5/6A/212
5 October 2012

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

# Notification of Change
# Certificate of Approval No 5/6A/212
# Change No 5

Issued by the Chief Metrologist under Regulation 60
of the
*National Measurement Regulations 1999*

The following changes are made to the approval documentation for the

Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

submitted by Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144.

A. In Certificate of Approval 5/6A/212 dated 16 June 2008, the FILING ADVICE should be amended by adding the following:

"Notification of Change No 5 dated 5 October 2012"

B. In Technical Schedule No 5/6A/212 dated 5 December 2005, clause **1.5 Pre-set Facility**, should be amended by changing the 2nd sentence to read;

"The pre-set amount entered is indicated on the price ($) display during the pre-set operation."

NOTE: Approval 5/6A/212 was cancelled in respect of NEW instruments on 1 December 2011. No NEW instruments conforming to the pattern or variants may be submitted for verification, however instruments manufactured before the cancellation date may continue in use.

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

5/6A/212
3 November 2011

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

# Cancellation

# Certificate of Approval

# No 5/6A/212

Issued by the Chief Metrologist under Regulation 60
of the
*National Measurement Regulations 1999*

This is to certify that the approval for use for trade granted in respect of the

Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

submitted by Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144

has been cancelled in respect of new instruments as from 1 December 2011.

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

# Certificate of Approval

# No 5/6A/212

Issued by the Chief Metrologist under Regulation 60
of the
*National Measurement Regulations 1999*

This is to certify that an approval for use for trade has been granted in respect of the

Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

submitted by Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144.

**NOTE:** This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 117-1, Measuring Systems for Liquids Other than Water, dated July 2004.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 November 2010, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 5/6A/212' and only by persons authorised by the submittor.

…./2

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

The National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

DESCRIPTIVE ADVICE

**Pattern:** approved 24 October 2005

- A Gilbarco model T910A6NP Lowline Mk3 multi-product fuel dispenser for motor vehicles.

**Variants:** approved 24 October 2005

1. Certain other models and configurations of the T910A Lowline Mk3 series.
2. For use with a Gilbarco model T20150 four-piston flowmeter.
3. High flow rate distillate version dispensers.
4. Mixed flow rate version dispensers.
5. With one or more approved submersible turbine pump (STP) hydraulic systems.
6. For use to dispense various grades of biodiesel and biodiesel/distillate blends.

Technical Schedule No 5/6A/212 describes the pattern and variants 1 to 6.

**Variant:** approved 10 April 2008

7. With a Fitsafe in-line filter.

Technical Schedule No 5/6A/212 Variation No 1 describes variant 7.

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FILING ADVICE

Certificate of Approval No 5/6A/212 dated 5 December 2005 is superseded by this Certificate, and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 5/6A/212 dated 16 June 2008
Technical Schedule No 5/6A/212 dated 5 December 2005 (incl. Test Procedure)
Technical Schedule No 5/6A/212 Variation No 1 dated 16 June 2008
Figures 1 to 5 dated 5 December 2005
Figure 6 dated 16 June 2008

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

# TECHNICAL SCHEDULE No 5/6A/212

**Pattern:** Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

**Submittor:** Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144

## 1. Description of Pattern

A Gilbarco model T910A6NP Lowline Mk3 multi-product fuel dispenser for motor vehicles (Figure 1) approved to dispense distillate and various grades of petrol (which may include up to 10% ethanol), in attendant-operated mode, or in self-service mode when interfaced to a compatible (*) approved self-service device.

(*) 'Compatible' is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the complete system including all checking facilities.

### 1.1 Field of Operation

The field of operation of the measuring system is determined by the following characteristics:

| | | |
|---|---|---|
| • Minimum measured quantity, $V_{min}$ | 2 L | |
| • Maximum flow rate, $Q_{max}$ | 50 L/min | |
| • Minimum flow rate, $Q_{min}$ | 5 L/min | |
| • Maximum pressure of the liquid, $P_{max}$ | 250 kPa | |
| • Minimum pressure of the liquid, $P_{min}$ | 140 kPa | (#1) |
| • Viscosity range of liquid at 20°C | 0.5 to 20 mPa.s | (#2) |
| • Maximum temperature of the liquid, $T_{max}$ | 40°C | |
| • Minimum temperature of the liquid, $T_{min}$ | 5°C | |
| • Ambient temperature range | -25°C to 55°C | |
| • Accuracy class | 0.5 | |

(#1) Minimum pressure for effective operation of the gas elimination device

(#2) Flowmeter is adjusted for use with one product viscosity.

