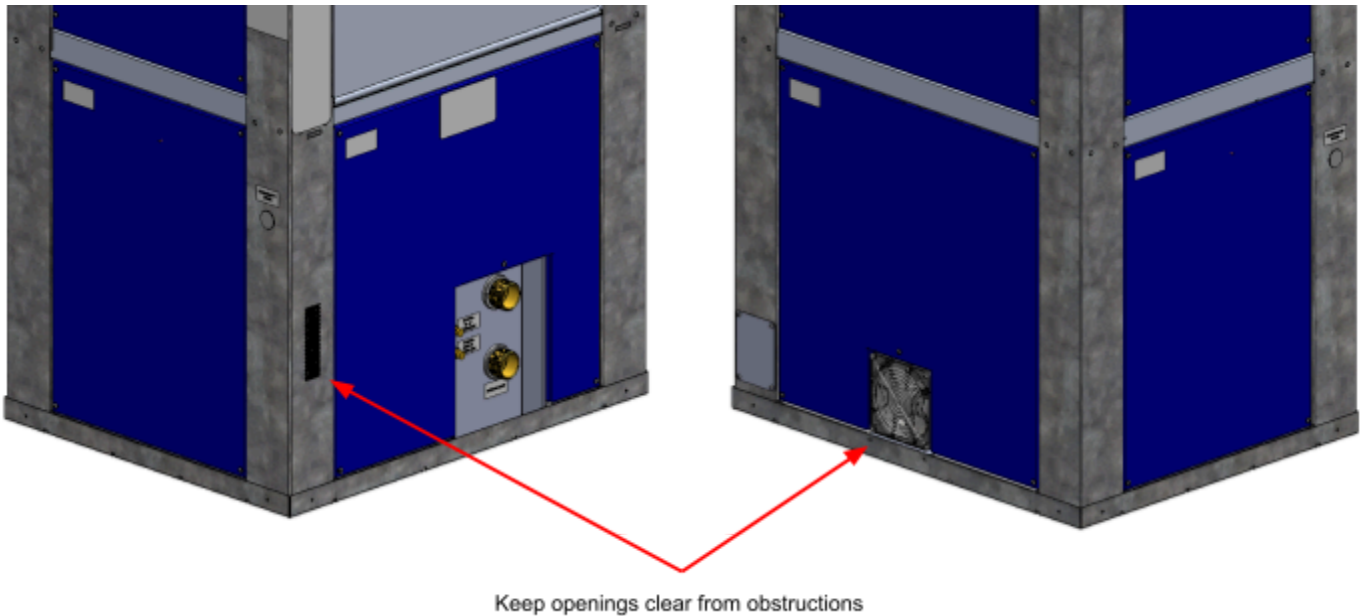
3. **Assemble and attach the air filter kit** (detailed instructions found in the box) and when complete, install a clean filter.

DO NOT INSTALL ADDITIONAL SCREWS NEAR THE AIR COIL - DOING SO WILL DAMAGE/RUPTURE THE AIR COIL

4. **Install return and supply plenums** (shown in right-hand return configuration - see IOM for more details on ducting, and equipment pad)

