5/6A/85 15/6/92

# **National Standards Commission**



# **Certificate of Approval**

# No 5/6A/85

## 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 MPP4 Multi-product Driveway Flowmeter

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

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.

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Certificate of Approval No 5/6A/85

## CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/5/92. This approval expires in respect of new instruments on 1/5/93.

Instruments purporting to comply with this approval shall be marked NSC No 5/6A/85 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 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.

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

## DESCRIPTIVE ADVICE

Pattern: provisionally approved 27/4/87 - approved 6/11/87

• Email model MPP4 multi-product driveway flowmeter.

Variant: provisionally approved 27/4/87 - approved 6/11/87

1. Other models and configurations as listed in Table 1.

Variant: provisionally approved 11/9/87 - approved 6/11/87

2. For use with distillate.

Technical Schedule No 5/6A/85 describes the pattern and variants 1 and 2.

Variant: approved 17/8/88

3. For use with distillate at a maximum flow rate of 80 L/min.

Technical Schedule No 5/6A/85 Variation No 1 describes variant 3.

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Variants: approved 6/4/89

4. With modified hydraulics and known as the Mk III series.

5. With preset facility.

Technical Schedule No 5/6A/85 Variation No 2 describes variants 4 and 5.

Variants: approved 13/3/92

6. With a submersible turbine hydraulic system.

7. Certain other models with up to 8 hoses/4 products.

8. Certain other models in an alternative housing.

Technical Schedule No 5/6A/85 Variation No 3 describes variants 6 to 8.

## FILING ADVICE

Certificate of Approval No 5/6A/85 dated 4/7/89 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 5/6A/85 dated 15/6/92 Technical Schedule No 5/6A/85 dated 6/11/87 (incl. Table 1 (#) and Test Procedure) Technical Schedule No 5/6A/85 Variation No 1 dated 7/10/88 Technical Schedule No 5/6A/85 Variation No 2 dated 4/7/89 Technical Schedule No 5/6A/85 Variation No 3 dated 15/6/92 (incl. Test Procedure) Figures 1 to 5 dated 6/11/87 Figures 6 and 7 dated 7/10/88 Figure 8 dated 4/7/89 Figure 9 dated 15/6/92

# Table 1 was amended by Notification of Change No 1 dated 28/2/91



### TECHNICAL SCHEDULE No 5/6A/85

Pattern: Email Model MPP4 Multi-product Driveway Flowmeter

<u>Submittor</u>: Email Limited Petroleum Equipment Division 114 Abbotts Road Dandenong Vic 3175

### 1. Description of Pattern

Email model MPP4 multi-product driveway flowmeter (Figures 1 and 2) approved for use with maximum and minimum flow rates of 50 and 15 L/min, respectively.

#### 1.1 Features

Each driveway flowmeter is equipped with four hoses connected to Commissionapproved nozzles, two pumps and two model MPP displays (one on each side of the dispenser). Each side of the dispenser is marked with a dispenser number. The purchaser displays show:

Volume	000.00 L to 990.00 L in 0.01 L increments
Unit price	0.1 c/L to 499.9 c/L in 0.1c increments
Price	\$000.00 to \$999.00 in 1c increments
Preset	\$00.00 to \$99.00 in \$1.00 increments

The model MPP hydraulic system of the pattern is approved for use with super leaded petrol, super unleaded petrol, and unleaded petrol only. Each grade of fuel is supplied by one pump and gas separation system and then diverted to two sets of meters and control valves (one for each nozzle) on each side of the dispenser (Figure 3 is a typical hydraulic diagram - for simplicity, a model MPP2 is shown). A unit price display for each grade is located on the purchaser display.

Hydraulic control of flow to each nozzle is via a pressure surge restriction valve. Instruments may also have a preset facility, with slow flow controlled by a pilot-operated check valve.

The instrument may be used for self-serve operation with an Epitronic Mk III console (Figure 4) or other compatible Commission-approved control console. Unit prices may be changed using the console i.e. central unit price setting.

All driveway flowmeters are fitted with a self-serve/stand-alone (attended) mode switch, and with a manager's keypad located on one side of the flowmeter indicator panel, which permits the following functions:

for each grade of product
in \$ or L for front or rear display, and for each grade
of product
allows field test procedures
initiates manual multi-segment check.

(\*) Note: To initiate this function, first ensure that the instrument is in stand-alone (attended) mode.

### Technical Schedule No 5/6A/85

1.2 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/85
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)	

1.3 Sealing and Verification Provision

Provision is made for the application of a verification mark.

The meter calibration is sealed.

2. Description of Variants

2.1 Variant 1

Various models and configurations as listed in Table 1, including with alternative housings. Figure 5 shows a model MPP6.

### 2.2 Variant 2

With one or more hoses dispensing distillate, in which case a gas detection system is fitted, and the model number has the letter D included (Table 1).

### TABLE 1

Model	Number of
	Hoses
MPP1D	1
MPP1D-S	1
MPP2	2
MPP2D	2
MPP2-S	2
MPP2D-S	2
MPP4	4
MPP4D2 (*)	6
MPP6	6

\* Petrol 4 hoses and distillate 2 hoses.



### TEST PROCEDURE No 5/6A/85

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

The results shall not exceed the maximum permissible errors as specified in Document 118, 2nd Edition October 1986.

