



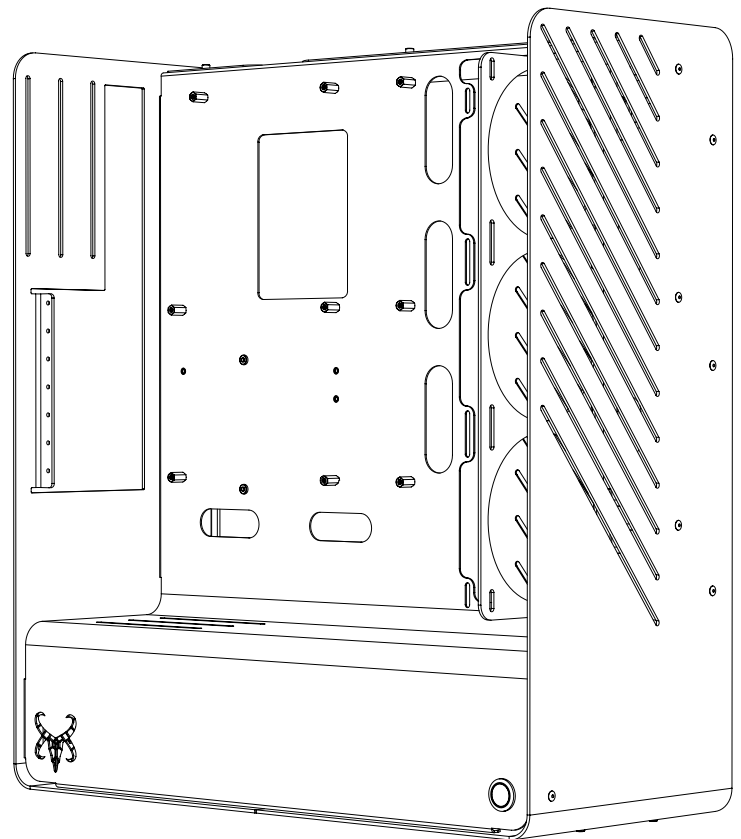
Yuel Beast Designs Lithium

Thank you for your interest in the Lithium. We are excited to offer this design as a solution for ambitious, full ATX builds with a focus on water cooling. The case is an artful blend of form and function, with unique design embellishments that result in a robust, elegant platform to show off your components and cooling loops.

The Lithium is our interpretation of a traditional ATX tower. This is a semi-enclosed design with a fully open motherboard and radiator mounts. Vintage radios were one early design reference, which inspired the rounded corners and large radius bends on the PSU shroud.

This is a project kit designed for advanced PC builders who have experience with the challenges of custom PC building. We hope this case will be an important part of your next build and that you will make something both useful and captivating. Enjoy!

-Eric and Ken, Yuel Beast Designs



Scan this QR code to see completed build photos and up to date info about our work.



