# NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 5/6B/56

This is to certify that an approval has been granted by the Commission that the pattern and variants of the

Liquid Controls M5 Drum Filling Flowmeter

submitted by Engineering Products Pty Ltd,
418-428 Burnley Street,
Burnley, Victoria, 3121,

are suitable for use for trade.

The approval of the pattern and variants is subject to review on or after 1/5/86.

Variant 2 is provisional and is subject to review on 1/5/82.

All instruments purporting to comply with the pattern and variant 1 shall be marked NSC No 5/6B/56; those complying with variant 2 shall be marked NSC No P5/6B/56.

Relevant drawings and specifications are lodged with the Commission.

Conditions of Approval

1. The maximum and minimum flow rates are 230 L/min and 46 L/min.

2. The liquid for which the instrument is verified is marked on the data plate.

3. The instrument is not used for liquified gases.

4. The system is designed so that gas cannot enter the meter.

5. Instruments conforming to Variant 2 are subject to the following additional conditions:

   (i) The system is to be tested in a manner approved by the Commission at least once every three months.

   (ii) In the event of unsatisfactory performance the approval may be cancelled.

   (iii) The variant will be reviewed after 12 months operation and, provided a satisfactory performance has been maintained, a final certificate will be issued.

Signed

Executive Director

22/6/81

...../2

# NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6B/56

Pattern: Liquid Controls M5 Drum Filling Flowmeter

Submittor: Engineering Products Pty Ltd,
418-428 Burnley Street,
Burnley, Victoria, 3121.

## 1. Description of Pattern

The pattern (Figure 1) is a drum-filling flowmeter for use with petroleum products of viscosities between 0.4 and 8.3 mPa.s, that is, in the range of petrol to distillate. It comprises the following:

(a) Liquid controls M5 flowmeter.

(b) Large-numeral counter, Veeder-Root Model numbers 1692, 1624 or 7887.

(c) Push button preset, Veeder-Root Model No 7889.

(d) Preset control valve, Liquid Controls Model A2621.

(e) Non-return valve upstream of the meter.

(f) Hose of length up to 1.5 m, fitted with either a nozzle or filling spear both of which incorporate an anti-drain valve having a retaining pressure of not less than 55 kPa to ensure that the hose and meter are kept full of liquid.

Maximum and minimum flow rates are 230 L/min and 46 L/min.

## 2. Description of variants

### 2.1 Variant 1

With the large-numeral counter modified to count batches and the push button VR7889 preset modified to repeat the same fixed delivery, the preset now marked as an EPEX C1-40265 (Figure 2). This modification is carried out by fitting the correct gears to the assembly; a different volume requires a change of gears. The volume which the assembly is geared to deliver is marked on the front face of the preset in numerals not less than 9 mm high. The indicator on the preset should be blank at all times.

### 2.2 Variant 2

The pattern and Variant 1 used with lubricating oils having viscosities between 60 mPa.s and 1400 mPa.s.

## 3. Sealing

### 3.1

The calibrator, the push-button preset and the large-numeral counter are sealed by passing a sealing wire through the attachment mounting bolts and terminating the ends beneath a lead stamping plug (Figures 1 and 2).

### 3.2

The instrument data plate (Figure 3) is sealed to the meter assembly or the mounting frame by a lead stamping plug or by threading the sealing wire through a hole in the data plate.

## Descriptive Advice

Pattern: approved 21/5/81

. Liquid Controls M5 drum filling flowmeter with Veeder-Root 1692, 1624 or 7887 counter, VR7889 preset, and Liquid Controls A2621 preset control valve; for use with petroleum products of viscosities between 0.4 and 8.3 mPa.s, that is, in the range of petrol to distillate.

Variants

1. With the VR7889 preset modified to facilitate batch counting, the preset being now designated EPEX C1-40265.

2. The pattern and variant for use with petroleum products of viscosity between 60 mPa.s and 1400 mPa.s.

Technical Schedule No 5/6B/56 dated 22/6/81 describes the pattern and variants 1 and 2.