### 1.2 Fuel Dispenser Components

The Gilbarco model T910A6NP Lowline Mk3 multi-product fuel dispenser (Figure 1) comprising:

(i) Three Gilbarco model GPU-90 pumping units as described in the documentation of approval NMI S455.

(ii) Six Gilbarco Type T262 model PA024 four-piston measurement transducers, (Figure 2), each fitted with a model DR07050 IS type pulse generator.

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(iii) Six Goyen model DR06220-004 19 mm two-stage solenoid operated control valves which are connected upstream of each hose and are controlled by the calculator/indicator to allow control of pre-set deliveries and to allow the system to be pressurised.

(iv) Six Elaflex model ZVA 16 mm nozzles, or any other compatible (*) approved nozzle connected to a Gilbarco-DQ 150002 16 mm hose or compatible (*) hose. The nozzle is the transfer device, which defines the start and finish of the measured volume throughput, and is designed to maintain the hose full of liquid. The nozzle and its receptacle are designed so that the nozzle cannot be placed in a hang-up position other than to end the delivery.

(*) 'Compatible' is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the complete system including all checking facilities.

(v) Gilbarco model Lowline Mk3 calculator with dual electromechanical display modules (Figure 3), one on each side of the dispenser (Figure 1).

Display limits and resolution:

| | |
|---|---|
| Price | $0 000.00 to $9 999.99 in 1 ¢ increments |
| Volume | 0 000.00L to 9 999.99 L in 0.01 L increments |
| Unit price | 0.1 to 999.9 in 0.1 ¢/L increments |
| Totaliser | 0 000 000 to 9 999 999 L in one litre increments |

The calculator/indicator is fitted with a manager's keypad and rotary switch located inside the indicator panel. The rotary switch permits the following modes of operation:

| | |
|---|---|
| Stand alone: | Stand alone operation |
| Self serve: | Self serve operation |
| Set price per litre: | Setting price for each grade of product |
| Set allocations: | Limits the delivery (in dollars from $1 up to $990) |
| Display total: | Displays electronically stored hose totals for $ & L |
| Test: | Software product code and version numbers |

To change the unit price:

1. Rotate the manager's switch to 'SET PRICE PER LITRE'.
2. The left digit on the price display (cents per litre) on both sides of the indicator will start to blink.
3. Using the manager's keypad, input the new unit price.

4. When all digits have been entered for that grade, press the # button; this assigns the new unit price and selects the left digit to change the price for the next product.

5. Rotate the manager's switch back to stand alone position.

Instruments operate with Gilbarco version 87.01 software.

Note: To view the software version refer to the Test Procedure.

### 1.4 Checking Facilities

The following checking facilities are incorporated:

- A segment check of price, volume and unit price is performed each time the nozzle is removed from its normal hang-up position.
- 'Err 1' is displayed and delivery stopped when error in pulse output is detected.
- 'Err 2' is displayed when the pump unit has detected air in the underground fuel line.
- 'Err 3' is displayed when the memory check fails.
- 'Err 6' is displayed if a Pre-set amount is over-run.

### 1.5 Pre-set Facility

A pre-set amount, in whole dollars, can be entered via the buttons on the pre-set keypad marked '$1', '$5' or '$20'. The ~~maximum~~ pre-set amount ~~that can be~~ entered ~~is $990 and~~ is indicated on the price ($) display during the pre-set operation. The pre-set amount can be viewed before and after the delivery is complete by pressing the 'RECALL' button situated in the pre-set keypad. To cancel the pre-set amount, or to start again, press the 'FILL/CLEAR' button.

### 1.6 Totaliser

The instrument is fitted with six Kuebler model K07.20.35 12 V DC electronic totalisers for indicating the volume totals in one litre graduations up to a maximum of 9 999 999 litres. The totaliser is located inside the indicator.

### 1.7 Sealing Provision

The gas separator test valve and the flow meter have provision for sealing (Figure 4).

