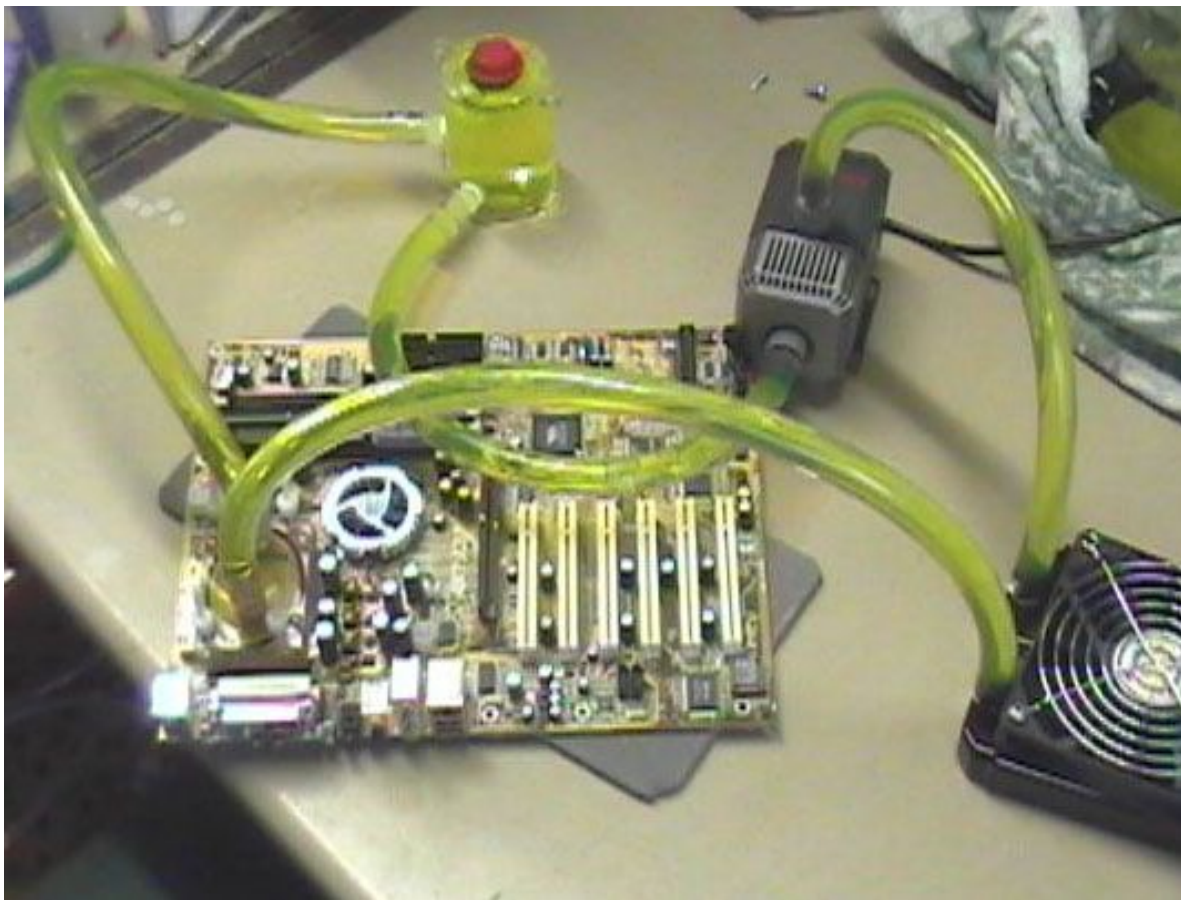


Over-Clock UK DangerDen Custom WaterCooling Kit AMDWC001



Installation Instructions

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Photos by Marci, Text by Marci.

Thank you for Purchasing the **Over-Clock UK DangerDen Custom Watercooling Kit**. This kit is a high performance kit for AMD Based systems, designed on 1/2" ID Tubing with a high-flow pump. The main CPU Block consists of a solid copper bottom, with Lucite top and Brass 1/2" fittings for the ultimate in looks...

