National Standards Commission

Supplementary Certificate of Approval

No S222A

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

Production Engineering Model EFPEC Driveway Flowmeter Control Console

submitted by Production Engineering (Aust.) Pty Ltd
Suite 403
270 Pacific Highway
Crows Nest NSW 2065.

This Certificate is issued upon completion of a review of NSC approval No S222.

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 1/1/98.
This approval expires in respect of new instruments on 1/1/99.

Instruments purporting to comply with this approval shall be marked NSC No S222A and only by persons authorised by the submittor. Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S222A in addition to the approval number of the instrument.

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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.

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

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

Special:

Consoles may only be used for central unit price setting of driveway flowmeters which have been Commission-approved for use with that facility.

DESCRIPTIVE ADVICE

Pattern: approved 22/12/92

. A Production Engineering model EFPEC control console.

Variants: approved 22/12/92

1. For use with various Commission-approved driveway flowmeters or driveway flowmeters fitted with certain indicators.

2. Up to three EFPEC consoles connected in a network.

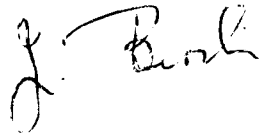
Technical Schedule No S222A describes the pattern and variants 1 and 2.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S222A dated 5/4/93
Technical Schedule No S222A dated 5/4/93 (incl. Test Procedure)
Figures 1 and 2 dated 5/4/93

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.



National Standards Commission

TECHNICAL SCHEDULE No S222A

Pattern: Production Engineering Model EFPEC Driveway Flowmeter Control Console.

Submittor: Production Engineering (Aust.) Pty Ltd
Suite 403
270 Pacific Highway
Crows Nest NSW 2065.

1. Description of Pattern

The pattern is a Production Engineering model EFPEC control console (Figure 1) which may be used in a Commission-approved driveway flowmetering system incorporating driveway flowmeters fitted with Production Engineering model MHP (multi-product) indicators.

1.1 Features

The console may be used with up to 32 driveway flowmeters (Figure 2) and may be fitted with other facilities including:

- an integral cash register and associated facilities;
- a vendor's indicator and a remote purchaser's indicator;
- a pump status and operator information (ICONS) display;
- a facility for centrally setting the unit price of up to 10 grades of fuel or other products;
- a postpay and prepay facility;
- a pump stop button and an all pumps emergency stop button;
- a dual-memory facility;
- a magnetic card reader for managerial functions; and
- a printer for the vendor's record and purchaser's receipt.

1.2 Dual-memory Facility

This allows two transactions to operate simultaneously, i.e. a second transaction may be carried out while a previous transaction which has not yet been completed is retained in memory.

1.3 Verification/Certification Provision

Provision is made for a verification/certification mark to be applied.

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1.4 Markings

The instrument is marked with the following data, together in one location:

Manufacturer's name or mark	
Model number	
NSC approval number	NSC No S222A
Serial number	
Operating (air) temperature range	0°C to 40°C

2. Description of Variants

2.1 Variant 1

For use with a combination of the following Commission-approved driveway flowmeters or driveway flowmeters fitted with any of the indicators listed below:

Email	Eclipse MVR 79 series indicators Multi-product indicators - MPP series E series driveway flowmeters
Gilbarco	Calcopac indicators (*) Electroline-type indicators Highline indicators - TO80 series Multi-product indicators - models TO77, TO78 or TO79 Multi-product indicators - models T087A, TO87B or T088B
Production Engineering	Retron 80 indicators Empec 80 indicators Multi-product indicators - model MHP

* The central unit price setting facility shall be disabled when the console is used with flowmeters fitted with Calcopac indicators. (refer Special Condition of Approval)

2.2 Variant 2

With up to three EFPEC consoles connected in a network enabling the following operations to be processed by any console:

- flowmeter status and authorisation;
- pump stop and emergency stop; and
- sales transactions, including dual-memory facility.

The network includes one standard EFPEC console as the network controller, and up to two modified consoles which can only communicate to the driveway flowmeters via the master console. The master console enables central unit price setting (refer Special Condition of Approval) and various management functions, in addition to the operations listed above.

TEST PROCEDURE

Instruments should be tested in accordance with any tests included in the approval documentation for the driveway flowmeter/s 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 pattern is connected, as stated in the approval documentation for the system.

1. **Postpay Mode** (including dual-memory test)

(i) At any driveway flowmeter, remove a nozzle from its hang-up position. Authorise the flowmeter at the console and then deliver sufficient fuel to cause the price and quantity indicators to move significantly off zero. Stop the flowmeter by returning the nozzle to its hang-up; the details of the transaction will be displayed on the console.

(ii) Check that the price and volume displayed at the console are the same as the price and volume recorded from the driveway flowmeter.

(iii) At the same flowmeter, perform another delivery as per (i) above; the details of the two transactions are now displayed, with the previous transaction indicated adjacent to the "Mem" icon on the console's transaction display window. The details of the transaction stored in memory are also recorded on the console's journal printer.

