

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

(Parts list)

This is a unique design that incorporates the frame of the cooler as the water lines as well and then the cooler pads are hung in the frame on all 4 sides making this unit even more efficient.

And the frame with the cooler pads installed sits in the tote filled with water and that seals the air from escaping around the bottom and supplies water for the pump to keep water flowing onto the cooler pads.

This is a home build project that is easy to build with little skills. And this project is very forgiving to details, tolerances and measurements.

These links are only a suggestion, to show you what you need, you can probably buy these materials locally and many times much cheaper than here. Sizes are critical on some items

First you will need to power this cooler, you will need a single 100 watt solar panel. And you will need a good sunny location that gets sun all day, IF possible. (If nothing else you might try the roof and lead the wires in through a window.)

WARNING: DO NOT short circuit this solar panel (by allowing the positive wire to touch the negative wire (at any time) as this may cause damage to your solar panel and it may cause sparks.)

https://www.amazon.com/WERCHTAY-High-Efficiency-Charger-Off-Grid-Applications/dp/B0BRKGV8G9/ref=sr_1_1_sspa?crid=28Z2WB9CV3QAJ&dib=eyJ2IjojMSJ9.SHGMRIXRk_ombJUEnzzkBF6YfqOHLbd1ntl-M3KVETLHxrxDulUeFWB6AWy5DQyHSX6RDa22xJo3172tpBDAI9IakSqfMAFGgMAYJaE0k5K_3pKlv7M0j05jdDrSGGgbsXmwnGPGUDjD1ZHt-ZvntS4-lziuNfmZkY-0hrIwOk_hhwxcSXXke14rz4jBpnSHrvTGpNKhV7KKBx_7M71Npjcc9a5_6fwQIA_zZq1FScnZzOGygnwaovSuf1RHmN5CQusur7PWnFgWjAS0aE4GrfL6EW_kXUwHko7BDALjdFQ.yQfcjJN1BlKd24C6kK421rhhPpn2KCQraGmsVr75w2c&dib_tag=se&keywords=150+watt+solar+panel+12v&qid=1721621669&srefix=150+watt+solar+%2Caps%2C121&sr=8-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&psc=1

This is a 150 watt 12 volt solar panel. About \$110.00 plus shipping from Amazon. You can find the same thing on Ebay as well.





Cooler pad material: you will need 140 inches of total length for all, so, (4) panels approximately 35 inches tall. And (2) panels approximately 16 ½" wide and (2) panels approximately 13" wide. You will take an accurate measurement after the frame is built. Here is an example of a cooler pad that I use.

These panels will need to be cut using scissors, BE CAREFUL as this material is difficult to cut. I recommend metal shears.

It is recommended that you ONLY cut this material AFTER you build the frame for your cooler. That way AFTER your frame is built you can then take an accurate measurement for a more precise fit.

Because IF your cooler pad is ¼ inch to short from side to side, then you will have to start over and measure & cut a new pad. (It will be OK if the bottom comes up a little short as it will be under water).

We recommend this Dura-Cool cooler pad material, not because it is the best, but because you must hang this in the frame of your cooler suspended by wires and when these pads get wet, they get heavy.

And we have found this product is strong enough to hang it by wires.

https://www.amazon.com/DialManufacturing-3079-DIAL-33x160-Duracool/dp/B000BOA348/ref=sr_1_5?crd=ZGWH3B7IN6SS&dib=eyJ2IjojMSJ9.djl5lv7lycFcXYDPSNmeXLHpznjka1JoIL5UzYRqwps41k1FcnFI1o9YPQMAXIyZGVMZNF RNwFzwKSO8-AxAerGuKZ9TosLYnADJKEbfEc2pVw4JKIj0EYM9WCxP6_9SxcfjpweqCBRGc2nAFXsd WSLqj9RjDFiHEsbN463wVb06ewW34CspK1RgblfcirCeTXtTtfBy2CkQyFLiUCDMrOr pYe5QTLDomXLZzldrIJ-0C4q8oIYaXDclpW2f4eQYI7DhmrEmCLNJ_fw-TvVMX5YmVksexVQUF75_ydj-6g.ThZYrMzbalry0lqRc53VY_OhRtxroX_RIAG_T-32mGc&dib_tag=se&keywords=swamp+cooler+pad+material&qid=1719340037&srefix=swamp+vooler+pad+material%2Caps%2C123&sr=8-5

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Next you will need a clear plastic tote, I recommend a Walmart storage tote that is 70 Qt./66 liters and is: 24 5/8" L x 18 3/4" W x 13 7/8" H (This is a very common size and your local Walmart should have this). (I know one will think about experimenting) with sizes of the cooler pad frame, tote size etc. but if you do then you can throw off the pump size the fan size and then will your PVC frame then fit into your tote.

