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Everest Peak Electrician Guide

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°CRYOBUILT MANUFACTURING

NAME: Everest Peak LAST PRINTED: Friday, March 18, 2022

TITLE: Everest Peak - Electrician Guide SHEET 1 OF 9 DRAWN BY: Ashish Shrestha

APPVD BY:

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Electrical Intro

Before your Everest system can be installed, Cryobuilt will require to have your site prepped with a few electrical requirements prior to install. Having your site prepared with the electrical pre-requisites will ensure a smooth and standard install. Please note that the Everest system is not plug in unit as it will need to be hardwired to your building electrical panel. One of the first requirements is to make sure you are able to work with a licensed electrician that can help prep and guide you.

Establishing Power and Phase

Once you have an electrician available working with you. You will need to confirm what power and phase is supplied by your building/site. Our system comes standard at 208V-230V and 3PH power. However we can configure the Everest system to match your building/site after you confirm with your electrician what power and phase is supplied. Once power and phase has been confirmed, this can be submitted by filling out the first pre-install form provided, as a link, in your intro email or in the install checklist pdf.

Power and Phase options

The power and phase options the system can operate with are as listed below:

Please note the voltage provided below are ranges the Everest system can operate with

1. 208V-230V and 3PH
2. 208V-230V and 1PH
3. 460V-480V and 3PH (Will require a longer a lead time due to the nature of this build. Locations that provide 460V-480V usually already have 208V-230V)

Once you have established what power and phase is supplied at the site, reference the corresponding pages for what requirements are needed:

- 208V-230V and 3PH (Page 4)
- 208V-230V and 1PH (Page 5)
- 460V-480V and 3PH (Page 6)

Internet

The Everest system will require a hardline internet connection. A CAT5/6 ethernet cable, from your router, with a RJ45 connector must be ready to be plugged into the top of the brain prior to install. If internet is not available during install, the Everest system will not operate and can void your warranty.

Install

Once your install date has been confirmed, your electrician will need to be onsite to make the final terminations on the first day of install and the second day too if the condenser is located on the roof. Please ensure that your building has power during install. If power is not provided, startup cannot occur and will render install incomplete. A change order will be issued if a return trip is required. On page 7, it will show the cutouts to help the electrician line up the conduits on top of the brain.

Page 8 and 9 provide a summary of the electrical prep work.



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Electrical Requirements for 208V-230V and 3PH Power

Notes: This page is to facilitate electrical prep work if your building/site provides 208-230V and 3PH power.

Components in yellow are to be supplied by the customer prior to install date.

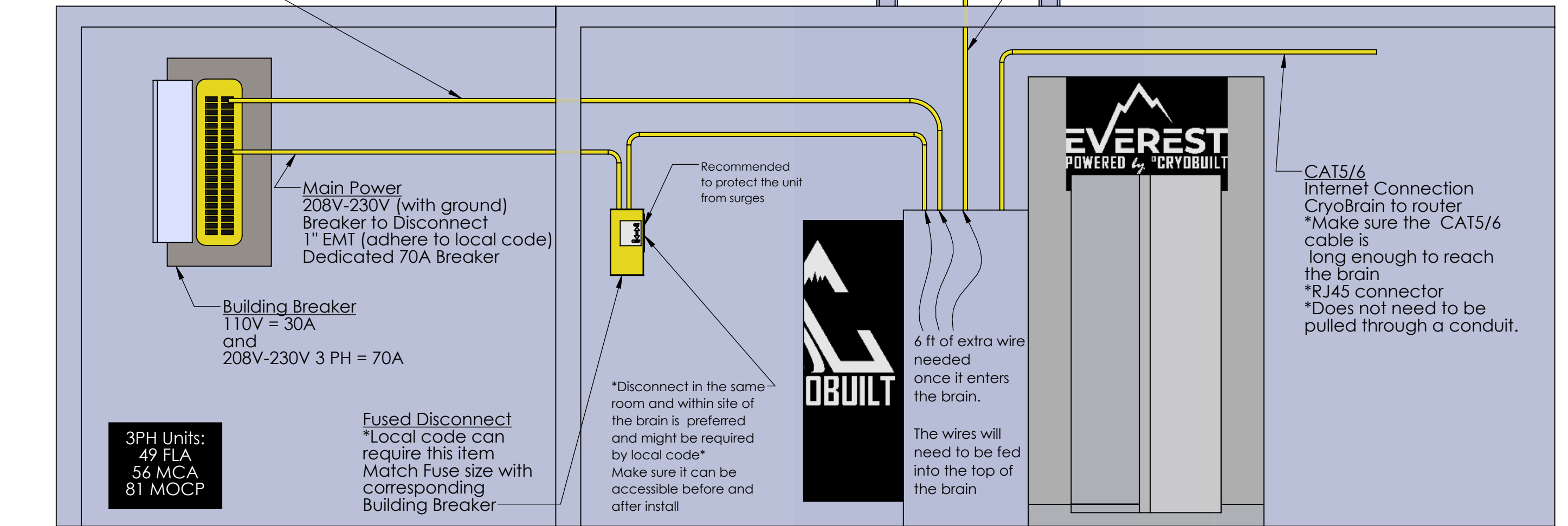
The Everest is not a plug in unit. It needs to be hardwired to the building electrical panel. The Electrician will have to size the wires in coordination with local code. Make sure the lines are pulled through and are long enough to reach the CryoBrain.

