

➤ 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 OPP120SM	Standard technical conditions	Unit	Nominal values	Min. values	Max. values
<i>Notes</i>			-		
<i>Sensors option</i>			ECS		
<i>Active axis</i>			TZ		
<i>Max. No-load displacement</i>	<i>Quasistatic excitation, blocked-free</i>	μm	140	119	161
<i>Max. parasitic X Y rotations</i>	<i>Quasistatic excitation, blocked-free</i>	μrad	25	12,50	37,50
<i>Voltage range</i>		V	-20 ... 150		
<i>Resolution</i>		nm	14	-	-
<i>Stiffness</i>		N/μm	0,71	0,6	0,9
<i>Height</i>		mm	50	49,0	50,5
<i>Dimensions</i>		mm	65 * 40	-	-
<i>Mass</i>		g	180	-	-
<i>Unloaded resonance frequency (in the actuation's direction)</i>	<i>Harmonic excitation, blocked-free, on the admittance curve</i>	Hz	600	510	720
<i>Response time</i>		ms	0,83	0,71	0,96
<i>Loaded resonance frequency (in the actuation's direction) load = 50 g</i>		Hz	440	374	506
<i>Loaded response time load = 50 g</i>		ms	1,1	0,97	1,31
<i>Capacitance (per electrical port)</i>	<i>Quasistatic excitation, blocked-free</i>	μF	3,15	2,84	4,10
<i>Mechanical interfaces (payload)</i>	<i>objective interface max M25*0.75 (to be specified)</i>				
<i>Mechanical interfaces (frame)</i>	<i>microscope interface (max M25*0.75) to be specified</i>				
<i>Electrical interfaces</i>	<i>1 RG178B/U coaxial cable</i>				

➤ 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 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"/> [FI] 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 type="checkbox"/> [CS] Capacitive displacement sensor | <input type="checkbox"/> [NM] Non-magnetic |
| <input checked="" type="checkbox"/> [VAC] Vacuum | <input checked="" type="checkbox"/> [ECS] Eddy Current Sensor | |