

National Standards Commission



Certificate of Approval

No 5/6A/79A

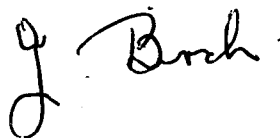
Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

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

Production Engineering Model 6301P Driveway Flowmeter

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

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.



CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/11/95.
This approval expires in respect of new instruments on 1/11/96.

Instruments purporting to comply with this approval shall be marked NSC No 5/6A/79A 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: approved 12/10/90

. A Production Engineering model 6301P driveway flowmeter.

Variant: approved 12/10/90

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

Technical Schedule No 5/6A/79A describes the pattern and variant 1.

Variant: approved 10/2/92

2. With a submersible turbine pump hydraulic system.

Technical Schedule No 5/6A/86 Variation No 1 describes variant 2.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 5/6A/79A dated 15/6/92
Technical Schedule No 5/6A/79A dated 14/3/91 (incl. Table 1 and Test
Procedure)
Technical Schedule No 5/6A/79A Variation No 1 dated 15/6/92
Figures 1 to 3 dated 14/3/91
Figure 4 dated 15/6/92



National Standards Commission

TECHNICAL SCHEDULE No 5/6A/79A

Pattern: Production Engineering Model 6301P Driveway Flowmeter.

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

1. Description of Pattern

A Production Engineering model 6301P driveway flowmeter (Figure 1) approved for use in either locally or remotely authorised applications.

1.1 Features

The model 6301P has the following components or features (Table 1 and Figures 2 and 3):

- . A Tatsuno model PGS-0257 pump unit with integral gas separator approved for use up to 40 L/min.
- . A Tatsuno model MP-02515 4-piston meter.
- . A Production Engineering Retron 80 computing indicator with a maximum unit price of 999.9 c/L and a maximum price of \$999.99 as described in the documentation of NSC approval No S101A.
- . A preset facility, using a 2-stage solenoid valve. The instrument may be fitted with a purchaser-operated preset control or the preset facility may be set via the vendor's console.
- . A ZVA model 25/41, 4.4, 4.4R, 4.4RU or 4.4U nozzle, or any other compatible nozzle approved under the Commission's Supplementary approval system or which complies with General Supplementary Certificate No S3/0.

1.2 Sealing and Verification Provision

Provision is made for the application of a verification mark. The meter calibration is sealed.

1.3 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/79A
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 Variant 1

Other models and in configurations as listed in Table 1, including:

- With or without preset facility;
- As dual driveway flowmeters;
- For use with products other than petrol (#);
- For use with a maximum flow rate of 80 L/min (#).

TABLE 1

Model number	Capabilities
6301H	Single, standard speed, petrol, no preset
6301P	Single, standard speed, petrol, cash preset
6301DH	Dual, standard speed, petrol, no preset
6301DP	Dual, standard speed, petrol, cash preset
6302H (#)	Single, standard speed, diesel, no preset
6302P (#)	Single, standard speed, diesel, cash preset
6322H (#)	Single, high speed, diesel or petrol, no preset

(#) A gas detection system is mandatory for products other than petrol, and is required for petrol when the flow rate exceeds 55 L/min.

Approved Models and Configurations

TEST PROCEDURE

Instruments should be tested in accordance with any tests included in the approval documentation for the control console (where used), and 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 $\pm 0.3\%$.



National Standards Commission

TECHNICAL SCHEDULE No 5/6A/79A

VARIATION No 1

Pattern: Production Engineering Model 6301P Driveway Flowmeter.

Submitter: Production Engineering (Aust.) Pty Ltd
Suite 403
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Crows Nest NSW 2065.

1. Description of Variant 2

With a submersible turbine pump hydraulic system replacing the equivalent components (i.e. motor, pump, gas separator, and associated pipework) in any driveway flowmeter covered by this approval (Figure 4). Such flowmeters may be used to dispense petrol, kerosene or distillate.

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.

TEST PROCEDURE No 5/6A/79A

VARIATION No 1

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.

- 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.