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(d) Preset control valve, Liquid Controls Model A2621.

(e) Non-return valve upstream of the meter.

(f) Hose of length up to 1.5 m, fitted with either a nozzle or filling spear both of which incorporate an anti-drain valve having a retaining pressure of not less than 55 kPa to ensure that the hose and meter are kept full of liquid.

Maximum and minimum flow rates are 230 L/min and 46 L/min.

## 2. Description of variants

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### 2.2 Variant 2

The pattern and Variant 1 used with lubricating oils having viscosities between 60 mPa.s and 1400 mPa.s.

## 3. Sealing

### 3.1

The calibrator, the push-button preset and the large-numeral counter are sealed by passing a sealing wire through the attachment mounting bolts and terminating the ends beneath a lead stamping plug (Figures 1 and 2).

### 3.2

The instrument data plate (Figure 3) is sealed to the meter assembly or the mounting frame by a lead stamping plug or by threading the sealing wire through a hole in the data plate.

## 4. Marking

The instrument data plate is marked with the following:

Manufacturer's name
NSC number in the form: NSC No 5/6B/56
Maximum flow rate) (when flow rate varies by more than 23 L/min within
Minimum flow rate) the approved maximum and minimum flow rates)
Nominal flow rate (when flow rate is within ± 5% of nominal)
Viscosity range and type of liquid for which the instrument is verified
Minimum delivery

## 5. Minimum Delivery

The minimum delivery is 5 litres.

TEST PROCEDURE No 5/6B/56

1. (a) The instrument should be tested with the liquid for which it will be used (see data plate).

(b) The maximum permissible error at verification is ± 0,15% when operating at a flow rate which is within ± 5% of the nominal flow rate marked on the data plate, or ± 0,3% for all flow rates when the flow rate varies by more than 23 L/min within the marked maximum and minimum flow rates.

2. Special conditions for Variant No 2

The following information will be recorded and sent to the Commission at periods of not more than 3 months:

(a) NSC approval number.

(b) Installation address.

(c) Meter serial number.

(d) Identification of meter assembly in terms of pattern and variants described in the Technical Schedule.

(e) Totaliser reading at beginning of test.

(f) Type of liquid.

(g) Temperature of liquid entering the meter.

(h) Information as to the calibration results as recorded in 1. above.

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   (ii) In the event of unsatisfactory performance the approval may be cancelled.

   (iii) The variant will be reviewed after 12 months operation and, provided a satisfactory performance has been maintained, a final certificate will be issued.

Signed

Executive Director

22/6/81

...../2

5/6B/56
25/10/84

# NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 5/6B/56

CHANGE No 1

The following changes are made to the approval documentation for the

Liquid Controls M5 Drum-filling Flowmeter

submitted by Engineering Products Pty Ltd
418-428 Burnley Street
Burnley Victoria 3121

In the documentation of NSC approval No 5/6B/56 dated 22/6/81, all references to Veeder-Root model VR 7889 preset should be changed to read Liquid Controls model D4140/40265 preset, as follows;

