Certificate number: 23673/D0 BV
File number: ACM 145/2549/01
Product code: 2203I

This certificate is not valid when presented without the full attached schedule composed of 7 sections. Full certificate is to be requested to the manufacturer

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

AUTEXIER

CHAUNY - FRANCE

for the type of product

GATE VALVES

Gate Valves Type: 89, 90, 91, 191, 591, AU591, AU593 & AU594

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships
Bureau Veritas Rules for the Classification of Offshore Units
Bureau Veritas Rules for the Classification of Naval ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 15 Sep 2031

For Bureau Veritas Marine & Offshore,
At BV VALENCIENNES, on 15 Sep 2026,
Philippe Calbet

This certificate was created electronically and is valid without signature

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Gate Valves Type: 89, 90, 91, 191, 591, AU591, AU593 & AU594

1.1 - Design Specifications

Type	Description	Size range	Maximum design pressure (bar)	Temperature range (°C)	Ends	Obturator material
89/89B/89TB	Valves simple obturator	DN 08 ~ 100	20	- 45 / + 225	Screwed Flange/Threaded	Bronze CC491K
89 i2E	Valves simple obturator	DN 50 DN65	20	- 45 / + 225	Screwed Flange/Threaded	Bronze CC491K
89.100 2RG	Valves simple obturator	DN 100	20	- 30 / + 100	Screwed Flange/Threaded	Bronze CC491K
AN89	Valves simple obturator	DN 08 ~ 80	20	- 10 / + 225	Screwed Flange/Threaded	Cupro- Nickel CC380H
AU89	Valves simple obturator	DN 08 ~ 100	20	- 10 / + 225	Screwed Flange/Threaded	Cupro-Aluminium CC333G
AU89 SW	Valves simple obturator	DN 08 ~ 100	20	- 45 / + 225	Screwed Flange/Threaded	Cupro-Aluminium CC333G
90/90B/90TB	Valves double obturator	DN 08 ~ 50	20	- 45 / + 225	Screwed Flange/Threaded	Bronze CC491K
AU90	Valves double obturator	DN 15 ~ 50	20	- 10 / + 225	Screwed Flange/Threaded	Cupro-Aluminium CC333G
91/91TB	Valves double obturator	DN 15 ~ 50	20	- 45 / + 225	Flanged	Bronze CC491K
AU91	Valves double obturator	DN 20 ~ 32	20	- 10 / + 225	Flanged	Cupro-Aluminium CC333G
191/191TB/191NP	Valves simple obturator	DN 15 ~ 100	20	- 45 / + 225	Flanged	Bronze CC491K
191/191TB/191NP ASA 150	Valves simple obturator	DN 15 ~ 100	20	- 45 / + 225	Flanged	Bronze CC491K
AN191	Valves simple obturator	DN 15 ~ 100	20	- 45 / + 225	Flanged	Cupro- Nickel CC380H
AU191	Valves simple obturator	DN 15 ~ 100	20	- 45 / + 225	Flanged	Cupro-Aluminium CC333G
AU191 ASA 150	Valves simple obturator	DN 15 ~ 100	20	- 45 / + 225	Flanged	Cupro-Aluminium CC333G
591	Valves double obturator	DN 32 ~ 65	16	- 15 / + 150	Flanged	Bronze CC491K
		DN 80 ~ 200		- 30 / + 100		
591 ASA	Valves double obturator	DN 32 ~ 65	16	- 15 / + 150	Flanged	Bronze CC491K
		DN 80 ~200		- 30 / + 100		
AU591	Valves double obturator	DN 32 ~ 65	16	- 10 / + 150	Flanged	Cupro-Aluminium CC333G
		DN 80 ~ 200		- 10 / + 100		
		DN 300	10	- 10 / + 200		
AU 591 TOUT CUPRO	Valves double obturator	DN 40 ~65	16	- 15 / + 200	Flanged	Cupro-Aluminium CC333G
		DN 80 ~200		- 15 / + 100		

