



EC-type examination Certificate

Number T10057 revision 3
Project number 10200083
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| Issued by | NMI Certin B.V., designated and notified by the Netherlands to perform tasks with respect to conformity modules mentioned in article 9 of Directive 2004/22/EC, after having established that the Measuring instrument meets the applicable requirements of Directive 2004/22/EC, to: | |
| Manufacturer | Gilbarco GmbH Ferdinand-Henze-Straße 9 D-33154 Salzkotten Germany | |
| Measuring instrument | A Fuel Dispenser | |
| | Type | : 397; ARAL |
| | Accuracy class | : 0,5 |
| | Environment classes | : M2 / E1 |
| | Temperature range liquid | : -40 °C / +50 °C |
| | Temperature range ambient | : -25 °C / +55 °C -40 °C / +55 °C for electronics, in case a heater is applied |
| | $Q_{min} - Q_{max}$ | : See the Description §1.2. |
| | Further properties are described in: - Description T10057 revision 3; - Documentation folder T10057-1. | |
| Valid until | 5 April 2017 | |
| Remarks | - Revision 3 was issued due to the addition of several self-service devices. This revision replaces the earlier version, except for its documentation folder; - The fuel dispenser may be combined with one or more LPG- and/or gasoline oil dispensers and/or measuring installations for AdBlue, which make use of the same or separate calculating/indicating device(s). | |

Issuing Authority

NMI Certin B.V., Notified Body number 0122
22 February 2010


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Head of the Certification Board

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1 General information about the fuel dispenser

All properties of the fuel dispenser, whether mentioned or not, shall not be in conflict with the legislation.

1.1 Essential parts

| Manufacturer | Type | Evaluation Certificate | Remarks |
|-------------------------------|--------------|-----------------------------------|---|
| Gas separator | | | |
| Gilbarco GmbH | ZPA 2180/80 | TC7145 | Used in the 397 at flowrate \leq 40L/min or 80L/min. |
| Gilbarco GmbH | ZPA 2180/90 | TC7145 | Used in the 397 at flowrate \leq 40L/min or 90L/min. |
| Gilbarco GmbH | ZPA 2180/140 | TC7145 | Used in the 397 at flowrate \leq 40L/min or 140L/min. |
| Measurement transducer | | | |
| Gilbarco GmbH | C | TC7141 | Used in the 397 at flowrate \leq 40L/min or 70L/min. |
| Gilbarco GmbH | K150 | TC7142 | Used in the 397 and ARAL at flowrate \leq 130 L/min (meters parallel). |
| Gilbarco GmbH | Ecometer | TC7143 | Used in the ARAL at flowrate \leq 40 L/min or 70L/min. |
| Submerge pump(s) | | | |
| Red Jacket Petroleum systems | | See documentation folder T10057-1 | Used in the 397 and ARAL. The flowrate depends on the used measurement transducer(s). A gas separator is not applied. |
| FE-Petro | | See documentation folder T10057-1 | Used in the 397 and ARAL. The flowrate depends on the used measurement transducer(s). A gas separator is not applied. |

| Manufacturer | Type | Evaluation Certificate | Remarks |
|---|---------------------------------|------------------------|---------------------------|
| Electronic calculating/indicating device (not including pulser(s)) | | | |
| Gilbarco GmbH | EC2000HC396 | TC7081 | Used in the 397. |
| Gilbarco GmbH | EC2000HC2000 | TC7081 | Used in the 397 and ARAL. |
| Kraus | Temperature compensating device | TC7167 | Used in the 397 and ARAL. |

The fuel dispenser may be connected to the following self-service devices under the condition that the applied protocol is stated in the Evaluation Certificates of both the applied electronic calculating/indicating device and self-service device:

| Manufacturer | Type | Evaluation Certificate | Remarks |
|----------------------------|---|------------------------|---|
| Self-service device | | | |
| Gilbarco srl | Passport Europe; PBox | TC7581 | - |
| Hectronic GmbH | TA2331 | GB-1286 | Evaluation (Test) Certificate of the National Weights And Measures Laboratory (NWML) |
| Hectronic GmbH | Hecstar | A0445/4516/2008 EC | Evaluation Certificate (Prüfschein) Bundesamt für Eich- und Vermessungswesen (BEV) |
| Hectronic GmbH | Hectfleet NT | A0445/4516/2008 EC | Evaluation Certificate (Prüfschein) Bundesamt für Eich- und Vermessungswesen (BEV) |
| Torex | Lucas 9730 Site Controller and Lucas EPOS | GB-1327 | Parts Certificate of the National Weights And Measures Laboratory (NWML) |
| Scheidt & Bachmann GmbH | OPT230 Standalone/2 | TC7596 | - |
| ALX Technologies | Europole | LNE-17492 | Evaluation Certificate (Certificat d'évaluation) Laboratoire national de métrologie et d'essais (LNE) |