National Standards Commission



NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 5/6A/79A

CHANGE No 1

The following change is made to the approval documentation for the

Production Engineering Model 6301P Driveway Flowmeter

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

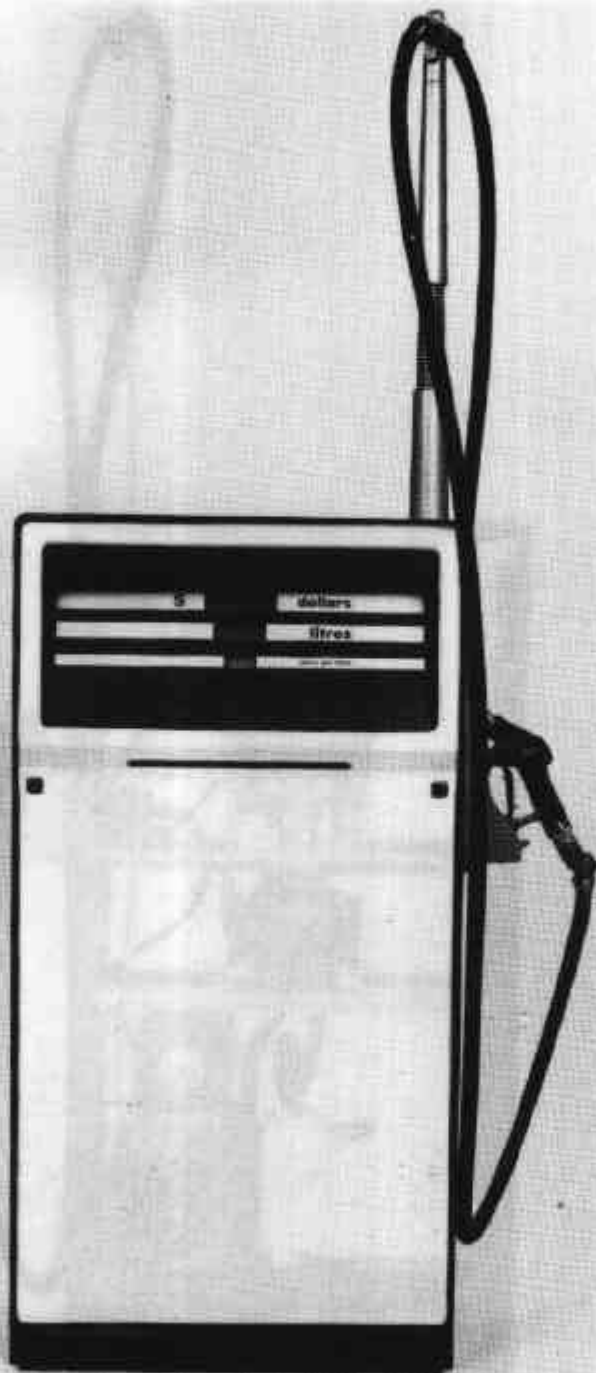
In Technical Schedule No 5/6A/79A dated 14/3/91, clause 2. Description of Variant 1 is amended by adding the following:

- With the pump unit of the pattern replaced by either a Tatsuno model PGS-0253-36 or a model PGS-0253-37, approved for use with up to 45 or 90 L/min, respectively, in which case the models 63** listed in Table 1 become models 64** e.g. the pattern model 6301P becomes model 6401P.

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.

A handwritten signature in black ink, appearing to read 'J. Bush'.

