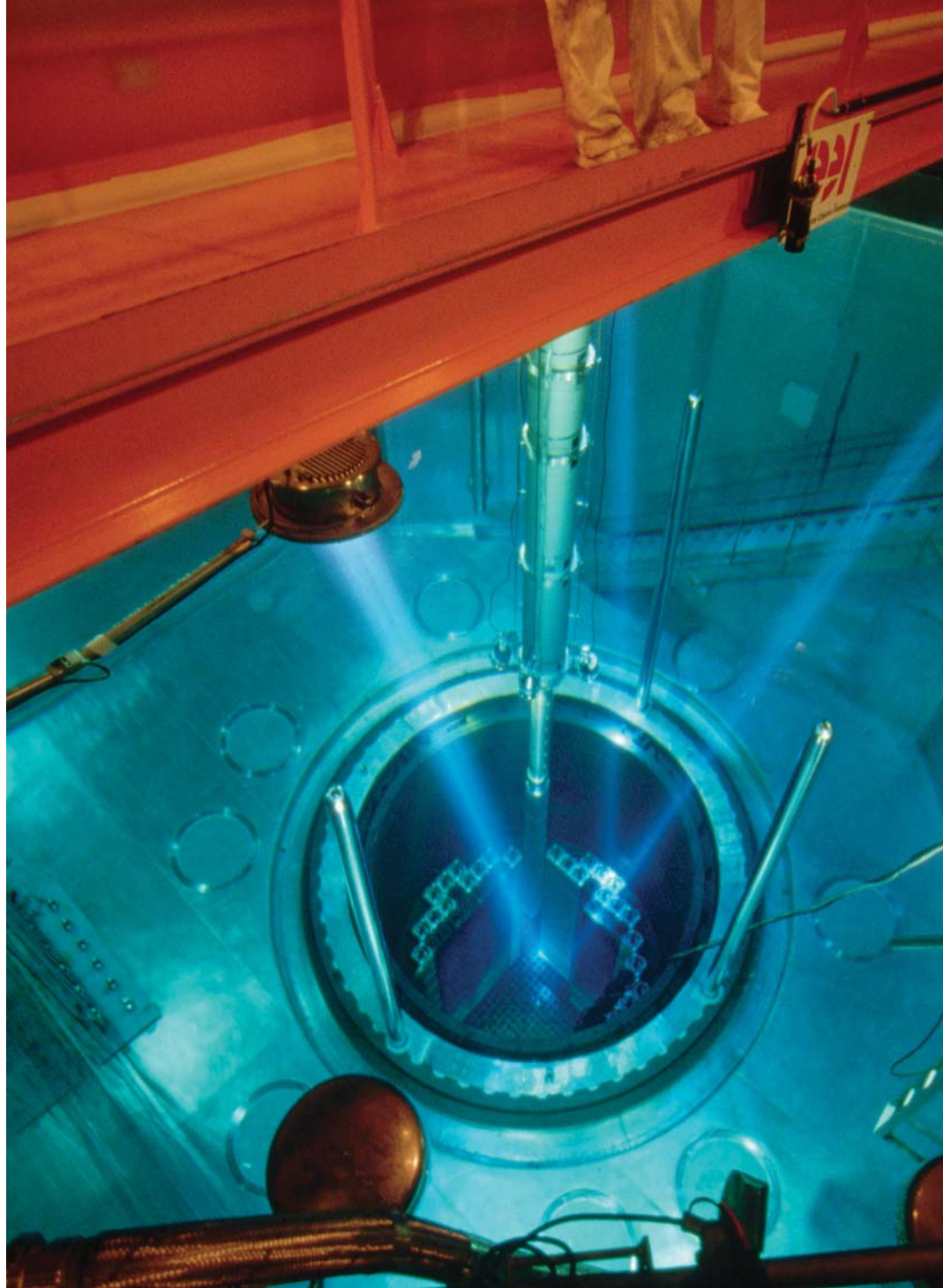
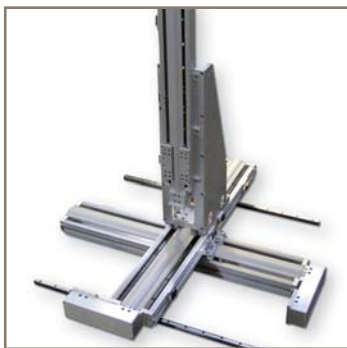
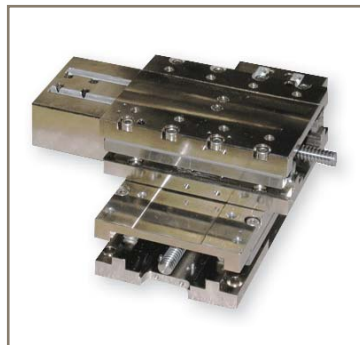


aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



# Radiation Environments

Automation Product Solutions



ENGINEERING YOUR SUCCESS.

