

JAPANESE INDUSTRIAL STANDARD

Translated and Published by Japanese Standards Association

 $JIS\ T\ 1704^{\,:\,2023}$

(MTJAPAN/JSA)

Heat exchanger for heart-lung bypass

ICS 11.040.40

Reference number: JIS T 1704: 2023 (E)

T 1704: 2023

Date of Establishment: 2008-08-25

Date of Revision: 2023-06-01

Date of Public Notice in Official Gazette: 2023-06-01

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Medical Equipment

JIS T 1704: 2023, First English edition published in 2024-10

Translated and published by: Japanese Standards Association Mita Avanti, 3-11-28, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents, the original JIS is to be the final authority.

© JSA 2024

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan HN

Contents

]	Page
Intro	duction ·····	· 1
1	Scope ····	· 1
2	Normative references · · · · · · · · · · · · · · · · · · ·	· 1
3	Terms and definitions ·····	$\cdot 2$
4 4.1 4.2 4.3	Requirements Biological characteristics Physical characteristics Performance characteristics	· 4 · 4
5 5.1 5.2 5.3 5.4	Tests and measurements to determine compliance with this Standard General Biological characteristics Physical characteristics Performance characteristics	· 5 · 5 · 5
6 6.1 6.2 6.3 6.4	Information supplied by the manufacturer Information on the heat exchanger Information on the packaging Information in the accompanying documents Information in the accompanying documents in a prominent form	·8 ·8 ·9
7 7.1 7.2	Packaging Unit container Shipping container	10
Anne	x A (informative) Examples of connectors, gauges and reference steel fittings	13
Anne	x JA (informative) Comparison table between JIS and corresponding International Standard	21

Foreword

This Japanese Industrial Standard has been revised by the Minister of Health, Labour and Welfare through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Medical Technology Association of Japan (MTJAPAN)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (JIS T 1704: 2008), which has been technically revised.

This **JIS** document is protected by the Copyright Act.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, published patent application or utility model rights.

Heat exchanger for heart-lung bypass

JIS T 1704: 2023

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 7199**: 2016, Edition 3, and its Amendment 1: 2020 with some modifications of the technical contents to reflect the local conditions in Japan. The amendment to the said International Standard has been incorporated into this Standard.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies requirements for sterile, single-use, extracorporeal (i.e. for heart-lung bypass) heat exchangers intended for heat exchange of blood <u>or myocardial protection fluid</u> (hereafter referred to as heat exchangers). This Standard does not apply to

- implanted oxygenators (vascular intima oxygenators),
- extracorporeal blood-gas exchangers (oxygenators),
- liquid oxygenators,
- extracorporeal circuits (blood tubing), and
- separate ancillary devices.

NOTE The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 7199: 2016 Cardiovascular implants and artificial organs — Blood-gas exchangers (oxygenators)+Amendment 1: 2020 (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

The previous edition of this Standard, JIS T 1704: 2008, remains valid for three years from the date of public notice of the revision of this Standard.

2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS T 0993-1 Biological evaluation of medical devices — Part 1: Evaluation and testing within a risk management process