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 SIR 11.0001X**

Page 1 of 4

Status: **Current**

Issue No: 16

Date of Issue: 2024-03-22

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

Equipment: **Valve Controller**

Optional accessory:

Type of Protection: **Flameproof d and Dust Protection by Enclosure tb**

Marking: Ex d IIC T6 …T4 Gb
Ex tb III C T80°C...T105°C Db
The tables in the description show a complete list of all of the limit switch options and their associated temperature class, surface temperature for dust and ambient temperature ranges.

Certificate history:

Issue 15 (2020-07-07)
Issue 14 (2020-04-21)
Issue 13 (2017-06-15)
Issue 12 (2017-06-08)
Issue 11 (2016-11-17)
Issue 10 (2016-08-23)
Issue 9 (2016-05-03)
Issue 8 (2015-06-30)
Issue 7 (2014-10-13)
Issue 6 (2014-08-21)

Approved for issue on behalf of the IECEx Certification Body: **Michelle Halliwell**

Position: **Director Operations, UK & Industrial Europe**

Signature:
(for printed version)

Date:
(for printed version)

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:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 11.0001X**

Date of issue: 2024-03-22

Issue No: 16

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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-1:2007 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:6

IEC 60079-31:2008 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
Edition: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 Reports:

GB/SIR/ExTR11.0002/00
GB/SIR/ExTR11.0050/00
GB/SIR/ExTR11.0121/00
GB/SIR/ExTR12.0279/00
GB/SIR/ExTR13.0106/00
GB/SIR/ExTR14.0129/00
GB/SIR/ExTR14.0213/00
GB/SIR/ExTR14.0256/00
GB/SIR/ExTR15.0179/00
GB/SIR/ExTR16.0104/00
GB/SIR/ExTR16.0214/00
GB/SIR/ExTR16.0289/00
GB/SIR/ExTR17.0120/00
GB/SIR/ExTR17.0128/00
GB/SIR/ExTR20.0077/00
GB/SIR/ExTR20.0125/00
GB/SIR/ExTR24.0036/00

Quality Assessment Report:

NO/DNV/QAR09.0008/15

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Valve Controllers of the Type SG9.....E6./..., VG9.....E6./..., ND9.....E1./..., ND7.....E1, SG9.....E7./..., VG9.....E7./..., ND9.....E7./... and ND7.....E7 are intended for controlling the diaphragm or the cylinder type pneumatic actuators of rotary or linear valves. Two enclosure models exist for the Valve Controller. The enclosure itself consists either of 3 screwed together parts (basic housing, limit switch housing and cover) or 2 screwed together parts (basic housing and cover). The cover is alternatively available with an inspection window. Threaded holes in the enclosure are intended for the connection of cable glands certified in the corresponding type of protection. The limit switch options included are shown in product type designation.

For more information, refer to the certificate Annexe.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Some external parts of the system are non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user shall ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done with a damp cloth.
2. When the equipment is installed in a dust explosive environment the user shall ensure that an accumulation of excessive dust layers on the enclosure is prevented.
3. The full assembly is to have a maximum power draw of less than 2.5 W.
4. Blanking elements shall not be used with an adapter.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 16, recognises the following change; refer to the certificate annex to view a comprehensive history:

1. To change the company name:
   From: Neles Finland Oy
   To: Valmet Flow Control Oy

Annex:

IECEx SIR 11.0001X Annexe Issue 16.pdf

Annexe to: **IECEx SIR 11.0001X Issue 16**

Applicant: **Valmet Flow Control Oy**

Apparatus: **Valve Controllers**

Product Type Ref:

AABCDDEFFG/HHH

AA **Product Group**

SG = SwitchGuard, intelligent on/off valve controller.
VG = ValvGuard, intelligent safety valve controller, SIL 3.
ND = Neles Digital, Intelligent Valve Controller.

B Series code

9 = Series 9000
7 = Series 7000

C Enclosure

2 = Aluminium IP66 enclosure.
3 = Stainless steel IP66 enclosure.