### 1.8 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

### 1.9 Markings

Instruments are marked with the following data, together in one location on a data plate:

| | | |
|---|---|---|
| Pattern approval sign | 5/6A/212 | |
| Manufacturer's identification mark or trade mark | ..... | |
| Manufacturer's designation (model number) | ..... | |
| Serial number | ..... | |
| Year of manufacture | ..... | |
| Maximum flow rate *($Q_{max}$)* | ..... L/min | |
| Minimum flow rate *($Q_{min}$)* | ..... L/min | |
| Maximum operating pressure *($P_{max}$)* | ..... kPa | |
| Minimum operating pressure *($P_{min}$)* | ..... kPa | |
| ~~Maximum temperature of the liquid, $T_{max}$~~ | ~~40°C~~ | |
| ~~Minimum temperature of the liquid, $T_{min}$~~ | ~~5°C~~ | |
| Nature of liquids to be measured | ..... | (#1) |
| Environmental class | class C | (#2) |

(#1) e.g. distillate or D.

(#2) See clause **1.1 Field of Operation**.

In addition, the minimum measured quantity ($V_{min}$) shall be clearly visible on any indicating device visible to the user during measurement, in the form 'Minimum delivery 2 L'.

## 2. Description of Variants

### 2.1 Variant 1

Certain other models and configurations of the T910A Lowline Mk3 series of fuel dispensers. Model numbers are made up of the series designation '**T910A** ' followed by other characters, as follows:

(For example, the pattern is a model T910A6NP)

- **1**, **2**, **3**, **4**, **5** or **6** representing the number of hoses.
- **N**, **H** or **M** representing either Normal (5 to 50 L/min) or High (8 to 80 L/min) or a Mixture of flow rates.
- **P** or **D** representing either Pump with gas separator or Dispenser with external pump (Variant 5).
- In addition, instruments complying with Variant 6 have a **W** suffix representing use with biodiesel or biodiesel/distillate blends (to Australian government standard).

### 2.2 Variant 2

For use with a Gilbarco model T20150 four-piston flowmeter (Figure 5) which is similar to the meter of the pattern accept the outlet is at the bottom of the meter.

### 2.3 Variant 3

High flow rate distillate version dispensers, which incorporate a model Elaflex slimline 25 mm (or compatible (*) hose, an Elaflex ZVA 25 mm nozzle or any other 25 mm approved nozzle, and a Goyen DR06220-005 two-stage solenoid valve.

The field of operation is the same as for the pattern except for the following:

- Maximum flow rate, $Q_{max}$ 80 L/min
- Minimum flow rate, $Q_{min}$ 8 L/min

(*) 'Compatible' is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the complete system including all checking facilities.

### 2.4 Variant 4

Mixed flow rate version dispensers, wherein some hoses operate at the 'normal' flow rate range of 5 to 50 L/min (as per the pattern) while other hoses dispense distillate only over the 'high' flow rate range of 8 to 80 L/min (as per variant 3).

The field of operation is the same as for the pattern and variant 2, as appropriate.

### 2.5 Variant 5

As 'dispenser' versions with one or more approved submersible turbine pump (STP) hydraulic systems. These hydraulic systems replace the equivalent components (i.e. motor, pump/strainer/gas separator, and associated pipework) in any fuel dispenser covered by this approval, in which case the model number includes a 'D', e.g. model T910A6ND.

### 2.6 Variant 6

The pattern and variants constructed for use to dispense various grades of biodiesel and biodiesel/distillate blends (to Australian government standard) in which case the model number has a 'W' suffix, e.g. model T910A6NPW.

## TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures. Tests should be conducted in conjunction with any tests specified in the approval documentation for any components used, including indicator/controller and submersible turbine pump (STP) hydraulic systems.

**Maximum Permissible Errors at Verification/Certification**

The maximum permissible errors applied during a verification test of the fuel dispenser using the liquid for which it is to be verified/certified, and from normal flow rate to the minimum flow rate specified in the Certificate of Approval or Technical Schedule are:

±0.3% for the calibration adjustment of the meter; and

±0.5% for in-service inspection of the complete measuring system.

Note: Adjusting the errors of a meter to values OTHER than as close as practical to zero is forbidden, even when these values are within the maximum permissible errors.

Other applicable maximum permissible errors are:

±0.5% for gas elimination device for liquids having a viscosity not exceeding 1 mPa.s (petrol);

±1.0% for gas elimination device for liquids having a viscosity exceeding 1 mPa.s (e.g. distillate);

±20 mL for deliveries equal to the minimum measured quantity, $V_{min}$; and

±(0.01 x $V_{min}$) L due to hose dilation.

