



NATIONAL STANDARDS COMMISSION
WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 5/6E/6

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

Processautomatic Model PA200 Turbine Milk Flowmeter System

submitted by Processautomatic Australia Pty Ltd,
506/325 Chapel Street,
Pahran, Victoria, 3181,

are suitable for use for trade.

The approval of the pattern is subject to review on or after 1/10/87.

The approval of provisional variants 1 and 2 is subject to review on or after 1/10/83.

Instruments purporting to comply with the pattern shall be marked NSC No 5/6E/6. Those purporting to comply with provisional variants 1 or 2 should be marked P5/6E/6.

Relevant drawings and specifications are lodged with the Commission.

Conditions of Approval

1. The maximum and minimum flow rates are as specified in Technical Schedule No 5/6E/6 and are marked on the data plate for each installation.
2. If the pump is not for the exclusive use of the flowmeter, the flow rate through the meter must remain within the flow rate range of the meter for all combinations of the output from the pump.
3. The instrument is only approved for use with milk.
4. The system is designed so that gas cannot enter the system.
5. Instruments are installed in the manner described in Technical Schedule No 5/6E/6.
6. The Commission reserves the right to inspect any installation incorporating a meter covered by this approval.
7. The system must be primed before use to ensure accurate measurement.

Additionally, for provisional variants 1 and 2:

8. Each system is tested in a manner approved by the Commission at intervals of approximately 3 months; such tests to be arranged by the submitter and the results forwarded to the Commission.
9. In the event of suitable test results not being received by the Commission or of unsatisfactory performance, the approval of the provisional variants may be cancelled.

Signed


Executive Director

7/10/82

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Descriptive Advice

Pattern: approved 16/9/82

- . Processautomatic milk flowmetering system with a model PAH/50/66 turbine meter of 50 mm diameter.

Provisional Variants: approved 16/9/82

1. With a model PAH/75/132 turbine meter of 75 mm diameter.
2. With a model PAH/37/42 turbine meter of 37 mm diameter.

Technical Schedule No 5/6E/6 dated 7/10/82 describes the pattern and provisional variants 1 and 2.

Filing Advice

The documentation for this approval consists of:

Certificate of Approval No 5/6E/6 dated 7/10/82
Technical Schedule No 5/6E/6 dated 7/10/82
Test Procedure No 5/6E/6 dated 7/10/82
Figures 1 to 3 dated 7/10/82.

7/10/82



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6E/6

Pattern: Processautomatic Model PA200 Turbine Milk Flowmeter System

Submitter: Processautomatic Australia Pty Ltd,
506/325 Chapel Street,
Prahran, Victoria, 3181.

1. Description of Pattern

1.1 The System (Figure 1) comprises:

1.1.1 A supply tank.

1.1.2 A centrifugal pump mounted lower than the minimum height of the liquid in the supply tank (flooded suction). The pipework from the tank has a continuous fall to the pump.

1.1.3 A non-return valve is fitted after the meter in the vertical pipe.

1.1.4 A strainer is located upstream of the meter.

(Note: This is not part of the measuring system approved by the Commission).

1.1.5 Turbine meter Processautomatic model PAH/50/66 of 50 mm diameter (Figure 2), for flow rates between a minimum of 275 L/min and a maximum of 800 L/min.

1.1.6 Electronics console model PA200 (Figure 3) containing frequency/volumetric converter, digital indicator, totaliser and ticket printer. The indicator, which indicates individual deliveries, is reset by the action of the ticket printer. The totaliser is resettable by operating the battery test button and is differentiated by a red transparent cover.

A printed ticket displays the volume, date, time and factory or user number for each transaction.

*See note.

1.1.7 Outlet control valve.

1.1.8 The meter is located in a vertical pipe. Flow straighteners, not less than 1 m long, are fitted on each side of the meter.

1.1.9 A device is connected in the data line which is interlocked to the CIP system (Clean In Place) so that the liquid used for CIP is not metered.

1.1.10 A flow rate control valve/device may be fitted as required.

1.1.11 Additional peripheral monitoring equipment may be fitted as required.

* Note: In the event of a power failure a battery back-up system is provided. Pressing the TEST button on the rear of the electronics console will illuminate an LED mounted on the front panel to indicate that the Ni-Cad batteries are charged.

1.2 Sealing

1.2.1 The electrical lead is sealed at the meter, the other end being permanently connected within the electronics console.

