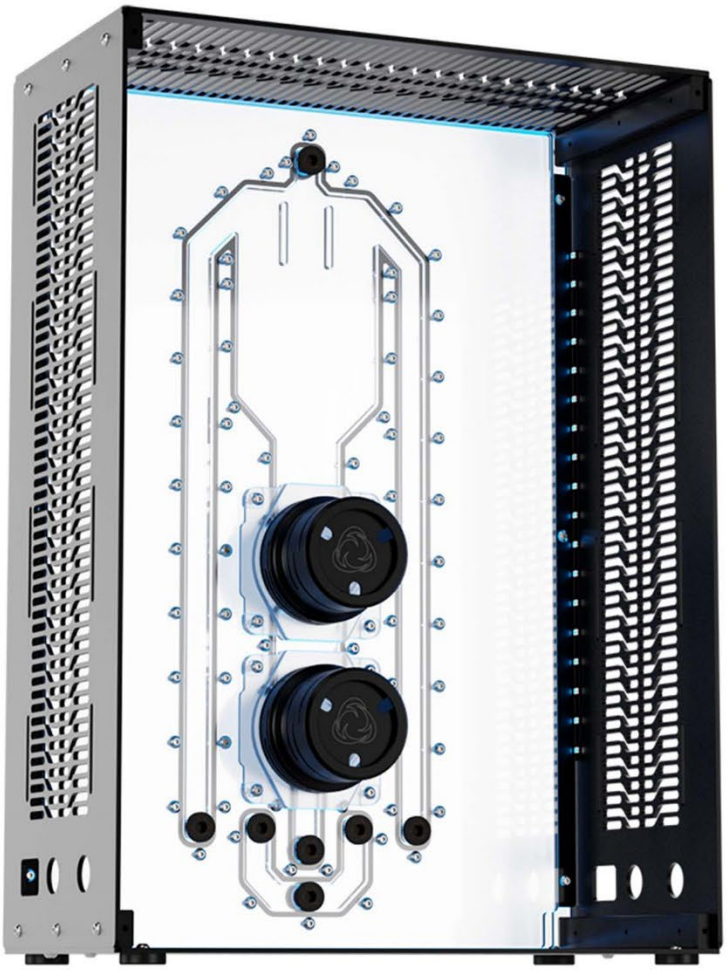
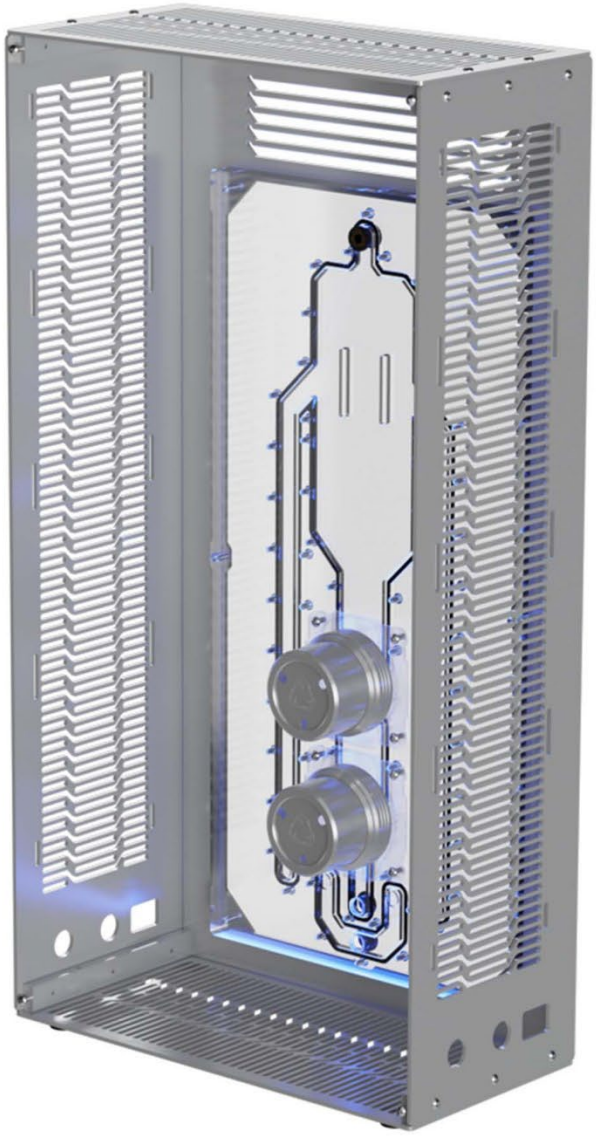
SINGULARITY COMPUTERS