**To check the software version number:**

1. Open the display panel door by using a designated key.
2. Rotate the manager's switch and set it to 'TEST'.
3. The indicator will display the software version number in the form '87.01' on the '$' display.

# TECHNICAL SCHEDULE No 5/6A/212

## VARIATION No 1

**Pattern:** Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

**Submittor:** Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144

## 1. Description of Variant 7

With a Fitsafe model FS-14ILA3\4BSPT in-line cartridge filter installed downstream of the meter and outside the fuel dispenser housing (Figure 6).

The filter may be installed on any model dispenser of this approval and used with any liquid hydrocarbon for which the dispenser is approved.

The filter unit is sealed to prevent any drainage of the product between the inlet of the filter and the nozzle of the fuel dispenser.

The maximum permissible errors applicable are those applicable to the fuel dispenser to which the instrument approved herein is fitted.

When the filter is changed the system is required to be primed with liquid up to the nozzle, and then the filter is to be sealed.

If a filter is installed after the fuel dispenser has been verified/certified, then the dispenser must be tested and certified again after the filter has been installed. Similarly if the filter is removed then the dispenser must again be tested and certified.

A destructible adhesive label should be applied after verification/certification.

5/6A/212
28 June 2006

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

# Notification of Change
# Certificate of Approval No 5/6A/212
# Change No 1

Issued by the Chief Metrologist under Regulation 60
of the
*National Measurement Regulations 1999*

The following changes are made to the approval documentation for the

Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

submitted by Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144.

In Technical Schedule No 5/6A/212 dated 5 December 2005 clause **2.4 Variant 4** should be amended as follows:

1. The 2nd paragraph should amended to read;

   "The field of operation is the same as for the pattern and variant 3, as appropriate."

2. The following should be added as the 3rd paragraph;

   "In addition to the markings specified in clause **1.9 Markings**, the maximum and minimum flow rates (#) shall be marked when different rates are used for various hoses/nozzles within the same fuel dispenser.

   (#) e.g. $Q_{max}$ = 50/80 L/min

   $Q_{min}$ = 5/8 L/min"

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

5/6A/212
3 September 2008

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

# Notification of Change
# Certificate of Approval No 5/6A/212
# Change No 2

Issued by the Chief Metrologist under Regulation 60
of the
*National Measurement Regulations 1999*

The following changes are made to the approval documentation for the

Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

submitted by Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144.

A. In Certificate of Approval 5/6A/212 dated 16 June 2008, the FILING ADVICE should be amended by adding the following:

"Notification of Change No 1 dated 28 June 2006
Notification of Change No 2 dated 3 September 2008"

B. In Technical Schedule No 5/6A/212 dated 5 December 2005 clause **1.2 Fuel Dispenser Components**, sub-clause (iv) should be amended to read, in part;

"Six Elaflex model ZVA 16 mm nozzles, **or model 'Slimline 2' ZVA nozzle,** or any other compatible approved nozzle …"

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

5/6A/212
13 October 2011

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

# Notification of Change
# Certificate of Approval No 5/6A/212
# Change No 3

Issued by the Chief Metrologist under Regulation 60
of the
*National Measurement Regulations 1999*

The following changes are made to the approval documentation for the

Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

submitted by Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144.

A. In Certificate of Approval 5/6A/212 dated 16 June 2008, the FILING ADVICE should be amended by adding the following:

"Notification of Change No 3 dated 13 October 2011"

B. In Technical Schedule No 5/6A/212 dated 5 December 2005:

(i) clause **1.1 Field of Operation**, should be amended to read, in part;

"Maximum temperature of the liquid, $T_{max}$ **5**0°C

Minimum temperature of the liquid, $T_{min}$ **–10**°C"

(ii) clause **1.9 Markings**, should be amended by removing the maximum and minimum liquid temperatures from the list of required markings.

Note that the minimum and the maximum temperatures of the liquids need only appear on the data plate when they differ from –10°C and +50°C respectively.

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

# Notification of Change
# Certificate of Approval No 5/6A/212
# Change No 4

Issued by the Chief Metrologist under Regulation 60
of the
*National Measurement Regulations 1999*

The following changes are made to the approval documentation for the

Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser for Motor Vehicles

submitted by Gilbarco Australia Limited
20 Highgate Street
AUBURN NSW 2144.

