

EU-TYPE EXAMINATION CERTIFICATE

1. **Equipment or Protective System Intended for use in Potentially explosive atmospheres**
Directive 2014/34/EU
2. EU-Type Examination Certificate Number: **EESF 19 ATEX 045X Issue 3**
3. Product: **Valve controller series ND7100, SD7100, ND7200, SD7200 ND7300 SD7300, ND7400, SD7400, ND9100, SD9100, ND9200, SD9200, ND9300, SD9300, ND9400, SD9400, SG9200 and SG9300**

Certified types: **ND7100 and SD7100 ser., types .D710..HX..., .D710..PX..., and .D710..FX...
ND9100 and SD9100 ser., types .D910..HX..., .D910..PX..., and .D910..FX...
ND7200 and SD7200 ser., types .D720..HX..., .D720..PX..., and .D720..FX...
ND9200 and SD9200 ser., types .D920..HX..., .D920..PX..., and .D920..FX...
ND7300 and SD7300 ser., types .D730..HX..., .D730..PX..., and .D730..FX...
ND9300 and SD9300 ser., types .D930..HX..., .D930..PX..., and .D930..FX...
ND7400 and SD7400 ser., types .D740..HX..., .D740..PX..., and .D740..FX...
ND9400 and SD9400 ser., types .D940..HX..., .D940..PX..., and .D940..FX...
SG9200 ser., types SG92..HX...
SG9300 ser., types SG93..HX...**
4. Manufacturer: **Valmet Flow Control Oy**
5. Address: **Vanha Porvoontie 229, FI-01380 Vantaa, Finland**
6. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
7. Eurofins Electric & Electronics Finland Oy, Notified Body number 0537, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report No. EUFI29-25003538-T1.
8. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018**EN 60079-11:2012****EN 60079-31:2014**
9. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
10. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

11. The marking of the product shall include the following:

ND7100 and SD7100 ser., types .D710..HX..., .D710..PX..., and .D710..FX...
 ND9100 and SD9100 ser., types .D910..HX..., .D910..PX..., and .D910..FX...
 ND7200 and SD7200 ser., types .D720..HX..., .D720..PX..., and .D720..FX...
 ND9200 and SD9200 ser., types .D920..HX..., .D920..PX..., and .D920..FX...
 ND7300 and SD7300 ser., types .D730..HX..., .D730..PX..., and .D730..FX...
 ND9300 and SD9300 ser., types .D930..HX..., .D930..PX..., and .D930..FX...
 SG9200 ser., types SG92..HX...
 SG9300 ser., types SG93..HX...



II 1 G Ex ia IIC T6...T4 Ga
II 1 D Ex ia IIIC T90 °C...T120 °C Da

or



II 2 G Ex ib IIC T6...T4 Gb
II 2 D Ex ib IIIC T90 °C...T120 °C Db

or



II 2 G Ex ia IIC T6...T4 Ga
II 2 D Ex ta IIIC T90 °C...T120 °C Da

or



II 2 G Ex ib IIC T6...T4 Gb
II 2 D Ex tb IIIC T90 °C...T120 °C Db

ND7400 and SD7400 ser., types .D740..HX..., .D740..PX..., and .D740..FX...
 ND9400 and SD9400 ser., types .D940..HX..., .D940..PX..., and .D940..FX...



II 1 G Ex ia IIC T6...T4 Ga

or



II 2 G Ex ib IIC T6...T4 Gb

Espoo, 29.9.2025
Eurofins Electric & Electronics Finland Oy

Jenni Hirvelä
 Senior Expert

Kari Koskela
 Senior Expert

This document is digitally signed.

12. **Schedule**

13. **EU-Type Examination Certificate EESF 19 ATEX 045X Issue 3**

14. **Description of Product**

ND7100, SD7100, ND9100, SD9100, ND7200, SD7200, ND9200, SD9200, ND7300, SD7300, ND9300, SD9300, ND7400, SD7400, ND9400 and SD9400 series Intelligent Valve Controllers and SG9200 and SG9300 series ON/OFF Valve Controllers are used for valve positioning. Product coding indicates the communication protocol and equipment category. Letter H, F or P indicates communication protocol used in the controller e.g. type ND9_H is equipped with HART communication protocol, type ND9_F has Foundation Fieldbus and type ND9_P has Profibus PA communication protocol. With Ex ia IIC Ga versions natural gas can be used as pneumatic fluid. Valve controllers may be equipped with optional ATEX/IECEx certified limit switches. Configuration and calibration of the device can be done remotely or by using Local User Interface (LUI). The HART protocol uses 4 – 20 mA dc loop current with overlaid digital signal. An optional position transmitter position for versions HXT and uses 4-20 mA dc current output signal. The position transmitter needs an external power supply. The intrinsically safe supply and input circuit and the intrinsically safe position output circuit have an infallible galvanic isolation up to maximum voltage of 60 V.

