OIML Certificate

OIML Member State
The Netherlands

Number R 117/2019-A-NL1-21.02 revision 7
Project number 4152929

Issuing authority	NMi Certin B.V. Person responsible: M.Ph.D. Schmidt
Applicant and Manufacturer	Gilbarco Veeder Root India Pvt. Ltd. PDP Manufacturing Facility SF NO. - 628/2 & 627/2, W4- Coimbatore Campus Eachanari, Chetipalayam Road Malumichampatti, Coimbatore Tamilnadu 641021 India
Identification of the certified type	A **fuel dispenser and/or Aqueous Urea Solution (AUS) dispenser** Type: Sprint and/or Frontier
Characteristics	See following page(s)

This OIML Certificate is issued under scheme A.

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 117-1: 2019 "Dynamic measuring systems for liquids other than water"

Accuracy class 0,5

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above.
This Certificate does not bestow any form of legal international approval.

This certificate and supporting reports comply with the requirements of OIML-CS-PD-07 clause 6.2.

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate was issued, partial quotation of the Certificate and of the associated OIML Type Evaluation Report(s) is not permitted, although either may be reproduced in full.

Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**
30 October 2026

Certification Board

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This document is issued under the provision that no liability is accepted and that the applicant shall indemnify third-party liability.

The notification of NMi Certin B.V. as Issuing Authority can be verified at www.oiml.org

This document is digitally signed and sealed. The digital signature can be verified in the blue ribbon at the top of the electronic version of this certificate.

The conformity was established by the results of tests and examinations provided in the associated report(s):
For evaluation of the complete fuel dispenser:

- NMi-2550303-01 dated 29 January 2021 that includes 65 pages.

For the mechanical meter sensors, brand Gilbarco Veeder-Root and type C+, V and V+ meter:

- CVN-10119469 dated 2 March 2001 that includes 56 pages;
- CVN-202211 dated 16 May 2003 that includes 49 pages;
- TR:1327 dated 15 April 2015 that includes 12 pages;
- TR:0561 dated 22 October 2009 that includes 14 pages;
- TR:0587 dated 29 September 2010 that includes 14 pages;
- TR:748 dated 10 May 2017 that includes 10 pages.

For the electromagnetic measurement sensors, brand KROHNE and type BATCHFLUX 3200 C:

- NMi-16200528-01 dated 19 August 2016 that includes 46 pages;
- NMi-16200528-02 dated 19 August 2016 that includes 20 pages;
- NMi-1901321-01 dated 27 July 2017 that includes 9 pages.

For the electronic calculating and indicating device, brand Gilbarco Veeder-Root and type Tulip:

- NMi-2475566-01 dated 3 December 2020 that includes 83 pages;
- NMi-2475566-02 dated 14 December 2020 that includes 28 pages;
- NMi-2630143-01 dated 9 March 2022 that includes 49 pages;
- NMi-3619014-01 dated 20 November 2023 that includes 13 pages;
- NMi-3802158-01 dated 29 July 2024 that includes 13 pages;
- NMi-4020038-01 dated 2 February 2026 that includes 12 pages;
- SN:1386 dated 9 August 2017 that includes 22 pages;
- SN:1410 dated 1 December 2017 that includes 23 pages;
- SN:1438 dated 20 December 2018 that includes 22 pages;
- SN:1441 dated 24 January 2019 that includes 4 pages;
- SN:1450 dated 12 July 2019 that includes 24 pages.

For the electronic calculating and indicating device, brand Gilbarco Veeder-Root, type Apollo-II and/or Apollo-Astra:

- NMi-2418116-01 dated 6 March 2020 that includes 112 pages;
- NMi-2418116-02 dated 6 March 2020 that includes 27 pages;
- NMi-2461432-01 dated 11 September 2020 that includes 90 pages;
- NMi-2509634-01 dated 4 February 2021 that includes 80 pages;
- NMi-3465234-01 dated 10 October 2022 that includes 14 pages;
- NMi-3733342-01 dated 7 May 2024 that includes 33 pages;
- NMi-3828209-01 dated 27 June 2025 that includes 22 pages.

