

Issued by NMI Certin B.V.,
designated and notified by the Netherlands to perform tasks with respect to conformity assessment procedures mentioned in article 17 of Directive 2014/32/EU, after having established that the Measuring instrument meets the applicable requirements of Directive 2014/32/EU, to:

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Measuring instrument An interruptible **measuring system** on a road tanker.
Type designation : Tanker measuring system or LNG dispenser on trailer
Accuracy class : 1,5
Intended for the measurement of : Liquefied Natural Gas (LNG)

Further properties are described in the annexes:

- Description T10757 revision 5;
- Documentation folder T10757-4.

Valid until 15 August 2026

Remarks

- The measuring system is approved for measuring mass only;
- This revision replaces the previous revisions;
- The documentation folder replaces the previous documentation folder.
- The measuring system may be combined with the self-service devices as mentioned in § 1.1 of the description.

Issuing Authority

NMI Certin B.V., Notified Body number 0122
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Certification Board

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1 General information on the measuring system

Properties of the measuring system, whether mentioned or not, shall not conflict with the Legislation.

1.1 Essential parts

Producer	Type	Evaluation / Parts Certificate	Remarks
Measurement transducer			
Emerson Process Management Flow B.V.	CMF200	TC7056	-
Emerson Process Management Flow B.V.	F200	TC8064	-
Core Processor			
Emerson Process Management Flow B.V.	MVD700 MVD800	TC7057	-
Flow transmitter			
Emerson Process Management Flow B.V.	MVD3700	TC7057	-
Emerson Process Management Flow B.V.	5700	TC8519	-
Electronic calculating/indicating device (including pulser)			
CETIL DISPENSING TECHNOLOGY, S.L.	EAS2	TC8491	-

The measuring system may be connected to a Self Service Device which is described in:

- one of the Evaluation Certificates as mentioned in the table below; or
- any Parts Certificate issued by a Notified Body that acts under module B of the MID for ANNEX VII (MI-005);

and under the condition that the applied communication protocol is stated in the Evaluation or Parts Certificates of both the applied electronic calculating/indicating device and self-service device.

Producer	Type	Evaluation Certificate	Remarks
Self-service device			
Lafon	ELYS	LNE-22484	With IFSF communication protocol
ALX TECHNOLOGIES	EUROPOLE	LNE-17492	-
	EUROPILE	LNE-28279	-

1.2 Essential characteristics

In addition to the characteristics as is stated on page 1 of this EU-type examination certificate the following characteristics apply to the measuring system:

1.2.1 Flow rate range (Q_{min} – Q_{max})

- For measuring systems with one flow meter:
 - Q_{min} : Shall not be smaller than any Q_{min} of the components making up the measuring instrument;
 - Q_{max} : Shall not be larger than any Q_{max} of the components making up the measuring instrument.
- The ratio Q_{max}/Q_{min} shall be:
 - At least 5:1 when used in dispenser mode
 - At least 4:1 in all other cases.

1.2.2 Minimum measured quantity (MMQ)

- 20 or 50 kg (when used in dispenser mode);
- 2000 kg (when used in truck mode).

1.2.3 Maximum operating pressure (P_{max})

- The maximum operating pressure of the measuring system shall not exceed the P_{max} of its components.

1.2.4 Temperature range liquid

- -196 °C / -115 °C

1.2.5 Temperature range ambient

- -25 °C / +55 °C

1.2.6 Environment classes

- M3 / E3 (for truck mode)
 - M3 / E2 (for dispenser mode)
- In dispenser mode, the device is powered by AC mains. Therefore the electromagnetic environments class E2 is applicable for this configuration.

1.2.7 Initial hose quantity

Between batches the hose will be empty or filled with liquid or gas.

When the amount of not measured or not delivered product exceeds 1/3 of the Maximum Permissible Error this amount must be corrected for.

1.3 Essential shapes

1.3.1 Configuration

Accuracy class	Type of measuring system	Schematic drawing	Remarks
1,5	Measuring systems for LNG	10757/0-01; 10757/1-01; 10757/3-01; 10757/3-02	-
1,5	LNG Dispenser on atanker	10757/5-01	-

1.3.2 Inscriptions.

- On the measuring system, clearly visible, at least the following is inscribed:
 - The CE marking and the supplementary metrological marking;
 - Notified Body identification number, following the supplementary metrological marking;
 - EU-type examination certificate number: **T10757**;
 - Manufacturers name and/or trade mark and full address;
 - The type designation;
 - Year of manufacture and a serial number;
 - Accuracy class;
 - Minimum and maximum flow rate;
 - Maximum pressure;
 - Mechanical and electromagnetic environment classes;
 - Ambient temperature range;
 - Liquid temperature range.
 - Name of nature of the product to be measured.
- Further inscriptions:
 - The inscription "Minimum Measured Quantity xxxx kg" in the vicinity of the display of the flow transmitter and/or on the nameplate;
 - The inscriptions on the essential parts as mentioned in the applicable Evaluation Certificates or Parts Certificates.
- Name plate, see documentation no. 10757/1-02 and 10757/5-02 for an example.

