CERTIFICATE OF APPROVAL No 5/6A/28 VARIATION No 1

This is to certify that the following modifications of the pattern of the

Wayne 760B (Blending) Driveway Flowmeter

approved in Certificate No 5/6A/28 dated 7 May 1973,

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: 26 September 1975

The approved modifications, described in Technical Schedule No 5/6A/28 - Variation No 1, and in drawings and specifications lodged with the Commission, provide for -

1. conversion to the metric system of measurement; and

2. a Veeder-Root 7525 computer replacing the Veeder-Root 1649 computer.

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

All instruments conforming to this approval shall be marked with the approval number "NSC No 5/6A/28".

Signed ecutive Officer



Weights and Measures (National Standards) Act 1960-1966

Weights and Measures (Patterns of Instruments) Regulations COMMONWEALTH OF AUSTRALIA

NATIONAL STANDARDS COMMISSION

Certificate of Approval

CERTIFICATE NUMBER 5/6A/28

This Certificate replaces Certificate No 5/6A/28 dated 29 March 1971. *

In respect of the pattern of

Wayne 760B Proportional Blending Driveway Flowmeter and Variants.

Submitted and manufactured by:

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

This is to certify that the pattern and variants of the instrument illustrated and described in this Certificate have been examined by the National Standards Commission under the provisions of the abovementioned Regulations and have been approved as being suitable for use for trade.

The pattern was approved on 18 July 1969 and further variants were approved on 4 August 1970.

Approval of the pattern and variants listed in Column 6 of Figure 1 was withdrawn on 4 August 1970.

* NOTE: Pages 3 to 9 and Figures 2 to 23 of the previous issue form part of the Certificate and must be retained.

7/5/73

Cont'd over

Certificate No 5/6A/28

The approval of variants listed in Column 7 of Figure 1 was extended by 50 instruments on 22 March 1971 and by a further 50 instruments on 2 May 1973 to a total of 245 instruments with serial numbers between 1001 1002 and 1489 1490 (see Footnote 3, Figure 1).

The pattern and variants are marked "NSC No 5/6A/28" and comply with the General Specifications for Measuring Instruments to be Used for Trade.

This Certificate comprises:

Pages 1 and 2 dated 7 May 1973. Pages 3 to 9 dated 10 August 1970. Figure 5/6A/28 - 1 dated 7 May 1973. Figures 5/6A/28 - 2 to 20 dated 22 July 1969. Figures 5/6A/28 - 21 to 23 dated 10 August 1970.

Date of issue 7 May 1973.

Signed

Thule & humpers

A person authorized by the Commission to sign Certificates under the abovementioned Regulations.

*DESCRIPTION OF PATTERN

The pattern (see Figure 21) is of a retail price-computing flowmeter known as the Wayne 760B Proportional Blending Dispensing Pump, dispensing either liquid-A (high octane rating) or liquid-B (low octane rating) or a blend in the ratios 3:1, 1:1, or 1:3, and comprising the components tabulated in Column 5 of Figure 1, housed in a sheet-metal cabinet and arranged as shown in Figures 2 and 3. Figure 14 illustrates the principle of the blend-control system.

The hydraulic diagram is illustrated in Figure 4, and the maximum flow rate is 13 gallons per minute and is achieved with a 1:1 blend ratio.

Each instrument is marked with two consecutive Serial Numbers in the form 1001-1002, 1003-1004, etc.

DESCRIPTION OF VARIANTS

The components listed in Columns 6 and 7 of Figure 1 make up variants each known as the Wayne 760B Proportional Blending Dispensing Pump, each variant having the same housing and component arrangement as in the pattern.

The hydraulic diagram and maximum flow rate of each variant is the same as the pattern (see Figure 4).

The variants in Column 6* of Figure 1 are fitted with a blend-delivered indicator and the various forms of sealing indicated.

The variants in Column 7 of Figure 1 are not fitted with a blend-delivered indicator and are sealed with a 1-hole cup-and-wire seal.

