

$$k = \frac{E v^3 h (l^3 + 2 L v^2 + 6 L l^2)}{(8 L^3 l^3 + v^2 l^4 + 16 v^2 L^4 + 2 v^4 L l + 12 L^4 l^2 + 6 v^2 L l^3)}$$