For the gas separator, brand Gilbarco Veeder-Root and type GPU90

- NMi-3885366-01 dated 26 April 2025 that includes 24 pages;
- TR:740 dated 24 February 2017 that includes 11 pages;
- R117/1995-NL1-04.04 dated 24 January 2005 that includes 50 pages.

Characteristics of the dispenser
In Table 1 the general characteristics of the measuring instrument are presented.
The construction of the measuring instrument is recorded under the type evaluation reports mentioned here above and the documentation folder number NMi-2550303-01-6.

Table 1 General characteristics

	Fuel dispenser	**AUS dispenser**
Minimum – maximum flow rate	1,6 – 40 L/min Viscosity range 0,4 – 1,0 mPa·s.	2 – 40 L/min
	2,0 – 80 L/min Viscosity range 1,1 – 8,0 mPa·s.	
Minimum measured quantity	2, 5 and 10 L	2 L
Maximum pressure	3,5 bar(g)	10 bar(g)
Accuracy class	0,5	0,5
Environmental classes	M1 / E1	M1 / E1
Ambient temperature range	-25 – +55 °C	-10 – +55 °C
Product temperature range	-25 – +50 °C	-10 – +40 °C
Intended for the measurement of	Hydrocarbon oils (Gasoline, Gasoline up to 86% ethanol or MTBE, Gasoline up to 5% methanol, Diesel or Biodiesel up to 100%)	Aqueous Urea Solution (AUS) dispenser

Each measuring system consists at least of:
- One combined pump and gas eliminator device (gas separator);
- If no gas separator (*) is used on the measurement system, provision shall be taken to prevent gas passing through the meter sensor.
- One or more meter sensor (meter);
- One calculating/indicating device (calculator).

The characteristics of the mentioned parts of the fuel/AUS dispenser are presented at table 2 and higher.
The dispenser can be equipped with optional features and functions listed, see documentation number 2550303-01/2-02. Utilizing these features and functions do not have impact on the metrological data and functioning of the dispenser.

The same housing of the dispenser can comprise of one or more measuring systems. When more than one measuring systems are in one housing, one calculating/indicating device may be a common part of the measuring systems.

For multi-product dispensers it is only possible to deliver one product at the same time on one side of the dispenser.

The maximum flowrate once installed may be limited, but for fuels shall be greater than 10 times the minimum flowrate. For Aqueous Urea Solution (AUS) dispenser the maximum flowrate shall be greater than 5 times the minimum flowrate.

Table 2 gives an overview of flow characteristics of the configurations of the family of instruments.

Table 2 Flow characteristics of the configurations

Configuration fuel dispenser	Flow rate range	Remarks
1 x gas separator* 1 x meter sensor, type C+, V or V+	1,6 – 40 L/min	Intended for the measurement of hydrocarbon oils with viscosity range 0,4 – 1,0 mPa·s.
1 x gas separator* 1 x meter sensor, type C+, V or V+	2,0 – 80 L/min	Intended for the measurement of hydrocarbon oils with viscosity range 1,1 – 8,0 mPa ·s. Optionally a feature to allow Qmax to be limited to 40 L/min.
1 x gas separator* 2 x meter sensors, type C+, V or V+, one per dispenser side	1,6 – 40 L/min	Intended for the measurement of hydrocarbon oils with viscosity range 0,4 – 1,0 mPa·s. The gas separator of this measuring system is suitable for use with two meter sensors. Each meter sensor is considered as part of an individual measuring system. Flowrate reduces to 40 L/min with both meter sensors operating. Optionally a feature to allow Qmax to be limited to 40 L/min with a single meter sensor operating.
1 x gas separator* 2 x meter sensors, type C+, V or V+, one per dispenser side	2,0 – 80 L/min	Intended for the measurement of hydrocarbon oils with viscosity range 1,1 – 8,0 mPa·s. The gas separator of this measuring system is suitable for use with two meter sensors. Each meter sensor is considered as part of an individual measuring system. Flowrate reduces to 40 L/min with both meter sensors operating.
2 x gas separators* 2 x meter sensors, type C+, V or V+	2,0 – 130 L/min	Intended for the measurement of hydrocarbon oils with viscosity range 1,1 – 8,0 mPa·s. A Qmax of 130 L/min is reached by connecting two gas separators and two meter sensors in parallel with delivery through a single transfer point. Optionally a feature to allow Qmax to be limited to 80 L/min. Optionally a feature to allow one of the gas separators and one of the meter sensors to operate as the configuration described above.

