Pursuant to section 12 of the Weights and Measures Act 1985

Certificate No 3115

Issued by:

NMO

In accordance with the provisions of section 12 of the Weights and Measures Act 1985, the Secretary of State for Business, Energy and Industrial Strategy has issued this UK national type-approval certificate to:

Redl GmbH
Aumuehlgasse 10,
2020 Hollabrunn,
Austria

And hereby certifies as suitable for use for trade the following pattern of an intoxicating liquor measuring instrument, in respect of a system for dispensing:

beer or cider in fixed quantities of: one third pint, half pint, two thirds pint or one pint;

wine in fixed quantities of: 125ml and 175ml.

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

Under the provisions of section 12(5) of the said Act, this certificate is subject to the conditions described in the descriptive annex.

Note: This certificate relates to the suitability of the equipment for use for trade only in respect of its metrological characteristics. It does not constitute or imply any guarantee as to the safety of the equipment in use for trade or otherwise.

Issue Date: 04 April 2019
Valid Until: 03 April 2029

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For and on behalf of the Head of Technical Services

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NMO is part of the Office for Product Safety and Standards within the Department for Business, Energy & Industrial Strategy

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CERTIFICATION NO ####

Descriptive Annex

1 INTRODUCTION

This liquid measuring instrument is designated the Table Tap Go (TTG)., and is for use in dispensing beer, cider or stout in measured nominal quantities of ⅓ pint, ½ pint, ⅔ pint and 1 pint , or for dispensing wine in fixed quantities of 125ml and 175ml.

The required volume is selected using a Liquid Crystal Display(LCD) touch panel interface, typically referred to as a Customer Screen or Table Tap Go (TTG). A pre-programmed Radio-frequency identification (RFID) card is used to authorise a dispense. A dispense is initiated by pulling a tap lever forward.

Communication of information is passed between the TTG and the control software, located on a computer within the Local Area Network (LAN), via a RJ45 port and Cat5e cable.

The TTG may have up to 4 dispense control points, with each dispense control point controlled by a dedicated turbine flow meter type Titan 300-010, and an electromechanically operated valve (solenoid valve). Satisfactory dispensing requires that the head pressures and liquid temperatures are within the ranges suitable for each product.

This approval certificate does not cover this instrument for use as a continuous flow monitoring system or any other type of “free flow” measurement mode.

The instrument may be used to dispense non-prescribed beverages

For more detailed information about the system, refer to the Pour My Beer installation guides and user manuals. The manual may describe other management and user features which are not legally relevant, see Figure 21 as an example.

2 CONSTRUCTION

2.1 General

A typical self-serving dispensing system consists of the TTG, an RFID card reader and the dispense tap(s).

All product and gas lines use standard, brewery approved, piping that may range in diameter from ½ ” to $^{3}/_{16}$”, or metric equivalents.

2.1.1 The stout tap and wine tap pipe connection size from the FOB through the flow meter and solenoid switch to the tap is typically $^{3}/_{16}$”. The lager tap pipe connection size from the FOB through the flow meter and solenoid switch to the tap is typically $^{5}/_{16}$”.

2.2.2 Any pipe re-fittings using different diameters from the initial installation verification may require a re-calibration and re-verification.

2.2 Mechanical

Each dispense tap is connected to a Foam on Beer (FOB) detector and if required an electrical pump. These are located as close to the keg or wine box as possible. The FOB detector on line for dispensing wine is used for the detection of an empty winebox only. However, this could be used for detection of foam when dispensing a non-prescribed gaseous beverage. The flow meter and solenoid valve are located as close to the manually operated lever pull tap as possible. A check valve may also be fitted after the solenoid valve, see figure 1.

The system may include an optional in line flow restriction device (Figure 2) to fine-tune the speed of the flow prior to, or during, on-site verification for the user to be able to pour a consistent beverage and will be related to the specific product configured at set-up. The in line flow restriction device is secured at completion of the verification such that it cannot be accessed by the user without damaging/breaking the sealing/securing (see section 5.7). There are no additional flow control devices present or accessible to the user.