1. Kit Contents

In this package you should find the following:

- 1x AMD DangerDen Maze3 CPU Block
- 1x DangerDen Clear Reservoir
- 1x Eheim 1048 Pump
- 1x YSTech Slimline 120mm Fan running at 7v
- 1x Chrome Fan Guard
- 1x Bottle of Purple Ice AntiCorrosive Coolant
- 2.5 Metres of Thickwalled 1/2" ID Tubing
- Mounting Hardware for Maze3 Block
- Mounting Hardware for Fan/Guard and Radiator
- Mounting Screws for Radiator to Case



Maze3 AMD CPU Block



Clear Reservoir



Black Ice Pro



Eheim 1048 Pump



YSTech Fan & Guard



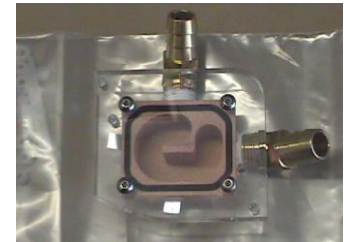
Purple Ice Coolant



Mounting Screws



Thickwalled Tubing



GF4 / Radeon 9700 Block (optional)

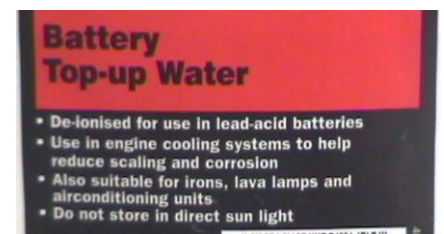


And here are a few closeups of the individual blocks... note the frosted "DANGER DEN" printed on the Lucite top... extra touch of class...

First thing's first, make sure you have everything as listed above.... If not, then get straight on the phone to us!



Next, before we delve into the installation, we recommend you have the following tools to hand (or similar!) As well as a suitable jug (approx 2 pints) and some De-Ionised Water (available from most car parts stores as Battery Top-up Water



and lastly, **GRAB A TOWEL....**

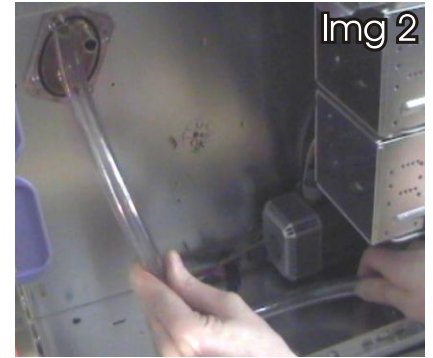


Img 1

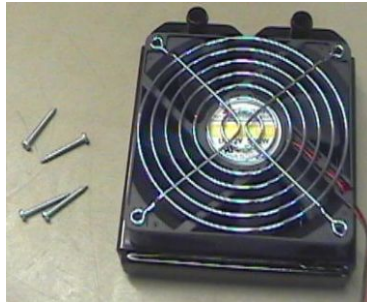
2. Assembly & Leak Testing

All waterkits should be assembled on a bench outside of the PC and leak tested for 24hrs... this guide deals with this process, and installing the hardware onto your mainboard. Installation into your case is down to you, but most ppl tend to mount the radiator in the top of the case, and sit the reservoir in the bottom... it's entirely up to you how you do it, but it is advised to keep the Reservoir at the highest point to act as an air trap (all air rises to the highest point)

Unpack all components and lay them out in your case in the approximate positions in which they are finally intended to be placed (Img 1)... Then roughly measure out your tubing lengths from pump to radiator, radiator to block, block to res, and res to pump (Img 2) Remember, at this stage it is always best to **OVERESTIMATE** the lengths, then you can trim them shorter when it comes to the final installation within your chosen case.



Img 2



Now, take the longest 4 screws provided, and use these to attach the guard to the fan to the radiator as shown in the images to the left. The fan is best sucking through the radiator as this reduces the "dead-zone" effect created at the center of the fan...

Next, fill your jug with battery top-up water... It's always easier to pour it into the res via a jug rather than straight out of the bottle. Pop this to one side for a few minutes, as you're going to need it after the next step.

