

The 12-Volt Solar Panel Powered Room Cooler (Home-Build) The Super Cooler

(7. The Peltier Water Cooler installation)

A simple but effective way to cool a room using only sunshine.

This is a home build project that is fairly easy to build requiring minimal use of power tools and minimal wiring.

If you live in a dry climate the cooler project you have already built will suffice for your cooling purposes.

But if you live in the east and south east part of the country where the humidity is normally pretty high you probably will need to add on the Peltier water cooler.

You can add one like shown below, but you probably will not be very happy with the results.

If you only have one Peltier cooler you will need to turn it on when the sun first comes up and give it two or three hours run time to cool your water before turning the cooler water pump & fan on.

With one Peltier cooler you will need to run an additional 150 watt solar panel. Plus run separate wires into your home to power this Peltier water cooler.

You will need to add a switch to turn the power on and off to this unit.



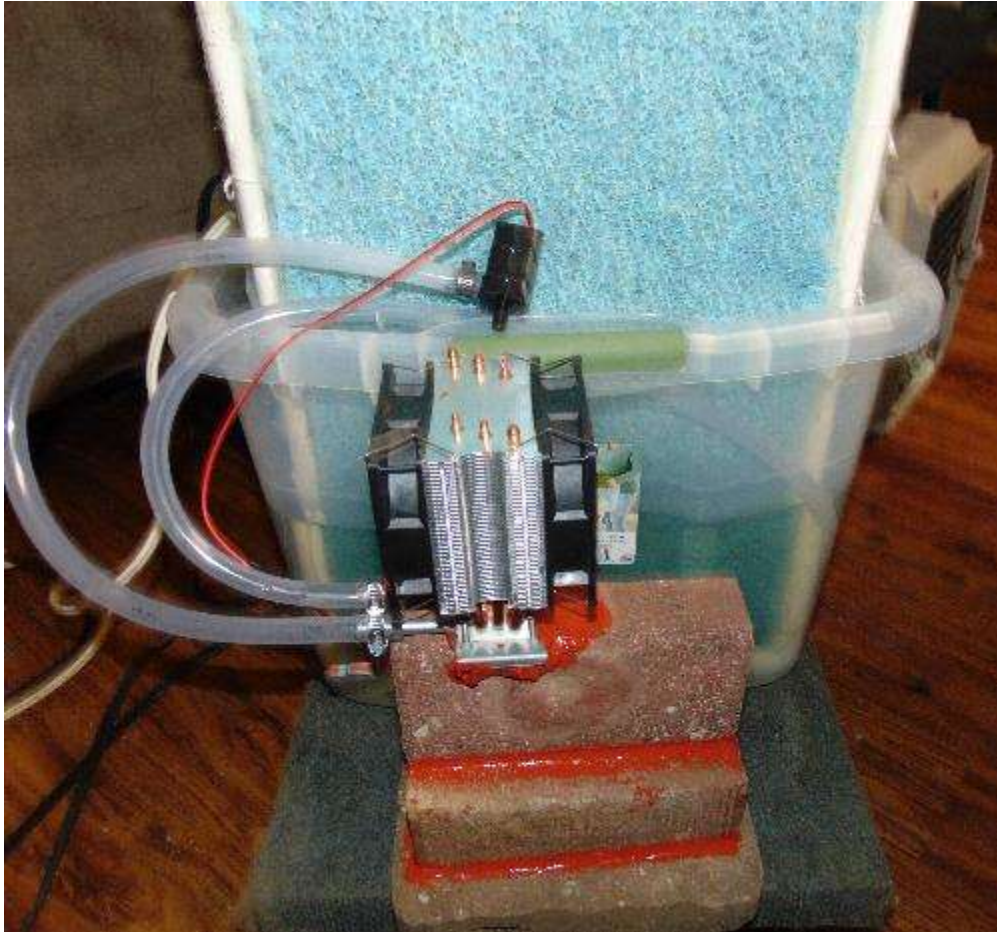
Above is the type of Peltier water cooler I use.