1. In the Certificate, the Descriptive Advice for the pattern and variant 1.

2. In the Technical Schedule, the Description of Pattern (Para. 1(c)) and the Description of Variant 1 (Para. 2.1).

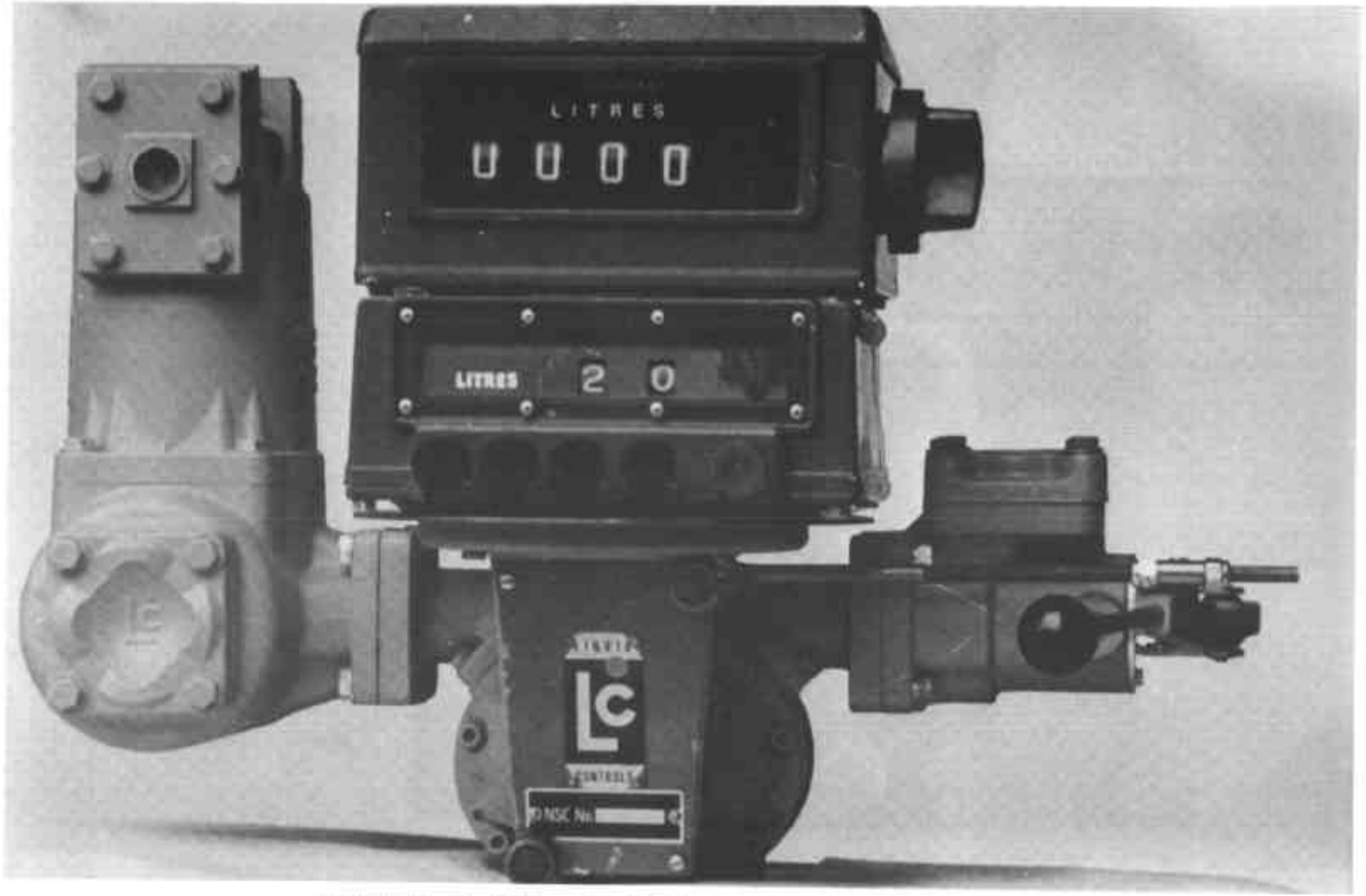
3. In the caption for Figure 1.

