SINGULARITYCOMPUTERS

ABSOLUTE

Assembly Manual

Revision 1.3

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Introduction

Absolute is designed for water-cooling and modding enthusiasts. It fits 2x 360mm radiators 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 panels can be replaced with other materials or modified. The construction is solid and reliable with 3 thick rails for the motherboard tray and a PSU shroud. There are many add-ons available for Absolute.

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 the largest high-end GPUs. For the water-cooling system it can fit 360mm radiators up to 45mm thickness.

- **Radiator Adjustment**
  The radiators have +/-10mm adjustability on the front and top panels, and +/-3mm on the 3x360 Radiator Mount due to space constraints.

- **Storage**
  The case has 5x 2.5" SATA Drive or 1x 3.5" SATA Drive positions.

Absolute Case Specifications

Case Components	Steel panels, stainless steel fasteners and stand offs. Magnetic dust filters. Logos and 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	730mm(L) x 530mm(W) x 120mm(H) Case is flat packed and requires assembly.

Package Weight	14.5 kg.
Case Dimensions	470mm(L) x 230mm(W) x 530mm(H)
Case Weight	12 kg.
Storage	5x 2.5" or 1x 3.5".
Radiators	Up to 5x 360mm radiators up to 45mm thickness with up to 30mm thick fans. 1x on top panel, 1x on front panel and 3x on the 3x360 radiator mount on the right side (optional add-on).
Max. GPU Length &Height	435mm length without front fans or radiator and 160mm height in horizontal GPU mounting.
Max. CPU Cooler Height	160mm.
Max. PSU Length	220mm.
Front Panel I/O	Power and Reset buttons. Touch Power Button optional add-on.
Vertical GPU Mount	Yes, purchasable as an add-on.
Distribution Plate	Yes, purchasable as an add-on with a D5 pump top. Not compatible with the 3x360mm radiator mount. The front radiator must have the ports on the top.
3x360mm Radiator Mount	Yes, purchasable as an add-on. Not compatible with the distribution plate. The front radiator must have the ports on the bottom. Replaces the stock Side Panel.
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.
Drive support configurations	• 5x 2.5" SSD or 1x 3.5" HDD without an Absolute D5 distribution plate and with a 30mm thick radiator on the front • 4x 2.5" SSD or 1x 3.5" HDD without an Absolute D5 distribution plate and with a 45mm thick radiator on the front • 1x 2.5" SSD or 1x 3.5" HDD with an Absolute D5 distribution plate with a 30mm thick radiator on the front • 0x 2.5" SSD or 1x 3.5" HDD with an Absolute D5 distribution plate with a 45mm thick radiator on the front. • 2x 2.5" SSD or 0x 3.5" HDD with a 3x360 radiator mount with a 45mm thick radiator on the front. • 3x 2.5" SSD or 0x 3.5" HDD with a 3x360 radiator mount with a 30mm thick radiator on the front.

Parts List

	Item		Quantity
Absolute Case	Front, Rear, Top and Bottom Panel		1
	Side Panel / 3x360 Radiator Mount		1
	Reinforcing		3
	PSU Side, Top Panel		1
	PSU Bracket		1
	Links		3
	Front and Top Cover (Solid / Vented)		1
	Side Cover (Solid / Vented)		2
	Window (Acrylic / Glass)		1
	PCIE Mount		1
	Top and Bottom Logo		1
	Radiator Filter		2
	PSU Filter		1
	Power and Reset Switch		1
	Feet		6
	Hard Drive Grommets		4
	M4 6mm BH		77
	M4 8mm BH		14
	M4 16mm BH		6
	#6-32 0.25" BH		15
	M3 4mm BH		10
	M3 8mm BH		10
	M3 Insulator		1
	M3 Nut		1
	M3-M4 18mm Standoff		9
	M4 6mm Standoff		9
	M4 15mm Standoff		16
	M4 7mm Plastic Washer		31
	M3 & M4 Hex		1
Distribution Plate	Absolute D5 Reservoir Distribution Plate		1
	SC Stop Fittings		4
	ARGB LED Strip		1
3x360 Radiator Mount	3x360 Radiator Mount		1
	3x360 Radiator Vented Cover		1
Touch Power Button	Horten Module		1
	HRTN Cable 60cm		1
Glass Window	Tempered Glass Window		1
	Rubber Grommets for Tempered Glass		4
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 Panel

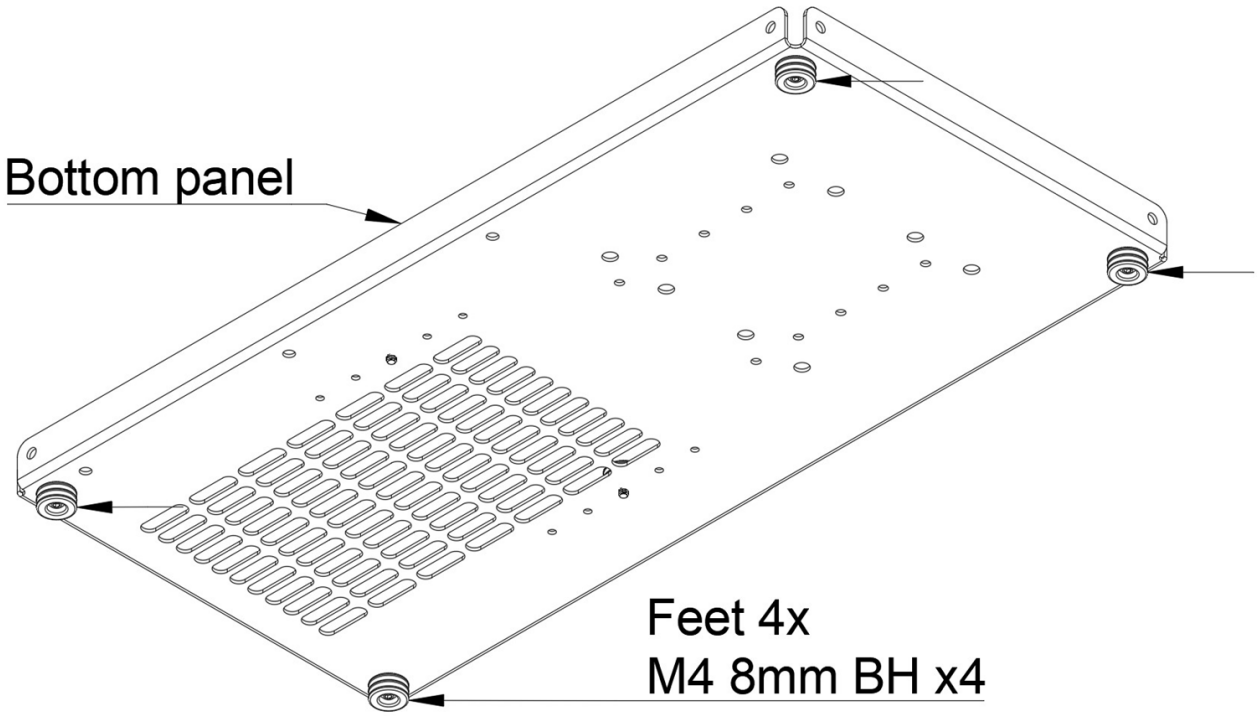

Figure 1A

- Step 1: Install feet to the bottom side of the Bottom Panel according to Figure 1A using M4 8mm BH x4.

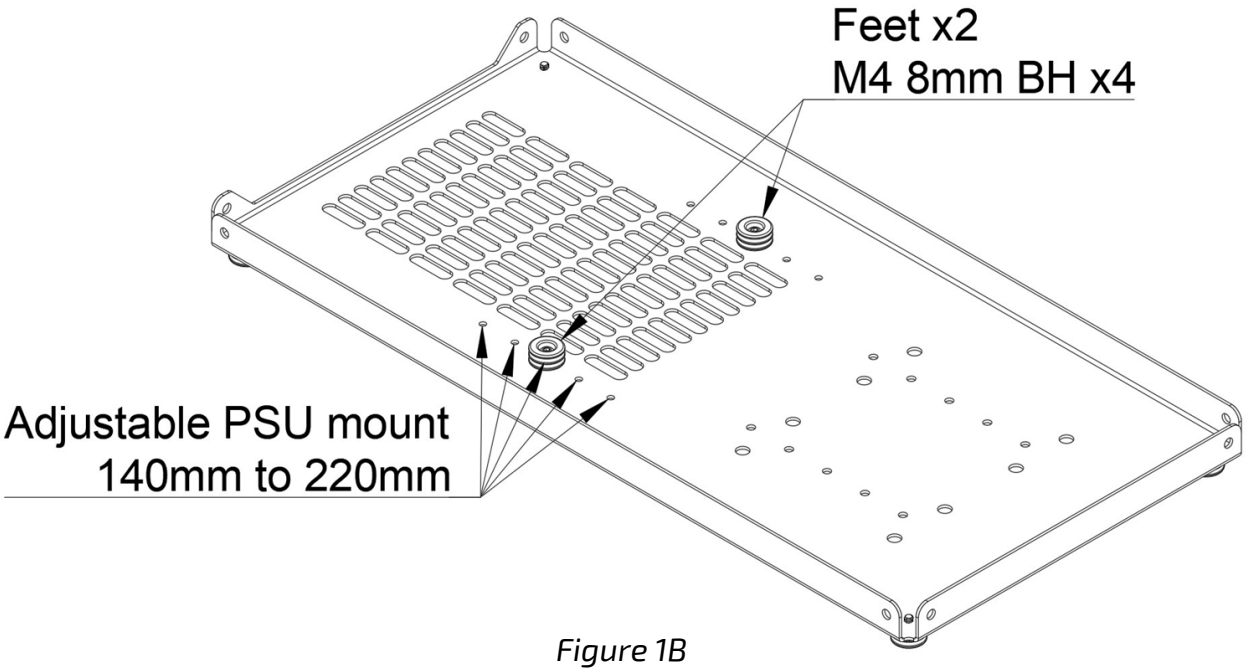

Figure 1B

- Step 2: Install 2 more feet using M4 8mm BH x2 to the top side of the bottom panel according to *Figure 1B* that will act as support for the power supply, the position of these depends on the length of the power supply.

