



**Australian Government**

**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

# **Cancellation Certificate of Approval NMI 5/6M/2**

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

PEC Model H9672P Fuel Dispenser for Motor Vehicles

submitted by           Gallagher Fuel Systems Ltd  
                                  2 Station Road  
                                  Marton    4741    NEW ZEALAND

has been cancelled in respect of new instruments as from 1 August 2015.

## **DOCUMENT HISTORY**

<b>Rev</b>	<b>Reason/Details</b>	<b>Date</b>
0	Pattern & variants 1 to 3 approved – interim certificate issued	22/02/06
1	Pattern & variants 1 to 3 approved – certificate issued	13/04/06
2	Variants 4 to 8 approved – pattern amended (hose numbering) – certificate issued	12/07/07
3	Variant 1 amended (number of hoses) – notification of change issued	28/07/08
4	Pattern amended (software version) – notification of change issued	14/10/09
5	Pattern & variants 1 to 8 reviewed – variant 9 approved – certificate issued	19/05/10
6	Pattern amended (pulse generator) – notification of change issued	22/10/10

DOCUMENT HISTORY (cont...)

Rev	Reason/Details	Date
7	Variants 10 & 11 approved – pattern amended (LPG Test Procedure) – certificate issued	25/02/11
8	Variant 12 approved – pattern (pump & solenoid valve) & variant 10 (TUV approvals) amended – certificate issued	15/09/11
9	Pattern & variants 1 to 12 updated – variant 13 approved – certificate issued	21/06/13
10	Pattern & variants 1 to 13 cancelled – cancellation certificate issued	6/07/15

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



**Dr A Rawlinson**



Australian Government

National Measurement  
Institute

Bradfield Road, West Lindfield NSW 2070

## Certificate of Approval

### No 5/6M/2

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 instruments herein described.

PEC Model H9672P Fuel Dispenser for Motor Vehicles

submitted by           Gallagher Fuel Systems Ltd  
                                  (formerly PEC Fuel Pumps Ltd)  
                                  2 Station Road  
                                  Marton     4741     New Zealand

**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 Measuring Systems for Liquids Other than Water, dated July 2004.

This approval becomes subject to review on 1/03/15, and then every 5 years thereafter.

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7	Variants 10 & 11 approved – pattern amended (LPG Test Procedure) – certificate issued	25/02/11
8	Variant 12 approved – pattern (pump & solenoid valve) & variant 10 (TUV approvals) amended – certificate issued	15/09/11
9	Pattern & variants 1 to 12 updated – variant 13 approved – certificate issued	21/06/13

CONDITIONS OF APPROVAL

**General**

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 5/6M/2' and only by persons authorised by the submittor.

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.

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

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



**Dr A Rawlinson**

## TECHNICAL SCHEDULE No 5/6M/2

### 1. Description of Pattern

approved on 22/02/06

A PEC model H9672P multi-product fuel dispenser (Figures 1 and 2) for delivering LPG, petrol and/or diesel to motor vehicles in attendant-operated mode, or in self-service mode when interfaced to a compatible (#) approved self-service device.

May also be known as Gallagher' instruments of the same model.

The hose numbering layout for self service installations is shown in Figure 9.

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

#### 1.1 Field of Operation

The following specifies the field of operation for which the metering system is approved:

##### Characteristics common to all systems

- Minimum measured quantity,  $V_{min}$  2 L
- Ambient temperature range  $-25^{\circ}\text{C}$  to  $55^{\circ}\text{C}$

##### Characteristics specific to LPG metering

- Maximum flow rate,  $Q_{max}$  60 L/min
- Minimum flow rate,  $Q_{min}$  10 L/min
- LPG density detection range  $505\text{ kg/m}^3$  to  $570\text{ kg/m}^3$  (at  $15^{\circ}\text{C}$ )
- Volume conversion to  $15^{\circ}\text{C}$  over a liquid temperature range of  $-10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$
- Operating pressure is maintained at least 200 kPa above the equilibrium vapour pressure of LPG
- Maximum operating pressure,  $P_{max}$  1800 kPa

##### Characteristics specific to petrol/diesel metering

- Maximum flow rate,  $Q_{max}$  50 L/min
- Minimum flow rate,  $Q_{min}$  5 L/min
- Range of liquids that can be measured 0.5 to 20 mPa.s (at  $20^{\circ}\text{C}$ )
- Maximum pressure of the liquid,  $P_{max}$  350 kPa
- Minimum pressure of the liquid,  $P_{min}$  100 kPa
- Maximum temperature of the liquid,  $T_{max}$   $50^{\circ}\text{C}$
- Minimum temperature of the liquid,  $T_{min}$   $-10^{\circ}\text{C}$

#### 1.2 LPG Metering System (Figures 2 and 3)

- (i) An LPG supply tank may be located either above or below the ground level.
- (ii) The pump is positioned either below the supply tank in which case the pump is designed for use in a state of flooded suction, or the pump is positioned above the supply tank in which case the pump shall be a multi-stage regenerative turbine LPG pump designed for use in suction lift. There shall be no restrictive fittings within ten pipe diameters of the pump inlet and the diameter of the inlet pipe is not less than the diameter of the pump inlet.

- (iii) The external pump by-pass relief valve is installed in a line returning to the vapour space of the supply tank. A single pump supplying LPG to several flowmeters shall be of sufficient capacity rating to ensure that when all flowmeters are in use, the flow rate through each flowmeter is greater than  $Q_{min}$ .
- (iv) A filter/strainer is installed at the inlet to the LPG dispenser and upstream of the vapour eliminator.
- (v) A Tatsuno model KA-02521 float operated vapour eliminator is fitted upstream of the flowmeter, or upstream of two flowmeters in the case of a two sided LPG dispenser. In conjunction with the pressure differential valve installed downstream of each flowmeter, the devices ensure that only liquid phase is measured by each flowmeter. In the event of excessive vapours, the LPG Measurement Technology P/L model DSSG 2000 probe (fitted into the vapour eliminator) stops the delivery until vapour is eliminated.  
  
Provision is made for verifying the LPG temperature measurements using the thermometer well located between the filter/strainer and the vapour eliminator.
- (vi) A Tatsuno model MP02524 four-piston LPG flowmeter is installed downstream of the vapour eliminator and is fitted with a PEC model 07439 dual channel pulse generator designed to produce 100 pulses per channel per meter-shaft revolution.
- (vii) An angle valve is fitted at the outlet of the flowmeter to which a bleed valve is connected with a ¼" extension union to provide access for the measurement of LPG pressure at the meter. The outlet of this bleed valve has provision for sealing.
- (viii) A Tatsuno model VD-0206 spring-loaded pressure differential valve is fitted downstream of the flowmeter and is set to maintain the LPG pressure at the flowmeter at least 200 kPa above the vapour pressure of the supply tank.
- (ix) A Burkert model 136712K 12.7mm solenoid-operated valve or compatible unit is fitted downstream of the pressure differential valve to control pressurisation of the system during reset cycle and to control the delivery.
- (x) A Parker model AD032B16T101 diaphragm hydraulic accumulator or compatible unit is fitted downstream of the solenoid-operated valve.
- (xi) A UL/CGA Type 1, 12.7 mm hose or any other compatible hose is fitted downstream of the hydraulic accumulator, and an Elaflex Ark 19 break-away coupling is fitted to the hose or any other compatible LPG break-away coupling may be used.
- (xii) A ZVG model ZVG-1 LPG nozzle is connected to the end of the hose, or any other approved compatible LPG nozzle may be used that is suitable for the PEC nozzle hang-up mechanism.
- (xiii) The dispenser is provided with a recirculation line with a double check filler valve for returning the LPG back to the supply tank. The recirculation line is provided for maintenance and verification purposes.