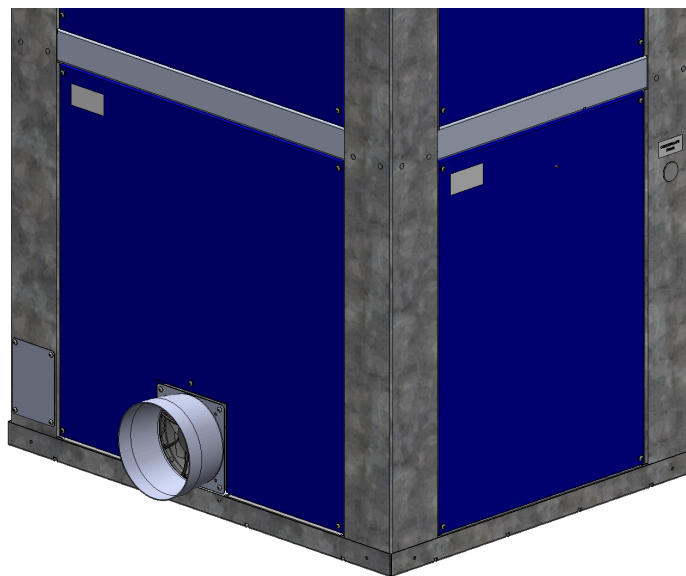


5. **Bottom enclosure venting (for model DP2G only)** - to comply with safety regulations, the bottom of this enclosure is vented to prevent buildup of refrigerant gas in the base of the unit in the unlikely event of a leak. Ensure the inlet and exhaust are not blocked (shown below), with at least 8 inches of clearance to any obstruction.



If unit is installed in a room smaller than 88 ft², you must vent the output of the fan to an adjacent area that is greater than 88 ft² using the small room venting kit.

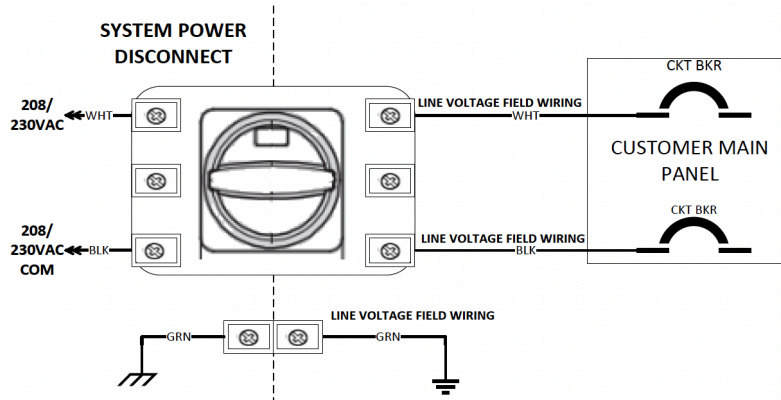
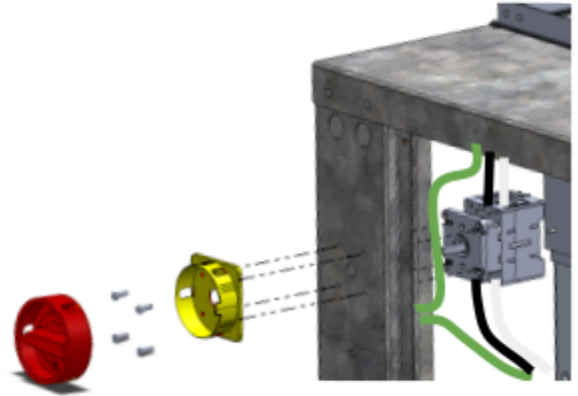
- Attach the duct adapter to the unit.
- Attach the provided duct with hose clamp, and route to a larger space (a wall penetration may be required for this). Shorten duct length as needed.



Startup note - once power is applied to the unit, the bottom enclosure fan will run constantly. The blower in the upper cabinet will also run constantly at a low speed, even when there is no thermostat call.

