



EU-TYPE EXAMINATION CERTIFICATE

Number: TCM 141/08 - 4583

Addition 13

This addition replaces all previous versions of this certificate in full wording.

Page 1 from 19 pages

In accordance: with Directive 2014/32/EU of the European Parliament and of the Council on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (implemented in Czech Republic by Government Order No. 120/2016 Coll.).

Manufacturer: MEPSAN Petrol Cihazlari Sanayi Ticaret A.S.
3. Organize Sanayi Bolgesi
T. Ziyaeddin Caddesi No. 24
42300 Konya, Turkey

For: fuel dispensers
type: PROLINE SERIES, PROLINE H COMBO-M, BIGBANG, MTS 500 SERIES,
BIGBANG T, COSMIC, ORION, SMARTLINE L (LUPUS), MTS 400, ROBOPUMP,
SMARTLINE SERIES, SMARTLINE COMBO, BASELINE SERIES, M-LINE SERIES

AdBlue dispenser
type: MEPBLUE

Liquids	Gasoline, kerosene, diesel and AdBlue
Accuracy class	0.5
Mechanical class	M2
Electromagnetic class	E2

Valid until: 3 March 2028

Document No: 0115-CS-A008-08

Description: Essential characteristics, approved conditions and special conditions, if any, are described in this certificate.

Date of issue: 14 November 2023



Certificate approved by:


RNDr. Pavel Klenovský

1 Measuring device description

The fuel dispensers and AdBlue dispensers and their combinations are designed for measurement of quantities of liquids as a legal measuring device in the sense of the Directive of the European Parliament and of the Council no. 2014/32/EU of measuring instruments, as amended. Fuel dispensers are used for the refuelling of motor vehicles. AdBlue dispensers are used for the refuelling of a separate storage tanks of motor vehicles with reduction of NO_x in exhaust gases of diesel engines SCR-technology (Selective Catalytic Reduction).

The fuel dispensers and AdBlue dispensers are produced under the trademarks EUMEP, PPSN, UNIMEP, MEPITA, MEPS or MEPSAN, MITES.

The fuel dispensers and AdBlue dispensers of the types PROLINE SERIES, PROLINE H COMBO-M, BIGBANG, BIGBANG S, BIGBANG T, MTS 500 SERIES, COSMIC, ORION, SMARTLINE L (LUPUS), MTS 400, ROBOPUMP, SMARTLINE SERIES, SMARTLINE COMBO, BASELINE SERIES, MEPBLUE and M-LINE SERIES differs in looks of the housing only and consist from the same components. All of above-mentioned types may be either fuel dispensers or AdBlue dispensers or their combination.

Fuel dispensers consist of a pumping unit with gas elimination device, positive displacement measurement sensor, electronic pulse transmitter, electronic calculator with keypad, solenoid (electromagnetic) valve, and hose with dispensing nozzle. These fuel dispensers can be equipped with a sight glass, vapour recovery system, electromechanical totalizing indicating device and pre-setting device optionally.

There are three types of fuel measuring systems:

- Standard with Q_{max} 50 L/min, which contains one pumping unit with Q_{max} 50 L/min and one measurement transducer. One pumping unit can supply two measuring systems which can operate simultaneously (Two measuring systems for the same product on each side of fuel dispenser).
- High speed with Q_{max} 90 L/min, which varies just in using pumping unit with Q_{max} 90 L/min and
- Ultra high-speed with Q_{max} 130 L/min, which contains one pumping unit with Q_{max} 130 L/min and parallel mounting two measurement transducer. (The fuel is dispensed via one nozzle only).

The fuel dispensers (version xxxxSx) can be (and AdBlue dispensers must be) made as a pressure system in centrally pumped system or with external submersible pump. In that case the installation of a gas separator is NOT mandatory. If it is not intended to install a gas separator, the design of installation has to ensure that there is no risk of air intake or gas release and following requirements must be fulfilled:

- To secure automatically the minimum level in the storage tank, a level detection system shall be installed.
- Each delivery shall be delayed until the submerged pump has been running for at least 3 seconds.
- The pipelines between the pump unit and the dispenser are installed with a positive slope of at least 1 %. There shall be no significant portion without slope.
- At least one non-return valve shall be installed in the system upstream of each measurement transducer.

AdBlue dispensers consist of the same component like fuel dispensers. They are intended only for pressure system with external submersible pump. It has to be ensured that the submersible pump was still under liquid level. A non-return valve has to be installed between the remote pump and AdBlue dispenser. Flow rate of the AdBlue dispenser is limited up to 50 L/min.

PROLINE COMBO and SMARTLINE COMBO is a fuel/LPG dispenser which combines measurement system for refuelling of liquid fuel and measuring system for refuelling of LPG in one housing. Liquid fuel system consists of the components approved in this certificate and LPG part of PROLINE COMBO and SMARTLINE COMBO is separately approved in the EC-type examination certificate TCM 141/08-4646. Both systems (sides) have common electronic calculator. Accuracy class of the LPG measurement system is 1.0.

The fuel dispensers could be connected into independent Point of Sale, Paying terminal or Fiscal memory device which do not influence metrology parameters of measuring system.



1.1. Pumping unit with gas separator

These types of pumping unit can be used alternatively:

MLB, A. S. MLB-PUMP pumping unit with gas separator with 3 L (type 1) or 4 L (type 2) volume and Q_{max} 50 / 90 / 130 L/min. Pumping units can be equipped with VDS electronic vapour detection sensor optionally.

MLB, A. S. MLB-PUMP pumping unit assembly drawings 31010501000, 31010901000, 31011301000, 31010511000, 31010911000, 31011311000 for Type 1 and 31010521000, 31010921000, 31011321000, 31010531000, 31010931000, 31011331000 for Type 2

MLB, A. S. VDS electronic vapour detection sensor assembly drawings 310105010152

1.2. Measurement transducer

These types of measurement transducers can be used alternatively:

MLB, A.S. UNIMEP MLB-Meter 90 measurement transducer consists of a two pistons flow sensor with cyclic volume 0.5 L and MLB, A.S. UNIMEP Smart Pulsar 1 or 2, two-channel magnetic transmitter with RS-485 communication.

UNIMEP MLB-Meter 90 flow sensor assembly drawings 21020001000 Type 1 and 210200010001 Type 2

UNIMEP Smart Pulsar 1 transmitter assembly drawing MP-AP05020.00

UNIMEP Smart Pulsar 2 transmitter assembly drawing 21011244001

MLB, A.S. Q-Meter measurement transducer consists of a four pistons flow sensor with cyclic volume 0.5 L and MLB, A.S. UNIMEP Smart Pulsar 1 or 2, two-channel magnetic transmitter with RS-485 communication.

The measurement transducer can be equipped with mechanical adjusting device optionally (Type 2). The adjusted is realized by varying of the stroke of one pair of pistons by the adjustment screw. The regulation is non-continual with steps about 0.08 %. Maximum range of adjustment is about ± 2 %. Location of adjusting screw is protected by positioning pin.

Q-Meter flow sensor assembly drawings 31010161101, 31010161111 for Type 1 and 31010161201, 31010161212 for Type 2

UNIMEP Smart Pulsar 1 transmitter assembly drawing MP-AP05020.00

UNIMEP Smart Pulsar 2 transmitter assembly drawing 21011244001.

MLB, A.S. UNIMEP MLB-Meter 90 and Q-Meter are used for measurement of gasoline, kerosene and diesel.

MLB, A.S. UNIMEP MLB-Meter 90 AdBlue measurement sensor is patterned on the sensor MLB-Meter 90 with small modifications. Flow range of this sensor is (5 to 50) L/min. Liquid temperature range is (-5 to 50) °C. This sensor is used only in AdBlue dispensers. UNIMEP Smart Pulsar 1 or 2 is to be connected to this sensor.

1.3. Electronic calculator

MLB, A.S. UNIMEP Electronic Computing unit consists of Power supply unit, CPU unit, I/O unit, Display unit, electromechanical volume totaliser and Keypad unit with preset.

This electronic calculator can handle up to 10 nozzles, 5 at each site of dispenser and is able to serve up to 2 customers at a time.

Approved versions of the CPU metrological software and their W&M checksum (CRC):

SW version	CRC
4.4	43D1

Software version number can be seen from parameter SP 14.