Configuration AUS dispenser	Flow rate range	Remarks
1 x measurement sensor type KROHNE BATCHFLUX 3200 C	2 – 40 L/min	Intended for the measurement of Aqueous Urea Solution (AUS) dispenser

Parts of the measuring system
The conformity of the following parts was established by the results of tests and examinations provided in the associated report(s):

Part: Measurement sensor
Producer: Gilbarco Veeder Root
Type: C+
Reports: No. CVN-10119469 dated 2 March 2001 that includes 56 pages;
No. CVN-202211 dated 16 May 2003 that includes 49 pages;
No. TR:1327 dated 15 April 2015 that includes 12 pages;
No. TR:748 dated 10 May 2017 that includes 10 pages.

Table 3 General characteristics of the measurement sensor type C+

Flow rate range [L/min]	1,6 – 40 L/min	2,0 – 80 L/min
Intended for the measurement of	Hydrocarbon oils with a viscosity of 0,4 mPa·s – 1,0 mPa·s	Hydrocarbon oils with a viscosity of 1,1 mPa·s – 8,0 mPa·s
MMQ	1 L	1 L
Maximum pressure	3,5 bar	3,5 bar
Environmental classes	M1 / E1	M1 / E1
Ambient temperature range	-40 °C / +55 °C	-40 °C / +55 °C
Product temperature range	-40 °C / +50 °C	-40 °C / +50 °C

Part: Measurement sensor
Producer: Gilbarco Veeder Root
Type: V, V+
Reports: No. TR:0561 dated 22 October 2009 that includes 14 pages;
No. TR:0587 dated 29 September 2010 that includes 14 pages.

Table 4 General characteristics of the measurement sensor type V and V+

Flow rate range [L/min]	1,6 – 40 L/min	2,0 – 80 L/min
Intended for the measurement of	Hydrocarbon oils with a viscosity of 0,4 mPa·s – 1,0 mPa·s	Hydrocarbon oils with a viscosity of 1,1 mPa·s – 8,0 mPa·s
MMQ	2 L	2 L

Maximum pressure	3,5 bar	3,5 bar
Environmental classes	M1 / E1	M1 / E1
Ambient temperature range	-25 °C / +55 °C	-25 °C / +55 °C
Product temperature range	-25 °C / +50 °C	-25 °C / +50 °C

Part: Measurement sensor
Producer: KROHNE Altometer
Type: BATCHFLUX 3200 C
Reports: No. NMi-16200528-01 dated 19 August 2016 that includes 46 pages;
No. NMi-16200528-02 dated 19 August 2016 that includes 20 pages;
No. NMi-1901321-01 dated 27 July 2017 that includes 9 pages.

Table 5 General characteristics of the measurement sensor type BATCHFLUX 3200 C

Meter size	DN15
Flow rate range [L/min]	2 - 40 L/min
Intended for the measurement of	Aqueous Urea Solution (AUS)/, Diesel Exhaust Fluid (DEF)
MMQ	2 L
Maximum pressure	10 bar
Environmental classes	M1 / E1
Ambient temperature range	-40 °C / +55 °C
Product temperature range	-40 °C / +55 °C
Software version	ER1.0.0_ / ER1.0.1_
Checksum	6C3F9F91 / C019A476
Power supply	20,4 - 27,6 VDC (grounding mandatory)

AUS/DEF is only suitable for dispensing between -10 °C / +40 °C.
The BATCHFLUX 3200 C meter body is mounted with an Pt1000 temperature sensor close to the measurement tube. The temperature sensor parameter should be set in units Kelvin (K) whilst the low cut-off value should be not higher than 20% of the defined minimum flowrate in units L/min.
The BATCHFLUX 3200 C meter communication protocol is optionally connected with the type Tulip calculating and indicating device via a secure protocol converter device.