DD **Spool valve and connections**

12 = Restricted capacity (SG and VG variant).
15 = Standard capacity, stroke volume of actuator < 13 dm^3 (SG and VG variant). 35 = Standard capacity, stroke volume of actuator > 13 dm^3 (SG and VG variant). 37 = Extended capacity, for single acting actuators (SG and VG variant).
02 = Low Capacity (ND variant).
03 = Medium Capacity (ND variant). 06 = High capacity (ND variant).

E **Communication/ input signal range**

H = HART.
F = Foundation Fieldbus. P = Profibus PA

FF **Approvals**

E6 = (SG and VG variant) E1 = (ND variant).
E7 = identification plates in Russian language (SG, VG and ND variants).

G **Options for valve controller**

T = **VG9_HE6T, SG9_E6T and ND_E1T**: internal 2-wire (passive) position transmitter. Analog position feedback signal, output 4-20 mA, supply voltage 12-30 V d.c., external load resistance 0-780 ohm.
VG9_HE6T: Ui ≤30 V, Li ≤ 20 mA, Pi ≤ 1050 mW, external load resistance 0-780 ohm.
SG9_E6T: Ui = 30 V, Pmax = device limits itself, external load resistance 0-780 ohm.
ND_E1T: Ui = 30 V, Pmax = device limits itself, external load resistance 0-780 ohm.
S = **VG9_HE6S** : internal 2-wire (passive) position transmitter. Analog device status feedback signal, 4-20mA. Output mA value is based on the device status. Supply voltage 12-30 V d.c., external load resistance 0-780 ohm.
VG9_HE6S: Ui ≤30 V, Li ≤ 20 mA, Pi ≤ 1050 mW, external load resistance 0-780 ohm.

C = Low temperature (-53^{O}C) (ND variant).
J = External junction box, 2 pcs M20x1.5 conduit entry.
SG9_J: Junction box for all 4-20 mA wirings, including position transmitter, if applicable. Junction box is attached to the enclosure, 2 pcs M20x1.5 conduit entry.
VG9_H_J: Junction box for all 4-20 mA wirings, including position transmitter, if applicable. Junction box is attached to the standard enclosure, 2 pcs M20x1.5 conduit entry.
VG9_F_J: Junction box for FF and 24 VDC wiring. Junction box is attached to the standard enclosure.
ND_H_J: External junction box for all 4-20 mA wirings, including position transmitter, if applicable. Junction box is attached to the enclosure, 2 pcs M20x1.5 conduit entry.
ND_F_J, ND_P_J: External junction box for wirings, including option for parallel connection of external surge protector. Junction box is attached to the enclosure, 2 pcs M20x1.5 conduit entry.
M = Special corrosion resistant finish. External aluminium surfaces protected by hard anodizing with PTFE.
L1 = Extension housing for PT (SG and VG variant).
L2 = Extension housing for LCP (VG variant).
L3 = Extension housing for LCP (VG variant).
Vxx = Branded for OEM distributors (V00...V099).

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

HHH Options for valve controller (See table below)

