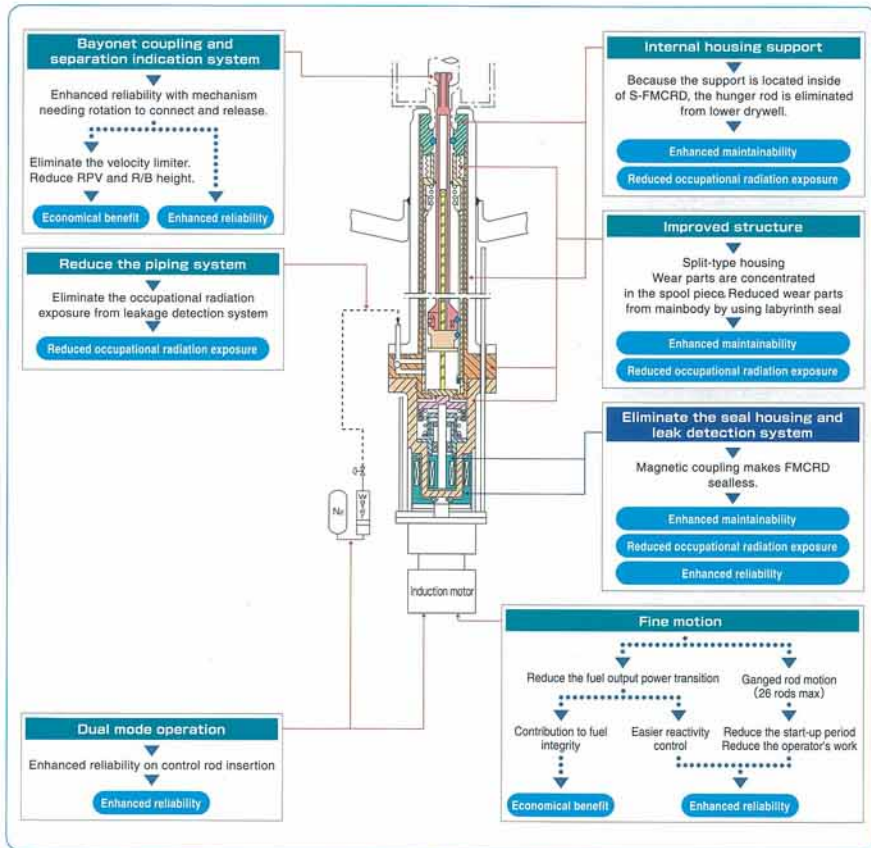


S-FMCRD supplies enhanced reliability and enhanced maintainability

There always exists requirements in reliability and maintainability with the increase of the commercial plants and the increase of electrical power per one unit. Control rod drive, which is connected with the control rod, controls the reactivity, and that is the one of the important device in consideration of plant safety. The Sealless Fine Motion Control Rod Drive (S-FMCRD) provides fine rod motion by the electric motor for the normal operation and hydraulic pressure for scram insertion, and this redundancy of power supply is the same feature of conventional FMCRD. Additionally, S-FMCRD has the excellent performance with the magnetic coupling. S-FMCRD supplies enhanced reliability, maintainability and economical benefit.



■ The common features of S-FMCRD and conventional FMCRD ■ The features of S-FMCRD

Sealless Type Sealless Type Sealless Type

Features and benefits

1. Enhanced reliability

- S-FMCRD equips high reliability in control rod insertion with using hydraulic pressure for scram insertion and electric fine rod motion by the electric motor for the normal operation and scram follow-up.
- To connect or to release the control rod, the bayonet coupling needs S-FMCRD to be rotated after removing mounting bolts for installation S-FMCRD to CRD housing.
- Enhanced reliability and enhanced maintainability are accomplished by eliminating the seal shaft penetration.

2. Enhanced operability

- Both automatic operation and ganged rod motion, 26 S-FMCRDs at maximum, shorten the startup time and reduce the operators work.
- The fine motion (36.6mm/step) by the induction motor provides fine reactivity control ability, and this ability provides enhanced operability and fine load following performance.

3. Enhanced maintainability and reduced occupational radiation exposure

- The no contact type labyrinth seal eliminates the wear parts from S-FMCRD main body of upper part. The split type housing that is designed to make maintenance parts gather in spool piece provides reduced occupational radiation exposure and easy maintenance.
- The support function is located inside of the S-FMCRD. This design eliminates the hunger rod, and provides improved maintainability in lower drywell. So it makes occupational radiation exposure be reduced.
- Both scram discharge system and leakage detection system are eliminated. These make occupational radiation exposure reduction through reduction of maintenance work.

- The features of S-FMCRD