21"
533mm

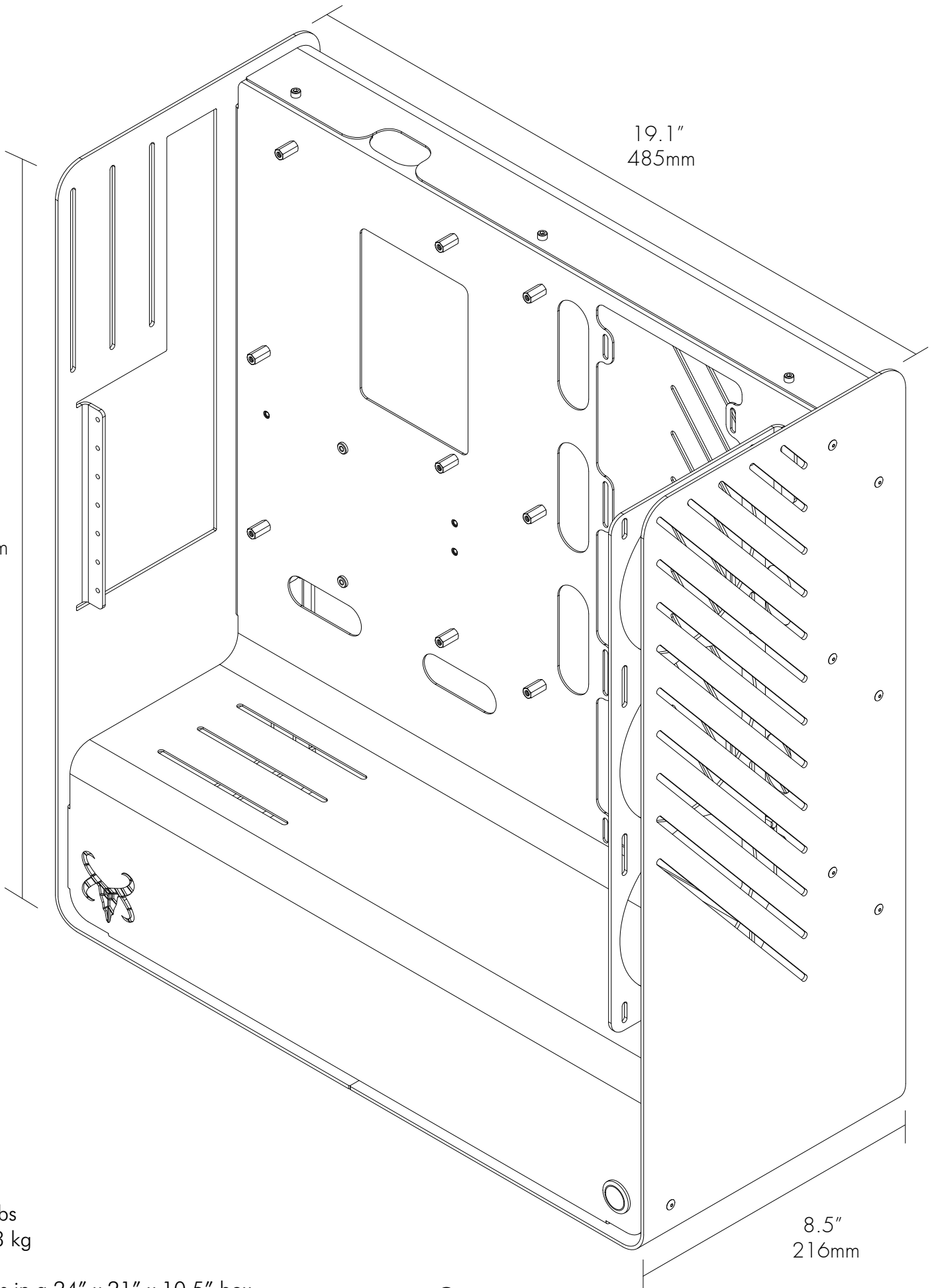
19.1"
485mm

25 lbs
11.3 kg

Ships in a 24" x 21" x 10.5" box

8.5"
216mm

2



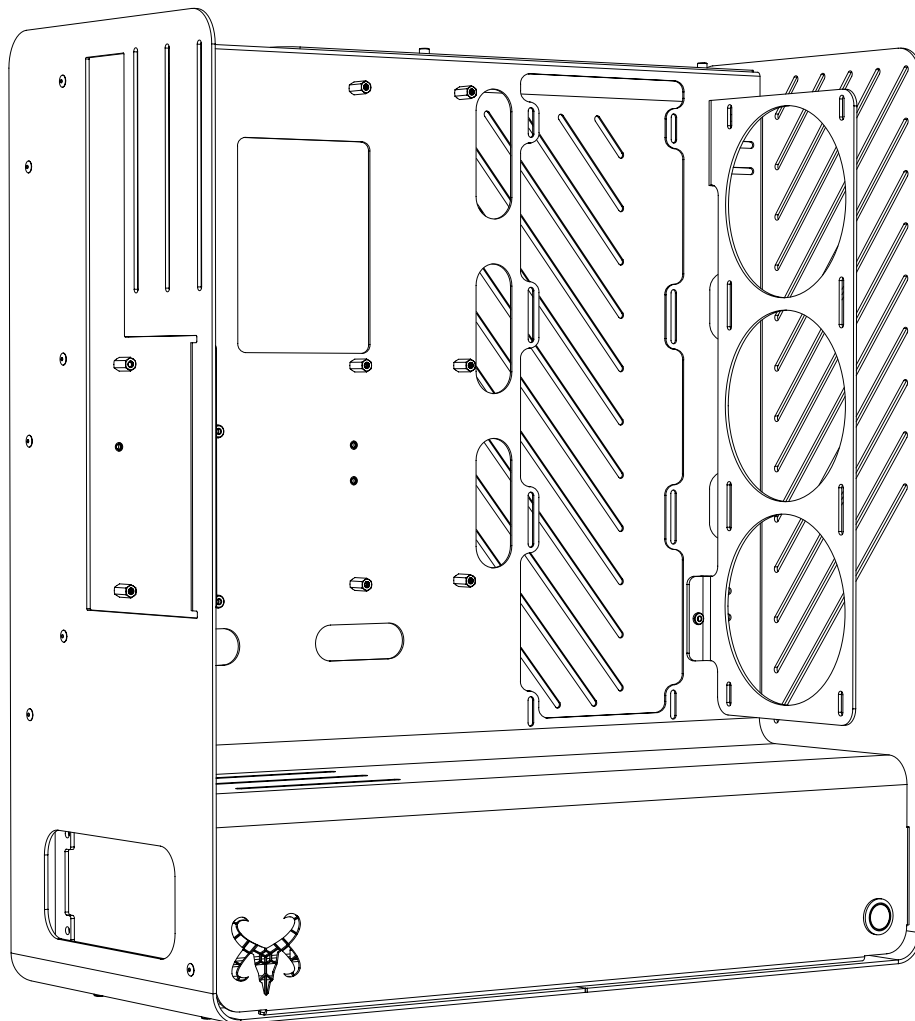
Fabrication and Material Specifications

The Lithium is fabricated out of 13 and 18 gauge cold rolled steel. These materials are first cut on a 3000 watt Amada fiber laser, before being run through an abrasion machine to be de-burred. Tabs are ground off the edges to make the bending process consistent.