1.2.2 The metal case of the electronics console is also sealed (Figure 3).

1.3 Marking

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

Manufacturers name or mark	
Meter Model No	
Meter Serial No	
NSC Approval No	5/6E/6
Maximum flow rate 800 L/min	(when operating over a range of more than 80 L/min)
Minimum flow rate 275 L/min	(when flow rate is within $\pm 5\%$ of nominal)
Nominal flow rate	
Approved for use with MILK	
Minimum Delivery	500 L

2. Description of Provisional Variants

2.1 Provisional Variant 1

With a model PAH/75/132 75 mm turbine meter replacing the PAH/50/66 turbine meter of the pattern.

The maximum and minimum flow rates are 2000 L/min and 650 L/min respectively.

2.2 Provisional Variant 2

With a model PAH/37/42 37 mm turbine meter replacing the PAH/50/66 turbine meter of the pattern.

The maximum and minimum flow rates are 540 L/min and 150 L/min respectively.

TEST PROCEDURE No 5/6E/6

The instrument is to be tested with milk.

The maximum permissible errors at verification are:

- (a) $\pm 0.3\%$ for any flow rate when operating over a flow rate range of more than 10% of maximum capacity (but within the marked maximum and minimum flow rates); or flow rate
- (b) $\pm 0.15\%$ when operating at a flow rate within $\pm 5\%$ of nominal as marked on the meter.

1. Empty Compartment Test

It will be necessary to allow a supply tank to run dry during a test delivery; then stop the pump motor and refill or change the supply tank and then start the pump motor to allow the delivery into or from the proving measure to continue.

Note: This test should only be carried out where it could be expected that a tank will be completely emptied during a normal days delivery.

2. Test Delivery

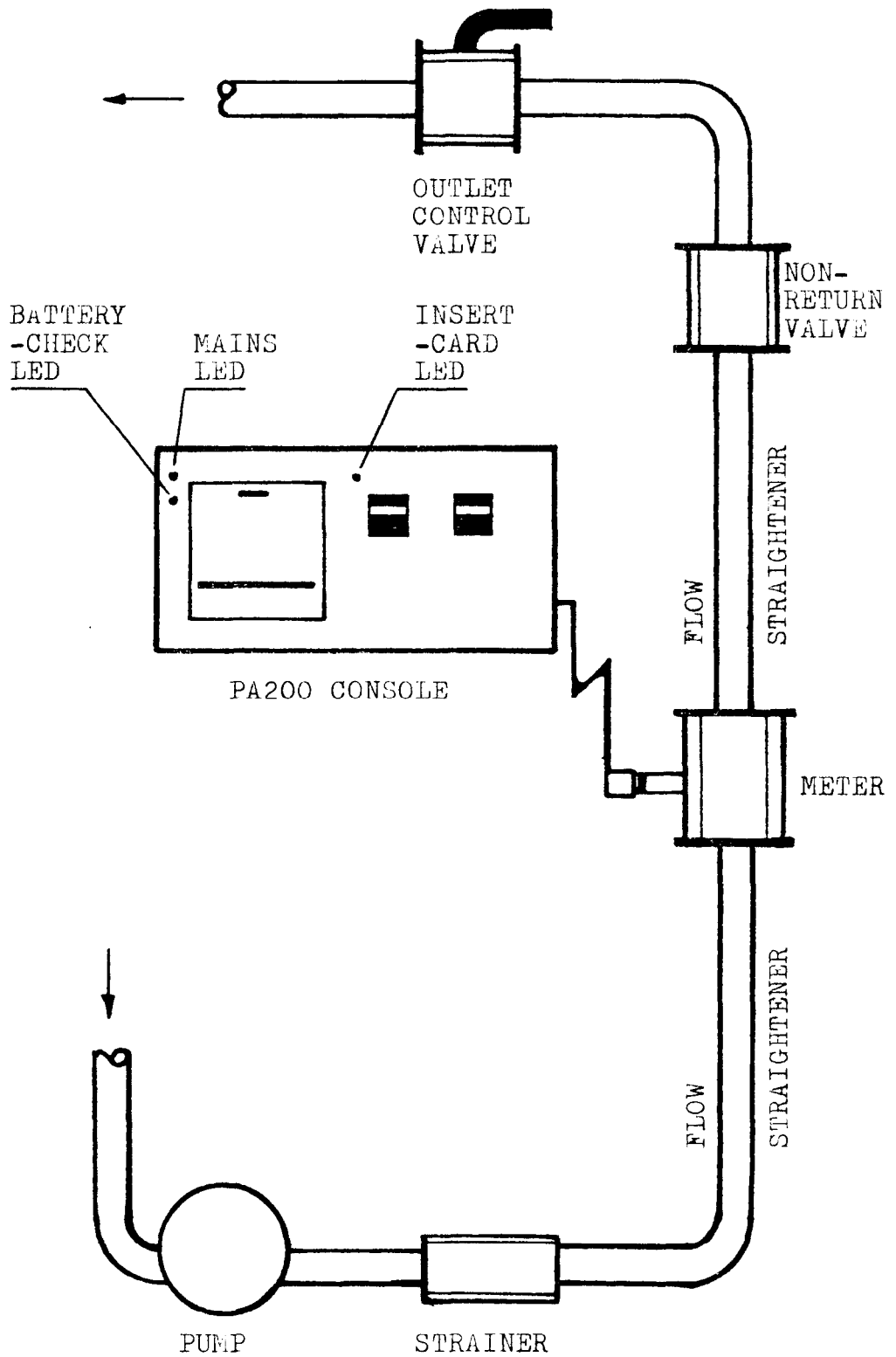
If the test delivery is less than ten times the minimum delivery, the reading error of the indicator or the rounding error of the ticket printer is eliminated by completing the delivery at a graduation.

