CEDRAT TECHNOLOGIES
Innovation in Mechatronics

APA300ML

Non contractual picture

CTEC: COMPACT, DYNAMIC, PRECISE

Dynamic conditions are particularly challenging! They require systems capable of generating or handling large accelerations. Reactivity and reliability of actuators developed by CTEC make them unique for high dynamic applications.

However integration and loading conditions being equally important, we invite you to get in touch with our engineers at actuator@cedrat-tec.com to discuss your application.
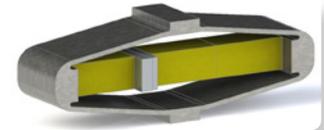
TABLE OF STANDARD PROPERTIES OF USE AND MEASUREMENT

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	STANDARD TECHNICAL CONDITIONS	UNIT	NOMINAL VALUES	MIN. VALUES	MAX. VALUES
Notes		-	-	-	-
Max. no load displacement	Quasistatic excitation, blocked-free	μm	304	244	359
Blocked force	Quasistatic excitation, blocked-free	N	546.0	464.1	627.9
Stiffness	Quasistatic excitation, blocked-free	N/μm	1.794	1.435	1.97
Resonance frequency (free-free)	Harmonic excitation, free-free, on the admittance curve	Hz	2829	2405	3112
Response time (free-free)		ms	0.18	0.16	0.20
Resonance frequency (blocked-free)	Harmonic excitation, blocked-free, on the admittance curve	Hz	763	649	839
Response time (blocked-free)		ms	0.66	0.59	0.75
Capacitance	Quasistatic excitation, free-free, on the admittance curve	μF	20.00	18.00	26.00
Max. no load displacement at resonance	Max. harmonic excitation, free-free	μm p-p	274	219	329
Max. voltage at resonance	Max. harmonic excitation, free-free	Vrms	9.00	7.20	10.80
Force limit (0-pk)	Max. harmonic excitation, free-free	N	273.00	218.40	300.30
Resolution	Quasistatic excitation	nm	3	-	-
Height (in actuation direction)		mm	30.00	29.90	30.10
Length		mm	78.79	78.69	78.89
Width (excl. wedge & wires)		mm	20.00	19.95	20.05
Width (incl. wedge & wires)		mm	22.50	21.50	24.00
Mass		g	112.8	-	-
Standard mechanical interface	2 flat surfaces 9*20 mm² with 2 Ø 3.2 mm holes, centred at 5 mm from the side	-	-	-	-
Standard electrical interface	2 PTFE insulated AWG26 wires 300 mm long with Ø 1 banana plug	-	-	-	-

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

OPTIONAL MECHANICAL INTERFACE

[FI] Flat Interface
[TH] Flat Interface with threaded hole
[FF] Free-free Interface
[H] Flat Interface with hole
[SI] Specific interface

OPTIONAL EXTRA FACTORY TESTS

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

AVAILABLE OPTIONS

[SG] Strain gauges
[NM] Non-magnetic
[VAC] Vacuum
[SV] Specific version / Customization

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2D CONFIGURATION

COUPE A-A

M5,00

3,6

7,00 mm Maxi

M5,00

3,6

7,00 mm Maxi

A — A

15,00

30,00 ± 0,20

20,00

10,00

9,00

4,50

78,8

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08/10/2015

R&D

0.00 g