# Availability

## RAD Hardened Daedal Positioners

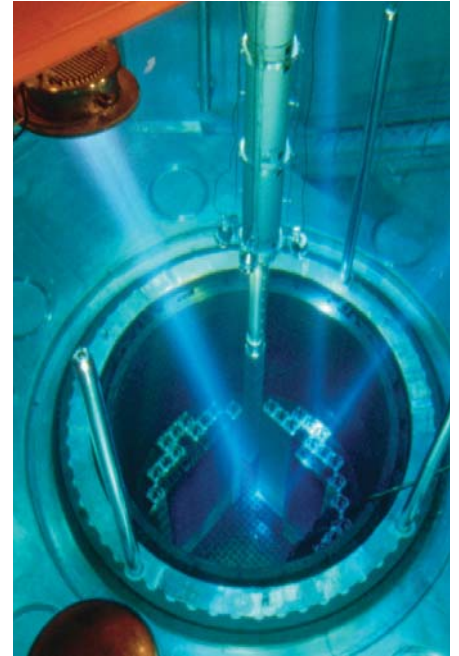
Driven by industry demands, Parker has developed proven positioner modifications for operation in environments where exposure to Alpha, Beta, Gamma, Neutron, or X-Ray radiation exists.

Materials, of all types, located in radiation environments are vulnerable to material degradation. Positioning equipment, in such environments, can experience adverse physical effects translating into reduced product life.

Radiation can be measured in terms of absorbed dose. Absorbed dose is

the amount of energy that ionizing radiation imparts to a given mass of matter. The most commonly used unit for absorbed dose is the RAD (Radiation Absorbed Dose). REM (Roentgen Equivalent Man) and R (Roentgen) are also used.

Parker's primary design objective, in radioactive environments, is to employ material modifications and lubrication methods that reduce the physical effects of radiation damage and help promote increased product life.



# Industries

## Industries that have used Parker RAD Hardened Positioners

- Medical Diagnostics
- Electric Power Generation
- Medical Imaging
- Space Exploration
- Naval Nuclear
- Medical Treatment
- Research
- Alternate Energy





# Modifications

## How Parker Prepares Positioners

Aluminum Parts Hard-Coat Anodized	Stainless Steel Hardware
Stainless Steel Components	Evaluation of All Non-Metallic Components
Removal of Ballscrew Wipers	Custom Cages for Ballscrew and Linear Bearings
Removal of Linear Bearing Wipers	Radiation Approved Plating
Fastener Connections, No Adhesives	Evaluation of Magnet Material
Radiation Resistant Grease	Evaluation of Strip-Seals

Radiation robustness is a paramount consideration when selecting materials for use in radiation environments. Material selection plays a significant role in determining product safety and product life. The chart, to the left, reflects some of the modifications that we make to positioners for use in Radiation Environments. See 'Success' section below for application information Parker requires to ensure thorough evaluation of your radiation application.

## Success

To ensure success, our positioners are built specifically to your unique application specifications. As we partner together, we will ask you to provide radiation environment details and overall application perimeters.

We will then request the radiation type, your expected radiation dose and the required life of the product. We will also ask for performance and precision requirements of your application.  
Parker's Application Engineering

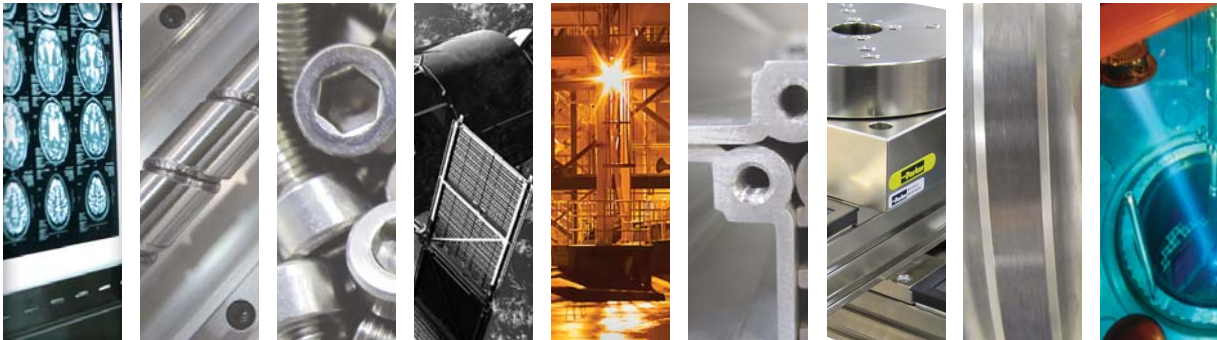
Team will perform sizing on the application the evaluate the cumulative effects of the specific radiation environment on the material used in our stages.

After thorough analysis of the environmental effects and application specifics, the Parker Team will present a comprehensive solution that will satisfy the needs of your radiation application. Call now to discuss your Radiation application requirements with our Engineering team at **800-245-6903**.





[www.parkermotion.com](http://www.parkermotion.com)



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