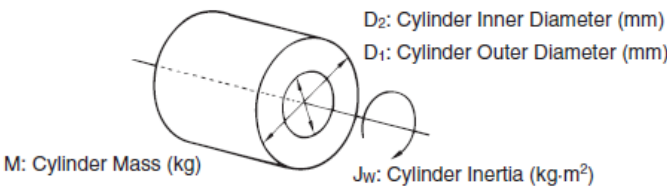
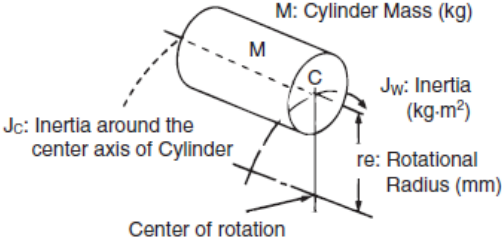
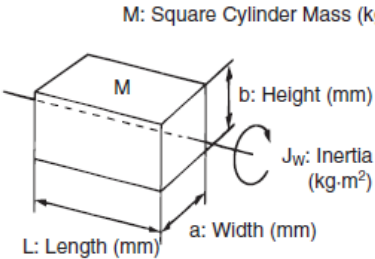
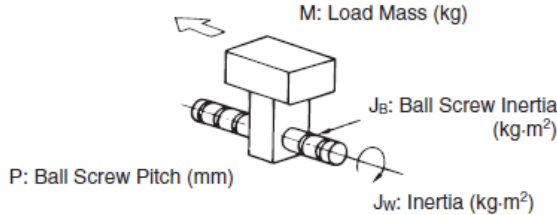
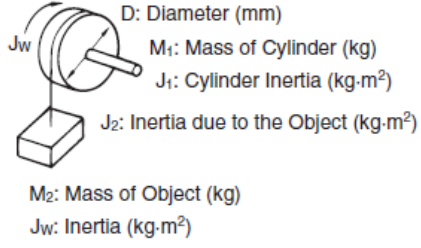
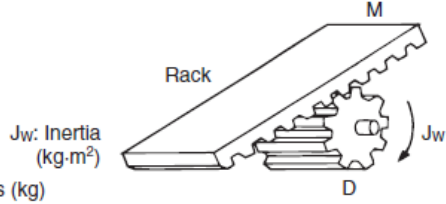
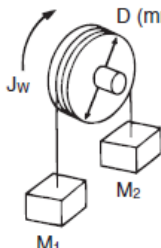
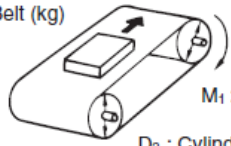
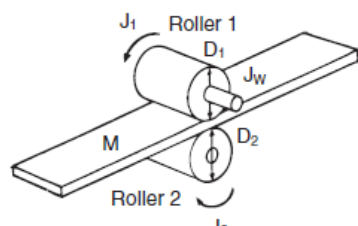
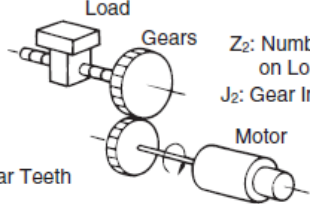


<p>Cylindrical Inertia</p>	 <p> D_2: Cylinder Inner Diameter (mm) D_1: Cylinder Outer Diameter (mm) M: Cylinder Mass (kg) J_w: Cylinder Inertia ($\text{kg}\cdot\text{m}^2$) </p>	$J_w = \frac{M(D_1^2 + D_2^2)}{8} \times 10^{-6} (\text{kg}\cdot\text{m}^2)$
<p>Eccentric Disc Inertia (Cylinder which rotates off the center axis)</p>	 <p> M: Cylinder Mass (kg) J_c: Inertia around the center axis of Cylinder J_w: Inertia ($\text{kg}\cdot\text{m}^2$) r_e: Rotational Radius (mm) Center of rotation </p>	$J_w = J_c + M \cdot r_e^2 \times 10^{-6} (\text{kg}\cdot\text{m}^2)$
<p>Inertia of Rotating Square Cylinder</p>	 <p> M: Square Cylinder Mass (kg) L: Length (mm) a: Width (mm) b: Height (mm) J_w: Inertia ($\text{kg}\cdot\text{m}^2$) </p>	$J_w = \frac{M(a^2 + b^2)}{12} \times 10^{-6} (\text{kg}\cdot\text{m}^2)$
<p>Inertia of Linear Movement</p>	 <p> M: Load Mass (kg) P: Ball Screw Pitch (mm) J_b: Ball Screw Inertia ($\text{kg}\cdot\text{m}^2$) J_w: Inertia ($\text{kg}\cdot\text{m}^2$) </p>	$J_w = M \left(\frac{P}{2\pi} \right)^2 \times 10^{-6} + J_b (\text{kg}\cdot\text{m}^2)$
<p>Inertia of Lifting Object by Pulley</p>	 <p> D: Diameter (mm) M_1: Mass of Cylinder (kg) J_1: Cylinder Inertia ($\text{kg}\cdot\text{m}^2$) J_2: Inertia due to the Object ($\text{kg}\cdot\text{m}^2$) M_2: Mass of Object (kg) J_w: Inertia ($\text{kg}\cdot\text{m}^2$) </p>	$J_w = J_1 + J_2 = \left(\frac{M_1 \cdot D^2}{8} + \frac{M_2 \cdot D^2}{4} \right) \times 10^{-6} (\text{kg}\cdot\text{m}^2)$

