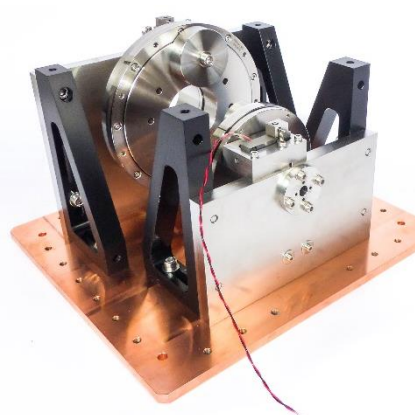




## **New piezo motor for thermal vacuum environments**

*CEDRAT and F4E have improved and pre-qualified a MSPA piezo motor, based on a secret material and able to operate in vacuum,, non-magnetic or high temperature and sustain radiations. Its high reliability, precision and operating lifetime makes this new piezo motor perfectly suitable for space, healthcare and nuclear applications.*



### **The technology**

Modular Stepping Piezo Actuators (MSPA) use the stick-slip principle to combine high resolution positioning with long stroke. Both linear and rotary configuration can be realised with MSPA. This piezo motor is based on a new material that enables it to operate with good performances in hard environments such as vacuum or with high temperatures. This new solution easily fits any existing devices requiring up to 20N of driving force with a speed up to 50mm/s. This technology is also offering long stroke capabilities: infinite in rotation and up to 10cm translation.

## **Reliability and durability in thermal vacuum environments**

The major breakthrough relies on the ability of the piezo motor to operate in severe environments and to travel long distance before maintenance. The modularity of the piezo motor module allows for effective, quick and specific multi-degrees-of-freedom designs as well as miniaturisation capability.

## **Optimised micro/nano positioning in nuclear and space**

This solution is especially relevant for accurate micro and nanopositioning applications in vacuum environment with extreme temperature (30 - 360K) and suitable for environments requiring reliability and lifetime in vacuum and thermal applications. Its application is now considered in nuclear, healthcare, thermal vacuum testing equipment's, particle accelerators or space.

## **Collaboration opportunities**

The technology is available for licensing opportunities and adaptation to new environments. These piezo motors can be integrated by the industry into existing systems or used as an off-the-shelf product in new developments.

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