Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 5/6S/12

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

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

Sprint Enterprises Model Sentry MP-4 Remote-storage Spirit Dispenser

submitted by Bevcon Solutions
11/10 Victoria Avenue
Castle Hill NSW 2154

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.

This approval has been granted with reference to document NMI M2, *Pattern Approval Specifications for Beverage Dispensers,* dated June 2004.

This approval becomes subject to review on 1/05/15, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	10/06/04
1	Pattern amended (provisional approval cancelled) – cancellation of interim certificate issued	6/04/05
2	Pattern & variants 1 to 3 approved – interim certificate issued	6/04/05
3	Pattern & variants 1 to 3 approved – certificate issued	15/07/05
4	Variant 4 approved – interim certificate issued	17/09/07
5	Variant 4 approved – certificate issued	19/09/07
6	Variant 5 approved – certificate issued	15/02/08
7	Variant 6 approved – interim certificate issued	13/08/08
8	Variant 6 approved – pattern amended (Field of Operation, etc. and Test Procedure) – certificate issued	19/08/08
9	Variant 7 approved – pattern reviewed and amended (Field of Operation and Test Procedure) – certificate issued	21/01/11
10	Pattern & variants 1 to 7 updated – variants 8 & 9 approved – certificate issued	22/11/13

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI (or NSC) 5/6S/12' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NSC P5/6S/12' may be re-marked 'NMI (or NSC 5/6S/12' but 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 National Measurement Institute (NMI) 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 document NMI P 106.

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

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

Dr A Rawlinson

TECHNICAL SCHEDULE No 5/6S/12

1. Description of Pattern **provisionally approved on 10/06/04**
approved on 6/04/05

A Sprint Enterprises model Sentry MP-4 remote-storage spirit dispenser (Figure 1) approved for dispensing certain spirits. The instrument is designed to dispense a quantity of 30 mL per delivery and it operates with version PVB V3, Pour V4 software.

1.1 Field of Operation

The field of operation of the measuring system is determined by the following characteristics:

- Approved spirits are brandy (including cognac and armagnac), gin, rum, vodka or whisky (whiskey)
- Operating air temperature range 5°C to 40°C
- Mains voltage range 204 V to 264V
- Operating pressure range 100 kPa to 280 kPa

1.2 System Description

The system (Figures 1 to 3) consists of the following:

(i) A pressurised regulated gas supply, that provides the required pressure to the bulk spirit supply tanks.

(ii) Each bulk supply tank is fitted with a low-level cut-off switch, approximately 100 to 150 mm from the bottom of the tank.

(iii) The pressurised spirit is supplied to a solenoid valve located in the solenoid valve unit (Figure 2).

(iv) Each solenoid valve is activated using the handheld dispensing gun with up to 12 buttons to select the spirit to be dispensed (Figure 2).

(v) A model TR-5 (also known as a model Trish) low tank reserves controller (Figure 2) with an LCD indicator unit that indicates when the spirit level in the tank is low; the controller unit shuts off the system when the spirit level is low.

(vi) A model Y-12 (also known as a model Yvonne) station control box (Figure 3) obtains the information from the TR-5 low reserve controller, which then conveys it to the solenoid control box and to purchasers' display.

(vii) A liquid crystal display indicator (Figure 2) located in a position clearly visible to the purchaser. The indicator shows the pour size, the type of spirit being dispensed and the units of measurement; the indicator has 4 LED's on top of the indicator indicating the pour size to the operator.

(viii) The reserves controller is fitted with a computer connector (Figure 3) which allows the transfer of information to a bar management system.

(ix) The solenoid control box operates with a voltage of 16 – 18 V AC, while the Y-12 station control box and the TR-5 low reserves controller operate with a voltage of 12V DC. The system is supplied with the suitable power transformers.

1.3 Operation

A prescribed quantity of 30 mL of spirit is delivered when a button on the handheld dispensing gun is pressed. A delivery once started cannot be stopped by the operator and all buttons are rendered inoperative throughout this cycle. A further delivery cannot be started until the timing electronics are reset.

