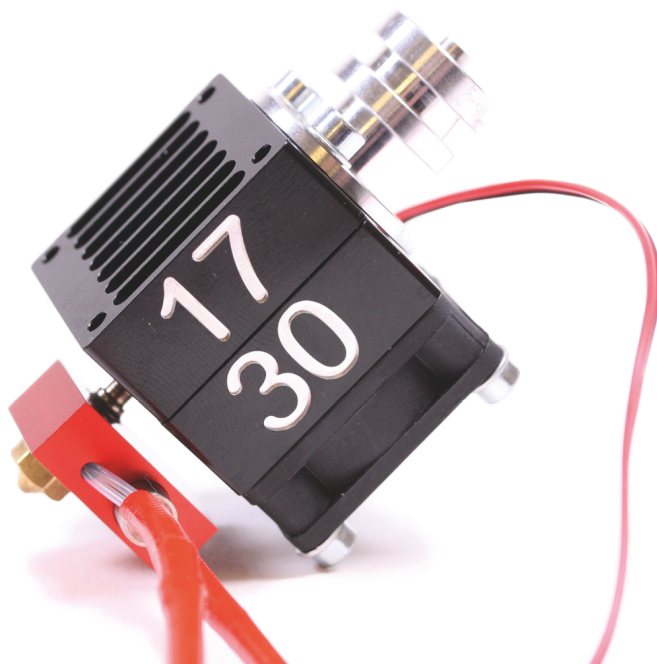


1730 FULL METAL HOTEND



①



START HERE

QUICK INSTALLATION GUIDE

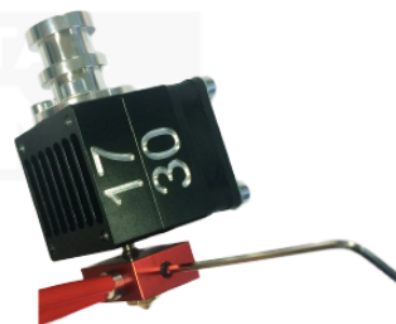
Please carefully read through the instructions below. For further instructions, troubleshooting and the latest documentation please consult the documentation section on www.1730hotend.com. Switching from 1.75 mm to 3 mm might require serious (extruder) adjustments on the side of your 3D-Printer.

②

INSTALLING HEATER BLOCK

Slide the Heater Cartridge and the Thermistor through the appropriate holes of the Heater Block. Fix them with the supplied M3 Set Screw by using the supplied Hex Key. Turn the set screw all the way in.

The Thermistor is kept into position by the forward pressure of being connected to the Heater Cartridge.



③

FILAMENT NOZZLE UNIT

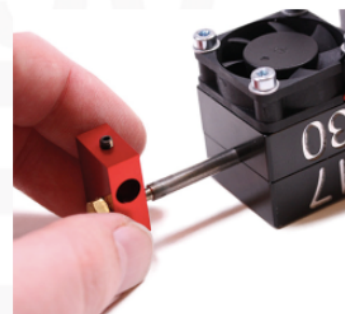
Firmly tighten the Filament Nozzle Unit (FNU) to the Heater Block by using a 7 mm spanner.

Be careful! Do not use excessive force to tighten the Filament Nozzle Unit. Tightening can be done in cold state!!!

Now slide the Filament Nozzle Unit through the Heatsink and leave a distance of 3 to 4 mm between the Heatsink and the Heater Block.

For the 1.75 mm FNU's this distance is clearly visible by the heatbreak. The Filament Nozzle Unit is hold in place by firmly tightening the bolts of the Fan. To switch the Filament Nozzle Unit loosen the bolts and replace the FNU. The FNU can be changed in cold state.

Be careful! Do not over-tighten the bolts as it might break the plastic housing of the Fan.



Heatbreak



④

MOUNTING OPTIONS

The 1730 Full Metal Hotend has several possibilities to be mounted to a FDM 3D-Printer. For mounting purposes please use the upper two holes of the heatsink as depicted on the illustration on the right.

The 1730 Full Metal Hotend can be mounted directly by using the two holes of the heatsink, or by using the aluminium groove mount plate or round mount.

Important: Make sure the 1730 Full Metal Hotend is mounted tightly to your 3D-Printer. There should be no wobbling or horizontal movement.



⑤

ELECTRONICS & FAN

Connect the Heater Cartridge and Thermistor cables to the appropriate spots on your 3D-Printer Controller Board. **The Fan should be wired to your Power Supply Unit and must be constantly running.** You might need to extent the wiring. Do not connect the Fan to the standard Fan output on a 3D-Printer controller board as these outputs are meant for Fans cooling the printed objects.



