

Enhanced maintainability and occupational radiation exposure reduction

Maintainability

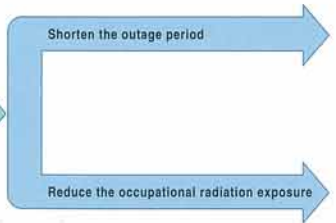
The design of S-FMCRD is considered well in maintainability. Basically, S-FMCRD upper part does not need maintenance. Because maintenance interval of spool piece and of motor unit are longer than that of locking piston CRD, the number of them in one outage is less than locking piston CRD. Additionally, automatic maintenance tools of S-FMCRD can handle them in the drywell.

Split type housing

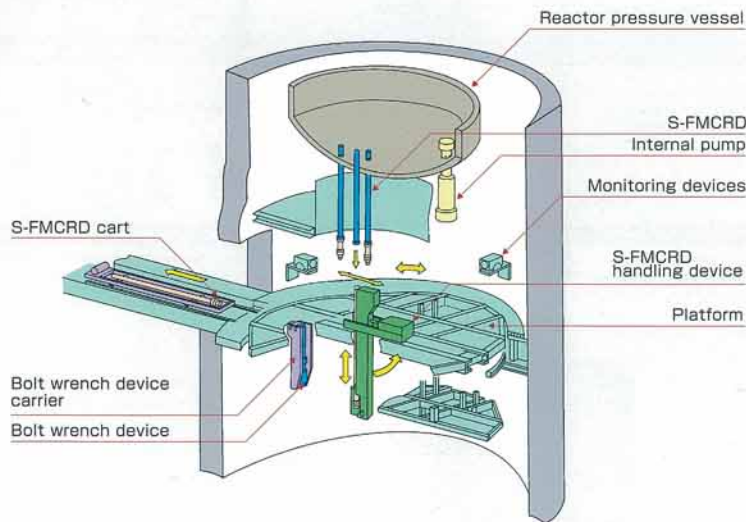
- Wear parts (O-ring) are concentrated in the spool piece
 - Maintenance spool piece only
- S-FMCRD upper part is maintenance free
 - No contact seal (labyrinth seal)
 - Expansion of maintenance interval

Simplify the arrangement of lower drywell

- Internal housing support (eliminate the hunger rod)
- Hydraulic piping and electrical cables are located in upper side



Schematic diagram of S-FMCRD handling equipment



Sealless Type

Procedure of installation and removal of S-FMCRD

(the necessary time: Toshiba measured time)

No.	1	2	3	4
S-FMCRD status				
Stage	Installed	Removal of motor unit	Removal of spool piece	Removal of upper part
The necessary time	Spool piece Motor unit	For removal : 145 min For installation : 160 min	For removal : 225 min	For installation : 250 min

