

National Standards Commission



Certificate of Approval

No 5/6A/97

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

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

Email Model Vision VNP2PP-K-E Driveway Flowmeter

submitted by **Email Electronics**
88-94 Canterbury Road
Kilsyth VIC 3175.



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.

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1 November 1999.
This approval expires in respect of new instruments on **1 November 2000.**



Instruments purporting to comply with this approval shall be marked NSC No 5/6A/97 and only by persons authorised by the submitter.

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

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission 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 the Commission's Document 106.

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

DESCRIPTIVE ADVICE

Pattern: approved 28 October 1994

• Email model Vision VNP2PP-K-E driveway flowmeter.

Variants: approved 28 October 1994

1. Certain other models and configurations.
2. With a submersible turbine hydraulic system.

Technical Schedule No 5/6A/97 describes the pattern and variants 1 and 2.

Variant: approved 14 August 1995

3. For use with certain Commission-approved Gilbarco control consoles.

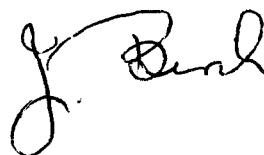
Technical Schedule No 5/6A/97 Variation No 1 describes variant 3.

FILING ADVICE

Certificate of Approval No 5/6A/97 dated 17 March 1995 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 5/6A/97 dated 10 October 1995
Technical Schedule No 5/6A/97 dated 17 March 1995 (incl. Table 1 and
Test Procedure)
Technical Schedule No 5/6A/97 Variation No 1 dated 10 October 1995
Figures 1 to 6 dated 17 March 1995

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

A handwritten signature in black ink, appearing to be 'J. Birch', is written over a horizontal line.



National Standards Commission

TECHNICAL SCHEDULE No 5/6A/97

Pattern: Email Model Vision VNP2PP-K-E Driveway Flowmeter.

Submitter: Email Electronics
88-94 Canterbury Road
Kilsyth VIC 3175.

1. Description of Pattern

An Email model Vision VNP2PP-K-E driveway flowmeter (Figures 1 and 2) approved for use to dispense various grades of petrol or distillate over a flow rate range of 15 to 45 L/min, in attendant-operated or locally or remotely-authorised applications.

1.1 Features

The model Vision VNP2PP-K-E includes the following components: (Figure 3 is a typical hydraulic diagram showing single hydraulics, e.g. a model VNP1P-K-E.)

- 2 Dresser-Wayne model 32-440059 pump/gas separators.
- 2 Dresser-Wayne model 2PM6 2-piston positive displacement meters.
- 2 Email model MPP pulse generators.
- 2 Email model IDIS price-computing indicators.
- 2 ZVA or other Commission-approved nozzles.

The pulse generators are driven from the output shaft of the meter.

A combination of rigid and flexible internal piping may be used.

Hydraulic control of flow to each nozzle is via a pressure surge reduction valve. Instruments are also fitted with a preset facility with slow flow controlled by an ASCO solenoid valve.

Flowmeters are fitted with a purchaser-operated preset keypad or the preset facility may be set via the vendor's console.

Turning the manager's key located on the underside of the indicator housing enables any of the preset keypads and displays to be used to select various managerial functions, including setting unit price and flowmeter operating mode.

1.2 Indicator

The IDIS indicator is also described in the documentation of NSC approval No S305 which lists the control consoles which may be used with this indicator.

The purchaser displays show:

Volume	000.00 L to 999.99 L in 0.01 L increments
Unit price	0.0 to 499.9 c/L in 0.1 c/L increments
Price	\$000.00 to \$999.99 in 1 c increments
Preset	\$00.00 to \$95.00 in \$5.00 increments

1.3 Sealing and Verification/Certification Provision

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

The mechanical calibrator on each meter, the K-factor switch located on the indicator computer board, and the gas separation test valve are all sealed.

1.4 Markings

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

Manufacturer's name or mark	
Model number	
Serial number	
NSC approval number	5/6A/97
Maximum flow rate L/min
Minimum flow rate L/min
Liquid temperature range	5°C to 40°C
Maximum operating pressure kPa
Approved for use with (products)

2. Description of Variants

2.1 Variant 1

Other models and configurations, as listed below using the following identification code:

The pattern, model VNP2PP-K-E, is a Vision series flowmeter (VN) with an internal pump (P), 2 meters/hoses/nozzles (2), dispensing petrol from both hoses (PP), has a preset facility (K), and is in a conventional (end-oriented) housing (E). (Note that some alpha codes may be omitted; if not specified, then the flowmeter is for use with petrol and it does not have a preset facility.)