CryoBrain Control Power

110V (with ground)

1
2" EMT (adhere to local code)

Dedicated 30A Breaker



Note: The Electrician has to be present on the first day of install to terminate power to the brain and then the condenser to the brain. *2nd day too if the condenser is on the roof or placed in an abnormal location*

3PH is our standard build. We can accommodate for 1PH but the first form needs to be filled for our manufacture team to configure the brain to match the buildings power.

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Electrical Requirements for 208V-230V and 1PH Power

Notes: This page is to facilitate electrical prep work if your building/site provides 208-230V and 1PH power.

Components in yellow are to be supplied by the customer prior to install date.

The Everest is not a plug in unit. It needs to be hardwired to the building electrical panel. The Electrician will have to size the wires in coordination with local code. Make sure the lines are pulled through and are long enough to reach the CryoBrain.

CryoBrain Control Power
110V (with ground)
1/2" EMT (adhere to local code)
Dedicated 30A Breaker

Disconnect may be needed for condenser per local code
FLA: 3.6 A
3PH Disconnect

Condenser Power
CryoBrain to Condenser
3 x 12 Gauge Conductor + 1G
1" EMT
*Condenser is powered by the CryoBrain

Main Power
208V-230V (with ground)
Breaker to Disconnect
1" EMT (adhere to local code)
Dedicated 90A Breaker

Building Breaker
110V = 30A
and
208V-230V 1 PH = 90A

1PH Units:
65 FLA
75 MCA
113 MOCP

Fused Disconnect
*Local code can require this item
Match Fuse size with corresponding Building Breaker

Recommended to protect the unit from surges

Disconnect in the same room and within site of the brain is preferred and might be required by local code
Make sure it can be accessible before and after install

6 ft of extra wire needed once it enters the brain.

The wires will need to be fed into the top of the brain

CAT5/6 Internet Connection
CryoBrain to router
*Make sure the CAT5/6 cable is long enough to reach the brain
*RJ45 connector
*Does not need to be pulled through a conduit.

Note: The Electrician has to be present on the first day of install to terminate power to the brain and then the condenser to the brain. *2nd day too if the condenser is on the roof or placed in an abnormal location*

3PH is our standard build. We can accommodate for 1PH but the first form needs to be filled for our manufacture team to configure the brain to match the buildings power.

