



# **AMS-HYREL 3D**

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**Revision-1**

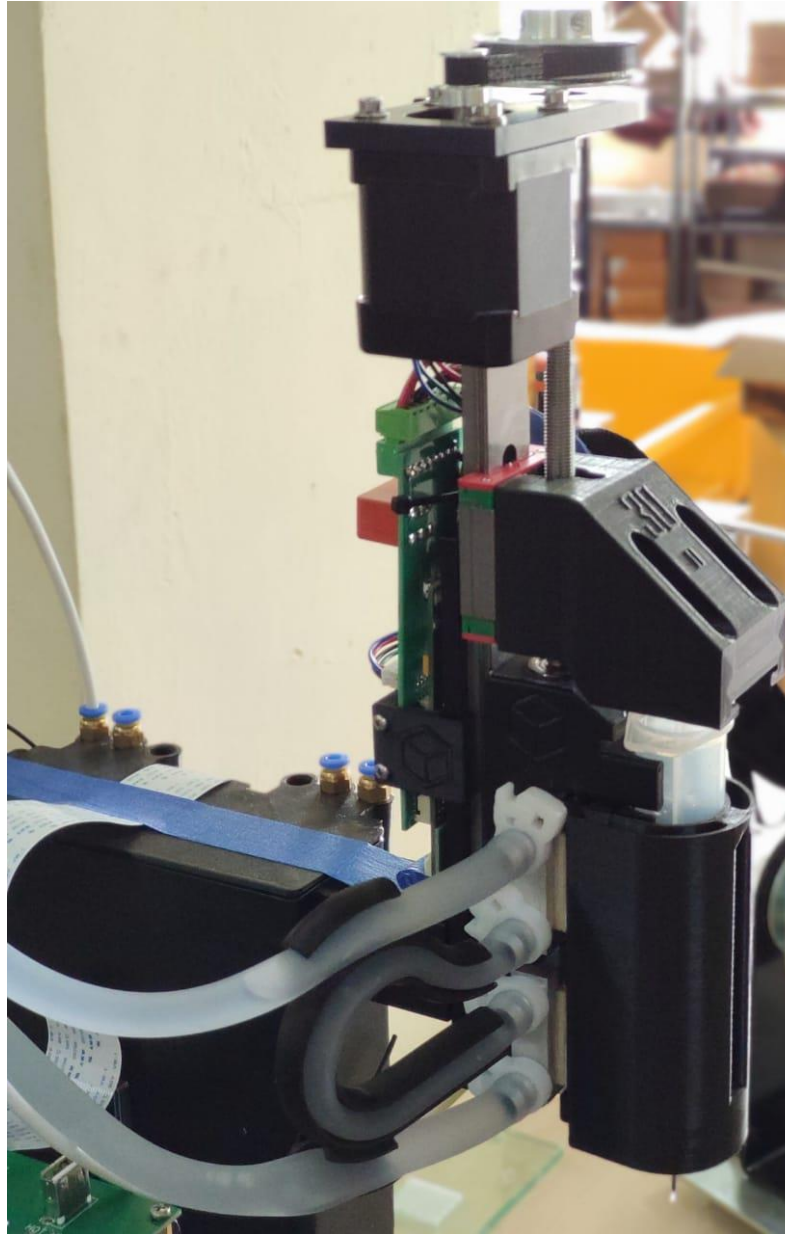
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## RSD-30 Extruder



**Picture-1**

RSD-30 extruder is similar to SDS extruder except that there is an option of cooling the unit. The RSD extruder is cooled by the principle of Peltier effect. For cold printing (below room temperature) a water pump is used for cooling the hot end of the extruder, this acts as a heat sink.



**Picture-2**

The above picture shows the complete setup for using RSD extruder on Engine HR. A normal pump is used for circulating water, this acts as a heat sink to cool off the hot end of the Peltier board. The extruder can be cooled up to  $-10^{\circ}\text{C}$ . 30cc Syringes are used for printing bio-gels and less viscous materials.