2-wire, DC voltage proximity switches:			
Limit switch code	Electric data	No. of switches	Ambient Range
I02	Ui: 16 V, Ii: 52 mA, Pi:169 mW	2	See tables below
I03	Ui: 16 V, Ii: 52 mA, Pi 169 mW	2	See tables below
I04	Ui: 16 V, Ii: 52 mA, Pi 169 mW	2	See tables below
I09	Ui: 16 V, Ii: 52 mA, Pi 169 mW	2	See tables below
I54	12-24 V DC, < 100 mA	2	See tables below
I56	10-36 V DC, < 150 mA	2	See tables below
I57	Ui: 16 V, Ii: 52 mA	2	See tables below
I58	Ui: 16 V, Ii: 52 mA	4	See tables below
I41	Ui: 16 V, Ii 52 mA	4	See tables below
3-wire, DC voltage proximity switches:			
Limit switch code	Electric data	No. of switches	Ambient Range
I11	10-60 V DC, <: 200 mA	2	See tables below
I21	10-60 V DC, < 200 mA	2	See tables below
I45	Ui: 16 V DC, Ii: 52 mA, Pi 169 mW	2	See tables below
I59	U: 10-30 V DC, Imax: 200 mA	2	See tables below
I60	U: 10-30 V DC, Imax: 200 mA	2	See tables below
2-wire, AC voltage proximity switches:			
Limit switch code	Electric data	No. of switches	Ambient Range
I32	24-240 V AC, < 200 mA	2	See tables below
I34	24-240 V AC, < 200 mA	2	See tables below
Stonel type proximity switches:			
Limit switch code	Electric data	No. of switches	Ambient Range
D33	2 A - 8-125 V DC, 24-125 V AC	1	See tables below
D44	3 mA; 1 mA, 6-29 V DC	1	See tables below

DC/AC voltage micro switches:			
Limit switch code	Electric data	No of switches	Ambient Range
K05	3 A - 250 V AC, 0.4 A - 125 V DC, 5 A - 30 V DC	2/4	See tables below
K06	100 mA - 30 V DC / 125 V AC	2/4	See tables below
K25	3 A - 250 V AC, 0.4 A - 125 V DC, 5 A - 30 V DC	2	See tables below
K26	100 mA - 30 V DC / 125 V AC	2	See tables below
K45	3 A - 250 V AC, 0.4 A - 125 V DC, 5 A - 30 V DC	4	See tables below
K46	100 mA - 30 V DC / 125 V AC	4	See tables below
B06	BUS POWERED, NO EXTERNAL POWER NEEDED	2	See tables below
Reed type proximity switches:			
Limit switch code	Electric data	No. of switches	Ambient Range
R01	300 mA, 24 V DC; 200 mA, 125 V AC	2	See tables below
R02	150 mA, 24 V DC	2	See tables below
R04	Vmax 24VDC, Imax 3A, Wmax 2.5W	2	See tables below
R35	4 A - 120 V AC, 3 A - 24 V DC	2	See tables below

Diagnostic signal position transmitters:			
Limit switch code	Electric data	No of switches	Ambient Range
T01	Vmax: 40 V DC, I: 4-20 mA	2	See tables below

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Valve Controllers SG9000HE6

Variant type	Ambient temperature ranges (Ta) according to type		
SG9000	T6 T80°C	T5 T95°C	T4 T105°C
SG9abHE6c* SG9abHE6c/I02* SG9abHE6c/I04 SG9abHE6c/K25* SG9abHE6c/K26* SG9abHE6c/K45* SG9abHE6c/K46* SG9abHE6c/B06* SG9abHE6c/R35* SG9abHE6c/I32* SG9abHE6c/I41 SG9abHE6c/T01	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+85°C
SG9abHE6c/D33* SG9abHE6c/D44*	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+82°C
SG9abHE6c/R01* SG9abHE6c/R02 SG9abHE6c/R04*	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+80°C
SG9abHE6c/I59	-40°C ...+60°C	-40°C ...+60°C	-40°C ...+60°C
SG9abHE6c/I03 SG9abHE6c/I09* SG9abHE6c/I45* SG9abHE6c/I57 SG9abHE6c/I58	-25°C ...+60°C	-25°C ...+75°C	-25°C ...+85°C
SG9abHE6c/I56*	-25°C ...+60°C	-25°C ...+75°C	-25°C ...+80°C
SG9abHE6c/I54 SG9abHE6c/I11 SG9abHE6c/I21 SG9abHE6c/I34 SG9abHE6c/I60	-25°C ...+60°C	-25°C ...+70°C	-25°C ...+70°C

Type markings:
a = Enclosure:
2 (aluminum alloy), 3 (stainless steel)
b = Spool valve size:
12 (restricted), 15 (standard), 35 (high), 37 (extended)
c = Options of valve controller:
none, T (position transmitter), J (external junction box), M (special corrosion resistant finish, external aluminium surfaces protected by hard anodizing with PTFE), Y (special construction to be specified).