1.2 Essential characteristics

In addition to the characteristics as is stated on page 1 of this T10057 Revision 3 the following characteristics apply:

- $Q_{min} - Q_{max}$
Within the flow ranges of the essential parts, specified in the table below, a minimum and maximum flow rate can be chosen provided their ratio is at least 1:10;
- Liquid
The liquids intended to be measured are specified in the table below. They are also mentioned in the concerning Evaluation Certificates;
- Minimum Measured Quantity
 - 2, 5 or 10 Litres;
 - In case the Q_{max} of the measuring system is less than 60 L/min, the Minimum Measured Quantity shall not exceed 5 Litres.

| | |
|---------------|---|
| Gas separator | Q_{max} |
| ZPA 2180/80 | 80 L/min Viscosity range 0,4 – 8,0 mPa•s |
| ZPA 2180/90 | 90 L/min Viscosity range 1,1 – 8,0 mPa•s |
| ZPA 2180/140 | 140 L/min Viscosity range 1,1 – 8,0 mPa•s |

| | |
|------------------------|---|
| Measurement transducer | $Q_{min} - Q_{max}$ |
| C | 4,0 – 80 L/min Viscosity range 0,4 – 8,0 mPa•s |
| K150 | 4,0 – 130 L/min Viscosity range 0,4 – 8,0 mPa•s |
| Ecometer | 2,0 – 80 L/min Viscosity range 0,4 – 8,0 mPa•s |

| | |
|------------------------------|---------------------------------|
| Submerge pumps | Q_{max} : 900 L/min |
| Red Jacket Petroleum systems | Viscosity range 0,4 – 8,0 mPa•s |
| FE-Petro | Viscosity range 0,4 – 8,0 mPa•s |

The meter metrological characteristics are unchanged when materials are selected for high blend ethanol fuels, or bio-diesel.

1.3 Essential shapes

1.3.1 Configuration

- As long as no conflict with the concerning Evaluation Certificates, the essential parts mentioned in 1.1 can be applied in any desired combination;
- In the accompanying Documentation Folder examples of the "measurement and degassing units" are mentioned, these "measurement and degassing units" can be applied, as desired, in the mentioned frame models.
- As desired the dispenser is performed with a submerged pump. The submerge pump is connected with 1 or more dispensers, where the gas separator is left out. In the Documentation Folder the description and drawings of the submerge pump and examples of the "measurement and degassing units" are given.
- A calculator/indicating device can be used as common part for several fuel dispensers. In this case, depending on the calculator/indicating device, delivery is possible separately or simultaneously;
- When applying one gas separator with two measurement transducers and each measurement transducer is destined to deliver separately, this configuration has to be considered as two fuel dispensers;
- In case of two delivery outlets are permanently installed and operate simultaneously or alternately, the requirements in 2.16.1 of OIML R117-1 shall be fulfilled;
- In case one measurement transducer is applied with more than one delivery outlet, simultaneous delivery is not possible.

1.3.2 Inscriptions

* Nameplate

The following information is clearly visible on the nameplate:

- CE marking;
- the type approval mark no. T10057;
- manufacturers identification mark or trade mark;
- type designation;
- serial number and year of manufacture;
- accuracy class;
- $Q_{\min} - Q_{\max i}$
- $P_{\max i}$
- nature of liquids to be measured;
- mechanical environment class;
- electromagnetic environment class;
- ambient temperature range;
- the temperature range of the dispensed liquid.

An example of the nameplate is shown in the belonging Documentation folder.

Remarks:

- The name plate must be clearly visible without removing the covers.
- Each fuel dispenser bears its own name plate, a joint name plate is allowed for several fuel dispensers.

Furthermore the following inscriptions are applied:

- The inscription "minimum measured quantity ... L" or " V_{\min} ... L" on the indicator face of the calculating/indicating device (on both sides if applicable);
- The inscriptions on the measurement transducer as mentioned in the appertaining Evaluation Certificate;
- The inscriptions on the gas separator as mentioned in the appertaining Evaluation Certificate;
- The inscriptions on the electronic calculating/indicating device as mentioned in the appertaining Evaluation Certificate;
- The inscriptions on the self-service device as mentioned in the appertaining Evaluation Certificate.

- Q_{\max} of the optional second point of delivery of the same measurement transducer does not have to be mentioned on the name plate.

