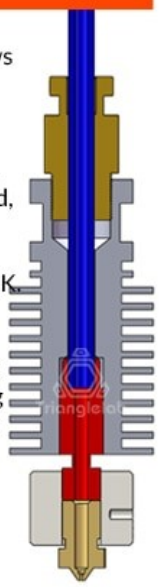
Selection Guide of heat break

Full-metal heat break:



Resistant to elevated temperature,and applicable to all kinds of filaments.shows the best E3D original design very good printing result.

Advantages:

good printing precision,good durability, slowest heat conduction to the cold end, high heat dissipation efficiency,and applicable to the consumables in full temperature range even the 420℃ PEEK.

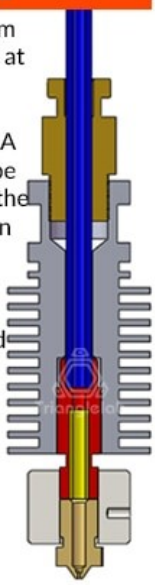
Disadvantages:

The heat break in clone version cannot completelyavoid the clog of PLA during retraction,and even the mirror polishing process on to the inner wall still cannot completely avoid the clog of PLA during the retraction.

Applicable filaments:

All type of filaments except PLA and some flexible filaments.

3mm tube inner heat break:



Mainly to prevent the PLA filament from sticking on the inner wall of heat break at the cold side.

Advantages:

It will not easily result in clog during PLA printing.The relatively thinner 3mm tube wall will cause smaller deforming than the 4 mm ptfe tube,so the printing precision is relatively higher than 4.1 bore style heat break.

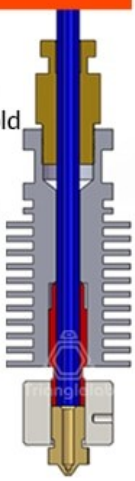
Disadvantages:

The printing temperature cannot exceed 250℃,thereby restricting the scope of available filaments. Regular inspection and maintenance shall be carried out due to the 3MM PTFE tube wear off.

Applicable filaments:

PLA ABS and other filaments printing temperature is lower than 250℃.

4.1 bore style:



Directly feed Bowden tube/PTFE tube into the nozzle.

Advantages:

The filaments after extruder will not be faced with any gaps,so it can minimize the possibility of clog,thus helping to print flexible filaments.Also the PLA filament will not stick on to the cold side of the PTFE tube in the heat break during retraction.

Disadvantages:

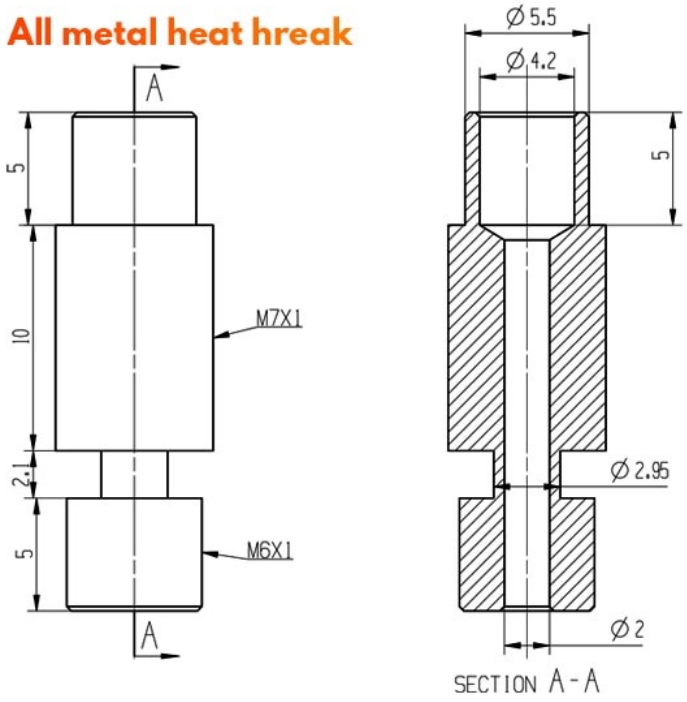
The bowden tube wall at the melt zone will slow down the heat transfer,there by obstructing the melting of filaments.The nozzle temperature cannot go over 250℃,and the relatively thickertube wall will be deformed after compression,thereby affecting the precision of filament extrusion.The gap between the tube liner and the nozzle also creates a zone of inaccuracy.If bowde ntube cannot be firmly fixed,it will have negative influence on the printing results.

Refer to https://www.youtube.com/watch?v=mnR8ZRWrkcU

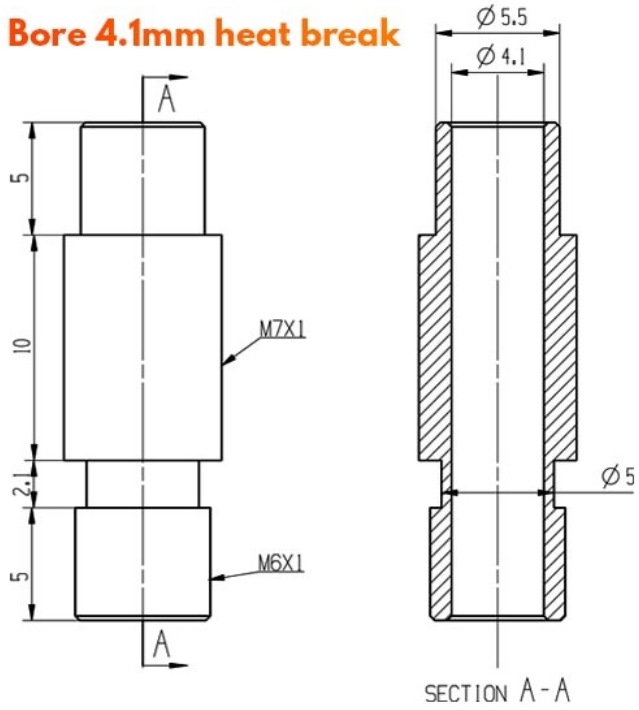
Applicable filaments:

flexible filaments PLA ABS and other filaments printing temperature is lower than 250℃.

All metal heat hreak



Bore 4.1mm heat break



PTFE lining heat break