Next, the parts are formed using a combination of traditional press brake dies and profound radius tooling on a Trumpf 5130 CNC press brake. After that, we thread the GPU holes with a 6-32 cutting tap and use a small hydraulic press to insert PEM nuts for the motherboard standoffs and other fastening points. At this point we do a quality control pass and prepare the parts for painting.

Each part is hung on a conveyor line and coated with primer. A lightly textured, scratch resistant black powder coat is electrostatically applied. The coated parts are moved to a curing oven and cured at 400° F for about 30 minutes.

After painting, the three primary parts are carefully riveted together with 18-8 stainless steel pop rivets. The extra brackets are wrapped with the included hardware and packed inside the PSU flange and the backplate is pre-installed, ready for shipping.



Included Parts and Hardware

1. Riveted chassis
Motherboard plate + front wrapper + rear wrapper
2. Back panel
3. Radiator bracket
4. Radiator cover
5. 2.5" drive brackets (2)
6. 3.5" drive brackets (2)
7. PSU flange
8. Motherboard standoffs (9)

9. Motherboard fasteners (9)

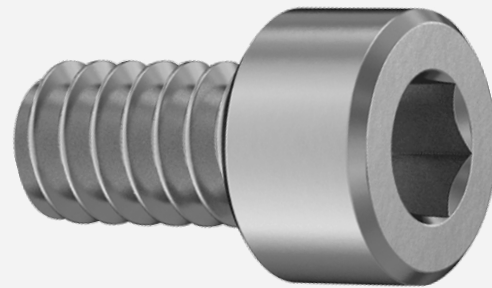
10. Back panel fasteners (3)

11. PSU bracket fasteners (8)

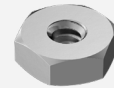
12. 3.5" drive bracket fasteners (4)

13. GPU mounting fasteners (4)

14. Radiator mounting fasteners (24)
18-8 Stainless steel socket head screw
7/64" head, 6-32 thread, 1/4" long



15. Radiator mounting hex nuts (24)
18-8 Stainless steel hex nut
6-32 thread, 5/16 width



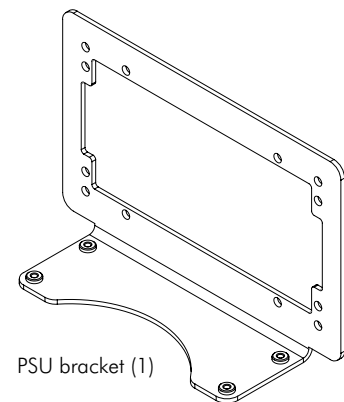
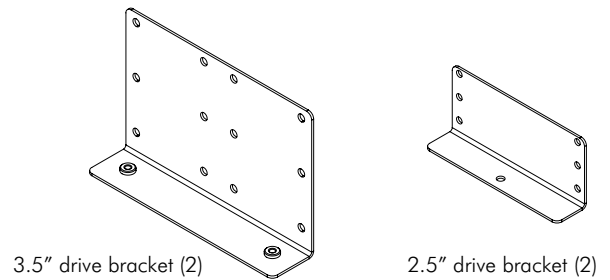
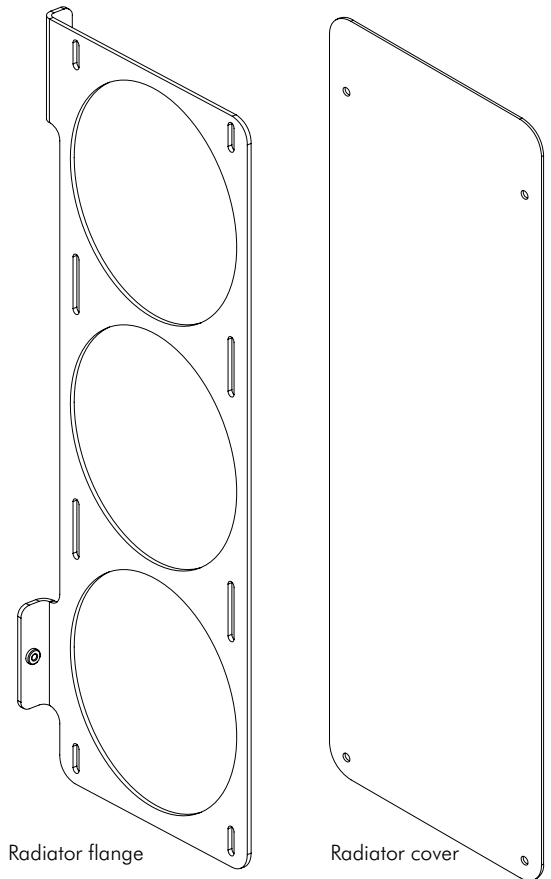
16. 1 1/4" Fan mounting screws (24)
18-8 Stainless steel socket head screw
7/64" head, 6-32 thread, 1 1/4" long