We use ONLY the see through tote so that way we can see the water level at a quick glance. **(WARNING NEVER RUN THIS COOLER WITH THE WATER LEVEL LOW OR EMPTY AS THIS WILL CAUSE THE WATER PUMP TO BURN OUT. As it is NOT designed to run without water)**

You may feel the need to experiment, but first lets get a working cooler up and running and you can experiment later.

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You will need a 12 volt water pump. I know there are cheaper pumps but remember you need to pump water up about 3 feet high and have pressure to have it flow through small holes at that height. Plus this pump is brushless making it more dependable for continuous and long term use.

Here is a water pump I recommend: This pump is 900 Liters per hour and 7 meters of head. (Now a 800 Liter with 5 meter height is common, cheaper & will work just fine but with a little less pressure & a little less water flow, just be sure the pump you use is submersible, brushless and 12 volt with ½ inch fittings) This pump is just a suggestion.

<https://www.ebay.com/itm/116183020286?itmmeta=01J1J9034WD1ZR4BKGZFYJ8QN&hash=item1b0d0c32fe:g:YCAAOSwJBFmRNrV&itmprp=enc%3AAQAJAABAPSQvAMxJhb6MZ2xQVggD6VdkgwUnJ4v3vDvdU%2B%2BDFpq0tvqAxN10k3daMyJWHDYXHTIK%2FC1ZTNxuKBerzajox3Xqyc7qys3xW6eFKMJ4uEuzYUKpQwOVaneYTmfvY7T4vXUdxg45RwvtgQCKLQ%2Fj2hV1Js3Z8D0JO9bS3%2B%2FGQaLN4NplqgVU85jX6KgdCLGJ0x8DLuGF2s7lgdqJTMewU8DxSpgqJ4v6Ydmz8ZakA%2BV70I1G8Gcorz7VoRtYh1UV6bdnbe5M1FzJGxWQsPtd0KtNOqJRQXb13w2BghG%2Fzmin23WzDdR8eliffgn6TJ4GxTPjLO9nLbiXCqwCuzRvU%3D%7Ctkp%3ABk9SR8KygMmMZA>

WARNING: DO NOT RUN THIS PUMP DRY AS IT WILL RENDER THIS PUMP INOPERABLE, THIS PUMP IS NOT DESIGNED TO RUN WITH OUT WATER AND TO DO SO WILL DESTROY THIS PUMP & void the warranty.

Keep in mind that you will need to add tap water, two or three times a day to operate this cooler.

When I am running my cooler on hot days it is common that I add 2 or 3 gallons of water a day.

- **NOTE: Even though this is ONLY 12-volt PLEASE DO NOT run this device unattended, if you must leave the cooler unattended, PLEASE turn this unit OFF and disconnect it from its power source.**

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PVC tube

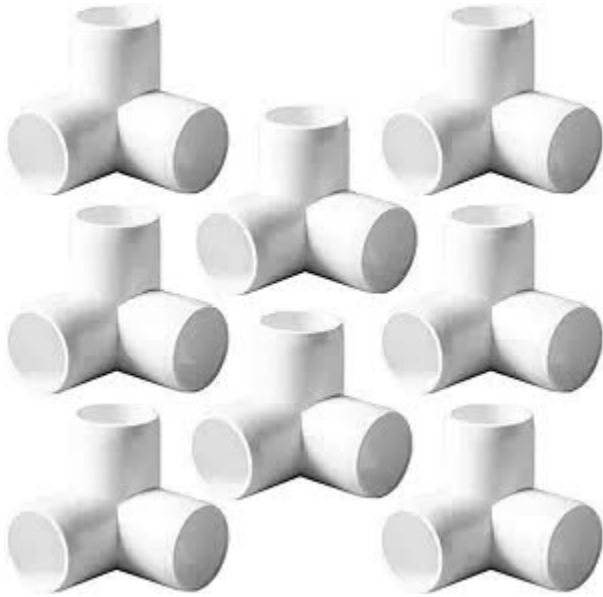
The round pipe is made of PVC material, with strong impact resistance and easy processing; Good insulation; Durable and long service life.