- 1. Check that removing a nozzle from its normal hang-up position initiates a request for authorisation (on self-serve systems).
- Check that selection/authorisation of a nozzle causes the following sequence:
  - (i) All other nozzles on that side of the flowmeter are disabled;
  - (ii) The price and volume displays reset to zero and the unit price display on the main indicator shows the unit price for the grade of fuel corresponding to the nozzle selected:
  - (iii) The pump motor starts and a delivery may then be made.
- 3. On instruments fitted with preset facility, check that the preset amount requested equals the delivery value displayed and is within the maximum permissible errors of the actual amount delivered.



### TECHNICAL SCHEDULE No 5/6A/85

Pattern: Email Model MPP4 Multi-product Driveway Flowmeter.

Submittor: Email Electronics Cnr Canterbury and Liverpool Roads Kilsyth VIC 3175.

### 1. Description of Variant 3

Email multi-product driveway flowmeters of various models approved for dispensing distillate in which case a gas detection system is fitted, and with a maximum flow rate of 80 L/min.

The model number has the letters DH included viz. MPP2DH (Figure 6), MPP1DH and MPP1DH-S.

Figure 7 shows a schematic diagram for a typical MPP flowmeter covered by this variant, including with preset facility.



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### TECHNICAL SCHEDULE No 5/6A/85

### VARIATION No 2

Pattern: Email Model MPP4 Multi-product Driveway Flowmeter.

Submittor: Email Electronics Cnr Canterbury and Liverpool Roads Klisyth VIC 3175.

### 1. Description of Variants

### 1.1 Variant 4

Email MPP multi-product driveway flowmeters of various models with modified hydraulics and known as the Mk III series (Figure 8).

The modifications include a solenoid control and shut-off valve in lieu of the control valves and diaphram valves of the pattern. The solenoid valve is either a model FAXR29214 (25 mm) for use up to 80 L/min or a model FAXR29212 (20 mm) for use up to 50 L/min. Only flowmeters which also comply with variant 3 may be used above 50 L/min and then only to dispense distillate.

### 1.2 Variant 5

The Mk III series driveway flowmeters with preset facility. The instrument may be fitted with a purchaser-operated preset control or the preset facility may be set via the vendor's console.



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# TECHNICAL SCHEDULE No 5/6A/85

VARIATION No 3

Pattern: Email Model MPP4 Multi-product Driveway Flowmeter.

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

## 1. Description of Variants

## 1.1 Variant 6

With a submersible turbine pump hydraulic system (Figure 9) replacing the equivalent components (i.e. motor, pump, gas separator, and associated pipework) in any driveway flowmeter covered by this approval, in which case the model number has an 'MPD' prefix, e.g. the pattern (model MPP4) becomes model MPD4.

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 OTO4966) leak detector.

More than one driveway flowmeter may be connected to the same submersible turbine pump hydraulic system.

## 1.2 Variant 7

Certain other models as listed below equipped with up to 8 hoses and to deliver up to 4 products.

Models: MPD8, MPD6/91, MPD4/91, MPD2/91, MPD6P2D, MPD4P2D, MPD2P2D, MPD2D.

## 1.3 Variant 8

In an alternative housing and known as a model MPP-L5 and, when also complying with variant 6, as a model MPD-L5.

# TEST PROCEDURE No 5/6A/85

Instruments shall be tested in conjunction with any tests specified in the approval documentation for the instrument to which the pattern is connected, as appropriate, and in accordance with any relevant tests specified in the Inspector's Handbook.

The maximum permissible errors applicable are those applicable to the system to which the instrument approved herein is fitted, as stated in the approval documentation for the system.

- 1. Operation of the leak detector is tested by the following procedure:
- 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 submerged 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.

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- 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. The minimum flow rate test is performed by simultaneously running either all hoses on all driveway flowmeters connected to a particular submerged 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.
- 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.
- 3. 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 submerged turbine pump WITHOUT this flowmeter first being authorised; the 2nd delivery should not be possible.

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## NOTIFICATION OF CHANGE

## **CERTIFICATE OF APPROVAL No 5/6A/85**

## **CHANGE No 1**

The following changes are made to the approval documentation for the

Email Model MPP4 Multi-product Driveway Flowmeter

submitted by Email Electronics Cnr Canterbury and Liverpool Roads Kilsyth VIC 3137.

In Technical Schedule No 5/6A/85 dated 6/11/87, Table 1 should be amended by adding the model MPP4D2-S (6 hose) and model MPP6-S (6 hose) flowmeters.

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

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# NOTIFICATION OF CHANGE

## CERTIFICATE OF APPROVAL No 5/6A/85

# CHANGE No 2

The following changes are made to the approval documentation for the

Email Model MPP4 Multi-product Driveway Flowmeter

- submitted by Email Electronics Cnr Canterbury and Liverpool Roads Kilsyth VIC 3137.
- 1. In Certificate of Approval No 5/6A/85 dated 4/7/89, the <u>Filing Advice</u> on page 2 should be amended by deleting clause 2 (referring to preset) from the <u>Notifications of Change</u>.
- In Technical Schedule No 5/6A/85 Variation No 2 dated 4/7/89, the 1st sentence of clause <u>1.2 Variant 5</u> should be amended to read "Any approved Email MPP multi-product driveway flowmeter with preset facility."

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

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**National Standards Commission** 



# NOTIFICATION OF CHANGE

### CERTIFICATE OF APPROVAL No 5/6A/85

## CHANGE No 3

The following change is made to the approval documentation for the

Email Model MPP4 Multi-product Driveway Flowmeter

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

In Certificate of Approval No 5/6A/85 dated 15/6/92, the Condition of Approval referring to the expiry of the approval should be amended to now read:

"This approval expires in respect of new instruments on 1/4/94."

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.

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Email Model MPP4



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Email Mk III Console





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5/6A/85 4/7/89