* Denotes that variant type is included in the manufacturer's instruction manual reference 7SG9H70en.

Valve Controllers VG9000HE6, VG9000FE6

Variant type	Ambient temperature ranges (Ta) according to type		
VG9000	T6 T80°C	T5 T95°C	T4 T105°C
VG9abcE6d* VG9abcE6d/I02* VG9abcE6d/I04 VG9abcE6d/K25* VG9abcE6d/K26* VG9abcE6d/K45* VG9abcE6d/K46* VG9abcE6d/B06* VG9abcE6d/R35* VG9abcE6d/I32 VG9abcE6d/I41 VG9abcE6d/T01	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+85°C
VG9abcE6d/D33*	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+82°C

Type markings:
a = Enclosure:
2 (aluminum alloy), 3 (stainless steel)
b = Spool valve size:
12 (restricted), 15 (standard), 35 (high), 37 (extended)
c = Communication:
H (HART) or F (Foundation Fieldbus)
d = Options of valve controller:

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Variant type	Ambient temperature ranges (Ta) according to type		
VG9000	T6 T80°C	T5 T95°C	T4 T105°C
VG9abcE6d/D44*			
VG9abcE6d/R01* VG9abcE6d/R02* VG9abcE6d/R04*	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+80°C
VG9abcE6d/I59	-40°C ...+60°C	-40°C ...+60°C	-40°C ...+60°C
VG9abcE6d/I03 VG9abcE6d/I09* VG9abcE6d/I45* VG9abcE6d/I57* VG9abcE6d/I58*	-25°C ...+60°C	-25°C ...+75°C	-25°C ...+85°C
VG9abcE6d/I56*	-25°C ...+60°C	-25°C ...+75°C	-25°C ...+80°C
VG9abcE6d/I54 VG9abcE6d/I11 VG9abcE6d/I21 VG9abcE6d/I34 VG9abcE6d/I60	-25°C ...+60°C	-25°C ...+70°C	-25°C ...+70°C

none, T or S (position transmitter or device status), J (external junction box), M (special corrosion resistant finish. External aluminium surfaces protected by hard anodizing with PTFE), L1 (housing extension), L2 (housing extension), Y (special construction to be specified)

* Denotes that variant type is included in the manufacturer's instruction manual references 7VG9H70en and 7VG9F70en.

Valve Controllers ND9000HE1, ND9000FE1, ND9000PE1, ND7000HE1

Variant type	Ambient temperature ranges (Ta) filled according to type		
ND9000/ND7000	T6 T80°C	T5 T95°C	T4 T105°C
NDabcdE1e* NDabcdE1e/I02* NDabcdE1e/I04* NDabcdE1e/K05* NDabcdE1e/K06* NDabcdE1e/B06* NDabcdE1e/I32* NDabcdE1e/R35* NdabcdE1e/I41* NdabcdE1e/T01	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+85°C
NDabcdE1e/D33* NDabcdE1e/D44*	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+82°C
NDabcdE1e/R01* NDabcdE1e/R02 NDabcdE1e/R04	-40°C ...+60°C	-40°C ...+75°C	-40°C ...+80°C
NDabcdE1e/I59*	-40°C ...+60°C	-40°C ...+60°C	-40°C ...+60°C
NDabcdE1e/I03 NDabcdE1e/I09* NDabcdE1e/I45* NDabcdE1e/I57* NDabcdE1e/I58*	-25°C ... +60°C	-25°C ... +75 C	-25°C ... +85°C
NDabcdE1e/I56*	-25°C ...+60°C	-25°C ...+75°C	-25°C ...+80°C
NDabcdE1e/I54 NDabcdE1e/I11* NDabcdE1e/I21*	-25°C ...+60°C	-25°C ...+70°C	-25°C ...+70°C

