Injection Moulder

SLQ Wiki Fabrication Lab 2026/01/18 04:11

Injection Moulder

The Injection Moulder was finally completed in Dec 2019, and stands ready for use.

A major redesign of the electrical controls was done, incorporating a fused power inlet, and indicator lights for each heating circuit (placed after the relevant SSR). 40amp SSRs were used (rather than the minimum 10amp ones in the BOM) on advice that they will quickly burn out otherwise. Heat sinks were added to each SSR for the same reason.

The volume of each charge was calculated to be about 80cc, providing a hard design constraint.

Mouldmaking is the next step, and the plan is to make moulds from cheap materials with a limited useful life. Dental plaster and epoxy resin will be tried first. A rigid metal container for the moulds will be required to prevent fracturing, and this may be made to order or adapted from available metal containers.

2020

In March 2020 the AC team consulted with a licence electrician regarding what work would need to be completed before having the injection moulding machine commissioned electrically. He recommended ensuring that all electrical components, including conductors, had 2 levels of insulation the 4x original heater bands were replaced with a new model that were

- Higher wattage
- earthed
- enclosed brass construction with
- longer stainless steel braided cable

A stainless steal perferated tube has been sourced as a guard against the operator brushing up against hot metal part any nasty burn injuries.

ideas

https://hackaday.com/2017/11/11/diy-injection-mold-design-for-the-home-shop/

https://3dinsider.com/diy-injection-molding/

https://makezine.com/projects/make-41-tinkering-toys/diy-injection-molding/

https://www.instructables.com/id/Home-Plastic-Injection-Molding-with-an-Epoxy-Mold/

https://www.techkits.com/products/mold-epoxy-large/