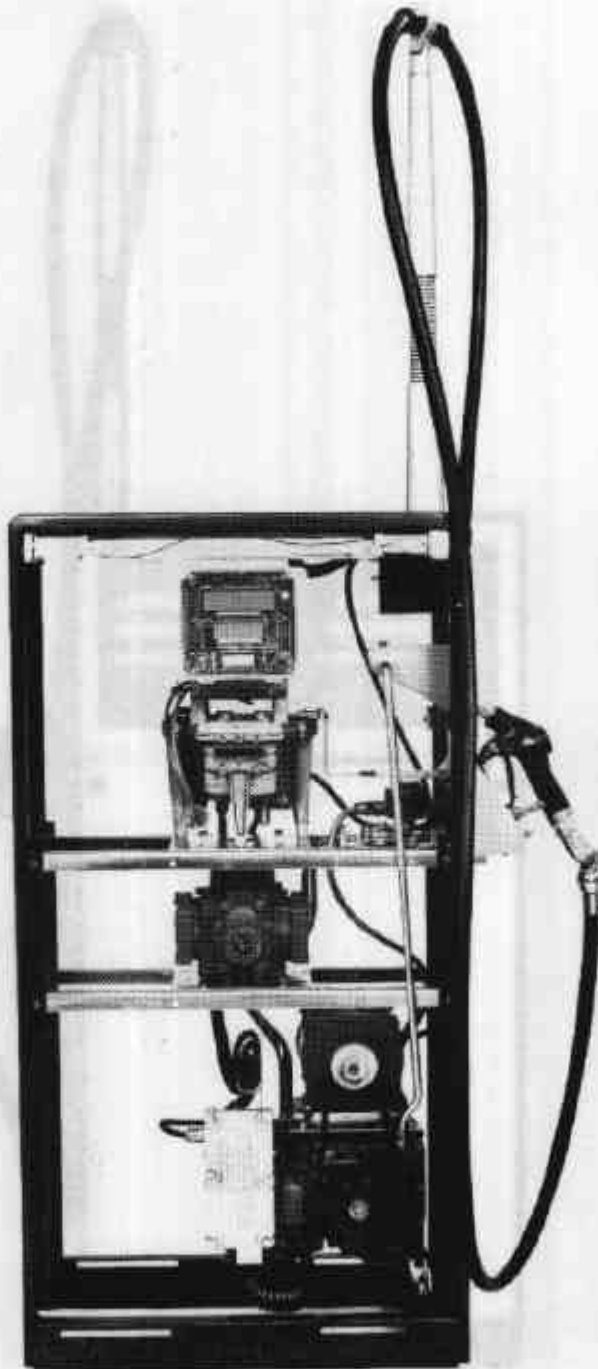
FIGURE 5/6A/79A - 1



Production Engineering Model 6301P

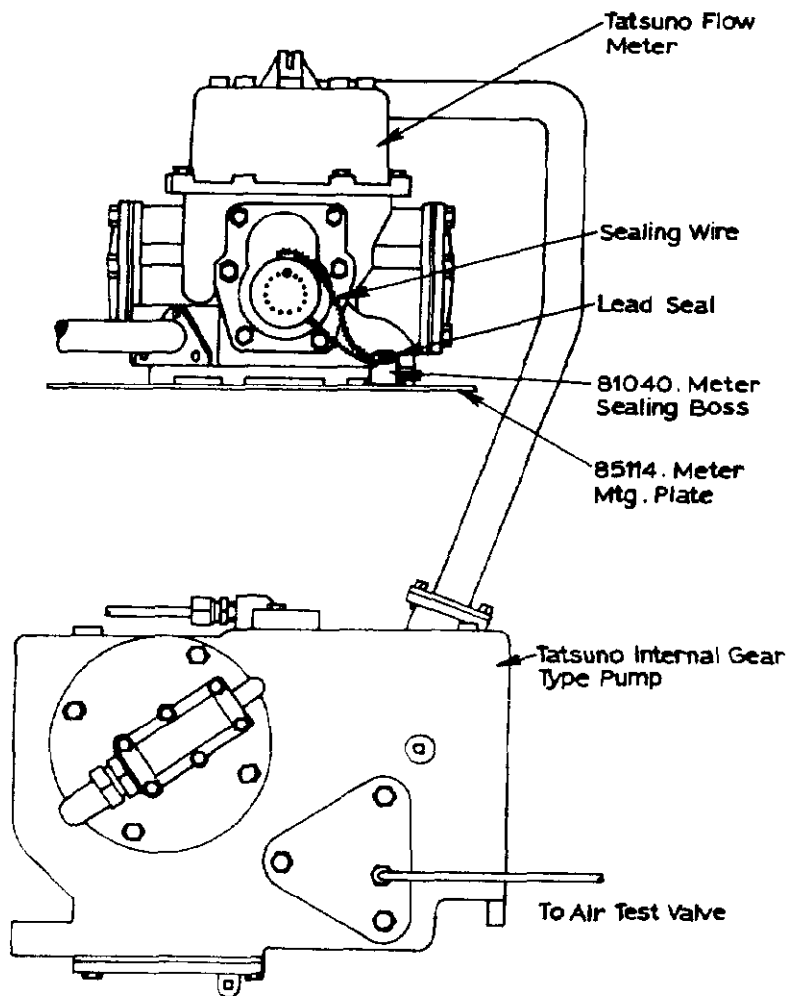
5/6A/79A
14/3/91

FIGURE 5/6A/79A - 2