ARTERIAL

DUAL 360MM & 560MM RADIATOR WATER-BOX





Assembly Manual

Revision 1.5

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Introduction

Arterial is a dedicated high-end water-cooling enclosure with a distribution plate which integrates the reservoir, pump tops and pump covers. It fits dual 85mm thick 360mm radiators, push pull fans and a dual D5 configuration in series. The flow layout has the pumps right before the outlet to the system, then returning from the system the flow splits into parallel and runs through both radiators at the same time, then back to the reservoir. The reservoir volume is large to make filling easier and there is an internal and external fill port. The inlet and outlet are on both the inside and outside of the enclosure allowing for three different potential connection points, the rear of the flight case and both sides. All components are CNC machined, the manifold is built from cast acrylic and the enclosure from 6061 aluminum with billet structural sections and 3mm sheet for the outer panels. The fasteners are stainless steel.

Specifications, Features & Included Items

Specifications & Features

- Singularity Computers Water-cooling Integration.
- Integrated Reservoir, D5 Pump Top, D5 Pump Cover, Fill-port, and half of the cooling loop.
- Cost savings due to water-cooling component integration.
- Designed so that the integration does not restrict compatibility.
- All components CNC machined from a solid block of material.
- Built from 6061 Aluminum and Cast Acrylic.
- All stainless-steel fasteners.
- Uses gaskets instead of O-rings for increase durability.
- Fits 2x 560mm 85mm thick radiators with push pull fans.
- Adjustable radiator mounts to align the radiator ports to the integrated liquid cooling ports.
- The Reservoir is designed for easy filling and air removal.
- External and internal fill port for easy access.
- The entire manifold glows with the addition of an LED Strip.
- Modder friendly, no rivets, low component count, easy to assemble and disassemble.
- Crossflow airflow design with extra ventilation on rear and top panels.
- Inlet and Outlet ports on both side panels and directly from the manifold.
- Cable routing hole on both side panels.

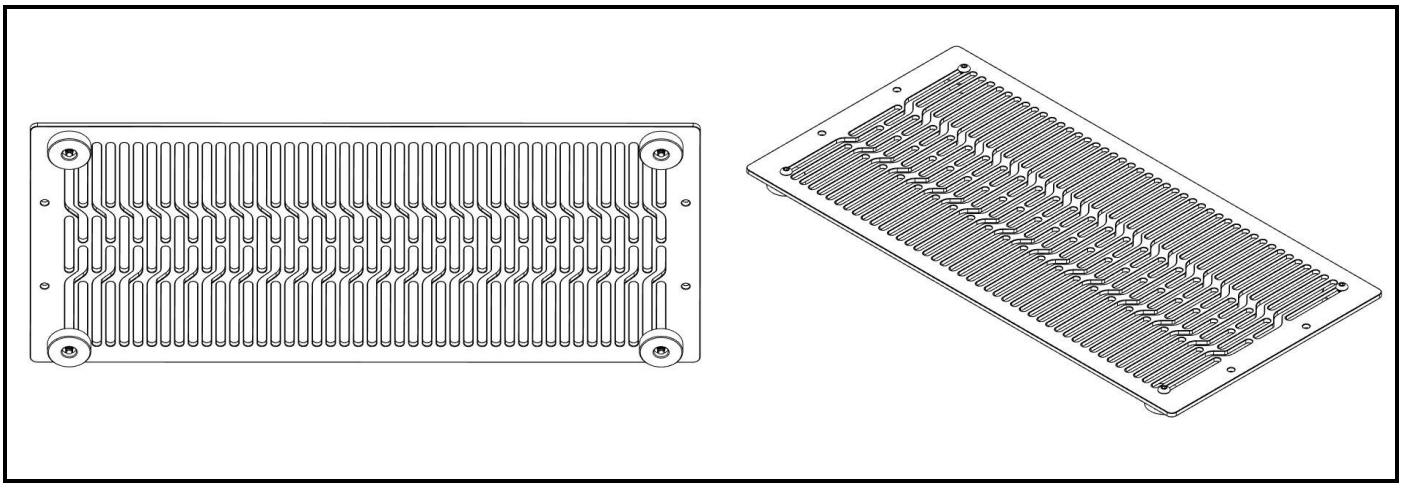
Included Items

- Arterial Water-box Enclosure.
- Reservoir.
- Fill Port.
- Drain Port.
- D5 Pump Tops x2.
- D5 Pump Covers Black x2.
- D5 O-rings x2.
- SC Stop Fittings x4.
- Acrylic Side Panel Window x1.
- 50cm 5V D-RGB LED Strip x1.