At the commencement of the delivery cycle, which is initiated by pressing a button on the dispensing gun, a solenoid valve is opened allowing pressurised spirit to be dispensed. The solenoid valve is maintained open for a predetermined time corresponding to the prescribed quantity to be delivered.

1.4 Descriptive Markings and Notices

Instruments are marked with the following, together in a prominent position:

Manufacturer's name or mark	.....
Serial number	.....
Pattern approval number	NMI (or NSC) 5/6S/12
Model designation	.....

The purchasers' indicator displays the pour size, type of spirit being dispensed and the units of measurement.

1.5 Sealing Provision

The solenoid valve unit and calibration key-lock, and the inline filters relief valve (where fitted) are sealed with destructible tape; the secondary pressure regulator at the base station is sealed after calibration.

1.6 Verification Provision

Provision is made for the application of a verification mark.

2. Description of Variant 1 approved on 6/04/05

With a Flowjet model G5600 or equivalent (*) pressure-operated pump (Figure 3) for use with non-pressurised bulk spirit supply tanks. A typical pumping system is shown in Figure 4.

(*) "Equivalent" is defined to mean other proprietary equipment of the same or better specifications requiring no changes to software for satisfactory operation of the complete system.

3. Description of Variant 2 approved on 6/04/05

With any or all of the buttons on the dispensing gun programmed to dispense 10 mL, 15 mL and 60 mL deliveries.

4. Description of Variant 3 approved on 6/04/05

With a dispensing tower (Figure 3) incorporating the same electronics as the handheld dispenser it replaces.

5. Description of Variant 4 approved on 19/09/07

With a Sprint Enterprises model Sentinel dispensing tower (Figure 5) incorporating the same electronics as the handheld dispenser it replaces. Each product spout is positioned in a line under heavy duty operating switches.

6. Description of Variant 5 approved on 15/02/08

With modified control boards to eliminate the station control card (shown as item 12 in Figures 1 and 4) and locate the modified boards in the solenoid control box.

A diagram of a typical system modified as described above is shown in Figure 6, in this case a pumping (non-pressurised) system.

7. Description of Variant 6 approved on 19/08/08

With a dispensing tower as described in Variant 3 but now incorporating the purchaser's indicator (Figure 7).

This configuration is approved to dispense 15 mL and 30 mL quantities only.

8. Description of Variant 7 approved on 21/01/11

With a dispensing tower as described in Variant 6 but now incorporating an alternative LCD graphical colour purchaser's indicator (Figure 8).

This configuration is approved to dispense 15 mL and 30 mL quantities only.

9. Description of Variant 8 approved on 22/11/13

With a model Tee Seven dispensing tower (Figure 9) is similar to the tower described in variant 3 however is it has cosmetic changes.

This configuration is approved to dispense 15 mL and 30 mL quantities only.

10. Description of Variant 9 approved on 22/11/13

With 2 solenoid valve unit printed circuit boards placed in one control box (Figure 10). The control box is described in clause 1.2 (ix).