- With 1 meter/hose/nozzle, e.g. model VNP1P-K-E.

- . Without a preset facility, e.g. model VNP2PP-E or VNP2PPN-E. Instruments without preset facility cannot be used for PREPAY transactions. (Note that at least one preset keypad will still be fitted, for management functions, although it will not be visible from the front.)
 - . In an alternative, MPP-style lane-oriented housing, e.g. model VNP2PP-K-L. Figure 4 shows a model VNP4PP-K-L flowmeter.
 - . With 4 meters/hoses/nozzles, e.g. model VNP4PP-K-L (Figure 4).
 - . With one or more nozzles dispensing distillate in which case a gas detection system ('air/fuel sensing device') is fitted, e.g. model VNP2PD-K-E or VNP2DP-K-E or VNP2DD-K-E. Figure 5 shows a model VNP1D-K-E flowmeter. (#)
 - . For use with a maximum flow rate of 80 L/min, e.g. model VNP2PP-KH-E. (#)
- (#) A gas detection system is mandatory for products other than petrol and is required for petrol where the flow rate exceeds 55 L/min.

2.2 Variant 2

With a submersible turbine pump hydraulic system (Figure 6) replacing the equivalent components (i.e. motor, pump, gas separator, and associated pipework/hosework) in any driveway flowmeter covered by this approval, in which case the model number has a 'VND' prefix, e.g. the pattern (model VNP2PP-K-E) becomes model VND2PP-K-E.

The replacement hydraulic system includes a Red Jacket model P75S3-3 or model P150S3-3 (or Gilbarco model T221X or model T122W) submersible turbine pump with a Red Jacket model 116-030-5PLD (or Gilbarco model DTO4966) leak detector. More than one driveway flowmeter may be connected to the same submersible turbine pump hydraulic system.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Inspector's Handbook.

Maximum Permissible Errors at Verification/Certification

The maximum permissible error applied during a verification test from normal flow rate to the minimum flow rate specified in the Certificate of Approval or Technical Schedule is $\pm 0.3\%$.

For instruments fitted with submersible turbine pumps:

1. Leak Detector Test

Note: This Test should be carried out on initial verification. Thereafter, it need not be done at every verification/certification but should be done periodically at the discretion of the relevant verifying authority.

- a) Connect a pressure gauge and valve to the test port of the impact valve under the driveway flowmeter. Ensure that the submersible turbine pump is not turned on during this operation by disabling at the STP control box.
- b) Start the test by closing the test valve. The line pressure should be zero as indicated on the pressure gauge. At the control box, enable the pump and dispense at least 15 L of fuel to remove any air introduced by installing the pressure gauge and valve.
- c) Turn off the pump and open the test valve sufficiently so that a steady, unbroken stream of fuel is observed to flow from the test valve. Wait until flow ceases from the valve and the test gauge reads zero. Leave the test valve open.
- d) Start the pump by lifting the nozzle at the flowmeter but leaving the nozzle closed. A steady stream of fuel should be observed to flow from the test valve. The pressure on the gauge should not exceed 150 kPa during this step.

Attempt to deliver fuel from the nozzle. A flow rate of less than 11 L/min indicates correct operation of the leak detector.

- e) Close the test valve and nozzle with the pump still running. A rise in pressure on the test gauge should be noted after not more than 10 seconds.
- f) Disable the pump at the control box. Remove the test fixture and replace the plug in the test port. Enable the pump, and dispense at least 15 L of fuel from the flowmeter to remove any air introduced into the system.

2. Minimum Flow Rate Test

Note: This Test should be carried out on initial verification. Thereafter, it need not be done at every verification/certification but should be done periodically at the discretion of the relevant verifying authority.

The minimum flow rate test is performed by simultaneously running either all hoses on all driveway flowmeters connected to a particular submersible turbine pump (where the number of hoses is 6 or less) or by simultaneously running between 2/3 and 3/4 of all such hoses (where the number of hoses is more than 6). For the purpose of this test, where two or more pumps are connected in parallel, they shall be considered as one pump. Check that the lowest flow rate is not less than 15 L/min.

3. Authorisation Test

For driveway flowmeters connected to a remote authorisation device, begin a delivery from any flowmeter. While this delivery is still in progress, attempt to make a delivery from a 2nd flowmeter connected to the same submersible turbine pump WITHOUT this flowmeter first being authorised; the 2nd delivery should not be possible.