Step 3-5: Assembling The Frame

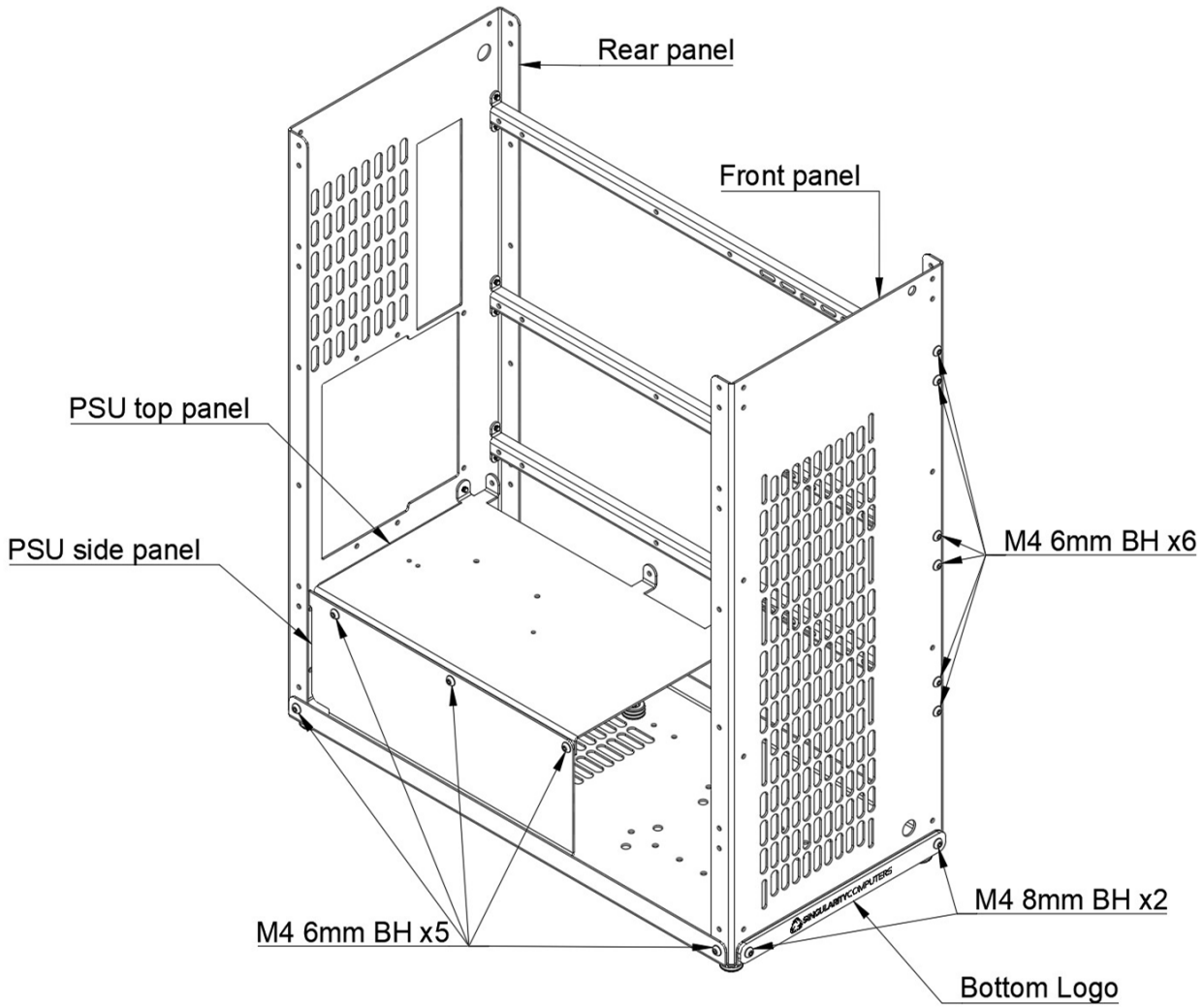

Figure 2A

Step 3: Install the rear panel and the front panel to the Bottom Panel and secure them with M4 6mm BH x2 on the left, right and rear sides then secure the Bottom Logo to the front using M4 8mm BH x2, according to *Figure 2A* and *Figure 2B*.

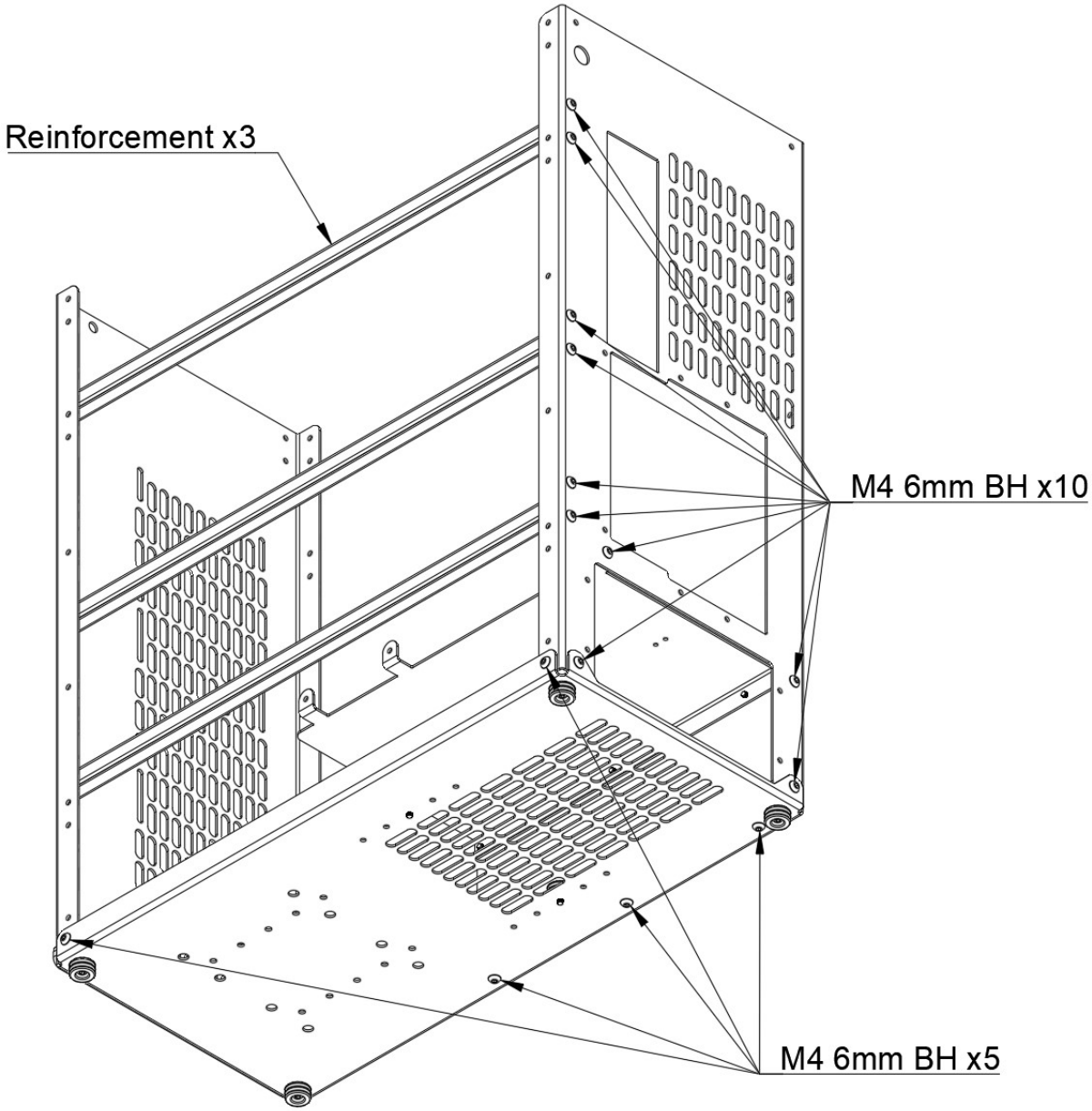

Figure 2B

- Step 4: Put the Reinforcing bars in-between the Front and Rear Panel and secure them with M4 6mm BH 2x on the front and 2x in the rear side per bar according to *Figure 2A* and Figure 2B.
- Step 5: Install the PSU top and PSU side panels into the case securing them to the bottom and rear panels and to each other using M4 6mm BH x8 according to *Figure 2A* and *Figure 2B*.

Step 6-9: Motherboard Standoffs with/without a PowerBoard

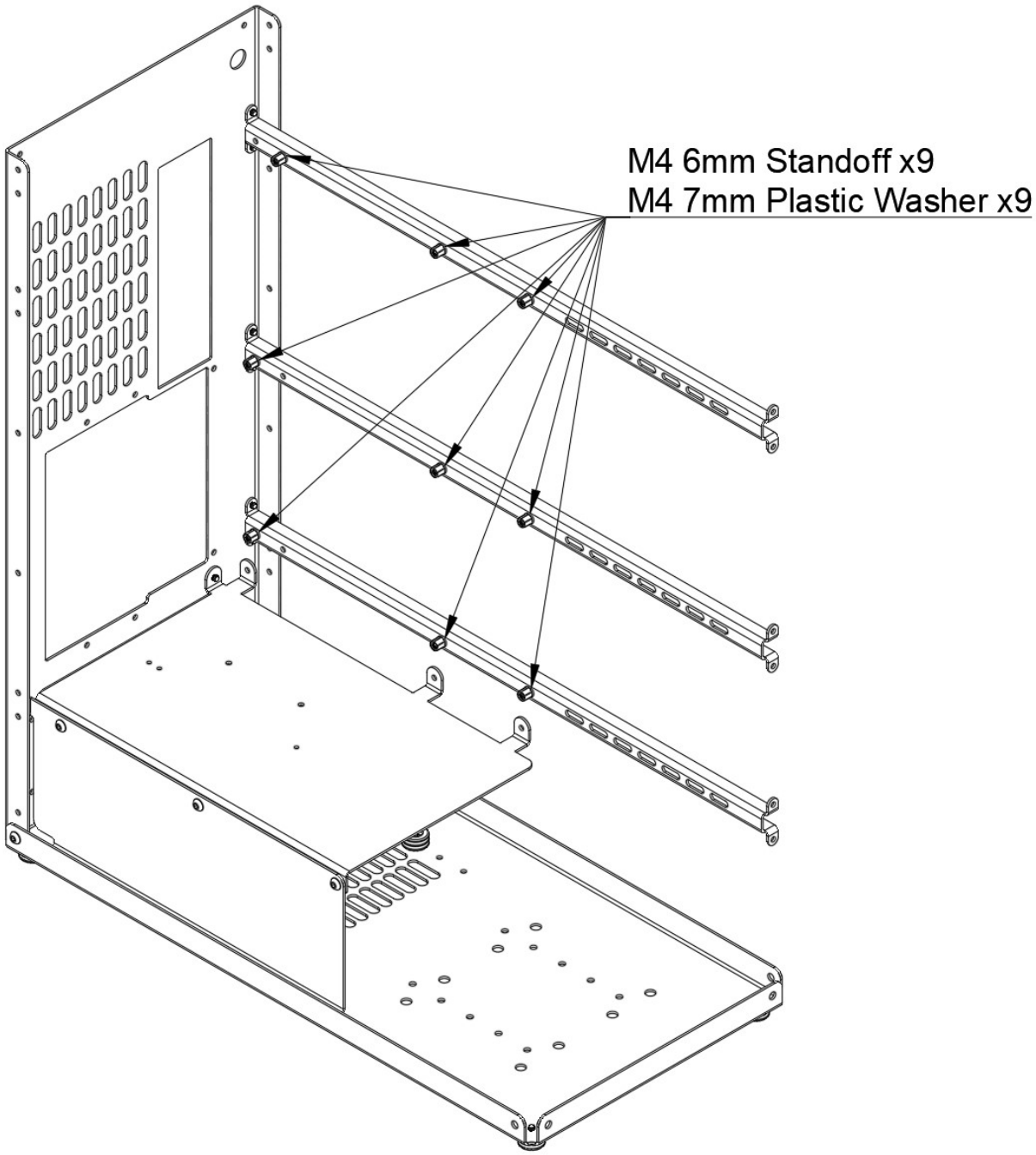

Figure 3A

- Step 6: Install M4 6mm Standoff x9 with M4 plastic washer x9 to the Reinforcing bars in the locations marked on *Figure 3A*.
- If there is no Absolute PowerBoard used in the case, then proceed to Step 7, otherwise go to Step 9 to install the PowerBoard.

