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C2Or1B-05: Load Map of Sumitomo 415DP Cryocooler in the Temperature Range of 40-400K

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In the last 20 years, 2-stage cryocoolers have been found to provide an optimum solution for a wide range of applications like low temperature physics, superconducting cold electronics, cryopumping and superconducting magnets. For a proper design of helium cryostats with significant cold masses connected to the first and second stages of cryocoolers, it is important to have a load map (also called “working field”) in order to estimate cool-down and warm-up time periods. Such load maps are either not presented in the open literature sources for “high” temperature ranges, or just given by manufacturing companies for general information but without any guarantee. In the present paper, the load map of a 2-stage Sumitomo 415DP cryocooler in the wide temperature range of 40-400 K is presented.

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