5/6A/97
10 October 1995

National Standards Commission

TECHNICAL SCHEDULE No 5/6A/97

VARIATION No 1

Pattern: Email Model Vision VNP2PP-K-E Driveway Flowmeter.

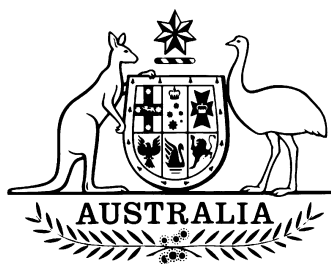
Submittor: Email Electronics
88-94 Canterbury Road
Kilsyth VIC 3175.

1. Description of Variant 3

For use with Commission-approved Gilbarco control consoles as listed below:

Model T11	NSC No S207
Model T11-5	NSC No S207
Model T12AC	NSC No S207
Model T12	NSC No 5/6A/74
Model T24	NSC No S246

5/6A/97
13 August 2001



National Standards Commission

12 Lyonpark Road, North Ryde NSW

Notification of Change

Certificate of Approval No 5/6A/97

Change No 1

The following change is made to the approval documentation for the

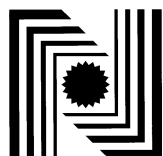
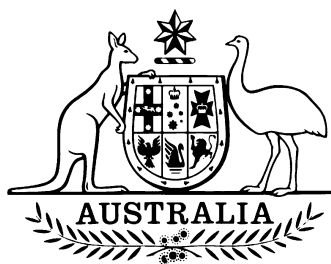
Email Model Vision VNP2PP-K-E Driveway Flowmeter

submitted by Relqual Petroleum Systems
(formerly submitted by Email Electronics)
Cnr First Street & First Avenue
MOORABBIN AIRPORT VIC 3194.

In Certificate of Approval No 5/6A/97 dated 10 October 1995, the Condition of Approval referring to the date of expiry of the approval should be amended to read:

“This approval expires in respect of new instruments on **31 December 2001.**”

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.



National Standards Commission

12 Lyonpark Road, North Ryde NSW

Notification of Change

Certificate of Approval No 5/6A/97

Change No 2

The following changes are made to the approval documentation for the

Email Model Vision VNP2PP-K-E Driveway Flowmeter

submitted by Fuelquip Pty Ltd
 (formerly Relqual Petroleum Systems)
 (formerly submitted by Email Electronics)
 Cnr First Street & First Avenue
 MOORABBIN AIRPORT VIC 3194.

1. In Certificate of Approval No 5/6A/97 dated 10 October 1995, the Condition of Approval referring to the expiry of the approval (#) should be amended to read:

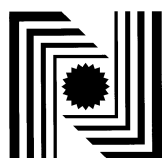
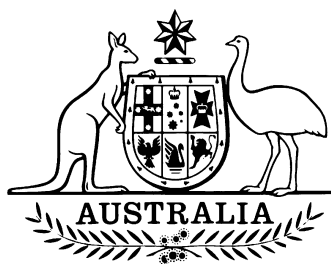
“This approval expires in respect of new instruments on **1 July 2002.**”

(#) Note: The date in this Condition was previously amended to be 31 December 2001.

2. In Certificate of Approval No 5/6A/97 and Technical Schedule No 5/6A/97 Variation No 1 both dated 10 October 1995, and in Technical Schedule No 5/6A/97 dated 17 March 1995, all references to “Email Electronics” (including the address) should be amended to read:

“Fuelquip Pty Ltd
Cnr First Street & First Avenue
MOORABBIN AIRPORT VIC 3194”

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.



National Standards Commission

12 Lyonpark Road, North Ryde NSW

Notification of Change

Certificate of Approval No 5/6A/97

Change No 3

The following change is made to the approval documentation for the

Email Model Vision VNP2PP-K-E Driveway Flowmeter

submitted by Fuelquip Pty Ltd
(formerly Relqual Petroleum Systems)
(formerly submitted by Email Electronics)
Cnr First Street & First Avenue
MOORABBIN AIRPORT VIC 3194.

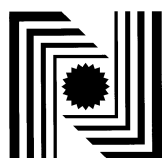
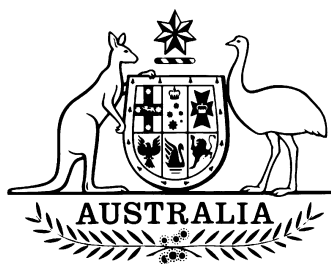
In Certificate of Approval No 5/6A/97 dated 10 October 1995, the Condition of Approval referring to the expiry of the approval (#) should be amended to read:

“This approval expires in respect of new instruments on **30 September 2002.**”

(#) Note: The date in this Condition was previously amended by Notification of Change No 2 issued 4 April 2002 to be 1 July 2002.