Part: Calculating/indicating device
Producer: Gilbarco Veeder Root
Type: Tulip
Documentation folder: TC11938-4
Reports: No. NMi-2630143-01 dated 10 March 2022 that includes 60 pages.
No. NMi-2475566-01 dated 3 December 2020 that includes 83 pages;
No. NMi-2475566-02 dated 14 December 2020 that includes 28 pages;
No. Sn:1386 dated 9 August 2017 that includes 22 pages;
No. Sn:1410 dated 1 December 2017 that includes 23 pages;

No. Sn:1438 dated 20 December 2018 that includes 22 pages;
No. Sn:1441 dated 24 January 2019 that includes 4 pages;
No. Sn:1450 dated 12 July 2019 that includes 24 pages;
No. NMi-3619014-01 dated 16 November 2023 that includes 33 pages;
No. NMi-3802158-01 dated 29 July 2024 that includes 35 pages;
No. NMi-4020038-01 dated 2 February 2026 that includes 12 pages.

Table 6 General characteristics of the calculating/indicating device type Tulip

Maximum volume indication	7 digits (9999999; floating decimal)
Maximum unit price	6 digits (999999; floating decimal)
Maximum price to pay	7 digits (9999999; floating decimal)
Environmental classes	M1 / E1
Ambient temperature range	-25 °C / +55 °C
Impulse encoder or pulser	ST73662 and Evole 2.1

Software version and Checksum of the calculating/indicating device type Tulip

Software versions	CRC Checksum	Software versions	CRC Checksum
901.04.545	0x8C114CBE	901.06.620	0xB61794B3
901.06.500	335B73FF		
902.05.472	0xE019F628	902.06.375	0x214A1AAC
902.05.490	0x18D01F24	902.06.560	0xE5639B1D
902.05.497	0x5332D24C	902.06.620	0xB61794B3
902.05.498	0x535251C0	902.08.615	0xD7A29CB6
902.05.510	0xC1028D71	902.09.555	0x4314D193
902.05.530	0xBFC1F735		
902.05.550	0xD448AAB6		
903.04.490	0xC28DE814	903.05.497	0xBEA6E297
903.05.472	0x44B55D1E		
903.05.495	0x7867485B		
904.05.495	0x97A9F34D		
905.04.490	0xF69315FD		
906.04.490	0x78E22785	906.06.002	19A8F60A

Software versions	CRC Checksum	Software versions	CRC Checksum
906.04.510	0x16F14642	906.06.451	5776280E
906.05.472	0x43D34A60	906.06.540	0x0DB37074
906.05.490	0xA6CCA061	906.06.560	0x218E5D3D
906.05.495	0xF1D37F83	906.06.625	0xB2F9AE82
906.05.497	0x3E673E49		
906.05.530	0x4A2C7C8E		
906.05.550	0xCB527245		
907.05.490	0x480B6E5B	907.06.610	0x0CEBDE04
907.05.495	0xC11BFB01	907.08.615	0xD7A29CB6
907.05.497	0x70280013	907.09.605	0x804CE49C
907.05.510	0x3CA99F60		
907.05.530	0x7E915697		
907.05.600	0xF0FA4226		
907.05.630	0x82BBF2B4		
908.05.551	0x4DBB2574		

Part: Calculating/indicating device
Producer: Gilbarco Veeder Root
Type: Apollo-II and/or Apollo-Astra
Documentation folder: TC11762-7
Reports: NMi-2418116-01 dated 6 March 2020 that includes 112 pages.
NMi-2418116-02 dated 6 March 2020 that includes 27 pages.
NMi-2461432-01 dated 11 September 2020 that includes 90 pages.
NMi-2509634-01 dated 4 February 2021 that includes 80 pages.
NMi-3733342-01 dated 7 May 2024 that includes 33 pages.
NMi-3465234-01 dated 10 October 2022 that includes 14 pages.
NMi-3733342-01 dated 7 May 2024 that includes 33 pages.
NMi-3828209-01 dated 27 June 2025 that includes 22 pages.