TEST PROCEDURE No 5/6S/12

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

Tests

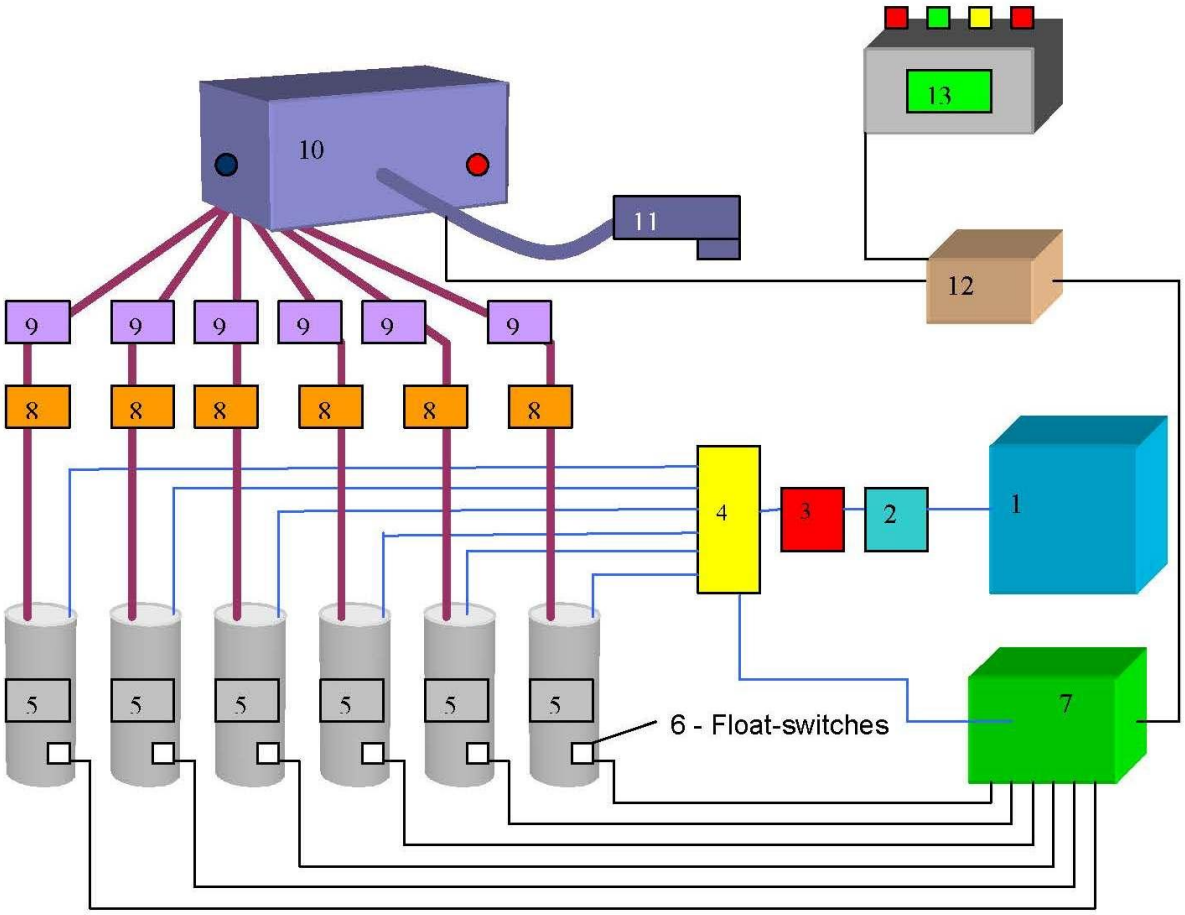
1. Low-level Cut-out Test

At the TR-5 low tank reserves controller, disconnect a supply tank and check that a delivery is not possible from that particular supply tank and that this is being indicated on the TR-5 low tank reserves controller's LCD display and the purchaser's indicator display.

2. Pressure Test

Reduce pressure to pumps or vessels by bleeding air from the secondary air pressure regulator so as to reduce pressure by about 15 kPa from the current setting; the system should no longer be able to make deliveries. Restore pressure to the original setting and the system should be able to make deliveries again.

FIGURE 5/6S/12 – 1



Legend

1. Air compressor/nitrogen supply
2. Filter/water separator
3. Secondary air pressure regulator
4. 6-way air distributor with optional shut-off valves
5. Pressurised steel canisters with optional shut-off valves
6. Float switches
7. TR-5 ('Trish') reserves controller
8. In-line filters
9. In line shut off valves (at bar)
10. Solenoid valve box
11. Gun head
12. Y-12 ('Yvonne') station control card
13. Customer display with portion size indicator lights

Sprint Enterprises Model Sentry MP-4 Remote-storage Spirit Dispenser – Pressurised System (The Pattern)