AU591 ASA	Valves double obturator	DN 32 ~ 65	16	- 10 / + 150	Flanged	Cupro-Aluminium CC333G
		DN 80 ~ 200		- 10 / + 100		
		DN 300 (RF)	10	- 10 / + 200		
		DN 300 (FF)				
AU591 ASA RF	Valves double obturator	DN 32 ~ 65 DN 80 ~ 200	16	- 10 / + 150 - 10 / + 100	Flanged	Cupro-Aluminium CC333G
AU593	Valves double obturator	DN 32 DN 80	16	- 10 / + 200	Flanged	Cupro-Aluminium CC333G
		DN 300	10			
AU593 TOUT CUPRO	Valves double obturator	DN 300	10	- 10 / + 200	Flanged	Cupro-Aluminium CC333G
AU 593 MN	Valves double obturator	DN 32 DN 80	16	- 10 / + 200	Flanged	Cupro-Aluminium CC333G
AU 594	Valves double obturator	DN 40 DN50	16	- 10 / + 200	Flanged	Cupro-Aluminium CC333G
		DN 200	10			

Flanges according to ISO PN10/PN16/PN20

Design standards: 591, AU591, 592 & AU592: MN 7063 HC | 593 & AU593: MN 7063 HD | 89, 90, 91 & 191: 731DA02 Rev. 9 dated 12/11/2021

1.2 - Materials

Type	89/90/91/191/591	AU593 89/90/91/191/591/594	AN 89/191
Body	CC491K	CC333G	CC380H
Bonnet	CC491K		
Stem and fastening	CW614N / CC491K		
Gaskets	LATTYGRAF, Graphite & Fiber + PTFE + FPM	Graphite & Fiber + PTFE + FPM	Graphite & Fiber + PTFE + FPM

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.

2. DOCUMENTS AND DRAWINGS

- Operating manual N° 0904DA87 version 07 dated 24/01/2025.
- Operating manual N° 0904DA84 version 05 dated 27/01/2025.
- Operating manual N° 0904DA166 version 02 dated 24/01/2025.
- Installation manual N° 0904DA165 version 03 dated 24/01/2025.
- Installation operating and maintenance manual N° 0904DA123 version 09 dated 24/01/2025.
- Installation and operating manuals N° 0904DA121 version 08 dated 27/01/2025.
- Shell pressure and tightness test instruction N° 824-6DA14 version 8 dated 21/10/2013.
- Obturator pressure and tightness test instruction N° 824-6DA13 version 6 dated 21/10/2013.
- ENR 53 Version 1 dated 06/04/2016.
- FPM 6701 datasheet - FPM6701 Rev. 0.
- FPM 6801 datasheet - FPM6801 Rev. 0.
- FPM 6901 datasheet - FPM6901 Rev. 0.
- Standard virgin PTFE dated 09/09/2022.
- Premium virgin PTFE dated 09/09/2022.

- General drawings:

Drawing N°	Rev	Date
89∅/89B∅/89TB∅	11	12/05/2021
89.100	00	12/09/2024
89.∅I2E	05	16/07/2019
90∅/90B∅/90TB∅	07	12/05/2021
91.∅/91TB∅	05	18/05/2021
191∅/191∅TB/191NP∅	11	17/05/2021
191∅/191∅TB/191NP∅ *(ASA 150)*	02	21/10/2020
591.∅	08	19/02/2025
591.∅ *(ASA 150)*	08	19/02/2025
AN89∅	03	12/05/2021
AN191∅	01	17/05/2021
AU89∅	10	12/05/2021
AU89∅SW	01	05/05/2020
AU90.∅	05	12/05/2021
AU91.∅	03	18/05/2021
AU191∅	07	17/05/2021