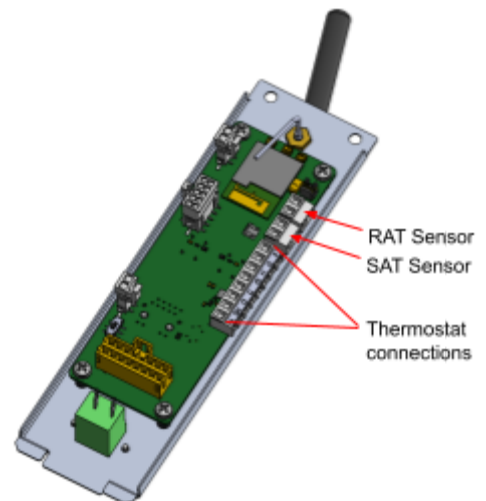
6. Connect main power to the unit

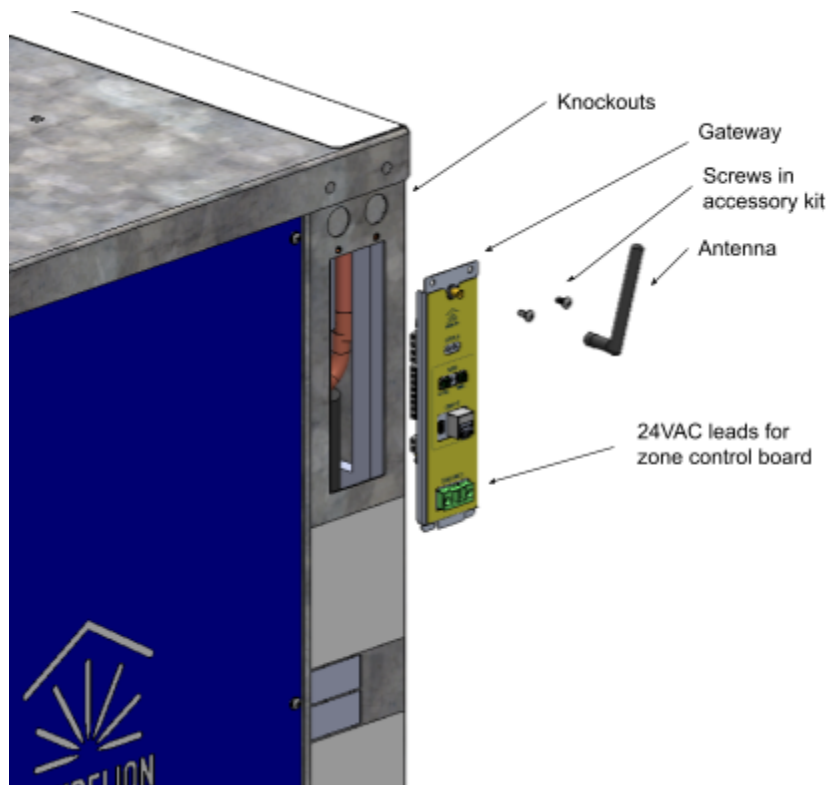
- Choose a knockout that best fits the location and route power line (L1, L2, G) through, adding necessary strain relief. (*Knockout options include the top corner of the unit or the opposite end of where the disconnect is planned*)
- Land L1, L2 on the top of the disconnect switch.
- Attach the ground wire from the power line and also from the unit to the ground bus bar located inside the enclosure.
- Attach the disconnect and yellow faceplate to the unit with 4 screws. Followed by attaching the red disconnect knob as shown.



7. Connect thermostat wires and supply/return air temperature sensors to gateway

- Determine the side of the unit to mount the gateway. Note: one side has a blank panel installed that can be removed to cover the side that is not in use.
- Keeping the cables attached, route the gateway module through the opening (pull the gateway outside the unit for easy wire hookup).
- Install the supply and return air sensors into the ductwork.
- Choose a knockout that best fits the install and route thermostat and air temp sensor wires. Add appropriate strain relief to the chassis pass-through. Land wires on the gateway as shown. (RAT = return air temp, SAT = supply air temp)
- Attach the gateway module to the unit by engaging the tab into the sheet metal at the bottom of the slot, then using screws provided.
- Attach the antenna to the gateway.
- If a zone control board is being utilized, there are optional 24VAC power leads provided on the front of the gateway module.

