

1. **TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in Potentially explosive atmospheres
Directive 2014/34/EU**
3. Type Examination Certificate Number: **EESF 20 ATEX 026X Issue 3**
4. Product: **VG9000H ("ValvGuard") series safety valve controllers**
Certified types: **VG9200H series, types VG92..HX.. and
VG9300H series, types VG93..HX..**
5. Manufacturer: **Valmet Flow Control Oy**
6. Address: **Vanha Porvoontie 229, FI-01380 Vantaa, Finland**
7. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
8. Eurofins Electric & Electronics Finland Oy, Certification Body No. S063 accredited by the Finnish Accreditation Service (FINAS), 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 2014/34/EU of February 2014.

The examination and test results are recorded in confidential report No. EUFI29-23003451-T1.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018	EN 60079-11:2012	EN IEC 60079-15:2010
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10. 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.
11. This 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.
12. The marking of the product shall include the following:

**II 3G****Ex nA IIC T6...T4 Gc**

or

**II 3G
II 3D****Ex ic IIC T6...T4 Gc
Ex ic IIIC T95 °C...T125 °C Dc**

Espoo, 10.10.2023
Eurofins Electric & Electronics Finland Oy

Jenni Hirvelä
Senior Expert

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This document is digitally signed.

13. **Schedule**

14. **Type Examination Certificate EESF 20 ATEX 026X Issue 3**

15. **Description of Product**

VG9000H ("ValvGuard") series safety valve controllers are intended to control on/off valves in hazardous industrial areas. HART communication in 4...20 mA current loop has been utilized in the controllers. In addition to communication and power supply, the mA loop is also used as a safety control signal. The equipment accommodates three component boards (SHART, SVCH and SA 2W), LUI (Local User Interface) module, prestage unit and limit switches (option). PT (Position Transmitter) option for indicating valve position is a 4...20 mA current transmitter/sink with separate interface (PT Loop). LCP (Local Control Panel) option is an external pushbutton/ indicator module that can be connected to VG9000H device via LCP interface.

Electrical ratings:
Intrinsic safety / Ex "ic"

The maximum input values of Current Loop interface are:

$U_i \leq 30 \text{ V}$	$I_i \leq 153 \text{ mA}$	$P_i \leq n/a \text{ (device limits itself)}$	$C_i < 8 \text{ nF}$	$L_i < 53 \text{ } \mu\text{H}$
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The maximum input values of PT Loop interface:

$U_i \leq 30 \text{ V}$	$I_i \leq 152 \text{ mA}$	$P_i \leq n/a \text{ (device limits itself)}$	$C_i < 8 \text{ nF}$	$L_i < 53 \text{ } \mu\text{H}$
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The maximum input values of LCP interface are:

$U_i \leq 15 \text{ V}$	$I_i \leq 1350 \text{ mA}$	$P_i \leq n/a \text{ (device limits itself)}$	$C_i < 5 \text{ nF}$	$L_i < 1 \text{ } \mu\text{H}$
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Increased safety / Ex "nA"

$U \leq 30 \text{ V}$	$I \leq 35 \text{ mA}$
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16. **Report Number**

EUF129-23003451-T1

17. **Specific Conditions of Use**

1. The maximum allowed ambient temperature ranges according to different T Classes are:
 - a. Tamb -40 °C ... +60 °C for temperature classes T6 or T95 °C
 - b. Tamb -40 °C ... +75 °C for temperature classes T5 or T110 °C
 - c. Tamb -40 °C ... +85 °C for temperature classes T4 or T125 °C
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 $\geq +70^\circ\text{C}$, 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 inputs of VG9000H shall be galvanically isolated from earth, therefore a suitably rated Exi-isolator shall be used for Ex "ic".

18. Essential Health and Safety Requirements

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

19. Drawings and Documents

IECEx & ATEX – DOCUMENT LIST, DIGITAL POSITIONERS SERIES VG9200H/VG9300H, Document number F56409, Rev. F, date 5.10.2023.

20. Certificate History

Issue	Date	Report No.	Comment
VTT 14 ATEX 044X	10.2.2015	VTT-S-00202-15	Prime certificate
1	21.1.2016	VTT-S-00076-16	Options L1, L2 and P added. Manufacturers name changed.
2	19.1.2017	VTT-S-05707-16	*) Changed items. Option L3, Facility for connection of current loop powered associated apparatus LCP added, nomenclature and marking plates revised accordingly.
3	17.2.2017	VTT-S-05707-16	Annex to certificate added. Option T01 added. Alternative LUI (Local User Interface) assessed.
4	20.6.2018	-	Typo in the referred standards list corrected.
EESF 20 ATEX 026X	28.8.2020	EUFI29-20001828-T7	NB name changed from VTT Expert Services to Eurofins Expert Services. Applicant name changed from Metso Flow Control to Neles Finland. *) Markings revised.
Issue 1	19.04.2022	-	Marking II 3D added. New NB name Eurofins Electric & Electronics.
Issue 2	16.1.2023	EUFI29-22003557-T1	Documentation updated, company name changed to Valmet Flow Control Oy and editorial corrections. Ratings for Ex "nA" added.
Issue 3	10.10.2023	EUFI29-23003451-T1	ID-plate drawings updated.

VG9200H series, types VG92..HX.. and
VG9300H series, types VG93..HX..

Product type marking nomenclature:

Brands 1	Diagnostic variants: 2	Enclosures: 3	Spool valve sizes: 4	Communication: 5	Approval 6	Options: 7	Limit switch type: 8
VG -> ValvGuard	9 -> Intelligent Valve controller	2 -> Die cast aluminum. alloy 3 -> Stainless steel	12 -> Restricted capacity 15-> Standard capacity. 35 ->High capacity. 37 -> Extended capacity.	H -> Hart	X -> IECEx / ATEX certified product	T -> Internal position transmitter S -> Internal device status output P -> For Partial Stroke Test only J -> External Junction box for wirings (Table 1.) L1 -> Extension housing for PT L2 -> Extension housing with a terminal strip for LCP L3 -> Extension housing with a terminal strip for loop powered LCP Y -> Special construction	Ref. Table 2.

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 IIC Db IP68; Ta = -40°C to +85°

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	IECEEx PTB 11.0092X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	150	50	-40	50	64	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	150	50	-40	50	65	80
I09	Pepperl+Fuchs	NCB2-12GM35-N0 (2 pcs)	PTB 00 ATEX 2048X	IECEEx 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
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	150	70	-50/-40 ⁽²⁾	50	65	80
I45	Pepperl+Fuchs	NJ3-18GK-S1N (2 pcs)	PTB 00 ATEX 2049X	IECEEx PTB 11.0092X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	200	70	-25	50	64	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	200	70	-25	50	65	80
I57	Pepperl+Fuchs	NJ2-V3-N (2 pcs)	PTB 00 ATEX 2032X	IECEEx PTB 11.0021X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	50	40	-25	49	61	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	IECEEx PTB 11.0021X	II 1 G Ex ia IIC T6...T1 Ga	16	25	64	50	40	-25	49	61	80
					II 2 G Ex ia IIC T6...T1 Gb	16	52	169	50	40	-25	45	60	80
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⁾	Neles	Position transmitter	n/a	n/a	n/a	30	120	1000	100	66	-40	45	60	80

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