Certificate of Compliance

Certificate: 70157477 **Master Contract:** 168668

Project: 80213073 **Date Issued:** 26 February 2025

Issued to: **Valmet Flow Control Oy**
Vanha Porvoontie 229
Vantaa, 01380
FINLAND

Attention: Mika Kreivi

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by: Sarita Openshaw

C US

PRODUCTS
CLASS - C225802 - PROCESS CONTROL EQUIPMENT-For Hazardous Locations-
CLASS - C225882 - PROCESS CONTROL EQUIPMENT-For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups B, C, and D; T6…T4
Class II, Division 1, Groups E, F and G; T85°C …. T113°C
Enclosure Type 4X
Ex db IIB+H2 T6 … T4 Gb (Canada)
Class I, Zone 1 AEx IIB+H2 T6 … T4 Gb (US)

Ex tb IIIC T85°C …. T113°C Db (Canada)
Zone 21 AEx tb IIIC T85°C …. T113°C Db (US)

- Valve Controller flameproof, series **NDX**; input mA and PT loop rated U ≤ 28 Vdc, I = 4 - 20 mA; current sink input DO loop rated U ≤ 16 Vdc. Enclosure Type 4X.

Ambient temperature range:
-40°C ≤ Ta ≤ +75°C for temperature code T6 (Gas)
-40°C ≤ Ta ≤ +85°C for temperature code T5 (Gas)
-40°C ≤ Ta ≤ +85°C for temperature code T4 (Gas)
-40°C ≤ Ta ≤ +74°C for surface temperature rating T85°C (Dust)
-40°C ≤ Ta ≤ +75°C for surface temperature rating T95°C (Dust)
-40°C ≤ Ta ≤ +75°C for surface temperature rating T113°C (Dust)

Supply air pressure: 1.4 – 8 bar / 20 – 115 psi

For **NDX** abcdefghijklmnopqrs the following Model Code breakdown applies:

Where:

a = Pneumatic action
- 1 Single acting
- 2 Double Acting

b = Pneumatic capacity
- 5 Normal Capacity (80Nm³/h)

c = Fail Action
- 1 Fail safe

d = ENCLOSURE
- 2 Flameproof/Explosion Proof -Aluminum

e = Communication / input signal range
- H HART communication, 4-20 mA current signal
- T HART/4-20 mA and 4-20 mA Position Transmitter
- N 4 – 20mA (No HART)
- M 4 – 20mA and Position Tranmisstter (No HART)
- D HART / 4 – 20 mA + 2 x DO (Available with 5. sign 2)
- L HART / 4 – 20 mA + PT + DO (Available with 5. sign 2)

f = Temperature Range
- G General: -40 to +85˚C (refer to product listing to further breakdown)

g= - Standard; Ex i & I/O extension capable

h = Approvals for Hazardous Areas (1/2)
- F cCSAus Ex d certifications (Available with 5. sign 2)
- * Or according NDX _ _ _ type code

i = Approvals for Hazardous Areas (2/2)
- F cCSAus Ex d certifications (Available with 5. sign 2)
- * Or according NDX _ _ _ type code

j = Pneumatic connections & gauges
- 0 1/4NPT without gauges (no block, no gauges)
- 1 1/4NPT with gauges (block with 1/4NPT threads + gauges)
- 2 G1/4 without gauges (block with G1/4 threads)
- 3 G1/4 with gauges (block with G1/4 threads + gauges)

k = Variant
- N Neles
- L Device without LUI (Local User Interface)

l = Diagnostics
- 0 Advanced Diagnostics
- 1 Premium Diagnostics

m = Special Version
- 0 None

n = Reserved (Option slot #1)
- 0 None

o = Reserved (Option slot #2)
- 0 None

pqr = Characters for partner identification - shall not affect hazardous area approvals

s = Y special feature- shall not affect hazardous area approvals

Conditions of Acceptability:

i. Cover securing fasteners must be supplied by the product manufacturer and be property class A4-80 and tightened to 15Nm.

ii. The Mylar shim, used for securement of the window, shall be periodically inspected to ensure that it is in good condition/intact.

iii. The equipment has a non-conducting coating and a non-metallic label and may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user shall ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, the following warning is included in the manual: “Electrostatic Hazard: Clean only with damp cloth, etc.”.

iv. The labels are not earthed and have a capacitance of up to 56pF with respect to an earthed conductor. If a charge-generating mechanism is present, an incendive level of charge could migrate to these metal parts and subsequently discharge to earthed metal. Precautions are required to ensure

that a charge-generating mechanism is unlikely to be present and/or discharge to earthed metal is improbable.

v. Flameproof joints are not intended to be repaired. Contact manufacturer for dimensions.

vi. The equipment shall be supplied by a Limited Power Source or Class 2 output in accordance with CEC Part 1, Rule 16-200 and NFPA 70, Article 725.121.

vii. The equipment has only been tested for safety. No evaluation of functional safety and performance characteristics has been conducted.

viii. Equipment is only to be installed by trained and qualified personnel.

ix. If at any time there is a conflict between the system safety provisions and any relevant local (national or regional) requirements, the local requirements always take precedence.

x. Equipment is not to be used with flammable process fluids.

xi. The equipment is provided with cable gland entries with or without an adapter. Entry devices must be compatible with the overall rating of the equipment as noted in the product listings.

xii. The control medium shall be particulate free and have a dew point of at least 10 °C below the ambient temperature to ensure no risk of condensation. The maximum rated pressure of the 8 bar shall not be exceeded.

