

Specification: **Inertial force Actuator IFX30-100**

Rated Force:

80 N peak at 27 Watt at 38 Hz, with coils at 20°C, due to displacement limit. (mounted on a 50 lb block)
80 N peak at 27 Watt at 38 Hz, with coils at 140°C.
23 Newtons per Ampere at 38 Hz: 10.1 Newton per Ampere above 150 Hz, with coil at 140°C.
The force constant is independent of the direction and amount of current.

Electrical:

Coil resistance: 1.63 Ohm
Time constant: < .7 millisecond.

Temperature:

Drop in force constant for 100°C rise: 10%
Increase in resistance for 100°C rise: 39%
Internal temperature rise at 27 Watt input: 140°C
Maximum internal temperature: 140°C

Static Armature Stiffness:

Internal spring constant: 12.6 Newtons per millimeter
Resonance frequency of armature: 30 Hz (unit mounted on a 50 lb block)

Mechanical:

Maximum armature displacement: ± 4 millimeters (internal hard stops)
Total weight: .94 Kg. Armature weight: .360 Kg
Dimensions: 67 mm diameter, 58 mm long
Mounting: Four 8-32 screws on a 38 mm bolt circle
Housing completely sealed. no external moving parts.

Fatigue Life:

Infinite fatigue life if armature amplitude does not exceed 4.0 mm
This translates into a maximum force of 80 N at 38 Hz
For other frequencies: $F = .055 \times f^2$, where F is the force in Newtons and f of the frequency in Hertz.

Stray Magnetic Field:

Mounting surface: .04 Tesla max
Cylinder surface: .01 Tesla max