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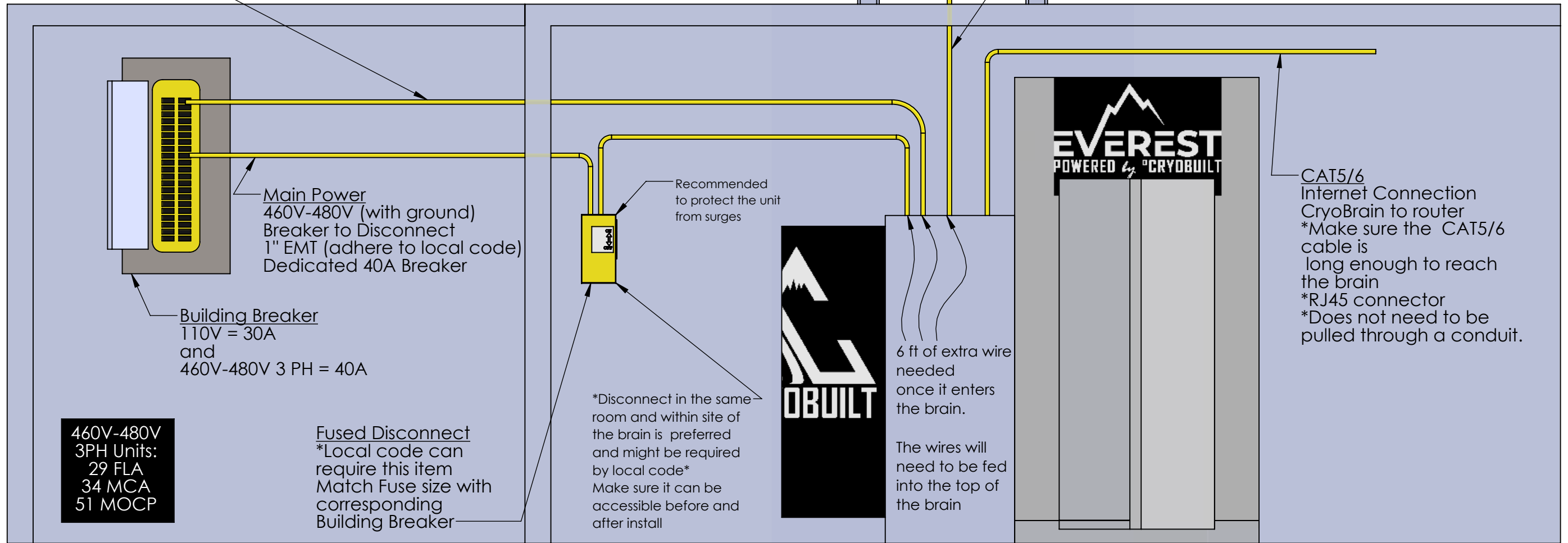
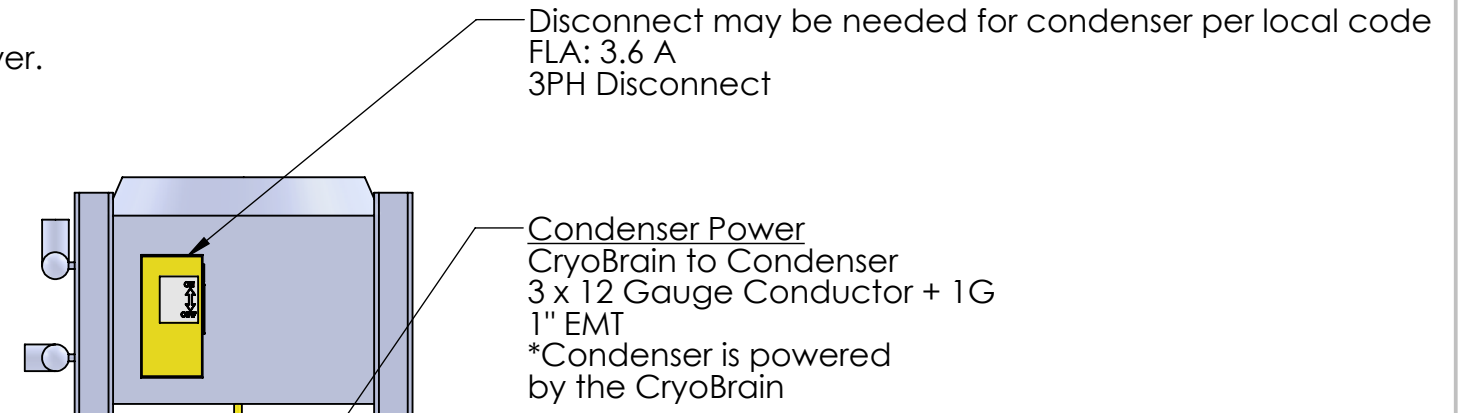
Electrical Requirements for 460V-480V and 3PH Power

Notes: This page is to facilitate electrical prep work if your building/site provides 460-480V and 3PH power.

Components in yellow are to be supplied by the customer prior to install date.

The Everest is not a plug in unit. It needs to be hardwired to the building electrical panel. The Electrician will have to size the wires in coordination with local code. Make sure the lines are pulled through and are long enough to reach the CryoBrain.

CryoBrain Control Power
110V (with ground)
1/2" EMT (adhere to local code)
Dedicated 30A Breaker



460V-480V
3PH Units:
29 FLA
34 MCA
51 MOCP

Note: The Electrician has to be present on the first day of install to terminate power to the brain and then the condenser to the brain. *2nd day too if the condenser is on the roof or placed in an abnormal location*

460V units require a longer lead time as it is not our standard build. Most locations with 460V should have 208-230V.