The gas supply cylinder will be connected to a pressure indicator/regulator.
The system may be fitted with a (standard, commercially available) cooling system which is located immediately after the FOB detector. All product pipes after the cooling system will be thermally insulated.

2.3 Electrical

The TTG is supplied by a 24V DC power supply unit (PSU) connected to a standard, commercially available Uninterrupted Power Supply (UPS), which is fed from a 230V AC mains supply. The TTG supplies power to the RFID readers, flow meter, solenoid valve and FOB detector sensor. If a pump is fitted this will be supplied with a 12V DC PSU. The server connection hub is supplied by a 5V DC supply.

2.4 Electronics

The TTG contains an LCD display panel with touch function, custom designed circuitry boards and acts as a signal control hub for up to four flow meters, four solenoid valves, four FOB Detectors and the RFID card reader. The flow meter signal cable is less than 3 m in length.

The flow meter, a Titan 300-010, and the solenoid valve, which is a commercially available products, are connected to the TTG using custom 2 or 3-pole connectors.

The network connectivity parts are commercially available items and are located in a secure remote location with the back office server, see section 2.7.9.

2.5 Interlocks

The following interlocks will prevent the system from initiating a dispense if the:

- gas pressure has deviated away from a pre-set threshold by more than 10% upon completion of the preceding dispense.
- FOB detector has detected that the keg or wine box * is empty.
- RFID card not seated, or incorrectly seated on reader.

- FOB detector not connected to the TTG
- Empty Keg Detection operates
- safety shut-off has been activated, i.e. solenoid valve overheat protection, electric pump overheat protection.
- LCD is powered off.
- Software has been shutdown

** The FOB detector on the wine line is usually used to detect an empty wine box rather than foam. However, this could be used for detection of foam when dispensing a non-prescribed gaseous beverage and will also activate if there is an ingress of air into the lines due to a damaged or loose connection.*

These interlocks will prevent further use during a dispense. and an error messages will be displayed on the LCD touch panel, examples are shown in Figures 4 and 5. The solenoid valve will be closed and the dispense will be incomplete. These transactions will be logged locally on the TTG SD Card and the customer will need to contact a staff member for credit, or for a manual complete quantity re-fill by a staff member at the bar, this action may require the use of a "verified/stamped" glass.

The system may include an option where the settings on the TTG allow for the outlet operator to enter data relevant to the kegs that they have in use. Using this function sees requires the staff to enter the volumetric value for the size of the keg or, in the case of some wines, the box. The system algorithms takes this volumetric data and operates on a principle of deduction for each beverage portion served. As the overall volume on the storage vessel reduces a visual indicator, adjacent to the brand name on the main screen, reduces and changes colour. Green is the colour for a full or partially full vessel; Orange indicates that the level is dropping and Red indicates a vessel that is almost empty. When the volume available becomes lower than the size of a portion available for selection then that portion becomes unavailable for selection by the user. The portion is still visible on the TTG screen but it is 'greyed' out and not active. See figure 21.

2.5.1 An "Auto logout from dispensing screen" configuration option is used to initiate a countdown timer in the event the user closes the tap or the RFID card is un-seated. This value should be set at a minimum of 15 seconds, the upper limit is discretionary but should be set appropriately.

2.6 Legends

The following legends are marked, in the form of permanent printing, on a fixed metallic plate or a label or a combination of either method, adjacent to the LCD touch panel, which shall be destroyed/voided if removed.

Manufacturer's name:	Redl GmbH [or authorised organisations i.e. Silexa/Pour My Beer]
The certificate number:	3115
Specified quantity legend:	⅓ pint, ½ pint, ⅔ pint and 1 pint (Beer), 125ml and 175ml (Wine)

Example of manufacturers markings are shown in Figure 6. The specific quantity legend(s) will depend on the chosen system configuration.

2.7 Securing and Sealing

Securing and sealing may be by using security wire and seal, by a security sticker, or shrink wrap tubing, which shall bear uniquely identifiable markings; the security sticker shall also be “void” or destroyed when removed.