### 1.3 Petrol/Diesel Metering System (Figures 2 and 4)

- (i) A Tatsuno model POS-0257 or model FP 1001 pump and gas separation system with integral strainer are located upstream of the flowmeter for systems designed for suction lift application. A PEC gas detection switch is also fitted when metering products with viscosity greater than 1 mPa.s.
- (ii) A Tatsuno model MP-02515 four-piston positive displacement flowmeter is located downstream of the pumping unit. The flowmeter is fitted with a PEC model 07434 or model 2A90930 dual channel pulse generator designed to produce 100 pulses per channel per meter-shaft revolution.
- (iii) An Asco model PAG29221 or model PAT-29227 19.5 mm two-stage solenoid-operated valve is located downstream of the flowmeter; the solenoid valve is used to pressurise the system during the reset cycle and to control the delivery. The pre-set facility uses the two-stage solenoid operated valve to slow down the flow and end the delivery when the pre-set amount is reached.
- (iv) A Goodyear 16 mm hose or any other compatible hose is fitted to the outlet pipe assembly.
- (v) A ZVA Slimline nozzle, or any other compatible approved nozzle, is fitted to the hose, and is suitable for the PEC hang-up mechanism.

### 1.4 Calculator/Indicator

The calculator/indicator is comprised of a PEC model MHP computing module and indicator module. A separate LCD display is provided for volume, total price, and unit price. The indicator displays the following maximum values:

Volume 999.99 L	in 0.01L increments
Unit price 999.9 ¢/L	in 0.1 ¢ increments
Total price \$999.99	in \$0.01 increments

The bottom half of the unit price display can be configured to also indicate the flowmeter volume totals, up to a maximum of 99 999 999 L.

An optional pre-set facility (Figure 1) for petrol metering can be provided, comprising 10 numerical keys, 2 function keys ('fill' and 'clear') and a \$20 single entry (quick) key. The 4 digit liquid crystal display indicates the amount pre-set (in dollars) from \$1 to \$99. Instruments incorporating a pre-set facility have a model number ending with a 'P'.

Note: If a pre-set amount is entered for LPG metering the pre-set will reset it self to zero giving an audible alarm.

Instruments without pre-set facility cannot be used for PRE-PAY transactions.

For the LPG flowmeter, the calculator/indicator displays the metered volume at 15°C and has facility to display the volume at operating conditions, LPG density at 15°C, and the temperature of LPG flowing through the flowmeter (refer to Test Procedure).

The calculator/indicator is approved with the software version number 2.\*\*\*. The version number may be viewed using the set-up keypad (refer to Test Procedure).

### **To perform a unit price change**

1. Turn the designated key of the display panel to open the door
  2. Switch the 'DIAGS' switch to set-up, and press the 'AGENT' switch;
- Enter 31 or 51 or 71 (depending on product) followed by the 'fill' key and then use the keypad to enter the new unit price in ¢/L.

### **1.5 Totaliser**

The instrument may be (\*) fitted with a 3 ENM Company model P2G729A, 4.5 V DC, electro/mechanical totaliser for indicating the volume totals in one litre graduations up to a maximum of 9 999 999 litres. The totaliser is located behind the indicator panel.

(\*) refer to clause **1.4 Calculator/Indicator** re. electronic totaliser.

### **1.6 Checking Facilities**

Removing the nozzle from its receptacle initiates a segment check of the price, volume and unit price displays. The calculator/indicator checks for correct operation of various devices and displays an error message in the range 01 to 86, in particularly:

- 'ERR 24' – Power failure
- 'ERR 38 to 43' – Flowmeter pulse output error.
- 'ERR 80 to 85' – Flowmeter preset over-run
- 'ERR 32 to 37' – Excessive amounts of gas detected
- 'ERR 30' – LPG temperature probe faulty
- 'ERR 59' – LPG vapour sensed for a period longer than 1 minute
- 'ERR 58' – LPG sensor failure

### **1.7 Volume Conversion Device for LPG Metering**

The electronic volume conversion for temperature facility comprises the PEC calculator/indicator interfaced to an LPG Measurement Technology P/L model DSSG2000 LPG probe installed into the Tatsuno vapour eliminator. The delivery of LPG is displayed in litres at 15°C and the volume conversion is based on Table 54 published by ASTM-IP-API, '*Petroleum Measurement Tables for Light Hydrocarbon Liquids*'.

### **1.8 Verification Provision**

Provision is made for the application of a verification mark.

### **1.9 Sealing Provision**

Provision is made for sealing the mechanical calibration adjustment device on the flowmeters (Figures 5 and 6). For petrol/diesel, the gas separator test valve has provision for sealing.



## 1.10 Markings

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

Pattern approval number	NMI No 5/6M/2
Manufacturer's identification mark or trade mark	.....
Manufacturer's designation (model number)	.....
Serial number	.....
Year of manufacture	.....
Environmental class	class C

### For LPG

Maximum flow rate ( $Q_{max}$ )	..... L/min
Minimum flow rate ( $Q_{min}$ )	..... L/min
Maximum operating pressure ( $P_{max}$ )	1800 kPa
Minimum pressure ( $P_{min}$ )	200 kPa above vapour pressure
Approved for LPG density range	505 kg/m <sup>3</sup> to 570 kg/m <sup>3</sup> (at 15°C)
Maximum liquid temperature ( $T_{max}$ )	50°C
Minimum liquid temperature ( $T_{min}$ )	-10°C
Accuracy class	class 1.0

### For Petrol/Diesel

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
Type of liquid	.....
Maximum temperature of the liquid, $T_{max}$	40°C
Minimum temperature of the liquid, $T_{min}$	5°C
Accuracy class	0.5

Note: The minimum measured quantity ( $V_{min}$ ) shall be clearly visible on the indicating device of the instrument, in the form 'Minimum Delivery 2 L'.

Volume indicated for LPG shall be clearly identified as 'Litres at 15°C' or similar wording.

## 2. Description of Variant 1

approved on 22/02/06

Certain other models and configurations of the H9 series of fuel dispensers as identified in Table 1.