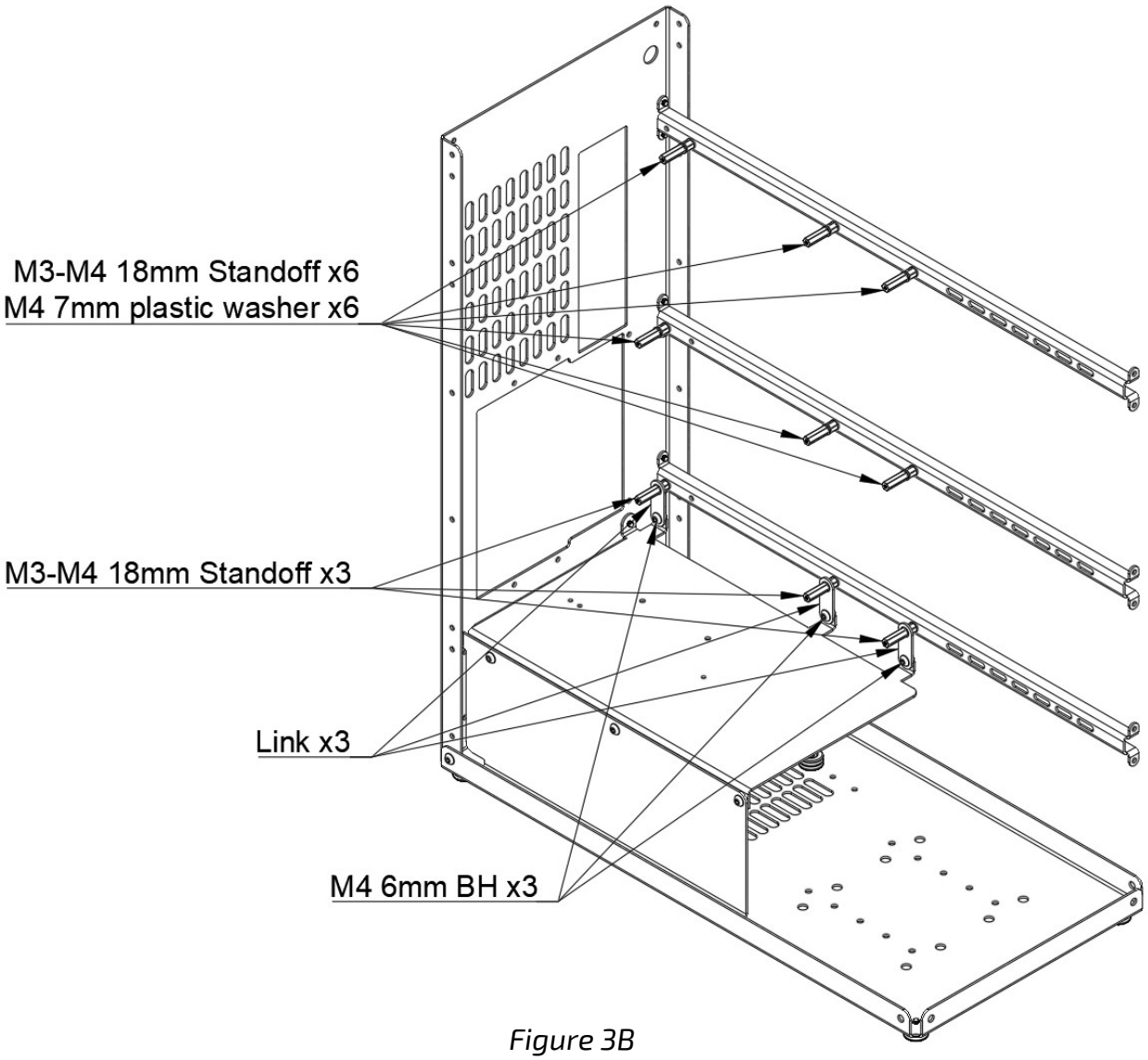

Figure 3B

- Step 7: Install M3-M4 18mm Standoff x6 with M4 plastic washer x6 to the top and middle Reinforcing bars onto the M4 6mm standoffs in the locations marked on *Figure 3B*.
- Step 8: Then install Links x3 to the bottom Reinforcing bar and secure them with M3-M4 Standoff x3 without washers then secure the links to the PSU top panel using M4 6mm BH x3 according to *Figure 3B*.

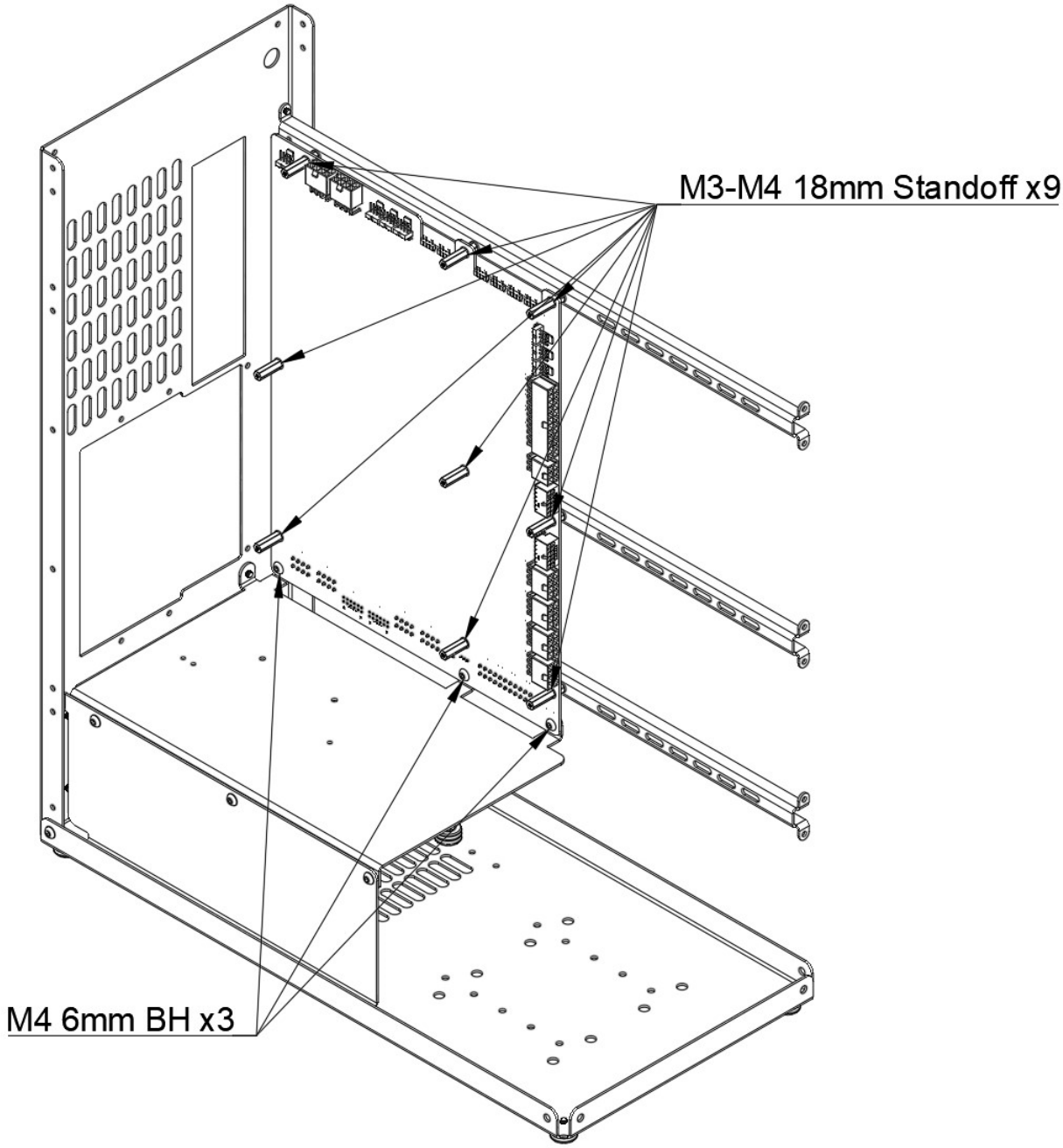

Figure 3C

- Step 9: Install the Absolute PowerBoard and secure it with M3-M4 18mm Standoff x9 in the top 3 rows to the Reinforcing bars, and M4 6mm BH x3 on the bottom row to secure it to the PSU top panel according to *Figure 3C*.
- (Install a motherboard to these M3-M4 18mm Standoffs using M3 8mm BH x9 once the case is built.)

