SINGULARITYCOMPUTERS

ABSOLUTE IMPACT

Assembly Manual

Revision 1.1

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Introduction

Absolute Impact is designed for water-cooling and modding enthusiasts. It fits 1x 420mm radiator up to 45mm thick and has been properly designed for water-cooling with ample space for tube runs, radiator and fan clearances etc. It is an extremely versatile case which is easy to modify. There are no rivets so it can be broken down to the individual pieces and easily reassembled afterwards. The outer front panel can be replaced with other materials or modified. The construction is solid and reliable. There are many add-ons available for Absolute Impact.

Features

- **PowerBoard Integration**
  The Absolute PowerBoard is a PCB integrating 24pin, EPS, PCIe and 12V2x6 with PWM and ARGB hubs. Essentially, the PowerBoard is a distribution plate for cables while integrating other features and functions as well. It is a new method for cables allowing standardisation of cable lengths and making traditional cable management no longer necessary.

- **Reduced Build Time due to Integration**
  Cables do not need to be purchased separately and no cable management is needed for the core component cables.

- **High End Components**
  It is designed to fit high-end GPUs with some limitations. For the water-cooling system it can fit a 420mm radiator up to 45mm thickness.

- **Radiator Adjustment**
  The radiator has +/-10mm adjustability on the front panel.

- **Storage**
  The case has no drive positions.

Absolute Impact Case Specifications

Case Components	Steel panels, stainless steel fasteners and stand offs. Magnetic dust filter. Feet.
PowerBoard Electronics Integration	24pin x1, 8pin EPS x2, 8pin PCIe x4, 12V2X6 x2, 6pin PCIe x1. PWM FAN x6 and ARGB x5 headers. PSU jumpstart switch and Touch Power Button (Horten Module) header.
Cables	PowerBoard Linking Cables and PowerBoard PSU Cables available here. Custom Cables available here.
Motherboard Form Factor	ATX/mini-ITX.
Expansion Slots	x7.
Case Form Factor	Mid-tower ATX.
Package Dimensions	500mm(L) x 200mm(W) x 600mm(H) Case is flat packed and requires assembly.
Package Weight	11 kg.
Case Dimensions	428mm(L) x 190mm(W) x 520mm(H) / 558mm(H) with handles.
Case Weight	8 kg.
Radiators	1x 420mm radiator up to 45mm thickness with up to 30mm thick fans on the front panel.
Max. GPU Length	363mm with 30mm thick front fans, 318mm with a 45mm thick radiator and 30mm thick fans
Max. GPU Height (Horizontal)	116mm without standoffs, 132mm with 1x standoff and 147mm with 2 standoffs, etc.
Max. GPU Height (Vertical)	2.25-slot without standoffs, 3-slot with 1x standoff and 3.75-slot with 2x standoffs, etc.
Max. CPU Cooler Height	110mm.
Max. PSU Length	200mm.
Storage	n/a.
Front & Rear Panel I/O	Power and Reset buttons. Touch Power Button optional add-on.
Vertical GPU Mount	Yes, purchasable as an add-on.
Distribution Plate	The front radiator must have the ports on the top.
Materials	Steel, stainless steel, aluminium, PVC, TPU, acrylic and PCB.
Manufacturing Process	Metal folding & CNC machining.
Assembly	Flat packed and needs to be assembled by the customer.
Accessories	M3 Hex Key x1 & M4 hex key x1.

Parts List

	Item		Quantity
Absolute Impact Case	Regular Panel or Distribution Plate		1
	PCIe Mount		1
	Rear Panel		1
	Bottom Panel		1
	Top Panel		1
	Front Panel		1
	GPU mount		1
	Front Cover (solid or vented)		1
	Side Cover (solid or vented)		2
	Cable Cover		1
	Side Panel Window (acrylic)		1
	ARGB Cable		1
	12mm Power Switch		1
	12mm Reset Switch		1
	Feet		4
	Radiator Filter		1
	M4 6mm BH		31
	M4 10mm BH		22
	M4 14mm BH		4
	M6 10mm BH		2
	#6-32 0.25" BH		11
	M4 7mm Plastic Washer		17
	M3 6mm BH		10
	M3 Insulator		1
	M3 Nut		1
	M3-M4 18mm Standoff		9
	M4 20mm Standoff		12
	M4 15mm Standoff		8
	M3 & M4 Hex Key		1
Touch Power Button	Horten Module		1
	HRTN Cable 60cm		1
Vertical GPU Mount	PCIe Riser Cable		1
	PCIe Cover		1
	M4 6mm BH		2
	M3 7mm washer		3
	M3 18mm BH		3
	VGPU 3mm Acryl Mount		1
	VGPU 10mm Acryl Mount		1
	VGPU 90 Degree Bracket		1
PowerBoard	Absolute PowerBoard		1
	24pin MB 20cm Linking Cable		1
	8pin EPS 20cm Linking Cable		2
	12V2X6 Linking Cable or 8pin PCIe Linking Cable		3
	PWM Linking Cable		1
	ARGB Linking Cable		1
	PowerBoard Switch Power Cable		1

Assembly Manual

Step 1-2: Preparing the Bottom & Top Panel

- Step 1: Install Feet x4 to the bottom side of the Bottom Panel using M4 10mm BH x4 according to *Figure 1A*.

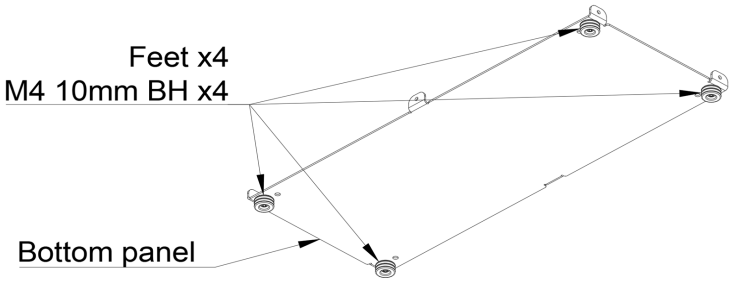


Figure 1A

- Step 2A (Optional): Install Handles x2 to the top panel using M4 10mm BH x4 according to *Figure 2A*.

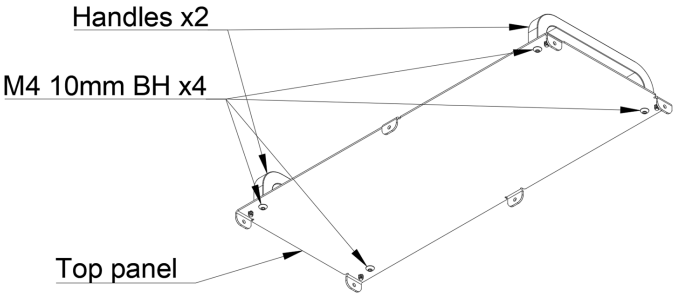


Figure 2A

- Step 2B (Optional): Install M4 6mm BH x4 into the threaded holes next to the handles to cover them up. These fasteners are only used for visual cover and they serve no other purpose.