* Data sheet

A data sheet can be available with markings belonging to individual components (e.g. the measurement transducer) in case this information is not stated on the component itself. When the data sheet contains mandatory information that is not present on the name plate, it shall be fixed in a permanent manner to the frame of the housing.

Also a drawing identifying each nozzle with its associated hydraulics can be printed on the data sheet.

1.4 Conditional parts

- Check valve (optional)
 An additional check valve (of various manufacturers) is optional fitted in the pipe work, upstream of the gas separator to prevent the reverse flow of the liquid into the storage tank;
- Cut off valve
 A cut off valve (of various manufacturers) is fitted in the pipework, up- or downstream of the measurement transducer and can also have the function as preset valve.
 This valve is optional if the cut-off in another way is secured;
- Pre-set valve (optional)
 A cut off valve (of various manufacturers) for stopping the flow, just in time, in case of presetting the volume or the price. This valve is fitted in the pipe work up- or downstream of measurement transducer and can also have the function as cut-off valve;
- Control valve (optional)
 A valve (of various manufacturers) for changing the flow e.g. from a low flow rate to the maximum flow rate is fitted in the pipe work up- or downstream of the measurement transducer;
- Non return valve
 Applied in a separated housing (valve-block) upstream the measurement transducer. An Expansion valve, working in the opposite direction, is built in;
- Valve-block (optional)
 With one inlet part and two outlet parts each flowing out in the inlet-flange of every measurement transducer;

- Filter
Applied in a separate filter bowl and fitted on the pumping unit;
- Non return valve
Applied in a separate filter bowl which is built in the pumping unit;
- Expansion valve
Applied in a separate housing upstream of the measurement transducer (as a part of the gas separator);
- Outlet valve (as a part of the gas-separator)
Which opens against the flow direction;
- Manual operated valves (optional)
Manual operated valves are fitted, up- or downstream of each measurement transducer in case of two measurement transducers in parallel, if there is no possibility to calibrate each measurement transducer separately;
- Several delivery points of the same measurement transducer
Each delivery point has its own hose, nozzle and cut-off valve, the cut-off valve can be fitted in the housing of the dispenser or in e.g. the "satellite";
- Heater
A heater for the electronics is applied in case an ambient temperature range of -40 °C / 55 °C is applied.

1.5 Conditional characteristics

- Flow rate
In case of the presence of several points of delivery the flow rate of these points will comply with Q_{min} and Q_{max} of the essential parts, with the remark, that in case the parts are working parallel, twice the Q_{max} and the Q_{min} (of the parts) for the fuel dispenser is permitted.

1.6 Conditional shapes

- Length of the hose
the length of the hose is up to the regulations;
- Diameter of the cut-off-, preset- and flow-change valve
these valves are of various diameters;
- Cut-off-, preset- and control valves
one valve can have a cut-off-, preset- or control function.

1.7 Non essential parts

- A facility to change the flow rate with a button (optional);
- The housing of the fuel dispenser;
- Safety-valves (optional)
When submerge is applied it is possible that, in the pipe work downstream the measurement transducer a safety-valve is used.

1.8 Non essential characteristics

- Flow- changing (optional);
Flow changing in stages to Q_{max} , by using a valve.

- Safety-valve(s) (optional)
In standard cases the safety-valves are open. In case of calamities the valves will be closed automatically.

1.9 Non essential shapes

- The shape of the name plate(s)
- In the fuel dispenser can be, optionally, applied one or more installations for measuring LPG and/or one or more mix-dispensers from different manufacturers, using the same or a separated calculating/indicating device, and may have their own name plate.
- When in the housing of the fuel dispenser one or more installations for measuring AdBlue are applied, it is only allowed to use the rest of the dispenser for gasoil. Adblue is using the same or a separated calculating/indicating device.

2 Seals

The following items are sealed:

- the nameplate with the frame of the dispenser; *)
- the Data sheet with the frame of the dispenser, in case mandatory information from the name plate is moved to the data sheet;
- the gas separator as mentioned in the applicable Evaluation Certificate;
- the measurement transducer as mentioned in the applicable Evaluation Certificate;
- the mechanical connections between the meter sensor and the pulser (if applicable);
- the electronic calculating/indicating device as mentioned in the applicable Evaluation Certificate.

In case the identification of the components is not stated on the Data sheet:

- the gas separator against removal;
 - the measurement transducer against removal;
 - the electronic calculating / indicating device against removal.
- *) Removal without destroying the nameplate shall not be possible, otherwise the nameplate shall be sealed to the frame.