


CERTIFICATE OF APPROVAL No 5/6B/27

This is to certify that the patterns of the

A. O. Smith T7 (Pipeline) Flowmeter 

submitted by Wayne Pumps Australia Pty Ltd,
29 Anzac Highway,
Keswick, South Australia, 5035,

have been approved under the Weights and Measures (Patterns of Instruments) Regulations as being suitable for use for trade.

Date of Approval: 6 December 1974

The patterns are described in Technical Schedule No 5/6B/27, and in drawings and specifications lodged with the Commission.

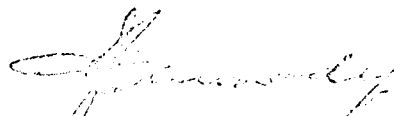
The approval is subject to review on or after 1 November 1979.

All instruments conforming to this approval shall be marked with the approval number "NSC No 5/6B/27".

Approval is granted on condition that:

1. The flow rate is limited to a maximum of 250 litres per minute.
2. The pump suction is operated under a positive liquid head.
3. The supply tank is of sufficient capacity to ensure the liquid in the tank does not fall to a level at which air could be drawn into the pump, or a device is fitted to prevent the level of the liquid falling to a level at which air could be drawn into the pump.
4. The liquids to be measured are limited to viscosities between 0,5 and 220 mm²/s only. Within the viscosity range of 0,5 and 10 mm²/s the specific liquid for which the instrument is calibrated is to be nominated on the instrument data plate. For liquids of viscosity above 10 mm²/s the instrument data plate is to be marked with the viscosity range for which the instrument has been calibrated.

Signed


Executive Officer

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6/12/74



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6B/27

Pattern: A. O. Smith T7 (Pipeline) Flowmeter

Submitter: Wayne Pumps Australia Pty Ltd,
29 Anzac Highway,
Keswick, South Australia, 5035.

Date of Approval: 6 December 1974

Conditions of Approval:

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4. The liquids to be measured are limited to viscosities between 0,5 and 220 mm²/s only. Within the viscosity range of 0,5 and 10 mm²/s the specific liquid for which the instrument is calibrated is nominated on the instrument data plate. For liquids of viscosity above 10 mm²/s the instrument data plate is marked with the viscosity range for which the instrument has been calibrated.
5. All instruments conforming to this approval shall be marked "NSC No 5/6B/27".

Description:

The pattern (see Figures 1, 2 and 3) is a flooded-suction pipeline flowmeter to measure liquid petroleum within a viscosity range of 0,5 to 220 mm²/s.

The flowmeter comprises the following:

1. Supply tank.

2. Pump mounted lower than the minimum height of the liquid in the supply tank. The supply pipe from the tank to the pump has a continuous fall to the pump.
3. Non-return valve in the pipe between the pump and the gas separator.
4. A. O. Smith T7 gas separator (see Figures 2 and 3) which is used only as a strainer.
5. A. O. Smith T7 meter (see Figures 2 and 3).
6. Veeder-Root 1624 zero-start indicator; the right-hand indicator wheel has 10 graduations numbered from 0 to 9 (see Figure 2).
7. A. O. Smith MP1 $\frac{1}{2}$ manually operated outlet-control valve with integral anti-drain valve (see Figure 2). Pipework downstream of the outlet-control valve must have a continuous fall to the delivery point so that it fully drains after each delivery; a vacuum breaker may be fitted to ensure complete drainage. No valves are fitted downstream of the outlet-control valve.
8. Marking — an instrument data plate sealed to the instrument is marked specifically with the product to be measured for products of viscosity up to 10 mm²/s and with a viscosity range for products of viscosity above 10 mm²/s; for example:
 - (a) "approved for petrol only";
 - (b) "approved for kerosene only";
 - (c) "approved for heating oil only";
 - (d) "approved for distillate only"; or
 - (e) "approved for liquid petroleum of viscosity 10 to 220 mm²/s only".
9. Sealing — the meter and indicator are sealed as illustrated in Figure 3.