TABLE 1

Prefix & first digit	Series; H9 = 9000
Second digit	Number of hoses; 1 to 6
Third digit	Petrol/diesel delivery system type; either 3 = internal pump/STP combination 6 = STP 7 = internal pump
Fourth digit	Diesel gas detection system; either 1 = no gas detection fitted 2 = gas detection is fitted
Suffix	Pre-set; either N = no pre-set is fitted P = pre-set is fitted

**3. Description of Variant 2** **approved on 22/02/06**

With one or more approved submersible turbine pump (STP) hydraulic systems for non-LPG hydraulics (Figure 7). These hydraulic systems replace the equivalent components (i.e. motor, pump/strainer/gas separator, and associated pipe work) in any fuel dispenser covered by this approval in which case the model number has a 3 or 6 as the third digit (refer to Table 1). More than one fuel dispenser may be connected to the same STP provided the flow rate is greater than  $Q_{min}$  for all corresponding nozzles used at the same time.

**4. Description of Variant 3** **approved on 22/02/06**

With the non-LPG hydraulics designed for high flow rates using a compatible approved submersible turbine pump (STP) hydraulic system using a Goodyear 25 mm model Flexsteel Petrol Pump hose or any other compatible hose and a ZVA 25 mm nozzle or any other approved nozzle. This variant has the following field of operation:

- Maximum flow rate ( $Q_{max}$ ) 80 L/min
- Minimum flow rate ( $Q_{min}$ ) 8 L/min
- Minimum measured quantity ( $V_{min}$ ) 2 L

**5. Description of Variant 4** **approved on 12/07/07**

With an alternative price-computing calculator/indicators with increased display capabilities as detailed below.

- Volume 0000.00 L to approximately 9990.00 L (\*) in 0.01 L increments.  
(\* Always less than 9999.99 L.
- Unit price 0.1 to 999.9 c/L in 0.1 c/L increments
- Price \$0000.00 to \$9990.00 in 1 cent increments
- Totaliser (#) To 9 999 999 L, mechanical or electronic  
(#) resettable information

**6. Description of Variant 5** **approved on 12/07/07**

The pattern and variants for use to dispense various grades of petrol which may include up to 10% ethanol ('E10').

**7. Description of Variant 6** **approved on 12/07/07**

The pattern and variants constructed for use to dispense various grades of pure biodiesel and biodiesel/distillate blends (to Australian government standard).

**8. Description of Variant 7** **approved on 12/07/07**

The pattern and variants fitted with the hose extension masts shown in Figure 8.

**9. Description of Variant 8** **approved on 12/07/07**

Without the gas detection switch/system referred to for the pattern and variant 1.

## 10. Description of Variant 9

approved on 19/05/10

The pattern and variants for use to dispense various grades of petrol which may include up to 85% ethanol ('E85').

## 11. Description of Variant 10

approved on 25/02/11

Any PEC H9000 series fuel dispenser of this approval now fitted with a PEC model Vapour Recovery Stage 2 (aka VR11) vapour recovery and monitoring system and used up to a maximum flow rate of 40 L/min. A typical instrument and system are shown in Figures 10 and 11.

The VR11 system controller continuously monitors the underground supply tank pressure, taking inputs from a pressure switch or sensor whilst monitoring the correct operation of the vapour recovery system for hoses on each side of the fuel dispenser.

The site vacuum system uses vacuum pumps housed in enclosures designed to reflect the look of the PEC/Gallagher series fuel dispensers. Each enclosure can hold up to three vapour pumps; the VR11 system uses a minimum of two vapour pumps in each enclosure.

The vapour recovery and monitoring system is approved by the German TÜV SÜD Industries Service GmbH authority.

Only vapour recovery components and systems as listed below and included in the relevant TÜV approval certificates may be used.

The relevant TÜV approvals (and the approved components) are:

(i) For collection of vapour:

- TÜV 85-2.169 NSW
- TÜV 85-2.169-1 NSW
- TÜV 85-2.168 NSW
- TÜV 85-2.168-1 NSW
- TÜV 85-9.10 NSW
- TÜV 85-11.2 NSW
- TÜV 85-11.3 NSW
- TÜV 85-9.10-1 NSW

and the only approved system components are:

- Vapour recovery nozzles – Elaflex SLIMLINE 2 GR, or OPW 12 VW (\*)
- Coaxial hose – Elaflex model Conti Slimline 2 1/8 Coax, or Goodyear Flexsteel Vapour Assist
- Control valves – Burkert model 2832 NB 5 (#)
- Control board – Burkert model 1094 EV
- Vapour recovery pump(s) – PEC Zephyr 8

(\*) Vapour suction inlet on high position

(#) Nominal bore 5 mm

(ii) For automatic monitoring of the vapour to fuel ratio:

- TÜV M-20.1 NSW

and the only approved system components are:

- Fafnir model Vaporix-Control monitor
- Fafnir model Vaporix-Flow flowmeter

## 12. Description of Variant 11

approved on 25/02/11

The pattern and variants now identified using alternative model numbering as listed in Table 2.

TABLE 2

Meaning of alternative model designations (in the form model H9XNYZPS) for the 9000 series of fuel dispensers: (e.g. the pattern, model H9672P, may now be alternatively known as a model **H9264CPS**.)

Prefix and first digit	Series, namely H9 = 9000
Second digit	Body length, either 0 = 1.0 m body length 2 = 1.2 m body length 4 = 1.4 m body length
Third digit	Number of hoses, 1 to 6
Fourth digit	Hydraulic delivery system combination, either 4 = Integral (*) pump/s plus LPG 5 = STP (#) plus LPG (* ) integral = integral pump/strainer/gas separator (refer to the pattern) (#) STP = submersible turbine pump (refer to variant 2)
Fifth digit	Number of products, 1 to 3 A = 1 product B = 2 products C = 3 products
Sixth digit	Pre-set, either P = pre-set is fitted N = no pre-set fitted
Seventh digit	Maximum flow rate, either S = standard flow rate, 50 L/min H = high flow rate, 90 L/min
Suffix	Vapour Recovery Stage 2 (VRII) – refer to Variant 10 No suffix = no VRII fitted V = VRII is fitted

## 13. Description of Variant 12

approved on 15/09/11

A PEC Stage II vapour recovery system similar to variant 11 but with a vacuum pump located within the dispenser housing (Figure 12).

The vacuum pumps used may be Dürr models Mex 0831-10 or Mex 0831-11. The pumps are driven by a Dürr model Mex 0544 motor.

The following TÜV Certificates apply:

- TÜV 85-2.67-3
- TÜV 85-2.57-3
- TÜV 85-2.93
- TÜV 85-2.79
- TÜV 85-2.XXX
- TÜV 85-2.23-2
- TÜV 85-2.160

#### 14. Description of Variant 13

approved on 21/06/13

Any fuel dispenser of this approval now fitted with a PEC model Vapour Recovery Stage 2 (aka VRII) vapour recovery and monitoring system and used up to a maximum flow rate of 40 L/min.

The VRII system controller continuously monitors the vacuum line pressure, taking inputs from a pressure switch or sensor whilst monitoring the correct operation of the vapour recovery system for hoses on each side of the fuel dispenser.