Step 10-11: Buttons & GPU mount

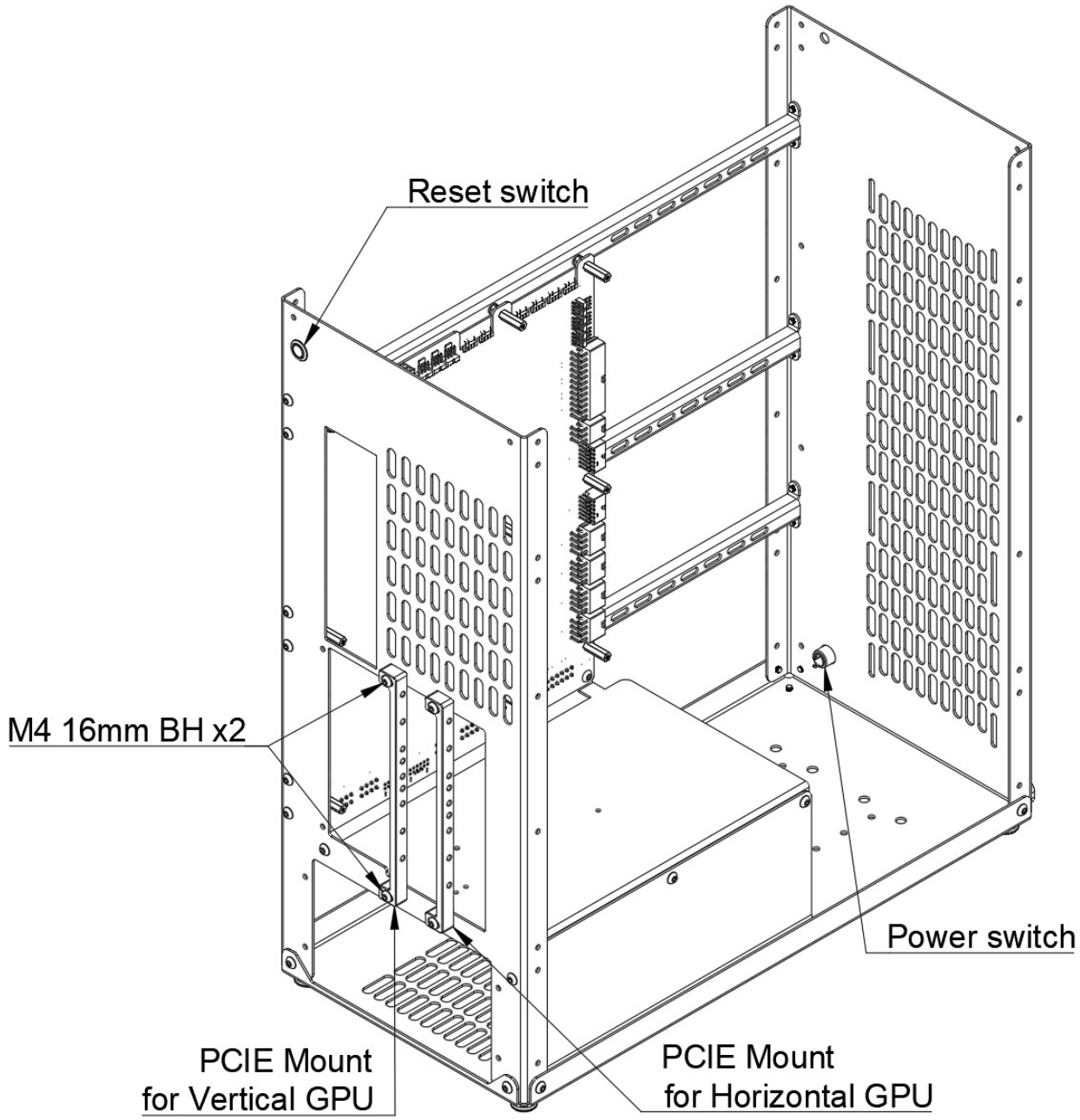

Figure 4

- Step 10: Install the 12mm Power and Reset switches to the front and rear panels according to *Figure 4*.
- Step 11: Install the PCIE mount with M4 16mm BH x2 in the Vertical GPU or Horizontal GPU position according to Figure 4 depending on whether the graphics card is mounted directly to the motherboard in a horizontal position or it is mounted on the PSU top panel with a riser cable in a vertical position.

Step 12-13: Top Panel & Radiators

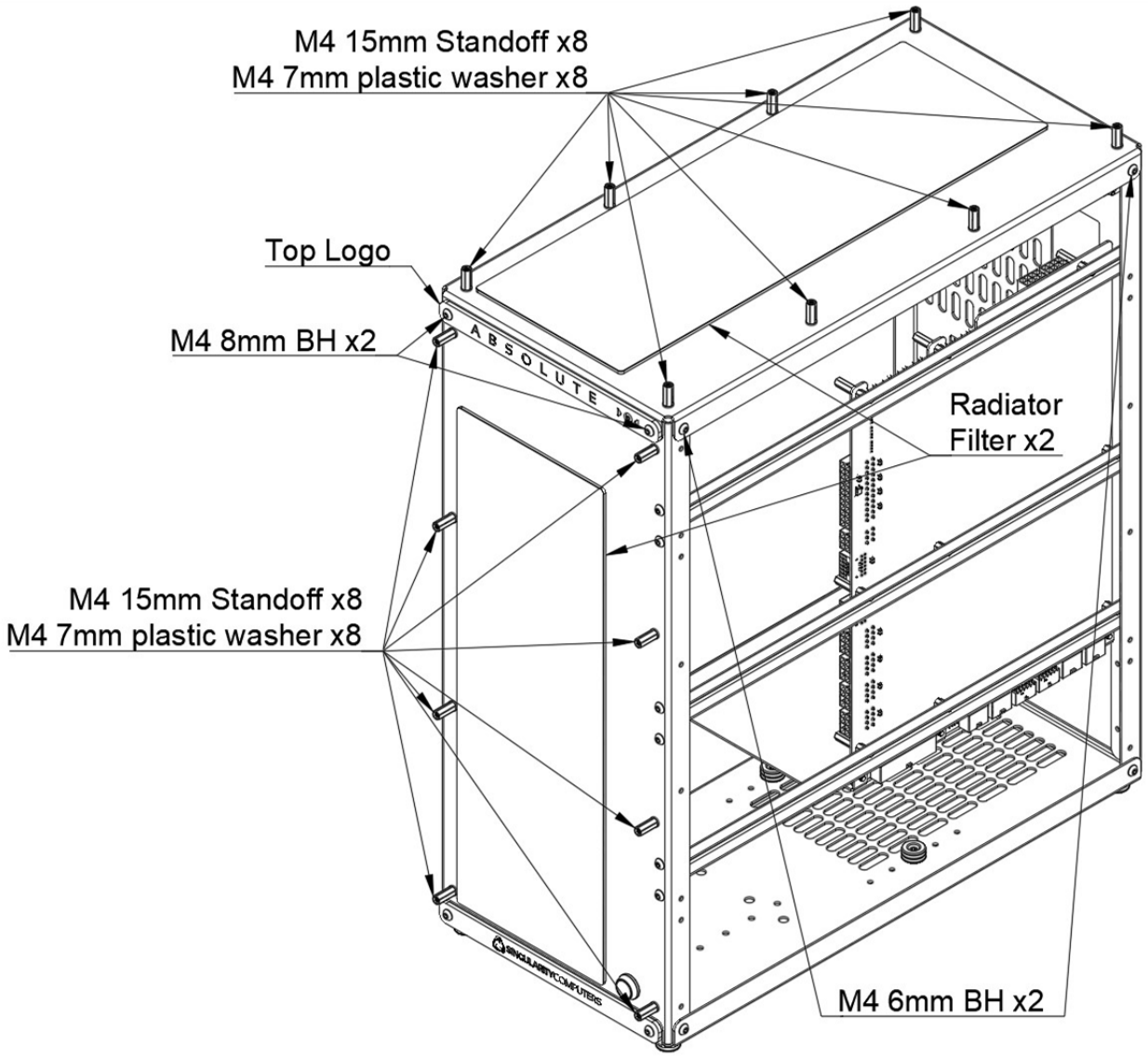

Figure 5A

- Step 12: Install the Top Panel to the case and secure it with M4 6mm BH x6 on the left, right and rear sides and secure the Top Logo to the front using M4 8mm BH x2 according to *Figure 5A* and *Figure 5B*.
- Step 13: Install the 360mm radiators or fans to the top and front panel before continuing with the build process.

Step 14-15: Filters & Cover Standoffs

- Step 14: Install M4 15mm Standoff x8 with M4 plastic washer x8 to the top panel according to *Figure 5A* and repeat this step on the front panel using the same components.

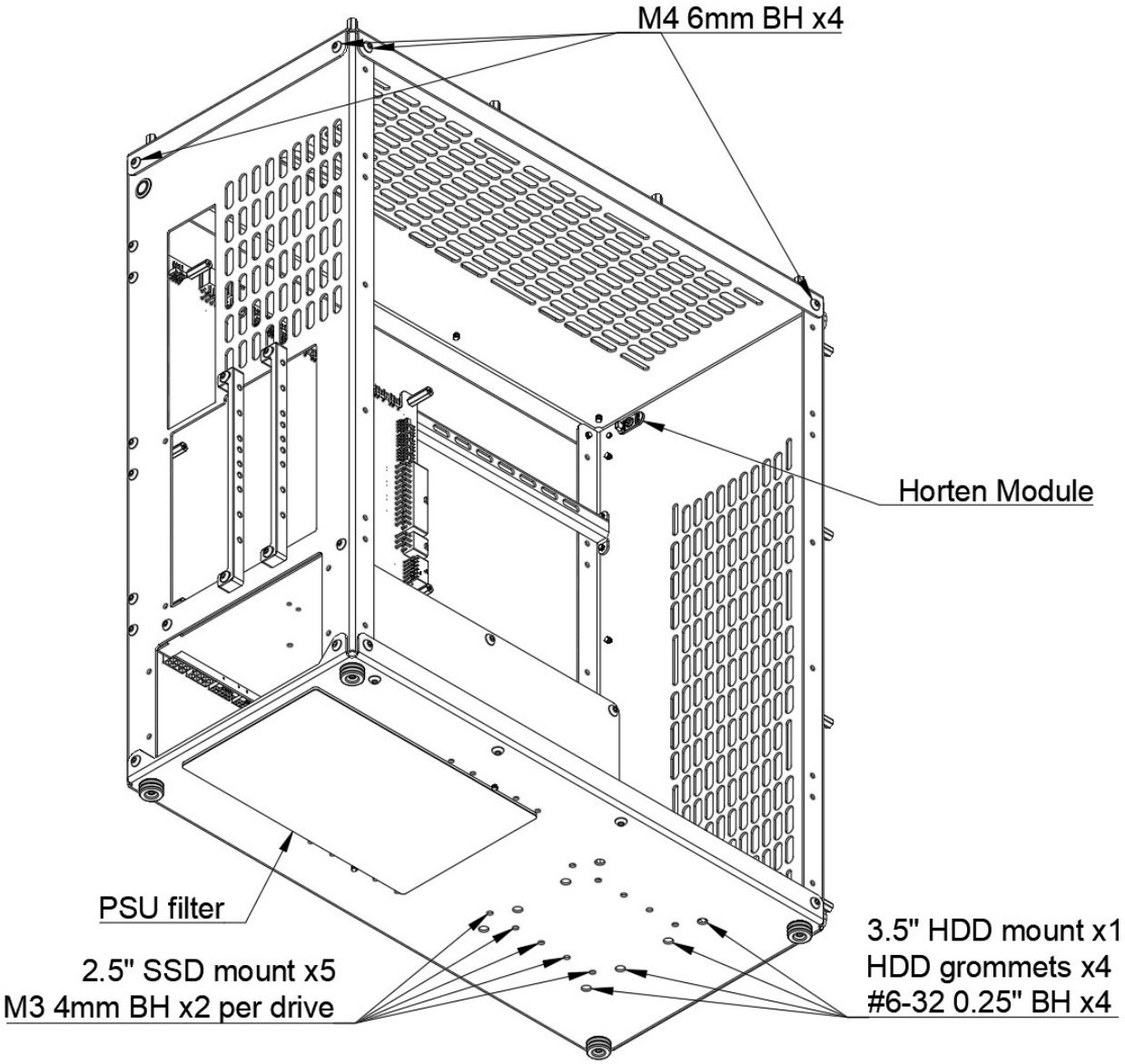

Figure 5B

- Step 15: Install the Radiator filter x2 to the top and front panels and the PSU filter to the bottom of the case according to *Figure 5A* and *Figure 5B*.

