$$\frac{m_y\left((l_0+l)\sin(\varphi)\dot{\varphi}-\cos(\varphi)\dot{l}\right)^2}{2}+\frac{m_y\left((l_0+l)\cos(\varphi)\dot{\varphi}+\sin(\varphi)\dot{l}-\dot{x}\right)^2}{2}+\left(\frac{m_x}{2}+\frac{m_y}{2}\right)\dot{x}^2$$