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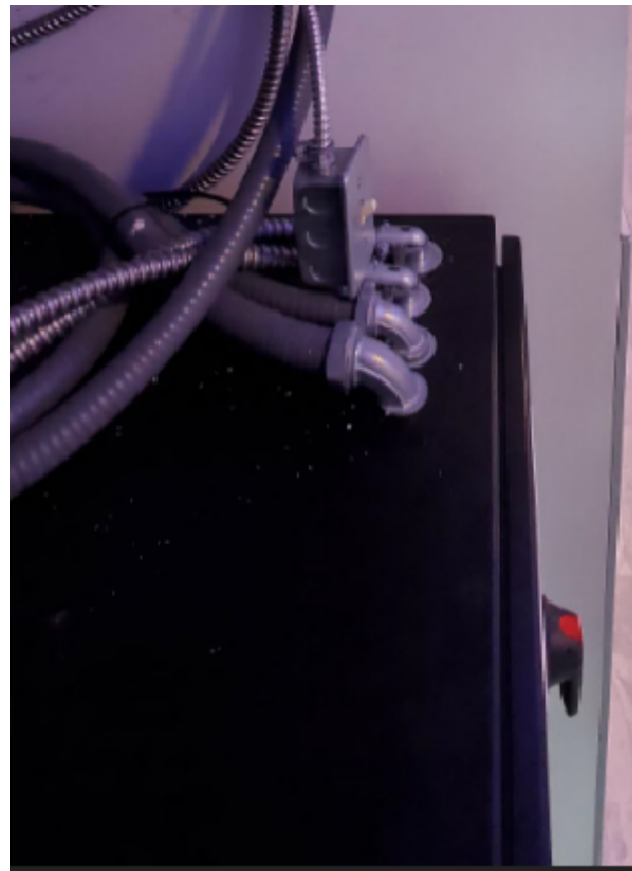
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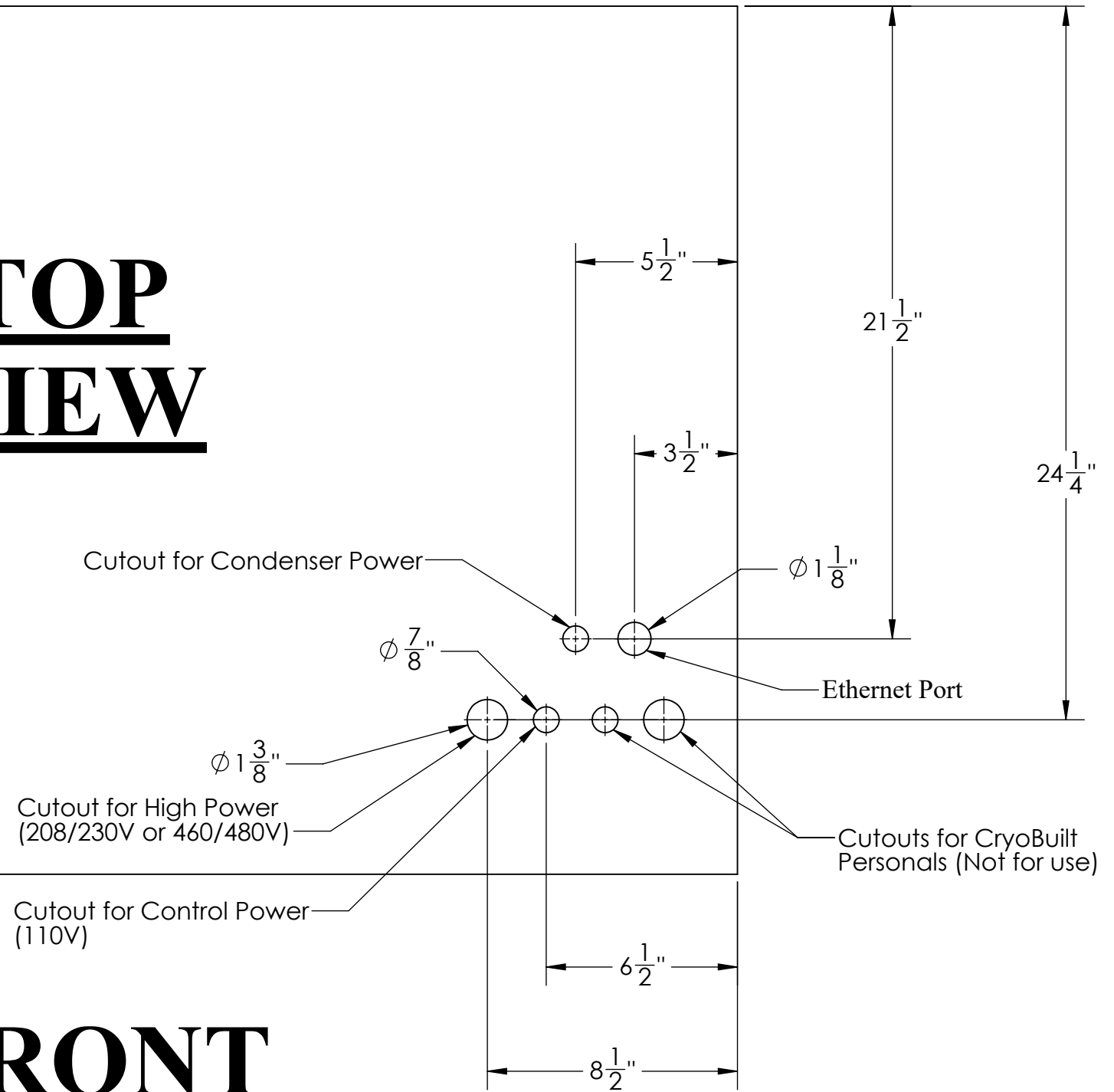
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Electrical Landing Points on top of the Brain