You will need ½ inch PVC water pipe this is very common and you can find this at any Lowes or Home Depot. You will need approximately 25 ft. of ½ inch PVC pipe. But do not try to cut corners by buying exactly what you need, as you are better off having a couple feet of this left over then to have to make the trip back to the store. And as it turns out you will need a short 3" length that is not in this measurement. So, you will need three 10 ft. lengths (or 5 - 5 ft. lengths) of this ½" PVC ridged water pipe.

Plus the fittings, of these you will need:

8 of these:



And one of these:



12 volt – 12 inch, high volume fan (push/pull fan)

You DO NOT have to use this fan, but it must be a high volume fan, low noise and 12 volt.



[https://www.amazon.com/GESEXI-Electric-Radiator-Universal-Performance/dp/B0BNZRBP98/ref=sr_1_1_sspa?crd=2W6BFGGL0AX5LZ&dib=e yJ2IjoiMSJ9.8YBhndjQZJiqybNe6P3_eaZBIXV4kjPyBFaCwHsFO9StytXg80lolu xq5bF6T1b-mp91pSxc1qlSRtlfm7d7wIS3-suJJA7IR-- m8XrIrT76oUmivIO_qQR015Qxy9KxbPaIOpsKTWYq7E1T3USfxjewedCIeldB4Ah3E66kjECn-QJl- ajA0Mcrq13YSxU4jCXgzF19aJWzZor3QlksCDBYEd6CRz7BcUX8D8bDHWam 3ziyXRSw5kNNjctEfVeE8ewljnQAxjPsfWsJOAm14HD0fZQGkMPN5UoT5qP4 T4.SZa4AYKYIYXBfnqelFom- jPN0fyNYXzFIZAnJGmLC20&dib_tag=se&keywords=high%2Bvolume%2B12%2Binch%2B1 2%2Bvolt%2Badiator%2Bfan&qid=1719441023&sprefix=high%2Bvolumn%2B12%2Binch%](https://www.amazon.com/GESEXI-Electric-Radiator-Universal-Performance/dp/B0BNZRBP98/ref=sr_1_1_sspa?crd=2W6BFGGL0AX5LZ&dib=e yJ2IjoiMSJ9.8YBhndjQZJiqybNe6P3_eaZBIXV4kjPyBFaCwHsFO9StytXg80lolu xq5bF6T1b-mp91pSxc1qlSRtlfm7d7wIS3-suJJA7IR-- m8XrIrT76oUmivIO_qQR015Qxy9KxbPaIOpsKTWYq7E1T3USfxjewedCIeldB4Ah3E66kjECn-QJl- ajA0Mcrq13YSxU4jCXgzF19aJWzZor3QlksCDBYEd6CRz7BcUX8D8bDHWam 3ziyXRSw5kNNjctEfVeE8ewljnQAxjPsfWsJOAm14HD0fZQGkMPN5UoT5qP4 T4.SZa4AYKYIYXBfnqelFom- jPN0fyNYXzFIZAnJGmLC20&dib_tag=se&keywords=high%2Bvolume%2B12%2Binch%2B1 2%2Bvolt%2Badiator%2Bfan&qid=1719441023&sprefix=high%2Bvolumn%2B12%2Binch%2B)



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Wire, we recommend the heavier gauge 12/2 outdoor 12 volt wire. You can also find this at any electrical supply house, Lowes or Home Depot. The key to 12 volt wiring is to run your wire as short as possible, if you run 100 ft. of wire you will not get the power you need at the end of the wire due to transmission loss. IF you must run 30 feet or more consider heavier gauge (larger) wire.



