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WP2 - Deliverable D2.4 – Report Requirements for air supply system

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Change History

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V1	25.04.2023	First Version	Guillaume Albouze	William Resende

List of Acronyms and Abbreviations

Abbr.	Description	Abbr.	Description
2-PC	Two-phase cooling	MTC	Motorized turbo-compressor(s)
A/C	Aircraft	OCV	Open circuit voltage
AM	Additive Manufacturing	OEM	Original Equipment Manufacturer
BoP	Balance of Plant	PGS	Power Generation System
CA	Consortium agreement	POD	PGS Unit
CFD	Computational fluid dynamics	PPS	Propulsion Power System
CL	Catalyst layer(s)	PEM	Proton exchange membranes
DCE	Dissemination, Communication and Exploitation	PEMFC	Proton Exchange Membrane Fuel Cell
DMU	Digital mock-up	PM	Particulate matter
EASA	European Union Aviation Safety Agency	RAC	Ram Air Channel(s)
FC	Fuel Cell	RH	Relative humidity
FL250	Flight level 250 (= 25,000 ft)	SAF	Synthetic aviation fuel
HX	Heat exchanger(s)	SLM	Supporting layer manufacturing
IP	Intellectual property	SoA	State of the Art
IPN	Interpenetrating polymer networks	TMS	Thermal Management System
IPR	Intellectual property rights	TEFO	Total Engine Flame Out
ISA-35	International Standard Atmosphere	TO	Take-Off
KPI	Key Performance Indicator	ToC	Top of Climb
KSO	Key Strategic Orientations	TOGA	Take-Off and Go-Around
L2	Liquified hydrogen	TRL	Technology Readiness Level
MEA	Membrane Electrode Assembly	ZEROe	Airbus initiative towards zero emission aircraft
MCU	Motor control unit		
MC	Motorized Compressor		
TC	Turbo Compressor		



1. Executive Public Summary

- Following product level and sub-systems requirements definition, and an architecture trade-off, this deliverable defines the Air Supply Product architecture and a first step of Air Supply Product requirements.
- A two Motorized Turbo Compressor architecture has been chosen to enable the power generation system as defined in the D2.1 deliverable (Power Generation System Requirements)
- This document contains a further breakdown and cascade of requirements to each component belonging to the air supply system to enable the technology development in WP5 (Air Supply)

7. Acknowledgments

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