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C2Po2C-01 [09]: Cryogenics Performance of the Vertical Cryostat for testing ESS-SRF high Beta cavities

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A dedicated vertical cryostat has been developed and commissioned at STFC Daresbury Laboratory for qualifying 84 high-beta SRF cavities for the ESS (European Spallation Source). The cryostat is designed to test 3 dressed cavities in horizontal configuration in one cool-down run at 2K. The cavities are cooled with superfluid liquid helium filled into their individual helium jackets. This reduces the liquid helium consumption by more than 70% in comparison with the conventional facilities operational elsewhere. The paper describes the cryogenic system and its performance with detail discussions on the initial results.

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