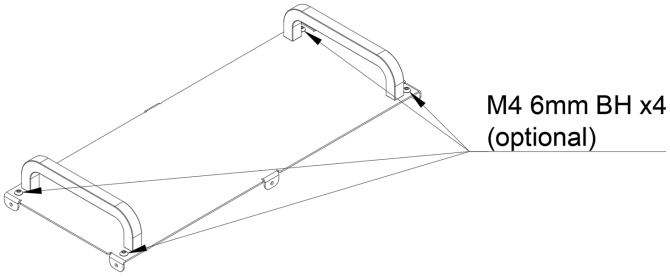


Figure 2B

Step 3: Preparing the Main Panel

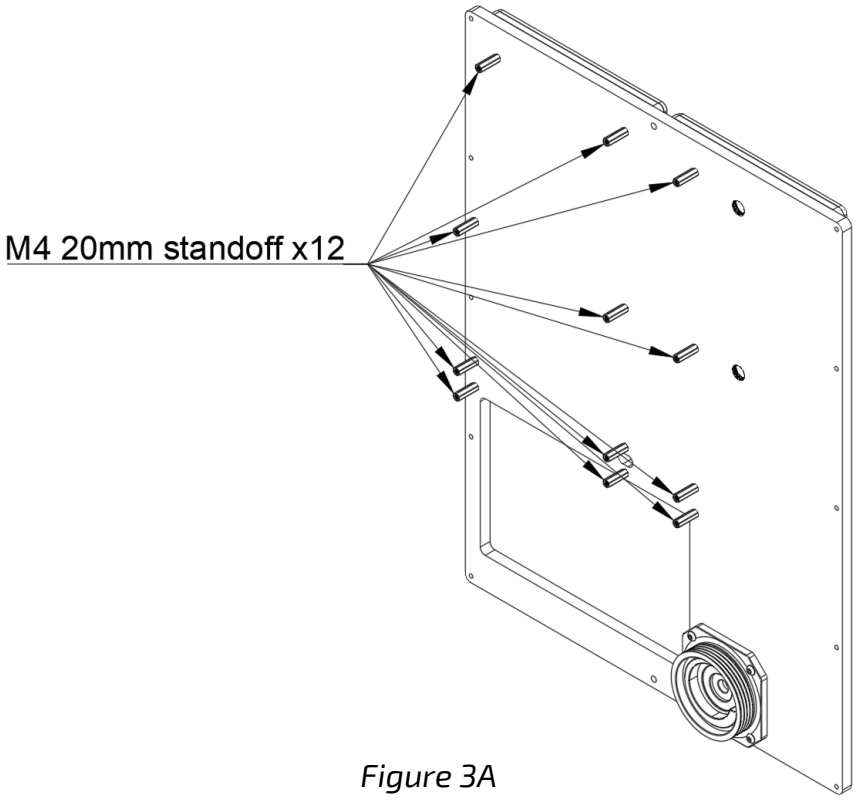


Figure 3A

- Step 3A: Install M4 20mm standoff x12 to the distribution plate or panel.

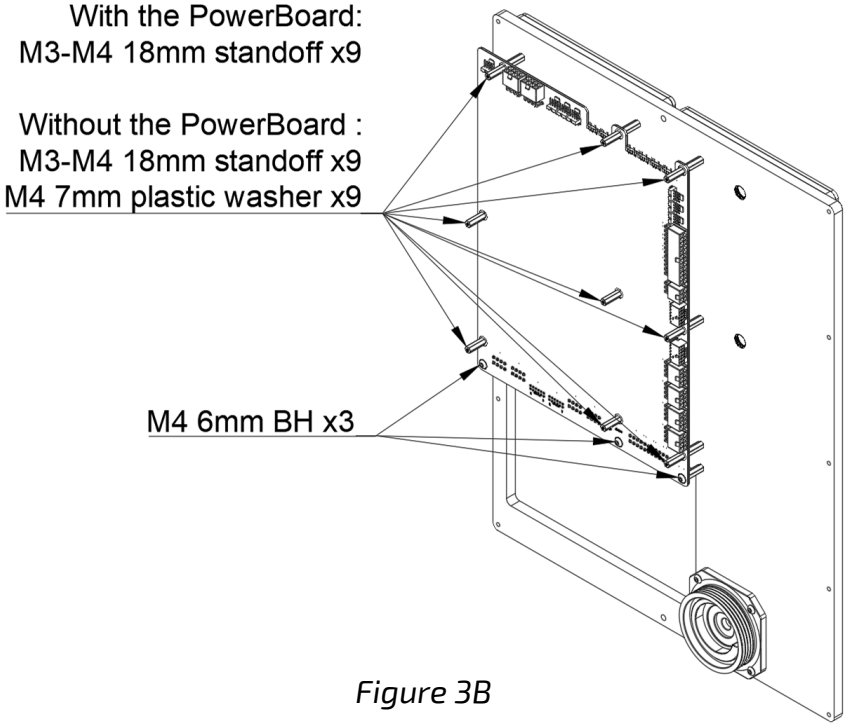


Figure 3B

- Step 3B: If an Absolute PowerBoard is used then secure it with M3-M4 18mm standoff x9. If no PowerBoard is used then install M3-M4 18mm standoff x9 with M4 7mm plastic washers under them onto the previously installed M4 20mm standoffs. Install M4 6mm BH x3 onto the bottom 3 positions according to *Figure 3B*.

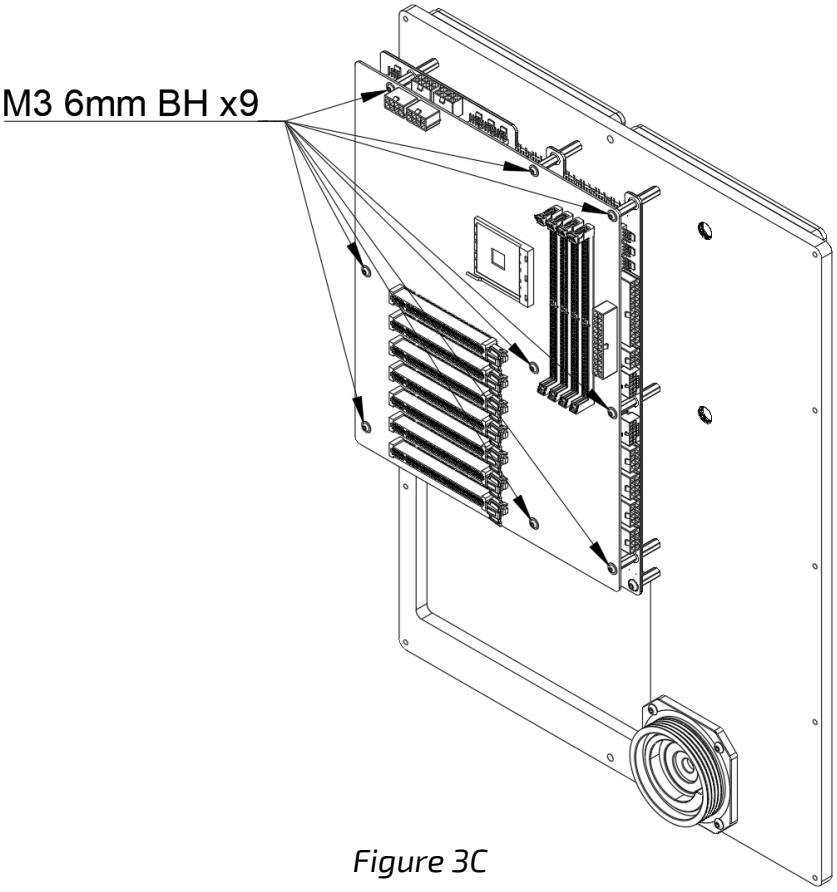


Figure 3C

- Step 3C: Install a motherboard to these M3-M4 18mm Standoffs using M3 6mm BH x9 now or later once the case is built.

