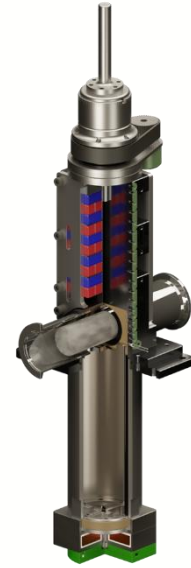


FAST SHUTTER

ULTRA-FAST ELECTROMAGNETIC SHUTTER SYSTEM

- ✓ **CLOSING A 40 MM APERTURE IN JUST 2 MILLISECONDS**
- ✓ **RELIABLE**
- ✓ **ULTRA-HIGH VACUUM COMPATIBLE**
- ✓ **RADIATION-TOLERANT**
- ✓ **MAINTENANCE-FREE**

THE FAST SHUTTER IS AN ULTRA-FAST, EDDY-CURRENT-DRIVEN ACTUATOR DESIGNED FOR ENVIRONMENTS WHERE MILLISECONDS MATTER. DEVELOPED ORIGINALLY FOR THE ITER DISRUPTION MITIGATION SYSTEM, IT DELIVERS UNMATCHED SPEED AND RELIABILITY IN HIGH-RADIATION, HIGH-MAGNETIC-FIELD ENVIRONMENTS.



KEY BENEFITS

- **Instant Response:** Closes a 40 mm orifice in **2 ms** after trigger.
- **Long Lifetime:** More than **10,000 maintenance-free cycles** ensured.
- **High Precision:** No performance degradation over **1000+ cycles** in strong magnetic fields.
- **Extreme Robustness:** Fully functional under high static magnetic fields with **practically zero sensitivity**.
- **Vacuum-Ready:** Leakage rate of **~20 mbar·L/s**, sufficient for short-term gas retention.
- **Radiation-Ready:** Magnet lifetime **2–5 years** in neutron environments.
- **Wear-Free Motion:** Full-Al moving component operates **without impact**, ensuring no mechanical degradation.
- **Accurate Positioning:** Radiation-hard rotary feedthrough for home position, inductive sensor for end-position detection.

DESIGNED FOR HARSH ENVIRONMENTS

- **High neutron flux**
- **High static magnetic fields**
- **Vacuum conditions (UHV compatible)**
- **High-speed pulsed operation**

WHERE IT EXCELS

- **Fusion systems (ITER / DEMO)**
- **Ultra-high vacuum systems**
- **High-energy and laser physics**
- **Ultrafast gas and beam isolation**
- **Industrial safety shutters**

FAST SHUTTER — WHEN MILLISECONDS MATTER, RELIABILITY DECIDES.