FIGURE 5/6S/12 – 2

Purchasers' Display

Dispensing Gun

Model TR-5 Reserves Controller

Solenoid Valve Unit

Sprint Enterprises Model Sentry MP-4 – Some Major Components

FIGURE 5/6S/12 – 3

Model Y-12 Station Control Box

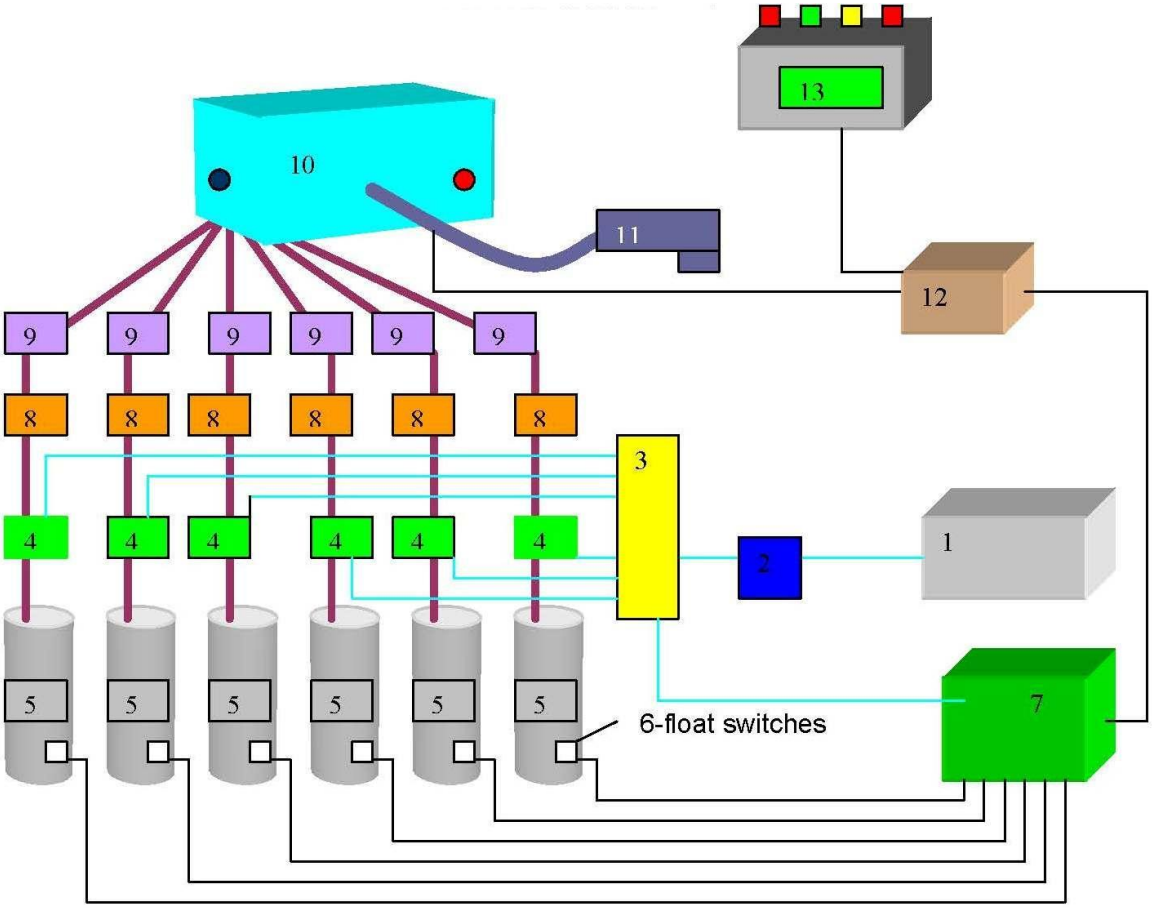
Showing Tapping Point Connection

Flojet Model G5600 Pump

Dispensing Tower

Sprint Enterprises Model Sentry MP-4 – Some Major Components

FIGURE 5/6S/12 – 4



Legend: Base Station Components

1. Air compressor/CO^2 supply
2. Secondary air pressure regulator
3. 6-way air distributor with optional shut-off valves
4. Gas-operated positive displacement pumps
5. Plastic reserve containers
6. Float switches
7. TR-5 ('Trish') reserves controller
8. In-line filters