Step 4: Assembling the Main Frame

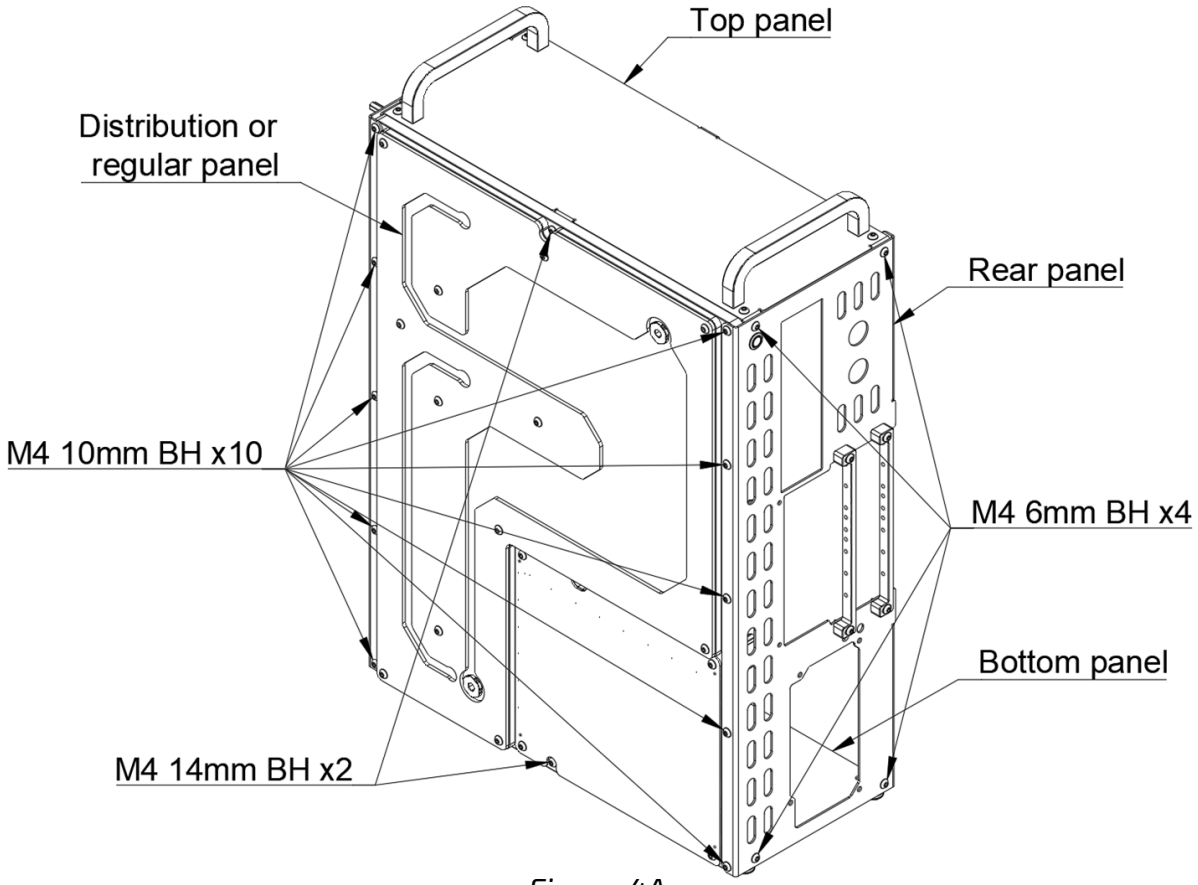


Figure 4A

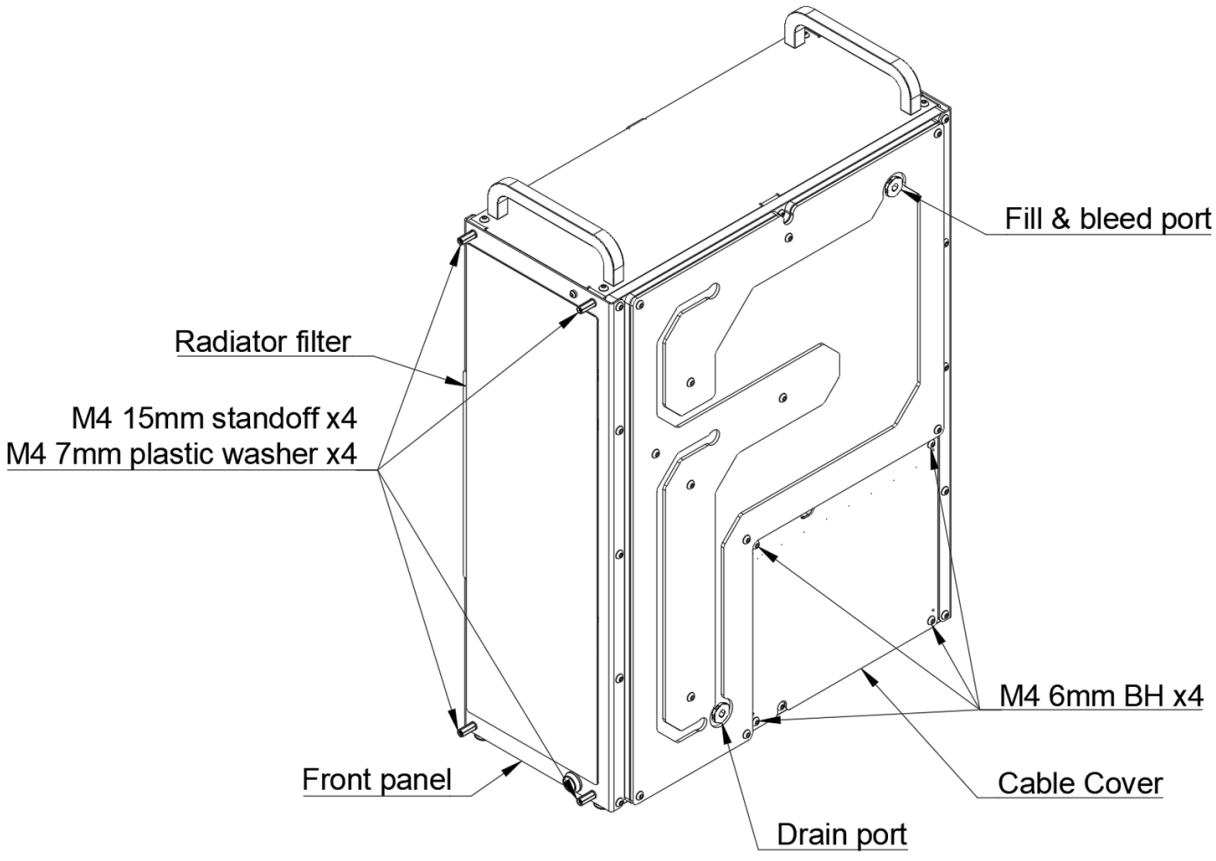
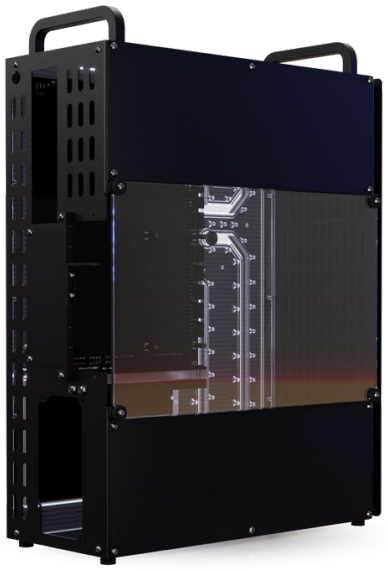