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

5/6A/97
16 September 2002



National Standards Commission

12 Lyonpark Road, North Ryde NSW

Notification of Change

Certificate of Approval No 5/6A/97

Change No 4

The following change is made to the approval documentation for the

Email Model Vision VNP2PP-K-E Driveway Flowmeter

submitted by Fuelquip Pty Ltd
(formerly Relqual Petroleum Systems)
(formerly submitted by Email Electronics)
Cnr First Street & First Avenue
MOORABBIN AIRPORT VIC 3194.

In Certificate of Approval No 5/6A/97 dated 10 October 1995, the Condition of Approval referring to the expiry of the approval (#) should be amended to read:

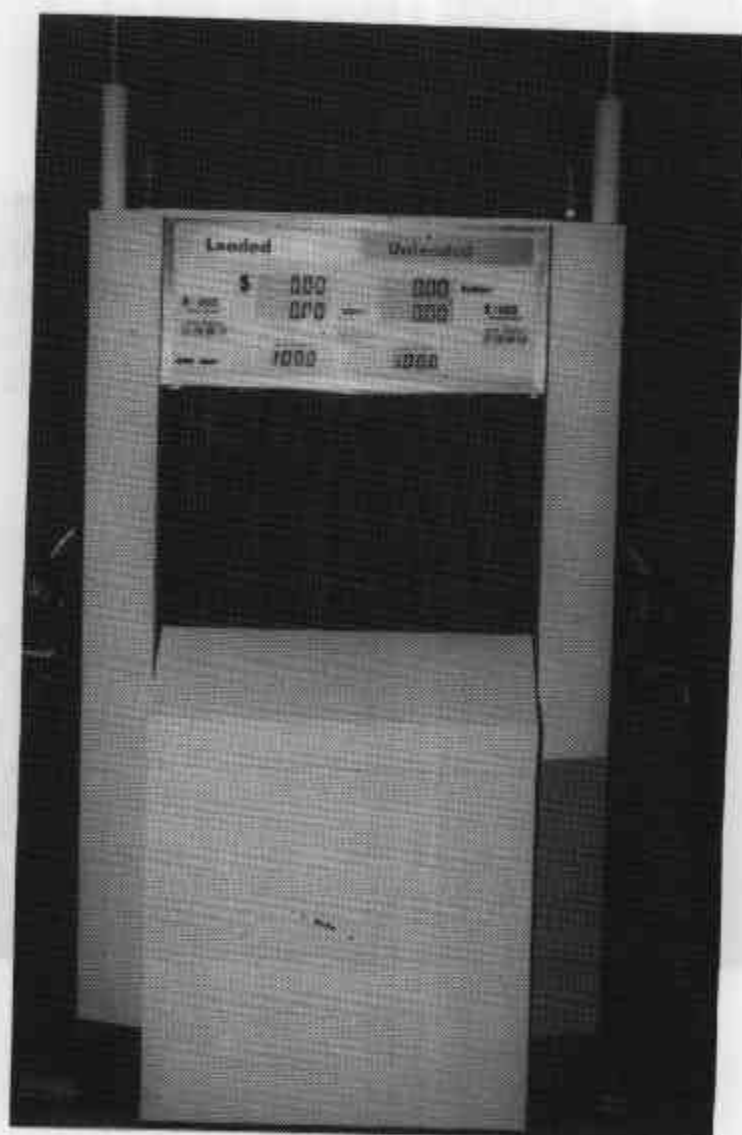
“This approval expires in respect of new instruments on **31 December 2002.**”

(#) Note: The date in this Condition was previously amended by Notification of Change No 3 issued 26 June 2002 to be 30 September 2002.