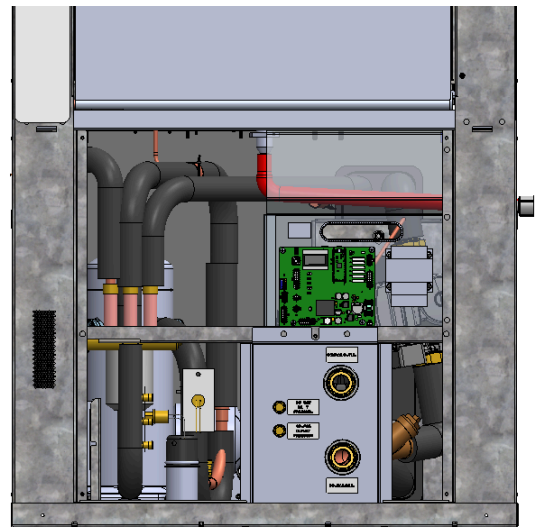




8. Condensate hose Installation

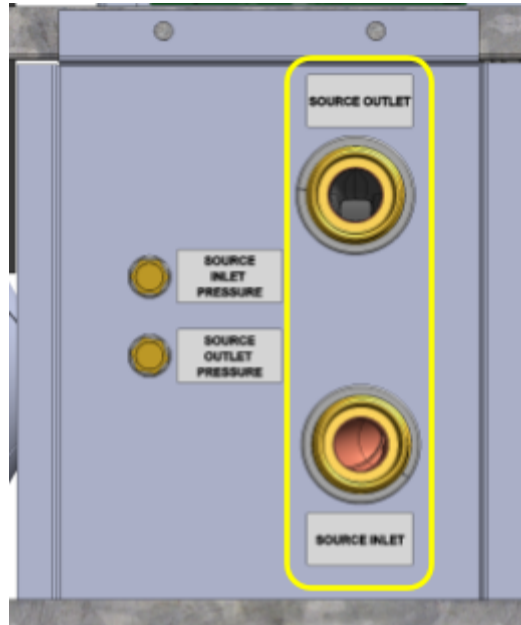
- Remove unit cover under the main air coil as shown.
 - Connect the condensate hose (red in image) to the bottom of the condensate tray and route the hose to the desired side of the unit (right hand side pictured)
 - Push the hose barb connector through the hole within the chassis and continue into the hose.
 - Using the hose clamps, secure both ends of the condensate hose to the hose barbs.
- Note: Take care not to over-insert the tube onto the fitting.**
- An external trap should be installed if necessary

** for DP1G models with serial numbers of type
 XXXXXX00XXXXX, see appendix for additional information
 about the condensate hose.*



9. Ground loop connection

- Flush ground loop and trim kit with flush cart or other means to remove debris and all air bubbles.
- Confirm there are no leaks detected.
- Connect the female Flo-Link adapters from the ground loop to the corresponding **SOURCE INLET** and **SOURCE OUTLET** ports on the unit. Pressurize the system to 20 - 50 PSI



Start-Up Procedures

BEFORE Start-Up

Check the following before power is applied to the equipment.

Electrical

- High voltage wiring and breakers are properly sized and installed.
- Low voltage wiring is correct and completely installed.
- Source voltage is correct and matches the data plate.

Plumbing

- Loop piping is completed, properly sized, and purged of all air and debris.
- Correct amount of antifreeze has been added.
- All valves are open.
- Condensate is trapped (if necessary) and properly piped to drain.

Mechanical

- Filter is installed and clean.
- Packaging, shipping foam and support brackets are removed from the blower assembly.
- Blower turns freely.
- Flex connections installed on supply plenum & return drop.
- Replace all top service panels and screws. The bottom service panels can remain off for the following steps.

AFTER Start-Up

Once power is applied each of the following settings are **REQUIRED** for operation.

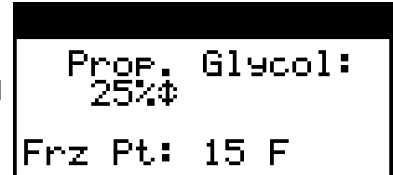
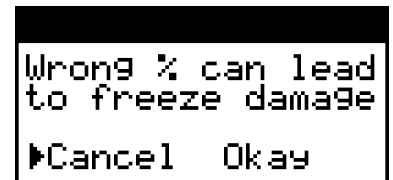
At this point, while not required for start-up, **connecting the gateway to the internet is strongly encouraged** so that remote assistance can be provided for troubleshooting through the next steps if needed. See **Optional Start-Up Procedures**.

1. Check the firmware version on the controller.

- Check minimum allowable firmware version (**Visit https://dandelionenergy.com/geo_support for firmware information**)
- Press the **RESET** button on the controller - after a few seconds, the LCD will display the Dandelion logo with the firmware version number.
- If this number matches an allowable firmware version, no action is required. Otherwise, follow the instructions in the IOM for updating the firmware.