The approval includes the following:

1. The flowmeter with a zero-start single-handle-reset Veeder-Root

7085 indicator and ticket printer (see Figure 4). The ticket printer has 1-litre increments and the indicator has 1-litre graduations; the right-hand indicator wheel has 10 graduations numbered from 0 to 9.

2. The flowmeter with an A. O. Smith 343-30 set-stop counter and A. O. Smith SP1 $\frac{1}{2}$ set-stop operated outlet-control valve with integral anti-drain valve (see Figure 5).

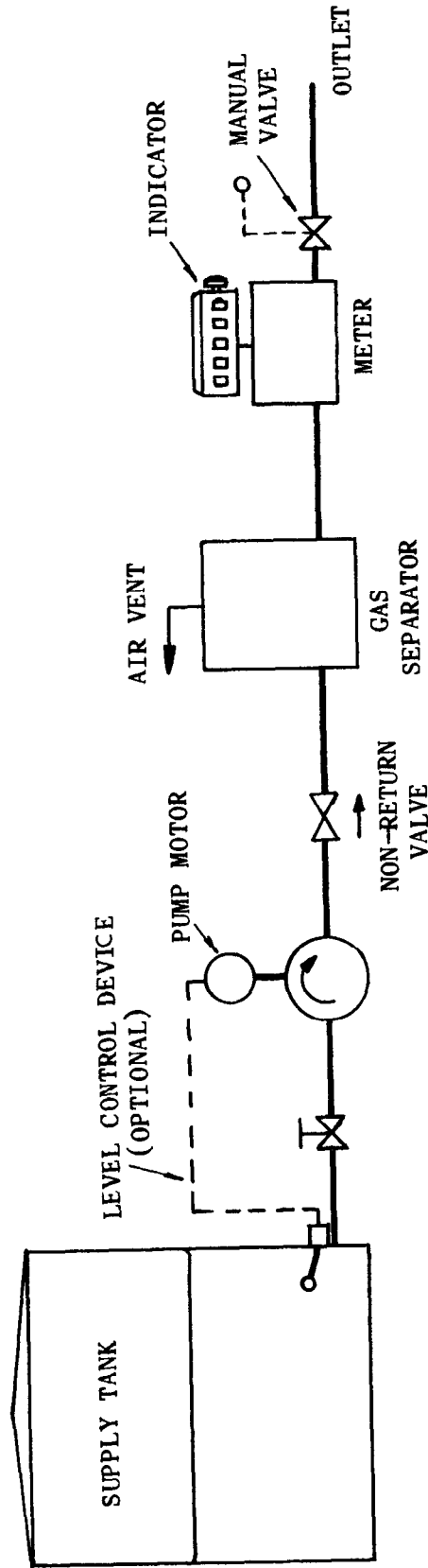
Special Tests:

1. The instrument should be tested with the liquid for which it will be used and which is marked on the instrument data plate.
2. If a device is fitted to prevent the level of the liquid in the supply tank falling to the level of the pump, at least one delivery should occur during which the device stops the delivery. It will be necessary to refill the supply tank to finish the delivery into the proving measure.
3. The non flow-dependent error is 1 litre if a ticket printer is fitted and 0,2 litre (1/5 graduation) if only an indicator is fitted.

When a ticket printer is fitted the minimum delivery for which the relative error from all sources would not exceed 1,5% is 85 litres.

Without a ticket printer the minimum delivery for which the relative error from all sources would not exceed 1,5% is 20 litres.

FIGURE 5/6B/27 - 1



T7 (Pipeline) Flowmeter

FIGURE 5/6B/27 - 2



T7 (Pipeline) Flowmeter

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FIGURE 5/6B/27 - 3



T7 (Pipeline) Flowmeter — Sealing

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FIGURE 5/6B/27 - 4



T7 (Pipeline) Flowmeter with Veeder-Root 7085
Ticket Printer and Indicator

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FIGURE 5/6B/27 - 5



T7 (Pipeline) Flowmeter with Set-stop Counter

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