Formulas for calculations.

$$v_{(th)} = \sqrt{2gH}$$

$$H = \frac{V^2}{2g}$$

$$e = mgH$$

$$e = \frac{mV^2}{2}$$

$$v = \frac{d}{t}$$

$$F = ma$$

$$System\ friction\ (\%) = \frac{v_{(th)} - v_{(pr)}}{v_{(th)}}$$

Respectively where:

a = acceleration (m /sec²)
e = energy (joules)
m = mass (kg)
F = Force (Newton)
H = drop height (m)
g = 9.8068 m/sec² (universal gravity constant)

$V_{(pr)}$ = practical velocity (m /sec)
$V_{(th)}$ = theoretical velocity (m /sec)
d = distance (mm)
t = time (milliseconde)

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