Legend: Station Kit Components

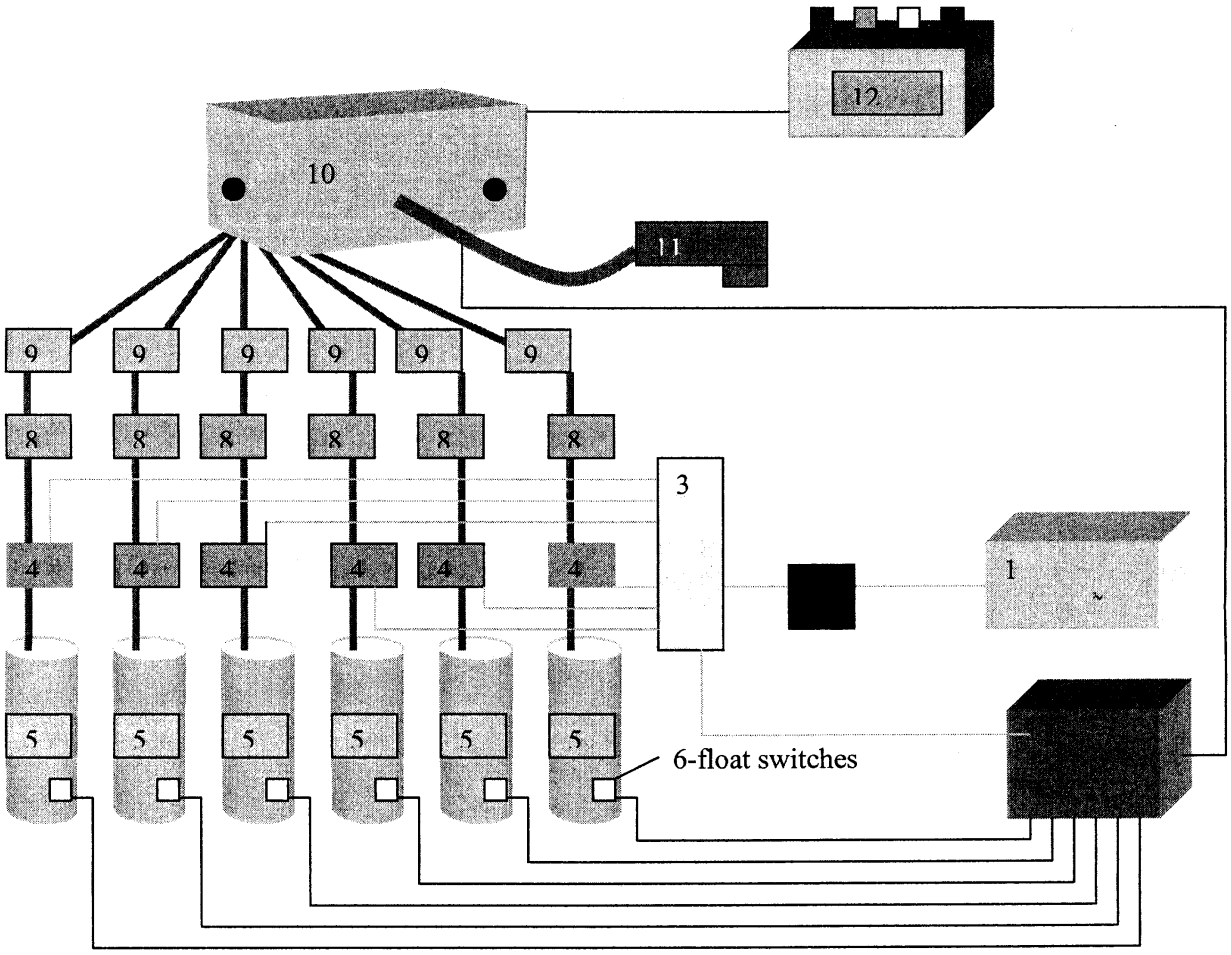
9. Shut-off valves (at bar) – optional but recommended for service purposes
10. Solenoid valve box
11. Gun head
12. Y-12 ('Yvonne') station control card
13. Customer display with portion size indicator lights