I have tried other Peltier coolers and some of them are junk.

This type of cooler seems to work best.

I buy this from Amazon, here is the link for it:

https://www.amazon.com/Thermoelectric-Peltier-Semiconductor-Refrigeration-Chiller/dp/B09XZNZ1G4/ref=sr_1_2_pp?crd=12XW4NGW9E8Z9&dib=eyJ2IjoiMSJ9.KKinToQ3kooBojV7kxHZTyk1Ql0OMhwdYiCzFN8PLw03zxneMKMjrM8gvfTmcNZv-F1EDud67Y6vSJYkzRQTlzxJ1gKPXWr-K25NTgXNxUcMjEglfoUKAZtybe25-M39BR2sEi7M4RNxzYC7b3FM0q0UpQ99B3tzlmi0gPwB liPnfwiosbAPBHtDo1CR6Np9aSvIFlz-45xsRunCB0sZAvWWsbpSI2cH1rwKhpWGkEukvBySlqMzXTV3BuWE9XgY9TCuRegnUj45mgDNeBjsKRG E jOcTb6HV74BFeiN c.QFwylXnjuW8Rn3epDs5Sf9Y8NkzP3gKdiqqFllWuz3Y&dib tag=se&keywords=Peltier+water+cooler&qid=1722495880&sprefix=peltier+water+cooler%2Caps%2C129&sr=8-2



Above shows one Peltier cooler installed with the mini water pump.



The above photo shows two Peltier water coolers mounted on the same brick.

Note each cooler has a mini water pump to pump water through the Peltier water cooler, with out this pump this device will not work.

With the additional Peltier water cooler you will need an additional 12 volt, 150 watt solar panel for a total of 300 watts. These Peltier water coolers use 108 watts of power each.

The fittings on the Peltier coolers are for 3/8 inch inside diameter clear plastic hose and attach them with a mini hose clamp.

One hose for the water outlet which we just push under the blue pad in between the cooler pad and the PVC Pipe at the bottom. (So the plastic hose is NOT sitting on the plastic hose.)

The other hose connects to a mini 12 volt brushless water pump.

See below:



Above is the small water pump I use. On Amazon, any pump with a small 3/8" outlet that is submersible and brushless will work.

https://www.amazon.com/ZBCKKING-silent-brushless-circulation-submersible/dp/B0D1PKK3K2/ref=sr_1_83?crid=JK7LEVGEXUKW&dib=eYJ2IjoiMSJ9.gioq41HtMoguuob39ugUWuxlYafWchp9Phn-lW4uQell8RnqMseziw93rGlpTMtEW4-ny4rlw2ueMh3b1CUVp5-5szkbUp5rq41tj9-TY0w_cyXmEVK4gBFqlujGyi8svFicUrITGeE8sCxxkMQVxY2Y0NBpxW7SzaWp6ZcWJL5qIX-qBEVYeJdfZ8RJ6qnBHe0FChROC2qfbGPYd7FZxpwKE6kxJ2S7RBSVw1fozbww.2QW2W1w2YINyWCIXaHmlttINZ0pX2DCYBqAkjrSCwS0&dib_tag=se&keywords=DC+12-24V+Mini+Submersible+Water+Pump+Max.+220L%2FH+10ft+Lift+for+Aquarium+Garden+Pond+Fall+Hydroponic+Fountains%2C+Clear+Water+Only&qid=1719423931&s=hi&sprefix=dc+12-24v+mini+submersible+water+pump+max.+220l%2Fh+10ft+lift+for+aquarium+garden+pond+fall+hydroponic+fountains%2C+clear+water+only%2Ctools%2C116&sr=1-83

Next you will need 9 feet of 3/8" clear plastic tubing.

(Only 5 ft. if you are installing only one Peltier water cooler.)