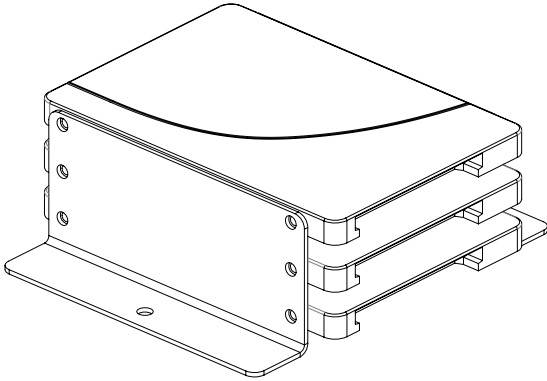
17. Radiator bracket thumb screws (2)
18. 2.5" drive bracket thumb screws (2)
19. M3 screws for 2.5" drives (6)
20. 7/64 hex wrench for fasteners
21. 19mm power button with cable
22. Power button o-ring
23. Wide cable clips (3)
24. Short cable clips (3)
25. Self-adhesive rubber feet (4)

Assembly Instructions & Building Tips

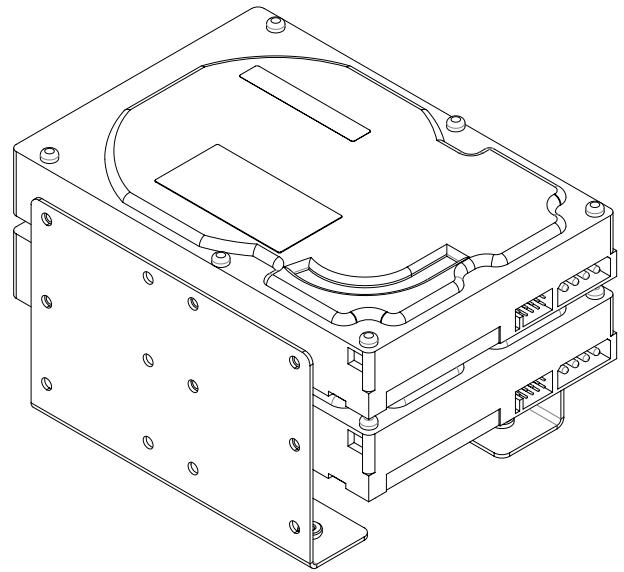
1. The Lithium ships as 3 primary parts that are fastened together with stainless steel rivets. The back panel is pre-installed with hardware and additional brackets packed inside.
2. Lift the case out of the box and remove the back panel by loosening the 3 screws on top. Please ensure all parts shown to the right are included as well as the hardware bags.
3. Locate the 19mm power button and o-ring. Wrap the ring around the base of the threads on the button. Insert the button into the hole on the PSU shroud and secure it with the hex nut.
4. If you are installing a pump/reservoir on the slot pattern below the motherboard, fasten it into place using the screws that came with the device. The PSU will block access to that slot pattern.
5. Orient the case so you can access the bottom and apply the self adhesive bumpers to each corner of the underside. This will prevent the rivets and fasteners on the bottom from damaging surfaces.
6. Locate the PSU bracket and fasten it to the PSU using the 1/4" stainless steel screws. Fasten the PSU bracket into the hole pattern on the base of the case.
7. If you are using 3.5" drives, locate the two 3.5" brackets and fasten them to either side of the drives. Please ensure that the short flanges on the brackets wrap underneath the drives, as shown on the next page. Fasten the drive brackets into the hole pattern on the base of the case.
8. If you are using 2.5" drives, locate the two 2.5" brackets and fasten them to either side of the drives using the included M3 screws. Using the thumb screws, fasten the drive brackets into the threaded holes below the CPU cut out.
9. Reorient the case and screw the 1/2" motherboard standoffs into the appropriate threads for your motherboard format.
10. Insert the GPU into the PCIe slot and secure it with the 1/4" stainless steel screws. **Please take care not to over tighten the screws as it is possible to strip the threads in the GPU mounting hole.**
11. If you are installing components on the fan pattern next to the motherboard, install those before putting on the radiator bracket.
12. If you are using the front radiator bracket, orient it as seen to the right and attach the desired components. Fasten the bracket to one set of slots using thumb screws. Configuration options are available on page 7 & 8.



