Certificate No: LR21379091TA
Issue Date: 01/10/2021
Expiry Date: 30/09/2026

# 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.

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|---|---|
| **Manufacturer** | **Mt. H Control Valve Co., Ltd.** |
| **Address** | 296, Noksansaneopjung-ro, Gangseo-gu, Busan, 46754, Republic of Korea |
| **Type** | Safety Valves |
| **Description** | Pilot Operated Safety Relief Valve |
| **Trade Name** | SP32 Series |
| **Application** | Marine use for LNG,LPG, LEG |
| **Specified Standard** | Lloyd's Register(LR) Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk (July 2021) incorporating the IMO IGC Code (Resolution MSC.370 (93))<br><br>Lloyd's Register(LR) Rules and Regulations for Classification of Ships Using Gases or Other Low-Flashpoint Fuels (July 2021) incorporating the IMO IGF Code (Resolution MSC.391(95))<br><br>LR Rules and Regulations for the Classification of Ships (July 2021) |
| **Ratings** | Working relief pressure : 0.1 to 1 MPa<br>Temperature range : -196 to +80 °C<br>Flange rating (inx out) : ANSI 150LB x 150LB |

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**Yong-Dae Kong**

Senior Specialist to Lloyd's Register Asia
A member of the Lloyd's Register group

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

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| Nominal size(inch, in x out), | : 6”x 8” | 0.851 |
| Coefficient of discharge, Kd | 8”x10” | 0.870 |

**Additional Tests**

The following performance tests carried out on representative samples of each model in accordance with manufacturer’s standards referencing API standard 526 Seventh Edition2017 ”Flanged Steel Pressure Relief Valves”, API standard 527 Fourth Edition 2014 “Seat Tightness of Pressure Relief Valves”:-

1) Performance test (ambient /cryogenic)
2) Seat tightness test (ambient /cryogenic)
3) Hydraulic pressure test
4) Flow capacity tests(Coefficient of discharge, Kd values certified by Korea Research Institute of Standards and Science)

**Other Conditions**

Where the safety relief valves are intended to be installed on cargo tanks or fuel tank in ships for the carriage of liquefied gases in bulk or ships using gases or other low-flashpoint fuels, classed with LR, the following conditions are applicable:-

1) The materials used in the construction of valves are to be in accordance with Chapter 6 of the LR Rules for Ships for Liquefied Gases; and Section 7 of LR Rules for Gas-Fuelled Ships; and Part 5, Chapter 12, Section 9 of the LR Rules and Regulations for the Classification of Ships.

2) The requirements for design temperatures below -165 °C shall be specially agreed with the Flag Administration in accordance with Chapter 6, Table 6.4 of the IGC Code & Part A-1, Table 7.4 of the IGF Code.

3) The valves are to be constructed, tested and installed to the attending LR Surveyor’s satisfaction where required by the Rules.

4) In all cases the materials are to be suitable for their intended service conditions.

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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 Asia of any modification or changes to the equipment in order to obtain a valid Certificate.

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

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