1.4. Delivery hose

SEMPERIT TEU Triebstoff FUEL Type 1 DN 16; maximum length 10 m
 SEMPERIT TEU Triebstoff FUEL Type 1 DN 19; maximum length 8 m (for MMQ = 5L or 10L)
 ELAFLEX Slimline DN 16, 21, 25; maximum length 6 m
 GOOD YEAR Flexsteel DN 15.9, 25.4; maximum length 6 m
 SEL TS EN 1360 DN 38; maximum length 3 m (for MMQ 10 L only), SEL TS EN 1360 DN 16, 19, 25; maximum length 6 m
 SEL LPG-LPGD DN 16; maximum length 7 m
 ELAFLEX LPG DN 16; maximum length 7 m
 SEMPERIT TM3-D DN 16; maximum length 5 m
 ALFAGOMMA, ID 16 mm EN 1762, maximum length 5 m
 ALFAGOMMA, ID 16 mm EN 1360, maximum length 5 m
 ELAFLEX COAX Slimline 21/8 (Vapour Recovery Hose), maximum length 6 m
 MEPSAN TS EN 13483 - TYPE 3 - M - 22MM - 16BAR (Vapour Recovery Hose), maximum length 4 m

2 Basic technical data

Max. flowrate Q_{\max} [L/min]	50	90	130
Min. flowrate Q_{\min} [L/min]	5	5	10
Min. measured quantity MMQ [L]	2	2 or 5	10
Maximum unit price (no. of digits)	9999 9999 (8)		
Maximum price to pay (no. of digits):	99 9999 9999 (10)		
Scale interval, volume display [L]	0.01		
Type of display:	Electronic		
Liquid temperature range [°C]	-20 to +50 for fuels -5 to 50 for AdBlue		
Maximum pressure [MPa]	0.25 0.35 for AdBlue and Q_{\max} 130 L/min only		
Minimum pressure [MPa]	0.15		
Type of liquids	Gasoline, kerosene, diesel and AdBlue (32.5 % aqueous urea solution)		
Accuracy class	0.5		
Mechanical class	M2		
Electromagnetic class	E2		
Ambient temperature range [°C]	-25 to +55		
Humidity	Condensing		
Location	Open		

3 Test

Technical tests of the fuel dispensers and AdBlue dispenser were performed according to the International Recommendation OIML R 118 *Testing procedures and test report format for pattern evaluation of fuel dispensers for motor vehicles*, in compliance with International Recommendation OIML R 117-1 *Dynamic measuring systems for liquids other than water*, International Recommendation OIML D 11 *General requirements for electronic measuring instruments* and WELMEC Guide 7.2 2015 *Software Guide*.

Information regarding the tests and conformity assessment are to be found in Test Report No. 6015-PT-P018-07 (issued on 27 February 2008), Test Report No. 6015-PT-P010-09 (20 February 2009), Test Report No. 6015-PT-P0009-10 (26 March 2010), Test Report 6015-PT-P0041-12, Test Report No. 6015-PT-P0021-13 (12 June 2013), Test report No. 6015-PT-P0030-13 (28 August 2013), Test report No. 8553-PT-S0021-16, Test report No. 6015-PT-P0039-21 and Evaluation Report No. 0511-ER-F047-23.

All Test reports were issued by Czech metrology institute - Notified body No. 1383.

4 The measuring device data

There are at least following data on the pumping unit, the measurement transducer and on the electronic calculator:

- Manufacturer's name, mark or trademark
- Type designation
- Serial number and year of manufacture

There are following data on each measuring system:

- The "CE" marking and supplementary metrology marking
- Number of EU-type examination certificate
- Manufacturer's name, mark or trademark, postal address
- Type designation
- Serial number and year of manufacture
- Accuracy class 0.5
- Minimum measured quantity (MMQ)
- Maximum flowrate (Q_{\max})
- Minimum flowrate (Q_{\min})
- Maximum pressure (p_{\max})
- Minimum pressure (p_{\min})
- Liquids to be measured
- Liquid temperature range
- Ambient temperature range
- Mechanical class
- Electromagnetic class

The name plate must be inseparably fixed to the construction on clearly visible place in normal conditions of use.

There are following data on each face of indicating device:

- Near price indication unit of national currency (e.g. €)
- Near volume indication unit ℓ or L or word Litre
- Near unit price indication unit price per litre, e.g. € / ℓ or € / L or € / Litre
- Information regarding the minimum measured quantity (MMQ)

All data are in an official language of a country where the dispenser is put into operation.

5 Conditions for approval and sealing

Before putting into use it has to be verified that the fuel dispenser is in conformity with requirements of this certificate.

Accuracy test within verification has to be performed using the liquid which the measuring system is intended for (or liquid with similar characteristics, especially viscosity), within given flow rate range and pressure range of the measuring system and in normal conditions of operation.

It is recommended to perform the accuracy test at three flow rates:

- Q_{\max} ,
- 25% of Q_{\max} and
- Q_{\min} .

All measured errors have to be in range of tolerance $\pm 0.5\%$.

Each measuring system has to be sealed according to pictures No. 2 to 10 after the testing and conformity assessment with positive result. Access to W&M parameters which can influence on metrological function is protected by sealed switch on transmitter electronic board.

Parameter SP03 must be adjusted to value at least 3 sec.

Parameter SP08 must be adjusted to value at maximum 120 sec.

On the pumping units:

- a) Connection of pump body with pump upper cover and control valve cover 1×
- b) VDS electronic vapour detection sensor 1×

On the measurement transducer UNIMEP MLB-Meter 90 and MLB-Meter 90 AdBlue:

- c) Connection of transducer body with side and pistons covers and pistons nuts 1×
- d) Connection of transducer body with transmitter (Pulser) and calibration nut 1×
- e) Connection of transducer body with data plate 1×

On the measurement transducer Q-Meter:

- f) Connection of transducer body with bottom, upper and pistons covers 1×
- g) Connection of transducer body with transmitter (Pulser) and calibration nut 1×
- h) Connection of transducer body with data plate 1×
- i) Connection of transducer body with piston cover and adjusting pin if any 1×

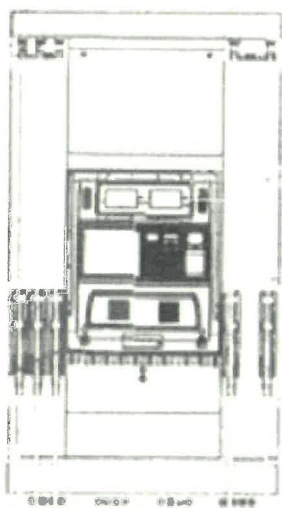
On the electronic calculator:

- j) Connection of CPU body with the cover 2×
- k) The data plate of calculator 1×

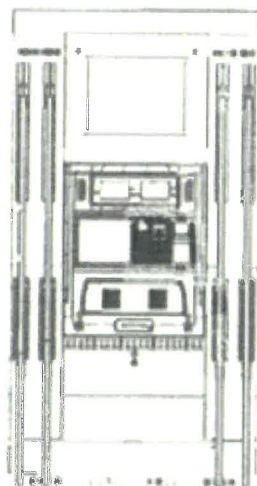
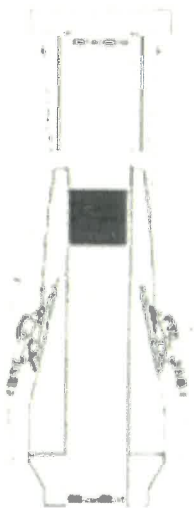
On the fuel dispenser:

- l) The data plate of dispenser 1×
- m) The symbol of relevant measuring system on the data plate if more nozzles 1×
- n) The data sheet 1×

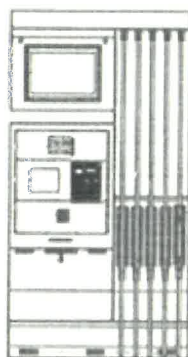
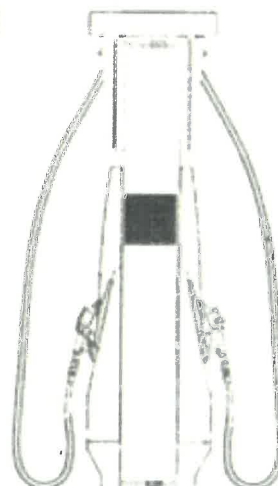
Picture No. 1: View of the dispensers types:



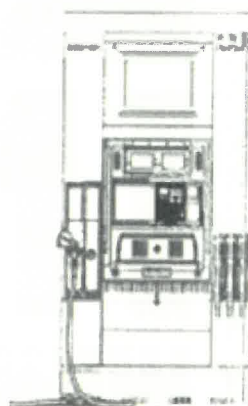
Proline H-M



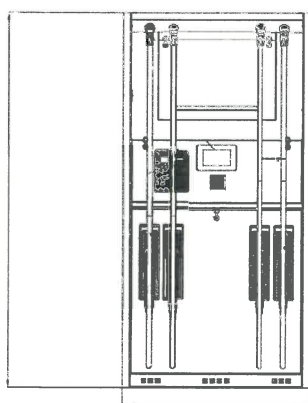
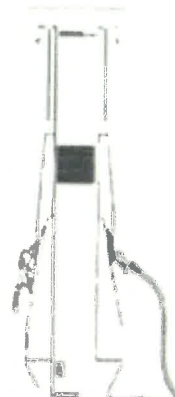
Proline H-MX



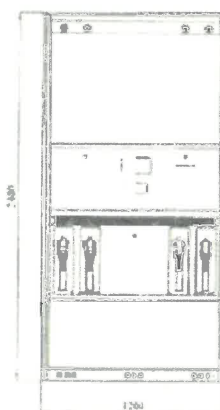
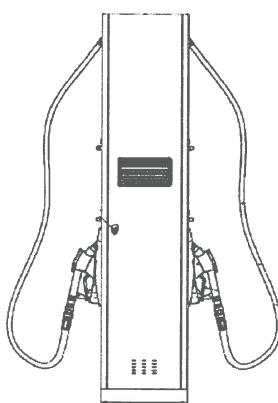
Proline L-M



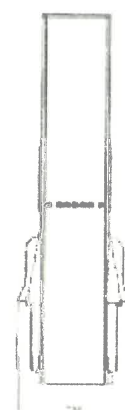
Proline H Combo M

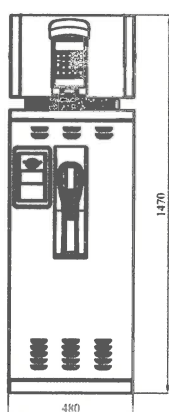
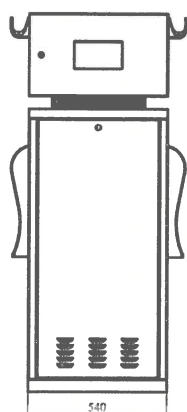


MTS 400

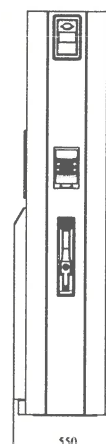
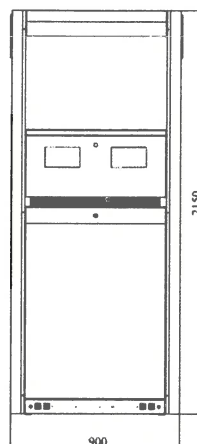


BIGBANG

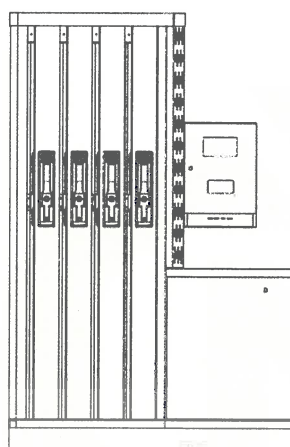
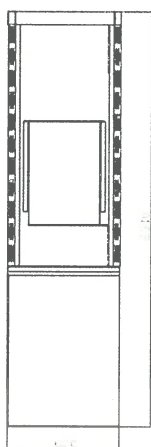




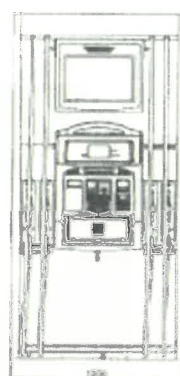
COSMIC



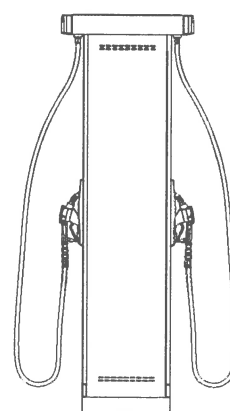
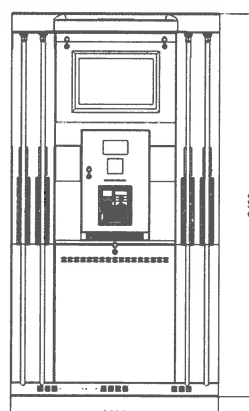
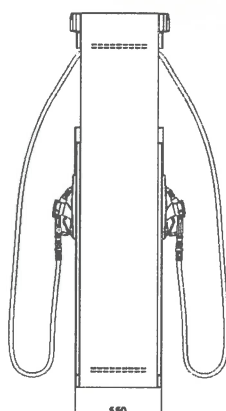
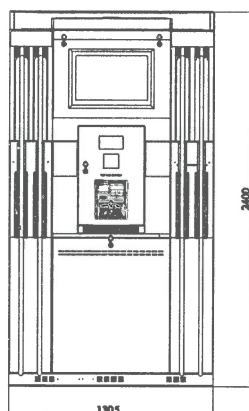
ORION



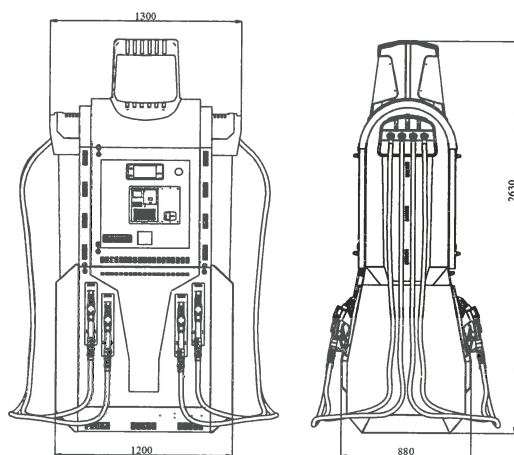
SMARTLINE L (LUPUS)