The following items are to be secured or sealed and are described as follows:

2.7.1 The removable standard rear casing on the TTG is secured by screws, preventing access to the internal electronics, that are not visible unless the box is removed from its mounting. At least one security sticker is placed over the screws (see Figure 7) and the joint where the rear casing meets the TTG body.

2.7.2 The flow meter and solenoid valve are installed within the confines of the space available. There are 2 installation options available and both options are not easily accessible by the user.

2.7.2.1 Ideally the valve and meter will be installed in a secure housing (see figure 8) with a visible security seal, preventing unauthorised access, placed over the screws and/or the joint of the housing preventing access without breaking the seal.

2.7.2.2 Where the valve and meter are not installed in a secure housing, owing to on site space restrictions, access, etc., the meter and valve will each have a security seal attached at their connections to the beer line (see Figure 9) preventing their removal without breaking the seal. Or a continuous wire wrap, terminating with a security seal, starting from the tap connection to the end of the solenoid valve connector.

2.7.3 Where an adjustable flow restrictor is fitted this may have a security sticker or shrink wrap placed across the device to ensure no further adjustments are possible, following verification, without breaking the seal.

2.7.4 The gas regulator may be installed in a housing, secured with a visible security seal or by an alternative securing method that prevents unauthorised access/adjustment once set during the installation.

2.7.5 A label printed with the current software version (section 4) is attached to the data plate and is partially overlaid by the verification sticker.

2.7.6 The back-office server software is installed on a Personal Computer or Server. Access to the features of the device are password controlled. Access to the system software is access controlled by secure username and password. The complete system should be located in a secure area and not in an area where there is unrestricted access by staff or users. This is to prevent unauthorised access and adjustment of the system parameters (once set during the installation) following the verification. See figure 22.

2.7.8 Access to the metrological settings is controlled via a secure RFID card with 128-bit encryption and are not accessible from the back-office software; these settings are displayed on the TTG client LCD. The card can only be programmed as authorised by **Redl GmbH**

2.7.9 Any network infrastructure (switches, hubs, etc.) are to be stored in a secure cabinet, locked and appropriately sealed to prevent any unauthorised access.

2.8 Interactive software

Executable computer software and applications can only be accessed or modified using application development software organisations or personnel as authorised by **Redl GmbH** . Records of all modifications are held as authorised by **Redl GmbH**. A continuous log of all activities/changes is stored on the TTG's internal SD Card memory system. –The TTG communicates constantly with the back-office server and therefore the contents of the SD card, including all log files, are downloaded to the server. If communication is interrupted the data that is continuously logged on the TTG is buffered and when communication is resumed will download the buffered data. The server software also has configurable backup setting parameters, typically set to 90 minute intervals.

Software change versions and updates are recorded in a logfile stored on the back-office Server. The log file records the following details:

- Additions to the system including functionality
- Changes to functionality.
- Fixes to any reported issues from previous versions

There are 3 different suites of software within the overall system. These can be described as:

- The back-office software suite
- The card management software suite
- The TTG (LCD Screen) software suite.

2.8.1 The Back-Office Software Suite

This software defines the overall parameters of the location. The Card Management Software and TTG Software both need to connect to this software in order for them to have the site parameter configurations.
There is limited RFID card functionality from within this software. A user of the software can see reports of card activity and where necessary restrict or block access to the system for certain cards on a card by card basis.

There are no metrological settings contained within this software

2.8.2 The Card Management Software Suite

This software is designed for use in controlling the RFID cards for use in the location and is used to make or create the different card types for use within the system. These card types include user or guest cards for dispense and system cards for management, staff, engineers, etc. The ability to make/create engineer cards is limited by username and password access as authorised by **Redl GmbH**.

The software facilitates all guest card operations

- encoding the card with the location specific passwords (downloaded from the back-office software)
- preparation of bill-pay or pre-pay status on the card.
- When the guest is finished with the card the software is also used to close or 'cash out' the card so that the customer transaction is completed.