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

5/6A/97
17 March 1995

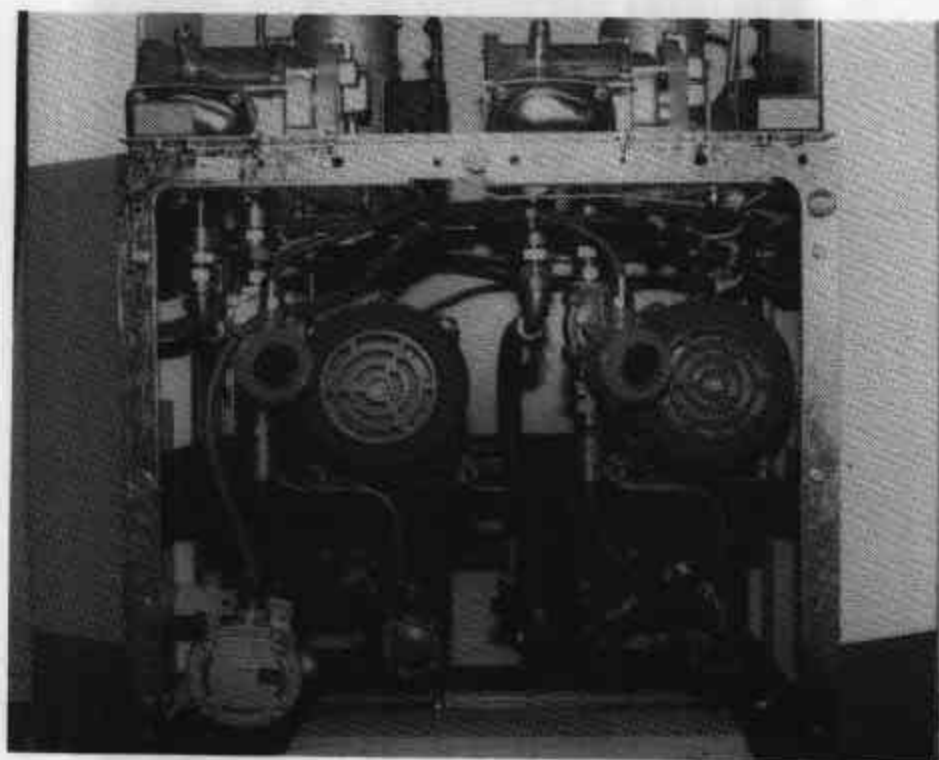
FIGURE 5/6A/97 - 1



Email Model Vision VNP2PP-K-E Driveway Flowmeter

