



Marine & Offshore
Division

Certificate number: 23673/B0 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

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

AUTEXIER
CHAUNY - FRANCE

for the type of product

GATE VALVES
Type 89, 90, 91, 191 & 591

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships

This certificate is issued to attest that BUREAU VERITAS 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: 19 Apr 2021

For BUREAU VERITAS,

At BV VALENCIENNES, on 19 Apr 2016,

Lucien Fratini



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Gate Valves Type 89, 90, 91, 191 & 591

1.1 Design Specifications

Type	Description	Size range	Maximum service pressure (bar)	Temperature range (°C)	Ends	Obturator material
89/89B/89TB	Valves simple obturator	DN 08 ~ 100	20	-45/225	Screwed Flange/Threaded	Bronze
89TB-ISO VERSASERV	Valves simple obturator	DN 25 ~ 80	20	225	Screwed Flange/Threaded	Bronze
89TB-ASA-RF VERSASERV	Valves simple obturator	DN 80~ 100	20	225	Screwed Flange/Threaded	Bronze
AN89	Valves simple obturator	DN 08 ~ 80	20	-45/225	Screwed Flange/Threaded	Cupro-Aluminium-Nickel
AU89	Valves simple obturator	DN 08 ~ 80	20	-45/225	Screwed Flange/Threaded	Cupro-Aluminium
90/90B/90TB	Valves double obturator	DN 08 ~ 50	20	-45/225	Screwed Flange/Threaded	Bronze
AU90	Valves double obturator	DN 15 ~ 50	20	225	Screwed Flange/Threaded	Cupro-Aluminium
91/91TB	Valves double obturator	DN 15 ~ 50	20	225	Flanged	Bronze
AU91	Valves double obturator	DN 20 ~ 32	20	225	Flanged	Cupro-Aluminium
191/191TB/191NP	Valves simple obturator	DN 15 ~ 100	20	225	Flanged	Bronze
AU191	Valves simple obturator	DN 15 ~ 100	20	225	Flanged	Cupro-Aluminium
591	Valves double obturator	DN 40 ~ 65	16	225	Flanged	Bronze
		DN 80 ~ 200	16	90	Flanged	Bronze
AU591	Valves double obturator	DN 40 ~ 65	16	-100/150	Flanged	Cupro-Aluminium
		DN 80 ~ 200	16	-30/100	Flanged	Cupro-Aluminium
AU591-ISO-FAF-SP-VERSASERV	Valves double obturator	DN 125 ~ 200	16	90	Screwed Flange/Threaded	Cupro-Aluminium
AU591-ASA-RF-FAF-SP-VERSASERV	Valves double obturator	DN 150 ~ 200	16	90	Screwed Flange/Threaded	Cupro-Aluminium
AU591-200-SP-FAF-295	Valves double obturator	DN 200	16	90	Screwed Flange/Threaded	Cupro-Aluminium

Flanges according to ISO PN10/PN16/PN20

1.2 Materials

Type	89/90/91/191/591	AU 89/90/91/191/591	AN 89/90/91/191/591
Body	CC491K / CC499K	CC332G	CC380H
Bonnet	CC491K / CC499K	CC332G	
Stem and fastening	CW614N / CC491K / CC499K	CC332G	
Gaskets	LATTYGRAF, Graphite & Fiber	Graphite & Fiber	Graphite & Fiber

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 4 dated 04/01/2005
- Operating manual N° 0904DA84 version 4 dated 06/05/2014
- Installation operating and maintenance manual N° 0904DA123 version 4 dated 04/01/2005
- Installation and operating manuals N° 0904DA121 version 5 dated 28/01/2015
- 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
- General drawings

Reference Number	Date of issuance
89 rev 10	13/11/2015
89/89B/89TB rev 04	04/03/2005
89TB-ISO VERSASERV rev 01	23/07/2010
89TB-ASA-RF VERSASERV rev 0	21/07/2010
191 rev 06	11/04/2012
191/181TB/191NP rev 03	27/05/2010
AU191 rev 05	11/04/2012
591 rev 06	10/10/2013
AU591 rev 08	09/10/2015
AU591-ISO-FAF-SP-VERSASERV rev 0	03/05/2010
AU591-ASA-RF-FAF-SP-VERSASERV rev 0	21/07/2010
AU591-200-SP-FAF-295 rev 0	03/05/2010

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

Shell and obturator pressure tested on the following specimen :

- AU591Ø150 : Valves with double obturator with screwed bonnet CUPRO DN150 dated 14/10/2010
- 591Ø125 : Valves with double obturator with screwed bonnet BZE DN 125 dated 18/01/2010
- AU191Ø50 : flanged Valves one way DN 50 dated 02/11/2010
- 191Ø40 : Valves PD S/O DN 40 dated 15/10/2010
- 191TBØ25 : Valves PD S/O TB DN 25 dated 15/10/2010
- 89Ø50 : Valves PD S/O DN 50 FAF 175 dated 14/10/2010
- Valve type 89 test report N° 2016 E 031 dated 29/01/2016
- Valve type 591 test report N° 2016 E 102 dated 14/03/2016
- BV Certificate N° 223510VLS10 dated 28/06/2010 - Valves specimen :
 - FAF.240.89.80.TB - FAF.180.89.50.TB - FAF.200.AU591.125 - FAF.295.AU591.200
 - FAF.230.89.100.TB - FAF.175.89.50.TB - FAF.265.AU.591.150
 - FAF..89.80.TB - FAF.205.89.66.TB - FAF.235.AU591.200
- BV Certificate N° 2197889VLS10N°1 dated 20/10/2010 - Valves specimen :
 - FAF.125.89.26 - FAF.165.89.40 - FAF.195.89.40 - FAF.295.AU591.200
- Cupro-Aluminium analysis certificate dated 04/02/2011
- Bronze analysis certificate dated 26/07/2010
- Materials certificate N°10SV1030 dated 19/09/2010
- Materials certificate N°09SV309 dated 19/03/2009
- Material certificate CC491K Bronze N° 0630- N° BME0214-B142 dated 19/01/2015
- Material certificate CC491K Bronze N° 0771- N° B151 dated 23/03/2015
- Material certificate CC499K Bronze N° 8241- N° BME0311 dated 19/01/2015
- Bronze Material certificates N° 2016 MB 394 dated 27/01/2016 and N° 2016 MB 468 dated 14/03/2016

4. APPLICATION / LIMITATION

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

4.2 The gate valves belong to class I, class II and class III according to the relevant requirements stated in Part C, Chapter 1, Sec 10 of the BUREAU VERITAS Rules. Valves fitted on the ship side and collision bulkhead belong to class II.

4.3 The valve body, obturator and seat should be suitable for the intended service.

4.4 The valves are to be installed according to manufacturer's instructions and BUREAU VERITAS Rules.

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 NR320.

5.3 BUREAU VERITAS Certificates are required for materials of valve housings of Class I (DN \geq 50) and Class II (DN \geq 100). Materials of valve housings of Class I (DN $<$ 50) and Class II (DN $<$ 100) and for other parts of Class I and Class II are to be with Work's certificates.

5.4 Each valve housing for class I and class II is to be hydraulically pressure tested to 1.5 times the design pressure.

AUTEXIER has declared to Bureau Veritas the following production site:

AUTEXIER
93 rue Louis Blanc
02300 CHAUNY
FRANCE

6. MARKING OF PRODUCT

Each valve shall be marked with at least:

- Manufacturer's name or logo
- Type designation
- Date of manufacture
- Society's brand as relevant

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/A0 BV issued on 07/04/2011 by the Society.

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