The hose with the attached mini water pumps are attached to the 2' hose each.

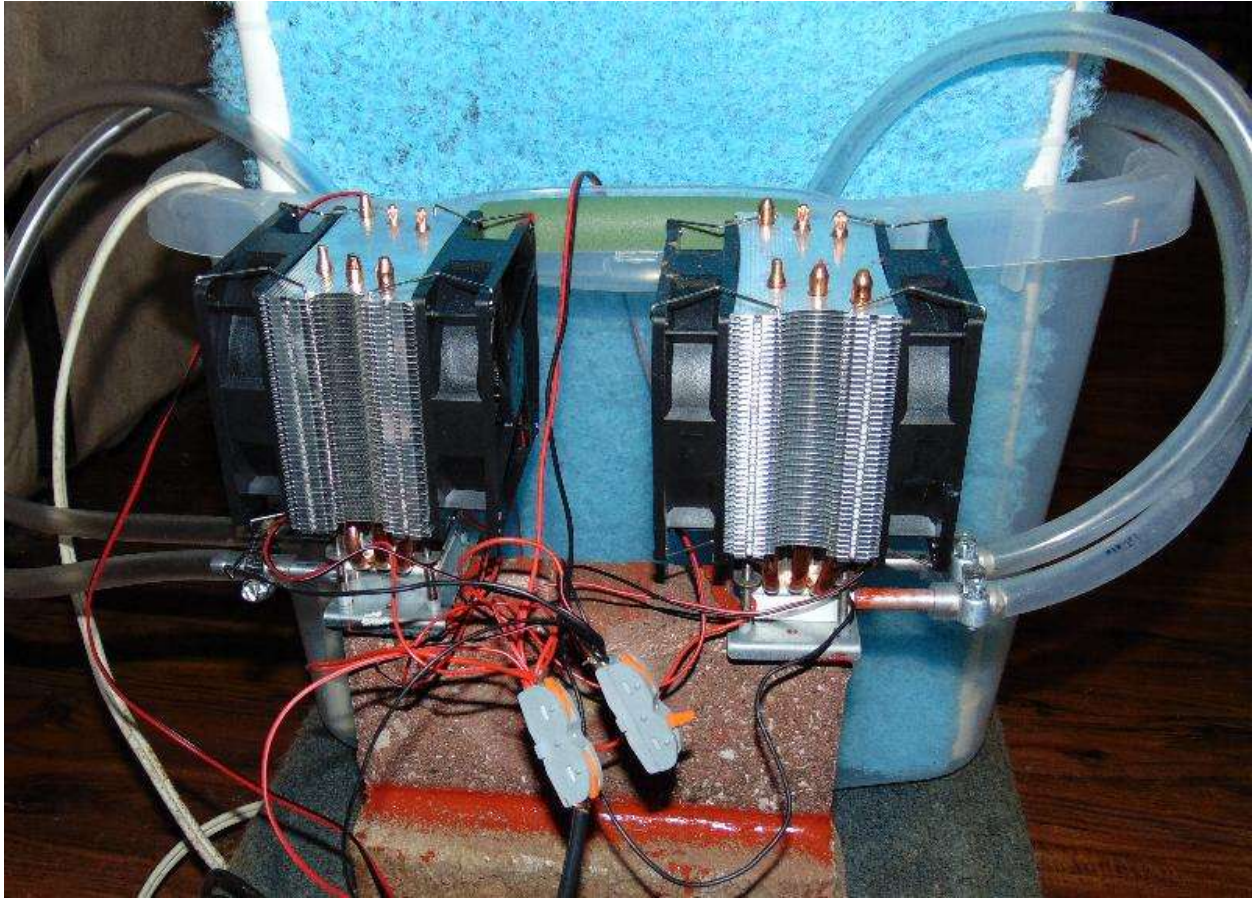
The discharge end you will need approximately 2 ½' of 3/8" plastic hose to push the end up under the blue cooler pad.

