



# Foreign Object Removal System (FORS)

- Retrieval tool with integrated rad-tolerant camera
- High image quality
- Integrated LED lighting
- Easy deployment and operation
- Up to 22 lbs. carrying capacity
- Various grippers to accommodate differently shaped foreign objects

## FOSAR Solution

Diakont's radiation-tolerant Foreign Object Removal System (FORS) provides the ideal solution for your nuclear power plant's Foreign Object Search and Retrieval (FOSAR) needs.

Diakont's FORS complements your station's FME program within reactor cavities and spent fuel pools by providing reliable tooling for identifying and retrieving foreign material that, left within reactor components, can cause catastrophic damage to system integrity and plant safety. Designed with a compact chassis, this system is ideal for difficult-to-access locations such as fuel top and bottom nozzles, near the core plate, refueling cavities, the BWR annulus, and more.

Featuring an integrated Diakont's D40 camera, Diakont's FORS utilizes various gripper head attachments to scan, locate, and remove foreign material.

The FORS is available with either a cable or a pole to support various extraction scenarios. The pole deployment option provides increased stability for difficult applications.

## Flexible Gripper Design

Diakont's FORS employs a modular design that accommodates various gripper types, supporting the operator's ability to select the most efficient configuration for extracting specific foreign objects based on their shape. Interchangeable gripper types include a front gripper, bucket gripper, reverse gripper, and a parallel plane gripper. The tool also utilizes an electric gripping mechanism that is equipped with safety springs, preventing the grippers from unclenching even in the event of a power loss scenario.



Foreign Object Removal System

## Specifications

|                              |                         |
|------------------------------|-------------------------|
| Dimensions                   | Ø 4.2" x 22.6"          |
| Carrying capacity of hook    | 22 lbs                  |
| Carrying capacity of gripper | 2.2 lbs                 |
| Weight (in water)            | 1.1 lbs                 |
| Weight (in air)              | 13.2 lbs                |
| Operating environment        | Air, water              |
| Protection degree            | IP68                    |
| Cumulative Dose              | 2*10 <sup>8</sup> Rads  |
| Maximum Dose Rate            | 10 <sup>6</sup> Rads/hr |
| Operational temp (in water)  | +10°C to +65°C          |
| Image sensor                 | Diakont Chalconic 2/3"  |
| Image                        | Black & white           |
| Resolution                   | +600 H-TVL              |
| Sensitivity                  | 32 lux                  |
| Signal/noise ratio           | 46 db                   |
| Zoom                         | 2x (analog)             |
| View angle (air/water)       | 82° / 56°               |
| Iris                         | 2.8 – 16                |
| Focus                        | 2" – ∞                  |
| Housing material             | Stainless steel         |

## USA

Diakont Advanced Technologies  
3853 Calle Fortunada  
San Diego, CA 92123 USA  
+1-858-551-5551 phone  
sales@diakont.us.com