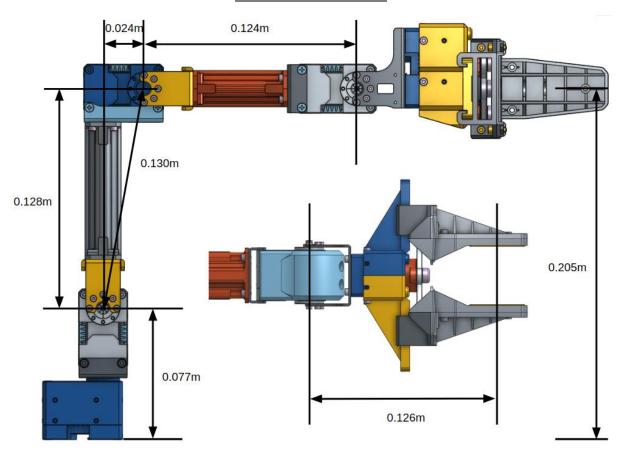
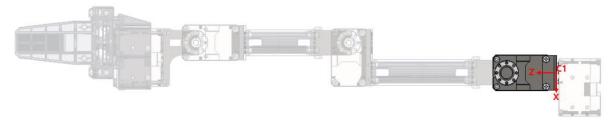
## **OPEN MANIPULATOR - X**

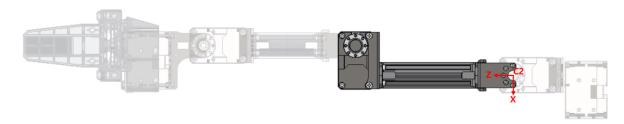


- ➤ Inertia Parameters (Total Mass: 711.37 gram)
- ➤ Joint 1



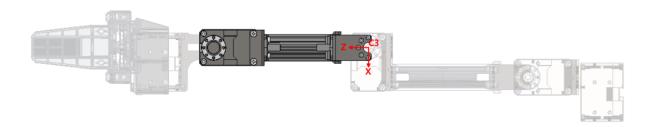
- Mass [gram]: 1.0483260e+02
- Center of Gravity [mm]
  - o X: 0.0000000e+00
  - o Y:-5.6914372e-01
  - o Z: 2.6565513e+01
- Inertia Tensor with respect to C1 coordinate frame: [GRAM \* MM^2]
  - lxx lxy lxz : 1.0781918e+05 0.0000000e+00 0.0000000e+00
  - o lyx lyy lyz: 0.0000000e+00 1.0355255e+05 1.8062416e+03
  - o Izx Izy Izz : 0.0000000e+00 1.8062416e+03 1.7644210e+04
- Inertia Tensor at CENTER OF GRAVITY with respect to coordinate frame: [GRAM \* MM^2]
  - lxx lxy lxz : 3.3802078e+04 0.0000000e+00 0.0000000e+00
  - $\circ \ \ \text{lyx lyy lyz} : 0.00000000\text{e+00} \ 2.9569411\text{e+04} \ 2.2121514\text{e+02} \\$
  - o Izx Izy Izz : 0.0000000e+00 2.2121514e+02 1.7610252e+04
- Principal Moments of Inertia: [GRAM \* MM^2]
  - o I1: 1.7606162e+04
  - o I2: 2.9573501e+04
  - o I3:3.3802078e+04

## ➤ <u>Joint 2</u>



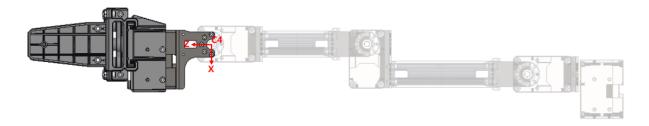
- Mass [gram]: 1.4234630e+02
- Center of Gravity [mm]
  - o X:-9.1617228e+00
  - o Y:-4.1915210e-01
  - o Z: 1.0599936e+02
- Inertia Tensor with respect to C2 coordinate frame: [GRAM \* MM^2]
  - lxx lxy lxz : 1.8365231e+06 -8.2177190e+02 1.6490470e+05
  - o lyx lyy lyz: -8.2177190e+02 1.8562153e+06 7.6370887e+03
  - Izx Izy Izz : 1.6490470e+05 7.6370887e+03 5.4940213e+04
- Inertia Tensor at CENTER OF GRAVITY with respect to coordinate frame: [GRAM \* MM^2]
  - o lxx lxy lxz : 2.3711450e+05 -2.7513999e+02 2.6666982e+04
  - ∘ lyx lyy lyz : -2.7513999e+02 2.4488355e+05 1.3126636e+03
  - o Izx Izy Izz : 2.6666982e+04 1.3126636e+03 4.2967059e+04
- Principal Moments of Inertia: [GRAM \* MM^2]
  - o I1: 3.9362142e+04
  - o I2: 2.4070845e+05
  - o I3: 2.4489452e+05

## ➤ Joint 3



- Mass [gram]: 1.3467049e+02
- Center of Gravity [mm]
  - o X: 3.6312773e-04
  - o Y:-4.4304274e-01
  - o Z: 9.3290225e+01
- Inertia Tensor with respect to C3 coordinate frame: [GRAM \* MM^2]
  - lxx lxy lxz : 1.3589608e+06 0.0000000e+00 -2.7331036e+00
  - $\circ \ \ \mathsf{lyx} \ \mathsf{lyy} \ \mathsf{lyz} : 0.00000000e{+00} \ 1.3502276e{+06} \ 6.7882502e{+03}$
  - ∘ Izx Izy Izz : -2.7331036e+00 6.7882502e+03 2.4835638e+04
- Inertia Tensor at CENTER OF GRAVITY with respect to coordinate frame: [GRAM \* MM^2]
  - $\circ\,$  lxx lxy lxz : 1.8688812e+05 0.0000000e+00 1.8290300e+00
  - $\circ \ \ \mathsf{lyx} \ \mathsf{lyy} \ \mathsf{lyz} : 0.00000000e{+}00 \ 1.7818139e{+}05 \ 1.2221090e{+}03$
  - ∘ Izx Izy Izz : 1.8290300e+00 1.2221090e+03 2.4809204e+04
- Principal Moments of Inertia: [GRAM \* MM^2]
  - o I1: 2.4799466e+04
  - o I2: 1.7819113e+05
  - o I3: 1.8688812e+05

## ➤ Joint 4



• Mass [gram]: 2.3550927e+02

Center of Gravity [mm]

X: 6.1273313e+00Y: 7.9503949e-04

o Z: 6.0472935e+01

• Inertia Tensor with respect to C4 coordinate frame: [GRAM \* MM^2]

○ lxx lxy lxz : 1.1283350e+06 2.2172215e+02 -6.4649200e+04

○ lyx lyy lyz : 2.2172215e+02 1.0777914e+06 3.9825896e+00

o Izx Izy Izz : -6.4649200e+04 3.9825896e+00 1.8277436e+05

• Inertia Tensor at CENTER OF GRAVITY with respect to coordinate frame: [GRAM \* MM^2]

o lxx lxy lxz : 2.6708326e+05 2.2286943e+02 2.2615865e+04 o lyx lyy lyz : 2.2286943e+02 2.0769766e+05 1.5305492e+01 o lzx lzy lzz : 2.2615865e+04 1.5305492e+01 1.7393236e+05

• Principal Moments of Inertia: [GRAM \* MM^2]

○ I1 : 1.6873182e+05○ I2 : 2.0769694e+05○ I3 : 2.7228452e+05