Lay a towel on a surface... This should be of a big enough size to allow you to lay out and assemble your kit on it... Pay attention to the flow direction at all times. Using the PUMP as a starting point, you ideally should go from the top of the pump (it's OUTLET) to the radiator, from the radiator to the CPU Block, from the CPU Block to the HIGHEST connector on the res, and from the LOWEST connector on the res back to the pump as illustrated below.



Once this is completed, we are ready to fill and leak test the kit. Leave the pump unplugged for now... This may require a second person depending how accessible your mains outlet is from the area where you work... For illustrative purposes, we have added some Brilliant Yellow UV Reactive Dye to our water so that it stands out better in the photographs.



Remove the cap from the reservoir, and fill it to the top. This should then fill thru to the pump and stop (Shown LEFT). Now, switch on the pump and continue to top up the reservoir until the entire kit is full of water. If you aren't quick enough, the pump will soon empty the reservoir and run dry and the water will cease to flow, so you need to keep topping up the res until the ENTIRE kit is full. Once you have flow coming back into the reservoir at a fairly constant rate it can usually help to lift and tilt the res so that the outlet to the pump is at the lowest point... (Shown



Air-bubbles should be pushed from each component around to the res by the flow of the pump, where the air can gather and escape. The DangerDen CPU Block generally doesn't trap any air, and you can see thru the block to confirm this... The Radiator however is normally the biggest culprit. Once the majority of air has cleared and the system is relatively full, place the top back on the Reservoir and pick up the radiator. By rotating it (shown left & right) so that the flow goes in to the radiator at the lowest point, any trapped air should rush out of the highest point and continue on to the reservoir. Once all air is released, top- up and place the cap on your reservoir and put the kit to one side where ideally it should be left running for 12 to 24 hours prior to fitting to your mainboard etc. The reservoir should look quite impressive when full, as with the high flow rate that this pump provides you get quite a lot of turbulence...

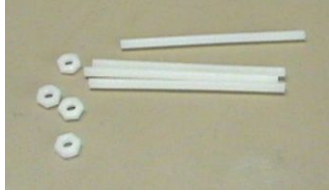


3. Installation of the CPU Block

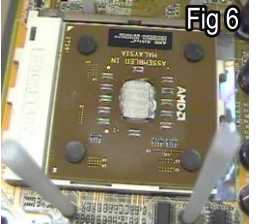
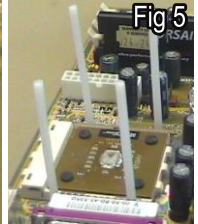
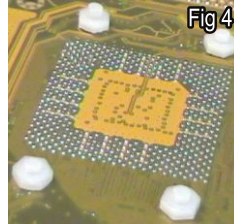
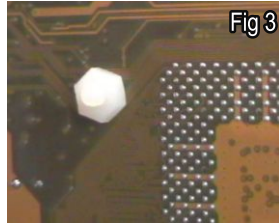
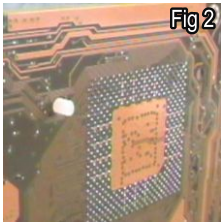
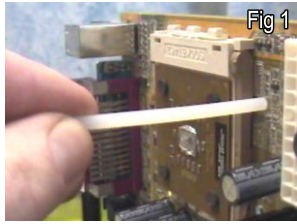
Your kit should now look something like the image shown to the right of this text.



Once you have made sure that there are no leaks in the system, you can begin to prepare your mainboard for the mounting of the Maze3 Block.



You will need the mounting hardware that comes in a bag with the CPU Block, and specifically, you'll start with the parts shown to the left. Take the nylon threaded rods and feed one thru your board from the cpu side to the back (fig1), so that about 5mm of thread shows on the reverse of the board (fig2). Take one of the plastic nuts, and add it onto the reverse side as shown in fig3. Repeat for the remaining 3 mounting hole as shown in Fig4. Once done, flip your board back over and you should be left with something resembling Fig5. The remaining step is to add Thermal Compound to your CPU Core (Fig6), as the next step involves fitting the block itself.