Figure 4B

- Step 4A: Install the rear panel and the front panel to the distribution or regular panel, mounting is the same. Secure them with M4 10mm BH x5 on the front and x5 on the rear panel according to *Figure 4A*.
- Step 4B: Install and secure the bottom and top panel to the rear panel with M4 6mm BH x4 according to *Figure 4A*.
- Step 4C: Secure the bottom and top panel to the front panel with M4 15mm standoff x4 with M4 7mm plastic washer x4 under them to protect the paint according to *Figure 4B*.
- Step 4D: Secure the top and bottom panels to the distribution or regular panel with M4 14mm BH x2 according to *Figure 4A*.
- Step 4E: Install the cable cover PCB using M4 6mm BH x4 according to *Figure 4B*.
- Step 4F: Install the front fans or radiator then the Radiator filter according to *Figure 4B*. This filter is held in place magnetically.



Step 5: Switches & PCIe Mount

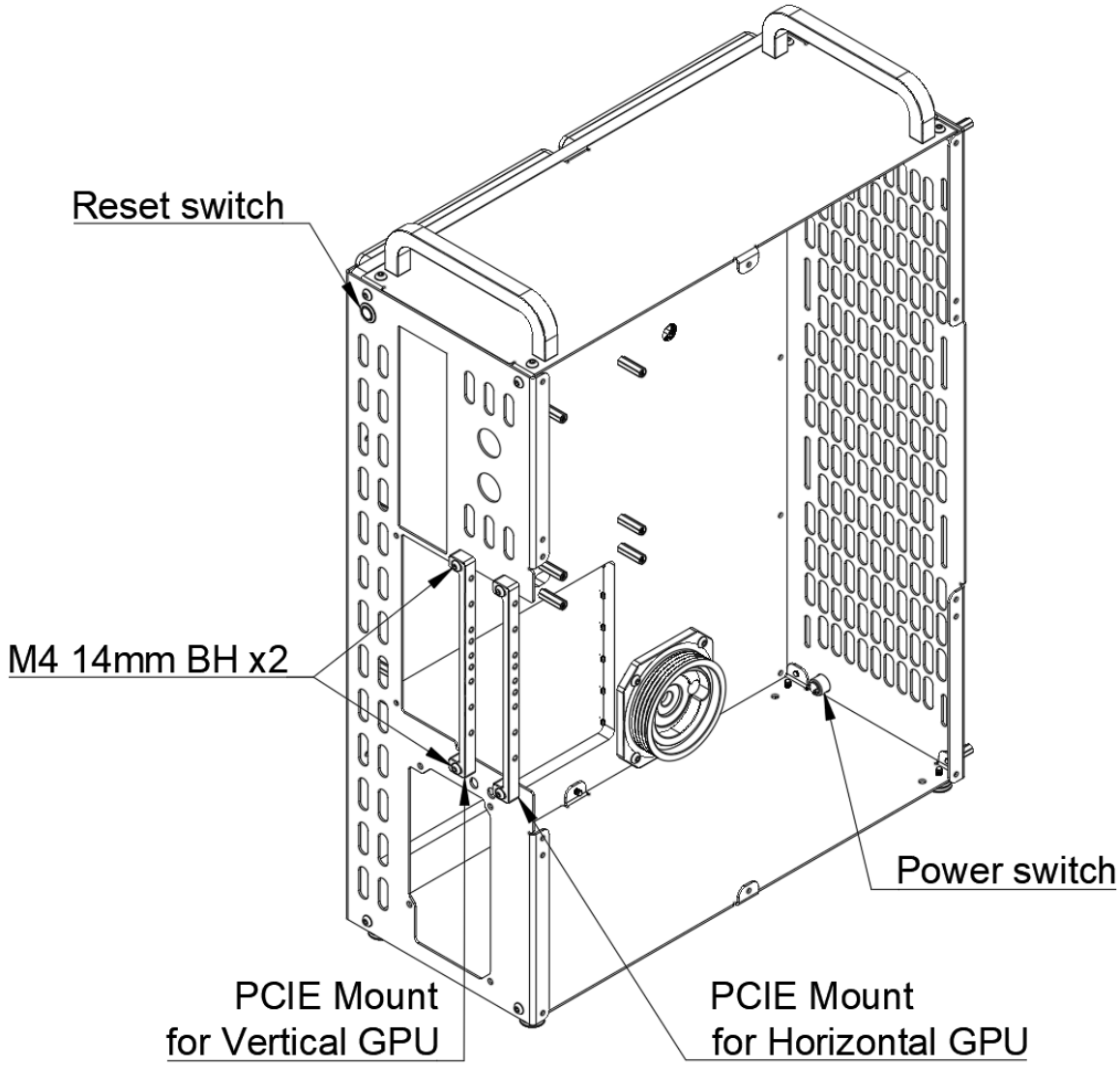


Figure 5

- Step 5A: Install the PCIe mount to the vertical or horizontal GPU location using M4 14mm BH x2, depending on whether the graphics card is mounted horizontally or vertically with a vertical GPU mount.
- Step 5B: Install the Power switch to the front panel and the Reset switch to the rear panel according to *Figure 5*.