Table 7 General characteristics of the calculating/indicating device type Apollo-II and/or Apollo-Astra

Maximum volume indication	7 digits (9999999; floating decimal)
Maximum unit price	6 digits (999999; floating decimal)
Maximum price to pay	7 digits (9999999; floating decimal)
Environmental classes	M1 / E1
Ambient temperature range	-25 °C / +55 °C
Software identification	See table below.
Impulse encoder or pulser	SIP; SIP-II, Evole 2.1 and Astra pulser

Table 8 Software versions and checksum of the calculating/indicating device type Apollo-II

Software versions	CRC Checksum
A31.1.01 (displayed as A31101)	8564
A31.1.02 (displayed as A31102)	16D8
A31.1.03 (displayed as A31103)	7090
A31.1.04 (displayed as A31104)	1878
A31.1.05 (displayed as A31105)	E89C
A31.1.06 (displayed as A31106)	38F6
A31.1.07 (displayed as A31107)	4D4E
A31.1.08 (displayed as A31108)	D9C0
A31.1.10 (displayed as A31110)	7C8E
A31.1.11 (displayed as A31111)	7BA2
A31.1.12 (displayed as A31112)	1644
A31.1.13 (displayed as A31113)	335C
A31.1.14 (displayed as A31114)	C784
A31.1.15 (displayed as A31115)	A6DAH
A31.1.16 (displayed as A31116)	E6E3H
A33.1.01 (displayed as A33101)	1176
A33.1.02 (displayed as A33102)	D572
A33.1.03 (displayed as A33103)	B5FB
A33.1.04 (displayed as A33104)	01AC
A33.1.05 (displayed as A33105)	1F71H

Table 9 Software versions and checksum of the calculating/indicating device type Apollo-Astra

Software versions	CRC Checksum
G01201	F5B5
G01203	FB2CH

The software version number is indicated on the main display after powering up the calculator. After displaying the power up message "In APP": The Price display shows the word "APOLLO". The Volume display shows the software version. The price per unit display shows the 4-digit checksum.

Part:	Gas elimination device (gas separator)
Producer:	Gilbarco Veeder Root
Type:	GPU90
Reports:	No. NMi-3885366-01 dated 26 April 2025 that includes 24 pages. No. TR:740 dated 24 February 2017 that includes 11 pages; No. R117/1995-NL1-04.04 dated 24 January 2005 that includes 50 pages.

Table 10 General characteristics of the gas elimination device type GPU90

Maximum flow rate	90 L/min
Minimum pressure	1,4 bar
Maximum pressure	3,0 bar
Environmental classes	M1
Ambient temperature range	-40 °C / +55 °C
Product temperature range	-40 °C / +50 °C
Intended for the measurement of	low-viscosity mineral oils with a viscosity of 0,4 mPa·s – 8,0 mPa·s

OIML Certificate

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The Netherlands

Number R 117/2019-A-NL1-21.02 revision 7
Project number 4152929

Certificate history:
This revision replaces the previous version.

Revision	Date	Description of the modification
Initial	29 January 2021	-
1	10 March 2022	The Tulip calculating and indicating device can be connected with the Krohne BATCHFLUX 3200C meter via a secured protocol converter device.
2	20 November 2023	Tulip calculating and indicating device addition of new processor, PCB, new software and improved magnetic pulser
3	15 May 2024	Name and address change
4	29 July 2024	Addition of new electronics, new software and pulser and Apollo-Astra calculator
5	27 June 2025	Addition of new hardware (Electromechanical totalizer and Keypad assembly) and software for Apollo-II calculator
6	2 February 2026	Modification of hardware components and new software
7	30 October 2026	Software update and addition of sealing examples.