1.4 Conditional parts

1.4.1 Empty detection device

If it is possible for air or gases to enter the system, for example when the supply tank becomes empty, then an empty detection device should be installed upstream and with sufficient distance of the meter to prevent air or gases passing through the meter.

1.4.2 Pipe line connections

The pipe line connection with the measuring sensor installed can only be used for deliveries and there shall be no by-passes over the measuring sensor. The other connections to the pipe lines can be used for filling the system and gas-exchange.

1.4.3 Printer

A printer is connected to the electronic calculating and indicating device, and is used for printing the reports (deliveries), events and alarms. The printer can be of any brand and type under the condition that it is equipped with a paper out detection and that the communication with the printer is safe guarded.

1.4.4 Multiple transfer points

If more than one transfer point is provided, interlocks should be prevent the usage of two or more together, unless the arrangement is such that it would be difficult to use them on different measuring systems at the same time.

1.4.5 Block valves

- The block valve (pneumatic valve) is fitted in the liquid line before the meter to facilitate the cooling down of the piping;
- The block valve (pneumatic valve) is fitted in the liquid line after the meter to stop the delivery.

1.4.6 Break connection

The break connection is fitted in the hose/line after the measurement transducer. After the break connection is broken, the disconnected hose and the line after the measurement transducer shall remain filled with liquid.

1.4.7 Vapour return line (optional)

Before delivery, this line is opened by a valve in order to depressurize the vehicle tank (if needed). This valve will always remain closed during delivery.

1.5 Conditional characteristics

1.5.1 Elimination of air or gases

- Before a delivery is started, the system shall be free of air or gas;
- During a delivery no air or gas shall pass through the measuring sensor.

1.5.2 Protection measures and alarms

- If an alarm occurs the ongoing delivery is ended (flow stopped and delivery data stored).
- Optionally, the hose can be purged with Nitrogen. For this purpose a valve and a non-return valve are installed downstream of the meter. See documentation number 10757/1-01.
- Optionally a valve is installed downstream of the meter, for purging the receiving tank in case the pressure is too high. The valves opens directly into the air, thus enabling to detect an open position or leakage of the valve. See documentation number 10757/1-01.

1.5.3 Pressure check

- In dispenser mode, before operating, the system will check if the pressure in the receiving tank is low enough to start the LNG delivery.

1.5.4 Temperature check

- In dispenser mode, before operating, the system will check if the temperature in the filling line is low enough to start the LNG delivery, if not the system will circulate the LNG through the system.

1.6 Non-essential parts

- Pump, pipe work and connections;
- Valve(s) (including 3-way valve);
- drain valve(s);
- Nozzle(s);
- Hoses;
- Housing of the dispenser;
- Supply system:
For each dispenser a single supply system or a common supply system for several dispensers. The supply system consists of:
 - an over- or underground storage tank;
 - for each LNG dispenser a separate external return line or for more than one dispensers a common external return line.
- Mano meters (not for legal metrology).

2 Seals

The following items of the measuring system are sealed:

- Nameplate to the frame of the measurement system.
- Removal of the Name Plate without destroying it or without breaking a seal shall not be possible;
- For sealing of the essential parts, see the applicable Evaluation Certificates or Parts Certificates;
- Valves installed between the measurement sensor and the transfer points that allow diversion of the measured product from the normal path, are sealed against opening. This requirement is not applicable if opening of the valve (during a delivery) leads to an alarm or is clearly visible;
- If applicable, the multiple transfer points not in use for Custody Transfer on one measuring system mentioned in paragraph 1.4;

The essential parts mentioned in paragraph 1.1 shall be sealed in such a way that replacement is not possible without breaking a seal.

Alternatively this can be reached by mentioning the serial numbers of the essential parts on the Name Plate of the installation.

See documentation number 10757/0-03 for an example of the sealing positions.

3 Conditions for conformity assessment

The initial verification of the measuring instrument can include the following steps:

1. Essential parts covered by an Evaluation Certificate or Parts Certificate shall be constructed and set-up according the applicable Evaluation/Parts certificate.
2. Verification of the correct parameter settings of the flow transmitter.
3. Ensure that the flow sensor is filled with one of the measured liquid at a temperature representative of measurement conditions, and that there is no movement of the liquid.
4. The measurement accuracy of the measuring instrument is verified at least two times:



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This is done:

- Directly on site of installation by comparing the measurement result with a calibrated master (such as but not limited to master meter, weighing bridge or weigh-scale).
 - a. If the proving means uncertainty meets the 1/3 of MPE requirement, the MPE applies.
 - b. If the proving means uncertainty exceeds 1/3 of the MPE requirement, the applicable MPE for the EUT = 4/3 times the accuracy class MPE minus proving means uncertainty. This is only valid when there is mutual agreement between the manufacturer and the test facility.
- or
- Either in a test lab or directly on site of installation on a liquid with similar properties (density, viscosity and temperature) as the liquid to be measured.

As an authorized alternative for LNG applications: a verification on Liquid Nitrogen can be accepted provided the parameters of the meter during these verifications are the same (excepted for zero adjustment) and provided the verification on Liquid Nitrogen is done in the final installation mounting.

Note: Steps 2, 3 and 4 can also be used for subsequent verifications.