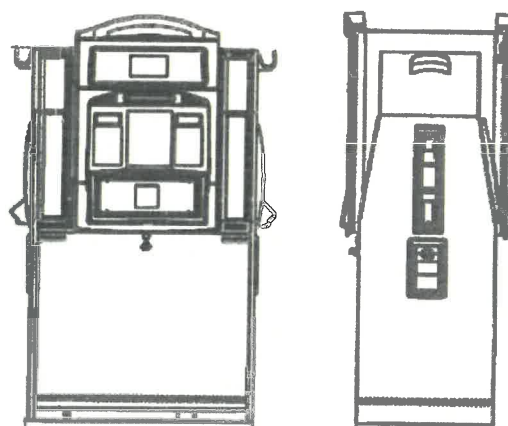
BIGBANG T



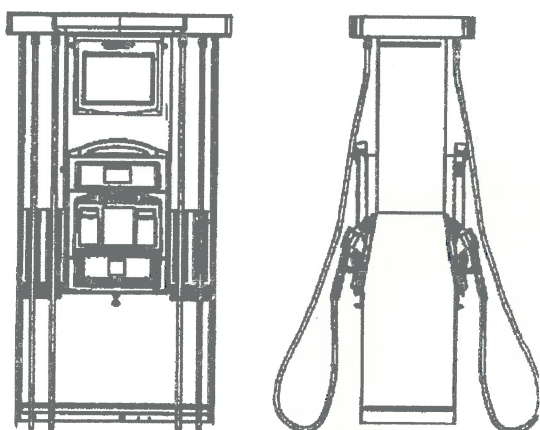
MTS 500



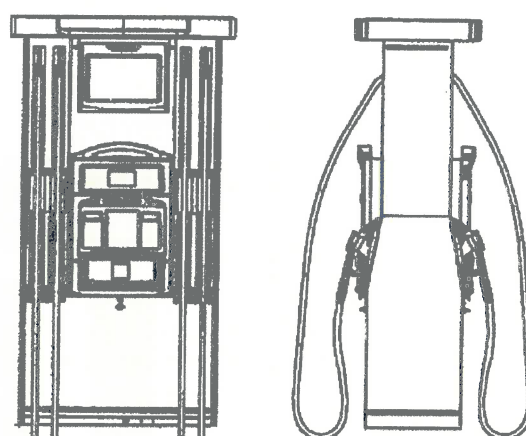
ROBOPUMP



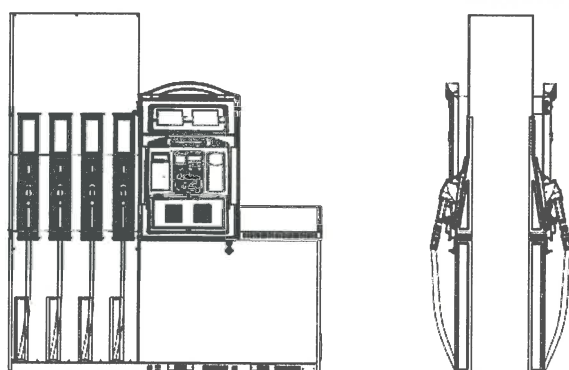
Smartline C



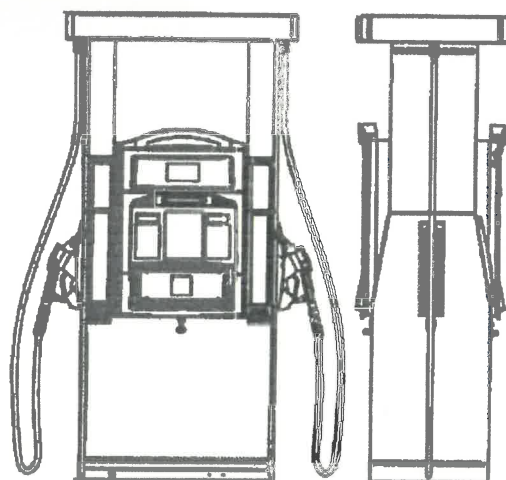
Smartline H and Smartline H-M



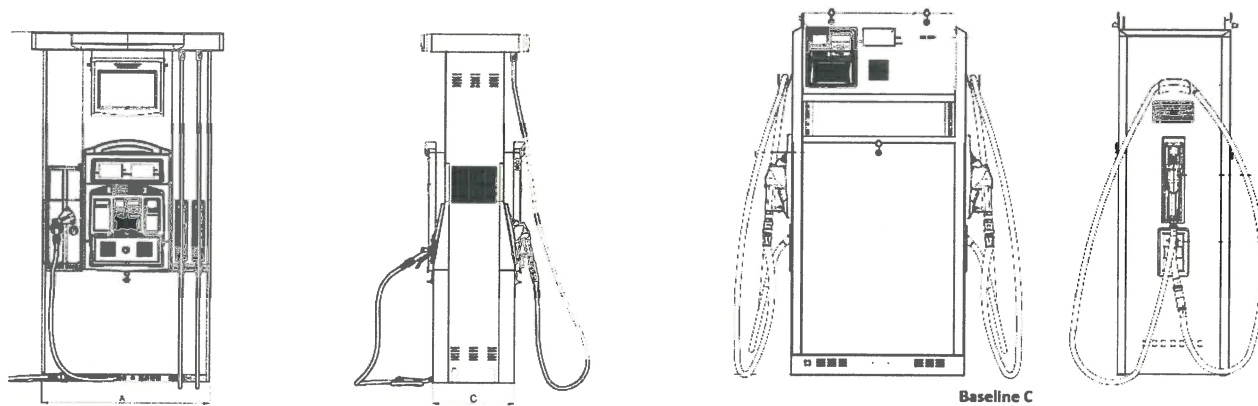
Smartline H-X and Smartline H-MX



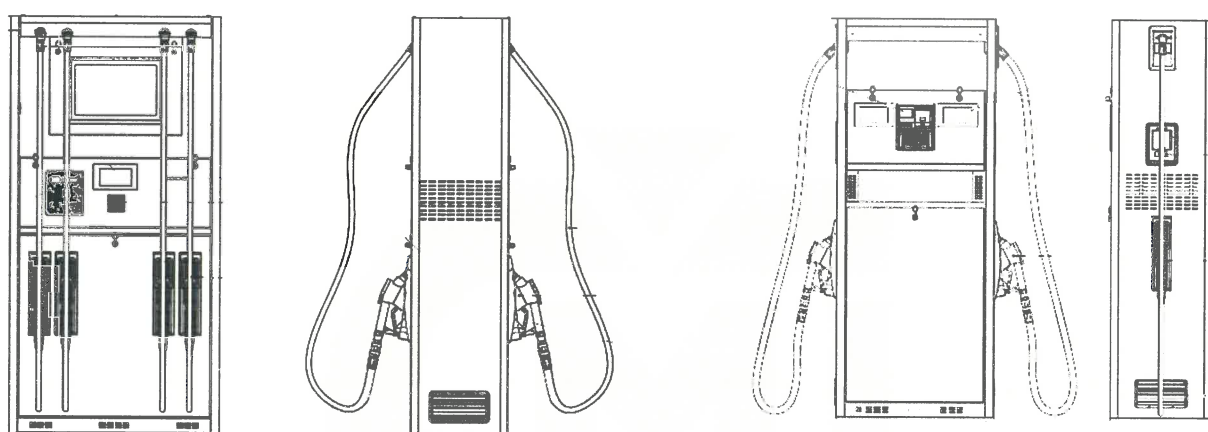
Smartline L-X



Smartline R

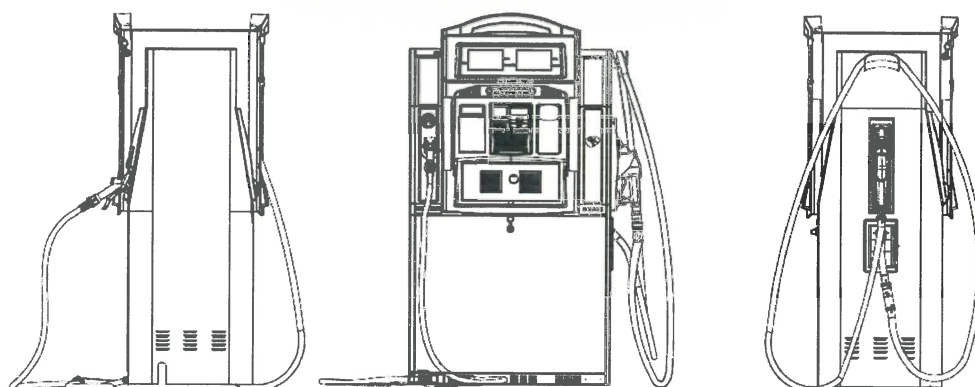


Smartline H Combo

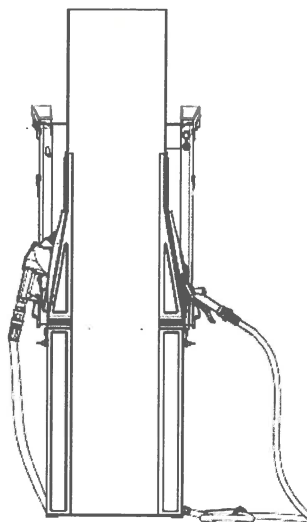
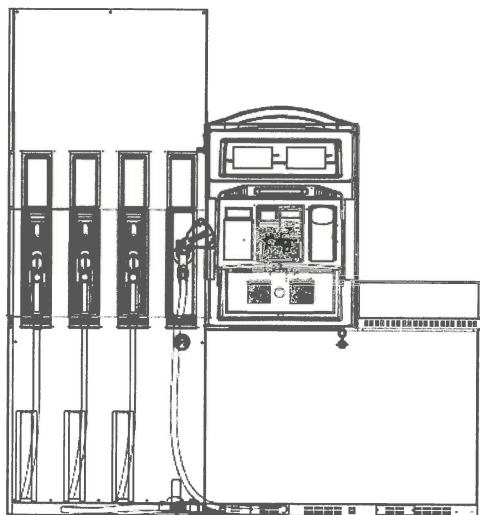


