

EFFIT Cylinder

### **Powertrain**

T10 20mm lead / 300mm - \$9

<https://www.aliexpress.us/item/3256802686561988.html>

SCS20UU Linear bearing - \$10

<https://www.aliexpress.us/item/2251832039551916.html>

10mm ID / 16mm OD sleeve bearing - 6 for \$7 (only need one)

<https://www.amazon.com/dp/B07Z8Y232M>

300mm 16mmID / 20mmOD Aluminum tube - \$8

<https://www.amazon.com/dp/B07YCGK18W>

10mm shaft collar – \$4 (Must be smaller than 16mm OD)

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### **Motor / driver / power \$70**

3.0NM Stepper kit with 556 driver - \$50

Similar:

<https://www.amazon.com/dp/B085XCDW3Z>

200w (48V) power supply \$16

<https://www.amazon.com/Converter-Switching-100-240V-Indicator-Industrial/dp/B07JBLZY8H/>

### **Motor mount / bearing block \$25**

NEMA23 motor mount with an integrated BK style bearing block (used in ball screws). This guarantees perfect alignment from the shaft to the screw.

<https://www.aliexpress.us/item/3256804322346680.html?>

### **Brains**

Finally, a \$8 ESP32 provides wifi / internet access and the ability to create complex motion profiles, breaking up a stroke into different parts which can have different speeds / acceleration / deceleration. Or even change the length of the stroke while running – have every 5<sup>th</sup> stroke be a big one.