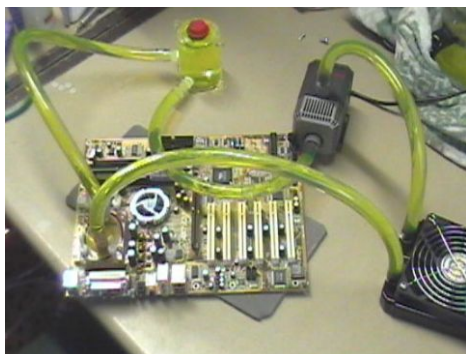
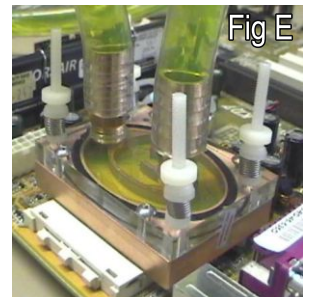
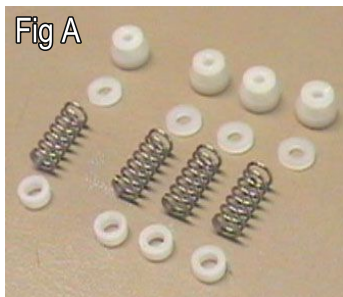
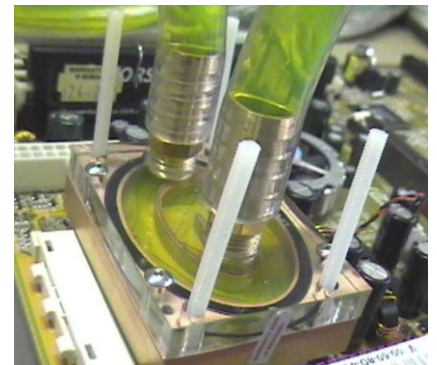


Now, how you proceed with the following is up to you. It is recommended that you drain your kit after leak testing before you fit the CPU Block, but for this manual we will be working on an open desk surface, rather than case mounting.

Take our Maze3 Block, and on the underside add a small blob of Thermal Compound to the base of the block. Using your finger tip or a piece of card, work the Thermal Compound out in the centre of the block. This serves to fill any irregularities in the copper base, and provides the best thermal contact. Remove any excess and you should be left with a discoloured area in the centre of the block... The pale appearance of this area is simply because any blemish in the surface of the block has now been filled with compound. An alternative to this is to "lap" the base of the block using a piece of fine-grit Wet&Dry sandpaper. This is not necessary for most users, so is not covered in this manual.

Lower the Maze3 block down onto the 4 nylon rods so that it sits square on top of the CPU as shown here: ---

Now, returning to the bag of mounting hardware, find the parts shown in Fig A. Using FigA as a guide, start at the bottom of the image and work your way up, dropping each part onto each rod in the order shown... Washer, spring, washer, thumbscrew. Attach the thumbscrews gently to the tips of the rods but do NOT tighten them down fully yet. Next, take your board in your hand and grip it so that your thumb is in the centre of the top of the block, holding it down square onto the CPU Core (Fig.B). This helps to prevent "core crushing". Now, working with opposite corners (again, see Fig.B), tighten the thumbscrews down. The simplest way to tighten these thumbscrews is to place your fore-finger on the tip of the rod (Fig.C) to prevent the rod from turning as you tighten, and with your middle finger and thumb, tighten the thumbscrew down (Fig.D). Repeat for all four rods, and once done, you should have something looking like Fig E.



That's it... You're done! If you DID drain the system, then reassemble and fill as per the instructions. If mounting the rig in a case, mount your pump / rad / res wherever you have planned, join the tubes in the relevant order, and fill as explained in this manual. Once the system is full in the case, pick it up and tilt the case in all directions with the side panel off so that you can monitor any air bubbles and ensure that they are all moved round to the res.

Fire up your system and away you go!

Cheers!
Marci - Over-Clock.co.uk