Baseline H and Baseline H-M

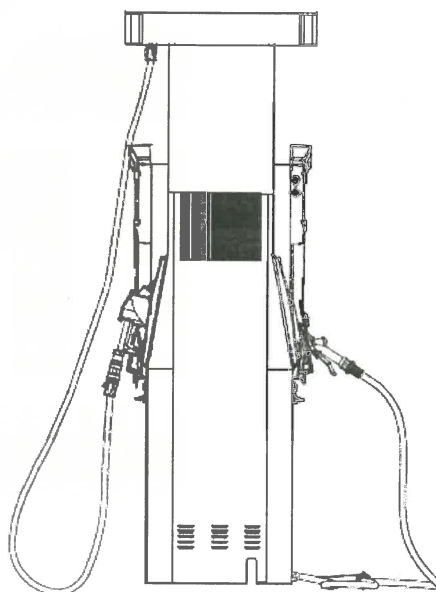
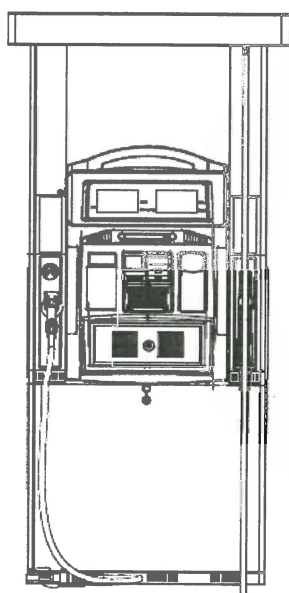
Baseline R



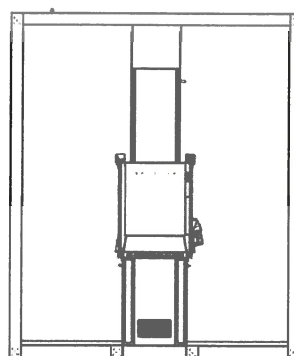
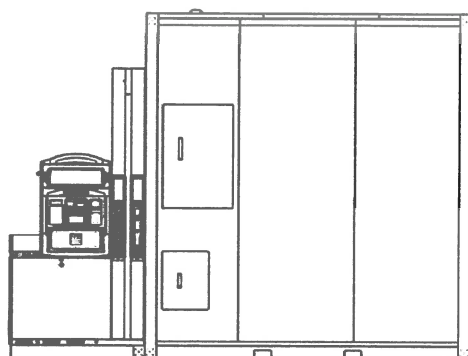
Smartline C Combo