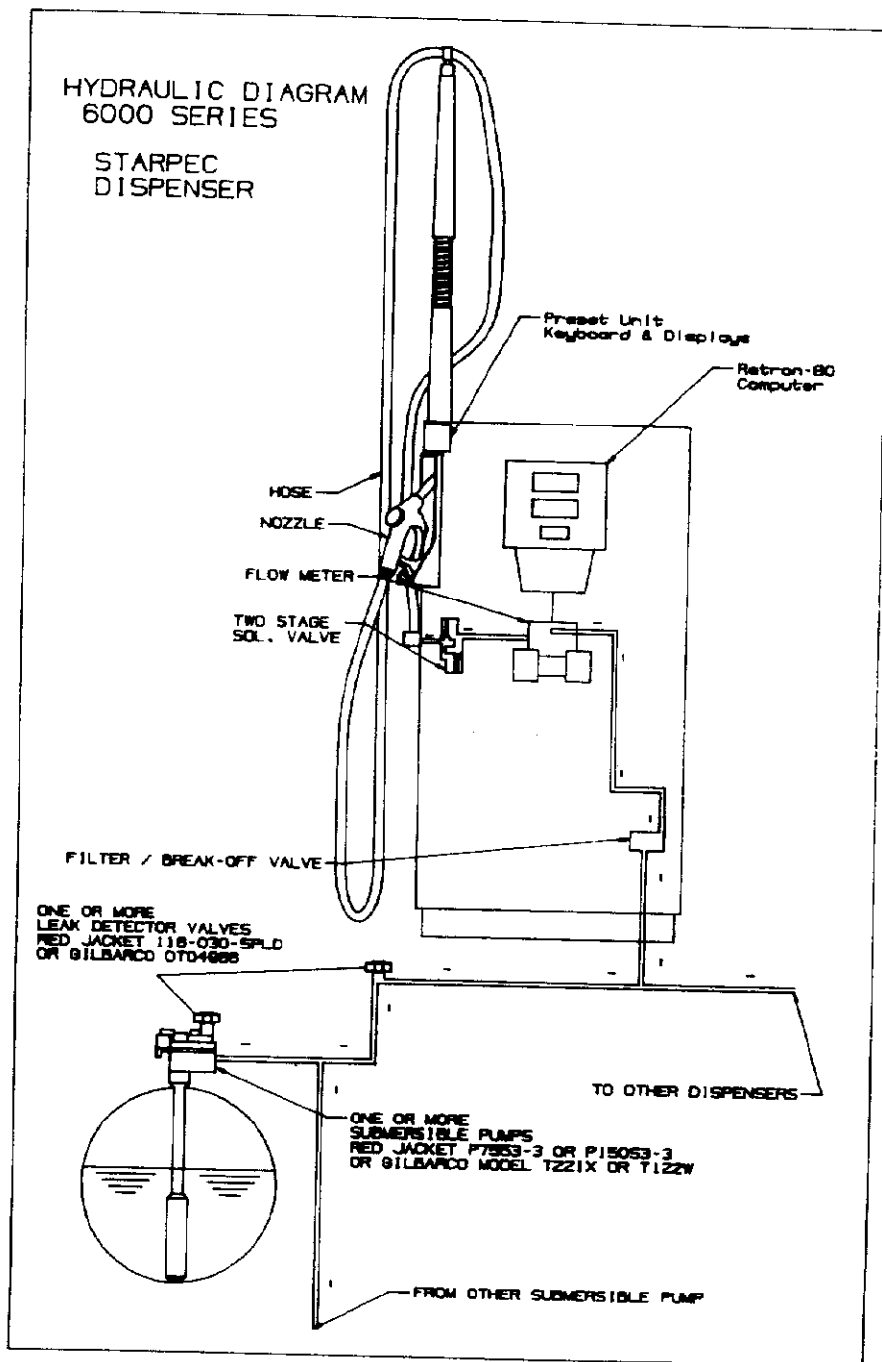
Production Engineering Model 6301P

FIGURE 5/6A/79A - 3



Showing Meter and Pump/gas Separator

FIGURE 5/6A/79A - 4



Typical System With a Submersible Turbine Pump