3. For Provisional Variants

The following information shall be recorded for sending to the Commission:

- (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) Temperature of liquid entering the meter
- (g) Information from the Weights and Measures inspection as to the calibration results recorded in 2. above.

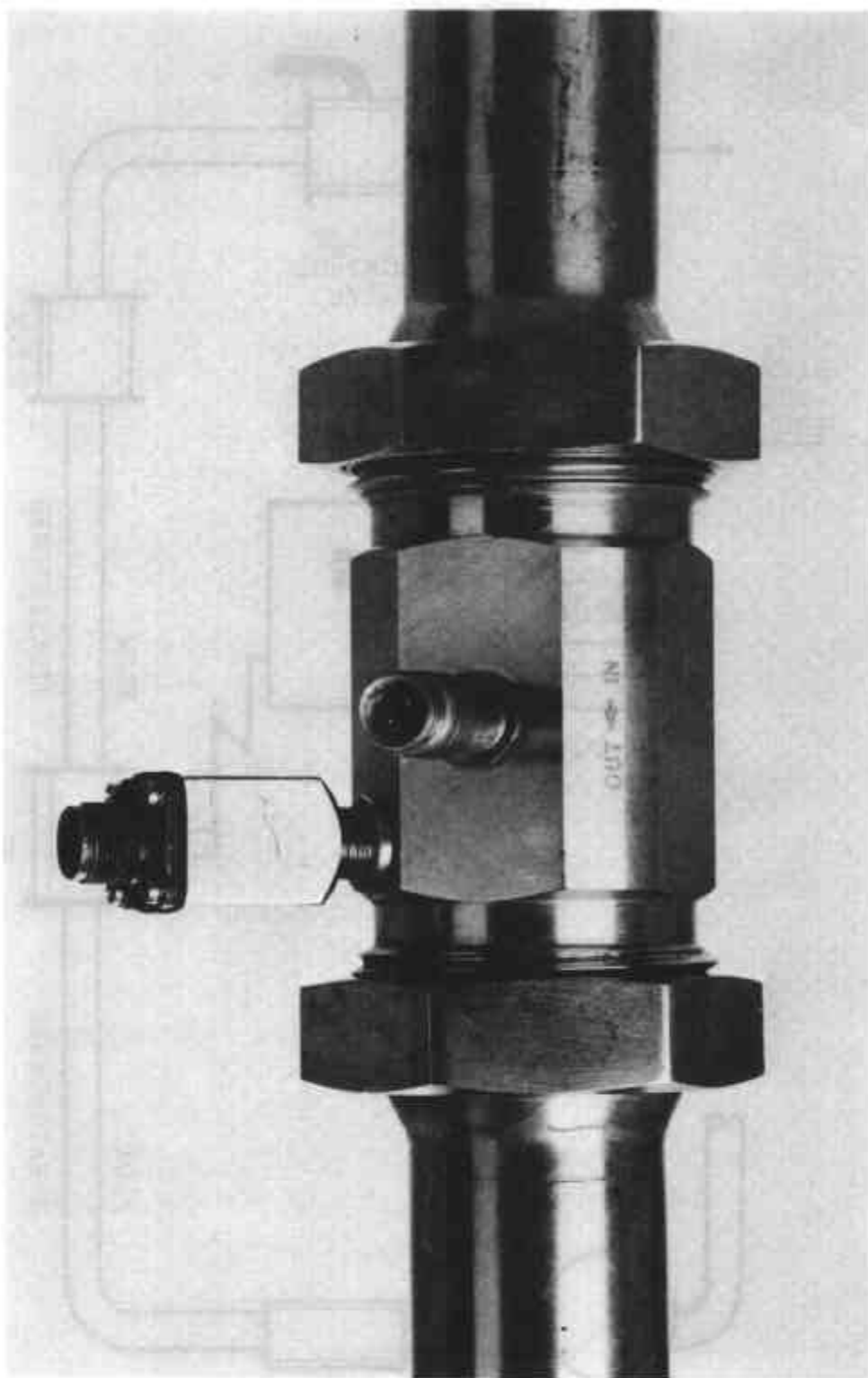