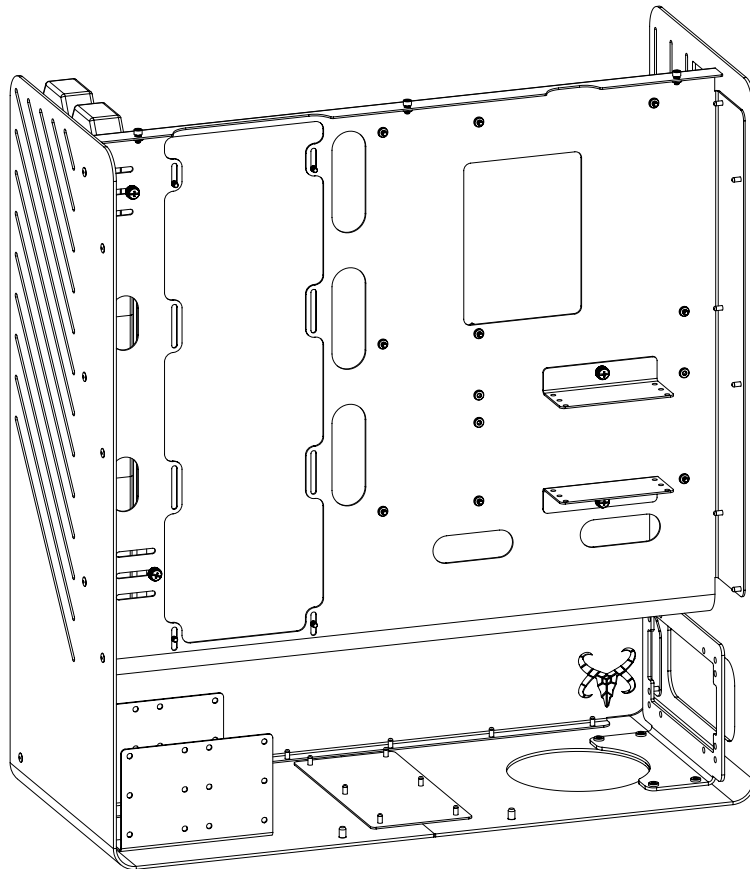
Reference Images



Three 2.5" drives mounted to the brackets. Fasten this to a pair of PEM nuts behind the motherboard using 2 thumb screws.

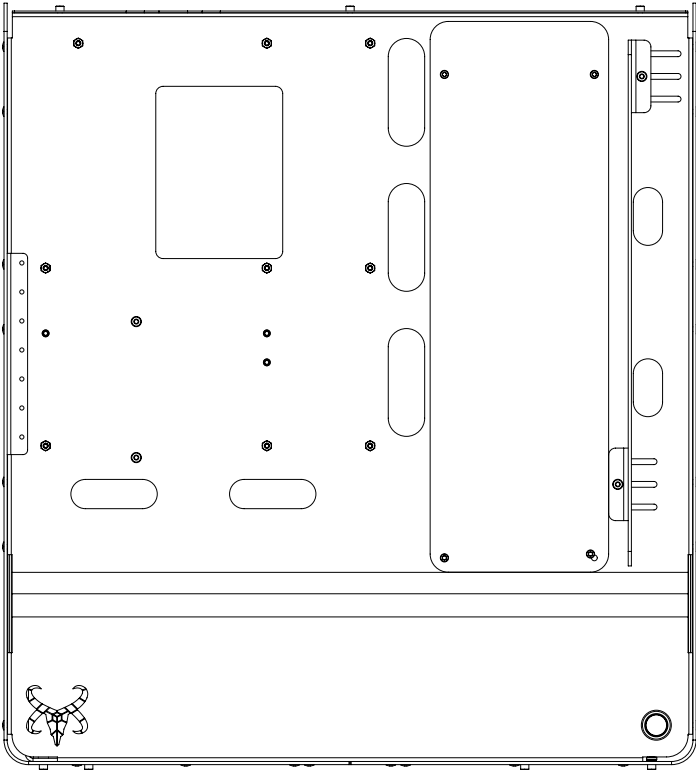


Two 3.5" drives mounted to the brackets. Note that the short ends wrap underneath the drives. Fasten this to the bottom of the case with 1/4" screws as described in step 7. The bracket can hold up to three drives.