There are no metrological settings contained within this software.

2.8.3 The TTG (Screen) Software Suite

The TTG or LCD Screen software facilitates the use of the guest and system cards for all functionality of the system. This includes dispense operations for users and administrative functions for setting the system up and defining the parameters for operation.

The TTG is designed primarily to be an access control point to control beverage dispense and to be used by users who are guests in the environment.

Utilising the RFID cards set up with the Card Management Software, the TTG is also a service centre for administrative functions. Administrative functions are limited to the type of card in use.

All metrological settings can only be accessed at the TTG using an Engineers Card.

2.9 System Cards

There are 5 different system cards that allow for access to certain functions within the system, see section 2.8 above. The cards can be listed as:

i). Admin/Engineer Card

ii). Manager Card

iii). Senior Staff Card

iv). Staff Card

v). Cleaning Card

If, during the following operations, the RFID card is removed from the reader a timeout counter will begin to countdown, when the countdown reaches zero the system will revert to the initial starting condition.

2.9.1 Admin/Engineer Card

This card is typically only used during the installation and commissioning of a system. The card allows access to the all metrological settings and is used to set the values of the various interlocks including the Interrupt Setting, Flow Rate Setting and Tap Compensation Setting.

As the system is IP addressed for (network) connectivity, the engineer card is also the means by which this parameter is set.

2.9.2 Manager Card

This card is designed to provide general system functionality without any Metrological settings.

2.9.3 Senior Staff Card

Limited access to functions. Designed only for use for management of customer or guest cards.

2.9.4 Staff Card

Limited to restricted functionality for guest or customer cards only.

2.9.5 Cleaning Card

This card has no functionality other than being required to allow cleaning of the beverage lines. All instances of use for the cleaning card are recorded and logged in the back office software under Reports.

2.9.6 General Card Management

During the making of the cards there are 128-bit security encryption protocols employed.

The system allows for extensive reporting on the use of the cards identified in section 2.9 i) to vi). An administrator or manager can view a particular card's activity via the back office software, and any detected anomalies can be identified, and a suspect card can be suspended or blocked from further use until clarification around an anomaly is cleared up. The system will facilitate the search and provide remedial actions to prevent additional mis-use of a card.

2.10 Technical

2.10.1. Serving temperature for a stout may be within a range of 2° C - 10° C

2.10.2. Serving temperatures for beers/lagers and ciders may be within the range of 4° C - 8°C

2.10.3. Serving temperatures for chilled still wine may be within the range of 4° C - 16° C

2.10.4. Wines intended to be served at "ambient" temperatures may require additional cooling/heating if the installation location environment is outside a suitable temperature range.

2.10.5. If using mixed gas (CO_2 and Nitrogen) a suitable head pressure is between 2.6 - 2.8 Bar.

2.10.6. If using CO_2 gas a suitable head pressure is between 1.6 - 1.8 Bar

3 OPERATION

3.1 System Setup

The TTG can control up to 4 dispense taps providing that each tap is connected to individual flow meters, solenoid valves and in some instances a check valve. The TTG also stores the configuration that determines calculations for the flow rate threshold, tap compensation values and the activity of the FOB detector, etc. It is designed to operate both on-line and off-line facilitating network interruptions.

The system will be calibrated prior to use for each product that has been assigned to each tap.

3.1.1 A 'tap compensation' value is used to facilitate erroneous pours due to tap handle activation while no user card is present. Pulling the tap handle without a card can disrupt the pressure balance in the line between the tap and the solenoid valve causing some liquid to exit from the tap. This compensation value is designed to permit the initial flow of beverage through the meter when the valve has been opened after the handle has been opened without a card present. (see Figure 10). This value is determined by the installation engineer during initial system set up.

3.1.2 A ‘tap interruption’ value accounts for errors in dispense caused by the user closing the tap during the dispense. An approximate value of 5 pulses provides a consistent error free pour (see Figure 10). However, this value is determined by the installation engineer during initial system set up and would be product specific. Accuracy of the dispense is achieved through software that monitors the pulse output from the flowmeter. A small number of flow interruptions can be accounted for by software algorithms to ensure the correct quantity is delivered. See figure 10.

