High Efficiency Low-Cost Low-Noise & ZerO GWP free piston Stirling Heat pump

Publieke samenvatting / Public summary

Aanleiding

There is a need to develop a heat pump that uses clean working fluids, compact, affordable, and has better efficiency than state-of-the-art to provide heat, cold and warm tap water in a household.

Doelstelling

Increase the COP of the heatpump, zero GWP working fluid and mass production plan.

Korte omschrijving

The main activities in this project are related to increase the Test Readiness Level from 2-4 and Business Readiness Level from 2-4. A detailed numerical calculations will be performed to improve the heat exchangers. Following this a detailed design of the heat pump will be made and manufactured. The heat pump will be tested to supply cold and heat in lab conditions. Furthermore, system studies will be performed and a bill of materials, mass production plan and heat sources feasibility will be drafted. The last activity is to connect the heat pump to an external heat source unit to test at relevant conditions.

Resultaat

The validation of a compact, all weather heat pump for heating, cooling and tap water needs of a dwelling powered by dutch knowledge and technology.

Projectinformatie / Project information

Projectnummer / Project number
TKITOE2021401
Subsidiebedrag / Grant amount
€ 373.200,00

Algemene informatie / General information

Penvoerder / Secretariat
UT

Publicaties en materialen / Publications and attachments

- **19.03.2025**

  Eindrapportage TKITOE2021401

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