

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 029X Issue 1**
4. Product: **VG9000F ("ValvGuard") series safety valve controllers**
Certified types: **VG9200F series, types VG92..FX.. and
VG9300F series, types VG93..FX..**
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. EUFI29-22003557-T2.
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 60079-15:2010
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
II 3D****Ex nA IIC T6...T4 Gc
Ex ic IIIC T95 °C...T125 °C Dc**

or

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

Espoo, 2.2.2023
Eurofins Electric & Electronics Finland Oy

Jenni Hirvelä
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Senior Expert

This document is digitally signed.

13. **Schedule**14. **Type Examination Certificate EESF 20 ATEX 029X Issue 1**15. **Description of Product**

VG9000F ("ValvGuard") series safety valve controllers are intended to control on/off valves in hazardous industrial areas. FISCO compliant Fieldbus protocol has been utilized in the controllers. In addition, with distributed control system (DCS), the Fieldbus is used for supplying power to assigned functions of the equipment, e.g. for diagnostics and valve control. Separate intrinsically safe 24V Safety Control input is used in case of emergency situation for overriding all other tasks.

The equipment accommodates three component boards (FBI, SVC and SA 4W), LUI (Local User Interface) module, prestage unit and limit switches (option).

Electrical rating, Ex nA:

$$U_N = 28 V_{DC}$$

The maximum input values of Fieldbus interface for Ex ic are:

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

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

The maximum input values of 24 V Safety Control input Ex ic interface:

$$U_i \leq 28 V \quad I_i \leq 150 \text{ mA} \quad P_i \leq 1 \text{ W} \quad C_i < 15 \text{ nF} \quad L_i < 175 \mu\text{H}$$

16. **Report Number**

EUFI29-22003557-T2

17. **Specific Conditions of Use**

1. For Ex nA, the maximum allowed ambient temperature ranges according to different T Classes are:
 - Tamb -40 °C ... +50 °C for temperature classes T6 or T95 °C
 - Tamb -40 °C ... +75 °C for temperature classes T5 or T110 °C
 - Tamb -40 °C ... +80 °C for temperature classes T4 or T125 °C
2. For Ex ic, the maximum allowed ambient temperature ranges 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 ... +80 °C for temperature classes T4 or T125 °C
3. The permissible ambient temperature range depends on the used configuration. The ambient temperature range is marked on the identification plate.
4. At an ambient temperature $\geq +70$ °C, the temperature rating of the connection cable shall be in accordance with maximum ambient temperature range.
5. The safety valve controller shall be connected according to the manufacturer's instructions.
6. 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.
7. Selected cable gland shall not invalidate the type of protection.

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 VG9200F/VG9300F, Document number F59538, Rev. C, date 1.2.2023.

20. Certificate History

Issue	Date	Report No.	Comment
VTT 14 ATEX 075X	17.12.2014	VTT-S-04664-14	Prime certificate
1	30.10.2015	VTT-S-05058-15	Manufacturer's name changed. Marking labels updated. Minor components changes. Addition of type R02 and R03 limit switches. New document revisions updated in doc. F59538, Rev. A. Annex to certificate added.
2	20.6.2018	-	Typo in the referred standards list corrected.
EESF 20 ATEX 029X	28.08.2020	EUFI29-20001828-T8	NB name changed from VTT Expert Services to Eurofins Expert Services Oy. Applicant name changed from Metso Flow Control to Neles Finland. Markings revised.
Issue 1	2.2.2023	EUFI29-22003557-T2	Documentation updated, company name changed to Valmet Flow Control Oy and editorial corrections. Ex nA rating added.

**VG9200F series, types VG92..FX.. and
VG9300F series, types VG93..FX..**

. 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.	F -> Foundation Fieldbus H1	X -> IECEx / ATEX certified product	J -> External Junction box (Table 1.)	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
					II 1 G Ex ia IIC T6...T1 Ga	16	25	64	200	70	-25	50	64	80
I45	Pepperl+Fuchs	NJ3-18GK-S1N (2 pcs)	PTB 00 ATEX 2049X	IECEx PTB 11.0092X	II 2 G Ex ia IIC T6...T1 Gb	16	52	169	200	70	-25	50	65	80
					II 1 G Ex ia IIC T6...T1 Ga	16	25	64	50	40	-25	49	61	80
I57	Pepperl+Fuchs	NJ2-V3-N (2 pcs)	PTB 00 ATEX 2032X	IECEx PTB 11.0021X	II 2 G Ex ia IIC T6...T1 Gb	16	52	169	50	40	-25	45	60	80
					II 1 G Ex ia IIC T6...T1 Ga	16	25	64	50	40	-25	49	61	80
I58	Pepperl+Fuchs	NJ2-V3-N (4 pcs)	PTB 00 ATEX 2032X	IECEx PTB 11.0021X	II 2 G Ex ia IIC T6...T1 Gb	16	52	169	50	40	-25	45	60	80
					II 1 G Ex ia IIC T6...T1 Ga	16	25	64	50	40	-25	49	61	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.