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C3Or4C-06: Current status of main distribution box for Korean heavy ion accelerator, RAON

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A main distribution box is a large cryogenic valve box which connects two cryoplants with two superconducting linear accelerators (LINACs) of Korean heavy ion accelerator. A major role of the main distribution box is transferring cryogenic helium from the cryoplants to LINACs and controlling flow rate of the helium. It can take other several roles when it encounters special situations. It has total 44 cryogenic valves to manage the helium. DN10 to DN250 valves are applied according to sizes of the cryogenic lines in the main distribution box. Designed heat loads of the main distribution box are 440 W for thermal shield, 24 W for 4.5 K lines and 43 W for 2 K line. At present, the main distribution box keeps its cold status and is operated well although it needs some improvements. The improvements will be gradually carried out when our cryogenic system will be warmed up. Some occurred issues, our solutions and current status of the main distribution box are shared in this paper.

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