Certificate No: LR2008459TA
Issue Date: 20/07/2020
Expiry Date: 19/07/2025

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	**Bray (China) Controls Co., Ltd.**
Address	No.98 Gaoxin No.6 Rd. Xiaoshan Economical and Technology Development Area, Hangzhou, Zhejiang, 311215, China
Place of Production	Bray (China) Controls Co., Ltd. No.98 Gaoxin No.6 Rd. Xiaoshan Economical and Technology Development Area, Hangzhou, Zhejiang, 311215, China
Type	Valves - General
Description	Butterfly Valves
Trade Name	Series 20, 21, 30, 30H, 31, 31H, 31U, 32, 33, 33H, 35, 36, 36H, 40, 41, 42, 43, 44, 45, 3A, 3AH, 4A and 4B
Application	The valves may be used for the following services subject to the relevant LR Rules are complied with. -For series 2X/3X: Fresh water and Sea water cooling, Lube oil, Fuel oil, Cargo oil transfer, Potable water. -For series 4X: Fresh water and Sea water cooling,Lube oil, Fuel oil, Cargo oil transfer, Potable water, fire extinguishing systems, bilge and ballast water.
Specified Standard	Rules and Regulations for the Classification of Ships, July 2020 LR Type Approval Test Specification Number 2

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De Ming Hu

Lead Specialist to Lloyd's Register
Classification Society (China) Co Ltd
A member of the Lloyd's Register group

19th Floor, 550 Yan An dong Road, Shanghai,
Huangpu District, China

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API609-2009 ASME B16.34-2013 API598-2009

Ratings

Series/Normal Size(mm)	Maximum Working Pressure (bar)
20 (DN25-DN500)	10
21 (DN25-DN500)	10
30 (DN50-DN300)	12
30 (DN350-DN500)	10
31 (DN50-DN300)	12
Series/Normal Size(mm)	Maximum Working Pressure (bar)
31 (DN350-DN500)	10
30H (DN50-DN500)	17
31H (DN50-DN500)	17
3A (DN50-DN300)	12
3A (DN350-DN500)	10
3AH (DN50-DN500)	17
31U (DN50-DN300)	20
32 (DN550-DN900)	5
33 (DN550-DN900)	10
33H (DN550-DN900)	16
35 (DN550-DN1200)	5
36 (DN550-DN1200)	10
36H (DN550-DN500)	16
40 (DN50-DN1200)	20
41 (DN50-DN1200)	20
42 (DN65-DN1200)	51
43 (DN65-DN1200)	51
44 (DN65-DN600)	102
45 (DN65-DN600)	102
4B (DN65-DN1050)	51
4A (DN50-DN1200)	20

Other Conditions

For application on a LR classed vessel, the following conditions are to be complied with:-
1. The materials used for valves are to be suitable for the medium and the service for which the piping is intended on-board. The application limitation

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and scope to cast iron valves are to be in accordance with the requirements of Rules. Part 5, Chapter 12, Section 4 refers. Valves are to be selected and installed in accordance with the manufacturer's instructions and recommendations and to the attending Surveyor's satisfaction.
2. Materials for ferrous castings of Class I, II piping systems are to be produced at a works approved by LR and are in general to be tested in accordance with the Rules for Materials.
3. Valves series 4X with seat material RPTFE/PTFE can be used in spaces where leakage of failure caused by fire could result in fire spread, flooding or the loss of an essential service.

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 No. LR2008459TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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