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Two Toggle (barrel style) switches
(one for the fan & one for the water pump)

We use the barrel style switch to make it easier to drill into the ¼ inch plywood to mount these.



https://www.amazon.com/DaierTek-Listed-Waterproof-Lighted-Automotive/dp/B0CF4L549N/ref=sxin_24_pa_sp_search_thematic_sspa?content-id=amzn1.sym.2463b9cf-472a-4d4e-belf-49d468f8269f%3Aamzn1.sym.2463b9cf-472a-4d4e-belf-49d468f8269f&crid=229JD6INCN6MI&cv_ct_cx=12+volt+toggle+switches+automotive&dib=eyJ2IjoiMSJ9.oPadyiS9mHdD6d1UuvBOoPu3QsTPD14k4H-469cpejPL11P9kUyzzdsVU-O1u0R8Qy9LtCWhnh8RjA7bPyoP0Q.jBgNS1srqmMkFqW-xMS_jVoOemwE2r-GAS44199gUqU&dib_tag=se&keywords=12+volt+toggle+switches+automotive&pd_rd_i=B0CF4L549N&pd_rd_r=f335d570-2af4-437c-84ea-7fedbc7bf7bf&pd_rd_w=fij9X&pd_rd_wg=V2un2&pf_rd_p=2463b9cf-472a-4d4e-belf-49d468f8269f&pf_rd_r=F7YTPM7SNHAVSMM9782R&qid=1719442948&sbo=RZvfv%2F%2FHxDF%2BO5021pAnSA%3D%3D&sprefix=12+volt+toggle+switches%2Caps%2C126&sr=1-100-f853d353-bf33-45e7-b5c2-2cb2b31abc9b-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9zZWYyY2hfdGhlfWF0aWM&psc=1

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You will need a disconnect switch on the positive wire just before it goes into the cooler. This way you can shut down the power to the cooler without having to disconnect wires.



https://www.amazon.com/Auto-Toggle-Rocker-Switch-Position/dp/B077KRV4GZ/ref=sr_1_213?dib=eyJ2IjoiMSJ9.nhJ8qCwvvgGMDhVptqo3dp614Z79QJIPbnCa8n4aVX3soTChoU0cAPYF2WU5Dr7GGmGD07IVSjAZd_Yanmw0JV0QuhXZVoe-g39r6IG43hekzB7jG7NwHcrkgFOEMYBrJdak4cG5pijmwna2bbjysvM8nJbcVNws7m0WcJsLoaz1pcu8hM5-Pilx9fjVsOG0qUbhtE-8J3vnnx7OmXMIp4eJTT0s3LmvfMTuxSgF4sykXqNZp3TVTC7GsDdPEGso7ZYCEJj2NT3eMhBc62GPIGXTUWFAsBz-uunPP0R0RA.LavZKQ177f-kNjtTs0nd-mPdCBMqhyDZHynUDEkxM5Y&dib_tag=se&keywords=12%2Bvolt%2Btoggle%2Bswitches%2Bautomotive&qid=1719447794&s=industrial&sr=1-213&th=1

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D-style weather car door seal, with adhesive backing, be sure this seal is soft and pliable.

You should be able to find this at any automotive parts store.

You should need only 66 inches of this, but to be safe you need to buy a couple extra inches of this.



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Once your frame is built you need to measure from the outside edge of the PVC pipe at the top.

It should be 18" by 14" (IF not then go by your measurements) If this is only $\frac{1}{4}$ inch off it will not matter, but if it is MORE than $\frac{1}{2}$ inch off, something is wrong somewhere. You may need to re-measure and cut your top PVC pipes (if you have some that are longer than others) so that your final dimensions are from edge to edge 14 by 18 inches so the unit will set level (inside the tote) and the top will fit airtight with the seals.

You can possibly find a sheet $\frac{1}{4}$ inch thick plywood at any wood working shop, or at Lowes or Home Depot. You probably will have to get something a little larger and cut it down for your needs.

Once you have a 14 by 18 inch sheet of $\frac{1}{4}$ inch plywood measure 14 inches on the long end of the sheet and mark it. So now you have a 14 inch square (plus 3 inches on one end).

IF you are handy and have a jig saw, measure a 12 inch hole and mark it in the center of your 14 inch square. And on the end where you have 3 inches left over you will need to drill out two (1.1 inch holes) for your round barrel toggle switches. As per photo below.