Type markings:
a = Diagnostics variant:
9 (intelligent Valve controller), 7 (digital Valve controller)
b = Enclosure:
20 (aluminum alloy), 30 (stainless steel)
c = Spool valve size:
2 (low), 3 (medium), 6 (high)
d = Communication:
H (HART) or F (Foundation Fieldbus) or P (Profibus PA)
e = Options of valve controller:
none, T (position transmitter), J (external junction box), M (special corrosion resistant finish. External aluminium surfaces protected by hard anodizing with PTFE), G (exhaust adapter), Y (special construction to be specified)

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Variant type	Ambient temperature ranges (Ta) filled according to type		
ND9000/ND7000	T6 T80°C	T5 T95°C	T4 T105°C
NDabcdE1e/I34* NDabcdE1e/I60*			
NDabcdE1Ce* **	-53°C ...+60°C	-53°C ...+75°C	-53°C ...+85°C
NDabcdE1Ce/I59* **	-53°C ... +60°C	-53°C ... +60°C	-53°C ... +60°C
NDabcdE1Ce/I41* **	-50°C ... +60°C	-50°C ... +75°C	-50°C ... +85°C

* Denotes that variant type is included in the manufacturer's instruction manual reference 7ND9071en.
** Not allowed with external junction box (J, -40 °C)

Electrical data

Type VG9.....F..E6./...

Safety signal (binary input)	Unom	≤ 28 V d.c.
Terminals 24 V d.c. +/-	Pnom	≤ 1.0 W
Fieldbus	Unom	≤ 32 V d.c.
Terminals H1 +/-	Inom	≤ 380 mA
Pnom	≤ 5320 mW	

Type VG9.....H..E6./...

Input current circuit	Unom	≤ 30 V d.c.
Terminals +/-	Pnom	≤ 1080 mW
Position encoder, optional	Unom	≤ 30 V d.c.
Terminals PT +/-	Inom	≤ 20 mA
Pnom	≤ 1050 mW	

Type SG9.....H..E6./...

Input current circuit	Unom	≤ 30 V d.c.
Terminals +/-	Pnom	≤ 1.0 W
Position encoder, optional	Unom	≤ 30 V d.c.
Terminals +/-	Inom	≤ 20 mA
Pnom	≤ 1.0 W	

Type ND.....H..E1./...

Input current circuit	Unom	≤ 30 V d.c.
Terminals +/-	Pnom	≤ 1.0 W
Position encoder, optional	Unom	≤ 30 V d.c.
Terminals +/-	Inom	≤ 20 mA
Pnom	≤ 1.0 W	

Type ND.....F..E1./...

Type ND.....P..E1./...

Fieldbus Unom	≤ 32 V d.c.	
Terminals H1 +/-	Inom	≤ 380 mA
Pnom	≤ 5320 mW	

Conditions of Manufacture

1. When fitting a Certified Type NPS nipple to the assembly, as certified under IECEx CES 10.0003U, carbon steel versions shall not be used.
2. The equipment covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of the overall equipment.
3. The manufacturer shall take all reasonable steps to ensure compliance with the special conditions for certification associated with the equipment, in addition, the manufacturer shall provide the user/installer with an appropriate copy of the certificate for each certified device that is fitted, to also ensure they comply with any relevant special conditions for certification.
4. Each enclosure cover (with the exception of the blank (windowless) stainless steel version), shall be subjected to a routine overpressure test of at least 18.2 Bar for a period of at least 10 seconds, as required by clause 16.1 of IEC 60079-1. There shall be no permanent deformation or damage to the enclosure cover. **Note:** The enclosure housing and stainless steel cover are exempt from the above routine overpressure test.
5. Elastomeric O-seals used with the equipment shall have a continuous operating temperature (COT) of at least -60°C to +220°C.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

6. Model 2011 and Model 2012 IME Sealing Nipples shall only be used with Valve Controllers, which are limited to a maximum upper ambient temperature of +60°C.
7. The full assembly is to have a maximum power draw of 2.5 W, except for models VG9....F.. which is to be limited to 3.5 W.