Step 16: Touch Power Button

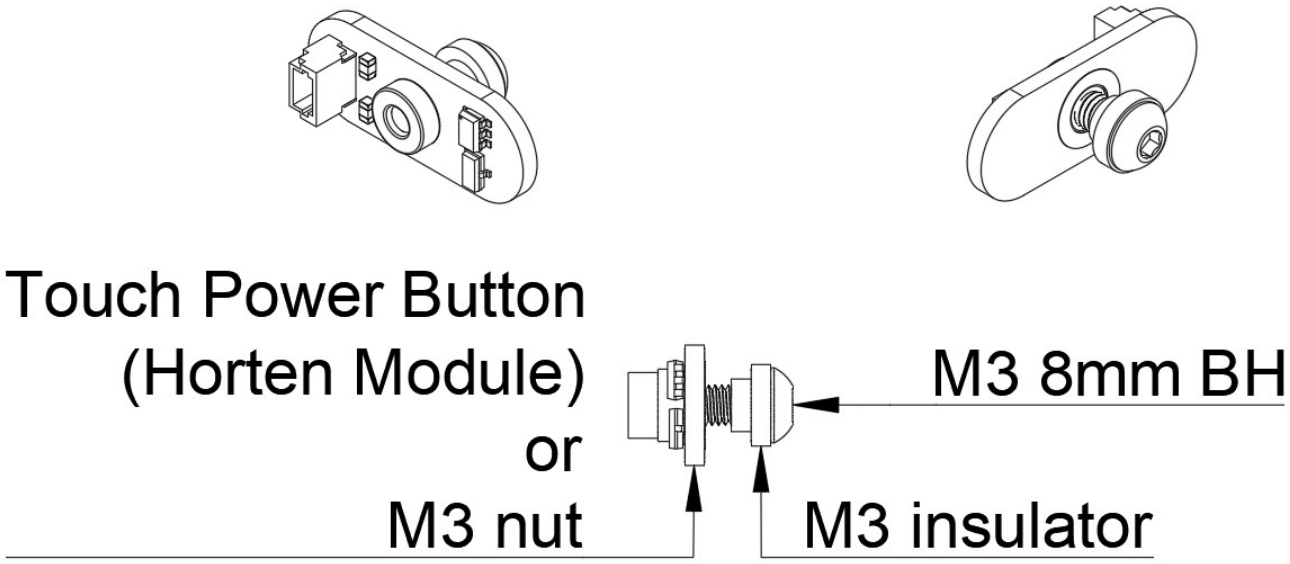

Figure 5C

- Step 16: Optionally install the Touch Power Button (Horten Module) to the front of the case in the location marked in *Figure 5B* according to the setup in *Figure 5C*. If a Touch Power Button is not used then replace the module with an M3 nut or leave out this step completely.

Step 17-18: Vertical GPU

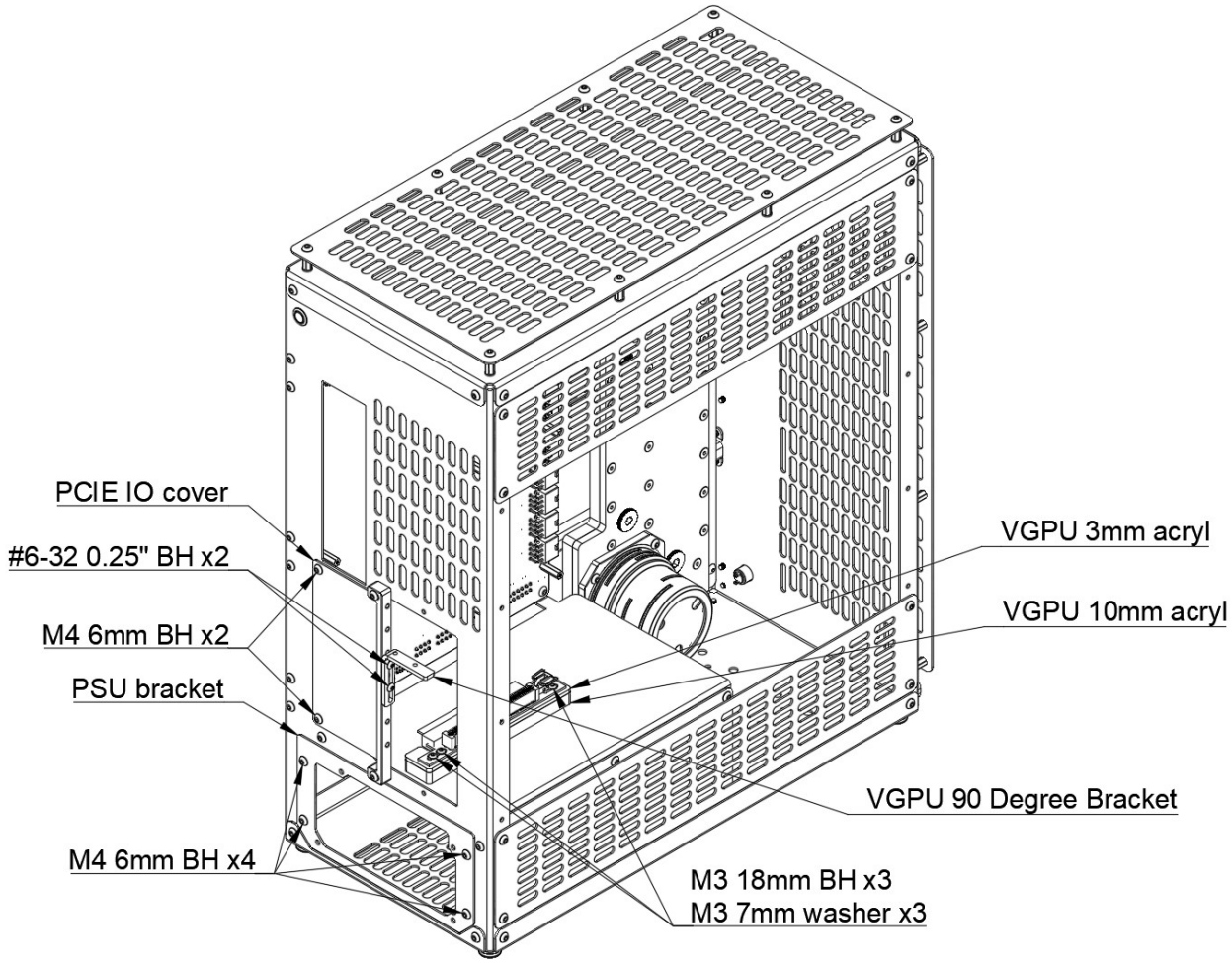

Figure 6A

- Step 17: If a Vertical GPU mount is used then install the VGPU 90 Degree 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 6A*.
- Step 18: Then 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 PSU top panel according to *Figure 6A*.

Step 19: Power Supply

- Step 19: Install the power supply to the PSU bracket using #6-32 0.25" x4 then slide in and secure the assembly to the Rear Panel using M4 6mm BH x4 according to *Figure 6A*.

Step 20: Covers

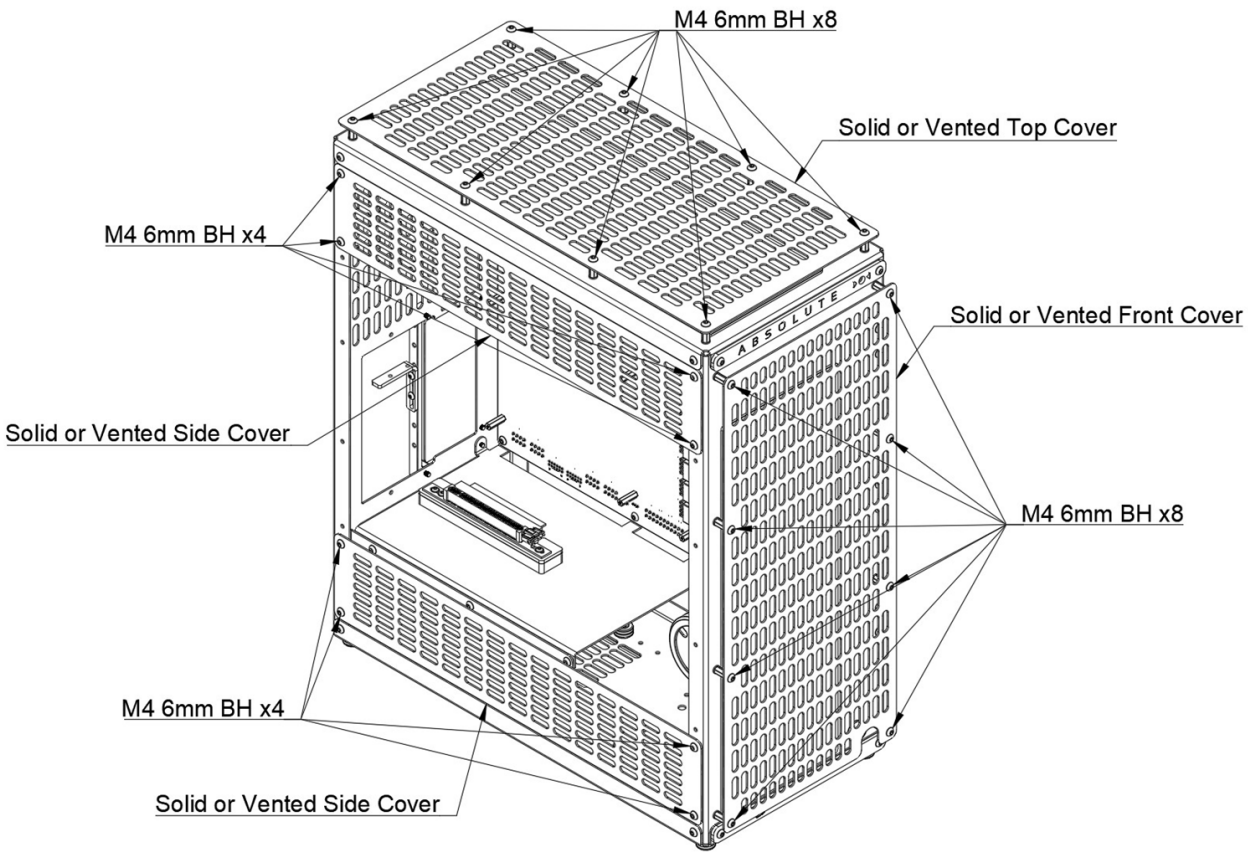

Figure 6B

- Step 20: Install the Solid or Vented Top, Front and Side Covers using M4 6mm BH x24 total according to *Figure 6B*.

