Hotend Heatsink Mounting System

New Items are highlighted

Extruder Mount 2Conn 1.1 – Mount for a genuine E3D or clone hotend heatsink with two MPX connectors

Extruder Mount 3Conn 1.1 – Mount for a genuine E3D or clone hotend heatsink with three MPX connectors

Extruder Mount Z Nimble 1.1 – Mount for a genuine E3D or clone hotend heatsink with two MPX connectors for the Zesty Nimble. This mount also requires zero brass inserts.

Extruder Mount Clamp 1.1 – Clamp to secure the hotend heatsink for the Extruder Mount xConn 1.1 mounts.

Extruder Mount Clamp Z Nimble 1.1 – Clamp to secure the hotend heatsink for the Extruder Mount Z Nimble 1.1 mount.

Fan Mount 1.1 – Accommodates a 5015 blower type fan which is possible to mount either on the original HEVO x-carriage using the middle belt clamp hex bolts, or the modified x-carriage (X Carriage 1.1) below. There is a 1 mm gap in the design for the belts, so it is conceivable to merely place washers to make up this distance between the fan mount and original x-carriage.

Fan Mount Probe 1.1 – Accommodates a 5015 blower type fan which is possible to mount either on the original HEVO x-carriage using the middle belt clamp hex bolts, or the modified x-carriage (X Carriage 1.1) below. There is a 1 mm gap in the design for the belts, so it is conceivable to merely place washers to make up this distance between the fan mount and original x-carriage.

Duct 1.1 – Duct wraps around the hotened with all ports directed toward the build plate. The sides each deliver 40% of the flow, while the center provides the remainder 20%.

BLTouch Mount 1.1 – Mount for BLTouch.

X Carriage 1.1 – Modified original HEVO x-carriage to include two mounting points for the fan mount.

Extruder Mount Conn Cover 1.1 – MPX connector covers for the above Extruder Mounts

Duct Nozzle 1.1 – Duct wraps around the hotened with two side ports directed towards the nozzle and one center port is directed toward the build plate. The sides each deliver 40% of the flow, while the center provides the remainder 20%.

Duct Diffuser 1.2 – Duct wraps around the hotened in a diffused pattern with the center three ports provide 20% of the airflow, while the four ports on the sides provide 40% airflow each. This design also allows for a larger heatblock as the other duct designs might not give enough clearance.

Duct Diffuser Volcano 1.1 – Same as Duct Diffuser 1.2, yet lowered to provide cooling for a Volcano heatblock design.

Duct 360 Diffuser 1.1 – Same design as Duct Diffuser 1.2, but wraps around the entire heatblock.

Duct 360 Diffuser Volcano 1.1 – Same design as Duct 360 Diffuser 1.1, but lower for a Volcano heatblock.

X Carriage 2.1 – Used AZsun's 10 mm x-carriage (2546995) for the initial design, then re-drew it to accommodate the rest of the components. The placement of the belts is shifted 2 mm towards the center and the original X Carriage 1.1 clamps will not be able to be used. In addition, there are two new extended ducts listed here as well that are lengthened to allow for the extra room necessary for the larger bearing size. This carriage is designed for **19 mm bearings** typically for **10 mm rod**.

X Carriage 2.1.1 – Same as X Carriage 2.1; however, there are **no brass inserts** required.

X Carriage 2.1.2 – Same as X Carriage 2.1.1; however, it is designed for **16 mm bearings**. These bearings are typically the plastic bearing type for an **8 mm rod**.

X Carriage 2.1.3 – Same as X Carriage 2.1.1; however, it is designed for **15 mm bearings**.

X Carriage Clamp 2.1 – Belt clamp to be used with X Carriage 2.1.

X Carriage Clamp 2.1.x – Belt Clamp to be used with X Carriage 2.1.1 or X Carriage 2.1.2.

Duct 2.1 – Same as Duct 1.1, but is extended when using X Carriage 2.1 or X Carriage 2.1.x.

Duct Nozzle 2.1 – Same as Duct Nozzle 1.1, but is extended to be used with X Carriage 2.1 or X Carriage 2.1.x.