https://www.amazon.com/Plywood-Circles-Painting-Crafting-Projects/dp/B09MQQLDLH/ref=sr_1_2?crid=2D6BYSLUWB9BC&dib=eyJ2IjoiMSJ9.MU-dnjN32I-S2MKxdE1zA7hsSMoJ0SLZHXcwXOFmkB1djafBs_569Z2cbTRAGniHxTDWfAQSF8GfZqv4EZj7ln69uis7yfSRMyhTcj6C60uQwbDGSh7VDfD7wFdwW7S2wIdTyOmXzu-5tvO1xagRmMfZ8XuWisAhYQIVDBsw1CeDhuFos8D7cvgnfnJipQepodGPL5ujUqqB41Df5uUh-qNINKcmkvoBQGIlrGvYPcqIOcf7MaRy0a1fpcshzCGqzBF6Asg0J5WbQ2cvmrMDdUvD3C1ojlLeNdZCVm7k.BopTSQREBv1UpXHEHQjnk_Sv58qGJQyiHGLF9XgOWNc&dib_tag=se&keywords=1%2F4%2Binch%2Bplywood%2B18%2Bby%2B15%2Binches&qid=1719444105&s=industrial&sprefix=1%2F4%2Binch%2Bplywood%2B18%2Bby%2B15%2Binches%2Cindustrial%2C105&sr=1-2&th=1

It is recommended you use ¼ inch plywood for the top as that way you will have some width to screw the flange ring and the fan shroud to the plywood without going through the thinner plywood.



Photo of the top of my cooler (with the 12 inch elbow removed). NOTE the two switches, I centered the fan and the flange and then I had to take metal shears and cut notches out of the flange to accept the switches. So be sure to center your 12 inch hole to one side or the other, so you will have the 3 inches left over for your switches.

You will note the photo above where I did not do this and I had to take tin snips and cut the shroud flange to allow the switches to be installed.

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You will need plastic coated twist wire ties. These are used to hang and tie the cooler pad material to the ½" PVC frame. IF you do not like the looks of all these twist ties on the outside, you can twist the wires on the inside of the frame when hanging the pads to the frame (a little more work but it looks neater)

But in this example we are trying to be fast and not so neat and to be able to show you what we are doing.

Also, we do not show it here but some people buy thin stainless-steel wire and twist the wires on the inside of the frame as these twisted wires on the outside can cause scratches on anyone (people or pets) that come in contact with these twisted wires.

And also, you must use pliers to twist these stainless-steel wires tight and to keep the connection tight. We do not recommend that, it's just too much work in a tight space.

SO, Use plastic coated wire ties or ZIP ties inside the frame as that is a better choice and gives the cooler a cleaner look...

You can get these in white or black.



The ZIP ties you can find at any hardware. You need the small ZIP tie that is 5 ½ inches or longer. You can use black or white ZIP ties. The ZIP ties seem to poke through the cooler pad material more easily and so connecting a right side pad and a left side pad to the frame in the middle with one ZIP tie is much easier than using plastic coated twist wire ties. That is your choice.

Here are the twist plastic coated wire ties.



https://www.amazon.com/Ulifestar-Twist-Cable-Plastic-Coated/dp/B08D3WWFS3/ref=sr_1_1_sspa?crid=RBKN5VP500UR&dib=eyJ2IjoiMSJ9.QLVUMv2JtVSPHy29mLuuRzyRbmzagaqS64lQQEqvHUil4BlmdxdqLMH2scPDs y4adthdQjWMonxeoJl1LP-OOx03Mo-ou13sdJAJHY3nqXylMT149R6mW_9KSF6VXs4LD1unT6oXt9MO5ciZJX9MqtWMprGORf7Xye6nTEJeL9h1CaYSmNzvnBr2Msd8zX-9eXKTnkhFZ3tUXf4ZNUGL049jmqvUrtxTDgekOZ6Yza2wOkaeF7_E5_CQaNNzYFaU0TE-4Kb2sMOIr-AAwIJead3cYOO0KOnh_OgawcWHNY.gZjCS_2lLc1mFKEJ5C_61MWZiBsoT3tvZkWOFF3Z_v4&dib_tag=se&keywords=plastic%2Bcoated%2Btwist%2Bwire%2Bties&qid=1719429395&s=hi&srefix=plastic%2Bcoated%2Btwist%2Bwire%2Bties%2Ctools%2C102&sr=1-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1

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You will also need 2 hose clamps and (12 inches of clear plastic tubing with an inside diameter of ½ inch). Attaching the tubing to the pump is straight forward just push it onto the outlet ONLY end of the pump (This is commonly the outlet that comes off the side of the pump) And the water intake is the center end of the pump. See if there are markings showing the directions of flow of water.

(Note: Be sure when you build this the hose has a natural curve to it, this you will need, just be sure when you build this the inlet to the pump does NOT face down against the bottom of the tote – to do so can restrict the flow of water and decrease the ability of your cooler to work properly.