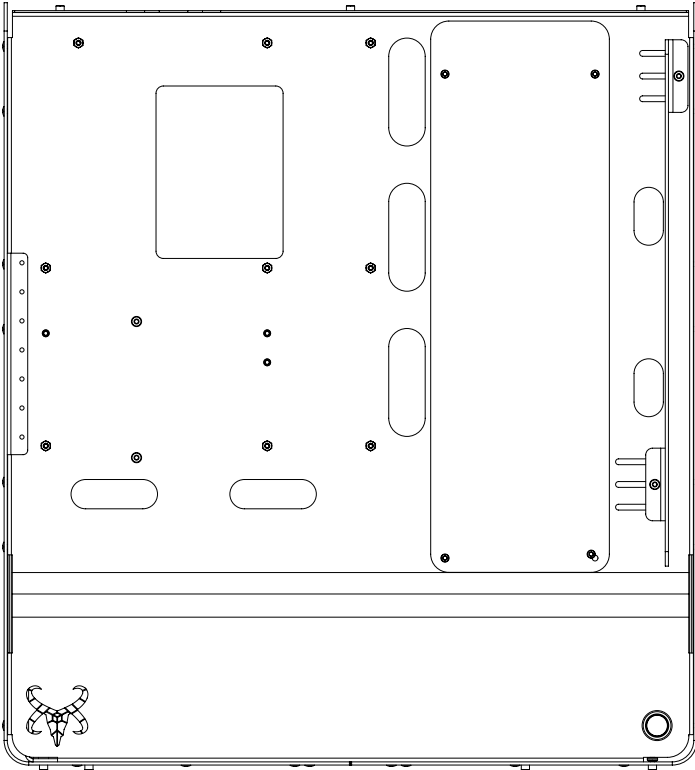


Mounting points for both sets of drive brackets, the PSU bracket, the front radiator bracket, and the radiator cover.

