



# CHINA CLASSIFICATION SOCIETY

## Plan Approval Comments

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Approval No.:NP16A03667

**Attn to :** Mann Teknik AB

**Copy to:** CCS Gothenburg Office

**This is to certify that** the drawings and documents submitted by your kind company have been reviewed and are found to comply with the relevant CCS requirements in item No.3. This approval covers only applicable CCS requirements to the products. Please see comments in item No.4 if any.

### 1. Product particulars:

1.1 Product name: Dry Cryogenic Couplings

Type:

Tank unit: LC1xxA44, LC2xxA44, LC3xxA44, LC4xxA44, LC5xxA44, LC6xxA44;

Hose unit: MC1xxA44, MC2xxA44, MC3xxA44, MC4xxA44, MC5xxA44, MC6xxA44;

Nominal size: 1", 2", 2.5", 3", 4", 6"

Working temp.: -196 °C to +65 °C

Working pressure: PN10 to PN25

### 2. Intended for:

Marine application.

### 3. Rules and /or Standard:

3.1 CCS : Rules for LNG Bunkering Pontoons(2017), Chapter 5;

3.2 CCS: Rules for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (2016) , Chapter 5 & 6;

3.3 CCS: Rules for Classification of Sea-going Steel Ships(2015), Part 3, chapter 2.

### 4. Comments:

4.1 All couplings are to be subject to hydraulic tests in workshop. The hydraulic test pressure is to be 1.5 times the design pressure.

### 5. Remarks:

5.1 This approval is only approved according to general purpose of CCS Rules. The product should comply with the specified requirements of CCS for special purpose.

5.2 Inspection and test plan should be approved by CCS surveyor.

### 6. Attachment:

Return list for drawings/documents of products.

Examined by : Ding Wei

Approved by: Wan Xiaolei

Issued by: CCS Product Plan Approval Center

Date of issue: Mar 3, 2017

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RETURN LIST FOR DRAWINGS/DOCUMENTS OF PRODUCTS

**Product:** dry cyrogenic couplings

No.	Title	Drawings/ Documents No.	Approved	Noted	Comment
1	DCC Tank unit 1"	LC1xxA44	X		X
2	DCC Hose unit 1"	MC1xxA44	X		X
3	DCC Tank unit 2"	LC2xxA44	X		X
4	DCC Hose unit 2"	MC2xxA44	X		X
5	DCC Tank unit 2.5"	LC3xxA44	X		X
6	DCC Hose unit 2.5"	MC3xxA44	X		X
7	DCC Tank unit 3"	LC4xxA44	X		X
8	DCC Hose unit 3"	MC4xxA44	X		X
9	DCC Tank unit 4"	LC5xxA44	X		X
10	DCC Hose unit 4"	MC5xxA44	X		X
11	DCC Tank unit 6"	LC6xxA44	X		X
12	DCC Hose unit 6"	MC6xxA44	X		X
<b>Remark:</b>					

**Note :** Mark of "×" in the column of "Approved" or "Noted" indicates that the drawing or document has been approved or noted by CCS, "Comment" indicates that there is comment on the drawing or document.