Step 21: Absolute D5 Distribution Plate

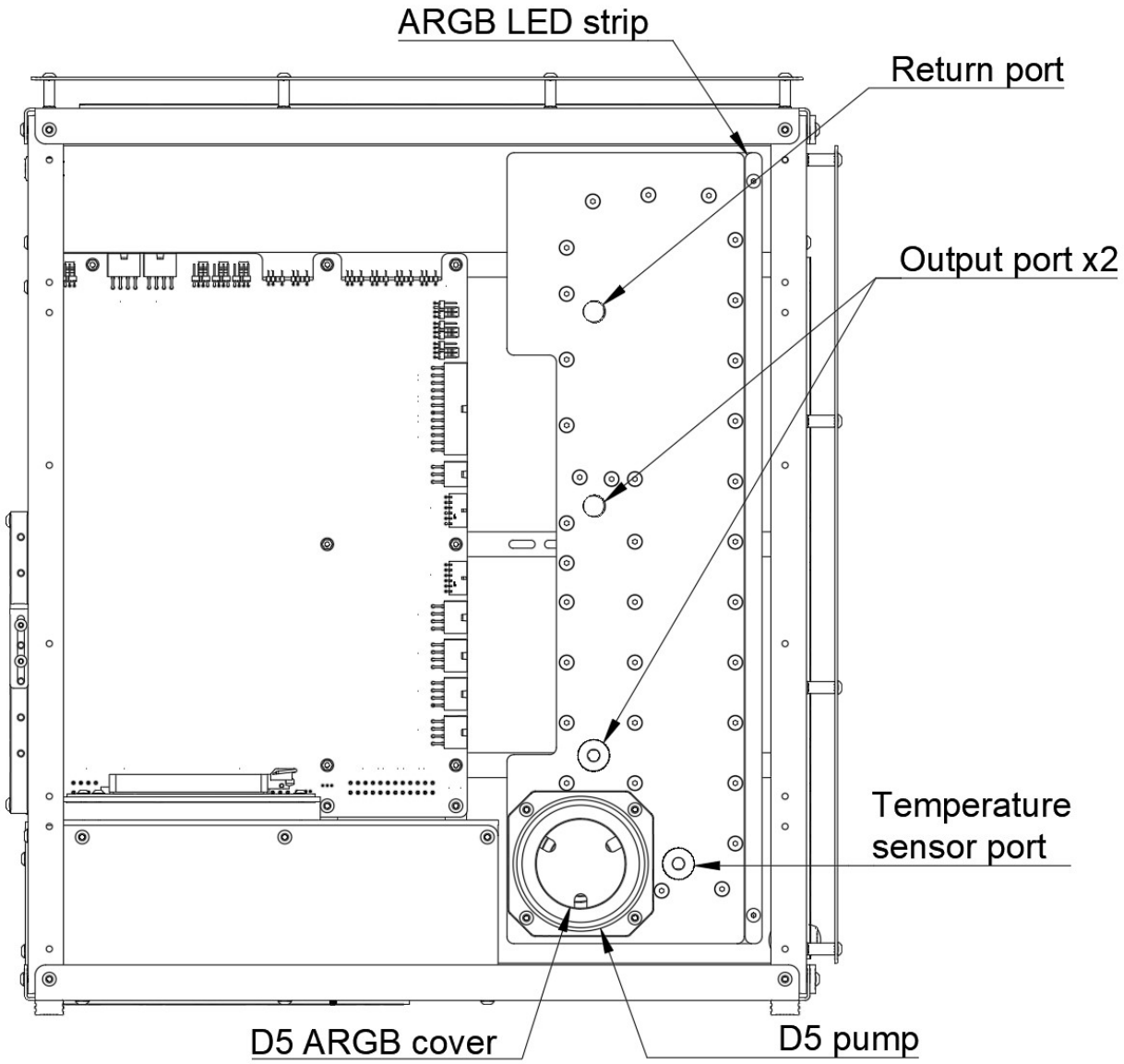

Figure 7A

- Step 21: Optionally install the Absolute D5 Distribution plate to the Reinforcing bars in the position shown in *Figure 7A* and secure it with M4 8mm BH x4 according to *Figure 7B*.

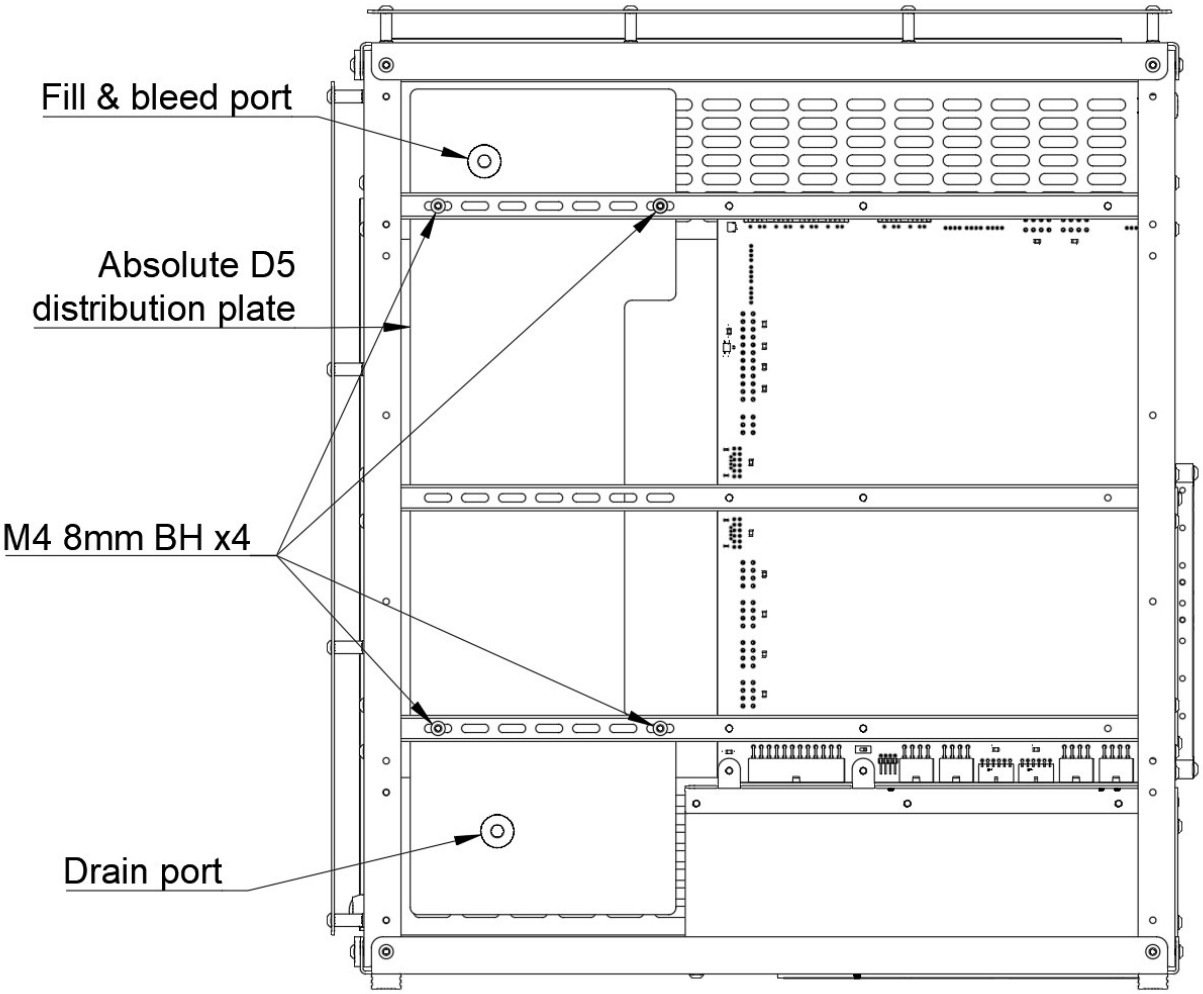
Fill & bleed port
Absolute D5
distribution plate
M4 8mm BH x4
Drain port