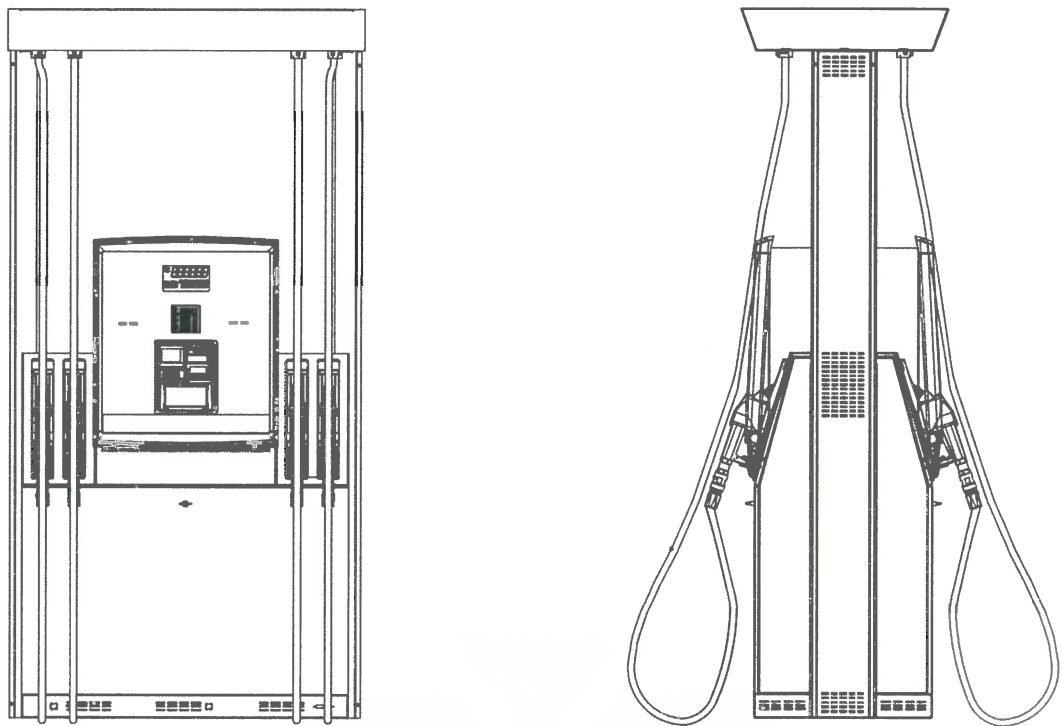
Smartline L Combo



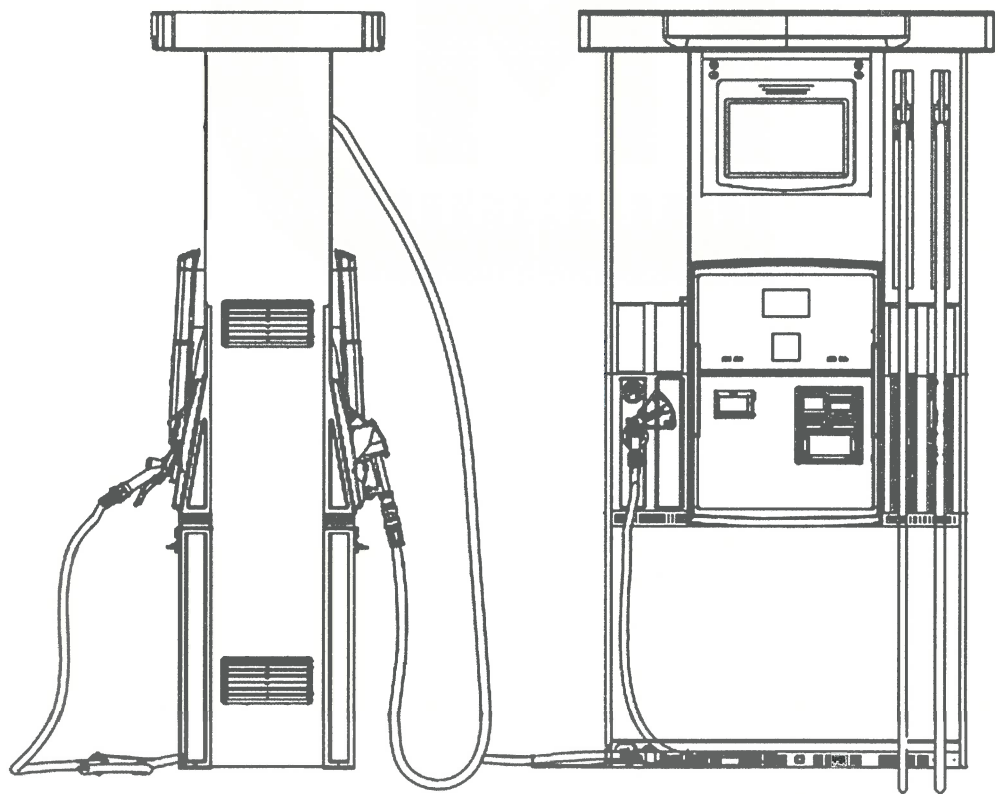
Smartline R Combo



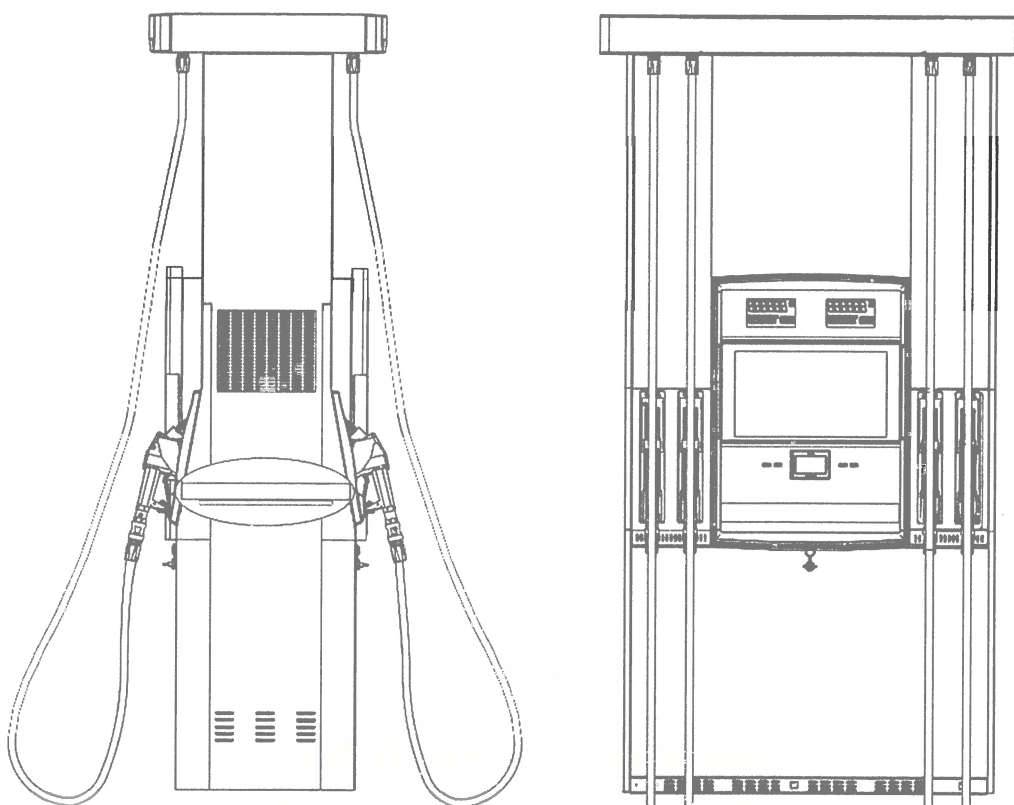
MEPBLUE



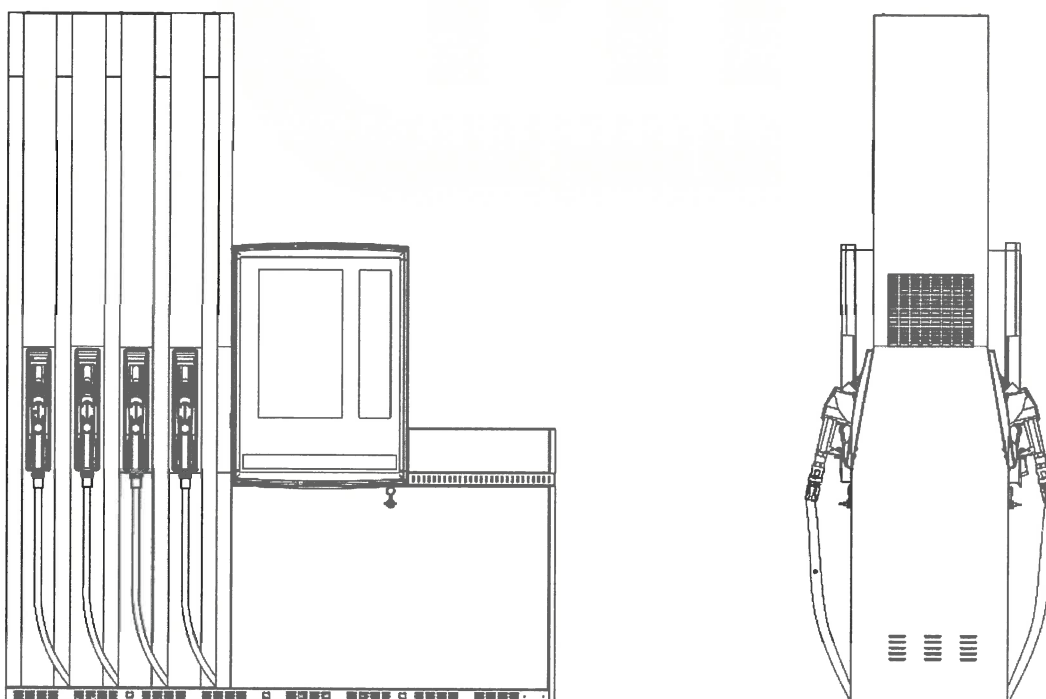
M-Line



Smartline H-X Combo
Smartline H-MX Combo

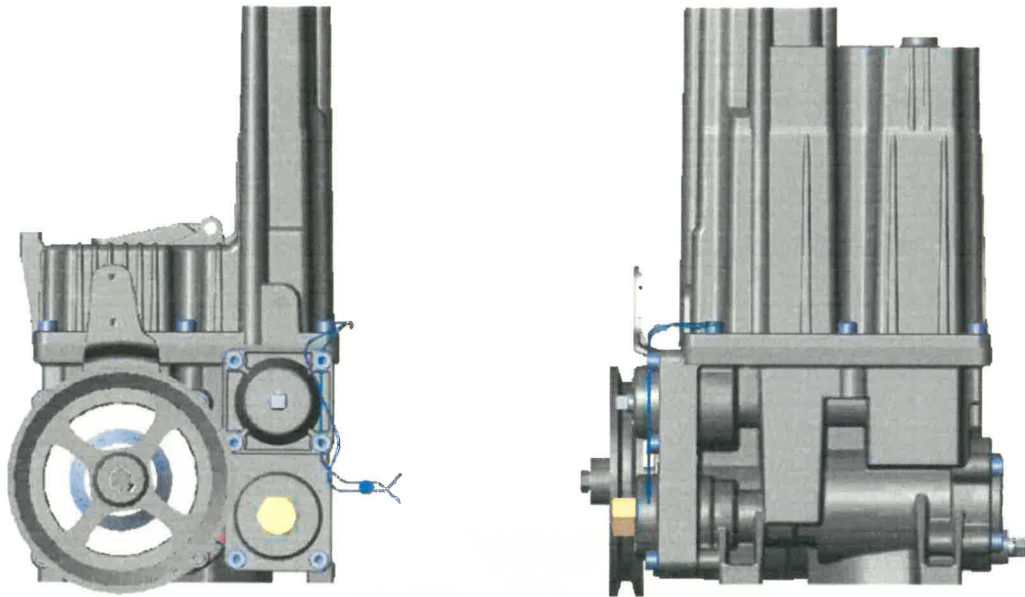


SMARTLINE H and SMARTLINE H PRO

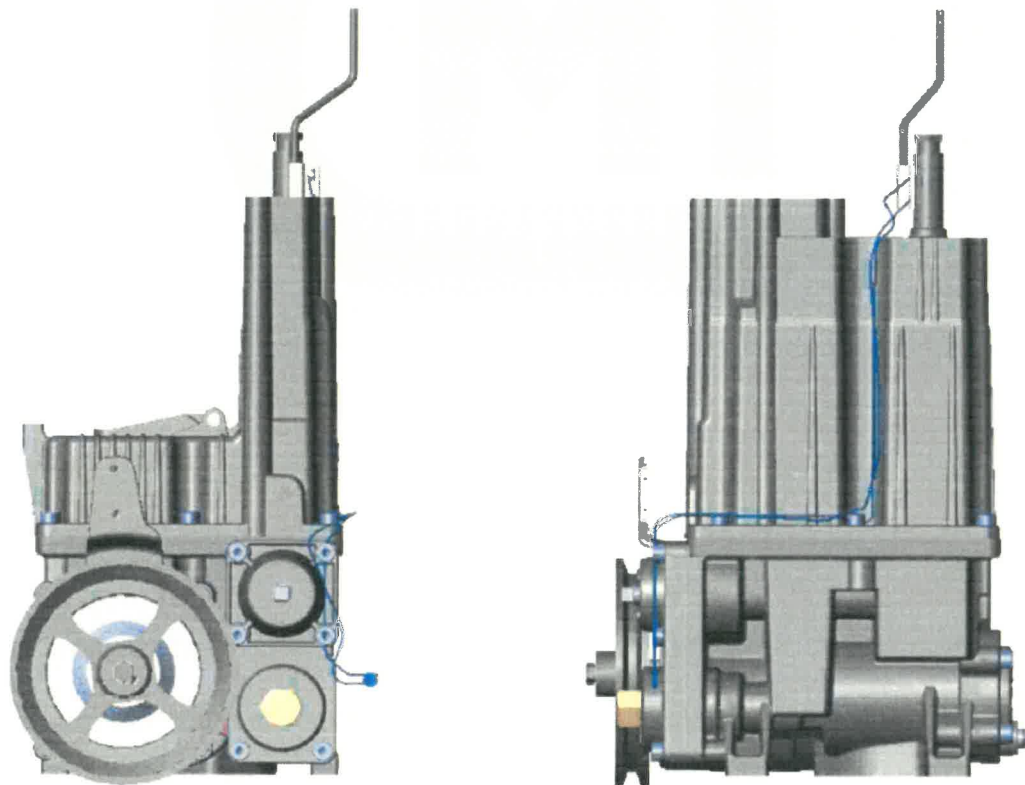


SMARTLINE L PRO

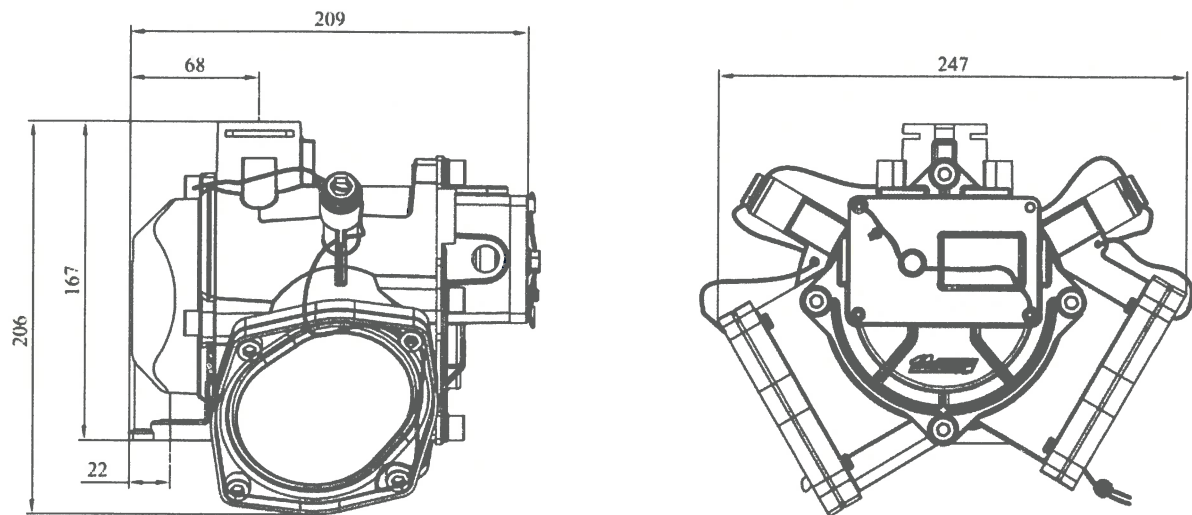