Drawing N°	Rev	Date
AU191∅ *(ASA 150)*	00	22/03/2024
AU591.∅	11	19/02/2025
AU591TC	00	17/01/2020
AU591.300 *(ASA 150 FF)*	00	10/06/2024
AU591.300 *(ASA 150 RF)*	01	19/06/2023
AU591.300	03	07/08/2025
AU591.∅ *(ASA 150)*	03	19/02/2025
AU591.∅ *(ASA 150 RF)*	01	07/08/2025
AU593.∅	01	06/08/2025
AU593.300	04	08/08/2025
AU593.300TC	03	22/06/2023
AU593.∅MN	04	06/08/2025
AU594.41	00	22/07/2020
AU594.51	01	22/07/2020
AU594.200	02	20/02/2025

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

3.1 - Hydrostatic test and seat leakage tested on the following specimen:

- AU591∅150: Valves with double obturator with screwed bonnet CUPRO DN150 dated 14/10/2010.
- 591∅125: Valves with double obturator with screwed bonnet BZE DN 125 dated 18/01/2010.
- AU191∅50: flanged Valves one way DN 50 dated 02/11/2010.
- 191∅40: Valves PD S/O DN 40 dated 15/10/2010.
- 191TB∅25: Valves PD S/O TB DN 25 dated 15/10/2010.
- 89∅50: Valves PD S/O DN 50 FAF 175 dated 14/10/2010.
- Test report N° 2016 E 031 dated 29/01/2016: *Valve type 89*.
- Test report N° 2016 E 102 dated 14/03/2016: *Valve type 591*.

3.2 - Fire resistance test not performed.

4. APPLICATION / LIMITATION

4.1 - May be used for the following services on board: Fresh water, sea water, and steam.

4.2 - The valves may be installed on Class I, Class II and Class III pressure piping systems according to the relevant requirements stated in *NR 467, Pt C, Ch 1, Sec 10* and corresponding requirements in *NR 445* and *NR 483*. Systems fitted on the ship side and collision bulkhead, and systems fitted on fuel oil and lub oil tanks under static pressure are of Class II.

4.3 - The valve body, disc and seat should be suitable for the intended service. In particular the nature of materials, joints included, is to be selected according to the fluid to be conveyed and the temperature.

4.4 - The approval does not include any operating gear for remote control of the valves.

4.5 - Bilge valves will be fitted in association with a non-return valve.

4.6 - The valves are to be installed according to the manufacturer's instructions and Society's Rule requirements.

4.7 - The use of metallic materials is restricted according to Bureau Veritas Rules *NR 467, Pt C, Ch 1, Sec 10, Table 5* and corresponding requirements in *NR 445* and *NR 483*.

4.8 - The use of welded & threaded metallic joints and metallic flange connections in piping systems is to be in accordance with *NR 467, Pt C, Ch 1, Sec 10, Table 15 & Table 16*, respectively and corresponding requirements in *NR 445* and *NR 483*.

4.9 - For piping conveying toxic or flammable media, threaded sleeve joints may be accepted for connecting instrumentation lines equipment limited to external diameters up to 25 mm.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 - The products are to be supplied by **AUTEXIER** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note *NR 320*.

5.3 - Bureau Veritas product certificate is required.

5.4 - Bureau Veritas certificate is required for materials of valve bodies of Class I (DN≥50) and Class II (DN≥100). Materials of valve bodies of Class I (DN<50) and Class II (DN<100) and for other parts are to be with Work's certificates.

5.5 - Each valve body intended to be use on Class I and Class II pressure piping systems is to be hydraulically pressure tested to 1.5 times the design pressure. Valves intended to be fitted on the shipside below the load waterline are to be tested by hydraulic pressure not less than 0.5 MPa.

5.6 - For information, **AUTEXIER** has declared to Bureau Veritas the following production site:

AUTEXIER:
93 rue Louis Blanc
F-02 300 CHAUNY
FRANCE

6. MARKING OF PRODUCT

Each valve shall be marked with at least:

- Manufacturer's name or logo
- Type designation
- Size
- Design pressure
- Design temperature range
- Bureau Veritas' Mark

7. OTHERS

It is **AUTEXIER**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

This certificate supersedes the Type Approval Certificate No. 23673/C1 BV issued by the Society.

***** END OF CERTIFICATE *****