Step 6: Touch Power Button (optional)

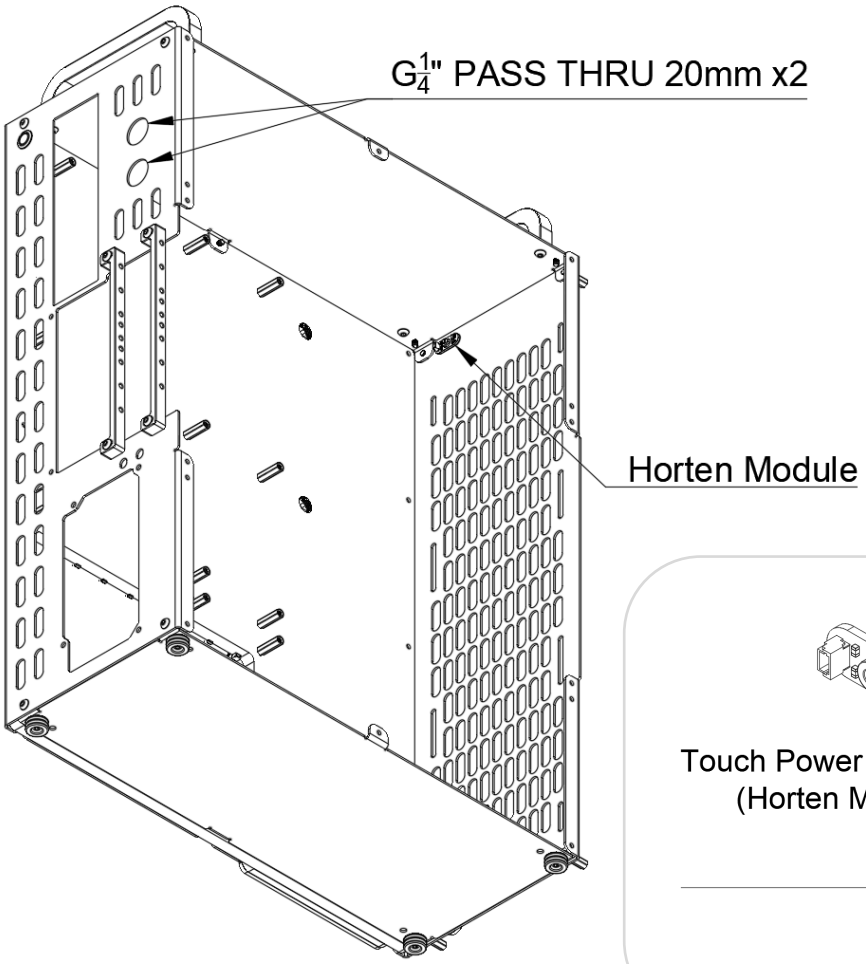


Figure 6A

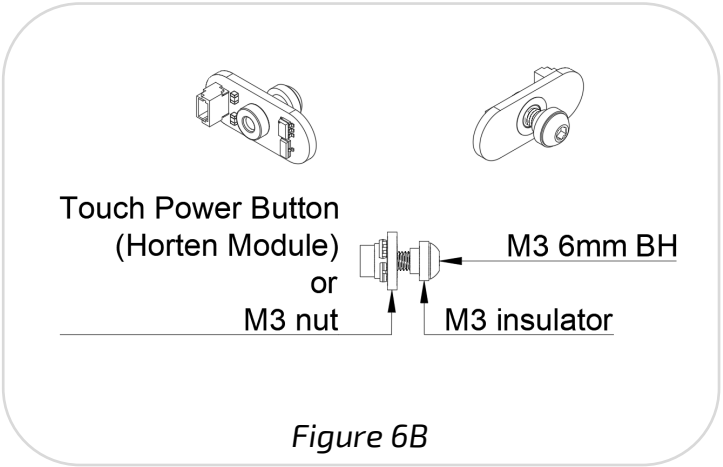


Figure 6B

- Step 6 (optional): Install the Touch Power Button (Horten Module) to the front of the case in the location marked in *Figure 6A* according to the setup in *Figure 6B*. If a Touch Power Button is not used then replace the module with an M3 nut or leave out this step completely