Figure 7B

Step 22-23: Window Installation

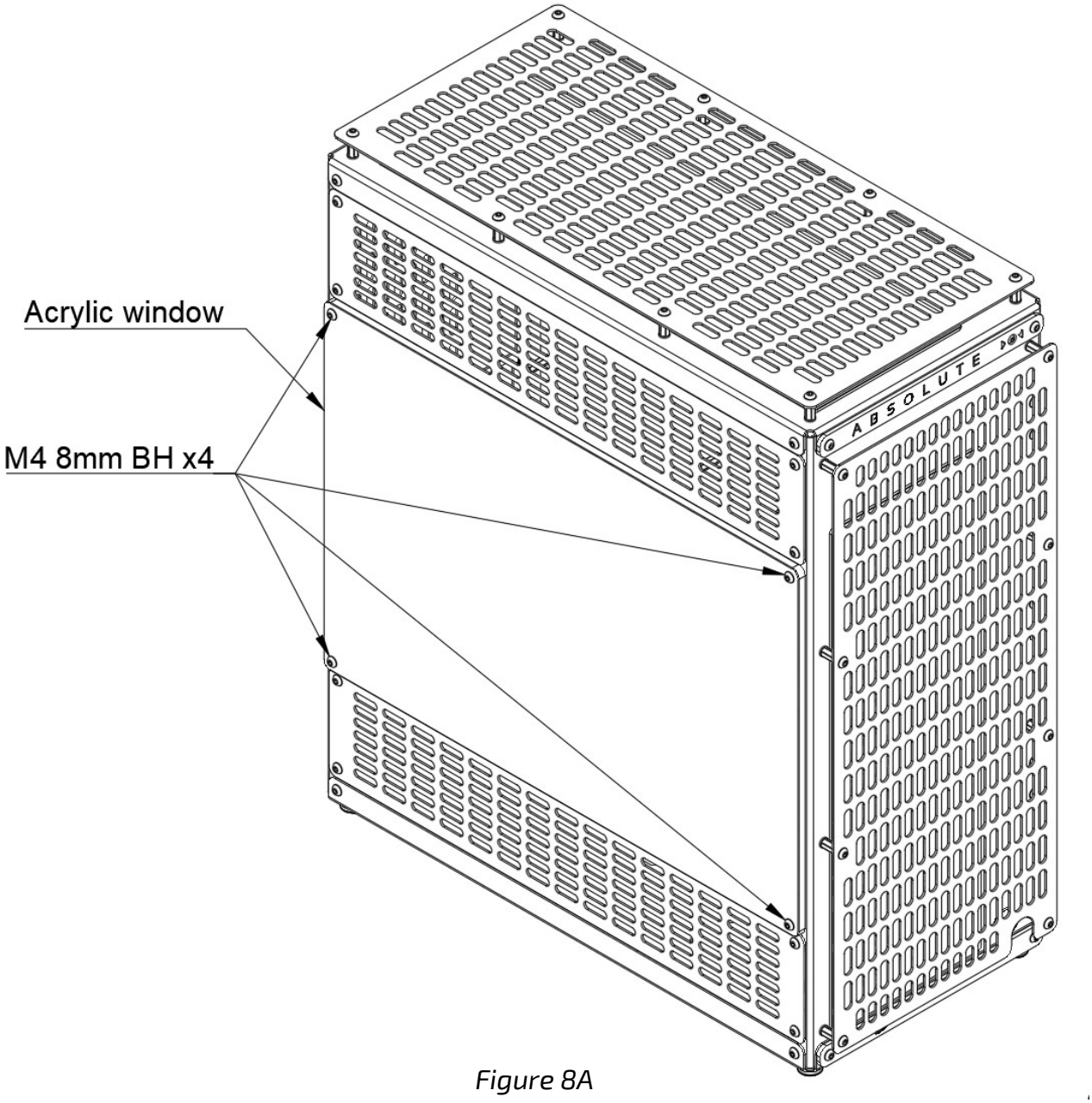

Figure 8A

- Step 22: If an Acrylic window is used then install it using M4 8mm BH x4 according to *Figure 8A*.

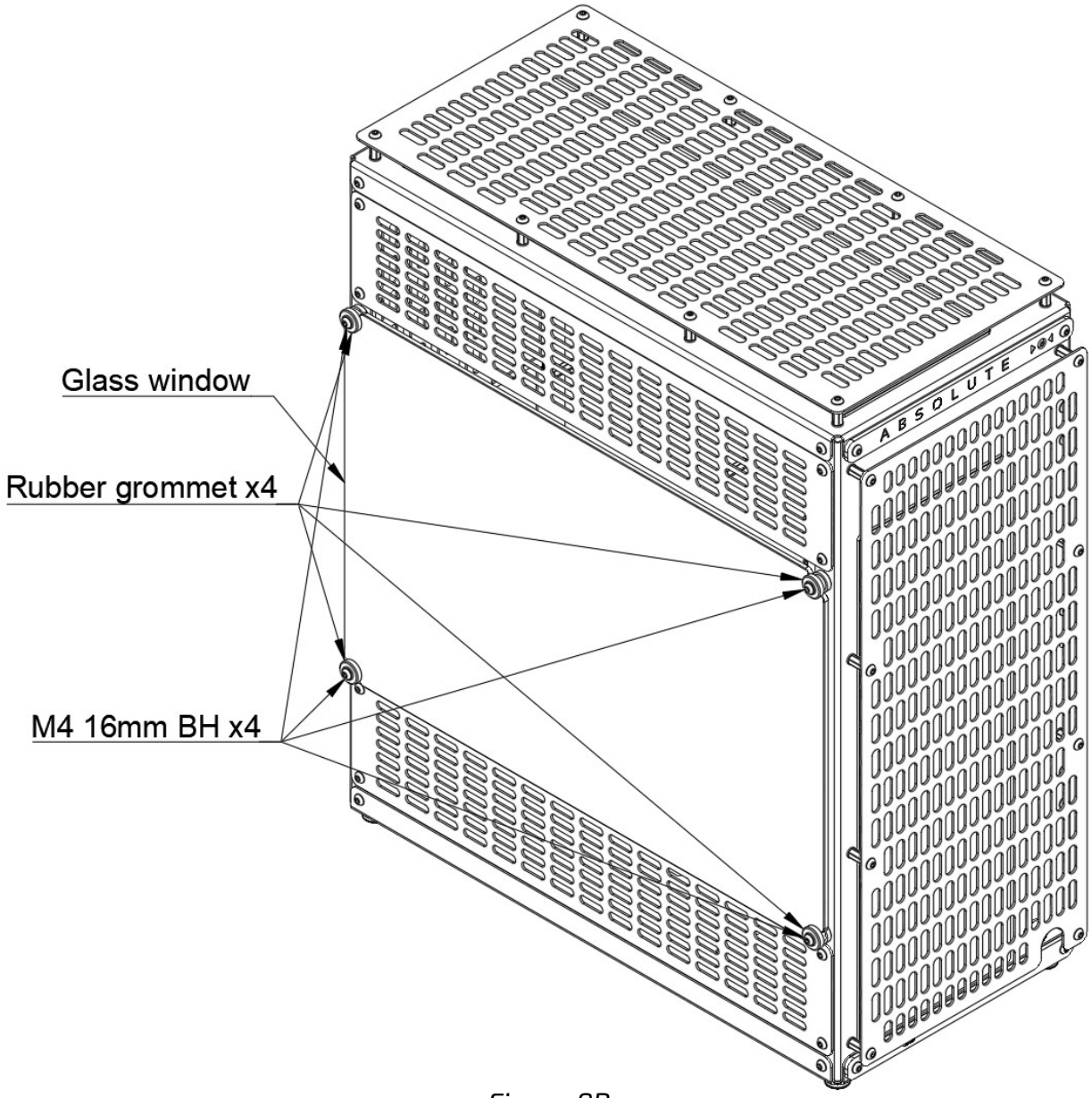

Figure 8B

- Step 23: If a Tempered Glass window is used then install Rubber grommets x2 to the bottom left and bottom right corners with M4 16mm BH x2, only drive in the fasteners until they start squeezing the rubber grommets and then sit the glass window on the grommets. Next step is to line up the glass window to the side of the case and while holding it in place install the remaining Rubber grommets x2 to the top left and top right corners with M4 16mm BH x2 according to *Figure 8B*.

Step 24-26: Side Panel

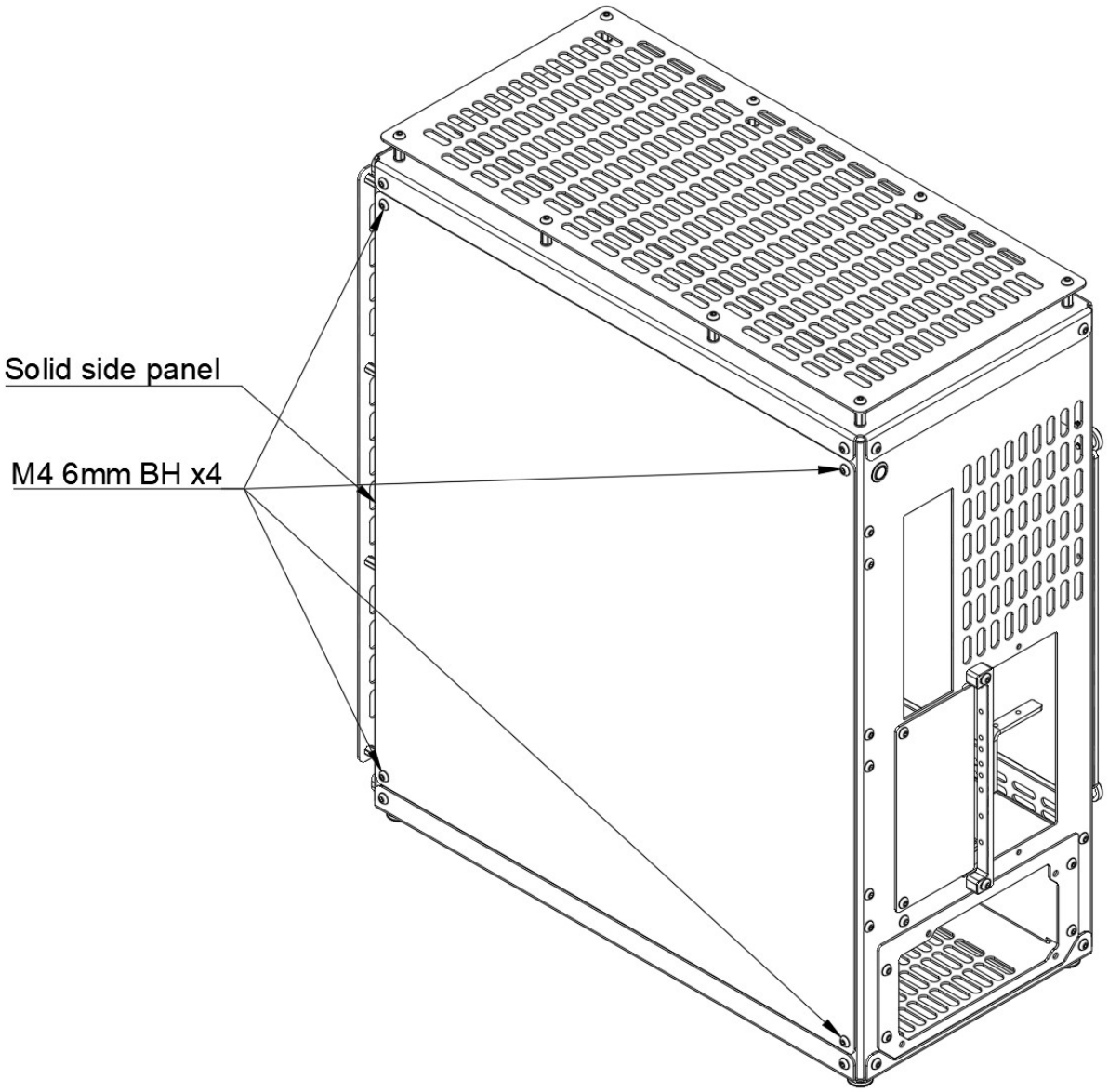

Figure 9

- Step 24: If a solid right side panel is used then install it using M4 6mm BH x4 according to *Figure 9*.