The site vacuum system uses vacuum pumps housed in enclosures designed to reflect the look of the PEC/Gallagher series fuel dispensers. Each enclosure can hold up to three vapour pumps; the VRII system uses a minimum of two vapour pumps in each enclosure.

The vapour recovery and monitoring system is approved by the German TÜV SÜD Industrie Service GmbH authority.

Only vapour recovery components and systems as listed below and included in

The relevant TÜV approvals (and the approved components) are:

(i) For collection of vapour:

- TÜV 85-2.176 NSW
- TÜV 85-2.176-1 NSW
- TÜV 85-2.175 NSW
- TÜV 85-2.175-1 NSW; or
- TÜV 85-11.5 NSW
- TÜV 85-11.5-1 NSW
- TÜV 85-11.6 NSW
- TÜV 85-11.6-1 NSW
- TÜV 85-15.24 NSW
- TÜV 85-15.24-1 NSW
- TÜV 85-15.25 NSW
- TÜV 85-15.25-1 NSW

and the only approved system components are:

- Vapour recovery nozzles – Elaflex SLIMLINE 2 GR, or OPW 12 VW (\*), HUSKY V34/V34I/V34IS, AVANCE by OPW series AVN-V
- Coaxial hose – Elaflex model Conti Slimline 2 1/8 Coax, or Goodyear Flexsteel Vapour Assist, Good year listed Flexsteel vapour assist
- Control valves – Burkert model 2832
- Control board – Burkert model 1094 EV
- Vapour recovery pump(s) – PEC Zephyr 24 with constant under pressure

(\*) Vapour suction inlet on high position

(ii) For automatic monitoring of the vapour to fuel ratio:

- TÜV M-20.1 NSW

and the only approved system components are:

- Fafnir model Vaporix-Control monitor
- Fafnir model Vaporix-Flow flowmeter

## TEST PROCEDURE No 5/6M/2

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

### **Maximum Permissible Errors**

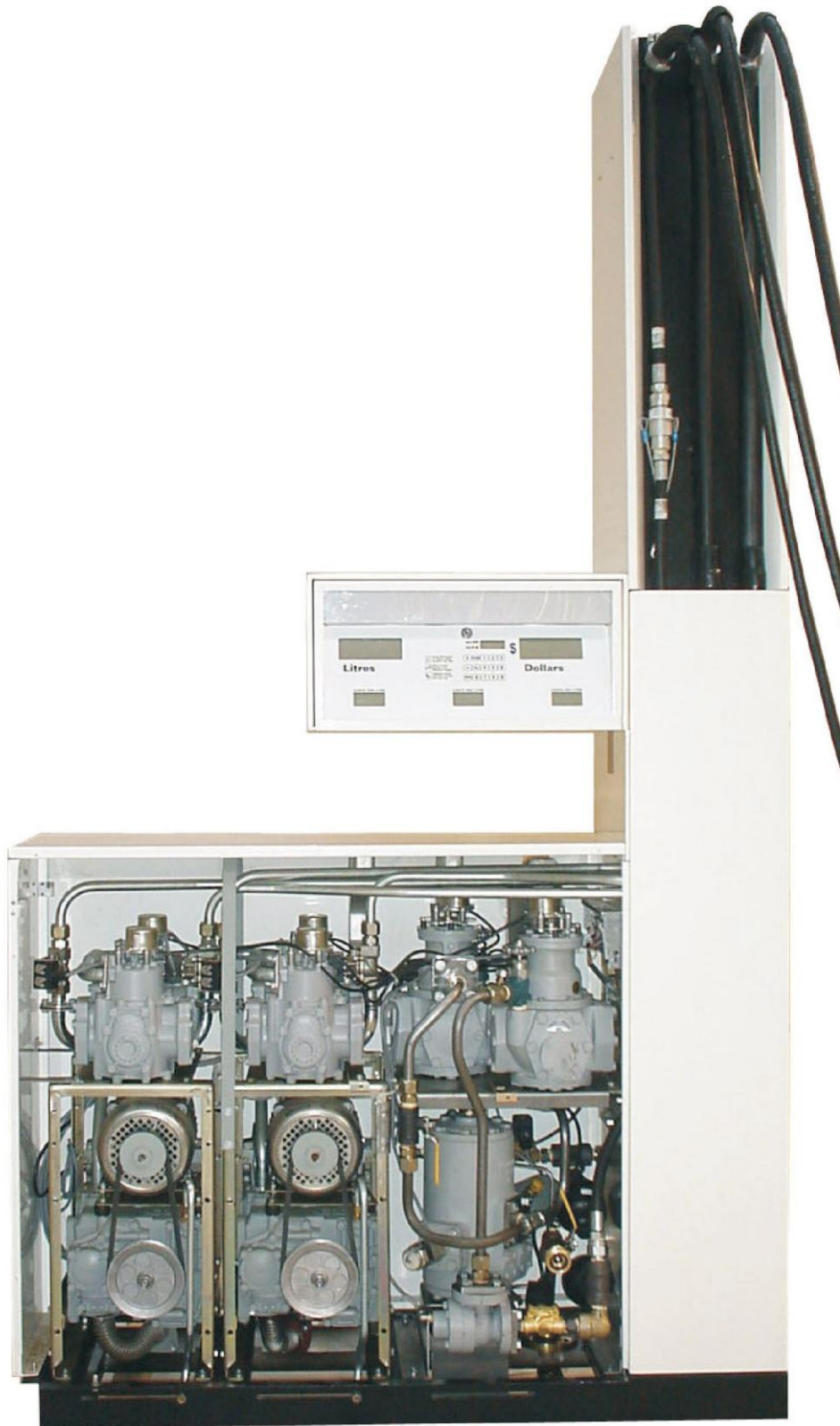
The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

