OIML Certificate

OIML Member State
The Netherlands

Number R117/2019-A-NL1-20.03 revision 8
Project number 3828209

Issuing authority Person responsible:	NMi Certin B.V. M.Ph.D. Schmidt
Applicant	Gilbarco Veeder Root Crompton Close, Basildon Essex SS14 3BA United Kingdom
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** Type: Latitude
Characteristics	See page 2 and further

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

Accuracy class 0,5

This revision replaces the previous revision.
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.

Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**
27 June 2025

Certification Board

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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. The conformity was established by the results of tests and examinations provided in the associated reports:

For evaluation of the complete fuel dispenser:
- No. NMi-2478225-01 dated 6 October 2020 that includes 66 pages;
- No. NMi-2583578-01 dated 1 March 2021 that includes 68 pages.

For the mechanical meter sensors, brand Gilbarco Veeder-Root, type C+, V and V+ meter:
- 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:0561 dated 22 October 2009 that includes 14 pages;
- No. TR:0587 dated 29 September 2010 that includes 14 pages;
- No. TR:748 dated 10 May 2017 that includes 10 pages.

For the electronic calculating and indicating device, brand Gilbarco Veeder-Root, type Apollo-II and/or Apollo-Astra:
- No. NMi-2418116-01 dated 6 March 2020 that includes 112 pages;
- No. NMi-2418116-02 dated 6 March 2020 that includes 27 pages;
- No. NMi-2461432-01 dated 11 September 2020 that includes 90 pages;
- No. NMi-2509634-01 dated 4 February 2021 that includes 80 pages;
- No. NMi-3465234-01 dated 10 October 2022 that includes 14 pages;
- No. NMi-3733342-01 dated 7 May 2024 that includes 33 pages;
- No. NMi-3828209-01 dated 27 June 2025 that includes 22 pages.

For the electronic calculating and indicating device, brand Gilbarco Veeder-Root and type Tulip:
- 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. NMi-2630143-01 dated 9 March 2022 that includes 49 pages;
- No. NMi-3619014-01 dated 20 November 2023 that includes 13 pages;
- No. NMi-3802158-01 dated 29 July 2024 that includes 13 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.

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

Characteristics of the fuel 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 no. NMi-2583578-01-4.

Table 1 General characteristics

Minimum – maximum flow rate	1,6 – 40 L/min; Viscosity range 0,4 – 1,0 mPa·s.
	2,0 – 80 L/min; Viscosity range 1,1 – 8,0 mPa·s.
Minimum measured quantity	2, 5 and 10 L
Maximum pressure	3,5 bar(g)
Accuracy class	0,5
Environmental classes	M1 / E1
Ambient temperature range	-10 – +55 °C
Product temperature range	-10 – +50 °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%)

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 dispenser are presented at table 2 and higher.

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 shall be greater than 10 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	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.

The configuration of the measuring system is recorded in the documentation folder number NMi-2583578-01-3.
The complete family of dispensers consists of one family (which are of similar construction) and have the flow characteristics indicated in table 2.

Parts of the measuring system

The conformity of the following parts was established by the results of tests and examinations provided in the associated reports:

Part: Measurement sensor
Producer: Gilbarco Veeder Root
Type: C+
Documentation no.: TC7144-3
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	-10 °C / +55 °C	-10 °C / +55 °C
Product temperature range	-10 °C / +50 °C	-10 °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	-10 °C / +55 °C	-10 °C / +55 °C
Product temperature range	-10 °C / +50 °C	-10 °C / +50 °C

Part: Calculating/indicating device
Producer: Gilbarco Veeder Root
Type: Apollo-II and/or Apollo-Astra
Documentation no.: TC11762-7
Reports: No. NMi-2418116-01 dated 6 March 2020 that includes 112 pages.
No. NMi-2418116-02 dated 6 March 2020 that includes 27 pages.
No. NMi-2461432-01 dated 11 September 2020 that includes 90 pages.
No. NMi-2509634-01 dated 4 February 2021 that includes 80 pages.
No. NMi-3465234-01 dated 10 October 2022 that includes 14 pages.
No. NMi-3733342-01 dated 7 May 2024 that includes 33 pages.
No. NMi-3828209-01 dated 27 June 2025 that includes 22 pages.

Table 5 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 Ex d pulser

Table 6 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

Software versions	CRC Checksum
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
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

Table 7 Software versions and checksum of the calculating/indicating device type Apollo-Astra

Software versions	CRC Checksum
G01201	F5B5

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:	Calculating/indicating device
Producer:	Gilbarco Veeder Root
Type:	Tulip
Documentation no.:	TC11938-4
Reports:	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. NMi-2630143-01 dated 9 March 2022 that includes 49 pages; No. NMi-3619014-01 dated 20 November 2023 that includes 13 pages; No. NMi-3802158-01 dated 29 July 2024 that includes 13 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.

Table 8 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
Software identification	See below table
Impulse encoder or pulser	ST73662, Evole 2.1 and Astra Ex d pulser

Table 9 software identification of the calculating/indicating device type Tulip

Software versions	CRC Checksum
906.06.451	577628OE
906.06.002	19A8F60A
901.06.500	335B73FF
902.06.375	0x214A1AAC
902.05.472	0xE019F628
906.05.472	0x43D34A60
903.05.472	0x44B55D1E
905.04.490	0xF69315FD
906.04.490	0x78E22785
903.04.490	0xC28DE814
902.05.490	0x18D01F24
906.05.490	0xA6CCA061
907.05.490	0x480B6E5B
902.05.497	0x5332D24C
906.05.497	0x3E673E49
907.05.497	0x70280013
903.05.497	0xBEA6E297
906.05.495	0xF1D37F83
907.05.495	0xC11BFB01
903.05.495	0x7867485B

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Software versions	CRC Checksum
904.05.495	0x97A9F34D
902.05.498	0x535251C0

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.
N0. 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

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Certificate history:
This revision replaces the previous versions.

Revision	Date	Description of the modification
Initial	6 October 2020	-
1	1 March 2021	Addition of Tulip calculator and update of the Apollo-II calculator with new electronics and software.
2	8 February 2022	Addition of new software versions.
3	15 November 2022	Addition of new CPU board for Apollo-II and new software versions.
4	26 May 2023	Addition of SW update, Doc folder - additional option and Non-MID nameplate
5	7 May 2024	Update of the Apollo-Astra calculator with new electronics, software and Astra Ex d pulser.
6	15 May 2024	Name Change
7	11 April 2025	Typo error correction from Evolve 2.1 to Evole 2.1
8	27 June 2025	Addition of new hardware (Electromechanical totalizer and Keypad assembly) and software for Apollo-II calculator