Certificate No:
TAP00002KU

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Mechanically Operated Control Valve

with type designation(s)
3331

Issued to
SAMSON REGULATION S.A.S.
VAULX en VELIN, **France**

is found to comply with
DNV rules for classification – Ships Pt.5 Ch.7 Liquefied gas tankers
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0186 – Type approval – Valves

Application :

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

Temperature range:	**-196 to +220**
Max. working press.:	**ASME B16.34 Class 150**
Sizes:	**8" and 12"**

Issued at **Høvik** on **2023-05-26**

This Certificate is valid until **2028-05-25**.
DNV local station: **France CMC**

Approval Engineer: **Andreas Hansen**

for **DNV**
Digitally Signed By: Zeinab, Sharifi
Location: DNV Høvik, Norway

Zeinab Sharifi
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.

Product description

Wafered butterfly control valves of type 3331 constructed according to ASME B16.34, from the following materials:

Part	Material	Standard
Body	1.4401 / 1.4404 – S31600 / S31603 (316/316L) / 1.4408 – A351CF8M	EN 10222-5 / EN 10213
Gland flange	1.4409 – A351CF3M / 1.4401/1.4404 – S31600/S31603 (316/316L)	EN 10222-5 / EN 10213
Disc	1.4581 – A351CF8MC	EN 10213

Application/Limitation

Valves covered by this certificate may be used in general machinery service or LNG/LPG applications in the below design conditions.

Allowable leakage rate: Leakage class I as per ANSI FCI 70-2.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions. Valves of austenitic stainless steel shall not be used in direct contact with seawater.

These valves shall not be used where complete shut-off of the process flow is required. The valves covered by this type approval certificate are not designed to hold the full line pressure.

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

The valves covered by this certificate are not to be considered fire safe and therefore shall not be installed wherever fire safe application is required; e.g. as shut off or quick closing valves.

Type Approval documentation

Document no.	Title	Rev.	Date
1059-0038	Dimensional drawing	2	2020-11-30
1019-0303	Wall dimensions – minimum thickness	2	2020-05-15
1129-0667	Bill of material	1	2019-04-23
-	Appendix to Data Sheet T 8227 EN	-	2018-12-01
Q-1066	Test procedure – Functional and tightness testing at Cryogenic Temperatures	4	2019-05-03
Q-2023	Leak Test Using Air	6	2021-02-25
CCD202200208-2	Cryogenic test report 12” CL.150, witnessed by DNV	-	2022-09-14
CCD202200250-1	Cryogenic test reports 8” CL. 150, witnessed by DNV	-	2022-10-20

Tests carried out

Cryogenic leakage test, room temperature leakage test, and hydrostatic test.

Production Testing and Certification

Production Testing and Certification for the actual intended application shall follow the latest applicable edition of the Rules (as mentioned on the front page of this certificate).

Marking of product

Minimum marking requirements shall be as outlined in the valve design standard.

Periodical assessment

For retention of the type approval, a DNV surveyor shall perform a periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.