Certificate number: 36134/C1 BV
File number: ACM 145/2574
Product code: 7331I

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

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

SAMSON AKTIENGESELLSCHAFT

Frankfurt am Main - GERMANY

for the type of product

GLOBE VALVES FOR LIQUEFIED GAS PIPING SYSTEMS

Types: 3241, 3251, 3254 and 3256

Requirements:
BUREAU VERITAS Rules for the Classification of Steel Ships
IGC / IGF Code

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: 22 Feb 2029

For Bureau Veritas Marine & Offshore,
At BV HAMBURG, on 30 Oct 2026,
Adama Diene

This certificate was created electronically and is valid without signature

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 Marine & Offshore. 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 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 Marine & Offshore 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.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Globe valves, types: 3241, 3251, 3254 and 3256

1.1 Design:
Globe valves, types: 3241, 3251, 3254 and 3256 with flanged or welded connections and operated with the pneumatic actuators of types 3271 or 3277.

1.2 Rating:

Globe valve 3241:

File number	Nominal diameter		Design pressure		Temperature range
	DN	NPS	PN	Class	
ACM 145/2574/1	15	1/2	20	150	-196 °C to +450 °C
	25	1	20 40	150 300	
	40	1 ½	20 40	150 300	
	50	2	20 40	150 300	
	65	2 ½	20	150	
	80	3	16 40	150 300	
	100	4	20	150	
	150	6	20	150	
	200	8	40	300	
	250	10	20	150	
	300	12	20	150	

Globe valve 3251:

File number	Nominal diameter		Design pressure		Temperature range
	DN	NPS	PN	Class	
ACM 145/2574/2	25	1	20 400	150 2500	-196 °C to +550 °C
	40	1 ½	400	2500	
	50	2	400	2500	
	100	4	150	900	
	150	6	20 150	150 1500	
	200	8	160	1500	

Globe valve 3254:

File number	Nominal diameter		Design pressure		Temperature range
	DN	NPS	PN	Class	
ACM 145/2574/3	80	3	250	1500	-196 °C to +550 °C
	100	4	250	1500	
	150	6	250	1500	

Globe valve 3256:

File number	Nominal diameter		Design pressure		Temperature range
	DN	NPS	PN	Class	
ACM 145/2574/4	40	1 ½	400	2500	-196 °C to +550 °C
	50	2	400	2500	
	80	3	320	2500	

1.3 Material:

Materials for valve body and bonnet	
DIN Mat. no.	**ANSI Material**
1.0460	A105
1.0619	A216 WCC
1.4301	A182 F304
1.4301	A479 304
1.4306	A182 F304L
1.4306	A479 304L
1.4308	A351 CF8
1.4309	A351 CF3
1.4401/1.4404	A182 F316/A182 F316L
1.4401/1.4404	A479 316/A479 316L
1.4408	A351 CF8M
1.4409	A351 CF3M
1.5638	A352 LC3
1.5637	A350 LF3 Cl.2

2. DOCUMENTS AND DRAWINGS:

2.1 Documents:

Designation	Rev.
Data sheet T 8012 EN	November 2022
Data sheet T 8015 EN	November 2022
Data sheet T 8051 EN	March 2024
Data sheet T 8052 EN	March 2024
Data sheet T 8060 EN	February 2021
Data sheet T 8061 EN	February 2021
Data sheet T 8065 EN	February 2021
Data sheet T 8066 EN	February 2021
Data sheet T 8087 EN	August 2015

2.2 Drawings:

Designation	Drawing Number	Rev.
3251 DN15-500/NPS½-20 PN10-400/CL150-2500	1010-5742-SWD	3.f
3254 DN50-300/NPS2-12 PN10-320/CL150-1500	1010-5842-SWD	2.c
3256 DN15-400/NPS ½-16 PN10-400/CL150-2500	1010-5748-SWD	3.d
3241 DN15-150/NPS½-6 PN16-40/CL150-300	1010-5745	03
3241 DN200-300/NPS8-12 PN40/CL300	1010-5838	02

3. TEST REPORTS:

3.1 Cryogenic test at -196 °C.
Test report no.: 1000354366 dd. 13.12.2023. Test performed at SAMSON AG, witnessed by BUREAU VERITAS.
Test report no.: 1000315241 dd. 07.08.2023. Test performed at SAMSON AG, witnessed by BUREAU VERITAS.
Test report no.: 1000250267 dd. 25.11.2022. Test performed at SAMSON AG, witnessed by BUREAU VERITAS.
Test report no.: 1000312152 dd. 11.09.2023. Test performed at SAMSON AG, witnessed by BUREAU VERITAS.
Test report no.: 1000312153 dd. 31.10.2023. Test performed at SAMSON AG, witnessed by BUREAU VERITAS.
Test report no.: 1139145 dd. 2021-04-08. Test performed at SAMSON AG, witnessed by BUREAU VERITAS.
Test report no.: 1000286681 dd. 02.01.2023. Test performed at SAMSON AG, witnessed by an IACS member.
Test report no.: 1000157051 dd. 28.04.2021. Test performed at SAMSON AG, witnessed by an IACS member.
Test report no.: 239093803 dd. 15.07.2019. Test performed at SAMSON AG, witnessed by an IACS member.

