



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE

Certificate No. TA22349M

This is to certify that the undernoted products have been approved in accordance with the relevant requirements of “Rules for the Survey and Construction of Steel Ships” and “Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use”.

This certificate is issued to:

Manufacturer:	Mann Teknik AB
Product description	Dry Cryogenic Couplings, Powered Emergency Release Couplings, Cryogenic Breakaway Couplings Cable release version
Type designation(s):	As per attached sheet
Applied requirement:	• Part 6, Chapter 2, Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use
Approval No.:	15LA001B

This certificate is valid until 11 March 2025

Issued at Tokyo on 24 June 2022

See the conditions specified in the attached sheet.



(S. Oishi)
General Manager of
Machinery Department

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Attached sheet to the Certificate No. TA22349M (1/3)

Approval conditions

1. Particulars and conditions:

Dry Cryogenic Coupling (DCC)

Nominal Diameter (inch)	Design pressure (barg)	Design temperature (°C)	DWG. No.
2 DIN Flange	25	-200~65	1022, 1036, 1037, 3355, 3356, 3458, 3459,3461, 3462, 3464, 3465, 3466, 3467, 3468, 3469, 3470, 3471, 3614,LC211A44, LC211A44_1, MC211A44, MC211A44_1,
2 ANSI Flange			3921, 3922, 4954 khk, LC257A44, LC257A44-1, MC257A44, MC257A44-1
2 ^{1/2}			1054, 1176, 1177, 3474, 3475, 3478,3480, 3481, 3482, 3483, 3484, 3485,3486, 3487, 3488, 3672, 1164-4B, LC333A44-1, MC313A44, MC313A44_1
3			3763, 3764, 3769, 3770, 3771, 3773, LC415A44_1, MC415A44_1
4 DIN Flange			3491, 3492, 3495, 3496, 3497, 3498, 3499, 3500, 3501, 3502, 3503, 3504, 3505, 3530,3615, LC539A44,LC539A44_1, MC517A44, MC517A44_1
4 ANSI Flange			4099,4689,5840,5841,5842,5854,LC5xxxA44,LC563A44 Component list, MC5xxC44, MC563C44 Component list
6			3508, 3509, 3513, 3514, 3515, 3516, 3517, 3518, 3519, 3520, 3521, 3613, LC645A44, LC645A44-1, MC645A44, MC645A44-1
8	16	-196~+55	4828, 6418, 6516, 6518, 6519, 6520, MC8xxxC44, MC8105C44, MC8105C44-1, MC8105C44 component list, LC8_SMST, LC8105A44-1,LC8105A44 component list

Dry Cryogenic Coupling (DCC)-ISO21593 interface

Nominal Diameter (inch)	Design pressure (barg)	Design temperature (°C)	DWG. No.
1	25	-196~85	6652, 6653, 6657, 6658, 6659, 6672, LCI1xxA4, LCI151A4 Component list, MCI1xxA4, MCI51A4 Component list
2			6523, 6525, 6532, 6533, 6534, 6550, LCI2xxA4, LCI257A4 Component list, MCI2xxA4, MCI257A4 Component list
2 ^{1/2}			5445, 6479, 6480, 6753, 6754, 6765, 6766, 6778, LCI3xxA4, LCI359A4 Component list, MCI3xxA4, MCI359A4 Component list

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Nominal Diameter (inch)	Design pressure (barg)	Design temperature (°C)	DWG. No.
3	25	-196~85	5949, 6479, 6480, 6481, 6482, 6487, LCI4xxA4, LCI461A4 Component list, MCI4xxA4, MCI461A4 Component list
4			6705, 6706, 6720, 6721, 6723, 6731, LCI5xxA4, LCI563A4 Component list, MCI5xxA4, MCI563A4 Component list
6			6257, 6411, 6436, 6437, 6439, 6913, LCI6xxxA4, LCI6100A4 Component list, MCI6xxxA4, MCI6100A4 Component list, MCI6100A4-1
8			6457, 6458, 6459, 6471, 6567, 6915, LCI8xxxA4, LCI8105A4 Component list, LCI8105A4-1, MCI8xxxA4, MCI8105A4 Component list, MCI8105A4-1

Powered Emergency Release Couplings (PERC)

Nominal Diameter (inch)	Max. working pressure (barg)	Design temperature (°C)	DWG. No.
2 ^{1/2}	25	-196~+85	7261, 7262, 7263, NCP359E44 component list, NCP359E44, NCP359E44-1
3			3734, 3978, 3979, NCP461D44 component list, NCP461D44-1
4			7215, 7216, 7217, NCP563E44 Component list, NCP563E44, NCP563E44-1,
6			7193, 7194, 7195, NCP6100E44 Component list, NCP6100E44, NCP6100E44-1
8			7133, 7134, 7135, NCP8105E44 Component list, NCP8105E44, NCP8105E44-1

Cryogenic Breakaway Couplings Cable release version (CBC-C)

Nominal Diameter (inch)	Max. working pressure (barg)	Design temperature (°C)	DWG. No.
2	25	-196~+85	3415, 3863, 6272, OC257D44 Component list, OC257D44-1
6			7195, 7235, 7236, OC6100E44 component list, OC6100E44, OC6100E44-1

- Details of material and construction are to be in accordance with the above manufacturer's drawings approved on 12 March 2015, 7 April 2015, 22 April 2016, 24 June 2022.

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Attached sheet to the Certificate No. TA22349M (3/3)

3. Production test is to be carried out for each product in accordance with the relevant requirements of British Standard (BS) EN 16904: 2016 in the presence of the Society's Surveyor.

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