



ISP 15D054 FPI 0010-A page 1  
11/05/2015

## MICROMETRIC FORCE ELECTRICAL ACTUATOR $\mu$ AME 5

### Description

The astatic  $\mu$ AME 5 provides, bi-directional force of high precision and enable coupling with optic without any static friction.

Its design, patented by ISP System, is based on robuste and reliable technologies.



Non Contractual Photo

The principle of force generation is based on the imbalance of a spring system:

At state "0", the pull and push springs are balanced.

The action of a screw-nut system changes the length of the thrust springs through a rod.

The motion is powered with a stepping motor, It can generate a stable and accurate driven strain, even power off thanks to its irreversible mechanical.

Pull and push forces are generated on the travel direction of the rod which activate the springs

The floating head enable the coupling with optical membrane: this technology allows angular and radial misalignments without any static friction.

Features can be modified to fit customer's requirements.

### Applications

$\mu$ AME 5 is designed for high precision micrometric force without static effect.

Intended to scientific, medical or photonics applications such as adaptative optics.

Smallest actuator of our  $\mu$ AME range

Compatible to vaccum environment

Compatible versions HV ( $10^{-6}$ mbar) and UHV ( $10^{-8}$ mbar) are available on request.



# MICROMETRIC FORCE ELECTRICAL ACTUATOR $\mu$ AME 5

ISP 15D054 FPI 0010-A page 2  
11/05/2015

## Technical Specification

### Power Supply :

Input Coltage	24 à 48V
Current	100mA (*) (RMS)

### Performances :

Push/Pull Force Range	+/-5N
Theoretical Resolution (1 step)	0,2mN
Advised mini Resolution	1mN
Speed	200mN/s

### Technical Data :

Screw Nut	M2,5x0.45
Number of springs	6
Planetary reducer	Ratio 1 : 256
Stepper motor	20 step / tr

Mass : 20g

Operating temperature : 15 to 25°C

### Environnement :

Suit to a Pa or Vacuum use

(HV or UHV on request)

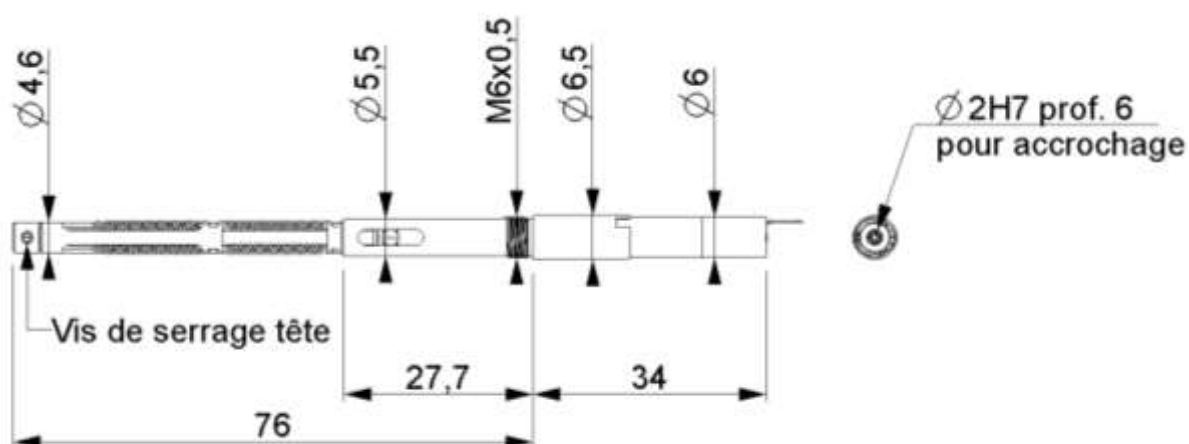
### Stiffness of the floating head:

Axial Stiffness KZ: 4N/m

Transversal Stiffness KX / KY: negligible

(\*) Current RMS recommended for a Pa use. This value must be adapted to environment , service factor and to stress level of the application.

## Dimension



### Nota :

- dimensions on mm
- motor wiring : 4 welded thread on AR motor

Les données de la présente fiche sont fournies à titre indicatif, sous réserve de modification suite au perfectionnement et à la mise à jour de la documentation.

ISP SYSTEM S.p.A. - Via dell'Industria, 10 - 00000 Frosinone - Italy - BP 10047 - 63501 Vic-en-Bigorre Cedex

Tél : 05 62 33 44 44 • Fax : 05 62 33 44 45 • e-mail : [contact@isp-system.fr](mailto:contact@isp-system.fr)

SIRET 410 675 078 00027 • APE 742 C • TVA FR 19 410 675 078