FIGURE 5/6M/2 – 1



PEC Model H9672P Fuel Dispenser for Motor Vehicles – The Pattern

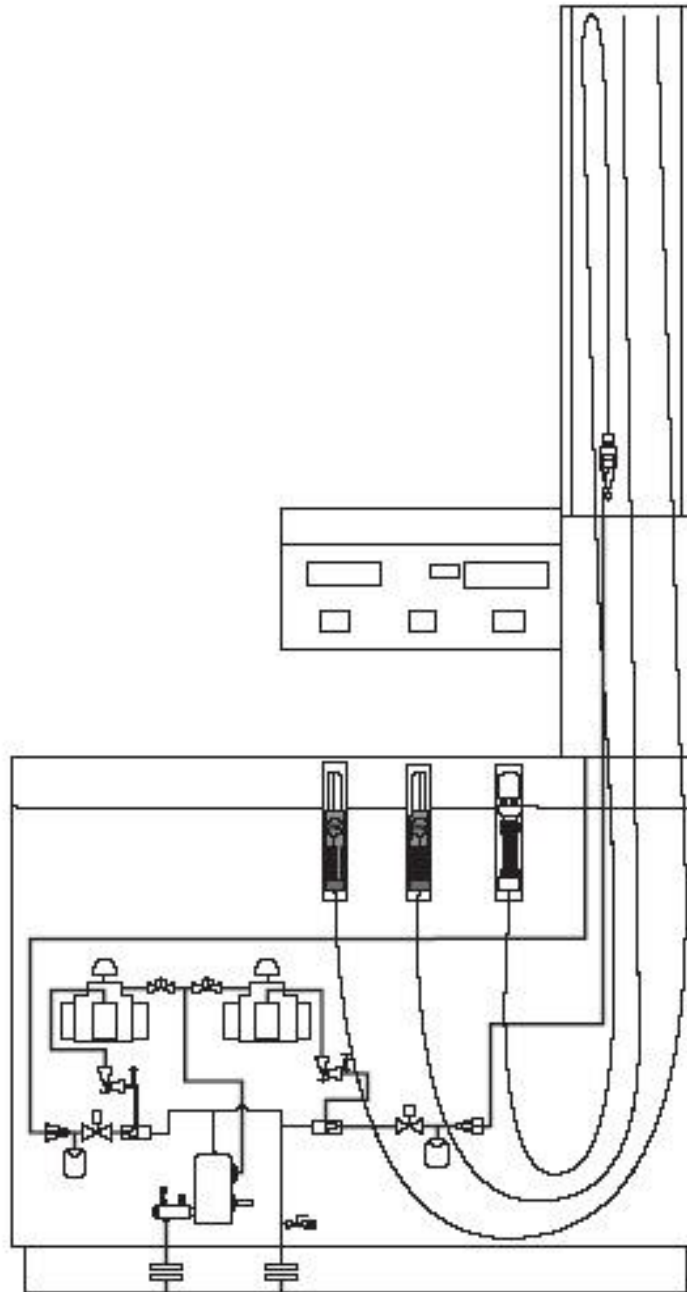
FIGURE 5/6M/2 – 2



PEC Model H9672P Hydraulics – The Pattern

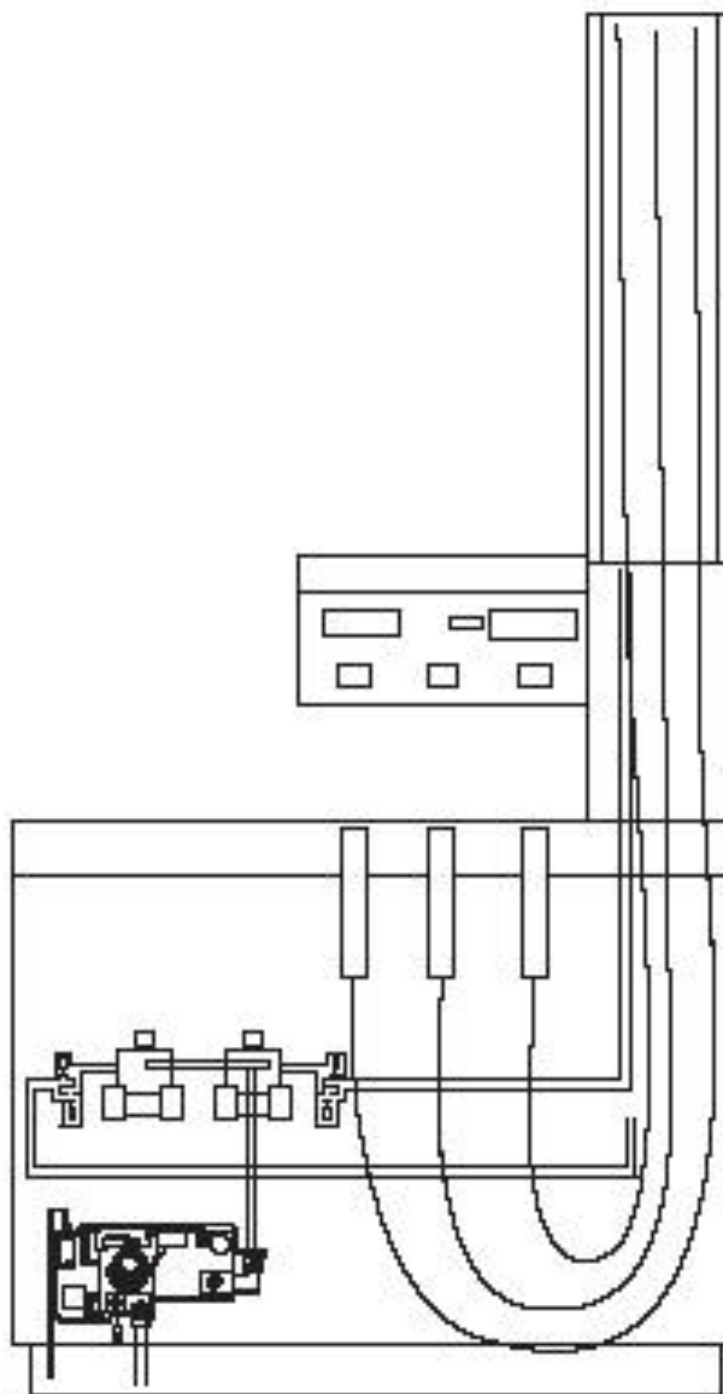


FIGURE 5/6M/2 – 3



Typical LPG Hydraulics – PEC Model H9672P Fuel Dispenser – The Pattern