^{*} Approval withdrawn 4th August, 1970.

DESCRIPTION OF COMPONENTS

- Pump, positive displacement rotary pump, with integral gas separator - Wayne P9108, as described in Certificate No 5/6A/13.
- 2. Float chamber Wayne P9115, as described in Certificate No 5/6A/13.
- 3. Float chamber Wayne P9949, as described in Certificate No 5/6A/13.
- 4. Non-return valve with integral pressure relief valve Wayne P5687.
- 5. Meter Wayne P8013 2-piston radial, which is similar to the Wayne P6521 meter, as described in Certificate No 5/6A/13, but with the gearing changed so that the output shaft rotates at double the speed (see Figure 5).
- 6. Meter Wayne P9520 2-piston radial, which is similar to the Wayne P8765 meter, as described in Certificate No 5/6A/4, but with the gearing changed so that the output shaft rotates at double the speed (see Figure 18).
- *7. Meter sealing 3-hole lead-and-wire seal, as described in Certificate No 5/6A/13.
- 8. Meter sealing 1-hole lead-and-wire seal, as described in Certificate No 5/6A/13.
- 9. Meter sealing 1-hole cup-and-wire seal, as described in Certificate No 5/6A/4.
- 10. Blend-control valve Wayne P9499 (see Figures 6 and 7), containing two separate chambers through which the two liquids flow after leaving the meters. A shaft common to the two chambers operates two valves arranged such that as the flow of one liquid increases the flow of the other decreases.

* Approval withdrawn 4th August, 1970.

11. Computer - Wayne P9692 (see Figure 12), a Veeder-Root 1649 price-computing blend-control system, indicating the quantity delivered in 0.05 gallon increments and giving maximum indications of 99.95 gallons, \$99.99 total price and 99.9 cents unit price.

The system comprises two variators as described in Certificate No 5/6A/6, except the quantity drive gears have 13 teeth, driven by the two meters, which in turn drive a blend-control section and an indicator section. The blend-control section on the variator driven by the liquid-B meter contains the blend selector, the blend-selection cams, the blend-ratio gears, the blend-control differential gear, the blend-control lever, and interlocks. The indicator section on the variator driven by the liquid-A meter contains two sets of differential gears, one for quantity and one for price, price and quantity indicators, and the starting interlocks and resetting mechanism as in the Veeder-Root 1613 computer described in Certificate No 5/6A/6.

As illustrated in Figure 22, the quantity drives from the two variators are applied through bevel gears (1 and 2), one to each side of the quantity differential gear. The output drive from the cage (3) of the differential gear, being the sum of the two quantity inputs, drives the quantity indication drums (4 and 5). Similarly, the price drives (6 and 7) from the two variators are summed in a differential (8) and drive the price-indication drums (9 and 10).

The sum of the two quantity drives is also applied to one side (12) of the blend-control differential gear by gear (11). The other side (13) of the differential gear is driven by the output of the liquid-B meter (1) by shaft (14) through one of the five sets of blend-ratio gears (15). As the two drives to the differential rotate in opposite directions, the output from the cage (16) is the difference between the two inputs.

As the difference between the two inputs is proportional to the difference between the blend selected and the blend delivered, the output from the cage (16) is used to set the position of the blend-control valve through the blend-control lever (17). The

linkage between the blend-control lever and the blend-control valve is arranged so that the output of the blend-control differential corrects the flow through the two meters to obtain the selected **blend**.

The blend selector (18), by means of an interlocking cam and lever (19), directly moves the blend value to the 1:0 blend position or the 0:1 blend position, where a lever switches off the pump motor for the appropriate product, or by means of cams (20) selects one of five blend ratios by engaging the blend-ratio gears (15).

The blend-ratio gears are able to set the blends in the ratios 3:1, 2:1, 1:1, 1:2, and 1:3. The blend-selected indicator (21) rotates in synchronism with the blend selector. The blend selected is viewed through an aperture in the dial face.