(iv) Attempt to authorise a third delivery from the same flowmeter; this should not be possible.

(v) Complete the transactions. Check that the details of both transactions have now been cleared.

(vi) Repeat steps (i) to (v) for a number of driveway flowmeters.

2. Prepay Mode

(i) Conduct a suitable prepay test at one or more driveway flowmeters; observe that the flowmeter stops at the preset value.

(ii) For a partially completed delivery; observe that the driveway flowmeter cannot be re-authorised until the nozzle is hung up and the transaction is completed by the operator.

A REFUND notice appears on the purchaser display after the nozzle is hung up. The transaction is complete when the REFUND notice is cashed by the operator.

3. Price Setting

If there are flowmeters fitted with Gilbarco Calcopac indicators connected to the console, press digits 3 and 2, and then the MENU key. The message USER NOT AUTHORISED FOR THIS MENU or similar, should be displayed to verify that the central unit price setting facility is not operational.

4. For Networked Consoles

Make a delivery at any flowmeter. Process the delivery at a console, but do not finalise (pay-off) the transaction.

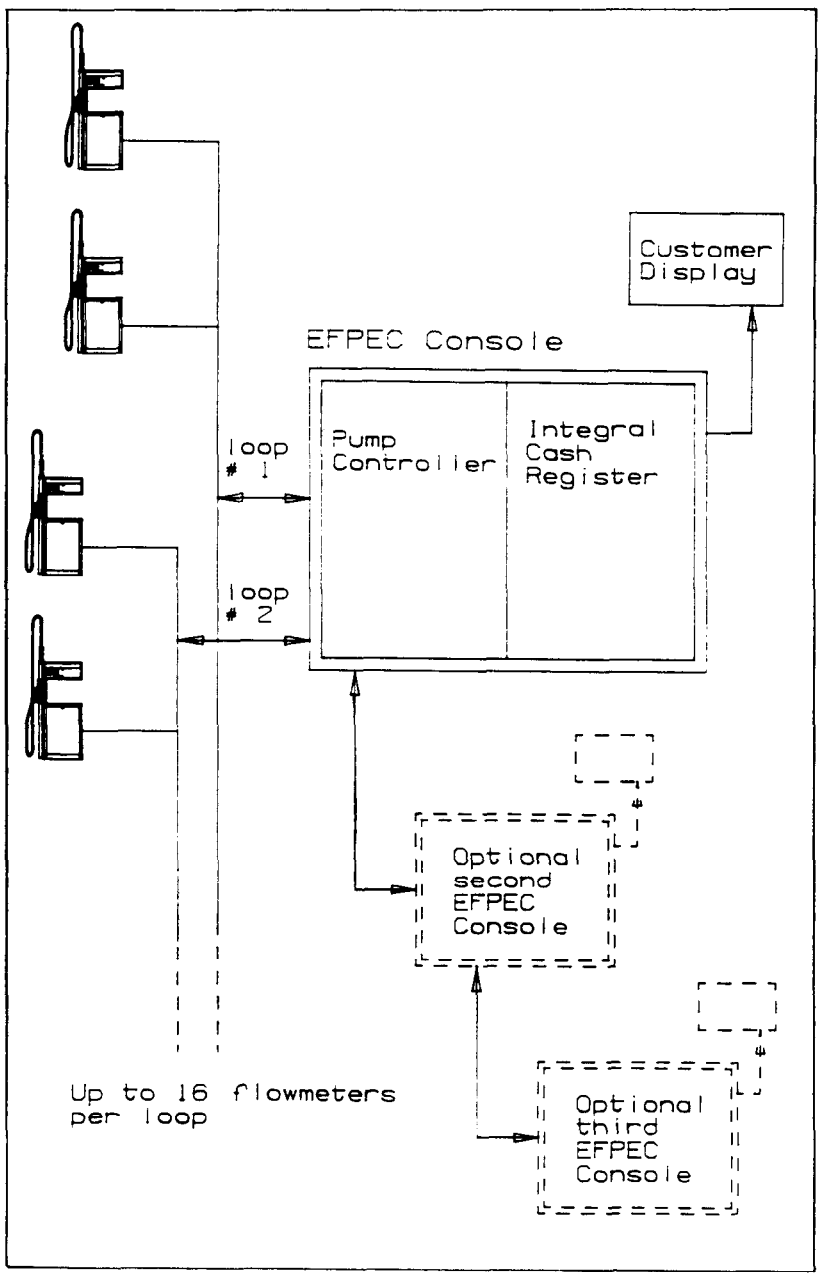
Attempt to process the transaction at another console; this should not be possible.

Complete the transaction at the first console. Check that the delivery is no longer available for processing at any console.

FIGURE S222A - 1

Production Engineering Model EFPEC Console

FIGURE S222A - 2



Typical EFPEC System