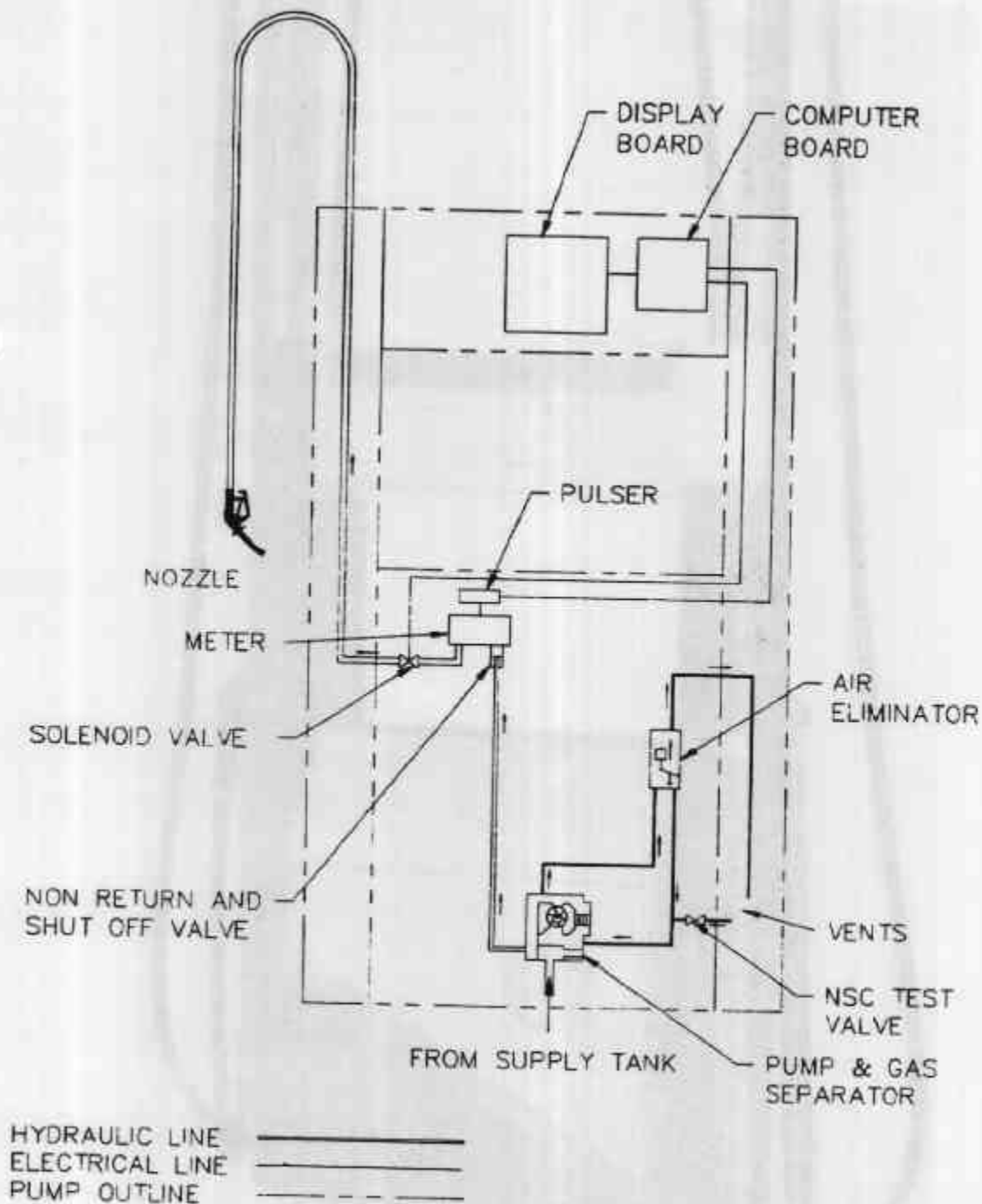
5/6A/97
17 March 1995

FIGURE 5/6A/97 - 2



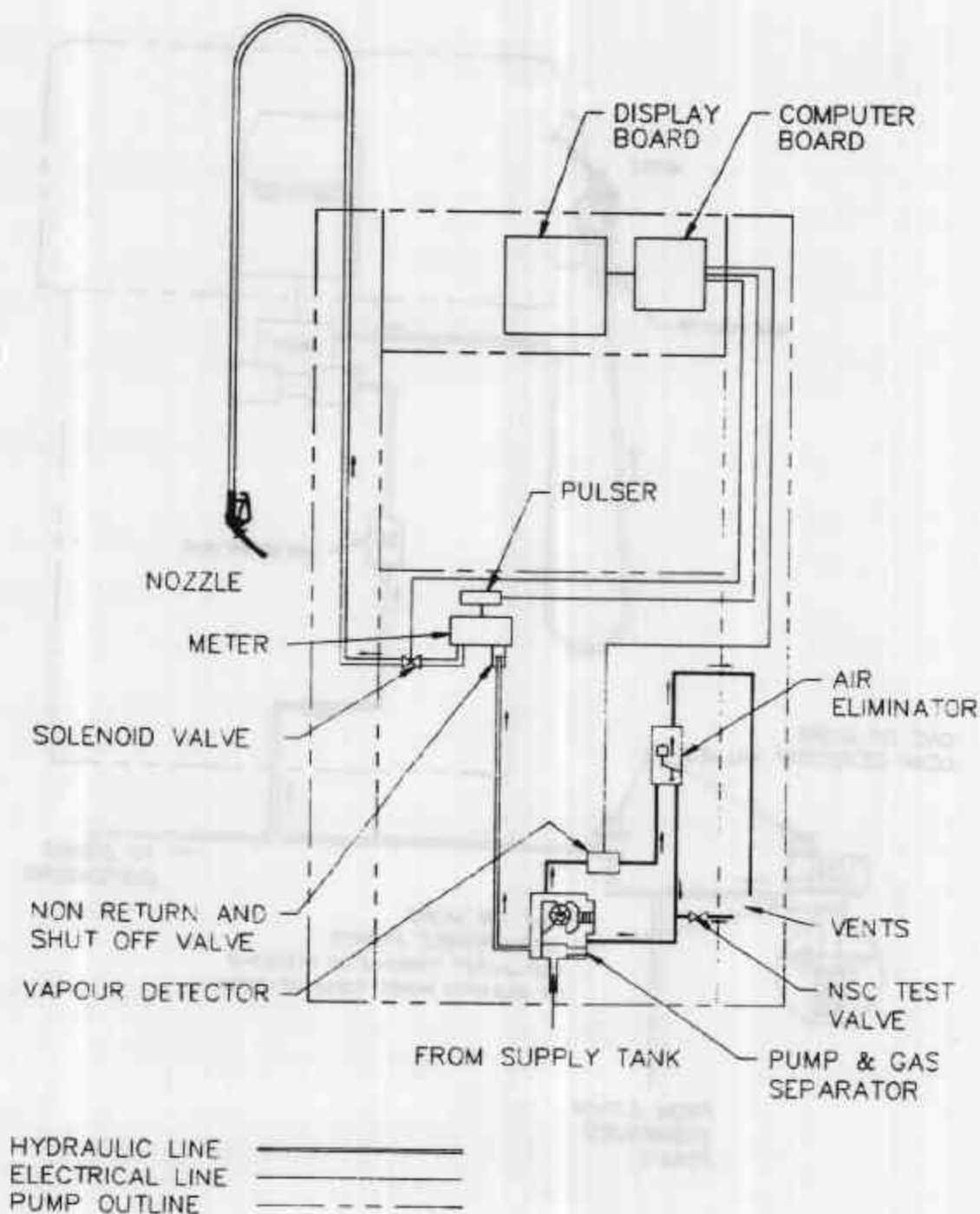
Email Model Vision VNP2PP-K-E Hydraulics