The blend selector and starting handle (22) are interlocked by a finger and disc (23) to prevent the blend being changed after the starting handle is in the "on" position, and the starting handle being turned to the "on" position unless a blend is properly selected.

On the computer an external cam and spring-loaded finger allows only the 1:0, 3:1, 1:1, 1:3, and 0:1 blend ratios to be selected.

- 12. Blend selector on the side of the cabinet is a blend-selector lever marked with the ratios 1 : 0, 3 : 1, 1 : 1, 1 : 3, and 0: 1, and designated "parts of regular" and "parts of super".
- 13. Blend selector (alternative) on the side of the cabinet is a blend-selector lever marked with the ratios of the two liquids, and any appropriate designations for the two liquids, to be blended.
- 14. Blend-selected indicator viewed through an aperture in the dial face marked "selected blend". The blend-selected indicator is marked in contrasting colours and numbers similar

to the blend selector. The numbers are $\frac{1}{4}$ inch high.

- 15. Blend-selected indicator (alternative) viewed through an aperture in the dial face marked "selected blend", the blend-selected indicator is marked in contrasting colours and numbers similar to the blend selector. The numbers are similar in size to those of the quantity and price indicators.
- *16. Blend-delivered indicator comprising a disc with raised indicator driven by a pinned rod (see Figure 15) from the blend-control valve. The indicator is viewed through an aperture in the dial face, which is marked with the same designation and ratios of the liquids to be blended as on the blend selector.
- 17. Sight glass Wayne P9811, full flow (see Figure 8).
- Hose outlet Wayne P9810 (see Figure 9), in which the output of the meters is connected to the inner and outer hoses.
- 19. Hose consisting of two concentric hoses, the inner one of $\frac{1}{2}$ inch ID being 2 inches longer than the outer, which is 1 inch ID.
- 20. Nozzle Wayne P9809 manual hose nozzle (see Figures 10 and 11).
- Nozzle Wayne P9199 manual hose nozzle, as described in Certificate No 5/6A/13.
- 22. Nozzle Wayne P7775 automatic hose nozzle, as described in Certificate No 5/6A/4, but with an anti-drain valve unit fitted to the nozzle inlet (see Figures 19 and 20).
- 23. Nozzle OPW 1A or 1AM automatic hose nozzle, as described in Certificate No $5/6\Lambda/7$.
- 24. Nozzle STM 363 automatic hose nozzle, as described in Certificate No 5/6A/7.

^{*} Approval withdrawn 4th August, 1970.

- *25. Dial face on each side of the cabinet behind a glazed window is a white dial (see Figure 13) marked as follows:
 - (a) the selected blend;
 - (b) the price per gallon of the two liquids, being the prices at which the computer is calculating the total price;
 - (c) the quantity of liquid dispensed;
 - (d) the total price; and
 - (e) the blend-ratio delivered.
- 26. Dial face on each side of the cabinet behind a glazed window is a white dial (see Figure 23), marked as follows:
 - (a) the selected blend;
 - (b) the price per gallon of the two liquids, being the prices at which the computer is calculating the total price;
 - (c) the quantity of liquid dispensed; and
 - (d) the total price.
- 27. Nameplate marked "approved for petroleum $\leq 1 \text{ cSt}$ " and the instrument being approved for liquid petroleum of viscosity not more than 1 cSt.
- 28. Pump interlock:
 - (a) When starting the pump, the starting handle causes the reset pawl to engage in the reset cam before the motor is switched on; and
 - (b) when stopping the pump, the interlock, which prevents the motor from being restarted, is engaged and the motor is

* Approval withdrawn 4th August, 1970.