If you have extra hose BE SURE it is long enough to place the mini water pumps near the bottom inside the tote.

And have enough left over top attach to the Peltier cooler without kinking the hose.

Note the mini hose clamps holding the hose water tight onto the Peltier cooler.

This you can pick up plastic 3/8" clear hose at any local hardware store or Lowes or Home Depot.



Above shows the mini water pumps placed inside the tote as close to the bottom as possible.

NOW, I mounted (I used silicone glue) to attach my Peltier water coolers to the brick as shown in these photos.

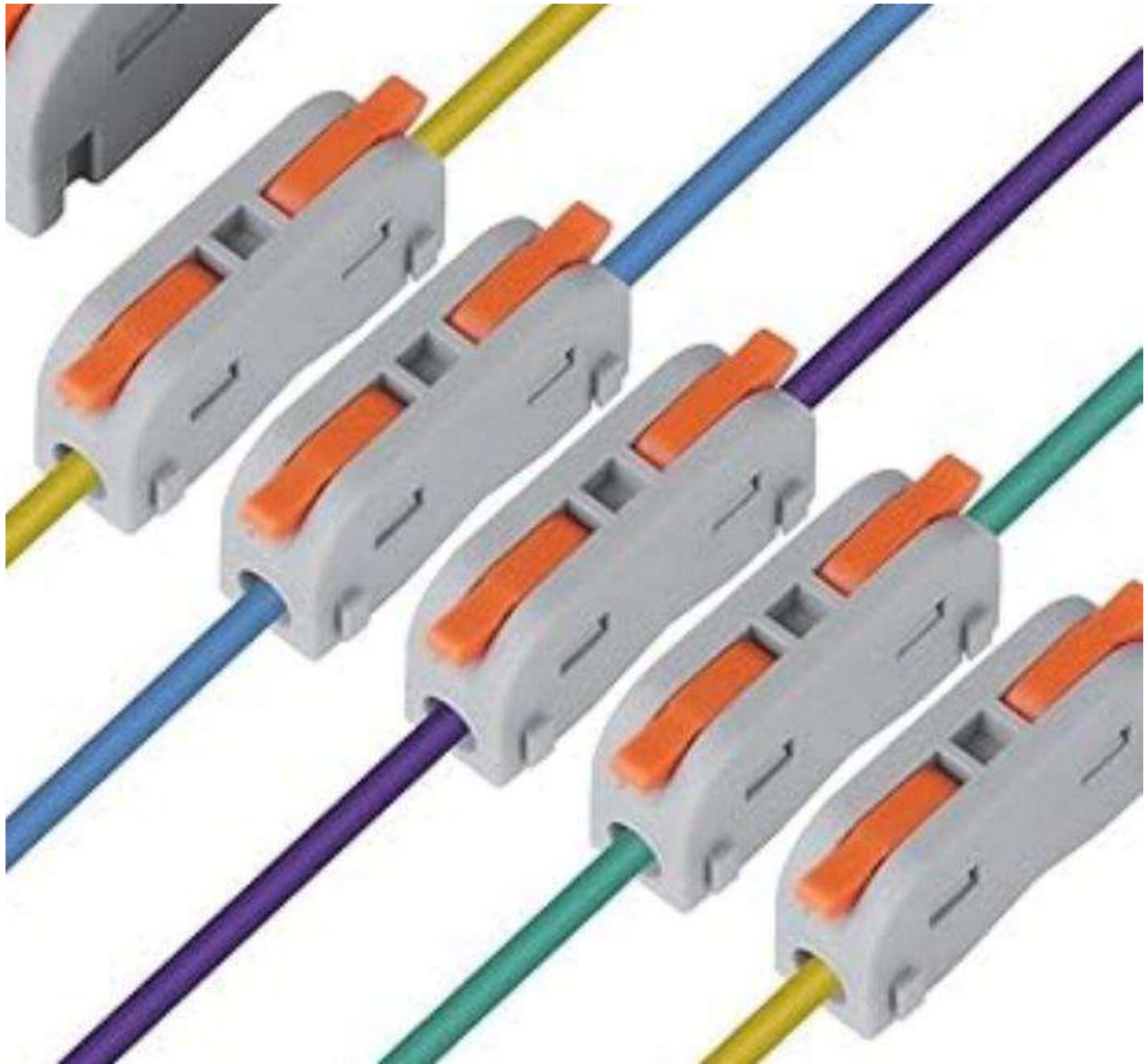
You can mount your coolers any way you see fit.