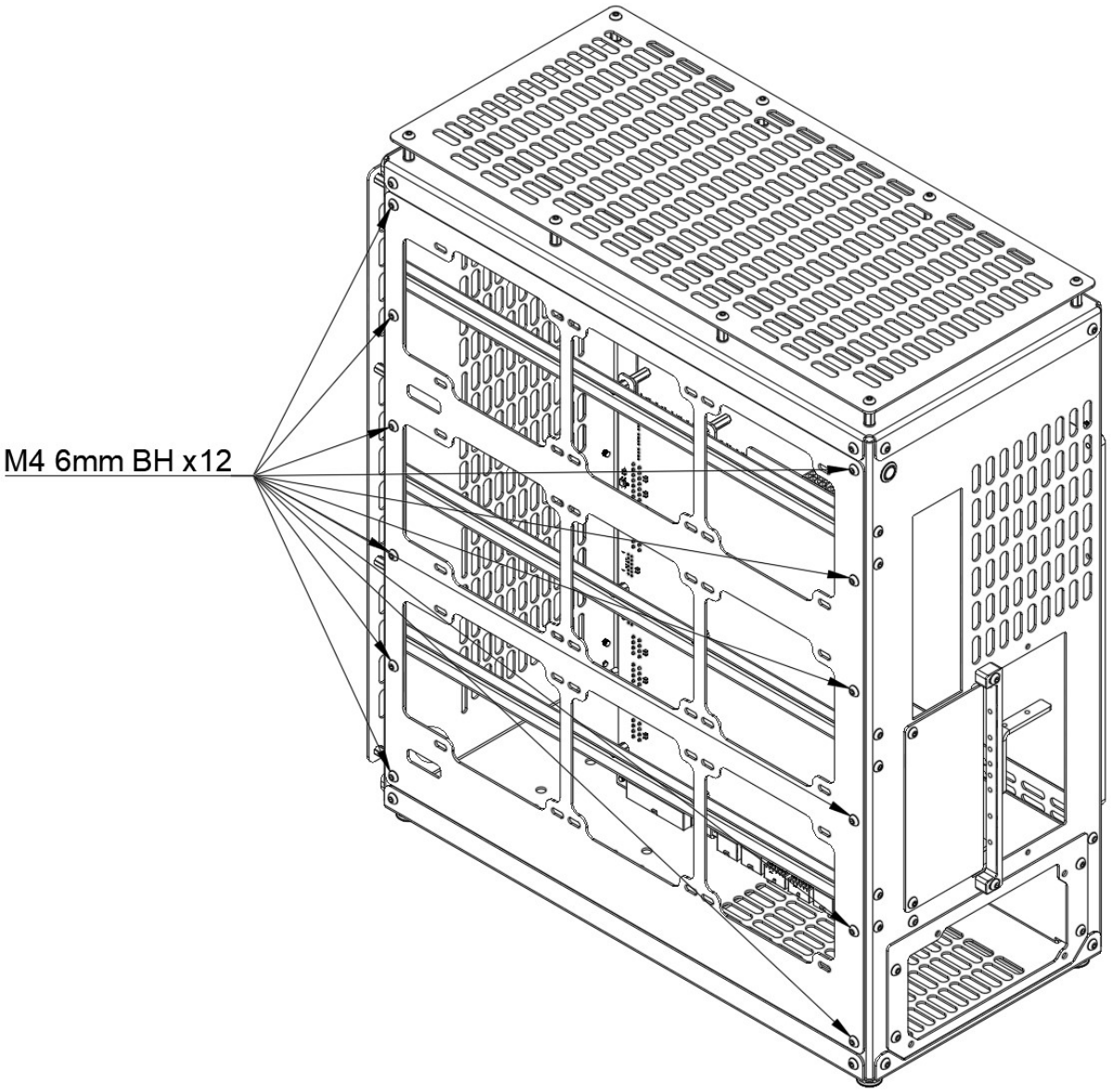

Figure 10A

- Step 25: If a 3x360 radiator mount is used on the right side instead of a solid side panel then install the radiators to the mount first (the ports face inside the case) using the radiator's own mounting hardware, then install this assembly to the case using M4 6mm BH x12 according to *Figure 10A*.

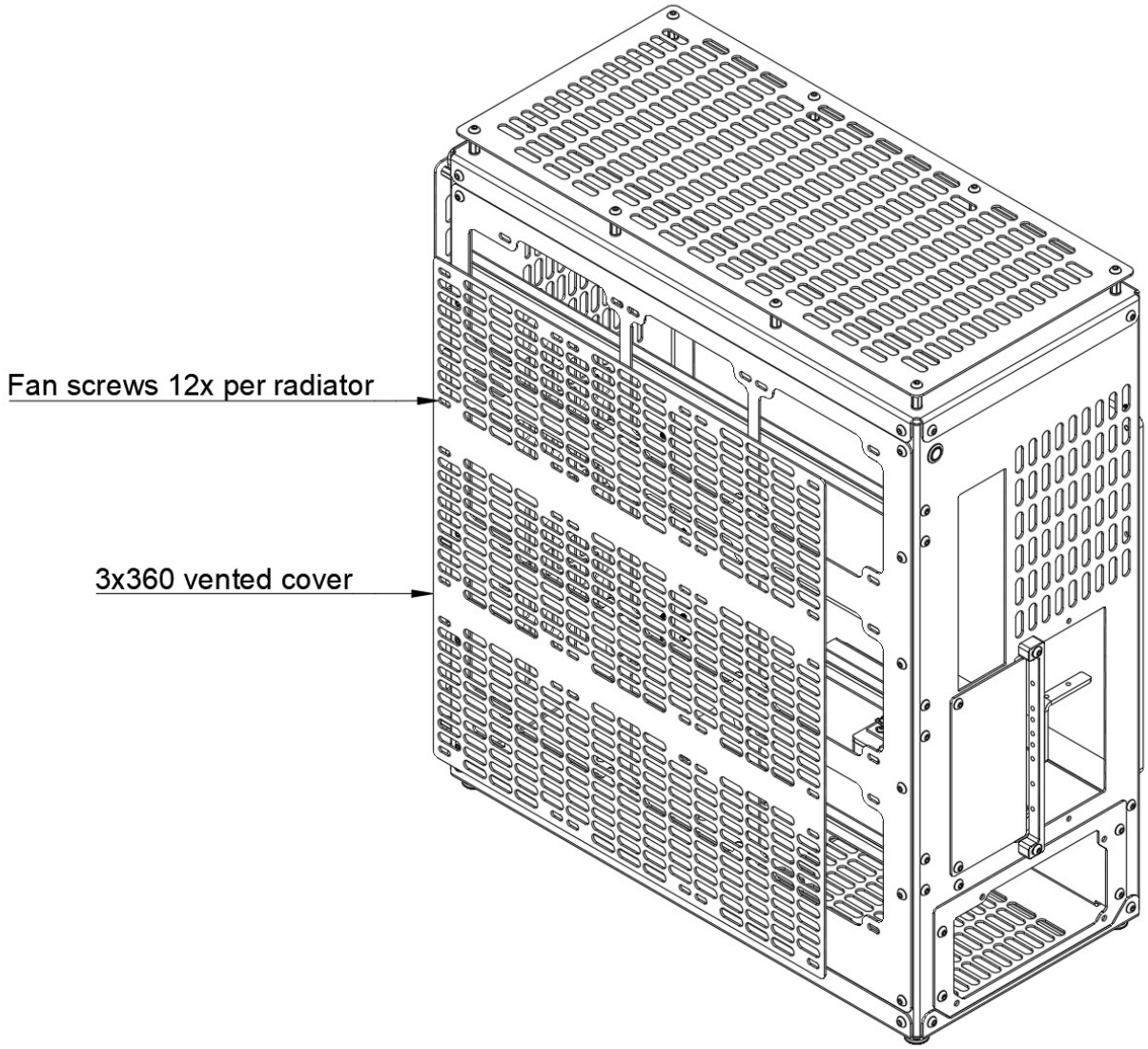

Figure 10B

- Step 26: Then install the 3x360 vented cover to the fans or radiators using fan or radiator mounting hardware that come with them according to *Figure 10B*.

Absolute PowerBoard

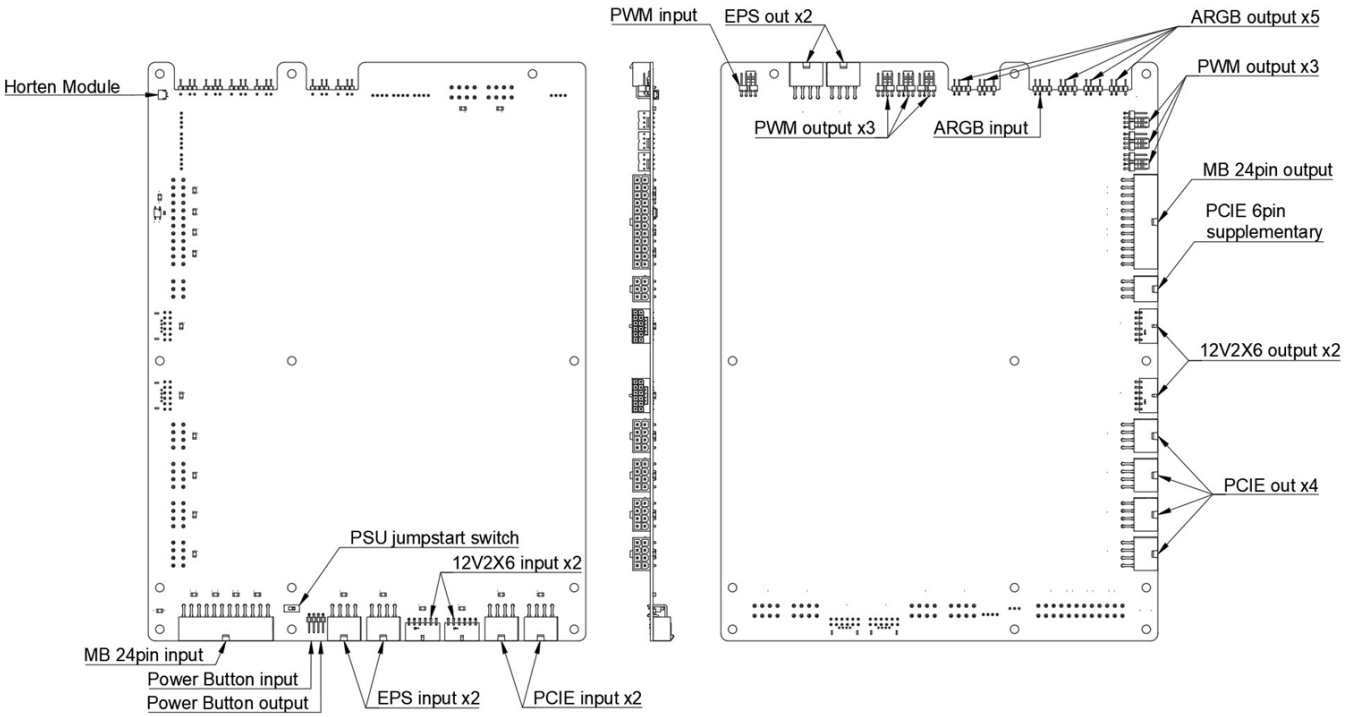

Figure 11

⚠ 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.