



OIML Certificate

OIML Member State
The Netherlands

Number R139/2018-A-NL1-25.03 revision 0
Project number 3963582
Page 1 of 5

Issuing authority NMI Certin B.V.
Person responsible: M.Ph.D. Schmidt

Applicant and Manufacturer Cavendish Hydrogen A/S
Vejlevej 5
7400 Herning
Denmark

Identification of the certified type A **[compressed gas (CG) dispenser]** for Hydrogen
Manufacturers mark: Cavendish Hydrogen A/S
Type: MM-001; DI006, DI008; DI-ABB; DIXYZ

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 139: 2018 "Compressed gaseous fuel measuring systems for vehicles"

Accuracy class 2

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**
13 October 2025

Certification Board

NMI Certin B.V.
Thijssseweg 11
2629 JA Delft
the Netherlands
T +31 88 636 2332
certin@nmi.nl
www.nmi.nl

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):

- NMI-3963582-01 dated 13 October 2025 that includes 38 pages;
- NMI-3963582-02 dated 13 October 2025 that includes 34 pages.
- NMI-3882700-01 dated 13 October 2025 that includes 37 pages.

Characteristics of the measuring instrument

In Table 1 the general characteristics of the measuring instrument are presented.

The construction of the measuring instrument is recorded in the documentation folder number T8981-3.

Table 1 General characteristics

Accuracy class	2
Minimum – maximum flow rate	0,133 – 4 kg/min
Minimum measured quantity	1 kg
Maximum pressure	H35: 438 bar(g) H70: 875 bar(g)
Environmental classes	M1 / E1
Ambient temperature range	-25 °C / +55 °C; condensing humidity
Product temperature range	-40 °C / 0 °C
Intended for the measurement of	Hydrogen (H ₂)
Power supply voltage	230 V AC; 50/60 Hz

Each CG dispenser consists at least of one measuring system made up of the following essential parts:

- A flow meter (measurement sensor and transducer); and
- A calculating/indicating device.

There are five different type designations:

- MM-001
General type designation for the metrological module used when designing and constructing the dispenser.
- DI006
A single 700 bar dispenser with one measuring system and one hose, with a maximum refuelling flow rate of 60 g/s.
- DI008
A single 350 bar dispenser with one measuring system and one hose, with a maximum refuelling flow rate of 60 g/s.
The DI008 can be operated in LDV (Light Duty Vehicle) or HDV (Heavy Duty Vehicle) mode, the mode is selected via push buttons on the dispenser. The difference between the LDV and HDV mode is the refuelling protocol used for refuelling.

- DI-ABB
A single 350 bar dispenser with one measuring system and one hose, metrologically identical to DI008 when operating in HDV mode.
 - DIXYZ *
A Multiple-Dispenser that can be constructed by combining up to 2 or 3 different independent measuring systems (DI006, DI008 and/or DI-ABB).
- *) X, Y, Z denotes the actual measuring systems which make up the Multiple-Dispenser. The following options are possible: 0: no dispenser, 6: DI006, 8: DI008 or B: DI-ABB (e.g. DI068, is a multiple-dispenser consisting of a DI006 and DI008 measuring system).

The CG dispenser automatically depressurizes the entire section from the filling valve up to and including the hose via the purge/vent valve for safety reasons. Delivery is only allowed when the purge/vent valve is fully closed.

In Table 2 the overview of the essential parts of the measuring instrument are presented.

Table 2 Overview parts of the measuring instrument

Part	Producer	Type	OIML Reports	Remarks
Measurement sensor	Heinrichs Messtechnik GmbH	TMU-W004	See Table 3	To be used with [UMC4-RM] transducer.
Measurement transducer	Heinrichs Messtechnik GmbH	UMC4-RM	See Table 4	To be used with [TMU-W004] sensor.
Calculating / indicating device	Gilbarco GmbH	Sandpiper-Apollo	See Table 5	-



OIML Member State
The Netherlands

OIML Certificate

Number R139/2018-A-NL1-25.03 revision 0
Project number 3963582
Page 4 of 5

Table 3 General characteristics of the measurement sensor type TMU-W004

Producer	Heinrichs Messtechnik GmbH
Type	TMU-W004
Documentation folder	TC9013-1
Reports	NMi-3963582-02 dated 13 October 2025 that includes 34 pages
Accuracy class	2,0
Flow rate range [kg/min]	0.133 – 4 kg/min
MMQ	1 kg
Maximum pressure	1050 bar
Environmental classes	M2 / E2
Ambient temperature range	-40 °C / +55 °C
Product temperature range	-40 °C / +55 °C
Intended for the measurement of	Hydrogen (H2)

Table 4 General characteristics of the measurement transducer type UMC4

Producer	Heinrichs Messtechnik GmbH		
Type	UMC4		
Documentation folder	TC11764-1		
Reports	NMi-3963582-02 dated 13 October 2025 that includes 34 pages		
Accuracy class	2,0		
Environmental classes	M1 / E2		
Ambient temperature range	-25 °C / +55 °C -40 °C / +55 °C in case the measurement results are read and/or recorded with a connected approved instrument and via an approved output		
Power supply voltage	19 – 36 VDC		
Software identification	Software versions	CRC Checksum	Remarks
	5.24	031E	-
	5.241	D2D5	-
	5.245	5C09	-



OIML Member State
The Netherlands

OIML Certificate

Number R139/2018-A-NL1-25.03 revision 0
Project number 3963582
Page 5 of 5

Table 5 General characteristics of the calculating/indicating device type Apollo or Sandpiper-Apollo

Producer	Gilbarco GmbH		
Type	Apollo or Sandpiper-Apollo		
Documentation folder	TC8938-4		
Reports	NMI-3882700-01 dated 13 October 2025 that includes 37 pages		
Accuracy class	2		
Maximum mass indication	6 digits		
Maximum unit price	4 digits		
Maximum price to pay	6 digits		
Environmental classes	M1 / E1		
Ambient temperature range	-25 °C / +55 °C -40 °C / +55 °C with heater		
Power supply voltage	230 VAC 50/60 Hz		
Software identification	Software versions	CRC Checksum	Remarks
	A30203	9C99	-
	A30206	231E	-
	A30209	F7E9	-
	A30212	0EB4	-
	A30215	55E4	-
	A30216	2501	-
	A30220	81A4	-
	A32221	4541	Apollo 2022 Calculator
	A32386	957D	-

Certificate history:

Revision	Date	Description of the modification
0	13-10-2025	Initial issue