Picture No. 2: The sealing of the pumping unit MLB-PUMP



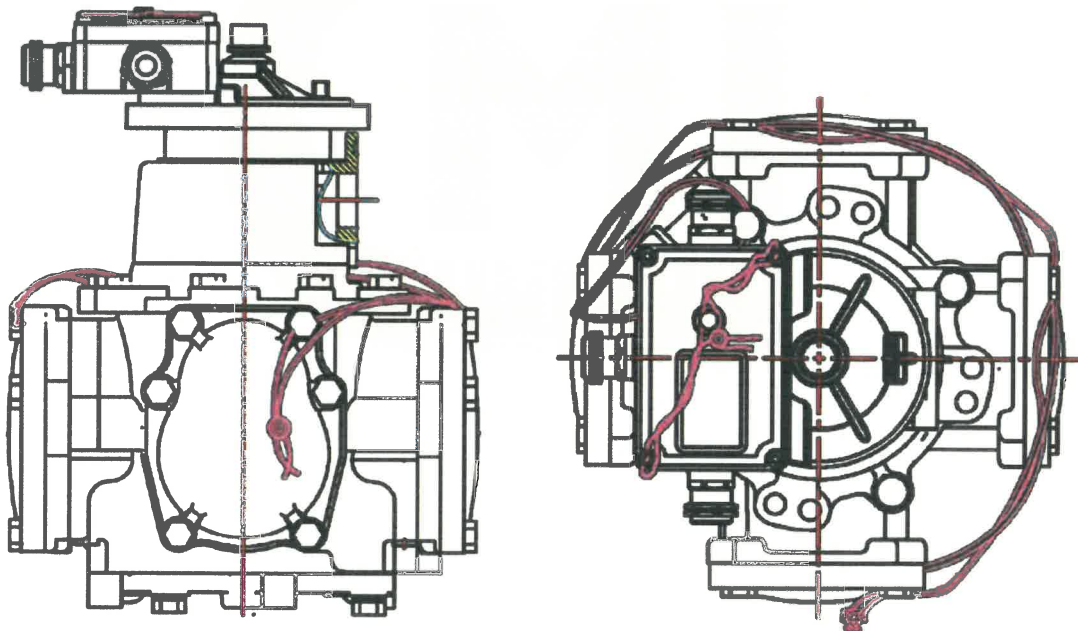
Picture No. 3: The sealing of the pumping unit MLB-PUMP with electronic vapour detection sensor



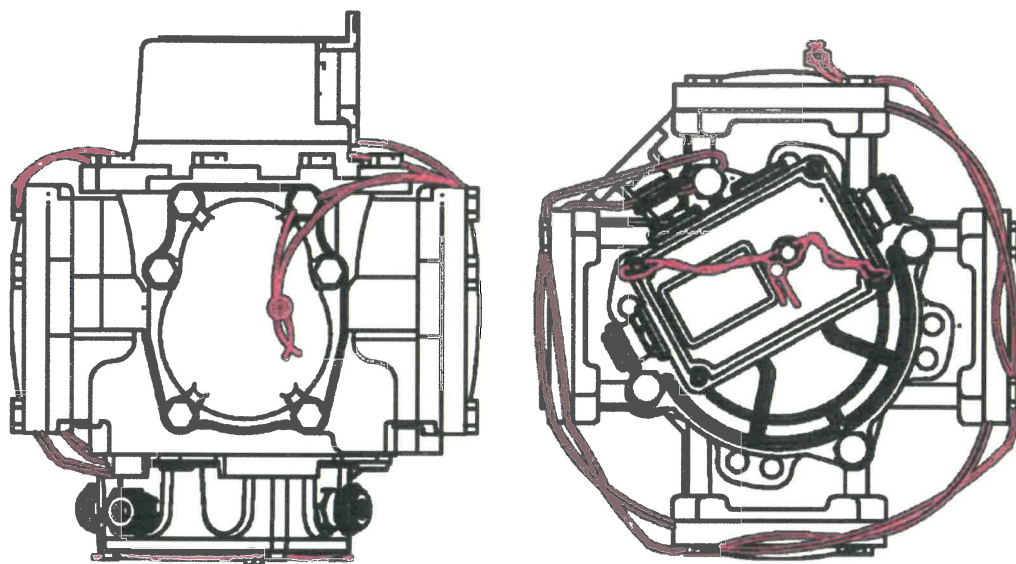
Picture No. 4: The sealing of the measurement transducer UNIMEP MLB-Meter 90 and MLB-Meter 90 AdBlue:



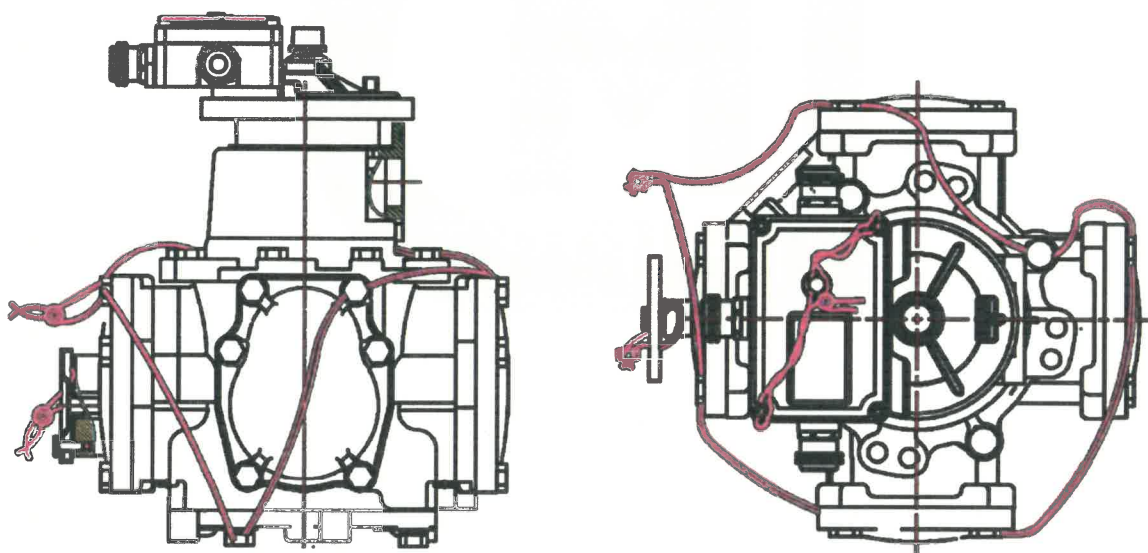
Picture No. 5: The sealing of the measurement transducer Q-Meter type 1 with Smart pulser 1