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APPLICABLE REQUIREMENTS

CSA C22.2 No. 25-17 (R2022)	Enclosures for use in Class II, Division 1, Groups E, F, and G hazardous locations
CSA C22.2 No. 30:20	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CSA C22.2 NO. 94.2:20, 3rd Ed	Enclosures for electrical Equipment, Environmental Considerations
CAN/CSA C22.2 No. 60079-0:2019	Explosive atmospheres — Part 0: Equipment – General requirements
CAN/CSA C22.2 No. 60079-1:16 (R2021)	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”
CAN/CSA C22.2 No. 60079-31:15 (R2020)	Explosive atmospheres — Part 31: Equipment dust ignition protection by enclosure "t"
CSA C22.2 No. 61010-1-12, UPD1:2015, UPD2:2016, AMD1:2018	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements
FM 3600:2022	Electrical Equipment for Hazardous (Classified) Locations – General requirements.
FM 3615:2022	Explosionproof Electrical Equipment General Requirements
FM 3616:2022	Dust-Ignitionproof Electrical Equipment General Requirements
UL 50E, 3rd Ed	Enclosures for Electrical Equipment, Environmental Considerations
UL 60079-0 7th Edition; including revisions dated July 19, 2024	Explosives atmospheres –part 0: Equipment – General Requirements
UL 60079-1 7th Edition; including revisions dated April 22, 2024	Explosives atmospheres –part 31: Equipment protection by flameproof “d”
UL 60079-31 2nd Edition; including revisions dated November 18, 2024	Explosives atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
UL 61010-1 3rd Ed (2012), AMD1: 2018	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements

Notes:

Products certified under Class C225802 have been certified under CSA’s ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Nameplate adhesive label material approval information:

The following markings are provided on a CSA Certified (Class 7923-01 and 7921-05) adhesive label, which is suitable for indoor or outdoor use on aluminum, at a maximum service temperature of 150°C on metal or on an ANSI 316 steel plate.

In the case of the ANSI 316 steel plate, this is adhered to the equipment using 3M, Type 468MP, UL File No MH26206 (CSA C22.2 No.0.15-15, UL 969). Per the assessment in Ordloc project 80095495 the following details have been extracted:
Surface applications: SS & epoxy powder paint
Operating Temp: -40°C ≤ Ta ≤ +125°C
Indoor/Outdoor Use
The label stock shall be printed with one of the approved printer and ink combinations as specified in the manufacturer's listing:
Brady B-428, ribbon: R4300, black, CSA file LS 41833, UL File No. MH10939; (CSA C22.2 No.0.15-15, UL 969)
Brady B-434, ribbon: R6000, black. CSA file LS 41833, UL File No. MH10939; (CSA C22.2 No.0.15-15 Update No. 1, UL 969)
ILS324, ribbon RB8000 black, CSA listed file 253402, UL recognized MH28136; (CSA C22.2 No.0.15-15 Update No. 1, UL 969)

Label/plate is affixed to the base of the housing; which includes the following information:
- CSA Monogram with "C-US" indicator
- Company name and/or Master Contract number
- Model name / number
- Date code of manufacture
- Hazardous locations designation
- Temperature code rating
- Ambient Temperature Range
- Certificate Number: CSA 18CA70157477

Warnings in English and French:
- Do not open when an explosive atmosphere is present.
- Use conductors rated at least 12°C above the maximum ambient temperature
- Conduit seal must be installed within 50 mm of the enclosure
- Electrostatic Hazard: Clean only with damp cloth, etc.
- Tightening torque for cover screws to be at least 15 Nm (in manual)

Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80213073	2025-02-25	Variation to Certificate CSA 70157477 for the following: i) Change in sinter porosity from 147µm to 125µm (large – item 8) and 98µm to 88µm (small – item 7). ii) Redesign of enclosure interior and layout. iii) Change O-ring groove from base to lid and from outer to inner perimeter. iv) Added bumper edge to cover, above the cover flange. v) Removal of cement from around window joint. vi) Addition of alternate Local Interface Unit (LUI). vii) Addition of ½" NPT optional plug/blanking element viii) Update in marking from IIC to IIB+H2 for Zones. ix) Full assessment of model NDX to latest Division standards: CSA C22.2 No. 30:20; CSA C22.2 No. 25-17 (R2022); CSA C22.2 No. 60079-0:19; CSA C22.2 No. 60079-1:16 (R2021); CSA C22.2 No. 60079-31:15 (R2020); FM 3600:2022; FM 3615:2022; FM 3616:2022; UL 60079-0:2020 (7th Edition); UL 60079-1:2020 (7th Edition); UL 60079-31:2015 (2nd Edition) x) Change in ambient range from -40°C ≤ Ta ≤ +57°C to -40°C ≤ Ta ≤ +75°C for temperature code T6 (Gas) xi) Change in ambient range from -40°C ≤ Ta ≤ +72°C to -40°C ≤ Ta ≤ +85°C for temperature code T5 (Gas) xii) Change in ambient range from -40°C ≤ Ta ≤ +57°C to -40°C ≤ Ta ≤ +74°C for surface temperature rating T85°C (Dust) xiii) Change in ambient range from -40°C ≤ Ta ≤ +72°C to -40°C ≤ Ta ≤ +75°C for surface temperature rating T95°C (Dust) xiv) Change in ambient range from -40°C ≤ Ta ≤ +85°C to -40°C ≤ Ta ≤ +75°C for surface temperature rating T113°C (Dust). xv) Assessment of revised Umbrella Valve design
70157477	2018-03-23	Original certification - NDX _ _ _ 2 Flameproof/Explosion Proof/Dust Ignition Protection – Aluminum housing for Division 1 and Zone certification.