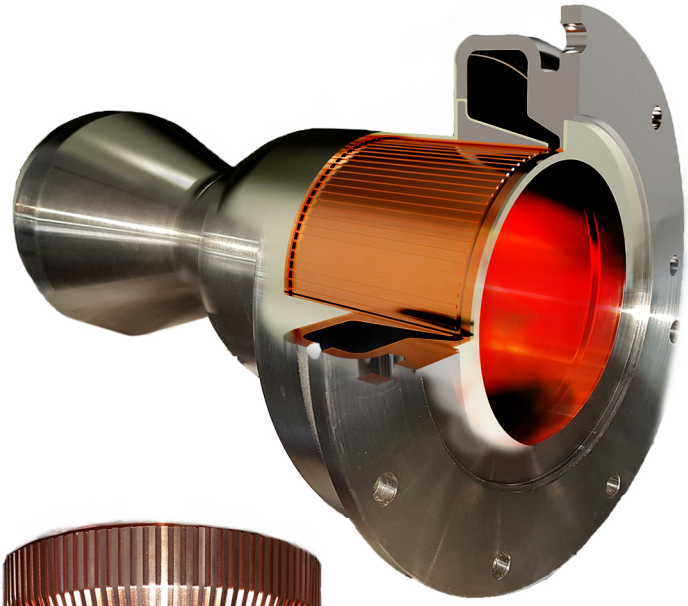
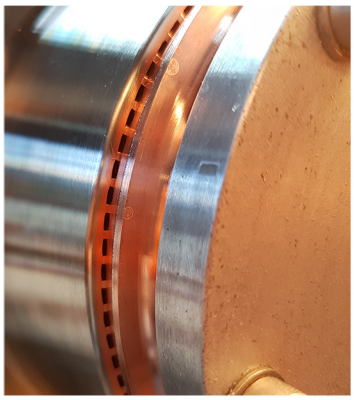
LOX-LCH4 REGENERATIVE THRUST CHAMBER

CECOM proposed to combine the technologies of galvanic copper and nichel deposition for carrying out a regenerative thrust chamber completely brazing and welding free. The use of copper deposition as a cold method to cover the channels allows to reduce the overall weight of the engine significantly. This prototype, manged by CIRA and financed by Italian MIUR by means of the “Hyprob” project, has been succesfully carried out and tested at 200 bar of pressure.





96 channels up to 0.87 mm wide run along the walls of the combustion chamber and allow for liquid methane heating, at 150 bar of pressure. The results of the pressure test are really encouraging, and a new prototype will be fire-tested soon in 2019.

We would be pleased to contribute to the engineering efforts with our knowledge in order to provide a similar reliable solution accordingly to your needs.

Features

- Brazing free
- Thermal stresses-free manufacturing
- No enbrittlement, no solid-state diffusion
- Reduced production cost and lead time
- Reliability and repeatability
- Pressure tested at 200 bar
- Reduction of weight from 40 to 18 kg
- First European prototype

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