PD CEN/CLC/TR 17603-31-13:2021

BSI Standards Publication

Space Engineering — Thermal design handbook

Part 13: Fluid Loops

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ACE/68, Space systems and operations.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2021

ISBN 978 0 539 16987 4

ICS 49.140

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 August 2021.

Amendments/corrigenda issued since publication

Date	Text affected

TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

CEN/CLC/TR 17603-31-13

August 2021

ICS 49.140

English version

Space Engineering - Thermal design handbook - Part 13: Fluid Loops

Ingénierie spatiale - Manuel de conception thermique - Partie 13 : Boucles fluides

Raumfahrttechnik - Handbuch für thermisches Design - Teil 13: Flüssigkeitskreisläufe

This Technical Report was approved by CEN on 28 June 2021. It has been drawn up by the Technical Committee CEN/CLC/JTC 5.

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Ref. No. CEN/CLC/TR 17603-31-13:2021 E

Table of contents

Figures

Tables

European Foreword

This document (CEN/CLC/TR 17603-31-13:2021) has been prepared by Technical Committee CEN/CLC/JTC 5 “Space”, the secretariat of which is held by DIN.

It is highlighted that this technical report does not contain any requirement but only collection of data or descriptions and guidelines about how to organize and perform the work in support of EN 16603-31.

This Technical report (TR 17603-31-13:2021) originates from ECSS-E-HB-31-01 Part 13A .

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This document has been developed to cover specifically space systems and has therefore precedence over any TR covering the same scope but with a wider domain of applicability (e.g.: aerospace).

1 Scope

Fluid loops are used to control the temperature of sensitive components in spacecraft systems in order to ensure that they can function correctly.

While there are several methods for thermal control (such as passive thermal insulations, thermoelectric devices, phase change materials, heat pipes and short-term discharge systems), fluid loops have a specific application area.

This Part 13 provides a detailed description of fluid loop systems for use in spacecraft.

The Thermal design handbook is published in 16 Parts

TR 17603-31-01	Thermal design handbook – Part 1: View factors
TR 17603-31-02	Thermal design handbook – Part 2: Holes, Grooves and Cavities
TR 17603-31-03	Thermal design handbook – Part 3: Spacecraft Surface Temperature
TR 17603-31-04	Thermal design handbook – Part 4: Conductive Heat Transfer
TR 17603-31-05	Thermal design handbook – Part 5: Structural Materials: Metallic and Composite
TR 17603-31-06	Thermal design handbook – Part 6: Thermal Control Surfaces
TR 17603-31-07	Thermal design handbook – Part 7: Insulations
TR 17603-31-08	Thermal design handbook – Part 8: Heat Pipes
TR 17603-31-09	Thermal design handbook – Part 9: Radiators
TR 17603-31-10	Thermal design handbook – Part 10: Phase – Change Capacitors
TR 17603-31-11	Thermal design handbook – Part 11: Electrical Heating
TR 17603-31-12	Thermal design handbook – Part 12: Louvers
TR 17603-31-13	Thermal design handbook – Part 13: Fluid Loops
TR 17603-31-14	Thermal design handbook – Part 14: Cryogenic Cooling
TR 17603-31-15	Thermal design handbook – Part 15: Existing Satellites
TR 17603-31-16	Thermal design handbook – Part 16: Thermal Protection System