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WP2 - Deliverable D2.2 –report 2-Phase Cooling and AM Heat Exchanger Requirements



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Change History

Version	Date	Changes	Done by	Approved by
V1	06.04.2023	First Version	Henk Jan van Gerner	Tim Luten
V2	12.04.2023	Chapter added with requirement for 1928 kW cooling system for a pod	Henk Jan van Gerner	Tim Luten
V3	28.04.2023	Comments from reviewers processed	Henk Jan van Gerner	Tim Luten



List of Acronyms and Abbreviations

Abbr.	Description
2-PC	Two-phase cooling
AM	Additive Manufacturing
FC	Fuel Cell
HX	Heat exchanger(s)
PGS	Power Generation System
TMS	Thermal Management System
PPS	Propulsion System



1. Executive Public Summary

In BRAVA deliverable report D2.1 “Power Generation System Architecture and Requirements”, the requirements for the Power Generation System were defined. In this document, these requirements are used to specify the requirements for the 3 different systems of the Thermal Management System (TMS) that are developed in WP3:

- Requirements for small-scale two-phase cooling system for fuel cell stack
- Requirements for full-scale two-phase cooling demonstrator
- Requirements for additive manufacturing heat exchanger

For each requirement, the means of validation (test or analysis) is indicated.

Besides these different systems that are built in WP3, a 1928 kW cooling system for a pod will be simulated and analyzed. The requirements for this system are also included in this report.



8. Acknowledgements

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Project partners:

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2	A-E	AIRBUS OPERATIONS SL
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4	CNRS	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE
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