A. In Certificate of Approval 5/6A/212 dated 16 June 2008, the FILING ADVICE should be amended by adding the following:

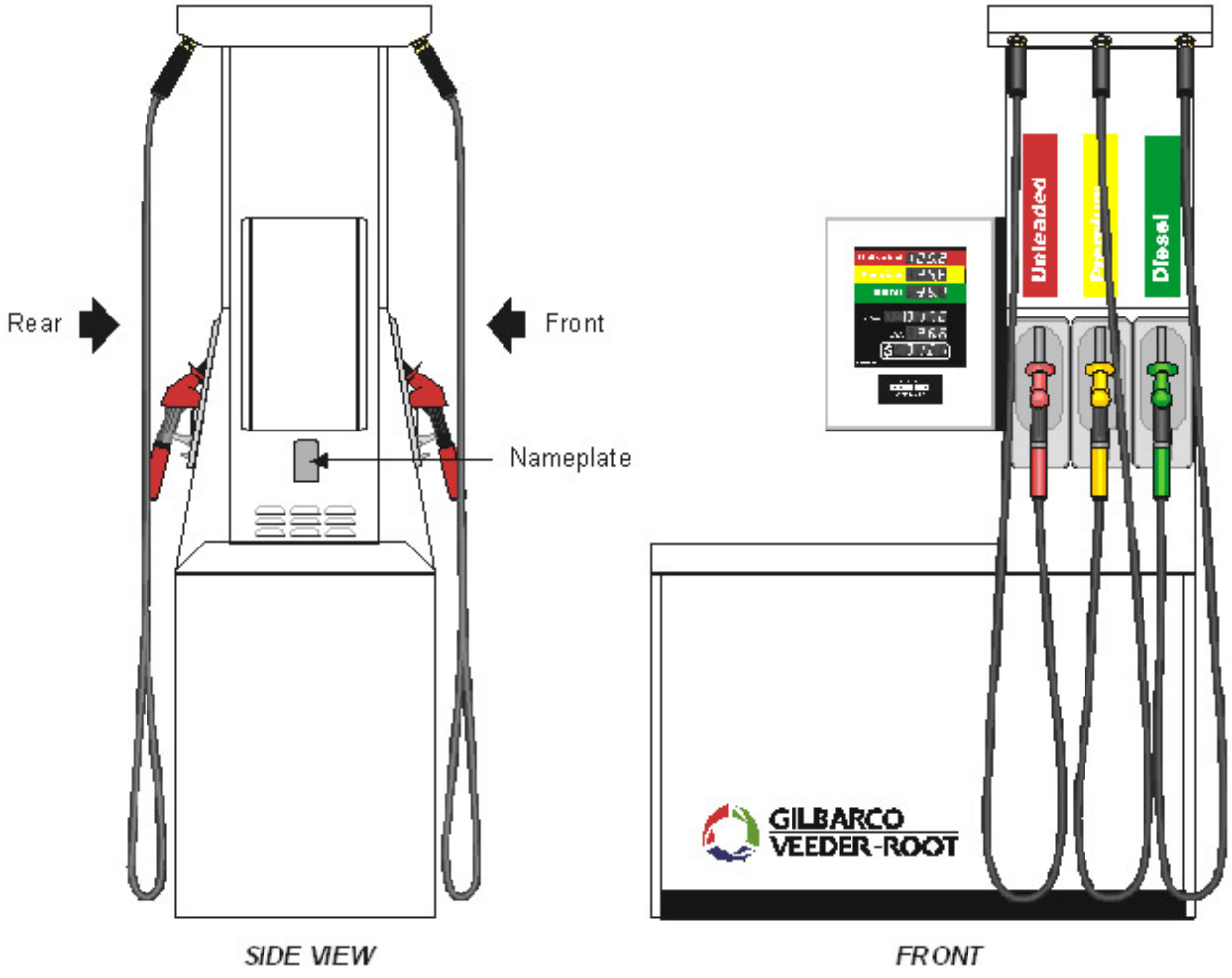
"Notification of Change No 4 dated 27 October 2011"