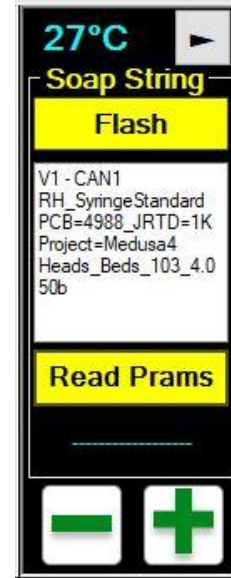
**Note: The actual achievable temperature for RSD extruder depends on the external environment, room temperature, temperature of the cooling water.**



**Picture-3**

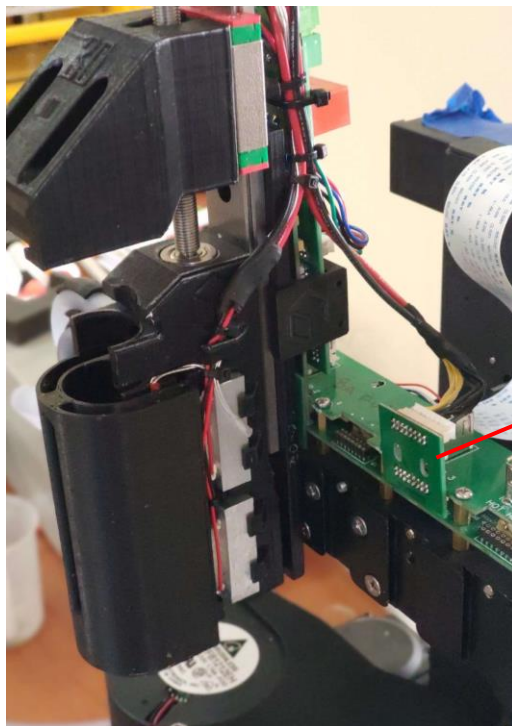


**Picture-4**



**Picture-5**

The above pictures show the necessary settings like RTD type temperature limits and correct firmware according to the corresponding Repetrel version.



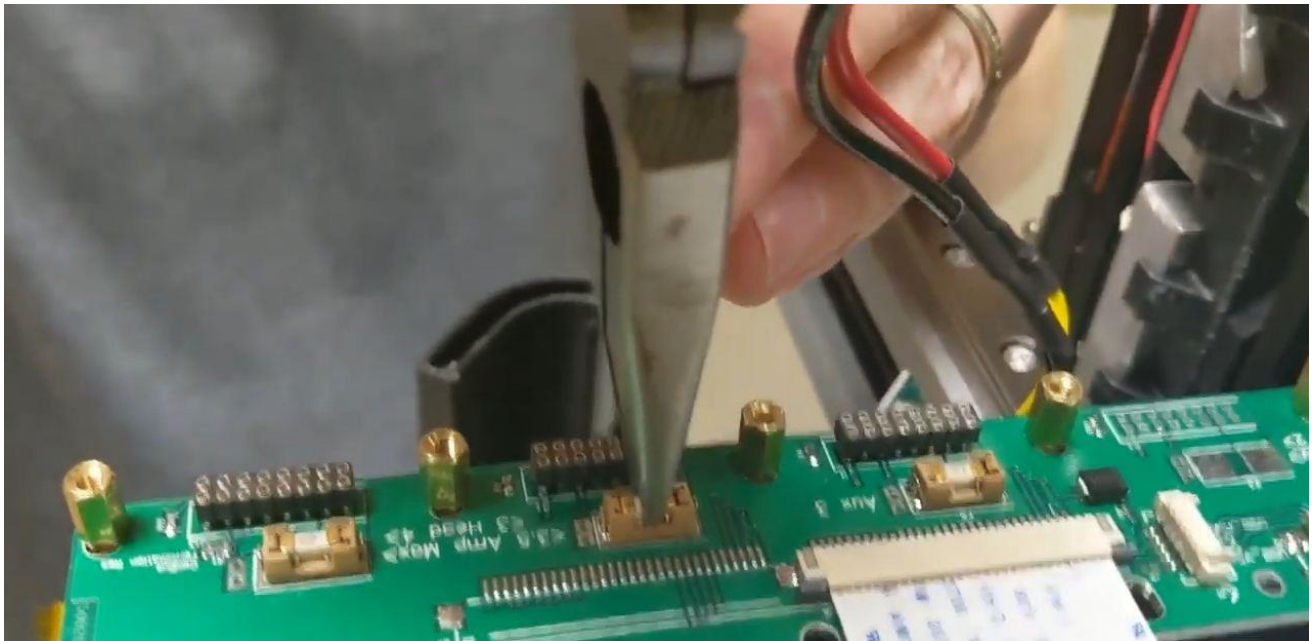
Auxiliary power  
supply board

**Picture-6**



Peltier devices draw over 6A of current so, it's necessary to have a 8A fuse in the yoke. If it is not pre-installed you have to do it manually, follow the below steps (and the picture-7 for your reference).

- Power down the engine system before handling electronic circuit boards
- Remove the top circuit board.
- Use some pointed pliers to replace the fuse.
- Place the top circuit board again and screw it in place.
- Don't forget to place back the Auxiliary power supply board(shown in picture-6).



**Picture-7**