



Australian Government

National Measurement
Institute

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 5/6S/15

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.

iPour Model BMS-1 Remote-storage Spirit Dispenser

submitted by iPour Pty Ltd
 43 Duntroon Avenue
 Roseville NSW 2069

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use as a legal measuring instrument 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 1/12/13, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 & 2 approved – interim certificate issued	25/11/08
1	Variant 3 provisionally approved – interim certificate issued	10/07/09
2	Pattern & variants 1 & 2 approved – certificate issued	21/07/09
3	Variants 3 & 4 approved – interim certificate issued	2/12/09
4	Variants 3 & 4 approved – certificate issued	15/01/10
5	Variants 5 & 6 provisionally approved – interim certificate issued	22/06/12
6	Variants 5 & 6 provisional approved amended (more instruments) – interim certificate issued	26/06/12
7	Pattern & variants 1 to 4 updated – variants 5 & 6 approved – certificate issued	7/02/13

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 5/6S/15' 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 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*.

A handwritten signature in black ink, appearing to read 'Dr A Rawlinson', with a horizontal line underneath.

Dr A Rawlinson

TECHNICAL SCHEDULE No 5/6S/15

1. Description of Pattern

approved on 25/11/08

The iPour model BMS-1 remote-storage spirit (liquor) dispenser approved to deliver brandy (including cognac and armagnac), gin, rum, vodka or whisky (whiskey) in quantities of either 15 or 30 mL. The pattern operates with iPour Bespoke version 1.x.x software.

1.1 Field of Operation

The following defines the field of operation of the measuring system:

- Ambient temperature range 5°C to 40°C
- Mains voltage range 204 to 264 V AC
- Pump operating pressure range 100 to 550 kPa
- Designed to dispense a quantity of 15 or 30 mL

1.2 System Description

The system (Figure 1a) consists of the following:

- (a) An iPour model TWR-1 dispensing tower (Figure 1b) comprising:
 - A TFT liquid crystal customer display screen for displaying the type of spirit and quantity dispensed. The screen is also used to display error messages and the software version number and may be used to display other information when the dispensing tower is idle; and
 - An operators' keypad for selecting any one of up to eight spirits to be dispensed by pressing the corresponding numbered button. By default 30 mL is dispensed unless the half-pour button is selected for a 15 mL delivery. Adjacent to each dispensing button is an LED which flashes when the liquid low-level sensor is activated.
- (b) An iPour model SC-1 system controller (Figure 2a) which:
 - Controls the operation for dispensing the selected quantity. It also has a facility to perform calibrations via a computer, using iPour Bespoke version 1.x.x software. The last two digits of the software version number may vary to allow for non-metrological software changes that relate to site specific configuration;
 - Has a video interface module for driving the customer display screen;
 - Has a regulated power supply module to provide the required voltage for various components; and
 - May be fitted with external computer connectors (interfaces) which may allow the transfer of information to POS and bar management systems.
- (c) An iPour model FS-1 turbine flowmeter (flow sensor – Figure 2b) with digital signal conditioning for providing a pulse output signal proportional to the volume throughput. The flowmeter pulse output signal is interfaced to the system controller for processing. Up to eight flowmeters may be installed for each dispensing tower.

- (d) A Parker model SS303 solenoid-operated valve connected downstream of the flowmeter. The solenoid valve is interfaced to the system controller for starting and stopping the delivery of the spirit.
- (e) A FloJet model 3000 pump or any other compatible pneumatically-operated pump with sufficient throughput capacity to supply the spirit through each flowmeter.
- (f) Two ANZ Controls model ANZ0140/0141 pressure sensors or any other compatible pressure sensors set to maintain the line pressure for optimum performance of the flowmeter.
- (g) An iPour model LLC-1 low-liquid level sensor or any other compatible float-type liquid level detector may be used that provides an open-circuit condition when the spirit in the supply tank reaches low level. The low level cut-off is defined by installing the sensor in each supply tank approximately 40 mm above the outlet port.
- (h) An in-line filter/strainer is fitted to the outlet port of the supply tank.