3.1.3 If for any reason there is a discrepancy with accuracy, i.e. out of the tolerance for the specific pre-set volume. The ‘tap compensation’ and/or the ‘tap interruption’ feature may be upgraded in software to be uniquely assigned to each volume selection. This setting is on the TTG device and only accessible by an engineer.

3.1.4 Flow rate threshold – a value can be entered that will reflect the pulses per second value for a given product. The value is calculated during the system commissioning and then entered as shown in Figure 11.

Extra pipe lengths may be required during initial set-up which may require an electrical or pneumatic pump to be installed in the system after the keg or wine box connection and before the FOB detector.

Any retro-fitment of equipment, such as a replacement flowmeter of the same type and specifications, or addition/removal of a pump or check valve, made to the system will require a re-verification.

Standard compressed gas bottles are used at mixtures suitable for the intended product.

A standard pressure regulator can be used and should be set, and secured, as described in section 2.7.4.

3.1.5 Exclusively for the wine tap, no compressed gas is used. The product will be pumped only.

3.2 Software

3.2.1 The TTG/Screen Software

The TTG contains firmware stored in non-volatile EEPROM memory and can be managed via Microsoft Windows software contained on the back-office server, the software program name is “TTG server”.

- The current software Version is: 1.nn.xx.zz

  where:

  1 is the version number relating to the part containing the legally relevant “metrological” functionality,

  nn is the Release version to identify which version is installed at the customers premises,

  xx relates to “major” non-metrological changes,

  zz relates to “minor” non-metrological changes.

- Configuration version: 21,

  which relates to the Version of the configuration database which does not include or affect any metrological settings.

Note: nn.xx.zz and Configuration version number may vary on the installed system(s).

The version information can be viewed on the back-office Software Main Menu page by hovering the mouse over the 'i' icon on the lower left-hand side of the screen. See Figure 13

A label printed with the current software version is attached to the data plate, and partially overlaid by the verification sticker.

The version running on the TTG can be seen via the “admin” menu via selection on the tile “device status” (Figure 13)

The TTG is a custom-built electronic device for the sole purpose of running the embedded software needed to operate the TTG as a dispense station. Powering up the device will initiate the software necessary for the system to function.

The executable application designed for administration and management is called “Table Tap Go Server Manager” and is stored on the Back-Office server.

3.2.2 The Back-Office Software is described in section 2.8.1 above

3.2.3 The Card Charger Software is described in section 2.8.2 above

3.2.4 Software Change Logs are described in section 2.8 above

3.2.5 A Cyclic Redundancy Check (CRC) is used to perform system checks upon system start up to ensure that the software installed is consistent with the initial commissioning. The check is designed to prevent anyone at the site from making unauthorised changes to the approved software.

3.3 Dispensing

3.3.1 When the TTG is in operational mode it will display the logo/artwork of the different products that the TTG is set to dispense.

When the RFID card is placed on the RFID card sensor the TTG will display the amount of remaining credit or the accumulated spend, depending on whether the card in use is a pre-paid card or a bill pay card, in the top right hand side of the screen along with the users name.

The user will have the assigned brands (up to 4) presented for selection.

Upon selecting the desired brand, the programmed volume size options are then made available for selection. These are prominently located in the centre of the TTG screen. The dispense quantity combinations or GUI may vary.

3.3.2 The operation sequence is given below:

- The selection, of product / pre-set quantity, is made by touching the relevant area on the screen.
- The user is asked to confirm their choice
- The RFID card is debited or credited for the value of the portion selected
- The solenoid valve will open.
- The user opens the tap to initiate the dispense
- The dispense can be interrupted by closing the tap, and then re-opening the tap until the selected pre-set quantity has been completed.

When the chosen quantity has been dispensed the solenoid valve will close preventing any further dispense.