Signed

K Adams

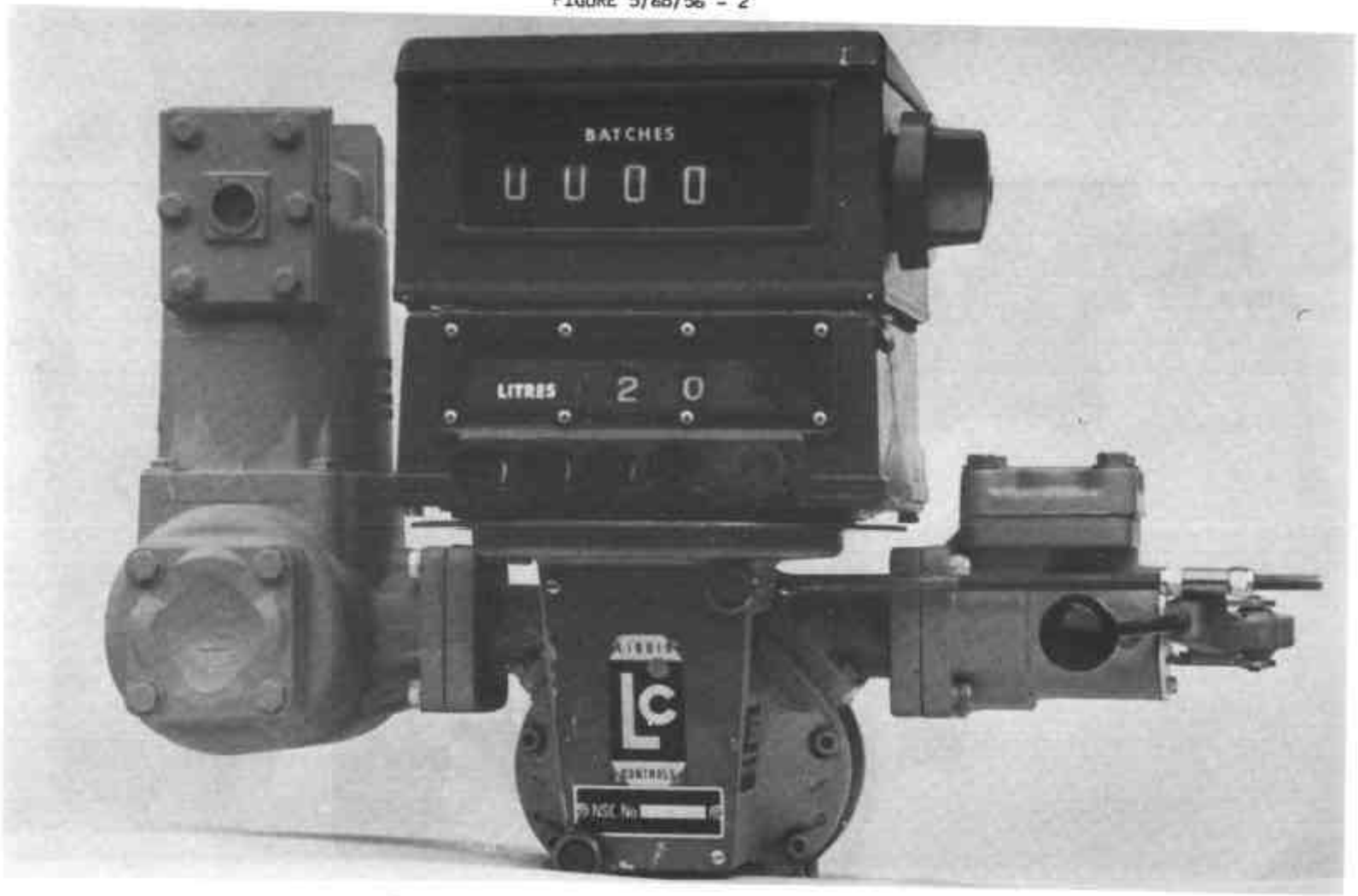
Acting Executive Director

FIGURE 5/68/56 - 1

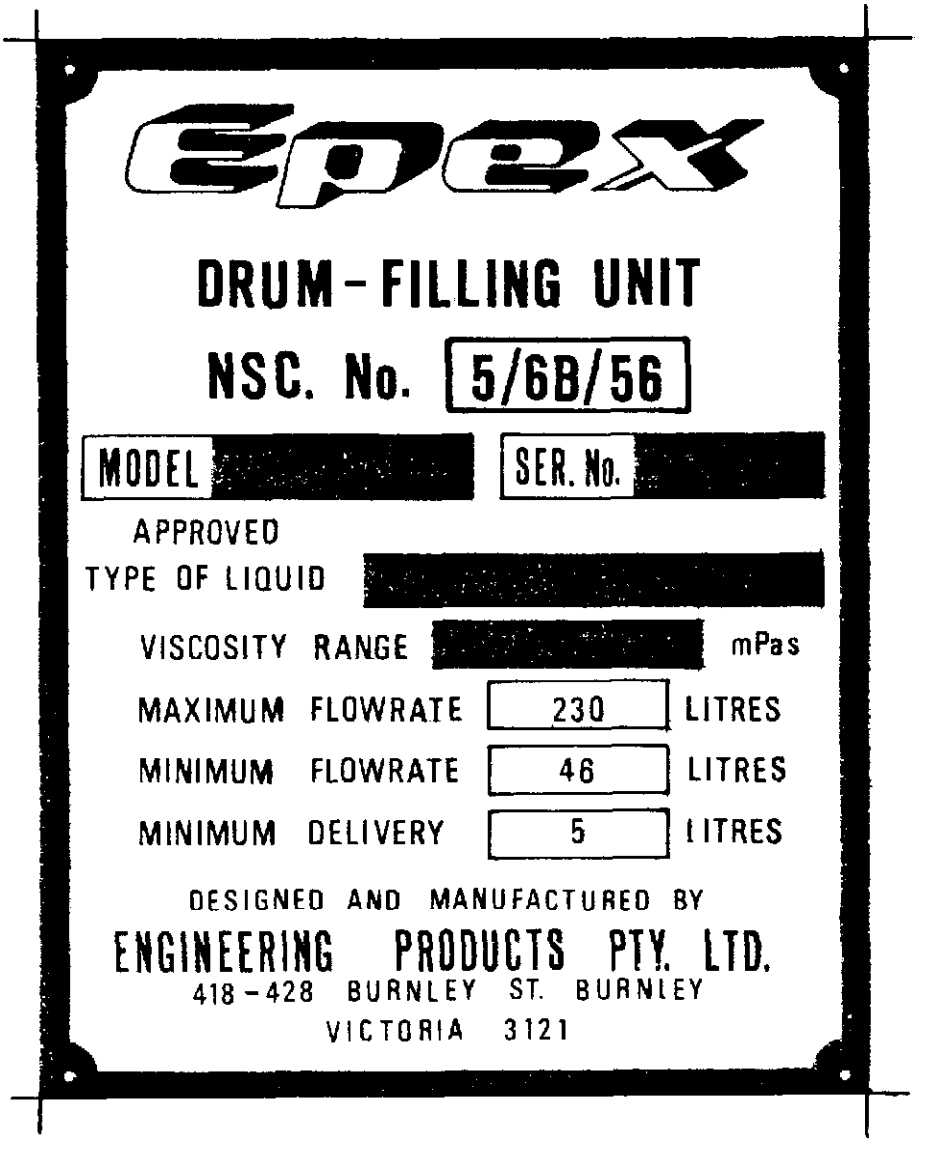



Liquid Controls M5 Flowmeter fitted with VR7887 large numeral counter,
VR7889 Preset and LC A2621 Preset Control Valve

FIGURE 5/6B/56 - 2




Liquid Cont[illegible]s M5 Flowmeter with VR7887 batch counter, EPE[illegible] C1-40265
Preset and LC A2621 Preset Control Valve


Epex
DRUM-FILLING UNIT
NSC. No. 5/6B/56
MODEL
SER. No.
APPROVED
TYPE OF LIQUID
VISCOSITY RANGE
mPas
MAXIMUM FLOWRATE 230 LITRES
MINIMUM FLOWRATE 46 LITRES
MINIMUM DELIVERY 5 LITRES
DESIGNED AND MANUFACTURED BY
ENGINEERING PRODUCTS PTY. LTD.
418-428 BURNLEY ST. BURNLEY
VICTORIA 3121