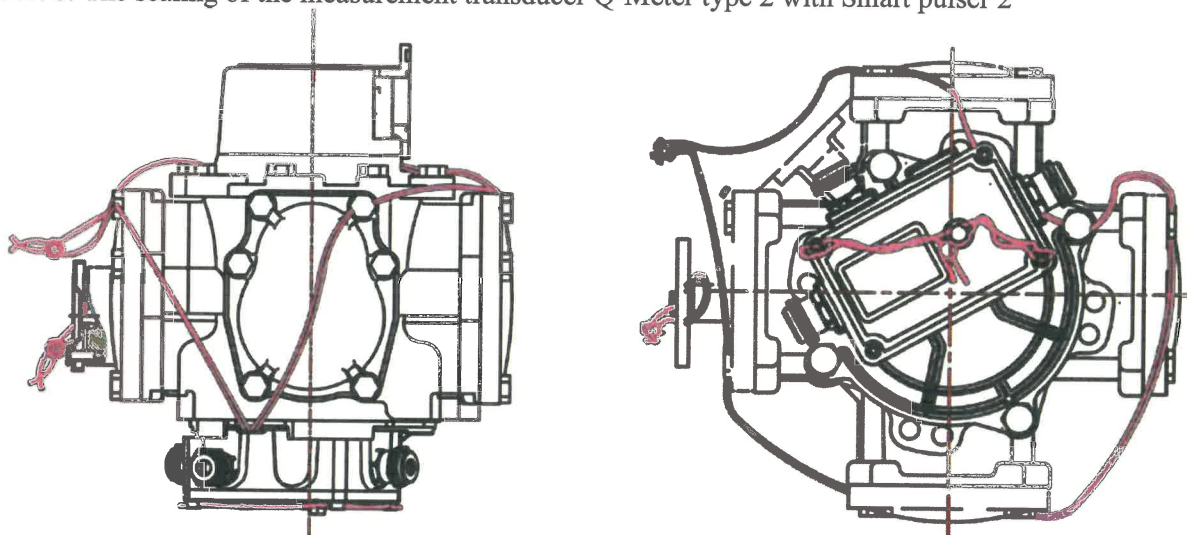
Picture No. 6: The sealing of the measurement transducer Q-Meter type 1 with Smart pulser 2



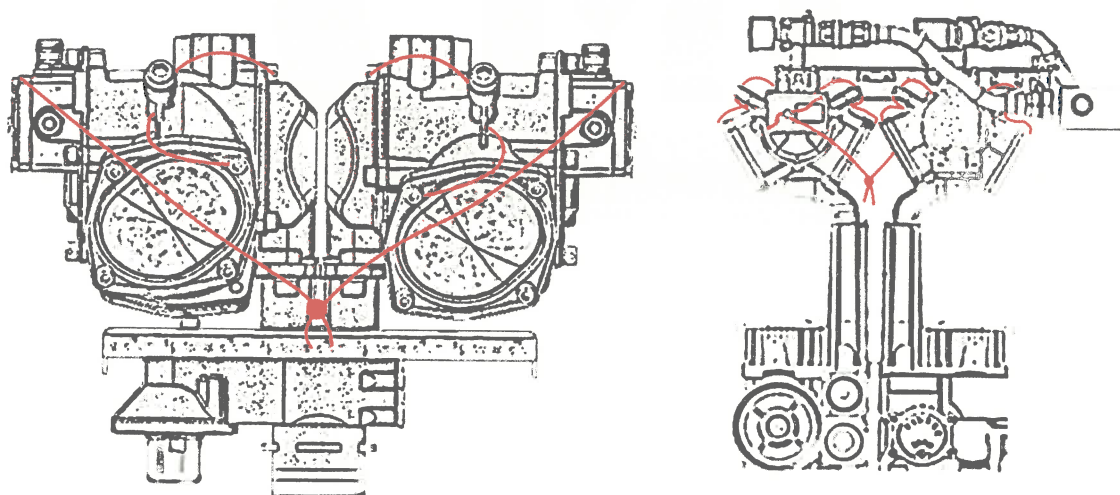
Picture No. 7: The sealing of the measurement transducer Q-Meter type 2 with Smart pulser 1



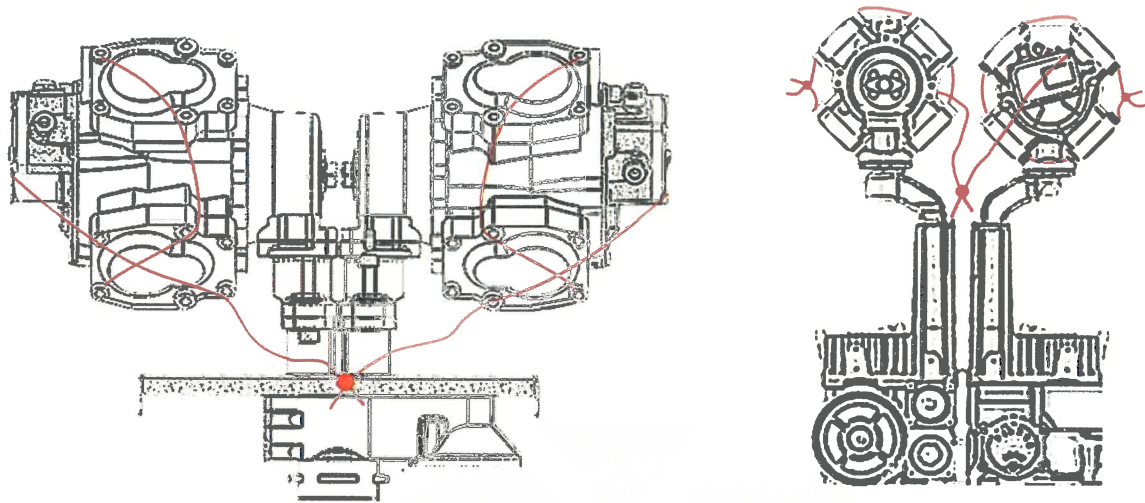
Picture No. 8: The sealing of the measurement transducer Q-Meter type 2 with Smart pulser 2



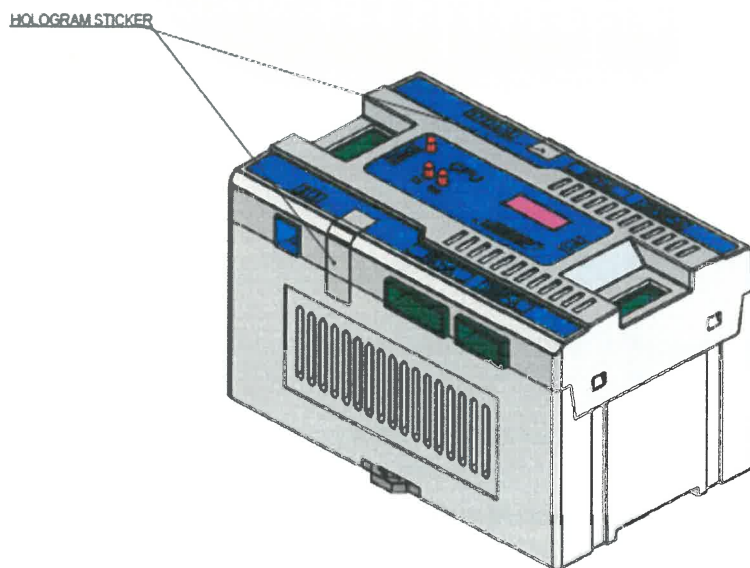
Picture No. 9: Sealing of the ultra high-speed fuel dispenser with two measurement transducers UNIMEP MLB-Meter 90 mounted in parallel



Picture No. 10: Sealing of the ultra high-speed fuel dispenser with two measurement transducers UNIMEP Q-Meter mounted in parallel



Picture No. 11: The sealing of the electronic calculator:



Picture No. 12: Example of the fuel dispenser data plate

180

LEFT SIDE

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

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Type

Serial No / Year

Ex Certificate No

W&M Approval No

EN13617 - VprEN14578-1

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2				
3				
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1 2 3 4 5 6

6 5 4 3 2 1

RIGHT SIDE

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CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

CE M XXXX

170

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