FIGURE 5/6E/6-1



Schematic Of Processautomatic Flowmeter System

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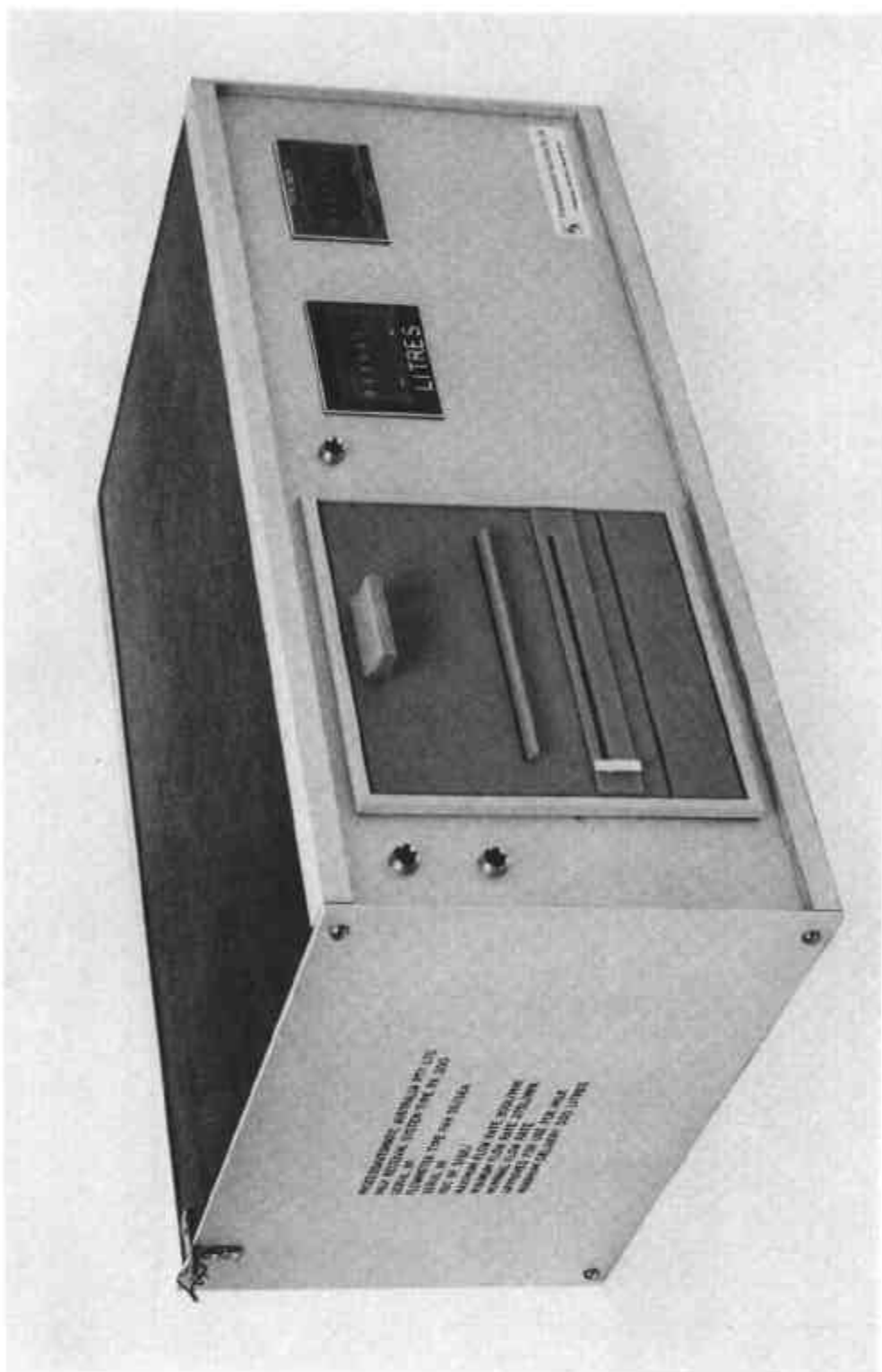
FIGURE 5/6E/6-2



Process Automatic Turbine Meter

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FIGURE 5/6E/6-3



Processautomatic Model PA200 Electronics Console