Duct Diffuser 2.2 – This is modified from the 2.1 version to allow more room near the heatblock area closer to the mount. Same internal design as Duct Diffuser 1.1, but extended when using with X Carriage 2.1 or X Carriage 2.1.x.

Duct 360 Diffuser 2.1 – Same design as Duct Diffuser 2.2, but wraps around the entire heatblock.

Duct 360 Diffuser Volcano 2.1 – Same as Duct 360 Diffuser 2.2, yet lowered to provide cooling for a Volcano heatblock design.

X End Stop Flag 1.1 – Extended 2mm from the original version due to the extruder mount

Hotend heatsink mounting system for the Precision Piezo (PP) sensor

PP Hotend Clamp 1.0 – Clamp is designed for all heatsink mounts listed for the PP system.

PP Electrical Cover Rt 1.1 – MPX connector cover for the PP Extruder Mounts, typically used for the heater block heater, heat sink cooler fan, and thermistor as viewed from behind the extruder mount.

PP Electrical Cover Lft 1.1 – MPX or Universal Piezo Z-Probe PCB cover, typically used for end stops, part cooling fan, and possibly the Precision Piezo electrical connections.

PP Heatsink Mount PC4 1.2 – Mount has a completed ring at the top with a grove for the piezo disk wires/solder points and is used with a clone that has the PC4 connector removed.

PP Extruder Mount PC4 1.2 – Mount to secure hotend to the x-carriage with the ability to use a PC4 connector at the top to lock-in a Bowden tube. There is also an integrated area for the piezo disk and three MPX connectors for various wiring. In addition, the Piezo20 PCB for the Piezo20 Module can be mounted in the front. The circuit board mounting holes are elongated to provide flexibility in circuit board variations.

PP Universal Extruder Mount PC4 1.2 – Mount to secure hotend to the x-carriage with the ability to use a PC4 connector at the top to lock-in a Bowden tube. There is also an integrated area for the piezo disk and two MPX connectors for various wiring. In addition, the Universal Piezo Z-Probe PCB for the Piezo20 Module can be mounted on the left side as viewed from behind the mount.

PP Heatsink Mount Embedded Bowden 1.2 – Mount has an 8 mm gap in the front for the piezo disk wires/solder points and is used with a genuine E3D embedded Bowden connector w/ collet clip.

PP Extruder Mount Embedded Bowden 1.2 – Mount to secure hotend to the x-carriage with the ability to pass a Bowden tube through to an embedded Bowden connector. There is also an integrated area for the piezo disk and three MPX connectors for various wiring. In addition, the Piezo20 PCB for the Piezo20 Module can be mounted in the front. The circuit board mounting holes are elongated to provide flexibility in circuit board mounting variations.

PP Universal Extruder Mount Embedded Bowden 1.2 – Mount to secure hotend to the x-carriage with the ability to pass a Bowden tube through to an embedded Bowden connector. There is also an integrated area for the piezo disk and two MPX connectors for various wiring. In addition, the Universal Piezo Z-Probe PCB for the Piezo20 Module can be mounted on the left side as viewed from behind the mount.

Hotend heatsink mounting system for the Precision Piezo (PP) Orion sensor

PP Orion Electrical Cover 1.1 – MPX connector cover for the PP Orion Extruder Mount. The MPX connectors are typically used for the heater block heater, heat sink cooler fan, thermistor, endstop(s), part cooling fan and PP Orion sensor.

PP Orion Heatsink Mount 1.1 – Mount is designed to wrap around the top of an E3D hotend heatsink with a 35 mm screw through the front and nut on the end. In addition, this mount is interchangeable with the heatsink mount provided by Precision Piezo; however, this mount requires no brass inserts.

PP Orion Heatsink Mount 2.1 – Mount is designed to slide the top of an E3D hotend heatsink into the grove and use the *PP Orion Heatsink Clamp 2.1* with two 20 mm hex bolts through each side to secure the heatsink. In addition, this mount is interchangeable with the heatsink mount provided by Precision Piezo; however, this mount requires no brass inserts.

