Certificate No: LR26223822TA
Issue Date: 19/05/2026
Expiry Date: 18/05/2031

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	**KSB SAS**
Address	10 rue Rémora, Gradignan, 33170, France
Place of Production	KSB SAS Zone industrielle de Gagnaire Fonsèche, La Roche-Chalais, 24490, France
Type	Butterfly Valves
Description	Cryogenic Butterfly Valves TYPE Danais CRYO (Danais TBT II) Flanged and butt welded
Trade Name	Danais CRYO, Flanged and butt welded
Application	Liquefied gas tanker cargo piping systems
Specified Standard	Lloyd's Register's Rules and Regulations for the Classification of Ships. Lloyd's Register's Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk. International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels. Manufacturer's specification.

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Torsten Schroeder

Engineering - Piping/ Decarbonisation - Senior Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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Ratings

Nominal sizes:
with copper gasket: 6”(butt weld top entry type)
4" to 48" (butt-weld side entry type)
3" to 56" (flanged type)
with graphite gasket: 4" to 32" BWSE and Flanged type

Pressure rating: ANSI Class 150

Temperature: -196°C to + 220°C

Material:

Body and disc: ASTM A351 GR CF8M or CF3M
Seat: Copper or 316L
Shaft: ASTM A638 GR 660, A479 XM19, 316L

Other Conditions

1. Valves are to be selected and installed in accordance with the manufacturer’s instructions and recommendations, and LR's Rules and Regulations for the Classification of Ships, Part 5, Chapter 12, Section 6.

2. When used in chemical or LPG systems it is to be verified that the materials are suitable for the intended cargoes.

3. For application in LNG-system only valve sizes with cryogenic prototype test are to be taken.

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This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: LR22498602TA, previous 02/00065 (E3)

The Design Appraisal Document TSO/25-045364, previous LR22498602TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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