FIGURE 5/6M/2 – 4



Typical Non-LPG Hydraulics – PEC Model H9672P Fuel Dispenser – The Pattern

FIGURE 5/6M/2 – 5



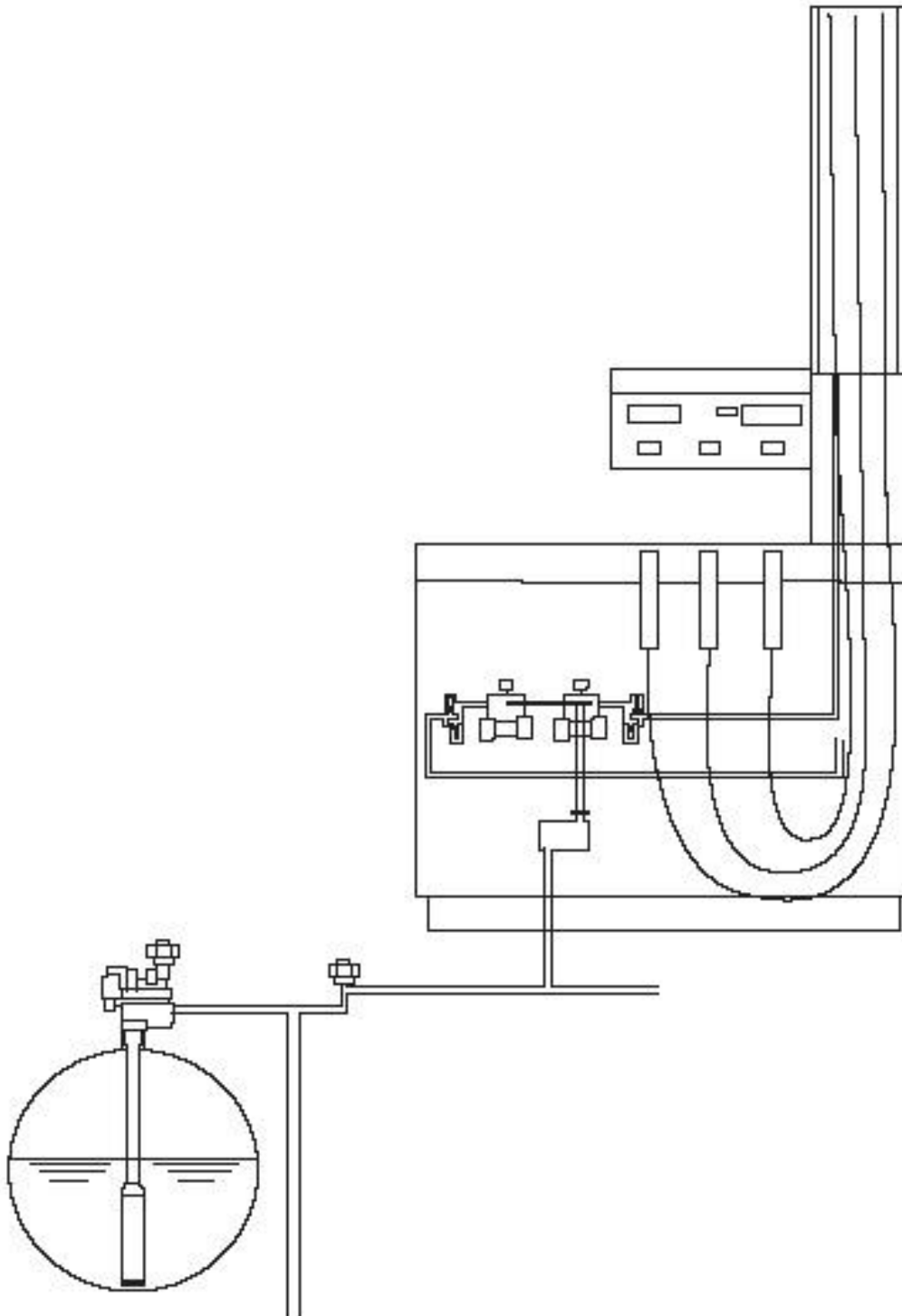
Typical Sealing Method – Tatsuno LPG Meter – The Pattern

FIGURE 5/6M/2 – 6



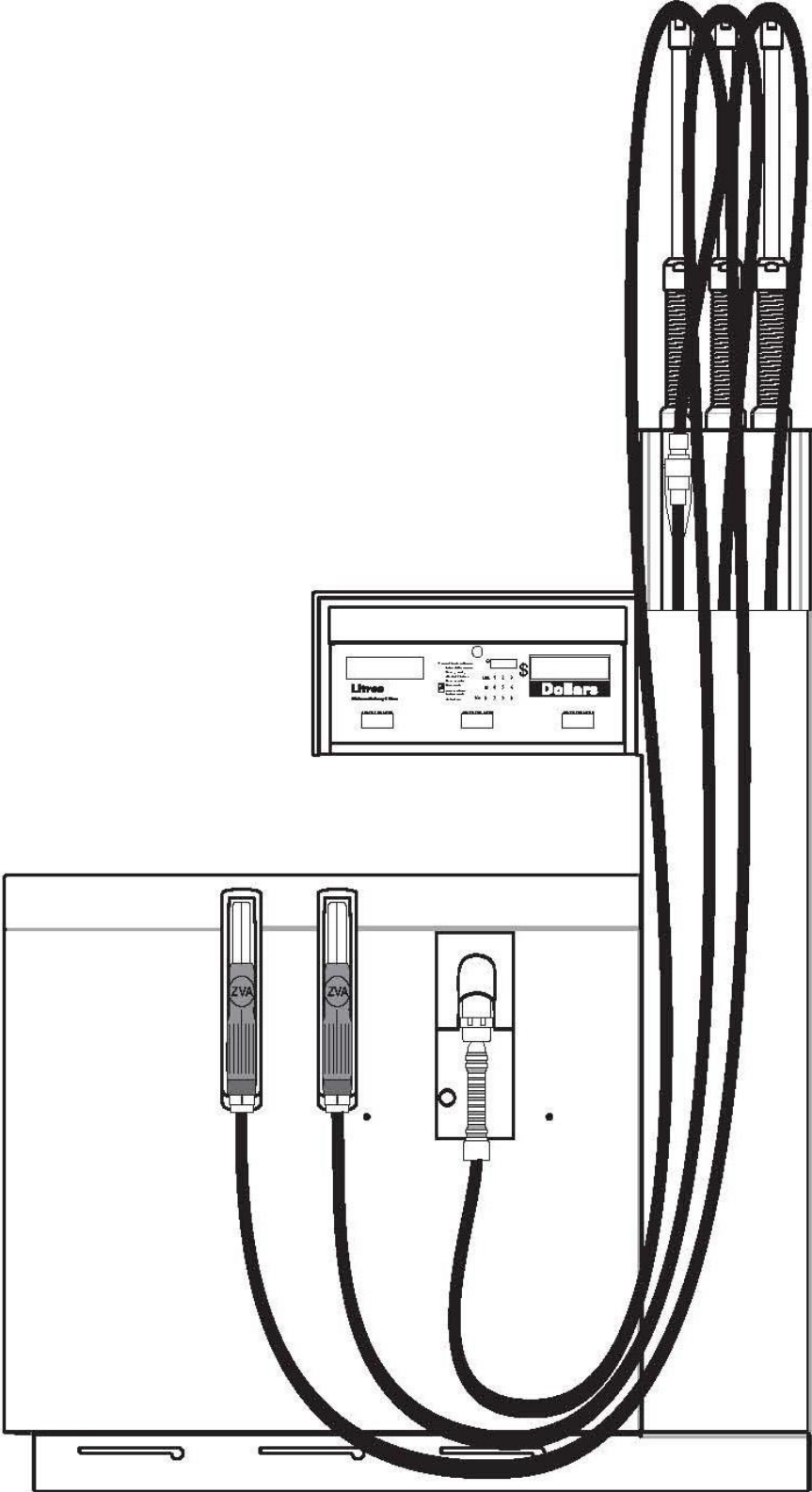
Typical Sealing Methods – Tatsuno Non-LPG Meter – The Pattern