Step 7: Power Supply & Vertical GPU Mount

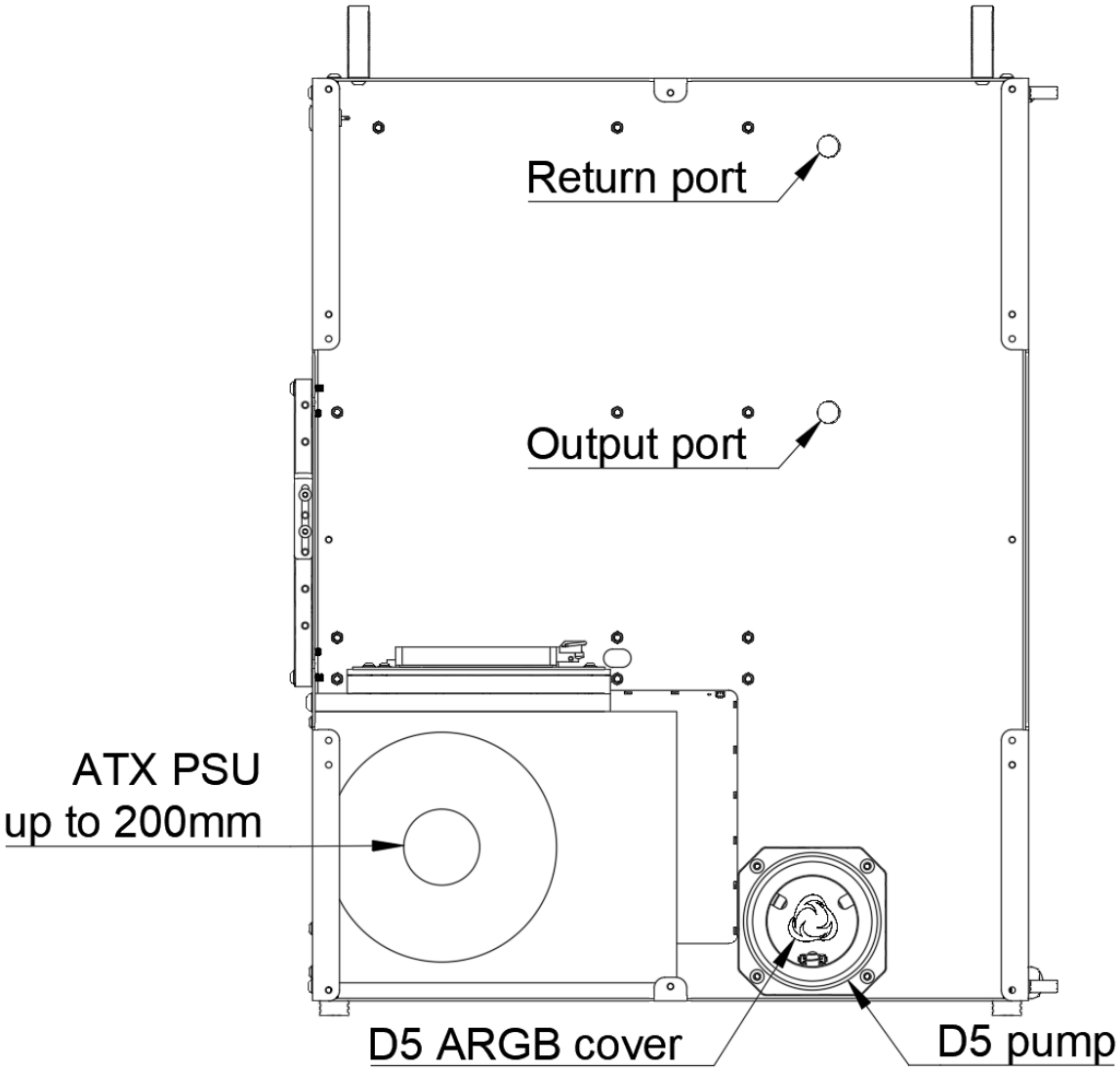


Figure 7A

- Step 7A: Install an ATX power supply up to 200mm long and secure it with #6-32 0.25" BH x4 according to *Figure 7A*.
- Step 7B (Vertical GPU): Install the VGPU 90° bracket to the PCIe Mount using #6-32 0.25" BH x2 and then the PCIe IO cover using M4 6mm BH x2 according to *Figure 7B*.

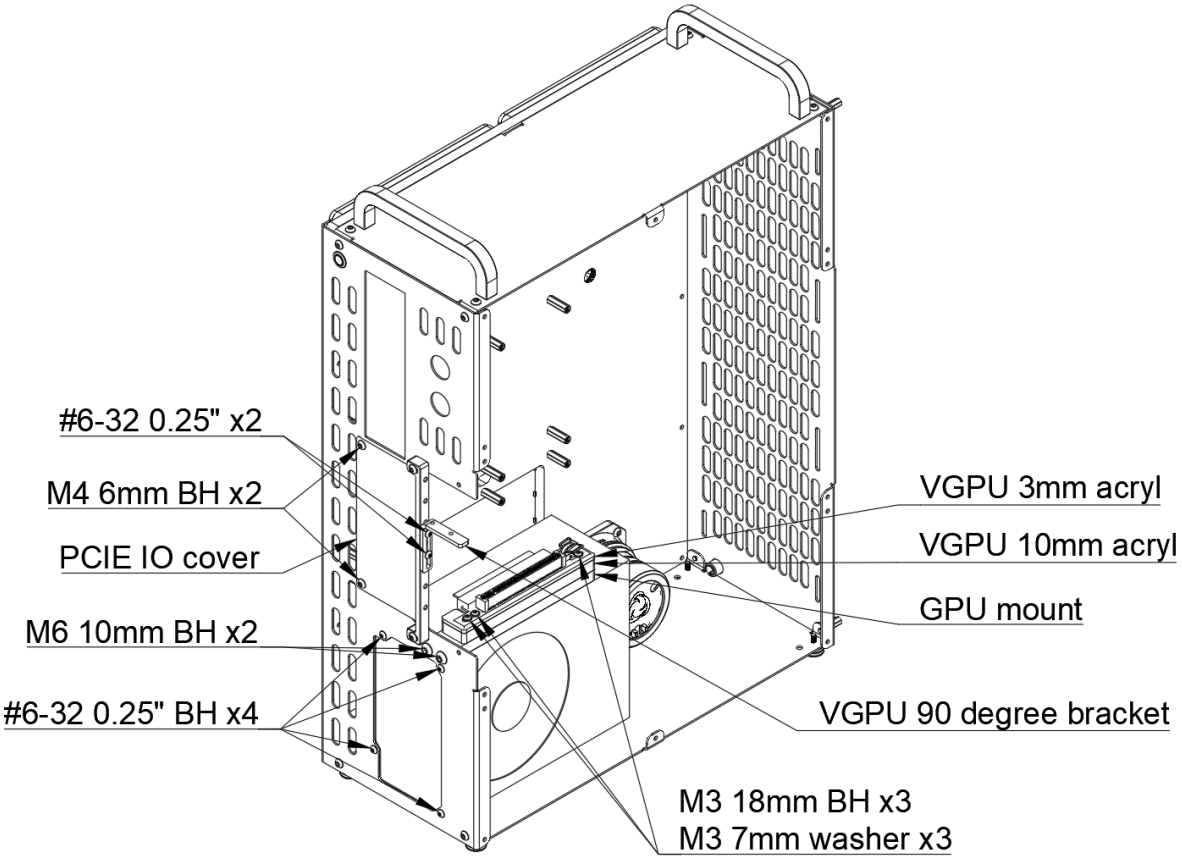


Figure 7B

- Step 7C (Vertical GPU): Install the VGPU acryl 3mm black and 10mm clear mount with the PCIe riser cable using M3 18mm BH x3 with M3 7mm washer x3 to the GPU mount according to *Figure 7B*.
- Step 7D (Vertical GPU): Install the VGPU 90˚ bracket to the PCIe Mount using #6-32 0.25" BH x2 and then the PCIe IO cover using M4 6mm BH x2 according to *Figure 7B*.