Whilst “best practice” for a delivery is explained above, the flow meter monitoring software algorithms can compensate for additional tap lever interruptions during a dispense and deliver the correct quantity within the applicable Limit of Error.

- 1 Pint delivery of beer, cider or stout, up to 4 interruptions
- ⅓ Pint delivery of beer, cider or stout, up to 2 interruptions
- 125ml delivery of Red or White Wine, up to 2 interruptions
- 175ml delivery of Red or White Wine, up to 2 interruptions

If the RFID card is removed from the reader during a dispense a timeout counter will begin to countdown to allow the customer time to place the card back onto the RFID reader to finish a dispense. If the dispense process is interrupted using the tap, a countdown will also start – as soon as the flow is recommenced the countdown is cancelled. In either scenario, if the countdown reaches zero the solenoid valve closes, and the customer will be logged off. See section 2.5 relating to an incomplete dispense.

4 AUTHORISED ALTERNATIVES

4.1 Screens

There are 3 screen versions for the TTG; two are 4.3” and one is 9”. The 4.3” version is available in a stripped-down mode with separate RFID card reader to accommodate installations with spatial restrictions.

All versions operate with the same custom circuitry boards that control the solenoid valves, flow meters and Foam on Beer sensors. Software configuration is the same for the 3 devices with the installation engineer selecting the screen format they are working with upon initialisation for the TTG configuration process.

The TTG type selection and the 3 different TTG’s versions are shown in Figures 14 to 17. Note; the 9” version is able to function in portrait or landscape mode.

4.2 Table systems

4.2.1 Having the system affixed to tables. An example of a table system is shown in Figure 18

4.3 Mobile Systems

4.3.1 Having the system constructed inside a static or mobile enclosure for use at indoor sites where, for logistical reasons, a permanent installation is not feasible. An example is shown in Fig 19.

4.4 Semi-outdoor environments

4.4.1 The system can be installed in weather protected locations where the climate is not controlled and may be subject to condensed water, water from sources other than rain and ice formations. In this instance an upgraded TTG enclosure (to the relevant IP requirement) will be fitted. All other parts of the system will also be adequately protected to ensure correct functionality. An example is shown in figure 23.

5 RECOMMENDED TESTS

5.1 Accuracy

5.1.1 Accuracy tests shall be carried out to verify that the amount dispensed is within the specified L.o.E.

5.1.2 As an additional accuracy test, include:

- during a dispense for stout and/or lager/cider of 1 Pint, ⅔ Pint, ½ Pint or ⅓ Pint
  - at least two interruptions
- during a dispense still wine for either a 125 ml or 175 ml
  - at least one interruption

Note: For verification purposes it is advisable to always use the product intended for use as this will have been calibrated prior to verification. However, it is possible if required, to adjust the volume delivered during verification tests. This should only be performed organisations or personnel as authorised by **Redl GmbH** who have access to the LAN server, which shall then be secured as described in section 2.7.6.

5.2 Temperature

5.2.1 For a stout, verify the temperature of the completed delivery is 2 & 10 degrees Celsius.

5.2.2 For beer/lager/cider, verify the temperature of the completed delivery is between 2 & 8 degrees Celsius.

5.2.3 For chilled still wine, verify the temperature of the completed delivery is between 4 & 16 degrees Celsius.

5.2.4 For still wines served at ambient temperature, verify that the environmental conditions are suitable or that any additional heating/cooling systems ensures a serving range of approximately 15 & 25 degrees Celsius.

5.3 Pressure

5.3.1 Close the tap supplying gas to the keg. Verify that when the pressure slows the flow rate to below the set threshold and the appropriate warning is displayed on the Customer LCD touch panel display. This delivery will be declared void. Verify that the last fully completed delivery prior to the voided delivery is within the L.o.E.

5.4 Froth on beer (FOB)

5.4.1 Disconnect the product supply line from the keg. Initiate a dispense (due to the length of pipe work from the cellar and through the cooling system, this may take more than a single 1 pint dispense). Verify that the FOB detector operates and that the appropriate warning message appears on the Customer LCD touch panel display.

