

➤ TABLE OF STANDARD PROPERTIES OF USE AND MEASUREMENT

The properties defined in the table below, are set up according to the technical conditions of use and measurement. These properties are warranted within their variation range and in compliance with the standard technical conditions of use.

Properties FPS400M	Standard technical conditions	Unit	Nominal values	Min. values	Max. values
Notes			-	-	-
Sensors option			SG	-	-
Active axis	TX		-	-	-
Max. No-load displacement	Quasistatic excitation, blocked-free	μm	800	720	920
Max. beam diameter	Quasistatic excitation, blocked-free	μm	700	630	805
Stiffness	Quasistatic excitation, blocked-free	N/μm	0.10	0.08	0.10
Height	Quasistatic excitation, blocked-free	mm	21.00	20.80	21.20
Dimensions		mm	60 * 44	-	-
Mass		g	300.0	285.0	315.0
Unloaded resonance frequency (in the actuation's direction)	Harmonic excitation, blocked-free, on the admittance curve	Hz	495	446	569
Response time	Quasistatic excitation, blocked-free	ms	1.01	0.91	1.16
Capacitance (per electrical port)	Quasistatic excitation, blocked-free	μF	3.15	2.84	4.10
Mechanical interfaces (payload)			4 slits (width 0.6 mm)	-	-
Mechanical interfaces (frame)			4 holes Ø 2.7mm on [] 24*38 mm	-	-
Electrical interfaces			2 RG178B/U coaxial cables	-	-

➤ PROPERTIES STANDARD TECHNICAL CONDITIONS OF USE AND MEASUREMENT

Free-free	: The actuator is not fixed
Blocked-free	: The actuator is fixed to a mechanical support assumed infinitely stiff
Quasistatic excitation	: AC voltage between -20 and 150 V at 1 Hz
Harmonic excitation	: Voltage of 0.5 Vrms, sinusoidal mode from 0 to 100 kHz
Max. harmonic excitation	: Voltage defined by the measurement of max. displacement, sinus at resonance frequency
Displacement measurement	: Laser interferometer, capacitive displacement sensor
Admittance measurement	: HP 4194 A or Cypher C60 electrical impedance analyser
Environment	: Ambient temperature (15-25°C) and dry air (Humidity < 50 % rH)

Any technical conditions of use, different from those defined above, can lead to temporary or definitive alterations of properties. Thank you to contact CEDRAT TECHNOLOGIES before using actuators under non standard technical conditions.

➤ FACTORY TESTS CARRIED OUT

- Test 1 : Electrical admittance vs. Frequency, free-free
- Test 2 : Displacement vs. input voltage

➤ EXTRA FACTORY TESTS

- Test 3 : Gain and linearity of the sensor
- Test 4 : Step response in closed loop
- Test 5 : Stability in closed loop

➤ MECHANICAL INTERFACE

- | | | |
|--|---|---|
| <input type="checkbox"/> [F1] Flat Interface | <input type="checkbox"/> [H] Flat Interface with hole | <input type="checkbox"/> [TH] Flat Interface with threaded hole |
| <input type="checkbox"/> [SV] Specific version | <input type="checkbox"/> [FF] Free-free Interface | <input type="checkbox"/> [SI] Specific interface |

➤ AVAILABLE OPTIONS

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> [SG] Strain gauges | <input checked="" type="checkbox"/> [SIW] Slits in Tungstene alloy | <input checked="" type="checkbox"/> [DSIW] Double slits in Tungstene alloy |
| <input checked="" type="checkbox"/> [VAC] Vacuum | <input type="checkbox"/> [ECS] Eddy Current Sensor | <input type="checkbox"/> [NM] Non-magnetic |