Step 1: Install Feet

Parts Involved		
	• Feet x4 • Bottom Panel x1	• M4 x 14mm Fasteners x4 • M4 Nuts x4 • M4 Washers x4

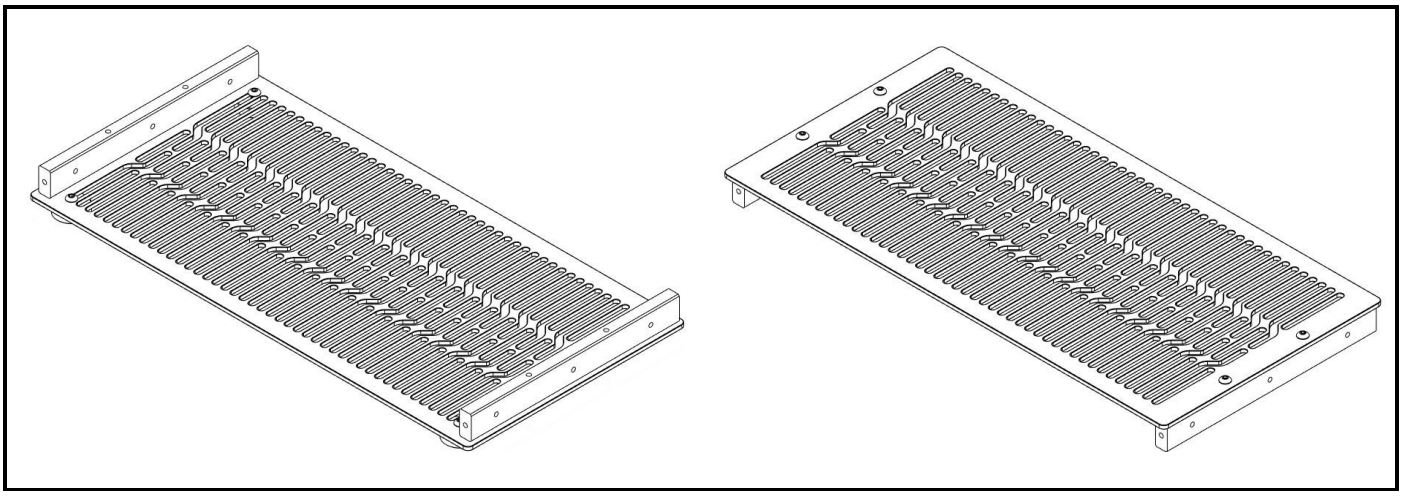
Attach the Feet to the Bottom Panel using 4x M4 x 14mm, M4 Nuts and M4 Washer.



Step 2: Install Corner Pieces

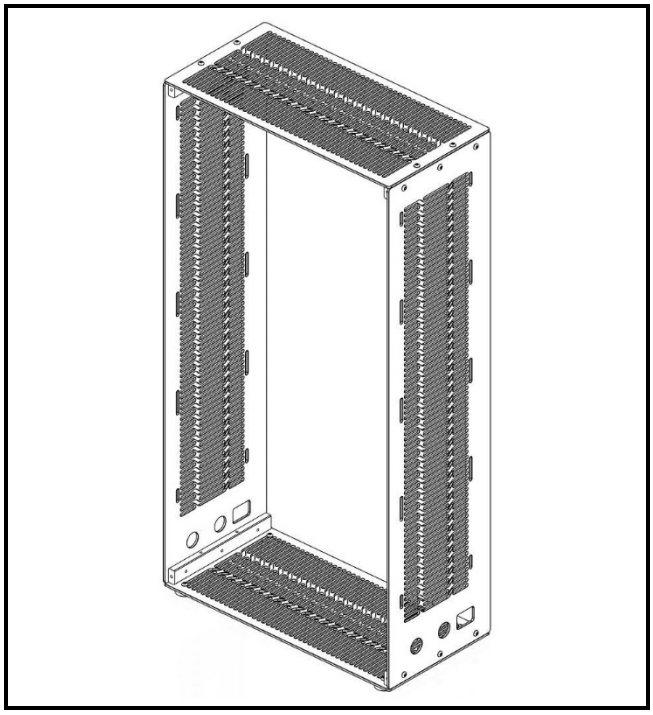
Parts Involved		
	• Corner Pieces x4 • Top Panel x1	• Bottom Panel x1 • M4 x 10mm Fasteners x8

Attach the Corner Pieces to the Top Panel and Bottom Panel using x8 M4 x 10mm fasteners, x4 for each panel. Take care that the orientation of the Corner Pieces are correct, they are slightly longer on the side which the side panel window attaches to.