3.2 Pressure test and leakage test according to DIN EN 60534-4 and ANSI FCI 70-2
Inspection certificate dd. 01/04/2014, witnessed by BUREAU VERITAS.
Inspection certificate dd. 02/04/2020, witnessed by BUREAU VERITAS.
Inspection certificates 0255ESN23, 02556ESN23 and 02556ESN23A dd. 16 Feb 2024, witnessed by BUREAU VERITAS.

3.3 Cryogenic test at -196 °C.
Test report no.: 202600227-R003_3251_NPS8 dd. 25.06.2026. Test performed at ITIS BV, witnessed by an IACS member.
Test report no.: WO-7658_3254_NPS3 dd. 22.10.2019. Test performed at SAMSON RINGO, witnessed by an IACS member.
Test report no.: WO-6230_3254_NPS4 dd. 2016-09-07. Test performed at RINGO VALVULAS, witnessed by an IACS member.
Test report no.: WO-11937_3254_NPS6 dd. 29/07/2026. Test performed at SAMSON RINGO, witnessed by an IACS member.
Test report no.: 1000499177_3256_NPS1_5 dd. 13.03.2026. Test performed at SAMSON AG, witnessed by BUREAU VERITAS.
Test report no.: 202500416-R006_3256_NPS2 dd. 17.09.2025. Test performed at ITIS BV, witnessed by an IACS member.
Test report no.: HN2669281_3256_NPS3 dd. 05.08.2014. Test performed at SAMSON AG, witnessed by an IACS member.
Test report no.: HN2669281_3251_NPS1_1_5 dd. 05.08.2014. Test performed at SAMSON AG, witnessed by an IACS member.

4. APPLICATION / LIMITATION:

4.1 Low temperature and cryogenic globe valves intended to be used as control valves in cargo handling systems of oil tankers and liquefied gas tankers and in piping systems on board ships.

4.2 These valves are not to be used as shut-off valves.

4.3 The valves may be installed on class I pressure piping systems according to the relevant requirements stated in the BUREAU VERITAS Rules.

4.4 The valves intended to be used for handling of Propylene Oxide or Ethylene Oxide/ Propylene Oxide mixtures shall be of a fire safe design.

4.5 For liquefied gas application, the valve intended to be installed on BUREAU VERITAS classed ship have to comply with applicable BUREAU VERITAS Rules & IGC Code and type tests reports witnessed by BUREAU VERITAS are to be available for each type and size of valve.

4.6 A Charpy V-notch impact test shall be carried out at -196 °C for castings made of austenitic when the service temperature is below -105°C.
- Castings in steel grades 316 and 316L with any design temperature shall be impact tested at -196 °C. A reduction of the tests may be granted for design temperature above -60 °C subject to the agreement of the Society.
- Castings in steel grades 304, 304L, 321 and 347 with design temperature below -60°C shall be impact tested at -196 °C.

4.7 The materials for valves should be of a suitable type at the temperature and pressure for use with media intended to be carried.

4.8 This approval does not include any operating gear or electrical equipment for remote control of the valves.

4.9 The valves are to be installed according to the BUREAU VERITAS Rules requirements and the manufacturer’s instructions.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 The valves are to be supplied by **SAMSON AKTIENGESELLSCHAFT** 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 product certificate is required.

5.4 For information, **SAMSON AKTIENGESELLSCHAFT** has declared to BUREAU VERITAS the following production sites:
- SAMSON AKTIENGESELLSCHAFT, Frankfurt am Main / GERMANY
- SAMSON AKTIENGESELLSCHAFT, Offenbach am Main / GERMANY

5.5 BUREAU VERITAS certificate is required for materials of valve bodies/ housings of class I (DN≥50) or class II (DN≥100). Materials of valve bodies/housings of class I (DN<50) or class II (DN<100) and for other pressure boundary parts are to be with work's certificates.

5.6 Materials are to comply with the approved drawings and the applicable requirements in BUREAU VERITAS Rules. Charpy impact test is to be as per the Society's Rules on materials, and where relevant, in accordance with requirements of IGC Code and/or IGF Code..

5.7 Each valve is to be tested according to BUREAU VERITAS Rules.

6. MARKING OF PRODUCT:

Each valve is at least to be marked with:
- Manufacturer's name or logo
- Type designation
- Size
- Design pressure and temperature range
- BUREAU VERITAS' marks

7. OTHERS:

7.1 It is **SAMSON AKTIENGESELLSCHAFT**'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.

7.2 This certificate supersedes the Type Approval Certificate N° 36134/C0 BV issued on 22 Feb 2024 by the Society.

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