GENERAL NOTES

- 1. On the pattern the following test procedures should be applied:
 - (a) The accuracy of the volume delivered, the price computed, and the flow rate must be checked on every blend, as well as for the individual liquids.
 - (b) Check hose dilation in each unblended position and in the 1:1 blend position of the blend-selector knob.
 - (c) With the nozzle shut off, check that all quantity and price indicators are stationary when the starting handle is in the "on" position.
- The approval of the 3-hole lead-and-wire seal (component No
 7) was withdrawn after a re-examination of the pattern, requested pursuant to regulation 10 of the Weights and Measures (Patterns of Instruments) Regulations.
- 3. The approval of the blend-delivered indicator (component No 16) was withdrawn because, following field reports, it was found that the blend-delivered indicator can occasionally give a misleading indication immediately after closure of the hose nozzle.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6A/28

VARIATION No 1

Pattern: Wayne 760B (Blending) Driveway Flowmeter

<u>Submittor</u>: Wayne Pumps Australia Pty Ltd, 29 Anzac Highway, Keswick, South Australia, 5035.

Date of Approval of Variation: 26 September 1975

The modifications described in this Schedule apply to the patterns described in Certificate No 5/6A/28 dated 7 May 1973.

All instruments conforming to this approval shall be marked "NSC No 5/6A/28".

Description:

The approved modifications provide for:

- 1. The conversion of the Veeder-Root 1649 computer from the imperial to the metric system of measurement. The modifications comprise:
 - (a) the overgearing of the drive from the meter to the computer changed to provide an input to the computer of 4 revolutions per litre;
 - (b) the gear ratio (4 : 3) between the price spur gear in the variator and input gear of the counter section of the computer changed to 8 : 3 by the replacement of two drive gears (see Figure 24);
 - (c) the right-hand quantity-indicating wheel replaced by a quantity wheel with 10 graduations numbered 0 to 9; and
 - (d) the dial face marked "litres" and "cents per litre". A decimal marker is provided between the tenths and whole litre indicating wheels.

27/10/75

The computer* indicates in 0,1-litre increments, giving a maximum indication of 999,9 litres, \$99,99 total price and 99,9 cents unit price.

2. A Veeder-Root 7525 computer comprising a blend-control section, a counter section and two VR 101 variators (see Figures 24, 25 and 26); the blend-control and counter sections are illustrated in Figure 24.

The pinions on the variators are topped with pinned metal shields which prevent the segmented gears being disengaged from the pinions (see Figures 26 and 27). Metal guards attached to studs on the counter and blendcontrol sections prevent the price-posting wheels from being disengaged from the segmented price-posting gears (see Figure 28).

The computer* indicates in 0,1-litre increments, giving a maximum indication of 999,9 litres, \$99,99 total price and 99,9 cents unit price. The right-hand quantityindicating wheels are marked with ten graduations numbered 0 to 9.

^{*} Note: The maximum speed recommended by the manufacturer for the right-hand wheel of any computer should not be exceeded.



NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 5/6A/28

CHANGE No 1

The restriction on the number of

Wayne Blending Driveway Flowmeters Model 760B approved in Certificate No 5/6A/28 dated 7 May 1973

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

was removed by the Commission on 13 February 1975.

Signed

Executive Officer

20/2/75



NATIONAL STANDARDS COMMISSION

F6

NOTIFICATION OF CHANGE CERTIFICATE OF APPROVAL No 5/6A/28 CHANGE No 2

The approval of the

Wayne Blending Driveway Flowmeter Model 760B

approved in Certificate No 5/6A/28 dated 7 May 1973 and subsequent variations

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

is varied to allow delivery of only three grades of petrol — high octane, low octane and a blend in the ratio of 1 : 1 of high and low octane.