The maximum input values of the supply and input circuit (terminals + and -) of the HART versions are:

$U_i = 28 \text{ V}$; $I_i = 120 \text{ mA}$; $P_i = 1 \text{ W}$; $C_i = 13.5 \text{ nF}$; $L_i = 53 \text{ }\mu\text{H}$

The maximum input values of the supply and input circuit (terminals PT+ and -) of the position transmitter in HART versions are:

$U_i = 28 \text{ V}$; $I_i = 120 \text{ mA}$; $P_i = 1 \text{ W}$; $C_i = 13.5 \text{ nF}$; $L_i = 53 \text{ }\mu\text{H}$

The maximum input values of the limit switches (terminals 11- and 13+ or respectively 14- and 16+) are:

$U_i = 16 \text{ V}$; $I_i = 52 \text{ mA}$; $P_i = 169 \text{ mW}$; $C_i = 90 \text{ nF}$; $L_i = 150 \text{ }\mu\text{H}$

The maximum input values of the Foundation Fieldbus version and Profibus PA version circuit input (terminals 1 and 2) are:

$U_i = 24 \text{ V}$; $I_i = 380 \text{ mA}$; $P_i = 5,32 \text{ W}$; $C_i = 5 \text{ nF}$; $L_i = 10 \text{ }\mu\text{H}$

These parameters comply with the requirements for FISCO Field devices in accordance with standard EN 60079-11 (2012).

15. **Report Number**

EUF129-25003538-T1

16. **Specific Conditions of Use**

1. The maximum allowed ambient temperature ranges according to different Temperature Classes are:
 - Tamb -40 °C ... +50 °C for temperature class T6 or T90 °C for dust
 - Tamb -40 °C ... +65 °C for temperature class T5 or T105 °C for dust
 - Tamb -40 °C ... +80 °C for temperature class T4 or T120 °C for dust
2. The maximum allowed ambient temperature ranges for 'Cold Version (Option C)' applicable solely to ND9200, ND 9300, SD9200 and SD9300 series equipment are:
 - Tamb -55 °C ... +50 °C for temperature class T6 or T90 °C for dust
 - Tamb -55 °C ... +65 °C for temperature class T5 or T105 °C for dust
 - Tamb -55 °C ... +80 °C for temperature class T4 or T120 °C for dust
3. Temperature Classes for dust are based on measurement w.r.t. total immersion to dust required for category 1 D equipment.
4. The permissible ambient temperature range depends on the used configuration. The ambient temperature range is marked on the identification plate.

5. At an ambient temperature $\geq +70^{\circ}\text{C}$, a connection cable shall have a temperature rating in accordance with the maximum ambient temperature range.
6. When the apparatus is used in a potentially explosive atmosphere requiring apparatus of equipment category 1G (EPL Ga), to avoid ignition caused by electrostatic discharge, the plastic enclosure may only be cleaned with damp or wet cloth.
7. To avoid hazardous sparking, the aluminium enclosures or enclosure parts made of aluminium shall not be subjected to friction or impacts, when they are used in potentially explosive atmospheres where category 1G (EPL Ga) equipment are required.
8. The valve controller shall be connected according to the manufacturer's instructions.
9. The valve controller shall not be installed in a place where it can be subject to prolific charge generating mechanism by dust.
10. Selected cable gland shall not invalidate the type of protection.

17. Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed at item 9.

18. Drawings and Documents

IECEx & ATEX –Document list, Product series: ND7100, SD7100, ND7200, SD7200, ND7300, SD7300, ND7400, SD7400, ND9100, SD9100, ND9200, SD9200, ND9300, SD9300, ND9400, SD9400, SG9200 and SG9300, Document No. F13847 Rev. V, date 26.9.2025.