FIGURE 5/6A/97 - 3



Typical Hydraulic Diagram (Petrol)

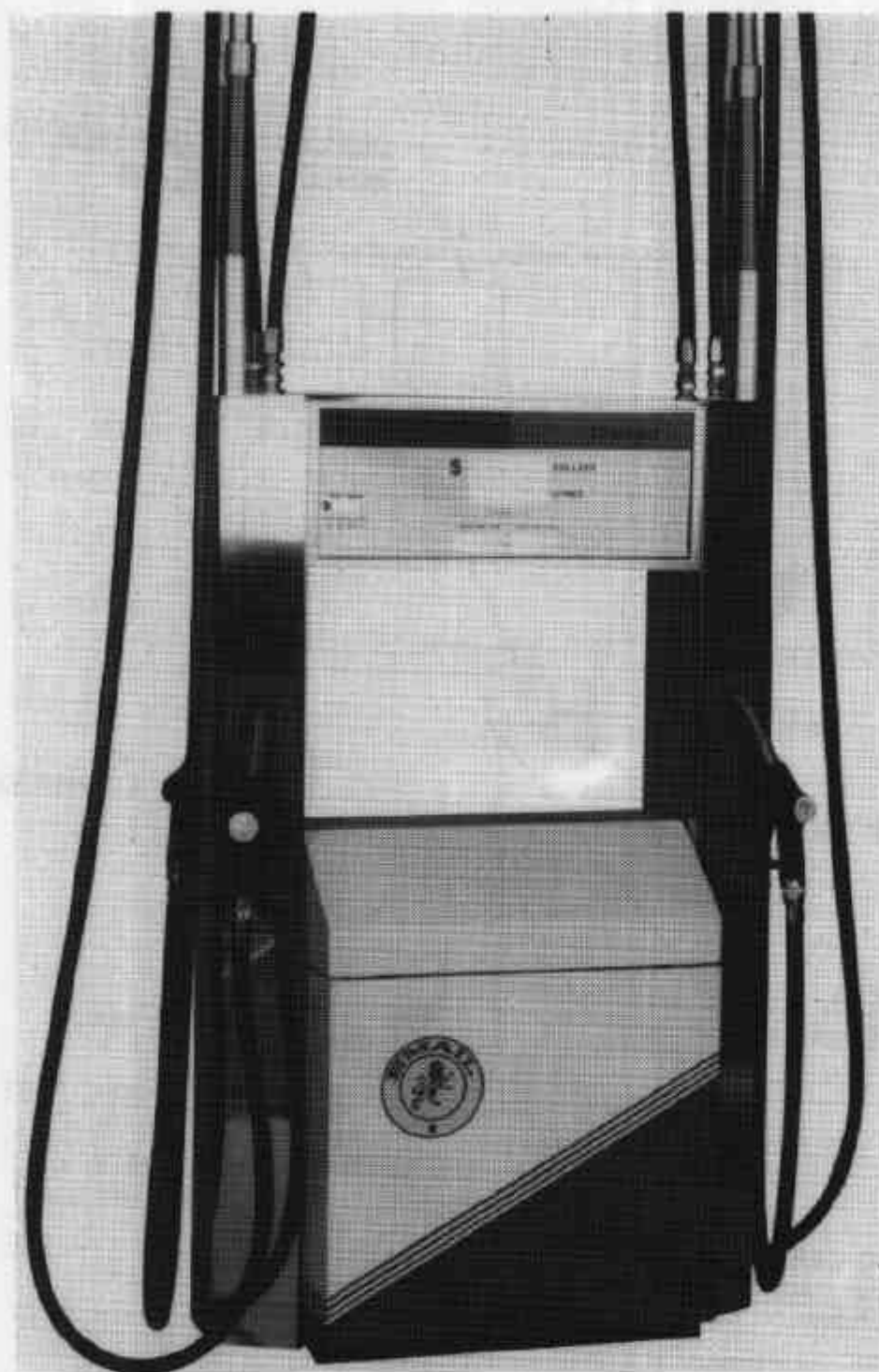
FIGURE 5/6A/97 - 5



Typical Hydraulic Diagram (Petrol)