IF you notice the end of your pump is pointing straight down when you build this just turn the pump so it will lay on it's side, in the bottom of the tote.

Now the other end of you ½ inch plastic tubing must attach to the short open end of your ½ inch PVC pipe coming off the bottom of your frame.

Some people are able to heat up the plastic tubing, some people will opt to buy fittings for this connection.

IN this case what I do is: I go to the hardware and in plumbing I tell them I need to make a connection from ½ inch PVC pipe to ½ inch some plastic pipe. This example slips onto the end of you ½ inch PVC pipe and is glued in place and then you ½ inch clear plastic tube slips onto the barb end of the fitting.



Or



These are a couple examples of how to connect a ½ inch plastic tube to a ½ inch PVC pipe. Your local hardware should have one of these options available so that you can make this connection.

Also, on both ends of your ½ inch plastic tube you will need hose clamps even if the connection seems tight use hose clamps to be sure the connection does not come apart.

Here we will not get into using this cooler after the sun goes down. But we want you to be aware that this option is available. You will have to install a bank of: (deep cycle batteries, or AGM batteries or Lithium Iron Phosphate batteries) and an appropriate charge controller. You will also need several more solar panels plus the wiring.

This way you will have the power to run your cooler in the day time & charge your batteries at the same time.

Then after the sun goes down you then run this cooler on battery power.

IF this is what you intend to do you will need to find other resources to show you how to do all this.

Here we are just interested in showing how to build a simple evaporative cooler to run during daylight hours to make it simple and cheap.

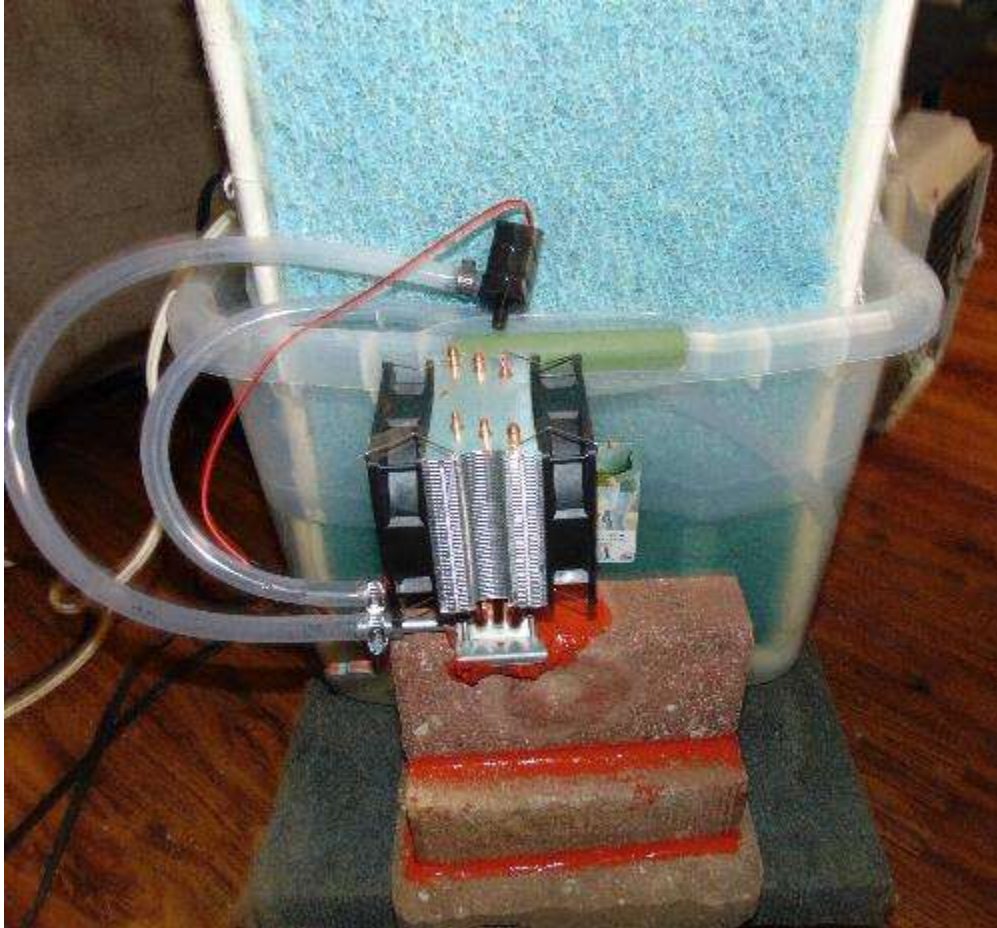
NOTE: These items below are ONLY needed IF you are building the Turbo Cooler with the Peltier water cooling module.