Step 8: Installing the Covers/Vents

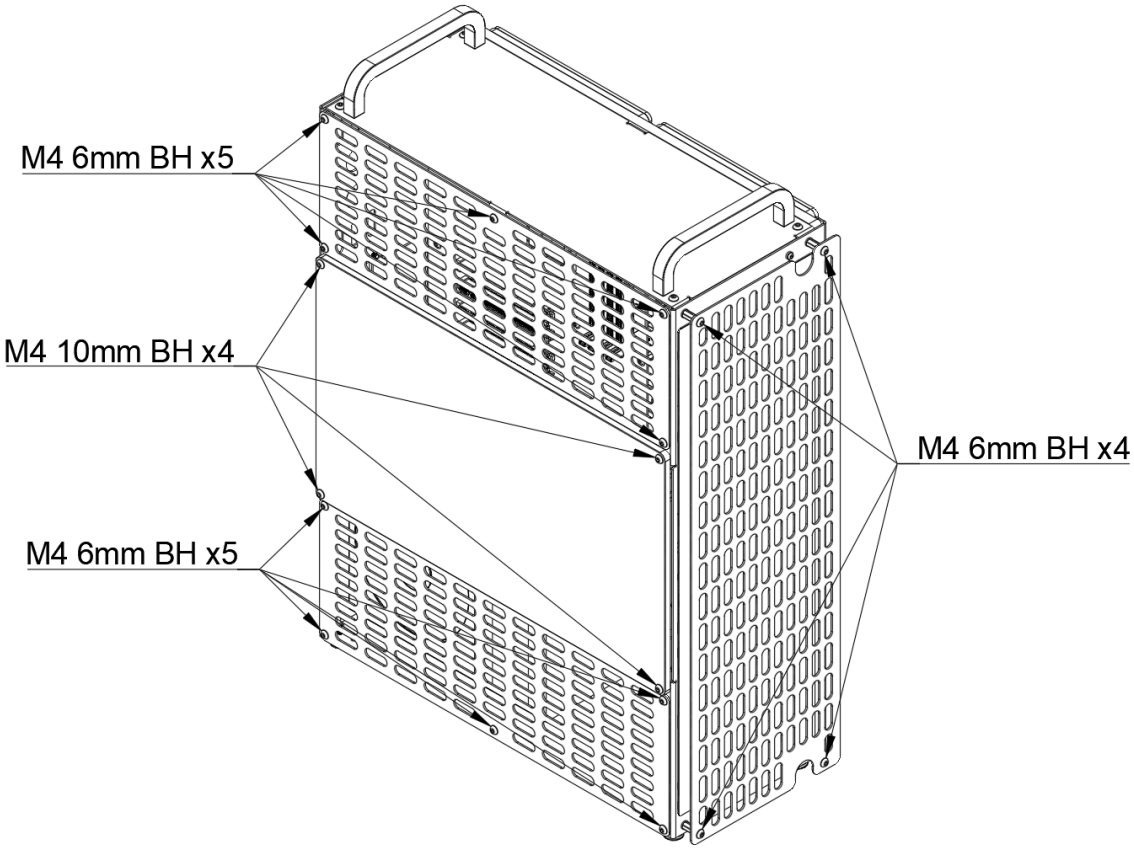


Figure 8

- Step 8: Install the covers or vents to the front and side of the case with M4 6mm BH x14 total according to *Figure 8*.

Step 9-10: Side Window

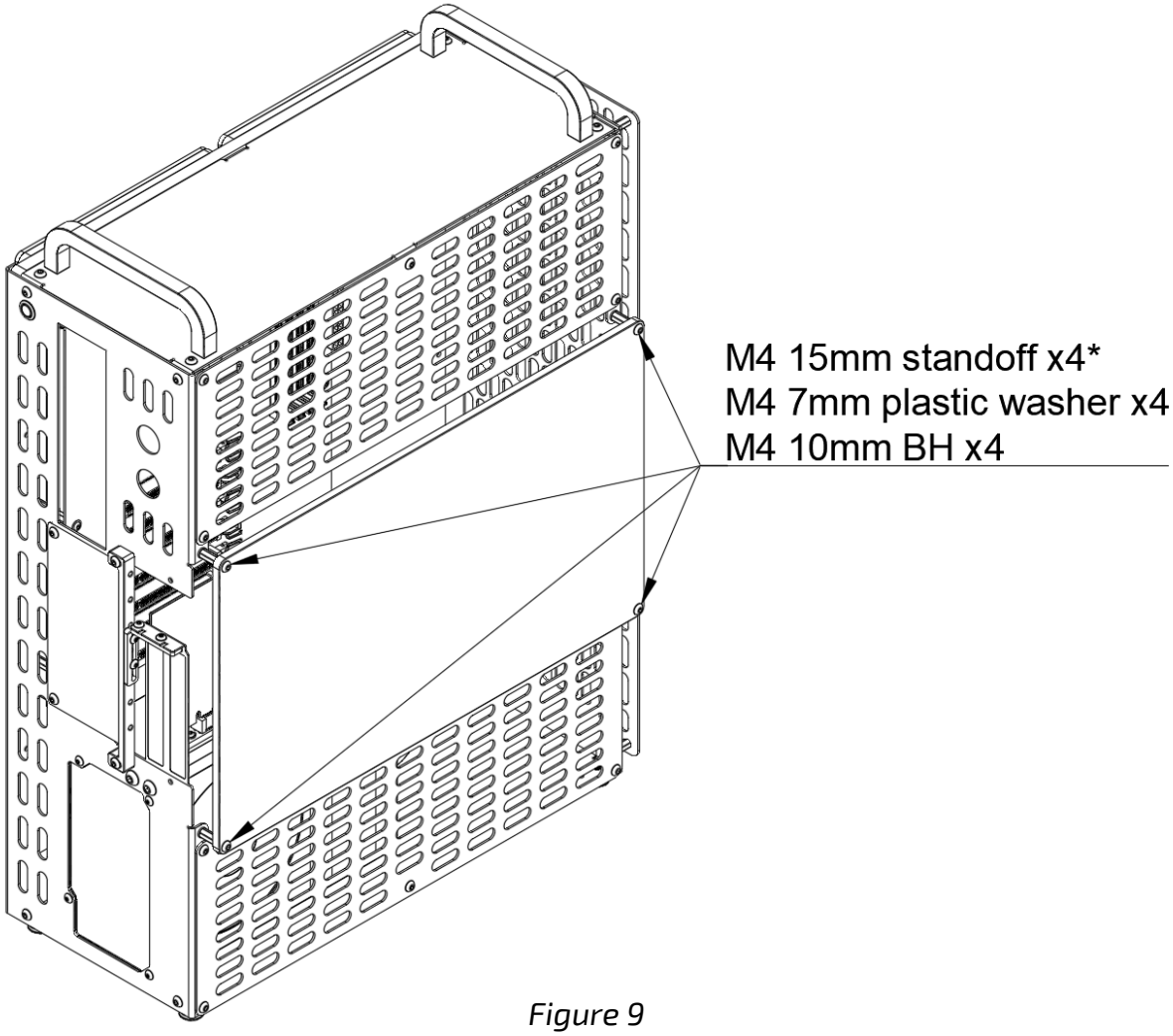
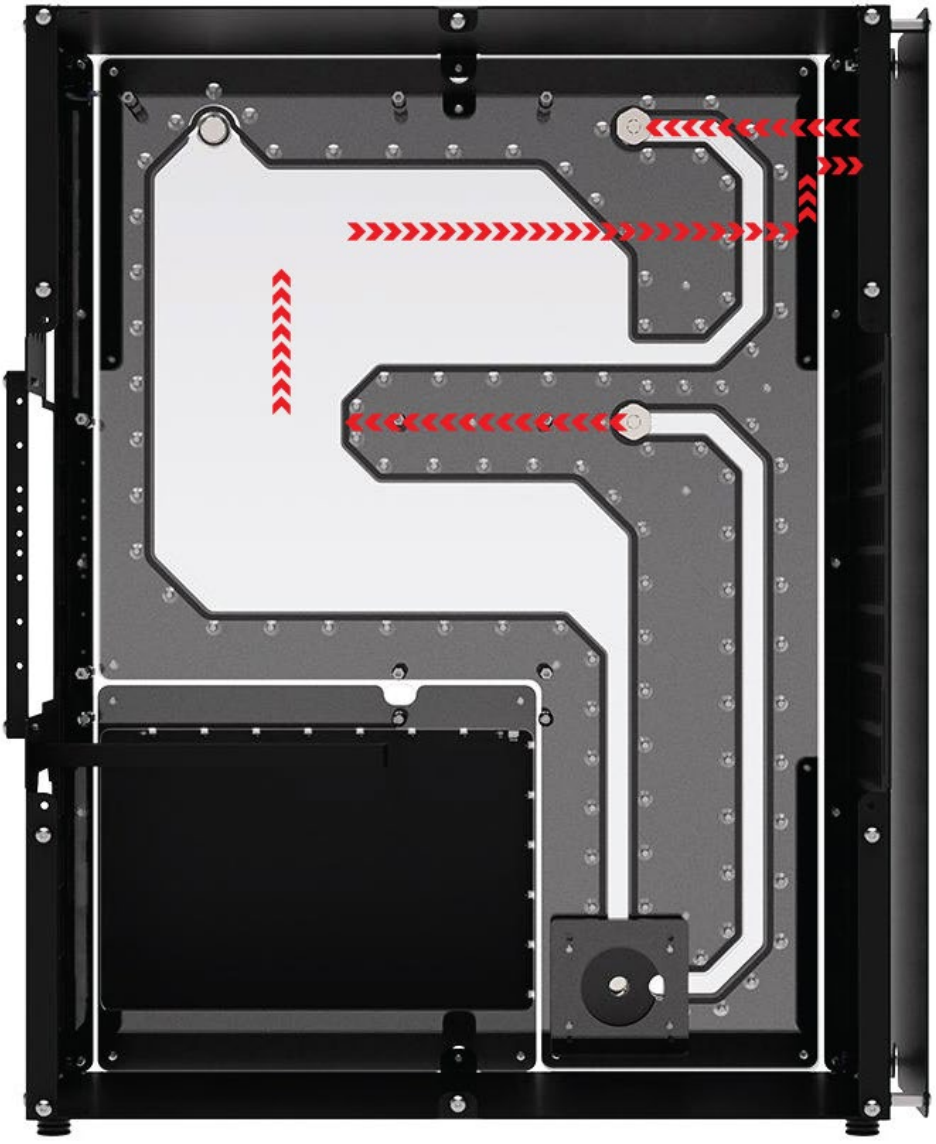