B. In Technical Schedule No 5/6A/212 dated 5 December 2005, clause **1.1 Field of Operation**, should be amended to read, in part;

| | | |
|---|---|---|
| "Maximum pressure of the liquid, $P_{max}$ | **350** kPa | (#1) |
| Minimum pressure of the liquid, $P_{min}$ | **100** kPa | (#2)" |

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

FIGURE 5/6A/212 – 1




Gilbarco Model T910A6NP Lowline Mk3 Fuel Dispenser

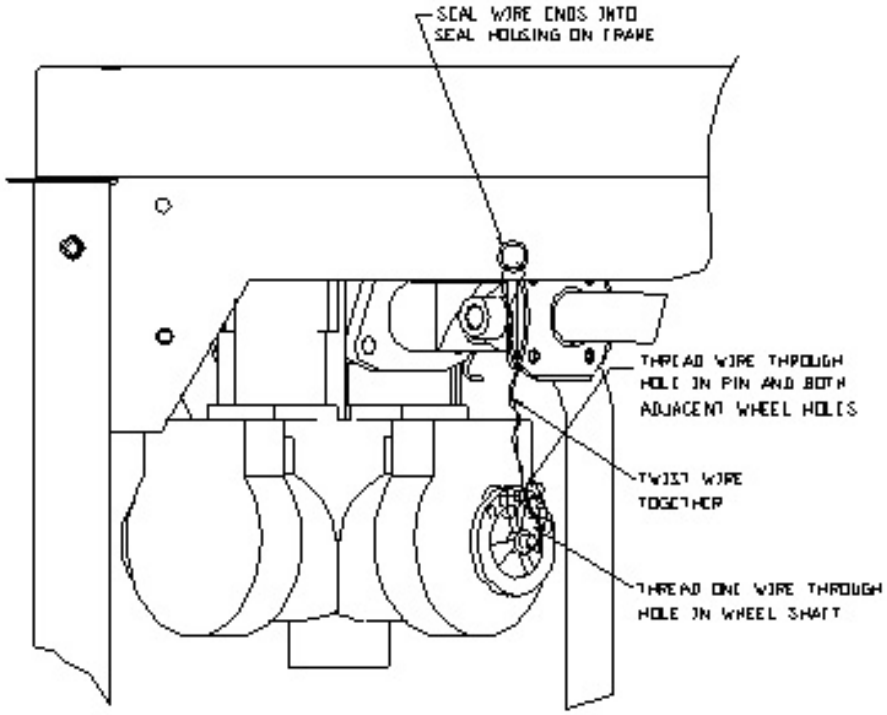
FIGURE 5/6A/212 – 2

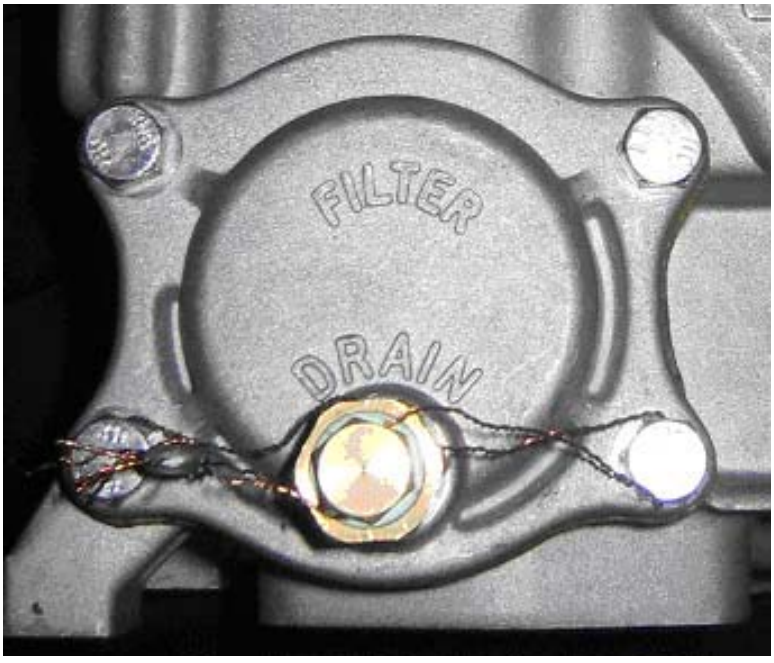
Gilbarco Type T262 Model PA024 Flowmeter

