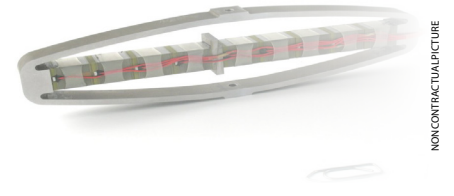


▶ TABLE OF STANDARD PROPERTIES OF USE AND MEASUREMENT

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.



NON-CONTRACTUAL PICTURE

PROPERTIES	STANDARD TECHNICAL CONDITIONS	UNIT	NOMINAL VALUES	MIN. VALUES	MAX. VALUES
Notes		-	-	-	-
Max. no load displacement	Quasistatic excitation, blocked-free	μm	1099	879	1297
Blocked force	Quasistatic excitation, blocked-free	N	745	596.0	894.0
Stiffness	Quasistatic excitation, blocked-free	N/μm	0.68	0.542	0.75
Resonance frequency (free-free)	Harmonic excitation, free-free, on the admittance curve	Hz	1061	902	1167
Response time (free-free)		ms	36200	32580	41630
Resonance frequency (blocked-free)	Harmonic excitation, blocked-free, on the admittance curve	Hz	210	179	231
Response time (blocked-free)		ms	2.38	2.14	2.74
Capacitance	Quasistatic excitation, free-free, on the admittance curve	μF	110.00	99.00	143.00
Max. no load displacement at resonance	Max. harmonic excitation, free-free	μm p-p	989	791	1187
Max. voltage at resonance	Max. harmonic excitation, free-free	V _{rms}	9	7.20	10.80
Force limit (0-pk)	Max. harmonic excitation, free-free	N	428.4	342.70	471.21
Resolution	Quasistatic excitation	nm	10.99	-	-
Height (in actuation direction)		mm	57	56.90	57.10
Length		mm	214	214.20	214.40
Width (excl. wedge & wires)		mm	15	14.95	15.05
Width (incl. wedge & wires)		mm	25	23.50	26.00
Mass		g	600	-	-
Standard mechanical interface	2 flat surfaces 1*2.5 mm ² with a Ø 0.8 mm hole	-	-	-	-
Standard electrical interface	2 single Cu wires 80 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 V _{rms} , 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 EXTRA FACTORY TESTS

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

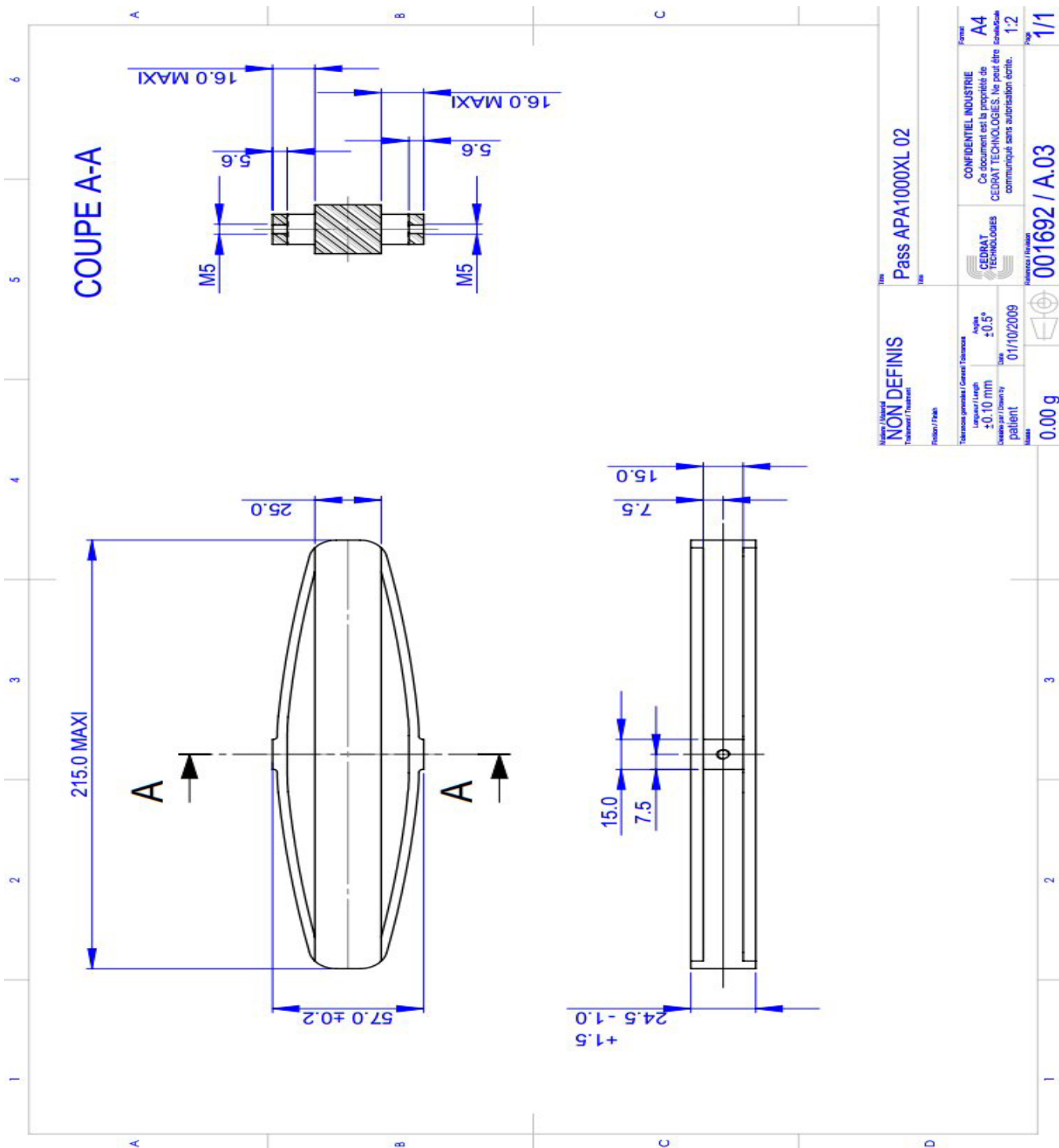
▶ OPTIONAL MECHANICAL INTERFACE

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

▶ AVAILABLE OPTIONS

- [SG] Strain gauges
- [NM] Non-magnetic
- [ECS] Eddy current displacement sensor
- [VAC] Vacuum
- [SV] Specific version / Customization

➤ 2D CONFIGURATION



NON DEFINIS		Pass APA1000XL 02	
Langueur / Length +0.10 mm		Angle ±0.5°	
Date par / Created by patient		Date 01/10/2009	
Masse / Mass 0.00 g		Révision / Revision 001692 / A.03	
Fabrication générale / General Fabrication		Fabrication	
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