But the bricks have some weight and are secure sitting on the dolly.

WARNING: BEFORE YOU START ATTACHING ANY WIRES BE ABSOLUTLY SURE YOUR POWER IS OFF TO THE DEVICE/S YOU ARE WIRING UP.

As for wiring you should as before have A positive 12 gauge wire coming into your home from the two solar panels.

And you should have one Negative 12 gauge wire also coming in from your solar panels.



Then I do the same with all the Positive wires

- NOTE, the two wire connectors I use are Snap Lock wire connectors. This allows me to strip about 1" of wire from ALL these small wires and I group all the negative wires and twist them all together tight and slide them into the connector and snap the orange lever closed on ALL the wires. To make sure I tug on the wires to be sure they are all locked in place.

Then I do the same with all the Positive wires.

This should be easy as everything is color coded RED for Positive and BLACK for Negative.

Then just match up your Power cables coming into your cooler and attach the Red (Positive) cable to the connector with all the RED wires and lock it in and do the same with the Negative wires and you are done with that.

The last thing that may be necessary if you are adding the Peltier water coolers you will need a dolly to set everything onto and it will allow you to move the unit somewhat while still wired up.

IF you are building a cooler with the Peltier water coolers you will need a dolly to set everything including your bricks with the attached Peltier coolers attached onto. And a dolly is an obvious choice, just be sure it is large enough for your tote with a little room left on the end for your bricks & Peltier coolers to sit.

And be sure it will handle the weight you are placing on it. I have seen some flimsy dolly's with a 300 lb. limit. You should opt for one with a 600 to 1000 lb. limit.

If you are going to move the unit any distance be sure to disconnect all the power wires coming to your cooler.

Here is a dolly that will work, you also can find these at Harbor Freight



https://www.amazon.com/Zeluga-24-370-Capacity-Hardwood-Carpet/dp/B0CHZ1WSRG/ref=sr_1_23?crid=2KSTF2M8GG3N3&dib=eyJ2IjojMSJ9.H0Cf3clg3JafK6NvdYtHqaaBmAbFapkgEJvJo8unzFeVDVNufQAJjaM-

eJNcAwuHdLYHD84nao03kR2gZpWNKrBnOum898raROkTEeFmBUZOHQOjkr_s-LZ5PfsGrmVBDNZqLsfxi5H4MqJ6kEW4vBZTdEvqYe7FYT8qjY_HdViuIXBnjeMnaSnACUhsyQ-WWMB0lwSu_Ry5NKEkilzPli7ZImmM92O-7mLbLZZH20pOn7OQS5-iT72SSvsMK6baXuVDNqWdpxyc5swQ4LQEcOhh7TNxs0V1POxaYzraXM.97JWmuU-BYGpehDF-y-ovbvzVjeo02aZCDL8O1pTPU&dib_tag=se&keywords=wooden%2Bdolly%2Bwith%2Bwheels&qid=1722494320&sprefix=wooden%2Bdolly%2Bwith%2Bwheels%2Caps%2C110&sr=8-23&th=1

Please note: that I am not responsible for any damages or injuries caused by your building this device. This information is only provided as reference and educational material ONLY.

Sorry but I must include a disclaimer (it is the times we live in).

God Bless

Tony Lamb

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