The FOB detector is a critical component of the system. Without a FOB fitted the associated product line should not function. Disconnect the FOB from the rear of the TTG and the screen should display a message to indicate that the FOB detector has activated. The message displayed is the same as the ‘empty keg’ message. See Figure 5 below.

5.4.2 Switch the wine pump off. Initiate a dispense, 125ml or 175ml. Verify that the FOB detector operates and that the appropriate warning message appears on the Customer LCD touch panel display.

5.5 Interlocks

5.5.1 Verify the operation of the interlocks as described in section 2.5.

5.6 Labels and markings

5.6.1 Verify that the printing or label bearing the certificate number, specific quantity legend, serial number and the name of the manufacturer as described in section 2.6 is present on or adjacent to the LCD touch panel.

5.7 Securing

5.7.1 On completion of tests, verify that the following items are secured with secure housing, fixings, key locks or tamper evident seals/labels, as described in section 2.7.

- Rear panel of LCD touch panel
- Flow meter and solenoid valve.
- Adjustable flow restrictor where fitted.
- Gas regulator
- Cabinet that houses the back office PC.

5.7.2 The items detailed in 5.7.1 are to be secured as described in section 2.7 by a sticker containing the mark of an authorised verification authority. An example of the sticker is shown in Figure 19. Where the items are already secured by the manufacturer's security sticker, the sticker of the authorised verification authority should be applied onto, or partially onto, the manufacturer's sticker such that it will be destroyed if removed.

6 ILLUSTRATIONS

7 CERTIFICATE HISTORY

ISSUE NUMBER	DATE	DESCRIPTION
3115	04 April 2019	Type examination certificate first issued.
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Figure 2 - Example of an in line check valve