https://www.amazon.com/Thermoelectric-Peltier-Semiconductor-Refrigeration-Chiller/dp/B09XZNZ1G4/ref=sr_1_1_pp?crd=2P81EHTNKDQTM&dib=eyJ2IjoiMSJ9.KKinToQ3kooBojV7kxHZT6pt4VPoEUad3XvXREFLf5VdPdJUEeWlHp9ew3v6GUqeVpgorrV-PsB7pqlHrHFE9ZxPesFBf5NQVcRUswNWeMfubrvpPU7DYi9GwCGIJNp8GvFWswGCBC3ZiH4ny8UuFleOnZcnMZFzE_KCgpNARYjCo5vthW2kHn9PM8CFdeTG0_wgZlmxvBTxxZWRqDo6nLJP-kaPmbTX2YZ7bEdEyghRFIcL1F_Til33vxlrAf_YDkfbKyWU3lVqLwFRWYY4nWo_5Bc4l38JoKYCpFoh1-w.eH97WxoAwryvnfpP2KzWvnZZjgekOlxDVHduqAvGkuQ&dib_tag=se&keywords=peltier+water+cooler&qid=1719423302&srefix=%2Caps%2C143&sr=8-1

If you want to super cool the water in your cooler you can use two Peltier water coolers. Just be aware of the extra power required to run both Peltier water coolers.

Here is the Peltier water cooler on my evaporative cooler. Please note the small black water pump attached to the hose going to the Peltier water cooler, as this device has NO water pump, so you must attach a small 12-volt water pump to pump water through the device to operate properly. Note the dolly everything sets on.



The tote sets on my dolly and the bricks set on the dolly and everything is glued with silicone to keep it together. I even used silicone to glue the Peltier unit to the bricks. It is not real pretty, but I was not making this to be pretty, but to cool my living room.





A different view of the Peltier water cooler and the mini-12 volt water pump.



Here is a photo showing the small black Peltier water pump pushed down into the water between the blue pad and the tote. The other end (the discharge end) of the plastic tubing goes into the water in the tote between the PVC Pipe and the blue cooler pad so that way the cold water goes into the tote (closer to the main pump).

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You will need a small water pump to pump water through the Peltier water cooler. Here is a small 12-volt water pump that I use.

https://www.amazon.com/ZBCKKING-silent-brushless-circulation-submersible/dp/B0D1PKK3K2/ref=sr_1_83?crid=JK7LEVGEXUKW&dib=eyJ2IjoiaMSJ9.gioq41HtMoguuob39ugUWuxlYafWchp9Phn-IW4uQell8RnqMseziw93rGlpTMtEW4-ny4rlw2ueMh3b1CUVp5-5szkbUp5rq41tj9-TY0w_cyXmEVK4gBFqlujGyi8svFlcUrITGeE8sCxkMQVxY2Y0NBpxW7SzaWp6ZcWJL5qIX-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



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Plus a 7 foot length of 3/8 inch plastic tubing. You can find this at any local hardware. Plus 3 extra small hose clamps.



- **NOTE you will also need an extra 150 watt solar panel.**

One to power the fan & the water pump.

The second to power the Peltier water cooler and the small water pump.

You will also need several spade connectors you can get at Walmart or any auto parts store.

For convenience I set my tote onto a dolly, so I can easily move it where I need it. I bought my dolly at Harbor Freight.

And yes the wiring goes into the tote (filled with water), to the water pump and then up to the fan via the two switches.

And yes the water pump is made to run underwater.

Your finished product will look like this photo below.

Not pretty, but it will keep you cool as long as the sun shines.

And when the power goes out you will love this ugly thing.

Evaporative coolers work better in dry climates, like out west. And not so much in damper climates like the south and the east coast.

That is why I developed the Turbo cooler using the Peltier water cooler to pre cool the water before it gets pumped onto the pads. As that cold water transfers its cool temperature to the air and then into your room.



These links to these products are only suggestions and we have no affiliation with any of these suppliers or the manufacturer.

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 information ONLY.

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

God Bless

Tony Lamb

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