DNV·GL

Certificate No:
TAP0000014

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Globe Valve

with type designation(s)
240 series, 250 series

Issued to
Samson Aktiengesellschaft
Frankfurt am Main, Germany

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL rules for classification – Ships Pt.5 Ch.7 Liquefied gas tankers

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Type:	Temperature range:	Max. working press.:	Sizes:
240 series	**See cert.**	**See cert.**	**See cert.**
250 series	**See cert.**	**See cert.**	**See cert.**

This Certificate is valid until **2019-12-31**.

Issued at **Høvik** on **2016-08-25**

for **DNV GL**

DNV GL local station: **Essen Business Support**

Approval Engineer: **Simon Ratcliffe**

Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Valve types:

Sizes Series 240 (3241, 3244, 3246 and 3248)
Class 150: DN15/NPS 1/2”, 25/1”, 40/1 ½”, 50/2”, 80/3”, 100/4”, 150/6”, 200/8”, 250/10”, 300/12”

Sizes Series 250 (3251, 3253, 3254, 3256)
Class 900: DN50/NPS 2”, 80/3”
Class 1500: DN50/NPS 2”, 100/4”, 150/6”, 200/8”

Body thickness complies with EN 12516-1/ASME B16.34.
Connections by flanges ASME B16.5 or EN1092-1, sockets and butt welding.

Materials:
Body : A351 CF8M
Flange : A182 F316
Seat : A182 F316
Stem : A479
Gaskets : Graphite / SS
Bolts: A193 B8M

Application/Limitation

Stainless steel globe valves approved for use in ships piping, machinery piping and cargo handling piping systems.

Minimum design temperature: -196 °C
Maximum design temperature: +450 °C

At the minimum design temperature the following maximum pressures are approved:

Series 240	Class 150:	19 bar	(types 3241, 3244, 3246 and 3248)
Series 250	Class 900:	148.9 bar	(types 3251, 3253, 3254, 3256)
	Class 1500:	248.2 bar	(types 3251, 3253, 3254, 3256)

For maximum allowable working pressure at ambient and elevated temperatures see ASME B16.34 or EN 12516-1 as appropriate.

The approval does not include actuator and/or other equipment for remote control of the valves.

In seawater applications, used material shall be properly protected. Surface preparation and coating shall be approved by society. Austenitic stainless steels shall not be considered as seawater resistant material.

Type Approval documentation

Tests carried out
Cryogenic testing

Production testing
The Valves shall be subjected to the following production tests:
- Hydrostatic/pneumatic test of valve bodies at a pressure equal to 1.5 times the design pressure.
- Seat and stem seal leakage test at a pressure equal to 1.1 times the design pressure.

In addition to the above production testing, valves intended to be used at a working temperature below -55°C shall be subject to cryogenic testing consisting of valve operation and leakage verification for a minimum of 10% of each type and size of valve. See DNV GL Ship Pt.5 Ch.7 Sec.5 [13.1].

Testing shall follow procedures and acceptance criteria in API 598 or EN 12266-1.

Certification
LNG cargo/cryogenic service: DNV GL product certificate is required for valves with DN ≥ 4" or working temperature below -55 °C. For other valves, manufacturer's product certificate may be accepted.

Other services: DNV GL product certificate is required for valves with DN > 4" and design pressure above 16 bar, and for ship side valves with DN > 4" regardless of pressure rating. For other valves, manufacturer’s product certificate may be accepted.

Valves shall be documented with the material certificates as referred to in:
Cryogenic service: Pt. 5 Ch. 7 Sec. 1 Table 8.
Other services: Pt. 4 Ch. 6 Sec. 2 Table 3.

Marking of product
Each valve shall be clearly marked for identification. The identification marking may be performed on the body or on a plate of non-corrosive material. When a metallic plate is used, the plate shall be permanently fixed to the body.

Identification marking on the body shall be located to nonstressed areas and shall be clearly legible. The identification marking shall as a minimum include the following:
- manufacturer's name or trade mark
- valve type designation
- size
- MAWP
- arrow to indicate direction of flow on one way flow valves.

Periodical assessment
For retention of the Type Approval, a DNV GL Surveyor shall perform a survey - every second year and before the expiry date of this certificate - to verify that the conditions for the type approval are complied with.