
Info about cryogenic positioners

Park, Icksoon <Icksoon.Park@attocube.com>
A: "matteo.dandrea@inaf.it" <matteo.dandrea@inaf.it>

30 aprile 2024 alle ore 14:13

Dear Matteo,

Thank you for your email and inquiry.

Unfortunately, our mK-compatible products have a limited travel range of max. 4.8 - 5 mm. The driving force of x/y positioner (moving perpendicular to the gravity direction) is of ~0.4 N at mK, that of z-positioner (moving in/against gravity direction) is of ~1 N at mK. But if you make a xyz-stage, then the weight of the positioners has to be added as additional load, which results in a reduced driving force. This is especially important for z-direction.

You can put max load of 100g on the x/y positioner, 200g on the z positioner.

Will these specs work for your application?

Will they be used in magnetic field?

Best regards

Icksoon

Icksoon Park

Senior Sales Engineer Cryogenic Instruments

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Von: D'Andrea, Matteo <matteo.dandrea@inaf.it>

Gesendet: Dienstag, 30. April 2024 10:21

An: attocube Info <info@attocube.com>

Betreff: Re: Info about cryogenic positioners

Dear attocube,

You don't often get email from matteo.dandrea@inaf.it. [Learn why this is important](#)

please let us know.

Regards,

Matteo D'Andrea

Il giorno ven 12 apr 2024 alle ore 15:16 D'Andrea, Matteo <matteo.dandrea@inaf.it> ha scritto:

Dear Attocube,

I am a researcher at the Italian National Institute for Astrophysics in Rome (INAF/IAPS Roma). I work on the development of cryogenic TES detectors for X-ray spectroscopy, currently mainly in the context of the ESA space mission ATHENA.

I am interested in purchasing a 3D cryogenic positioning system to be integrated into our dilution refrigerator (at the 50 mK stage) and aimed at moving the radioactive sources we use to calibrate our detectors.

I am looking for a system with 3-axis (x-y-z) motion, at least 1 cm of travel range per direction, motion accuracy better than 100um, capable of moving 50g-100g mass and with an operating temperature < 50 mK.

Do you have a product solution that meets our needs?

If so, could you send me the relevant datasheets and an "all-inclusive" quote (i.e. including positioners, sensors, control electronics, wiring, interfaces, ...).

Thanks and best regards,
Matteo D'Andrea

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Matteo D'Andrea

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