Description

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

Producer	Type	Evaluation Certificate	Remarks
Gas separator			
Gilbarco GmbH	GPU90	TC7146	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXX at flowrates ≤ 40L/min or 70L/min.
Gilbarco GmbH	GPU140	TC7274	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXX at flowrates ≤ 130 L/min.
Gilbarco GmbH	ZP(A)	TC7145	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXXat flowrates ≤ 140 L/min.
Blackmer	GDP140	TC7164	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXX at flowrates ≤ 130 L/min.
Measurement transducer			
Gilbarco GmbH	C+ V meter V+ meter	TC7144	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXX at flowrates ≤ 40 L/min or 70L/min.
Gilbarco GmbH	2C+	TC7144	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXX at flowrates ≤130 L/min (meters parallel).
Gilbarco GmbH	Ecometer	TC7143	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXX at flowrates ≤ 40 L/min or 70L/min.
Gilbarco GmbH	2 Ecometers	TC7143	Used in SK700, SK700 Encore 510, SK700-2, SK700-2 Encore 510 and SK700-2/XXX at flowrates ≤130 L/min (meters parallel).

Electronic calculating/indicating device			
Gilbarco GmbH	Sandpiper / Sandpiper-2 / Sandpiper-Apollo	TC7123	Variations to Sandpiper calculators detailed in TC7123
Electronic calculating/converting device			
Kraus	Temperature compensating device	TC7167	Subsystem used for converting incoming impulses to representative volume, connected with the Sandpiper calculator

The fuel dispenser may be connected to a Self Service Device which is described in:

- any Parts Certificate or
- one of the Evaluation Certificates as mentioned in the table below,

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

Producer	Type	Evaluation Certificate	Remarks
Self service device			
Tokheim	Fuel-POS	TC7346	-
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 and Hecfleet NT	A0445/4516/2008 or A0445/2055/2016	Evaluation Certificate (Prüfschein) Bundesamt für Eich- und Vermessungswesen (BEV)
Hectronic GmbH	Heconomy	A0445/2057/2015	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'evaluation) Laboratoire national de métrologie et d'essais (LNE)
ALX Technologies	Europile	LNE-28279	Evaluation Certificate (Certificat d'evaluation) Laboratoire national de métrologie et d'essais (LNE)
Orpak Systems Ltd.	Systor POS and OrPT OPT	GB-1381	Evaluation certificate of NWML National Weights & Measures Laboratory of the UK
Scheidt und Bachmann GmbH	TMS 30	TC7596	Evaluation certificate of the NMi
Wincor Nixdorf	NAMOS	DE-08-MI005-PTB004	Evaluation certificate of Pysikalisch-Technische Bundesanstalt (PTB) Germany
BP Europe SE	RAP Sustain	TC7657	Evaluation certificate of the NMi
Lafon	ELYS PoS	LNE-22484	Evaluation certificate of LNE
Dresser Wayne AB	IxPay	SP107023	Evaluation certificate of SP

1.2 Essential characteristics

In addition to the characteristics as is stated on page 1 of this EU-type examination certificate T10055 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 (MMQ)
  - 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}
GPU90	90 L/min Viscosity range 0,4 - 8,0 mPa•s
GPU140	130 L/min Viscosity range 1,1 - 8,0 mPa•s
ZP(A)	140 L/min Viscosity range 0,4 - 8,0 mPa•s
GDP140	130 L/min Viscosity range 0,4 - 8,0 mPa•s

Measurement transducer	$Q_{min} - Q_{max}$
C+ ; V ; V+	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
2V ; 2V+	2,0 – 80 L/min Viscosity range 1,1 - 8,0 mPa•s
2C+	130 L/min Viscosity range 1,1 - 8,0 mPa•s
Ecometer	2,0 – 50 L/min Viscosity range 0,4 - 1,0 mPa•s 2,0 – 80 L/min Viscosity range 1,1 - 8,0 mPa•s
2 Ecometers	130 L/min Viscosity range 1,1 - 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.
- 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 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 including the supplementary metrological marking (M + last 2 digits of the year in which the instrument has been put into use);
- Notified Body identification number, following the supplementary metrological marking;
- EU-type examination certificate number;
- Manufacturer's name, registered trade name or registered trade mark;
- Manufacturer's postal address;
- Type designation;
- Year of manufacture and serial number;
- Accuracy class;
- Minimum and maximum flow rate;
- Maximum pressure;
- Name(s) or nature(s) of the product(s) to be measured;
- Mechanical and electromagnetic environment class;
- Ambient temperature range;
- Liquid temperature range.

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

Remarks:

- The nameplate 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 or Parts Certificate;
- An inscription on the display device's cover;
- Q_{max} of the optional second point of delivery of the same measurement transducer does not have to be mentioned on the name plate.

This measuring system was previously placed on the market under the manufacture name "Gilbarco GmbH & Co.KG".

* 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

The following "slave" Outdoor Payment Terminal (part of a self service device) may be built in the dispenser and connected to the self service device, provided that the used protocol is stated in the Evaluation Certificate or Parts Certificate of the self service device and the Evaluation Certificate or Parts Certificate of the Outdoor Payment Terminal:

Producer	Type	Evaluation Certificate	Remarks
Outdoor payment terminal			
Gilbarco Autotank AB	NC3/NP3 L/P/C	127612	Evaluation certificate of SP
Gilbarco S.r.l.	NC3/NP3 L/P/C	127614	Evaluation certificate of SP
Gilbarco Autotank AB	NP-M3 (OPT) , NC-M3 CRIP (GS/SK), NP3-M3, NC3L-M3 (GS/SK) NP3-M4, NC3P-M4 NC3L-M4 (GS/SK)	FIT.10.A.ER.01 FIT.10.A.01	Evaluation certificate of Inspecta Tarkastus Oy of Finland

- 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 up- or downstream the measurement transducer. An Expansion valve, working in the opposite direction is built in;
  This non return valve may be optional in the case that a non return valve is applied in the Seef-Pump-Gas Separator block.
- Valve-block (optional)
  With one inlet part and two outlet parts each flowing out in the inlet-flange of every measurement transducer;
- 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";
- Submerge pump
  If desired the dispenser can be performed with a submerge pump. The submerge pump is connected with 1 or more dispensers, where the gas separator is left out.
- 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.
- CNG dispenser fitted in the same fuel dispenser housing, which makes use of the same calculating and indicating device with own belonging presentation in "kg".

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 ore more mix-dispensers from different manufacturers, using the same or a separated calculating/indicating device, and may have their own data plate.
- When in the housing of the fuel dispenser one or more installations for measuring AdBlue are applied, it may be combined with one or more LPG- and/or gasoline and/or gasoil dispenser which make use of the same or separate calculating/indicating device(s).

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;
- The Self service Device as mentioned in the applicable Parts Certificate or Evaluation Certificate (if applicable).

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.

An example of those seals, which are not mentioned in the applicable Evaluation Certificates of the measurement transducer or calculating / indicating device, is given in the belonging Documentation folder.

*) Removal without destroying the nameplate shall not be possible, otherwise the nameplate shall be sealed to the frame.