DNV·GL

Certificate No:
**TAA00002TV**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Pressure Transmitter**

with type designation(s)
**NSPS790N, NSPSD790N, NS778AN, NS778CN**

Issued to
**Nakakita Seisakusho Co., Ltd.**
**Daito, Japan**

is found to comply with
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

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

**Locations classes:**

| | |
|---|---|
| **Temperature** | **B** |
| **Humidity** | **B** |
| **Vibration** | **A** |
| **EMC** | **Not relevant** |
| **Enclosure** | **B / IP44** |

Issued at **Høvik** on **2020-06-30**
This Certificate is valid until **2025-02-24**.
DNV GL local station: **Kobe**

for **DNV GL**

Approval Engineer: **Ståle Sneen**

**Marta Alonso Pontes**
**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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



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## Product description

Pneumatic Pressure Transmitter type NSPS790N and NSPSD790N

Air supply: 140 kPa
Output signal: 20 kPa to 100 kPa
Scale range: -0.1 MPa to 0.3 MPa,
-0.1 MPa to 0.4 MPa,
-0.1 MPa to 0.5 MPa,
0 to 0.3 MPa,
0 to 0.5 MPa,
0 to 1.0 MPa,
0 to 1.5 MPa,
0 to 2.0 MPa,
0 to 2.5 MPa,
0 to 5.0 MPa,
0 to 10.0 MPa.

Differential Pressure Transmitter type NS778AN and NS778CN

Max. measuring range (differential pressure):
NS778AN: 0 to 150 kPa
NS778CN: 0 to 20 kPa
Max. pressure (detecting section):
NS778AN: 0.3 MPa
NS778CN: 2.0 MPa
Connection: PT 1/4
Air supply: 140 kPa
Output signal: 20 kPa to 100 kPa
Control mode: proportional action

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

## Type Approval documentation

## Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

## Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- air supply pressure

## Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:
- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE