

## 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.

<b>Manufacturer</b>	<b>Aquestia</b>
<b>Address</b>	7400 E. 42nd Place, Tulsa, OK, 74145, United States
<b>Place of Production</b>	Aquestia Kibbutz Dorot, Mobile Post Hof Ashkelon, 7917500, Israel
<b>Place of Production</b>	Aquestia 7400 E. 42nd Place, Tulsa, OK, 74145, United States
<b>Type</b>	Valves - General
<b>Description</b>	Hydraulically operated control valves
<b>Trade Name</b>	Series 300-Models 30, 31, 32, 30U, 30UC, 30AU & 30A Series 100-Models 44, 47, 68, 77, 87
<b>Application</b>	Industrial, marine and offshore fire protection systems, in deluge and foam systems, pressure control deluge systems, remote operated monitors, pressure control and sustaining systems, sprinkler systems and pressure

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reducing hydrants

**Specified Standard** Lloyd's Register Rules and Regulations for the Classification of Ships, Jul2021, Pt.5, Ch.12 & 13  
ASME B16.34 – 2020  
ASME B16.42- 2016  
ASME B16.5 2020  
ASME B16.24-2016  
ASME B16.1-2020  
BS EN1982:2008  
UL 260 :2008  
ISO 6182-5 2006

**Ratings** refer to Appendix 1

**Other Conditions**

- 1.Model 68 (size 2,4 & 6inches) have passed fire exposure test in accordance with ISO 6182-5 2006.
- 2.This Type Approval does not cover control aspects.
- 3.The pressure/temperature ratings in the certificate are as per previous approval. However if a valve fully complies with material, dimensions and quality control of a standard, eg: ASME B16.34, 16.42 etc. then the higher pressure/temperature rating given in the standards could be considered.
- 4.Gray Cast Iron valves are not to be used where subjected to pressure shock, excessive strains or vibrations.
5. Gray Cast Iron valves are not to be used for the following locations and or applications as per below:
  - Ship-side
  - Boiler blow-down systems and in other piping systems subject to shock or vibration
  - Valves fitted on collision bulkhead
  - Bilge lines
  - Flammable oil systems where design pressure exceeds 0.7Mpa or the

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- design operating temperature is greater than 60 deg Celcius
- Valves fitted to tanks containing flammable oil under static pressure
- Valve chests and fittings for starting air systems
- Manifolds and their valves on tankers that connect to cargo-handling hoses

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

**Previous Version:** 16/20088(E1)

The Design Appraisal Document LR2238161TA-02 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

### Appendix 1

**RATINGS:**

Pressure Ratings (bar)	Service Temperature min/max (°C)
10	0/80
12	0/80
16	0/80
25	0/80

Valve Body Material	Applicable Design Standards
Ductile Iron	ASME B16.42-2016
Bronze	ASME B16.34-2020 & ASME B16.24-2016
Cast Steel	ASME B16.34-2020 & ASME B16.5-2020
Ni-Al-Bronze	ASME B16.34-2020, ASME B16.24-2016 & ASME B16.5-2020
Stainless Steel	ASME B16.34-2020 & ASME B16.5-2020
Cast Iron	ASTM A126 Class B & ASME B16.1-2020
Aluminum	ASME II.B-2019; SB-26
Brass	BS EN 1982:2008



Series 100		
Model	Nominal Diameter (inch)	Valve Body Material
44	1	Ductile Iron
		Bronze
44	1.5	Ductile Iron
		Bronze
44	2	Ductile Iron
		Bronze
44 (threaded & flanged)	2.5	Cast Iron
		Ductile Iron
		Cast Steel
		Stainless Steel
		Aluminum
		Ni-Al-Bronze
		Bronze
		Brass
47	3	Cast Iron
		Ductile Iron
		Cast Steel
		Stainless Steel
		Aluminum
		Ni-Al-Bronze
		Bronze
		Brass
47, 77, 87	2	Ductile Iron
		Bronze
		Cast Steel
		Ni-Al-Bronze
77, 87	3	Ductile Iron
		Bronze
		Cast Steel
		Ni-Al-Bronze
		Stainless Steel
47, 77, 87	4	Ductile Iron
		Bronze

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		Cast Steel
		Ni-Al-Bronze
		Stainless Steel
47, 77, 87	6	Ductile Iron
		Stainless Steel
47, 77, 87	8	Ductile Iron
47, 77, 87	10	
47, 77, 87	12	
47, 77, 87	14	
47, 77, 87	16	
47, 77, 87	20	
47, 77, 87	24	



Series 100		
Model	Nominal Diameter (inch)	Valve Body Material
68	2	Ductile Iron
		Cast Steel
		Ni-Al-Bronze
		Stainless Steel
68	3	Ductile Iron
		Cast Steel
		Ni-Al-Bronze
		Stainless Steel
68	4	Ductile Iron
		Cast Steel
		Ni-Al-Bronze
68	6	Ductile Iron
		Cast Steel
		Ni-Al-Bronze
		Stainless Steel
68	8	Ductile Iron
		Cast Steel
		Ni-Al-Bronze
68	10	Ductile Iron
		Cast Steel
		Ni-Al-Bronze

SERIES 300		
Model	Nominal Diameter (inch)	Valve Body Material
30, 31, 32, 30U, 30CU	2	Ductile Iron
		Ni-Al-Bronze
		Stainless Steel
30, 31, 32, 30U, 30CU	3	Ductile Iron
		Stainless Steel
30, 31, 32, 30U, 30CU	4	Ductile Iron
		Ni-Al-Bronze
		Stainless Steel
30, 31, 32, 30U, 30CU	6	Ductile Iron
		Cast Steel
30, 31, 32, 30U, 30CU	8	Ductile Iron
30, 31, 32, 30U, 30CU	10	
30, 31, 32, 30U, 30CU	12	
30, 31, 32, 30U, 30CU	16	Ductile Iron
		Cast Steel
30, 31, 32, 30U, 30CU	20	Ductile Iron
		Cast Steel
30, 31, 32, 30U, 30CU	24	Ductile Iron
30A, 30AU	2	Ductile Iron
	3	
	4	
	6	
	8	
	10	
30A, 30AU	6	Cast Steel
	8	
30A,30AU	6"	Stainless Steel
30A,30AU	8"	
30A,30AU	6"	Bronze
30A,30AU	8"	
30A,30AU	6"	Ni-Al-Bronze
		Ni-Al-Bronze
30A,30AU	8"	