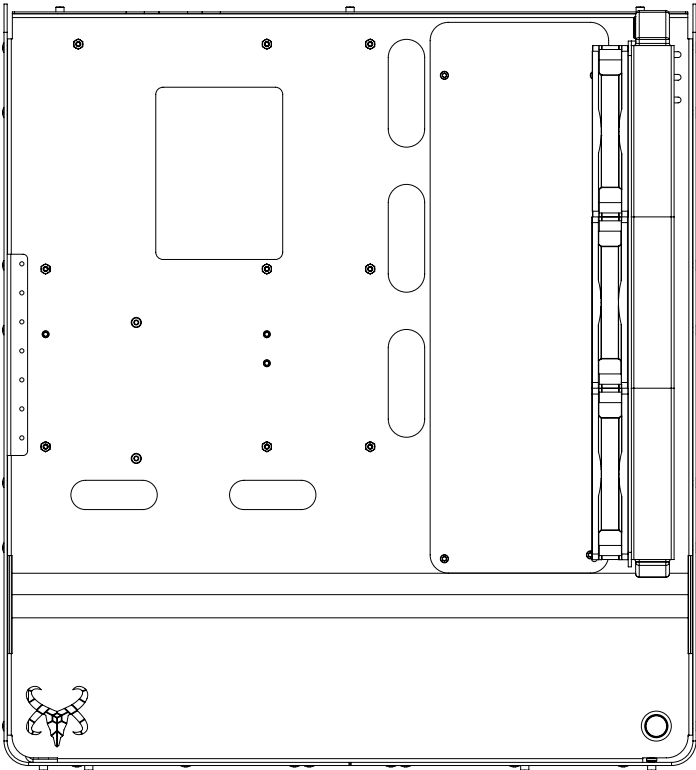
Configuration Examples



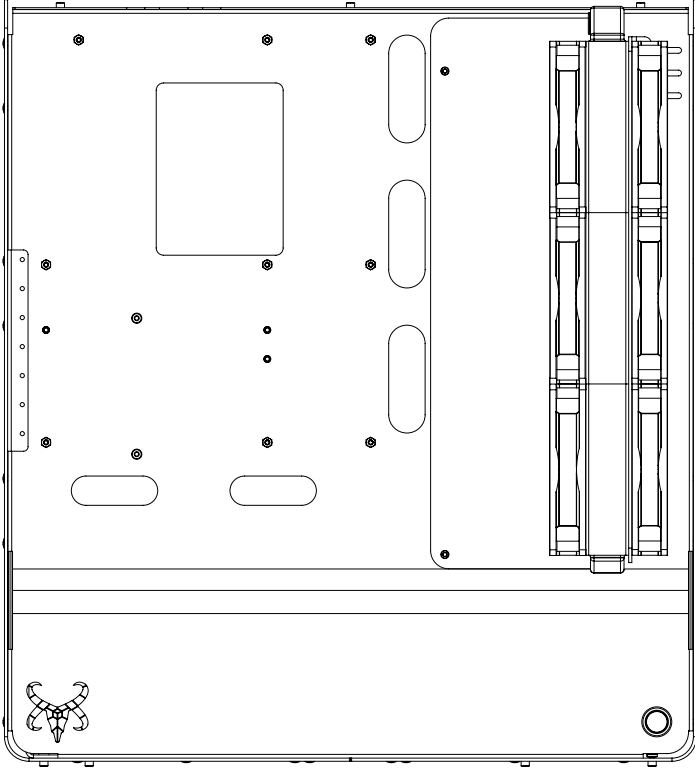
Cover on, radiator bracket to the left



Cover on, radiator bracket to the right

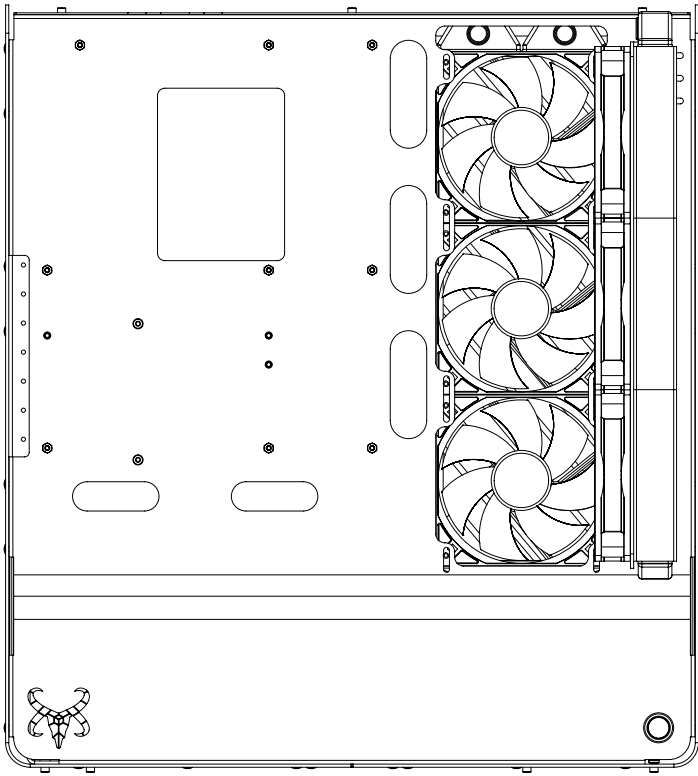


Cover on, 360mm radiator with push fans
(AIO or custom loop)

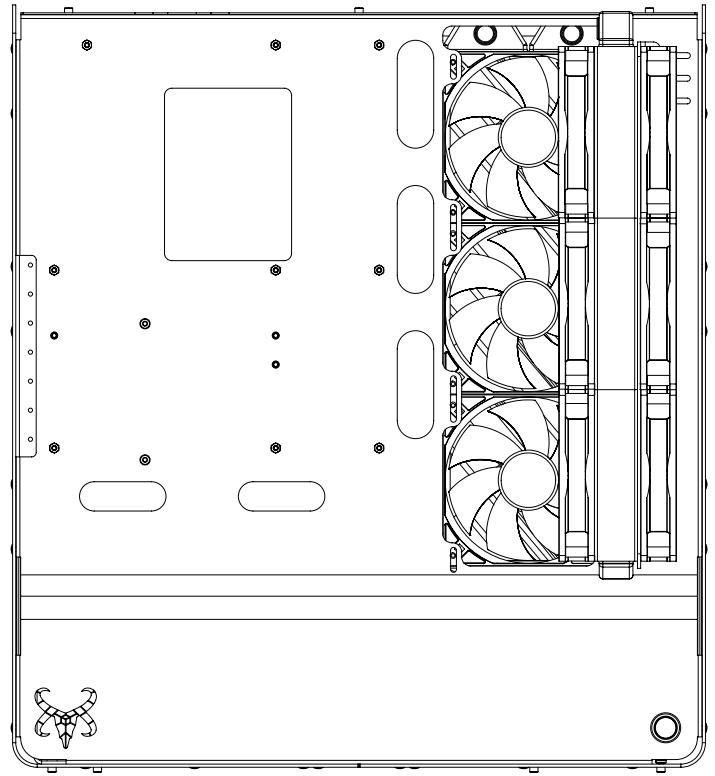


Cover on, One 360mm radiator with
push + pull fans (AIO or custom loop)

