



Certificate No:
TAP00002FM

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Vent Head for Tank

with type designation(s)
53 C and 53 CW

Issued to

Niikura Kogyo Co., Ltd.
Gotenba, Shizuoka Pref., Japan

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0187 – Type approval – Air vent heads

Application :

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

Sizes: **DN50, 65, 80, 100, 125, 150, 200 and 250**

Issued at **Høvik** on **2022-08-05**

This Certificate is valid until **2027-08-04**.

DNV local station: **Yokohama**

for **DNV**

Approval Engineer: **Maheshraja Venkatesan**

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Sinisa Sedlan
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Product description

Air vent heads with float ball made of polypropylene:

1. **Model 53 CW** with screen
2. **Model 53 C** without screen

Material of construction

Body	: Grey cast iron, FC200
Cover	: Carbon steel SS400 (hot dip galvanized)
Ball float	: Polypropylene
Screen	: Carbon steel, SS400 (hot dip galvanized)
Seat ring	: Carbon steel, SS400 (hot dip galvanized)
Seat packing	: NBR/EVM

Application/Limitation

The certificate covers design assessment of air vent heads. Installation and other additional requirements related to installation are out of scope of this certificate.

The air vent heads are not considered as devices to prevent the passage of flame into cargo tanks of tankers and combination carriers carrying crude oil and petroleum products having a flashpoint of 60°C (closed cup) or less, and a Reid vapour pressure below atmospheric pressure and other products having a similar fire hazard. Flame arresting function related to the models involving flame screen is excluded from the scope of approval.

Air vent heads made of galvanized steels shall be protected by hot dip galvanizing. The zinc layer shall be 70 to 100 microns.

Results of Discharge test (blocking velocity) & flow test on vent heads:

Size	Model 53 CW			Model 53 C		
	Result of Discharge test	Result of flow test		Result of Discharge test	Result of flow test	
	80% of blocking velocity (m/s)	ΔP (mmWG)	Dynamic loss coefficient (ζ)	80% of blocking velocity (m/s)	ΔP (mmWG)	Dynamic loss coefficient (ζ)
DN50	24.5	2000	2.43	28.1	2000	2.24
DN65	22.7	2000	5.05	19.1	2000	4.26
DN80	20.2	2000	5.04	19.9	2000	4.77
DN100	24.4	2000	5.34	24.2	2000	4.45
DN125	28.6	2000	5.51	28.3	2000	5.51
DN150	24.7	2000	3.93	26.3	2000	3.55
DN200	25.6	200	5.58	25.3	200	3.81
DN250	19.6	2000	9.00	19.9	2000	6.42

The maximum air velocity of the connecting pipe is 20 m/s.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions.

When used in connection with ballast water tanks, the vent heads are to be coated with approved BANNOH 500 epoxy paint.

Type Approval documentation

Tests carried out

Flow Characteristics test, leakage test, discharge/reverse flow test, compression test and impact test of float

Marking of product

For traceability to this type approval the products are to be marked with:

- Manufacturer's name or trade mark
- Type designation
- Body material



Job Id: **262.1-002899-7**
Certificate No: **TAP00002FM**

- Size

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform 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.