1.3 Checking Facility

- (a) Reservoir low level sensor

When the sensor is activated, the system controller prevents the delivery of the respective spirit and the LED adjacent to the corresponding spirit dispensing button flashes until the spirit is replenished above the low level cut-off point.

- (b) Low/High line pressure

When the system detects that the pump pressure is lower or higher than the field commissioned setting, the BMS-1 will prevent deliveries and will display the following error messages if a dispense is attempted:

System Malfunction Error 1004 - Low Pressure; or

System Malfunction Error 1005 - High Pressure

The system will prevent deliveries until the line pressure is restored to the field commissioned range.

1.4 Operation

The dispensing of spirit is initiated by pressing a button on the keypad on the dispensing tower. When the customer requests a particular beverage, the details of the order is indicated on the LCD customer screen fitted to the dispensing tower, which displays the type of beverage and the quantity ordered.

Once the delivery has been initiated, the solenoid valve for the selected beverage opens and the delivery takes place. The delivery cannot be interrupted and no other delivery is possible until the beverage has been delivered.

1.5 Verification Provision

Provision is made for the application of a verification mark.

1.6 Markings and Notices

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

Manufacturer's mark or name written in full
Model designation
Serial number of the instrument
Pattern approval mark for the instrument	NMI 5/6S/15
Year of manufacture

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

1.7 Sealing Provision

Provision is made for access to the calibration adjustments (via the system controller) to be sealed by means of destructible labels in a way that any movement will deface the seals, or by the use of tags which cannot be removed without defacing the tag.

1.8 Software Version Checking

The operating software version number can be checked by pressing the half-pour button on the dispensing tower for approximately seven seconds. The software version number will be displayed on the LCD customer screen.

2. Description of Variant 1 **approved on 25/11/08**

With the keypad programmed to deliver 15 mL by default and then a 30 mL delivery may be initiated by pressing the pour size button.

3. Description of Variant 2 **approved on 25/11/08**

With more than one of the dispensing towers and hardware described for the pattern connected to a single bulk supply tank with a low-level cut-off device, an in-line filter and a pump used to supply the same spirit to all dispensing towers. The dispensing towers are configured such that no simultaneous dispensing occurs for the same spirit line.

4. Description of Variant 3 **provisionally approved on 10/07/09** **approved 2/12/09**

With a iPour model FM-2 turbine flowmeter (flow sensor – Figure 3a) instead of the iPour model FM-1 turbine flowmeter described for the pattern.

5. Description of Variant 4 **approved on 15/01/10**

With a radio frequency identification (RFID) receiver (Figure 3b) installed in the model TWR-1 dispensing tower. The operator presents an RFID tag which authorises the selection keypad and initiates a delivery.

6. Description of Variant 5 **provisionally approved on 22/06/12** **approved 7/02/13**

For use with a hand-held multi-outlet dispenser gun (Figure 4).

7. Description of Variant 6

**provisionally approved on 22/06/12
approved 7/02/13**

Approved to dispense Southern Comfort ®.