Configuration Examples Continued

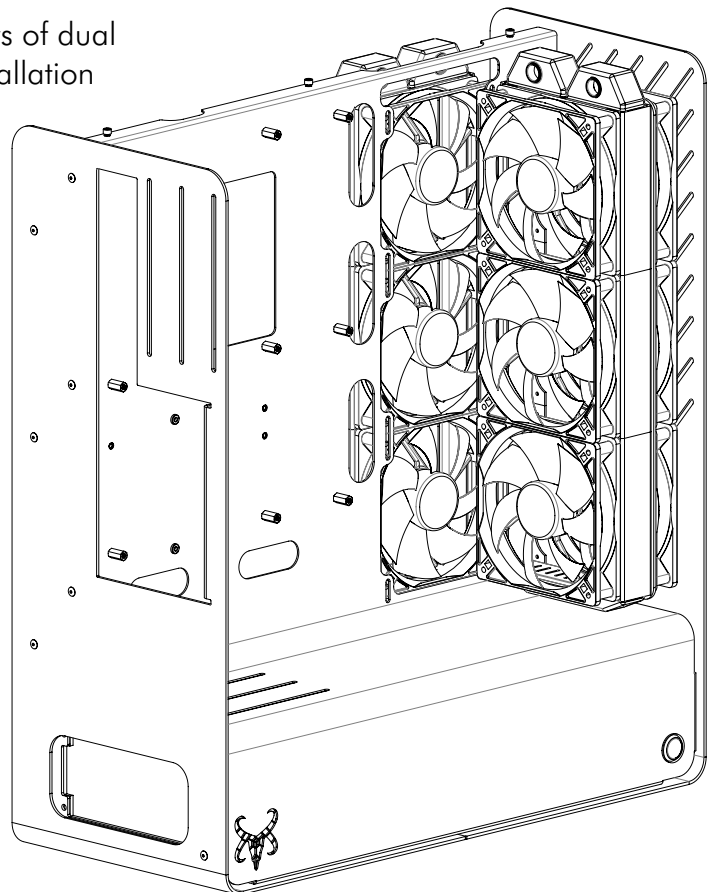
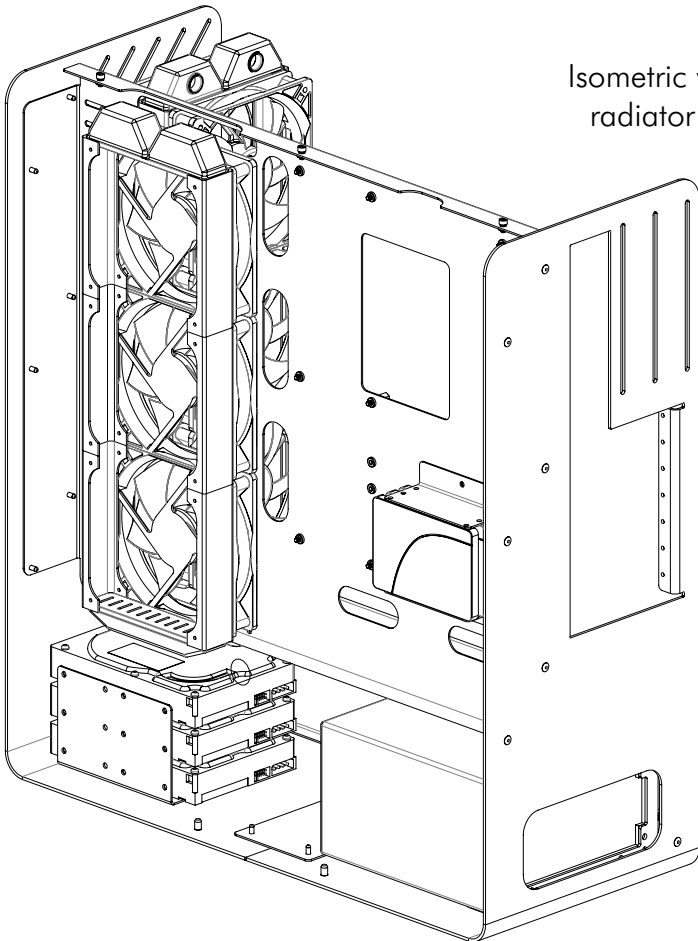


Cover off, two 360mm radiators
3 push fans on each one
(Custom Loop)



Cover off, two 360mm radiators
6 push and pull fans on radiator bracket,
3 push fans on interior (Custom Loop)

Isometric views of dual
radiator installation



Component Compatibility

Motherboard

You may use any ITX, DITX, MATX or ATX motherboards. You may also use EATX boards up to 11" wide, but they will cover the cable slots. Therefore may be more difficult to route your 24 pin power cable behind the board.

CPU Cooler

The Lithium has no size limitation on air coolers that can be used. This case is ideal for both all in one liquid cooling or a fully custom loop.

RAM

There is no limitation on RAM size. If you are using an MITX motherboard with an air cooler, you may encounter clearance issues.

GPU

The Lithium has enough room for nearly every graphics card on the market. With no radiator bracket installed, there is a whopping 463mm of clearance. With a 30mm radiator and push pull fans installed, there is 360mm of room, and 330mm of clearance with a 60mm radiator installed. If you have a water cooling pump installed on one of the fan patterns, there should still be around 300mm for a GPU block.

Pumps & Radiators

There are two dedicated pump mounting slots, which are 65mm wide. This is perfect size for EKWB Quantum Kinetic pumps. You may also mount any pump to the fan patterns on the right using an adapter bracket. Both radiator patterns are 360mm long. Radiators/ distros of any thickness can be mounted to the front radiator bracket. For the pattern next to the motherboard, we recommend mounting components inside the case, where there is about 65mm of total clearance. Use 25mm thick fan with radiators up to 30mm thick.

Storage drives

The Lithium has mounting brackets for secure installation of three 3.5" drives, and three 2.5" drives.

PSU

The Lithium can only accommodate ATX PSUs. The PSU bracket cannot mount SFX or SFX-L format power supplies.

Power Cables

Lithium builds look great with stock cables, custom cable extensions, or fully customized cables. There is about 2.75 inches of space behind the motherboard for cable management. There are no dedicated cable channels, but there are several self-adhesive cable clips included.

Power Button

The included power button is a black anti-vandal push button switch. The diameter is 19mm and there is a 24" power cable soldered to it.

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