Conclusion

In this study, the melt electrospinning system has been successfully constructed. The syringe pump was designed and fabricated. The syringe pump performs in the vertical direction and work by the operation of stepper motor which controlled via a microcontroller. Users can control operation of syringe pump by adjusting input voltage from a switch, a potentiometer and a number pad in the front panel control. Apart from that, the heating system was integrated. To demonstrate the machine, the electrospun PCL fibers were produced with a diameter of around 12 µm. By studying the effect of high voltage on average fiber diameter, it was shown that the higher the voltage, the smaller fiber diameter.

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