6

FIRMWARE SETTINGS

The 1730 Full Metal Hotend is using a 100K Thermistor. Please make sure you set the correct Thermistor type in your Firmware. If your 3D-Printer is using a Thermocouple wire you might need to execute adjustments to make it work with the Thermistor (or you must use your existing Thermocouple). It might not be possible to make Firmware adjustments in some closed sources systems.

Thermistor Type

100K Thermistor NTC 3950

Marlin Thermistor Type in Configuration.h file = Type 11 (Type 1 for older versions)

PID-Settings

General PID-Settings

```
#define DEFAULT_kp 19.95
```

```
#define DEFAULT_ki 1.97
```

```
#define DEFAULT_kd 50.50
```

Auto tune PID-Settings

PID-Settings can vary depending on your type of 3D-Printer setup. It is recommended having Marlin to do an auto tune for the correct PID-Settings.

Instructions on auto PID tuning: http://reprap.org/wiki/PID_Tuning





TROUBLESHOOTING

1. TEMPERATURE IS GOING UP AND DOWN

CHECK IF THE THERMISTOR IS IN THE HOLE AND CORRECTLY FIXED.

2. TEMPERATURE IS NOT GOING UP TO HIGHER TEMPS

CHECK IF THE HEATER CARTRIDGE IS FIXED CORRECTLY.

3. MIN-MAX TEMP ERROR IN DISPLAY

- CHECK IF THE THERMISTOR IS CONNECTED TO THE CORRESPONDING T-INPUT AT YOUR CONTROLLER BOARD
- THERMISTOR BROKEN OR SHORTED WIRE
- THERMOCOUPLE IS USED INSTEAD OF THERMISTOR

4. NOZZLE IS NOT LETTING THROUGH MUCH FILAMENT OR NO FILAMENT AT ALL

- CHECK IF FILAMENT IS NOT CONTAMINATED
- CHECK IF THE COOLING FAN IS ON (FAN MUST RUN CONSTANTLY!)
- CHECK IF FILAMENT DIAMETER IS OK





1730 FULL METAL HOTEND Quick Installation Guide



SUPPORT, DOCUMENTATION, TROUBLESHOOTING:

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**ALSO
AVAILABLE**

FILAMENT NOZZLE UNITS

0.25 MM / 0.30 MM / 0.40 MM / 0.60 MM

SAFETY PRECAUTIONS

NEVER TOUCH THE 1730 FULL METAL HOTEND, FILAMENT NOZZLE UNIT WHEN THE 3D PRINTER IS IN OPERATION, HEATING UP OR EVEN COOLING DOWN. IT CAN TAKE MORE THAN 15 MINUTES FOR THE HOTEND TO COOL DOWN. ALSO, BE VERY CAREFUL TOUCHING RECENTLY EXTRUDED PLASTIC. BURN HAZARD. KEEP OUT OF REACH OF CHILDREN. ADULT USE ONLY.

DO NOT USE FLAMMABLE CHEMICALS OR ALCOHOL WIPES TO CLEAN THE 1730 FULL METAL HOTEND. NEVER PLACE ANY FLAMMABLE CHEMICALS OR LIQUIDS ON OR NEAR THE PRINTER WHEN POWERED ON OR IN OPERATION. LIQUID ACETONE AND VAPORS ARE EXTREMELY FLAMMABLE.

LEGAL DISCLAIMER

THE 1730 FULL METAL HOTEND SHOULD ONLY BE USED BY EXPERIENCED INDIVIDUALS, OR UNDER THE DIRECT SUPERVISION OF EXPERTS. NO WARRANTY OF THEIR SUITABILITY FOR ANY PURPOSE WHATSOEVER IS MADE OR OFFERED BY US.

YOUR USE OF THE PRODUCTS IS ENTIRELY AT YOUR OWN RISK. YOUR PURCHASE OR USE OF ANY PRODUCT HEREFROM SHALL SERVE AS YOUR EXPLICIT ACKNOWLEDGEMENT THAT YOU UNDERSTAND AND CONSENT TO THE FACT THAT WE HEREBY DISCLAIM ANY RESPONSIBILITY FOR, ANY HARM, LOSS (ECONOMIC OR OTHERWISE), INJURY OR DEATH RESULTING FROM THE ASSEMBLY OR OPERATION OF OUR PRODUCTS, EITHER AS INSTRUCTED OR OTHERWISE, AND AFFIRM THAT UNDER NO CIRCUMSTANCES SHALL YOU BE ENTITLED TO ANY DAMAGES OF ANY SORT WHATSOEVER RELATED TO YOUR USE OR MISUSE OF OUR PRODUCTS.

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