



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 20.0017X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2023-01-16) Issue 0 (2020-07-10)
Date of Issue:	2023-10-10		
Applicant:	Valmet Flow Control Oy Vanha Porvoontie 229 Vantaa FI-01380 Finland		
Equipment:	VG9000H ("ValvGuard") series safety valve controllers. VG9200H series, types VG92..HX.. and VG9300H series, types VG93..HX..		
Optional accessory:	See Annex		
Type of Protection:	Intrinsic Safety and Non-sparking		
Marking:	Ex ic IIC T6...T4 Gc Ex nA IIC T6...T4 Gc Ex ic IIIC T95 °C...T125 °C Dc		

Approved for issue on behalf of the IECEx
Certification Body:

Jenni Hirvelä

Position:

Senior Expert

Signature:
(for printed version)

Date:
(for printed version)

2023-10-10

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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

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





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

Manufacturing
locations:

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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

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/ExTR20.0016/02

Quality Assessment Report:

NO/DNV/QAR09.0008/14



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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 which can be connected to VG9000H device via LCP interface.

Electrical ratings:

Intrinsic safety / Ex "ic"

The maximum input values of Current Loop interface are:

$U_i \leq 30 \text{ V}$; $I_i \leq 152 \text{ mA}$; $P_i \leq \text{n/a}$ (device limits itself); $C_i < 8 \text{ nF}$; $L_i < 53 \text{ }\mu\text{H}$

The maximum input values of PT Loop interface are:

$U_i \leq 30 \text{ V}$; $I_i \leq 152 \text{ mA}$; $P_i \leq \text{n/a}$ (device limits itself); $C_i < 8 \text{ nF}$; $L_i < 53 \text{ }\mu\text{H}$

The maximum input values of LCP interface are:

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

Increased safety / Ex "nA"

$U \leq 30 \text{ V}$

$I \leq 35 \text{ mA}$

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The maximum allowed ambient temperature range according to different T Classes are:
 - Tamb -40 °C...+60 °C for temperature classes T6 or T95 °C
 - Tamb -40 °C...+75 °C for temperature classes T5 or T110 °C
 - Tamb -40 °C...+85 °C for temperature classes T4 or T125 °C
- The permissible ambient temperature range depends on the used configuration. The ambient temperature range is marked on the identification plate
- 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.
- The safety valve controller shall be connected according to the manufacturer's instructions.
- Provision shall be made to provide the transient protection at a level not exceeding 40% of the rated voltage.
- Selected cable gland shall not invalidate the type of protection.
- The inputs of VG9000H shall be galvanically isolated from earth, therefore a suitably rated Exi-isolator shall be used.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
ID-plate drawings updated.

Annex:

[ANNEX TO IECEx EESF 20.0016X and IECEx EESF 20.0017X_1.pdf](#)

ANNEX TO IECEx EESF 20.0016X and IECEx EESF 20.0017X

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

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
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°

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	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	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
					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	IECEx 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	IECEx 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	IECEx 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	External 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.