Step 3: Assemble Chassis

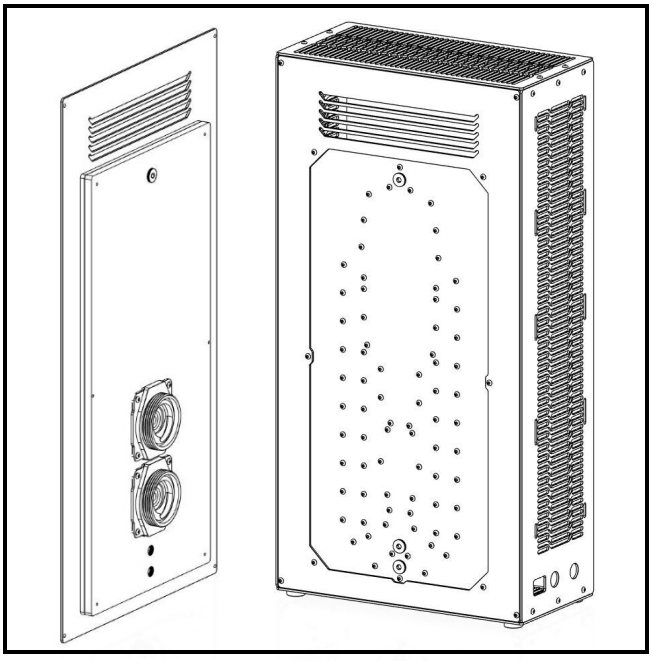
Parts Involved	• All parts assembled so far • Side Panels x2	• M4 x 10mm Fasteners x12



Attach the Bottom Panel and Top Panel to the Side Panels using 12x M4 x 10mm fasteners. Select your Side Panel orientation depending where you want the cable routing and pass-throughs to be.

Step 4: Install Distribution Plate

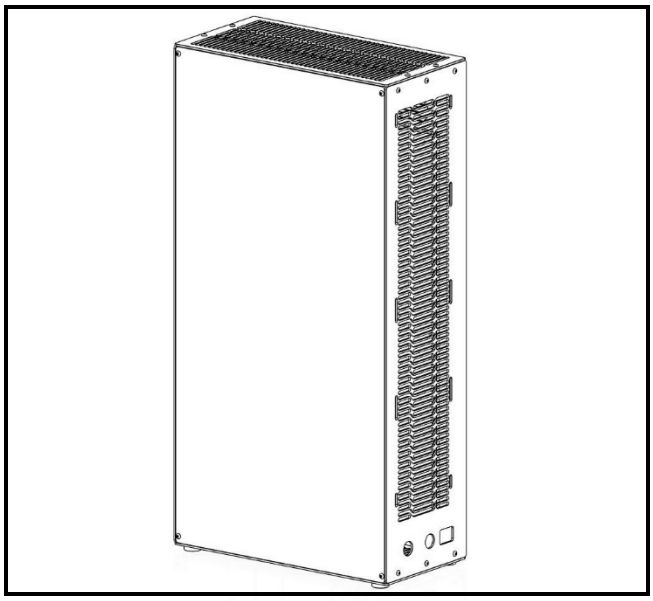
Parts Involved	• All parts assembled so far • Distribution Plate x1 • M4 Washers x4	• M4 x 10mm Fasteners x4 • M4 x 14mm Fasteners x6



Attach the Distribution Plate to the Back Panel using x6 M4 x 14mm fasteners, then attach the Back Panel to the chassis using x4 M4 x10mm fasteners.

Side Panel Window Installation

Parts Involved	• Side Panel Window	• M4 x 10mm Fasteners x4



The side panel window is installed with x4 M4 x 10mm fasteners.

Pressure Testing

We strongly recommend pressure testing with an air pressure tester prior to filling your loop.
For pressure testing we recommend up to 8.7 PSI (0.6 bar).

Filling & Draining The Loop

ⓘ Recommended Items	• Air Pressure Tester	• External Power Supply for D5 Pump	• Long Fill Tube

Filling the Loop

We recommend air pressure testing before filling any loop. Air pressure should not surpass 0.6 bar.
To fill the loop, we strongly recommend a long fill tube. We use a 90-degree fitting with a barb fitting and a 200mm length of soft tube. This prevents spilling and helps to remove the air faster. Use an external PSU for your pump or jump start your PSU. Do not boot your system to fill the loop.
Fill the reservoir 100% and run the pump until the reservoir is almost empty (do not run the pump dry). Keep repeating until you have full circulation. Give some time for the final air to come out, it can take 30min to 48hrs depending on your build. Keep the fill tube on until all the air is out and then seal up the reservoir with a stop fitting.

Draining the Loop

There are various options for drain valves. No drainage system will ever drain a loop 100%. The only way trapped coolant can be removed is the hard way in any build, dismantling the loop and individually draining each section.

Dimensions & Liquid Cooling System Layout

ⓘ *Note*

Dimensions are in millimetres.