19. Certificate History

Issue	Date	Report No.	Comment
VTT 09 ATEX 033X	2010-04-16	VTT-S-05996-09	Prime certificate
Issue 1	2011-02-11	VTT-S-01284-11	Addition of SG9300 series ON/OFF Valve Controllers. IP-class marking embedded to dust marking. Revised documents: Document No. F13847 Rev. H $\rightarrow$ I; Document No. F15290 Rev. D $\rightarrow$ E $\rightarrow$ F
Issue 2	2011-05-20	VTT-S-03834-11	Manufacturing location changed Revised documents: Document No. F13847 Rev. I $\rightarrow$ J; Document No. F15290 Rev. F $\rightarrow$ G
Issue 3	2012-01-24	VTT-S-00334-12	Documents F13847 and F15290 combined. All marking labels updated. Stainless steel label option added. New equipment series ND7100 and SD7100 added. Minor I.S. and non I.S. relevant changes in electronics. Non-conductive coating of types ND(SD)7100 and ND(SD)9100 enclosures assessed.
Issue 4	2012-09-25	VTT-S-05703-12	Conformance with latest standard versions revised. Markings revised accordingly.
Issue 5	2014-06-27	VTT-S-01606-14	Addition of ND9200 series equipment. Extended Tamb range for new cold version ('Option C') introduced for SG9200, ND9200, SG9300 and ND9300 series equipment. F13847 Rev. L $\rightarrow$ M.
Issue 6	2014-09-01	VTT-S-01606-14	Addition of ND9400 series equipment with level of protection "ia" or "ib" (dust excluded).
Issue 7	2015-06-03	VTT-S-02289-15	Manufacturer's name changed. Changes in electronics. "ia" / "ib" Option R for added. ANNEX TO EC-TYPE EXAMINATION CERTIFICATE VTT 09 ATEX 033X.
Issue 8	2015-09-14	VTT-S-04187-15	Certifications for dust revised.
Issue 9	2016-04-15	VTT-S-01505-16	Minor I.S. relevant changes in electronics.
Issue 10	2017-03-14	VTT-S-00078-17	New types ND7200 and ND7300 with alternative Firmware introduced. Alternative LUI (Local User Interface) added. New document revisions. New device options added.
EESF 19 ATEX 045X	2020-04-20	EUF129-19003446-T1	NB name changed from VTT to Eurofins. New certificate template. Reassessment of Ci values for HART versions. Applicant name changed from Metso Flow Control to Neles Finland..
Issue 1	2020-05-20	EUF129-19003446-T1	Editorial changes.
Issue 2	2022-12-12	EUF129-22003557-T3	Documentation updated, company name changed to Valmet Flow Control Oy and editorial corrections.
Issue 3	2025-09-29	EUF129-25003538-T1	Certificate Annex updated. Optional Inductive Limit Switch list revised. Marking labels revised.

Product type marking nomenclature:

Brands	Diagnostic variants:	Enclosures:	Spool valve sizes:	Communication:	Approval	Options:	Limit switch type:
1	2	3	4	5	6	7	8
ND -> Neles SD -> StoneL SG -> Neles SwitchGuard	7 -> Digital Valve controller 9 -> Intelligent Valve controller	1 -> PC/ Die cast Aluminum 2 -> Flameproof aluminium 3 -> Stainless steel 4 -> PC/ Stainless steel	(ND or SD:) 02 -> low 03 -> medium 06 -> high (SG:) 12 -> Restricted capacity 15-> Standard capacity. 35 ->High capacity. 37 -> Extended capacity.	H -> Hart F -> Foundation Fieldbus P -> Profibus PA	X -> IECEx / ATEX cert. (X1...4 refer to old marking methods used in prior issues)	J -> External Junction box (Table 1.) C -> Cold version (ND9200, ND9300, SD9200 and SD9300 only). R* -> Remote mounting (Note! Only applicable for Option 5. HART) position sensor solely for "ia" / "ib" (Table 3.) T -> Internal Position Transmitter P -> Partial Stroke Test device L1 -> Extension housing Vxx V01...V99 (branded model) for OEM distributors" G->Exhaust adapter Y->Special feature –shall not affect Ex approvals	Ref. Table 2.

