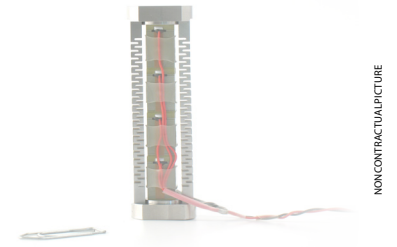


## TABLE OF STANDARD PROPERTIES OF USE AND MEASUREMENT

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   | 80.62          | 73          | 117         |
| Blocked force                        | Quasistatic excitation, blocked-free                                               | N    | 3500           | 2800        | 4200        |
| Stiffness                            | Quasistatic excitation, blocked-free                                               | N/μm | 43.41          | 34.73       | 47.75       |
| Resonance frequency (free-free)      | Harmonic excitation, free-free, on the admittance curve                            | Hz   | 8403.00        | 7143        | 9243        |
| Response time (free-free)            | Harmonic excitation, free-free, on the admittance curve                            | μs   | 59.50          | 53.55       | 68.43       |
| Capacitance                          | Quasistatic excitation, free-free, on the admittance curve                         | μF   | 26.60          | 23.94       | 34.58       |
| Max. tensile force                   | Static effort, blocked-free                                                        | N    | 1200.00        | 900         | 1200        |
| Resolution                           | Quasistatic excitation                                                             | nm   | 0.81           | -           | -           |
| Height (in actuation direction)      |                                                                                    | mm   | 97.00          | 96.80       | 97.20       |
| Depth (base)                         |                                                                                    | mm   | 23.50          | 23.40       | 23.60       |
| Width (base excl. wedge & wires)     |                                                                                    | mm   | 18.00          | 17.00       | 19.00       |
| Width (base incl. wedge & wires)     |                                                                                    | mm   | 18.00          | 17.00       | 19.00       |
| Mass                                 |                                                                                    | g    | 142.00         | -           | -           |
| Standard mechanical interface (top)  | 1 centered M3 threaded hole 5 mm deep & 4 M2.5 threaded holes on Ø 15 mm 4 mm deep | -    | -              | -           | -           |
| Standard mechanical interface (base) | 1 centered M3 threaded hole 5 mm deep & 4 M2.5 threaded holes on Ø 15 mm 4 mm deep | -    | -              | -           | -           |
| Standard electrical interface        | 2 PTFE insulated AWG26 wires 100 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 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

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

## AVAILABLE OPTIONS

- |                                                        |                                                                 |                                                                           |
|--------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> [SG] Strain gauges | <input type="checkbox"/> [ECS] Eddy current displacement sensor | <input checked="" type="checkbox"/> [SV] Specific version / Customization |
| <input type="checkbox"/> [NM] Non-magnetic             | <input checked="" type="checkbox"/> [VAC] Vacuum                |                                                                           |