Full Certificate Change History

Issue 1 – this Issue introduced the following changes:

1. The use of stainless steel as an alternative enclosure material was endorsed; section 'C Enclosure' of the reference details in the description of Product Type was amended to include this option and the generic product references throughout this certificate were clarified.
2. The introduction of the S option for the VG9....H, a 2 wire (passive) position transmitter was allowed; as a result of this modification, section 'G Options for valve controller' of the reference details in the description of Product Type was amended to include this option.

Issue 2 – this Issue introduced the following changes:

1. The applicants name and address was changed from Metso Automation, Flow Control Business Line, Tulppatie 1, 00811 Helsinki, Finland to Metso Automation Oy, Vanha Porvoontie 229, 01380 Vantaa, Finland.
2. The maximum ambient temperature for T5 versions was approved to be increased from +80°C to +85°C.
3. The reed switch type Maxx-Guard (R01) was added to the range, the table in the annexe was amended to include this reed switch.
4. A reduction in the number of threads of the joint between the extension and base was recognised, the minimum required threads remains maintained.
5. An alternative mounting hole arrangement was introduced.

Issue 3 – this Issue introduced the following changes:

1. Following appropriate re-assessment to demonstrate compliance with the requirements of a later standard, IEC 60079-0: 2007-10 Edition 5 was replaced by IEC 60079-0:2011 Edition 6.
2. The VG and SG models were assessed for use in explosive dust environments against IEC 60079-31:2008 Edition 1, the markings were updated accordingly.
3. The addition of the T4 temperature class to the range was approved, in addition, the associated temperature class, surface temperature for dust and ambient temperature ranges are now defined for individual limit switch options.
4. The design of the Breather/Draining Device arrangement was changed to use a 0.6 mm grooved plate and to allow the bubble pore size to increase to 0.17 mm.
5. The material of the marking plate for the aluminium enclosures was changed.
6. The product type references were clarified and additional options were recognised, the original product description was modified accordingly, in addition, the description now includes a new table that defines the types of limit switches that are used.
7. The ND range of valve controllers were added to the range. These are flameproof, intelligent valve controllers used to control the position of the valve to which they are mounted. They are available in two different material options, the ND920/ND720...E1 with an aluminium enclosure and the ND930...E1 with a stainless-steel enclosure. The enclosure can be in either standard or extended form dependent upon the valve controller options and limit switches which are fitted, they have also been tested according to the requirements of IEC 60529 and meet IP66. The Description of Equipment was modified to recognise these Controllers.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Issue 4 – this Issue introduced the following changes:

1. The introduction of the option to use a previously certified junction box (Type 7080AM) and nipple (Type NPS) as an option to all variants with the exception of the Type ND7. This option is denoted by the use of '_J' in the model type description. The Description of Equipment was modified accordingly.
2. The recognition of corrected drawings.
3. The product type reference VG9....H.E6 was clarified, the original product description was modified accordingly.

Issue 5 – this Issue introduced the following change:

1. The GO 35 limit switch (Metso Automation Limit Switch Code R35) was introduced to the existing product range, the product description was modified accordingly

Issue 6 – this Issue introduced the following changes:

1. The lower ambient temperature, for a number of product Type references, was extended down to a minimum of -53°C as per drawing number F39905. The Description of the Equipment was amended as required.
2. The following limit switches were introduced to the Product Range. The Description of the Equipment was amended as required.