FIGURE 5/6A/212 – 3


Gilbarco Model Lowline Mk3 Calculator Display

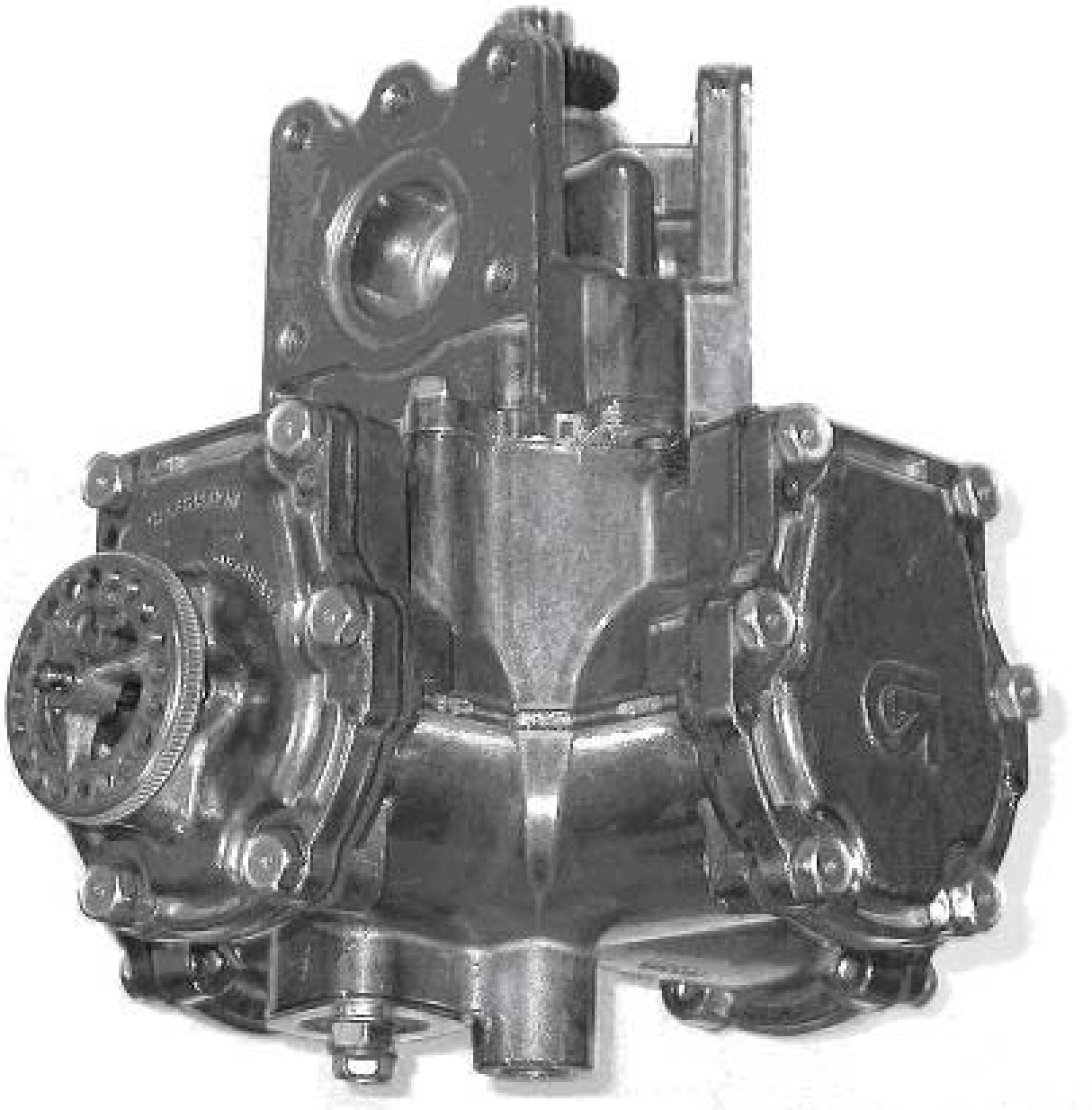
FIGURE 5/6A/212 – 4




Typical Sealing

FIGURE 5/6A/212 – 5



Gilbarco Model T20150 Flowmeter

FIGURE 5/6A/212 – 6


Typical Fitsafe Filter Installation