

# Mass properties of selected components

Coordinate system: revolute

The center of mass and the moments of inertia are output in the coordinate system of inverted\_pendulum

Mass = 188.66 grams

Volume = 130056.10 cubic millimeters

Surface area = 63458.26 square millimeters

Center of mass: ( millimeters )

X = -20.79

Y = -0.20

Z = 8.28

Principal axes of inertia and principal moments of inertia: ( grams \* square millimeters )

Taken at the center of mass.

I<sub>x</sub> = ( 0.99, 0.00, -0.17 )      P<sub>x</sub> = 66383.09

I<sub>y</sub> = ( 0.00, 1.00, 0.00 )      P<sub>y</sub> = 386277.15

I<sub>z</sub> = ( 0.17, 0.00, 0.99 )      P<sub>z</sub> = 408419.35

Moments of inertia: ( grams \* square millimeters )

Taken at the center of mass and aligned with the output coordinate system. (Using positive tensor notation.)

L<sub>xx</sub> = 75697.56      L<sub>xy</sub> = -21.08      L<sub>xz</sub> = -55669.80

L<sub>yx</sub> = -21.08      L<sub>yy</sub> = 386277.15      L<sub>yz</sub> = 1.96

L<sub>zx</sub> = -55669.80      L<sub>zy</sub> = 1.96 L<sub>zz</sub> = 399104.88

Moments of inertia: ( grams \* square millimeters )

Taken at the output coordinate system. (Using positive tensor notation.)

I<sub>xx</sub> = 88624.33      I<sub>xy</sub> = 753.96      I<sub>xz</sub> = -88132.93

I<sub>yx</sub> = 753.96      I<sub>yy</sub> = 480768.03      I<sub>yz</sub> = -306.49

I<sub>zx</sub> = -88132.93      I<sub>zy</sub> = -306.49      I<sub>zz</sub> = 480683.73