Metso Type Reference	Limit switch/Manufacturer
I41	Pepperl+Fuchs Type NJ4-12GK-SN Inductive sensor
I57	Pepperl+Fuchs Type NJ2-V3-N Inductive sensor
I58	Pepperl+Fuchs Type NJ2-V3-N Inductive sensor
I59	EGE Type IGMP 02 GSP Inductive sensor
I60	Pepperl+Fuchs Type NCB2-12GM40-E2-3G-3D

3. The introduction of 'ERIKS' Silicone O-seals.
4. The introduction of an alternative sealant/adhesive were recognised.
5. The re-positioning of cable entries for Stainless Steel and Aluminium limit switch housings was approved.
6. The recognition of a minor design change, to the Prestage Bottom Plate Assembly in order to aid manufacture was acknowledged.
7. The omission of pneumatic connections in the Aluminium Valve Controller ND92 was endorsed.
8. The introduction of an external junction box option for variant ND7.
9. The introduction of an alternative surface paint.
10. The enclosure cover may be manufactured from any stainless steel, including the existing material of construction, CF8M.
11. A reduction of 0.6 mm to the wall thickness of the VG and SG housing was accepted.
12. In order to simplify the product description, the communication variant letters were omitted from The Description of the Equipment. Note: No technical changes were made.
13. Two new conditions of manufacture were added as a result of the above changes.

Issue 7 – this Issue introduced the following changes:

1. The use of Sealing Nipples, Model 2011 & Model 2012, International Metal Engineering (IME), under certificates IECEx SIR 14.0016U, was recognised; as a result, a new Condition of Manufacture was introduced.
2. The routine overpressure test applied to the equipment was amended; the Condition of Manufacture being modified accordingly.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Issue 8 – this Issue introduced the following changes:

1. A change in company name for the applicant and manufacturer was recognised as follows:

From:	To:
Metso Automation Oy	Metso Flow Control Oy

2. The introduction of a design option that has partial stroke test functionality, this option is indicated by 'P' in the product nomenclature of type ND and VG models.

Issue 9 – this Issue introduced the following changes:

1. Removal of the ingress protection silicone gaskets from the certified type NPS conduit nipple, certified on certificate number IECEx CES 10.0003U and CESI 01ATEX080U coded Ex d IIC Gb, Ex tb IIIC Db, IP66, and replacement by 2 x bindings (hex) nuts, thus enabling the removal of the associated Condition of Manufacture;
2. Introduction of ingress protection rating IP66 to the product markings on the certificate.
3. Removal of the alternative IME Model 2011 & 2012 nipple (afforded certification by IECEx SIR 14.0016U and Sira 14ATEX1043U) from the equipment certificates as an option.
4. The introduction of the type NDabcdE1e/xxx, SG9abHE6c/xxx and VG9abHE6d/xxx valve controller models, with an optional metro limit switch R04. These models are detailed as follows:

Model series	Variant type	Ambient temperature ranges (Ta) filled according to type		
		T6 T80°C	T6 T80°C	T6 T80°C
ND9000/ND7000	NDabcdE1e/xxx			
SG9000	SG9abHE6c/xxx	-40°C to +60°C	-40°C to +75°C	-40°C to +80°C
VG9000	VG9abHE6d/xxx			

Where variant part code designation 'xxx' is replaced with 'R04', this refers to an alternative internally fitted limit switch comprising of two reed type proximity switched as detailed in the table below:

Reed type proximity switches:		
Limit switch code	Electric data	No. of switches
R04	Vmax 24VDC, Imax 3A, Wmax 2.5W	2

Issue 10 – this Issue introduced the following changes:

1. Introduction of a 500 Ω (min) 2.0 W optional resistor connected across the input terminal to allow line integrity diagnosis. Models VG9....F.. only.
2. The Condition of Certification/Specific Condition of Use *'The full assembly is to have a maximum power draw of 2.5 W, except for models VG9....F.. which is to be limited to 3.5 W'* was removed and replaced by a Condition of Manufacture.