Sprint Enterprises Model Sentry MP-4 Remote-storage Spirit Dispenser – Pumping System (Variant 1)

FIGURE 5/6S/12 – 5

Sprint Enterprises Model Sentinel Dispensing Tower (Variant 4)

FIGURE 5/6S/12 – 6



Legend: Base Station Components

1. Air Compressor/co2 supply
2. Secondary air pressure regulator (lock-out style)
3. 6-way air distributor with optional shut-off valves
4. Gas operated positive displacement pumps
5. Plastic Reserve containers
6. Float switches (1 per container)
7. 'Trish' Low tank reserves controller; connected to horizontal float switch mounted near base of reserve containers; air/gas supply connection to pressure sensor
8. In-line filters

Legend: Station Kit Components

9. Shut-off valves (at Bar) – optional but recommended for service purposes
10. Solenoid Valve Box – also contains 'Cassidy' Valve Control Card; calibration lock on side; power lock on opposite side; power indicator light on front
11. Gun Head
12. Customer Display with portion size indicator lights

Sprint Enterprises Model Sentry MP-4 Spirit Dispenser – Pumping System (Variant 5)

FIGURE 5/6S/12 – 7

With a Dispensing Tower Incorporating The Purchaser's Indicator (Variant 6)

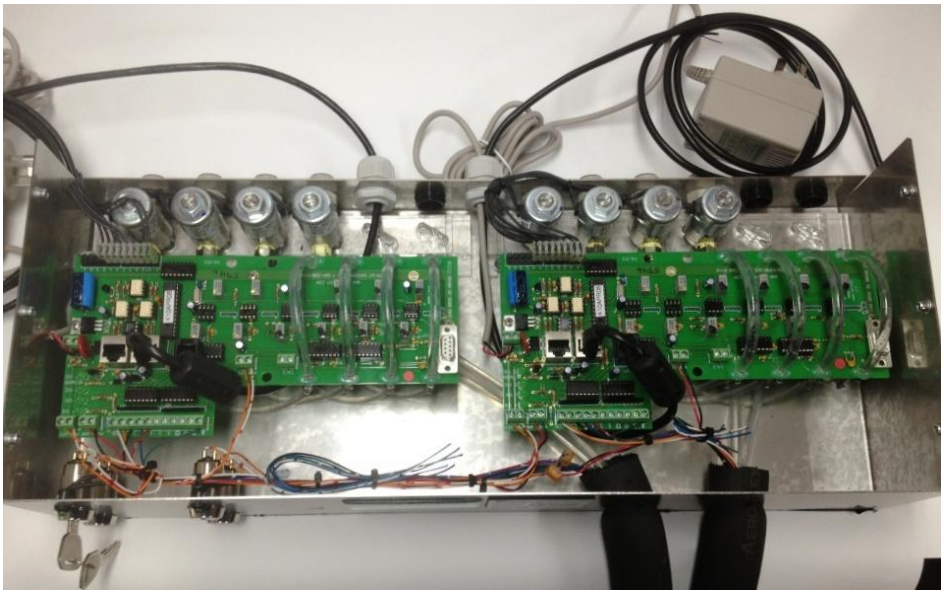
FIGURE 5/6S/12 – 8

With a Dispensing Tower
Incorporating A Typical Alternative Purchaser's Indicator (Variant 7)

FIGURE 5/6S/12 – 9

A Model Tee Seven Dispensing Tower – Variant 8

FIGURE 5/6S/12 – 10



With 2 Solenoid Valve Unit Printed Circuit Boards
Placed In One Control Box – Variant 9

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