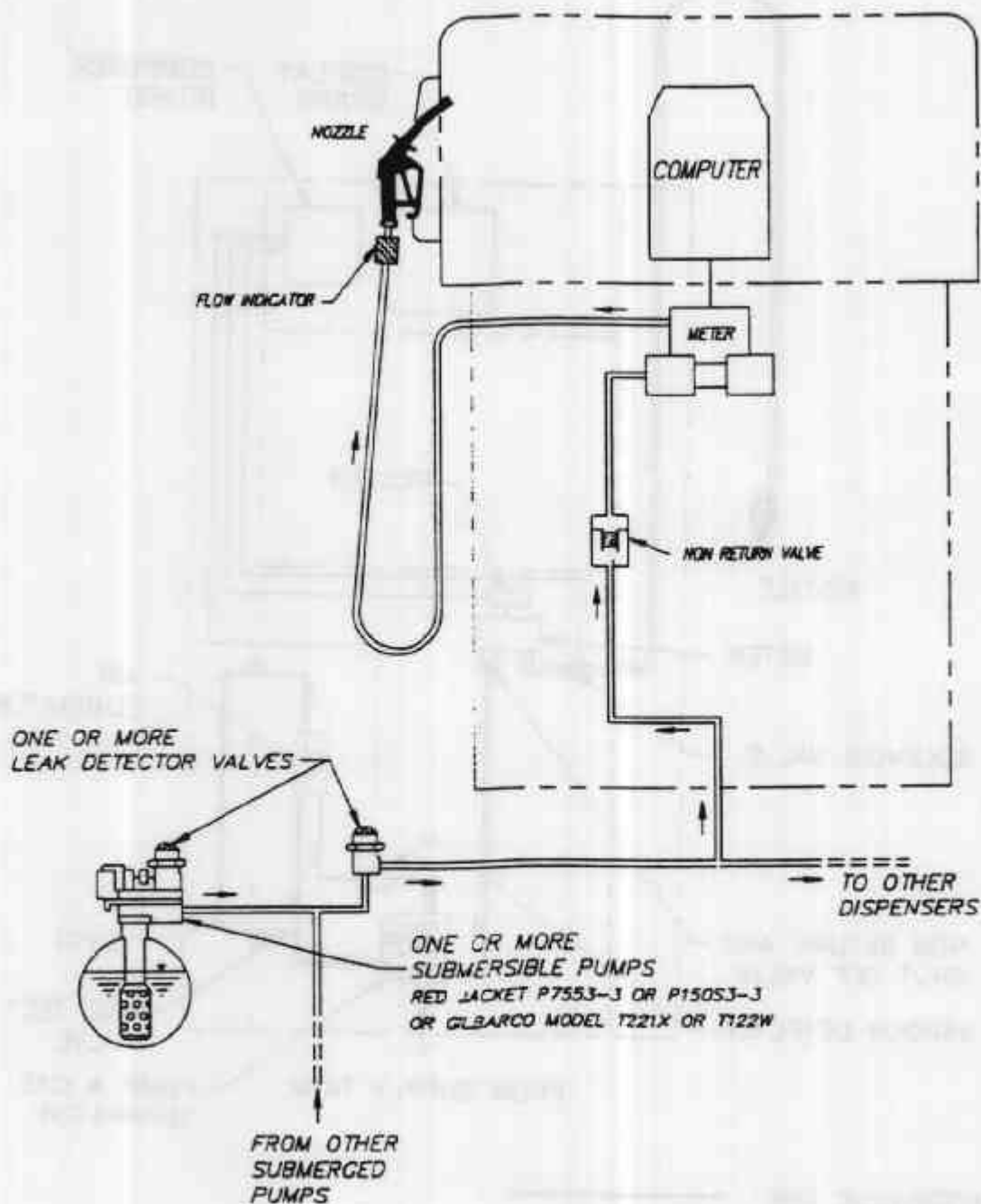
5/6A/97
17 March 1995

FIGURE 5/6A/97 - 4



Email Model Vision VNP4PP-K-L

FIGURE 5/6A/97 - 6



Typical System With a Submersible Turbine Pump