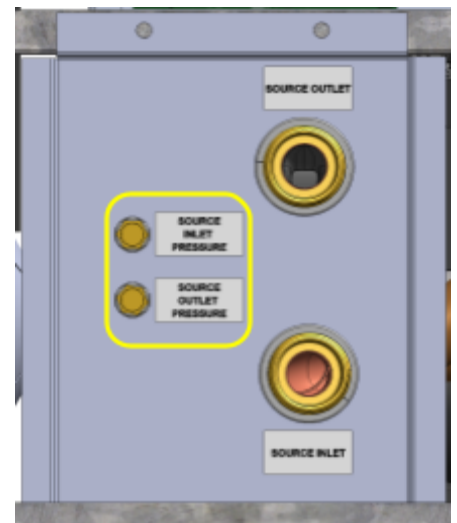
2. Set the freeze protection setting on the ground loop.

- Press the **FREEZE PROTECTION** button on the controller to bring up the antifreeze % display.
- Press **ENTER** to edit the antifreeze %.
- Read the warning, turn the **DIAL** to move the cursor to okay, press **ENTER**.
- Use **DIAL** to select antifreeze type, then hit **ENTER**
- Turn the **DIAL** to adjust the antifreeze % up or down.
- Press **ENTER** to save changes and apply the new setting, or **BACK** to cancel changes.

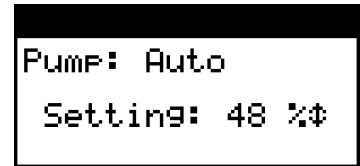
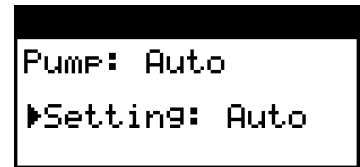


3. Check ground loop flow rate

- Measure the inlet and outlet pressure at the pressure taps shown in the image below, using a 1/8" diameter pressure test probe (1/4" NPT threaded fitting). For accuracy, use the same pressure gauge for both measurements.
- Subtract the inlet pressure from the outlet pressure. This is the **dP** value.
- Compare the results on the table below.



- d. If the flow is low, **first check the internal strainer** to ensure it hasn't been clogged. Power down the unit or stop the pumps, then open the strainer access port. Even a small amount of debris can impact the performance. If flow rate issues persist, set the flow manually by taking the following steps:
- i. Push the **BLOWER AND FREEZE PROTECTION** buttons together on the controller to put the controller in flow adjustment mode.
 - ii. Press the **ENTER** button to edit the flow rate.
 - iii. Turn **DIAL** to adjust pump speed % up or down.
 - iv. Press **ENTER** to save changes or **BACK** to cancel.



Note: While adjusting, the pump will start up and run at the indicated speed %.

Tonnage		Flow [GPM]	Pressure Delta (dP) at:		
			30°F [PSI]	50°F [PSI]	80°F [PSI]
6T	Target	18	3.7	4.0	4.3
	Minimum	15	2.7	2.9	3.1
5T	Target	15	3.5	3.7	4.0
	Minimum	12.5	2.5	2.7	2.9
4T	Target	12	3.4	3.5	3.6
	Minimum	10	2.4	2.5	2.6
3T	Target	9	3.3	3.4	3.5
	Minimum	7.5	2.4	2.5	2.6

**for DP1G models with serial numbers of type XXXXXXXX00XXXXX, see appendix for alternate table*

OPTIONAL Start-Up Procedures

1. Connect gateway to internet (strongly recommended)

- a. If Wi-Fi/Ethernet is not available at the time of installation, this step can be skipped. **Note that remote updates and monitoring will not be available until connected.**
- b. If Wi-Fi is available
 - i. Connect your computer to the gateway card using a USB-C cable.
 - ii. Visit geothermal.cloud to launch the Wi-Fi set-up app.
 - iii. Select Device, then select “P2” on the following screen.
 - iv. Choose the homeowners Wi-Fi network and enter the password.
 - v. Once connected the LED on the gateway will be teal with a slow breathing like pattern.
- c. If Ethernet cable is available
 - i. Connect the gateway board to a hardwired network by plugging an Ethernet cable into the RJ45 jack on the gateway and connecting the other end to the customer’s network equipment.
 - ii. The Ethernet cable will remain plugged in. If needed, the gateway can be repositioned on the other side of the unit for closer connection.