TEST PROCEDURE No 5/6S/15

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

Maximum Permissible Errors

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

Tests

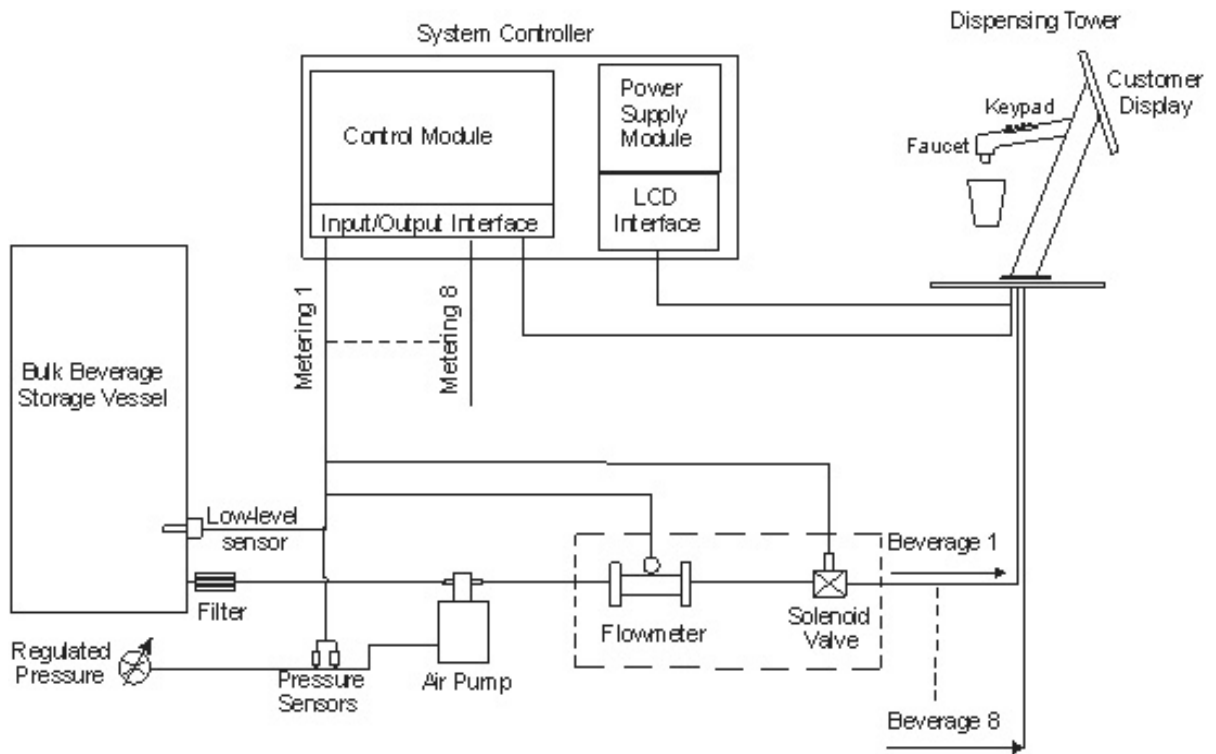
1. Low Pressure Test

- (i) Record the nominal pressure by reading the gauges on the regulator.
- (ii) Reduce the pressure in increments of approximately 100 kpa and make a delivery – delivery must be within the maximum permissible error.
- (iii) Continue performing step 2 until the message "Low pressure detected-Error 1004" is displayed by the LCD. The system should not be operational at this stage.
- (iv) Return the pressure back to nominal and make deliveries noting that the deliveries are within the maximum permissible errors.

2. Low-level Cut-out Test

- (i) Empty the bulk supply (or simulate a low supply) until the level sensor is exposed.
- (ii) Slowly continue to empty the supply until the respective LED adjacent to the corresponding spirit dispensing button starts to flash – the system will become inoperative.
- (iii) Replenish the bulk supply. Ensure that the LED stops flashing and perform a delivery which should be within the maximum permissible error.

FIGURE 5/6S/15 – 1



(a) iPour Model BMS-1 Remote-storage Spirit Dispenser



(b) iPour Model TWR-1 Dispensing Tower

FIGURE 5/6S/15 – 2



(a) iPour Model SC-1 System Controller



(b) iPour Model FS-1 Turbine Flowmeter

FIGURE 5/6S/15 – 3



(a) iPour Model FS-2 Turbine Flowmeter (Variant 3)



(a) iPour Model FS-2 Turbine Flowmeter (Variant 3)

FIGURE 5/6S/15 – 4



Hand-held Multi-outlet Dispenser Gun

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