Figure 9

- Step 9 (Water-cooled Vertical GPU): Install the side window with M4 10mm BH x4 according to *Figure 8*. Note: if an air-cooled GPU is used or it is mounted horizontally then go to *Step 10* instead.
- Step 10 (Air-cooled / Horizontal GPU): Install M4 15mm standoff x4 with M4 7mm plastic washer to the case to create a gap between the GPU and the side window, then secure the window using M4 10mm BH x4 according to *Figure 9*. *Use additional M4 15mm standoffs to create a larger gap for wider or taller GPUs, these can be purchased separately. Longer or shorter M4 standoffs can be used too and purchased from local or online fastener suppliers to achieve custom gaps.

Flow Diagram



Absolute PowerBoard

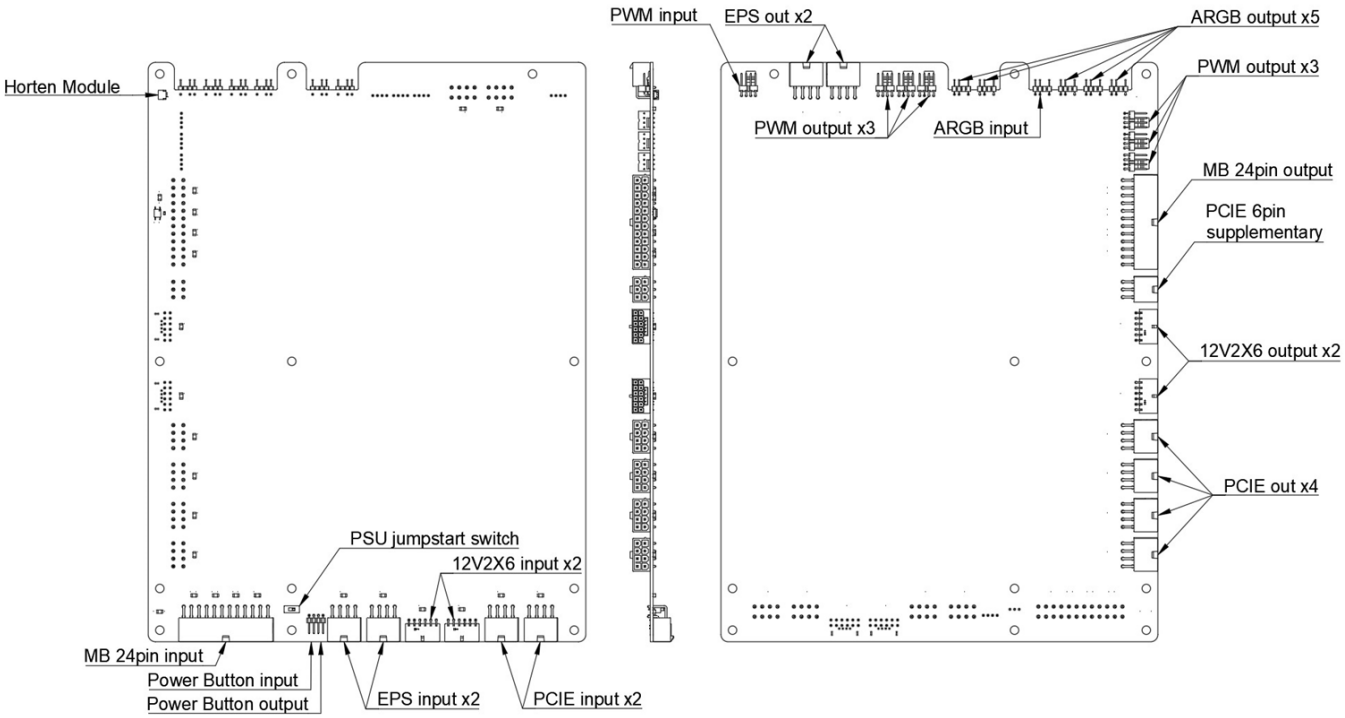


Figure 10

⚠ All PowerBoards need PowerBoard Linking Cables.

Input Connections	• MB 24pin input x1 • EPS input x2 • 12V2X6 input x2 • PCIe input x2 • PWM input x1 • ARGB input x1 • Power Button input x1 • Horten Module input x1
Output Connections	• MB 24pin output x1 • EPS output x2 • 12V2X6 output x2 • PCIe output x4 • PCIe 6pin supplementary output x1 • PWM output x6 • ARGB output x5 • Power Button output x1

The Absolute PowerBoard's extra feature is a PSU jumpstart switch that is able to power on the system without booting which simplifies filling and bleeding the loop.

- Connect the power supply's cables to the input connectors on the Absolute PowerBoard. Use as many connections as many are used on the graphics card and motherboard. In general, a 12V2X6 connector equals to 2x PCIe in terms of power delivery and the PowerBoard converts PCIe to 12V2X6 and back. This allows using older power supplies with modern graphics card that need 12VHPWR or 12V2X6 or vice-versa. For an example if a graphics card needs 3x PCIe then for the power supply we can plug in 1x 12V2X6 and 1x PCIe to match that power requirement.
- If a Horten Module is used then connect it to the "HRTN" header on the Absolute PowerBoard, and also connect the motherboard power button pins from the front panel header to the PowerBoard's "PWR_BTN" header's input side using the PowerBoard Switch Power cable, then connect the regular power button from the front of the case to the output side of the "PWR_BTN" header.
- Connect the regular reset button from the rear of the case to the motherboard's front panel header's reset button pins.