Electrician will need to run lines to top of the Brain to terminate power in the Brain.



TOP VIEW



FRONT

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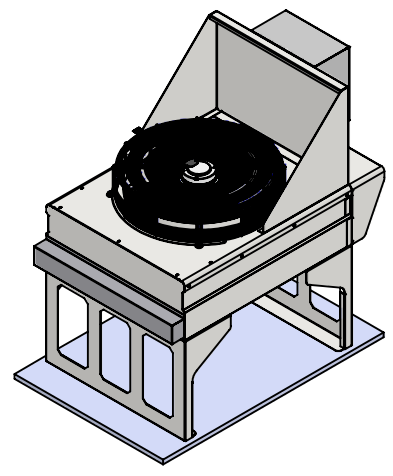
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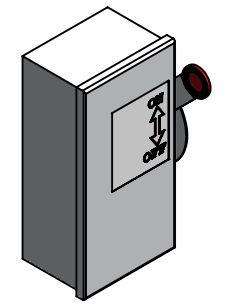
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Condenser

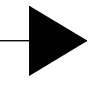


3PH Disconnect for Condenser

3 x 12 gauge conductors and a ground



110V

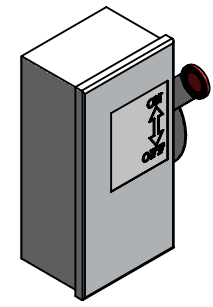
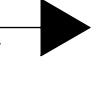


Building Electrical Panel

Electrician will have to size the wires that adhere to local code



208-230V or 460V-480V



Disconnect in CryoBrain Room
Must be accessible before and after install

CAT5/6 Ethernet Cable w/ RJ45 Connector



Building Internet



CryoBrain

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Summary:

1. You will need to check and verify with a licensed electrician what your building/site provides in terms of power and phase.
2. Cryobuilt manufacturing will build the unit in order to match the power and phase provided by the customers' building/site.
3. The building electrical panel will need room for a 110V line and a 208V-230V or 460V-480V line.
4. The 3 options are 208V-230V 3PH, 208V-230V 1PH, or 460V-480V 3PH (460V-480V units will require a significantly longer lead time as they are not our standard build).
5. The Everest unit can operate in the range of 208V-230V or 460V-480V.
6. This info will need to be filled out in the pre-install forms in order for manufacturing to start building the unit to match the power and phase. *We need form 1 submitted as soon as possible*
7. The Everest system needs to be hardwired to the building panel. *It is not a plug in unit*
8. There are a total of two lines that will connect to the Cryobrain from the building electrical panel. There is a 110V line and a corresponding building power line (208/230V or 460/480V).
9. The two lines need to be sized by the electrician to adhere local code.
10. The 208/230V or 460/480V line will need to have its own dedicated breaker. Please refer to the corresponding page for each power/phase, listed in the table of contents, in this guide for the right breaker size. With this line, we also recommend an external fused disconnect to protect your system from surges. Please match the fuse with the corresponding breaker size.
11. The 110V line will need a dedicated 30A breaker.
12. The condenser will require 3 x 12 gauge conductors and a ground. A disconnect for the condenser is recommend and can be required by local code.
13. To prepapre your site for install, the site will need to have the 208/230V or 460/480V line pulled and set with the external disconnect ahead of install.
14. Internet will need to be availble as a hardline connection. A CAT5/6 cable will be need to plug into the top of the brain. This needs to be ready prior to install.
15. Once an install date has been confirmed, the electricain provided by the customer needs to present day one of install to terminate power from the building to the brain. In addition, will need to connect the condenser to the brain.
16. The wires will need enter through the top of the brain.
17. If the condenser is set to be placed on the roof or in an abnormal location, the electrician will need to return the second day of install to connect the condenser to the brain.



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