PP Orion Heatsink Mount 2.2 – Same as *PP Orion Heatsink Mount 2.1*; however, the clamp mechanism has been redesigned to hold the heatsink tighter.

PP Orion Heatsink Mount Clamp 2.1 – Clamp is designed to be used with the PP Orion Heatsink Mount 2.1 to secure the hotend heatsink. There is a gap of 0.2 mm designed between the clamp and mount

that allows for clearance between the two parts. Lastly, this part is not symmetrical, so it can only be installed one way.

***PP Orion Heatsink Mount Clamp 2.2* –** Clamp is designed to be used with the PP Orion Heatsink Mount 2.2 to secure the hotend heatsink. There is a gap of 0.4 mm designed between the clamp and mount that allows for clearance between the two parts. Lastly, this part is not symmetrical, so it can only be installed one way.

PP Orion Heatsink Fan Duct 1.1 – This fan duct is designed to mount a quiet 40 mm fan with the PP Orion mounting assembly; however, space provided, it can be utilized in other setups as well.

PP Orion Extruder Mount Embedded Bowden 1.1 – Mount to secure hotend to the x-carriage with the ability to press a push fit connector brass body insert into the mount at the top (8 mm x 4 mm deep) hole, then press the black collet inside the brass body. This will lock-in a Bowden tube, then a blue collet clip can be used. The PP Orion Heatsink Mount is secured with (4 ea.) 20 mm hex bolts. There are also two MPX connectors for various wiring. This mount will accept the original Precision Piezo Orion hotend heatsink that comes with the kits.

PP Orion Extruder Mount PC4 1.1 – Mount to secure hotend to the x-carriage with the ability to use a PC4 connector at the top to lock-in a Bowden tube. The PP Orion Heatsink Mount is secured with 4 ea. 20 mm hex bolts. There is also two MPX connectors for various wiring. This mount will accept the original Precision Piezo Orion hotend heatsink that comes with the kits.

PP Orion Extruder Mount Zesty Nimble 1.1 – Mount to secure hotend to the x-carriage with the ability to mount a Zesty Nimble on top with an integrated area for the Orion sensor PCB and two MPX connectors for various wiring. The required mounting bolts are 35 mm in length for the Zesty Nimble.

Note: All other required parts to build the hotend assembly will be determined based on which x-carriage is chosen, then the duct can be selected.

Hotend heatsink mounting system that incorporates a Zesty Nimble and Precision Piezo sensor

PP – Z Nimble Extruder Mount 1.0 – Mount to secure hotend to the x-carriage with the ability to mount a Zesty Nimble on top with an integrated area for the piezo disk and two MPX connectors for various wiring. There is a small wire path, if needed, between the top and bottom of the mount. In addition, the Piezo20 PCB for the Piezo20 Module can be mounted in the front. The required mounting bolts are 35 mm in length for the Zesty Nimble. Lastly, the circuit board holes are elongated to provide flexibility in circuit board mounting variations.

PP – Z Nimble Sidewinder Extruder Mount 1.0 – Mount to secure hotend to the x-carriage with the ability to mount a Zesty Nimble Sidewinder on top with an integrated area for the piezo disk and two MPX connectors for various wiring. There is a small wire path, if needed, between the top and bottom of the mount. In addition, the Piezo20 PCB for the Piezo20 Module can be mounted in the front. The required mounting bolts are 35 mm in length for the Zesty Nimble. Lastly, the circuit board holes are elongated to provide flexibility in circuit board mounting variations.

PP – Z Nimble Heatsink Mount Embedded Bowden 1.0 – Mount has an 8 mm gap in the front for the piezo disk wires/solder points and is used with a genuine E3D embedded Bowden connector w/ collet clip.

PP – Z Nimble Heatsink Mount PC4 1.0 – Mount has a completed ring at the top with a grove for the piezo disk wires/solder points and is used with a clone that has the PC4 connector removed or short distance heatsink that is flush mount.