FIGURE 5/6M/2 – 7



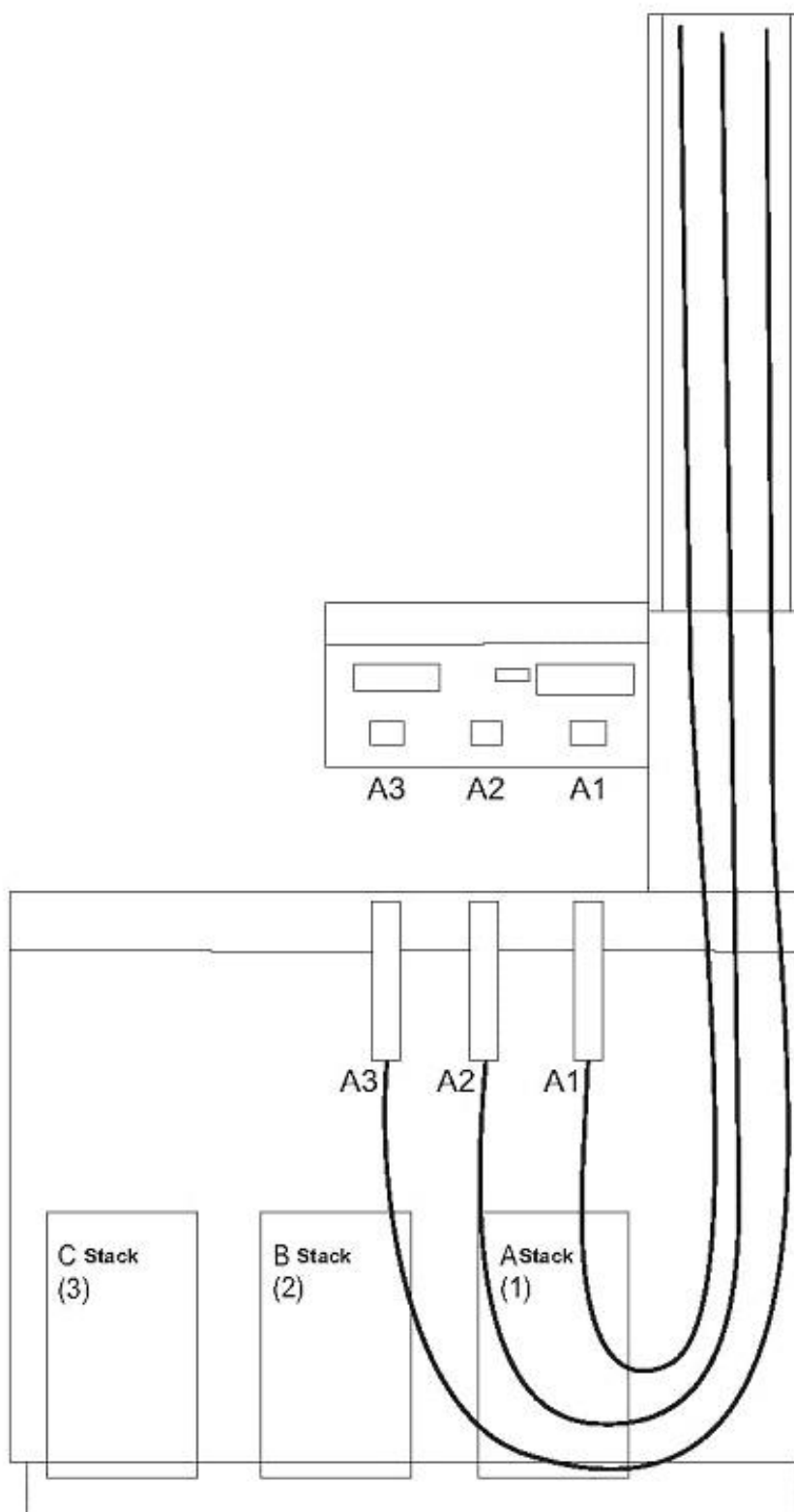
Typical 9000 Series System with Submersible Turbine Pump/s – Variant 2

FIGURE 5/6M/2 – 8



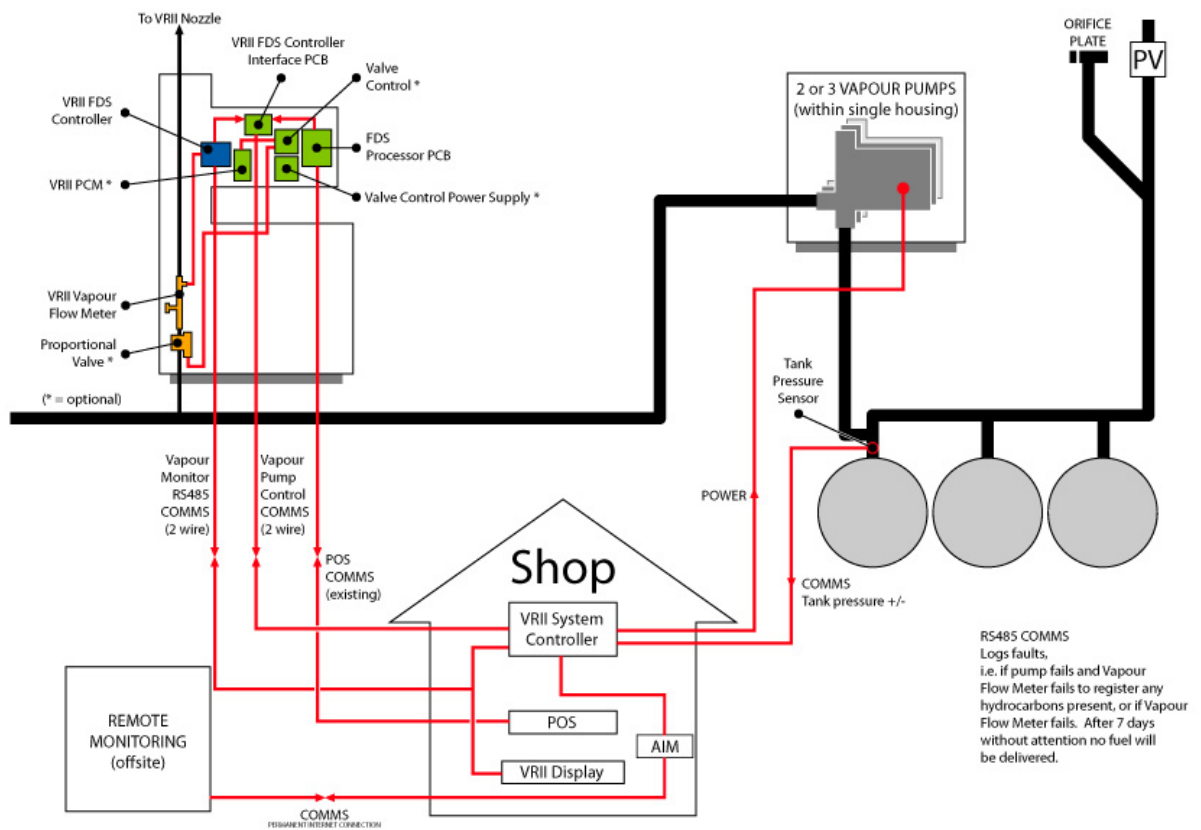
Typical H9000 Series Dispenser With a Hose Extension Masts – Variant 7