*) Output values for the "ia" / "ib" Option R, Remote position sensor interface are: $U_o \leq 3.53 \text{ V}$; $I_o \leq 12.6 \text{ mA}$; $P_o \leq 11.1 \text{ mW}$; $C_o < 10 \text{ nF}$; $L_o < 10 \mu\text{H}$

Table 1. Option J Junction Box types by International Metal Engineering Pte

IME 7080AM-03-22 or IME 7080TM-03-22 (IECEx SIR 07.0111U Issue 3.)
Ex d IIC Gb Ex tb IIIC Db IP68 Ta = -40°C to +85°

Table 2. Optional Inductive Limit Switch types for the certified types:

(Note! Limit switch's temperature range and electrical data must be verified from its certificate)

Neles type code	Manufacturer of switch	Type of switch	ATEX and IECEx certifications of switch		Classification	Electrical data					T _{amb}			
						Ui (V)	Ii (mA)	Pi (mW)	Li (μH)	Ci (nF)	T _{min} (C)	T6 (C)	T5 (C)	T4 (C)
I02	Pepperl+Fuchs	NJ2-12GK-SN (2 pcs)	PTB 00 ATEX 2049X	IECEx PTB 11.0092X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	150	50	-40	50	65	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	150	50	-40	50	65	80
			TUV 20 ATEX 8523X	IECEx TUR 21.0017X	II 3G Ex ec IIC T6...T1 Gc	9 (min. 562Ω)	n/a	n/a	n/a	n/a	-40	50	63	63
I09	Pepperl+Fuchs	NCB2-12GM35-N0 (2 pcs)	PTB 00 ATEX 2048X	IECEx PTB 11.0037X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	100	90	-25	50	65	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	100	90	-25	50	65	80
I41	Pepperl+Fuchs	NJ4-12GK-SN (2 pcs)	PTB 00 ATEX 2049X	IECEx PTB 11.0092X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	150	70	-50/-40 ⁽²⁾	50	65	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	150	70	-50/-40 ⁽²⁾	50	65	80
			TUV 20 ATEX 8523X	IECEx TUR 21.0017X	II 3G Ex ec IIC T6...T1 Gc	9 (min. 562Ω)	n/a	n/a	n/a	n/a	-40	50	63	63
I45	Pepperl+Fuchs	NJ3-18GK-S1N (2 pcs)	PTB 00 ATEX 2049X	IECEx PTB 11.0092X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	200	70	-25	50	65	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	200	70	-25	50	65	80
			TUV 20 ATEX 8523X	IECEx TUR 21.0017X	II 3G Ex ec IIC T6...T1 Gc	9 (min. 562Ω)	n/a	n/a	n/a	n/a	-40	50	64	64
I57	Pepperl+Fuchs	NJ2-V3-N (2 pcs)	PTB 00 ATEX 2032X	IECEx PTB 11.0021X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	50	40	-25	50	65	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	50	40	-25	45	60	80
I58	Pepperl+Fuchs	NJ2-V3-N (4 pcs)	PTB 00 ATEX 2032X	IECEx PTB 11.0021X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	50	40	-25	50	65	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	50	40	-25	45	60	80
I60	Pepperl+Fuchs	NCB2-12GM40-E2-3G-3D (2 pcs)	TUV 20 ATEX 8523X	IECEx TUR 21.0017X	II 3G Ex ec IIC T6...T1 Gc	30	30	n/a	n/a	n/a	-25	53	53	53
			TUV 20 ATEX 8523X	IECEx TUR 21.0017X	II 3G Ex ec IIC T6...T1 Gc	30	100	n/a	n/a	n/a	-25	50	50	50
R02 ¹⁾	StoneL	Maxx-Guard M, SPDT (2 pcs)	n/a	n/a	n/a	30	100	2000	800	66	-40	50	65	80
T01 ¹⁾	Valmet	External position transmitter	n/a	n/a	n/a	30	120	1000	100	66	-40	45	60	80
Y	Turck	BI2-P12-Y1X/S97 (2 pcs)	KEMA 02 ATEX 1090X	IECEx KEM 06.0036X	II 2 G Ex ia IIC T4...T6 Ga	20	20	200	150	150	-40	50	65	80
					II 2 G Ex ia IIC T4...T6 Gb	20	20	200	150	150	-40	50	65	80

1) StoneL Maxx-Guard M reed switch proximity sensors (R02) and External position transmitter (T01) have been assessed for the certified valve controller types in the related ExTR.

2) -50 Cold version, only available with ND and SD

Table 3. Output values for the “ia” / “ib” Option R, Remote position sensor interface are:

Uo ≤ 3.53 V	Io ≤ 12.6 mA	Po ≤ 11.1 mW	Co < 10 nF	Lo < 10 μH
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