Issue 11 – this Issue introduced the following changes:

1. To permit the introduction of a three-digit alphanumerical designator 'V01' to 'V99' within the model type coding (as applicable) to identify Metso Flow Control Oy distributers. As detailed on the individual identification plate drawings.
2. The introduction of identification plates translated into the Russian language.
3. The introduction of the identification plate drawing no. F76217 for type model designation ND93_E_I_/K_/D_/R.
4. Clarification of the product markings which can bear either II 2 G, or both II 2 G and II 2 D.
5. The introduction of model Types VG9300HE6L3, VG9300HE6TL3, VG9200HE6L3, VG9200HE6TL3, VG9200HE6TL3 and VG9200HE6L3 valve controllers, where part model code type designation 'L3' indicates an alternative input circuitry of 8-20mA , that does not necessitate the need for electrical inputs into the VG9 enclosure from the LCP9H_L control panel. This is the only difference to the standard model type designation 'L2'.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Issue 12 introduced the following changes:

1. The product description was updated to recognise design changes and product type reference options that have already been approved in previous Issues of this certificate.
2. The product markings were revised to recognise that the Valve Controllers may be labelled with the original gas only information, this reinforces the change first introduced in the report associated with Issue 11.

Issue 13 introduced the following changes:

1. The Introduction of a position transmitter (T01) in the limit switch options.
2. The Introduction of a new limit switch (R02) in the limit switch options.
3. Correction of the product designation of the VG9000HE6 and VG9000FE6 Valve Controllers used in the description tables from VG9abHE6c/*** to VG9abcE6d/***.

Issue 14 introduced the following changes:

1. Changes to the application name.
2. Combination of several label drawings into one drawing.

Issue 15 introduced the following changes:

1. The information previously detailed in drawings F25116 Rev H and F25118 Rev I was combined into newly introduced drawing F99121 Rev 0. As a result of this modification, drawings F25116 and F25118 were removed from the list of controlled drawings.
2. The information previously detailed in drawings F25120 Rev G, F31454 Rev E, F31455 Rev E, F35216 Rev D and F35217 Rev D was combined into newly introduced drawing F99116 Rev 0. As a result of this modification, drawings F25120, F31454, F31455, F35216 and F35217 were removed from the list of controlled drawings.
3. The information previously detailed in drawings F31164 Rev E, F31165 Rev E, F31166 Rev E, F35381 Rev D and F35382 Rev D was combined into newly introduced drawing F99118 Rev 0. As a result of this modification, drawings F31164, F31165, F31166, F35381 and F35382 were removed from the list of controlled drawings.
4. The information previously detailed in drawings F35333 Rev C, F35334 Rev C, F35335 Rev C, F35392 Rev D and F35393 Rev D was combined into newly introduced drawing F99119 Rev 0. As a result of this modification, drawings F35333, F35334, F35335, F35392 and F35393 were removed from the list of controlled drawings.
5. The information previously detailed in drawings F35307 Rev A, F35309 Rev A and F76217 Rev 0 was combined into newly introduced drawing F99125 Rev 0. As a result of this modification, drawings F35307, F35309 and F76217 were removed from the list of controlled drawings.
6. Revision of label materials.
7. Minor changes were made to Limit switch identification drawing F35213, the revision was updated from Revision A to Revision B.
8. Option E7M – Identification plates in Russian – special corrosion resistant finish, were removed from the certificate. As a result of this change drawings F75739, F75740, F75741, F75742, F75796, F75797, F75798, F75799 and F75800 were removed from the list of controlled drawings.
9. Option E7 – Identification plates in Russian, were removed from the certificate. As a result of this change drawings F74514, F75674, F75675, F75724, F75725, F75726, F75728, F75729, F75733, F75734, F75735, F75736, F75737, F75738, F75771, F75774, F75775, F75776, F75782, F75783, F75784, F75785, F75786, F75789, F75790, F75791, F75792, F75793, F75794, F75795, F75801, F75802, F75803, F75826, F75830, F75831, F75832, F75833 and F76221 were removed from the list of controlled drawings.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

10. Option M – Special corrosion resistant finish, was removed from the certificate. As a result of this change drawings F35219, F35255, F35304, F35306, F35319, F35320, F35336, F35337, F35338, F35394, F35396 were removed from the list of controlled drawings.

Issue 16 introduced the following change:

1. To change the company name:

From:	To:
Neles Finland Oy	Valmet Flow Control Oy

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.