



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx EESF 24.0040X	Page 1 of 4	Certificate history:
Status:	Current	Issue No: 0	
Date of Issue:	2024-12-11		
Applicant:	Valmet Flow Control Oy Vanha Porvoontie 229 Vantaa FI-01380 Finland		
Equipment:	Valve Positioner NDX Fieldbus		
Optional accessory:	N/A		
Type of Protection:	Intrinsically Safe and Increased Safety		
Marking:	Ex ia IIC T6...T4 Ga Ex ia IIIC T₂₀₀ 85 °C...T₂₀₀ 115 °C Da Ex ib IIC T6...T4 Gb Ex ib IIIC T₂₀₀ 85 °C...T₂₀₀ 115 °C Db Ex ic IIC T6...T4 Gc Ex ic IIIC T85 °C...T115 °C Dc FISCO field device or Ex ec IIC T6...T4 Gc IP66		

Approved for issue on behalf of the IECEx
Certification Body:

Jenni Hirvelä

Position:

Senior Expert

Signature:
(for printed version)

Date:
(for printed version)

2024-12-11

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins Electric & Electronics Finland Oy
Kivimiehentie 4
Espoo FI-02150
Finland





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Date of issue: 2024-12-11

Issue No: 0

Manufacturer: **Valmet Flow Control Oy**
Vanha Porvoontie 229
Vantaa FI-01380
Finland

Manufacturing
locations: **Valmet Flow Control Oy**
Vanha Porvoontie 229
Vantaa FI-01380
Finland

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2023](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:7.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[FI/EESF/ExTR24.0046/00](#)

Quality Assessment Report:

[NO/DNV/QAR09.0008/16](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

NDX Fieldbus is an intelligent valve positioner targeted for use in high-end control valves with either linear or rotary travel. The valve positioner monitors the valve position and controls the actuator which provides the force to control the valve itself.

NDX Fieldbus is connected to FISCO power supply. NDX Fieldbus communicates via Fieldbus (Foundation Fieldbus or PA) that can be used for indicating the valve position towards the control system.

The device is available in variants with Fieldbus and Profibus interface options. Profibus variant has in general different communication protocol and change in electronics is only one pull down resistor assembled or not assembled.

Electrical ratings, FISCO ia, ib and ic:

$U_i \leq 24 \text{ V}$ $I_i \leq 380 \text{ mA}$ $P_i \leq 5.32 \text{ W}$ $C_i < 5 \text{ nF}$ $L_i < 10 \text{ }\mu\text{H}$

Increased safety "ec":

$U_N \leq 24 \text{ V}$

$I_N \leq 23 \text{ mA}$

SPECIFIC CONDITIONS OF USE: YES as shown below:

EPL Ga, Da, Gb and Db:

1. The maximum allowed ambient temperature ranges according to different T Classes are:
 - Tamb -40 °C ... +50 °C for temperature classes T6 (Gas) or T85 °C (Dust)
 - Tamb -40 °C ... +65 °C for temperature classes T5 (Gas) or T100 °C (Dust)
 - Tamb -40 °C ... +80 °C for temperature classes T4 (Gas) or T115 °C (Dust)
2. The permissible ambient temperature range depends on the used configuration. The ambient temperature range is marked on the identification plate.
3. At an ambient temperature $\geq +70 \text{ }^\circ\text{C}$, the temperature rating of the connection cable shall be in accordance with maximum ambient temperature range.
4. For Temperature Classes for dust, a total immersion to dust required for category 1 D (EPL Da) equipment was considered.
5. For Equipment category 1G (EPL Ga), the enclosure parts or enclosures made of aluminium alloy shall not be subjected to friction or impacts due to spark ignition hazard.
6. The valve controller shall be connected according to the manufacturer's instructions.
7. The safety valve controller shall not be subject to prolific charge generating mechanism by dust.
8. The marking label is isolated from earth and may present 56 pF capacitance.
9. The plastic cover of the enclosure shall be wiped with damp cloth only due to risk of electrostatic charging.