FIGURE 5/6M/2 – 9



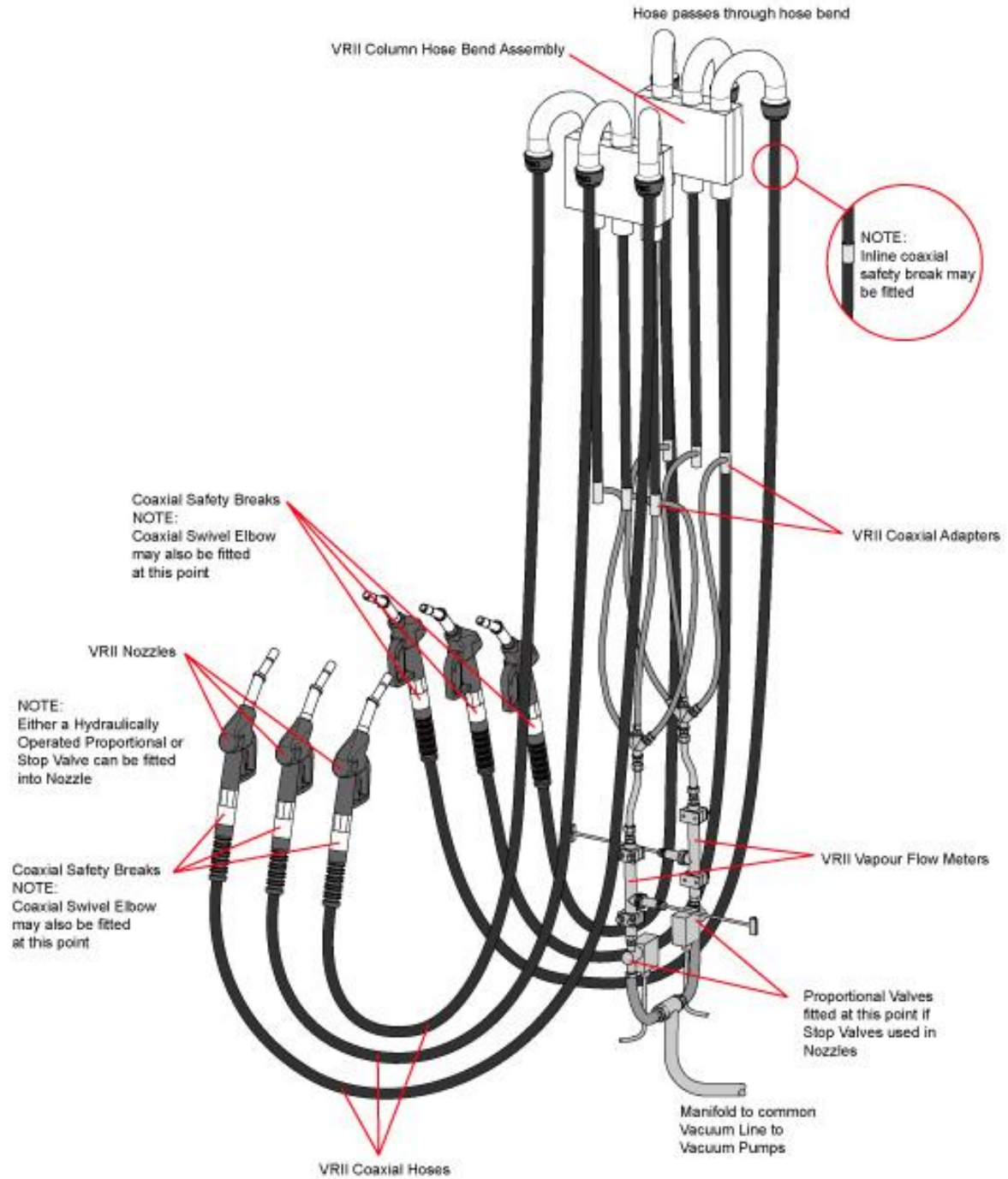
H9000 Series 6 Hose Numbering Layout For Self Service Installations

FIGURE 5/6M/2 – 10



A Typical PEC Model Vapour Recovery Stage 2 (aka VR II)  
Vapour Recovery System – Variant 10

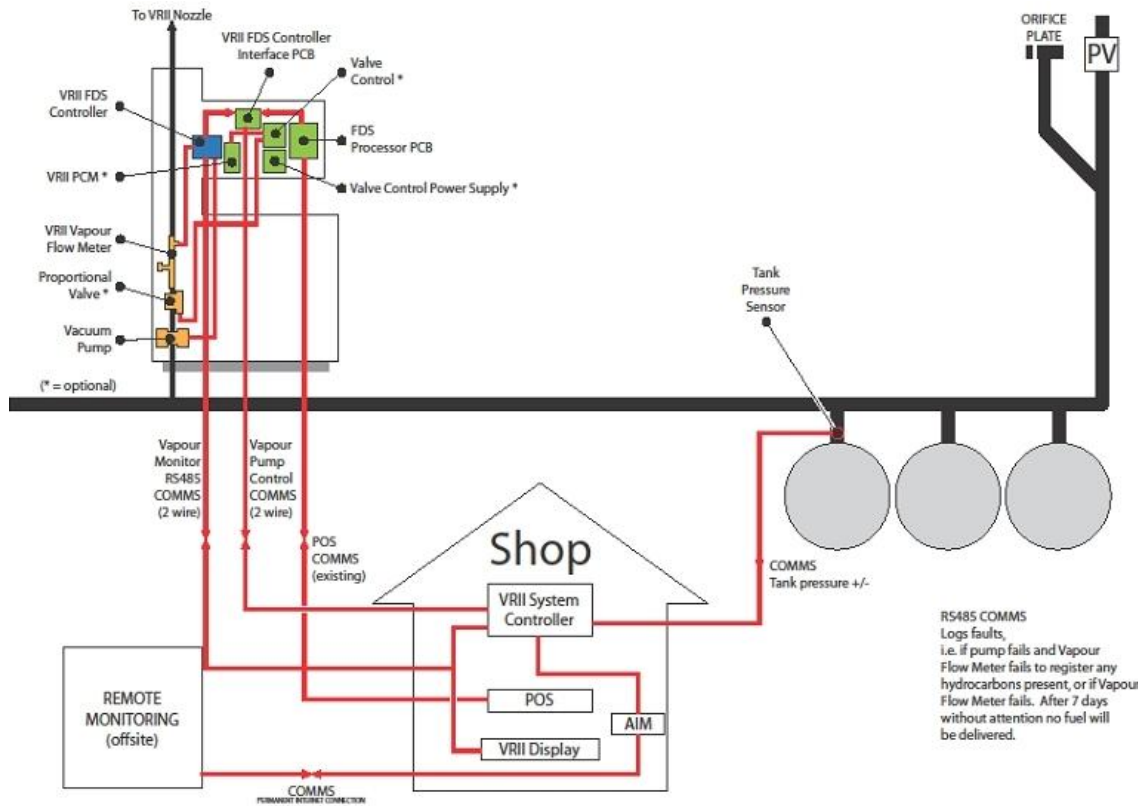
FIGURE 5/6M/2 – 11



A PEC Model VRII Vapour Recovery System Showing the Typical Components for a 9000 (not H9000) Series Dispenser – Variant 10



FIGURE 5/6M/2 – 12



A Typical PEC Stage II Vapour Recovery System  
With The Vacuum Pump Located Within The Dispenser Housing – Variant 12

~ End of Document ~