Signed

Executive Officer

FIGURE 5/6A/28 - 1

$\begin{array}{c c c c c c c c c c c c c c c c c c c $				4	5	6	7
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	1	2	з				
1Pump, Wayne P910818 JUL 69****2Float chamber, Wayne P911518 JUL 694 AUG 70E3Float chamber, Wayne P994918 JUL 69*AA4Non-return valve, Wayne P568718 JUL 69*AA5Meter, Wayne P952018 JUL 69*AA6Meter, Wayne P952018 JUL 691*B7Seal, 3-hole lead-and-wire seal4 AUG 702B8Seal, 1-hole cup-and-wire seal4 AUG 702B9Seal, 1-hole cup-and-wire seal4 AUG 702B10Blend-control valve, Wayne P949918 JUL 69**11Computer, Wayne P9620 (VR 1649)18 JUL 69**12Blend selector, other designations18 JUL 69**13Blend-selected indicator18 JUL 69**14Blend-selected indicator, large numbers4 AUG 70**15Blend-delivered indicator18 JUL 69**16Blend-gelevered indicator18 JUL 69**17Sight glass, Wayne P981018 JUL 69**18JUL 69*DD20Nozzle, Wayne P980918 JUL 69**21Nozzle, Wayne P980918 JUL 69DD22Nozzle, STM 36318 JUL 69DD23Nozzle, STM 36318 JUL 69D <td></td> <td>COMPONENTS</td> <td>DATE APPROVED</td> <td>FOOT- NOTES</td> <td>PATTERN</td> <td>VARL</td> <td>ANTS</td>		COMPONENTS	DATE APPROVED	FOOT- NOTES	PATTERN	VARL	ANTS
28 Pump interlock, 45 with 6 men and	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 177 18 19 20 20 21 22 24 24 25 26 27 22	Pump, Wayne P9108 Float chamber, Wayne P9115 Float chamber, Wayne P9949 Non-return valve, Wayne P5687 Meter, Wayne P8013 Meter, Wayne P9520 Seal, 3-hole lead-and-wire seal Seal, 1-hole cup-and-wire seal Seal, 1-hole cup-and-wire seal Blend-control valve, Wayne P9499 Computer, Wayne P9692 (VR 1649) Blend selector, "regular" "super" Blend selector, other designations Blend-selected indicator, ¼-inch numbers Blend-selected indicator, Iarge numbers Blend-delivered indicator Sight glass, Wayne P9810 Hose Nozzle, Wayne P9809 Nozzle, Wayne P9199 Nozzle, Wayne P9199 Nozzle, OPW 1A Nozzle, STM 363 Dial face, no blend-delivered indicator Nameplate, approved for petroleum ≦ 1 cSt Pump interlock, 45° with 3-inch bar	18 JUL 69 18 JUL 69	1 2 1 3	* * * * * * * * * * * *	* * A B B B * * C C * * * * D D D D * * *	* E * A A * * * C C * * * D D D D D D * *

- indicates required component *

- indicates alternative component, one of which is required

А - as for A B to E

FOOTNOTES

- approval withdrawn 4 August 1970 1
- applicable only to instruments Serial Nos 1001 to 1126 $\mathbf{2}$
- applicable only to instruments Serial Nos 1001 to 1490, the approval being extended 3
 - on 22 March 1971 to include Serial Nos 1291 to 1390 and on 2 May 1973 to include Serial Nos 1391 to 1490

Compatibility Table for Components Described in this Certificate

FIGURE 5/6A/28 - 2

Wayne 760B Blender - Front



Wayne 760B Blender - Rear

FIGURE 5/6A/28 - 4

1



Wayne 760B Blender, Hydraulic Diagram





Wayne P9499 Blend Control Valve



Wayne P9499 Blend Control Valve

/



Wayne P9811 Sight Glasses



Wayne P9810 Hose Outlet





Wayne P9809 Hose Nozzle





A CONTRACT OF A BLEND DELIVERED LIUDIA Wayne 760B Blender - Dial Face FIGURE 5/6A/28 - 13 s = 0.0 0 0.0 SALE CONTS. GALLONS SUPER TOTAL 6 STATES AUTONO WAYNE STATES ALTER REGULAR 22/7/69



Wayne 760B Blend Control System

22/7/69



Blend Delivered Indicator and Coupling to Blend Control System and Blend Control Valve

FIGURE 5/6A/28 - 16



Wayne 760B Blender - Nozzle Hang-up Side

FIGURE 5/6A/28 - 17



21/2 in MAX

Wayne 760B Blender Starting Handle, Interlock Position











FIGURE 5/6A/28 - 22







27/10/75



FIGURE 5/6A/28 - 26



27/10/75