EPL Gc and Dc:

1. The maximum allowed ambient temperature ranges according to different T Classes are:
 - Tamb -40 °C ... +50 °C for temperature classes T6 (Gas) or T85 °C (Dust)
 - Tamb -40 °C ... +65 °C for temperature classes T5 (Gas) or T100 °C (Dust)
 - Tamb -40 °C ... +85 °C for temperature classes T4 (Gas) or T115 °C (Dust)
2. The permissible ambient temperature range depends on the used configuration. The ambient temperature range is marked on the identification plate.
3. At an ambient temperature $\geq +70 \text{ }^\circ\text{C}$, the temperature rating of the connection cable shall be in accordance with maximum ambient temperature range.
4. The safety valve controller shall be connected according to the manufacturer's instructions.
5. Provision shall be made to provide the transient protection at a level not exceeding 40% of the rated voltage of the supply and the position output circuit.
6. Selected cable gland shall not invalidate the type of protection.
7. The marking label is isolated from earth and may present 56 pF capacitance.
8. The plastic cover of the enclosure shall be wiped with damp cloth only due to risk of electrostatic charging.
9. Temperature Classes for dust are based on measurement w.r.t. total immersion to dust required for category 1 D (EPL Da) equipment.

Annex:



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[Annex to IECEx EESF 24.0040X.pdf](#)

NDX Fieldbus Product Type Nomenclature:

1 N D X	PRODUCT GROUP																				
	Neles Intelligent Valve Controller Series NDX																				
	2	PNEUMATIC ACTION																			
	1	Single Acting																			
	2	Double Acting (Available with 5. sign 2, 5. sign 1)																			
	3	PNEUMATIC CAPACITY																			
	5	Normal Capacity (80 Nm3/h)																			
	4	FAIL ACTION																			
	1	Fail safe																			
	5	ENCLOSURE																			
	1	Standard - Aluminum with composite cover																			
	2	Flameproof/Explosion Proof - Aluminum																			
	6	COMMUNICATION / INPUT SIGNAL RANGE																			
	F	FOUNDATION fieldbus, physical layer according to IEC 61158-2. (Available with 5. sign 2., 5. sign 1)																			
	P	Profibus PA, physical layer according to IEC 61158-2. (Available with 5. sign 2., 5. sign 1)																			
	7	TEMPERATURE RANGE																			
	G	General: -40..+85 °C																			
	8	-																			
		Standard; Ex i & I/O extension capable																			
	9	APPROVALS FOR HAZARDOUS AREAS (1/2)																			
	N	No approval																			
X	ATEX / IECEx Ex i certification																				
10	APPROVALS FOR HAZARDOUS AREAS (2/2)																				
N	No approval																				
X	ATEX / IECEx Ex i certification																				
11	PNEUMATIC CONNECTIONS & GAUGES																				
0	1/4 NPT without gauges (no block, no gauges)																				
1	1/4 NPT with gauges (block with 1/4 NPT threads+ gauges)																				
2	G1/4 without gauges (block with G1/4 threads)																				
3	G1/4 with gauges (block with G1/4 threads + gauges)																				
12	VARIANT																				
N	Neles																				
13	DIAGNOSTICS																				
0	Advanced diagnostics																				
1	Premium diagnostics																				
14	SPECIAL VERSION																				
0	None																				
15	RESERVED (I/O EXTENSION)																				
0	None																				
16	RESERVED																				
0	None																				
17	-																				
	* * * Characters 18-20 received for partner identification Partner's identification – shall not affect hazardous area approvals.																				
	Special feature – shall not affect hazardous area approvals																				
N D X	2	5	1	2	T	G	-	X	N	0	N	0	0	0	0	-	6	6	8	Y	SAMPLE MODEL CODE (Char = 21)