<p>Inertia of Rack and Pinion Movement</p>	 <p> J_w: Inertia (kg·m²) M: Mass (kg) D: Pinion Diameter (mm) </p>	$J_w = \frac{M \cdot D^2}{4} \times 10^{-6} \text{ (kg·m}^2\text{)}$
<p>Inertia of Suspended Counterbalance</p>	 <p> J_w: Inertia (kg·m²) M₁: Mass (kg) M₂: Mass (kg) </p>	$J_w = \frac{D^2 (M_1 + M_2)}{4} \times 10^{-6} \text{ (kg·m}^2\text{)}$
<p>Inertia when Carrying Object via Conveyor Belt</p>	 <p> M₃: Mass of Object (kg) M₄: Mass of Belt (kg) J_w: Inertia (kg·m²) M₁: Mass of Cylinder 1 (kg) M₂: Mass of Cylinder 2 (kg) D₁: Cylinder 1 Diameter (mm) D₂: Cylinder 2 Diameter (mm) </p>	$J_w = J_1 + J_2 + J_3 + J_4$ $= \left(\frac{M_1 \cdot D_1^2}{8} + \frac{M_2 \cdot D_2^2}{8} \cdot \frac{D_1^2}{D_2^2} + \frac{M_3 \cdot D_1^2}{4} + \frac{M_4 \cdot D_1^2}{4} \right) \times 10^{-6} \text{ (kg·m}^2\text{)}$
<p>Inertia where Work is Placed between Rollers</p>	<p> J_w: System Inertia (kg·m²) J₁: Roller 1 Inertia (kg·m²) J₂: Roller 2 Inertia (kg·m²) D₁: Roller 1 Diameter (mm) D₂: Roller 2 Diameter (mm) M: Equivalent Mass of Work (kg) </p> 	$J_w = J_1 + \left(\frac{D_1}{D_2} \right)^2 J_2 + \frac{M \cdot D_1^2}{4} \times 10^{-6} \text{ (kg·m}^2\text{)}$
<p>Inertia of a Load Value Converted to Motor Shaft</p>	 <p> J_w: Load Inertia (kg·m²) Z₁: Number of Gear Teeth on Motor Side Z₂: Number of Gear Teeth on Load Side J₁: Gear Inertia on Motor Side (kg·m²) J₂: Gear Inertia on Load Side (kg·m²) Gear Ratio $G = Z_1/Z_2$ J_L: Motor Shaft Conversion Load Inertia (kg·m²) </p>	$J_L = J_1 + G^2 (J_2 + J_w) \text{ (kg·m}^2\text{)}$