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## Upgrade of EDIPO for HTS cable test

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The main magnet of the European DIPOle (EDIPO) test facility hosted by CRPP was successfully commissioned in 2013 and is expected to become available to users in 2014. The EDIPO facility allows the test of high current superconductors in a background field of up to 12.5 T and sample currents up to 100 kA supplied by a NbTi transformer. Presently the EDIPO facility is upgraded for the test of high current HTS conductor samples. For HTS conductor testing at temperatures between 20 and 50 K, the heat flux between the HTS sample under test and the NbTi transformer needs to be limited to around 10 W per conductor by means of an HTS adapter connecting them. In each of the two HTS adapters the current is carried by 75 RE-123 coated conductors of 12 mm width with a critical current above 300 A at 77 K and  $B = 0$ . The expected current carrying capacity of the HTS adapters is around 100 kA at 40 K. The second required update is the supply of intermediate temperature helium (20-50 K) to the HTS test conductor. It is mandatory that the helium gas coming from the HTS conductor under test can be returned to the cryoplant as cold gas ( $T < 20$  K). To reach this goal a tube-in-tube heat exchanger has been manufactured in which 4.5 K helium coming from the cryoplant is in counter flow with the warm gas leaving the HTS test conductor.

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