Certificate No: LR25188831TA
Issue Date: 06/08/2025
Expiry Date: 05/08/2030

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	**Tianjin Tianhai High Pressure Container Co., Ltd.**
Address	No.268 Jinbin Road, Tianjin Free Trade Test Area, (Tianjin Port Free Trade Zone), Tianjin City, 300461, China
Place of Production	Tianjin Tianhai High Pressure Container Co., Ltd. No.268 Jinbin Road, Tianjin Free Trade Test Area, (Tianjin Port Free Trade Zone), Tianjin City, 300461, China
Type	Gas Cylinder
Description	Seamless Steel Gas Cylinder
Trade Name	ISO229-34CrMo-12
Application	For storage of compressed, liquefied gases (hydrogen excluded) exposed to ambient temperatures between -50˚C and +65˚C.
Specified Standard	LR Rules and Regulations for the Classification of Ships, July 2024 ISO9809-2 : 2019

Ratings

ISO229-34CrMo-12

Nominal Outside Diameter (mm):	229 (±1%)
Working Pressure (bar):	300/250/200/150/60
Hydraulic Test Pressure (bar):	450/375/300/250/90
Burst Test Pressure (bar):	≥1.6 Hydraulic Test Pressure

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Qing Dong

Engineering - Machinery - Senior Specialist to Lloyd's Register Classification Society (China) Co., Ltd.

12th Floor, Chong Hing Finance Centre, No. 288 Nanjing West Road, Shanghai, 200003, China

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Volumetric(Water) Capacity (Litre):	20~55
Length±20 (mm):	675~1640
Materials:	
Body:	34CrMo4
Material Heat Treatment:	Quenched and tempered
Shape of Base:	Concave
Manufactured Process:	Hot forming manufacturing from seamless pipe
Material Properties (MPa):	1140~1260 (tensile strength) ≥990 (yield strength)

Other Conditions

1. The batch tests, tests/examination on every cylinder are to be carried out in accordance with clause 10 and clause 11 of standard ISO 9809-2 : 2019.
2. Grade of steel used for cylinder manufacture shall be compatible with the intended gas service.
3. Each cylinder shall be permanently marked on the shoulder or on a reinforced part of the cylinder or on a permanently fixed collar or neck ring, in accordance with ISO 13769 or the relevant marking regulations of the countries of use.

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 Classification Society (China) Co., Ltd. of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR25188831TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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