2. For 208V installs only - adjust voltage tap setting on the 24VAC control transformer

- a. Remove the access panel below the return duct. Confirm the white wire is on the correct transformer tap for the supplied voltage.

208V – Center Tap | 230V – Right Tap (default)



3. Adjust the airflow rate

When needed, airflow can be reduced by accessing the controller and adjusting the flow setting for each mode of operation. The controller will allow adjustment of airflow down to the minimum values given in the table below.

To adjust airflow settings:

- a. Press the **BLOWER** button to see the stage options.
- b. Turn the **DIAL** to choose a stage.
- c. Press **ENTER** to select the stage.
- d. Turn **DIAL** to adjust the blower CFM target up or down.
- e. Press **ENTER** to save changes or **BACK** to cancel.

NOTES:

- While editing a blower setting, the blower will turn on to the target CFM and remain on until finished editing.
- Default and minimum airflow settings shown - **operate as close to default airflows as acceptable.** Setting any mode's airflow below the minimum will disable that mode. When part load cooling airflow is set near minimum, low thermostat settings will be limited.

Default airflow settings per operating mode, and max allowable static pressure for default settings:

Model	Default Airflow Heating [CFM]		Default Airflow Cooling [CFM]		Default Dehumidify [CFM]	Default Fan [CFM]
	Part Load	Full Load	Part Load	Full Load		
DP1G072	1800	2300	1800	2300	1500	1500
DP1G060	1500	1900	1600	2000	1300	1250
DP1G048	1350	1600	1420	1680	1150	1130
DP1G036	1130	1350	1130	1400	970	750

Minimum allowable airflow settings per operating mode:

Model	Min Airflow Heating [CFM]	Min Airflow Cooling [CFM]	
	Part Load & Full Load	Part Load	Full Load
DP1G072	1380	1420	1900
DP1G060	1150	1175	1600
DP1G048	920	940	1400
DP1G036	690	720	1210









More Resources

Complete Installation and Operations Manual






Scan the QR code to the right or visit https://dandelionenergy.com/geo_support to view the complete Dandelion Geo Installation and Operations Manual.



Status Indicators

Left LED Color and Pattern	Right LED Color and Pattern	Status
 White	-	Idle
 White - Breathing	-	Fan
 Reddish Orange - Slow Breathing	-	Heating Part Load
 Reddish Orange - Fast Breathing	-	Heating Full Load
 Light Blue - Slow Breathing	-	Cooling Part Load
 Light Blue - Fast Breathing	-	Cooling Full Load
 Red - Blinking	-	Fault/Lockout
-	 Reddish Orange - Solid	Aux/Emergency Heat

Internet Status Indicators

Color and Pattern	Status
 Light Blue - Slow Breathing	Connected - no action needed
 Light Blue - Blinking	Connecting to the cloud
 Green / Blue - Blinking	Internet not setup
 Purple - Solid	Performing self-update
 Red - Solid	Error (okay if temporary)

Appendix

For DP1G units with a serial number of type XXXXXXXX00XXXXX, there are a few minor differences from the information shared in the above quickstart guide:

1. When the controller button **FREEZE PROTECTION** is referenced, this is the same as the **GLYCOL** button on these models.
2. These models have an internal p-trap. Installation is the same process as described above, but an external trap should not be installed. If necessary for regulatory reasons, see Geo support webpage for more information.
3. The ground loop flow rate pressure delta table is slightly different for these models:

Tonnage		Flow [GPM]	Pressure Delta (dP) at:		
			30°F [PSI]	50°F [PSI]	80°F [PSI]
6T	Target	18	2.0	1.7	1.4
	Minimum	15	1.4	1.2	1.0
5T	Target	15	1.9	1.7	1.3
	Minimum	12.5	1.4	1.2	0.9
4T	Target	12	1.9	1.6	1.2
	Minimum	10	1.4	1.2	0.85
3T	Target	9	1.3	1.1	0.84
	Minimum	7.5	0.95	0.8	0.6