

Developments towards the cryogenic helium infrastructure for ET

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Cryogenic operation of ET-LF is imperative for exploiting the full scientific potential of ET, with test masses operated at temperatures of 10 K to 20 K in order to suppress the suspension thermal noise to the level of Newtonian noise. Moreover, large cryopumps are required to uphold sufficient vacuum quality in both ET-LF and ET-HF.

A concept for a helium-based cryogenic infrastructure capable of providing cooling power to all respective consumers in ET has been presented and published.

With this contribution, we provide an update on the infrastructure development, outlining estimations of basic operation parameters (cooling power, power input) as well as estimated dimensions of main components.

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