



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 04ATEX2332X** Issue: **2**

4 Equipment: **Nametre Process Viscometer Model VL800**

5 Applicant: **Galvanic Applied Sciences Inc.**

6 Address: 7000 Fisher Road SE, Calgary,  
Alberta,  
Canada,  
T2H 0W3

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012 EN 60079-11:2012

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1G  
Ex ia IIB T3 Ga  
Ta = -20°C to +175°C

Project Number 70060994

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N Jones  
Certification Manager

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**SCHEDULE**

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**13 DESCRIPTION OF EQUIPMENT**

The Nametre Process Viscometer Model VL800 is designed to measure the viscosity of a process fluid within a container or pipework. The equipment comprises of a vibrating rod (which may terminate with a cylinder or sphere depending on the viscosity of the process fluid), a flange, an extension tube and an air or water cooled cylinder (dome or top hat) that houses the drive and sensor coils. The rod is mechanically connected to the coils via a torsion bar. The temperature of the process fluid is measured by an RTD housed at the base of the rod. A further RTD measures the temperature of the coils. The rod, flange, extension tube and cylinder are made of stainless steel.

**Equipment supply and Input parameters**

Terminals			U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
1	w.r.t.	3*	±9.3 V	30 mA	0.07 W	0	48 mH
2	w.r.t.	3	1.6 V	320 mA	0.13 W	0	48 mH
4	w.r.t.	3*	±9.3 V	30 mA	0.07 W	0	48 mH
5	w.r.t.	3*	±9.3 V	30 mA	0.07 W	0	48 mH
6	w.r.t.	3	1.6 V	300 mA	0.12 W	0	48 mH
7	w.r.t.	3	1.6 V	300 mA	0.12 W	0	48 mH
8	w.r.t.	3	1.6 V	300 mA	0.12 W	0	48 mH
9	w.r.t.	3	1.6 V	300 mA	0.12 W	0	48 mH
10	w.r.t.	3	1.6 V	300 mA	0.12 W	0	48 mH
11	w.r.t.	3	1.6 V	300 mA	0.12 W	0	48 mH

\* The equipment shall be supplied from a resistive source having a minimum value of 310 Ohms.

**Variation 1-** This variation introduced the following changes:

- i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 50014:1997 + Amendments 1 & 2, EN 50020:2002 and EN 50284:1999 were replaced by EN 60079-0:2012 and EN 60079-11:2012.
- ii. Change of manufacturing address.
- iii. Revision to coil specification with a resulting change to the value of L<sub>i</sub>.
- iv. Addition of two Conditions of Manufacture.
- v. Rationalisation of drawings.
- vi. The EC Type Examination Certificate in accordance with 94/9/EC is updated in accordance with Directive 2014/34/EU. (In accordance with Article 41 of Directive 2014/34/EU, Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such Type Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016).

**Equipment supply and input parameters**

Terminals			U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
1	w.r.t.	3*	±9.3 V	30 mA	0.07 W	0	72 mH with a min. resistance of 124.56Ω
2	w.r.t.	3	1.6 V	320 mA	0.13 W	0	72 mH with a min. resistance of 124.56Ω
4	w.r.t.	3*	±9.3 V	30 mA	0.07 W	0	72 mH with a min. resistance of 124.56Ω

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Terminals	U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
5 w.r.t. 3*	±9.3 V	30 mA	0.07 W	0	72 mH with a min. resistance of 124.56Ω
6 w.r.t. 3	1.6 V	300 mA	0.12 W	0	72 mH with a min. resistance of 124.56Ω
7 w.r.t. 3	1.6 V	300 mA	0.12 W	0	72 mH with a min. resistance of 124.56Ω
8 w.r.t. 3	1.6 V	300 mA	0.12 W	0	72 mH with a min. resistance of 124.56Ω
9 w.r.t. 3	1.6 V	300 mA	0.12 W	0	72 mH with a min. resistance of 124.56Ω
10 w.r.t. 3	1.6 V	300 mA	0.12 W	0	72 mH with a min. resistance of 124.56Ω
11 w.r.t. 3	1.6 V	300 mA	0.12 W	0	72 mH with a min. resistance of 124.56Ω

\* The equipment shall be supplied from a resistive source having a minimum value of 310 ohms.

**Variation 2-** This variation introduced the following changes:

- i. The recognition of a new label drawing showing details of another certification scheme.

**14 DESCRIPTIVE DOCUMENTS**

**14.1 Drawings**

Refer to Certificate Annexe.

**14.2 Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	15 March 2005	R52A11665A	The release of the prime certificate.
1	02 June 2016	R70060994A	This Issue covers the following changes: <ul style="list-style-type: none"> <li>• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i></li> <li>• The introduction of Variation 1.</li> </ul>
2	28 November 2016	R70098814A	The introduction of Variation 2.

**15 SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

- 15.1 Terminals 1, 4, 5 wrt 3 shall each be supplied from a resistive source that has a minimum value of 310 Ω and does not exceed 9.3 V.
- 15.2 If the temperature of the process fluid is in excess of 200°C but less than 400°C, then the equipment shall be water-cooled with a flow rate of at least 50 ml/min. As an alternative to water-cooling for temperatures between 200°C and 300°C, the equipment may be cooled with air at a flow rate of at least 50 ml/min. In the event of a failure of the cooling fluid, the equipment shall be provided with an interlock that disconnects its power supply.

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## SCHEDULE

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- 15.3 The user/installer shall ensure that the ambient temperature in the area around the top hat (taking into account any heating effects caused by the process fluid) does not exceed 175°C; in addition, the temperature of the process fluid shall not exceed 400°C.
- 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**  
The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.
- 17 **CONDITIONS OF MANUFACTURE**
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 In accordance with EN 60079-11:2012 clause 10.3, each manufactured sample of the equipment shall be subjected to an electric strength test using a test voltage of 500 Vac, or 700 Vdc, applied between the all non-ground wires connected together and the enclosure. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.
- 17.4 In the user manual, the manufacturer shall state the maximum process pressure, which shall not exceed two-thirds of the design pressure of the enclosure.

# Certificate Annexe



**Certificate Number:** Sira 04ATEX2332X  
**Equipment:** Nametre Process Viscometer Model VL800  
**Applicant:** Galvanic Applied Sciences Inc.

## Issue 0

Drawing	Sheets	Rev	Date (Sira stamp)	Title
22057	1 of 1	0	Jan 05	General Assembly of VL-800
22071	1 of 1	0	Jan 05	Schematic
22059	1 of 1	1	Jan 05	Coil connections in Sensor Head
22065	1 of 1	0	Jan 05	Wiring connection in Sensor Head
22058	1 of 1	A	02 Feb 05	Certification Label details

## Issue 1

Drawing	Sheets	Rev	Date (Sira stamp)	Title
22057	1 of 1	1	19 May 16	General Assembly of VL-800
22058	1 of 1	2	19 May 16	Certification Label details
22071	1 to 2	3	19 May 16	Schematic and wiring diagram

Drawings 22059 and 22065 have been incorporated into drawing 22071 and are therefore rendered obsolete.

## Issue 2

Drawing	Sheets	Rev	Date (Sira stamp)	Title
22058	1 of 1	4	27 Oct. 16	Label

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