Figure 2 – Example of an in line flow restrictor

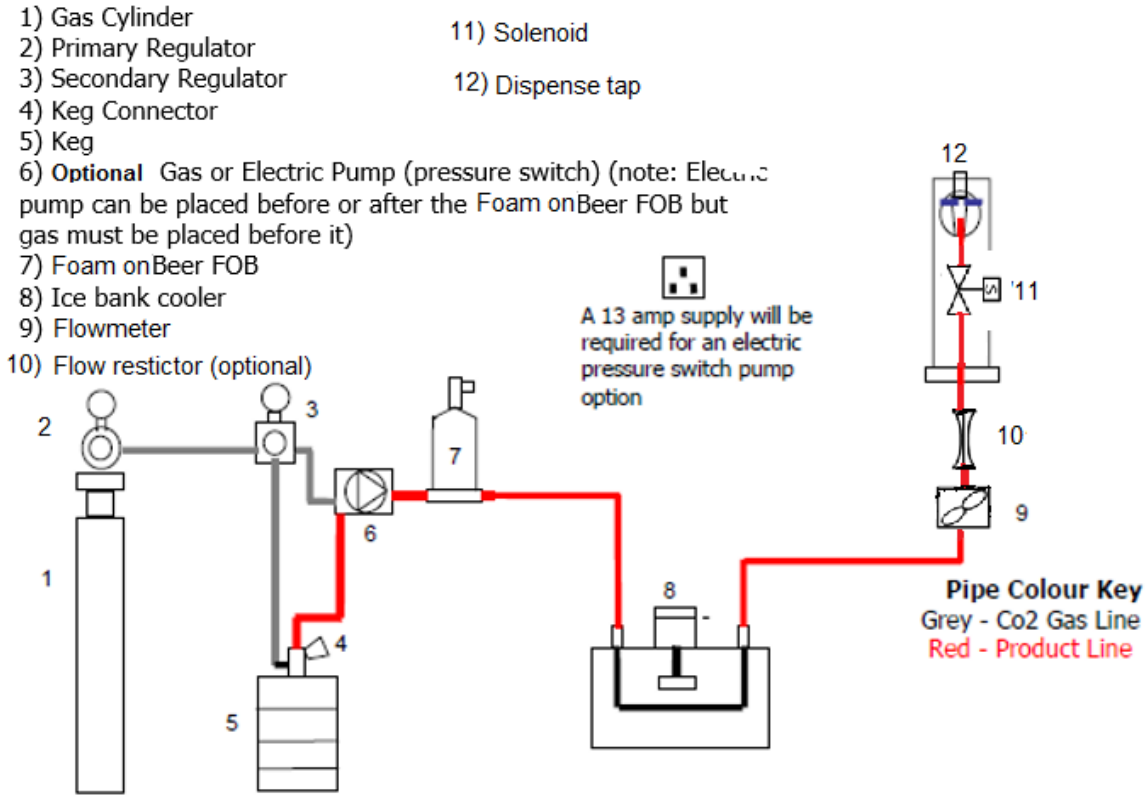

Figure 3 - Example of a standard beer dispense system installation

Figure 6 - Example of manufacturers legend print, fixed metallic plate or label.

Figure 7 - Rear of TTG with standard casing

Figure 8 - Valve and meter secure housing

Figure 9 - Valve and meter without secure housing

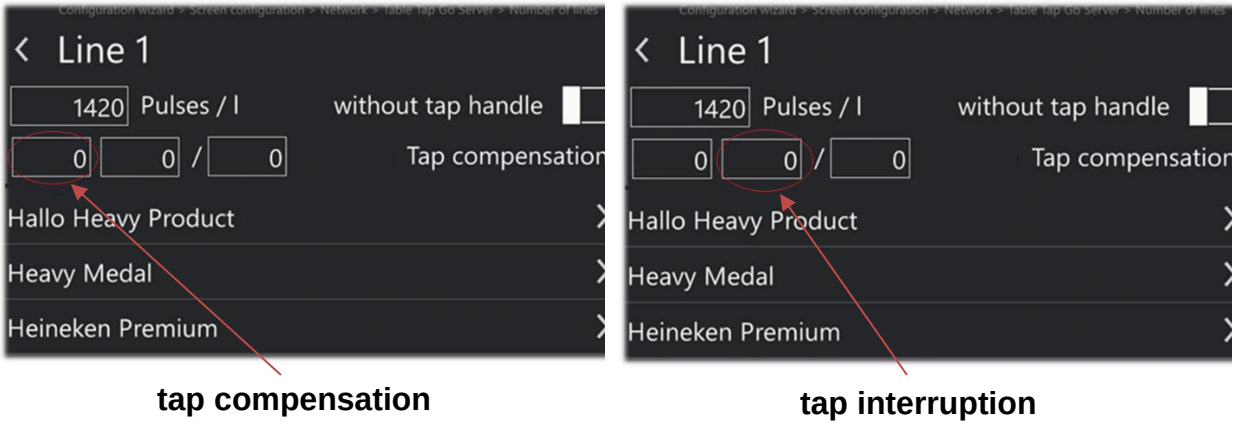

Figure 10 - Tap setting value entry screen

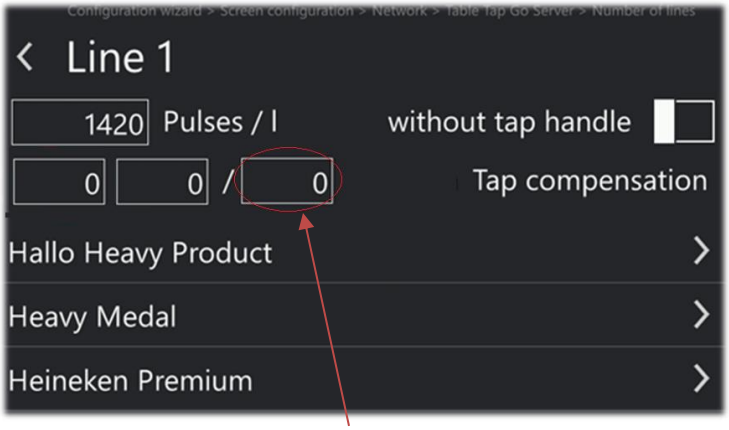

Figure 11 - Flow rate pulse value entry

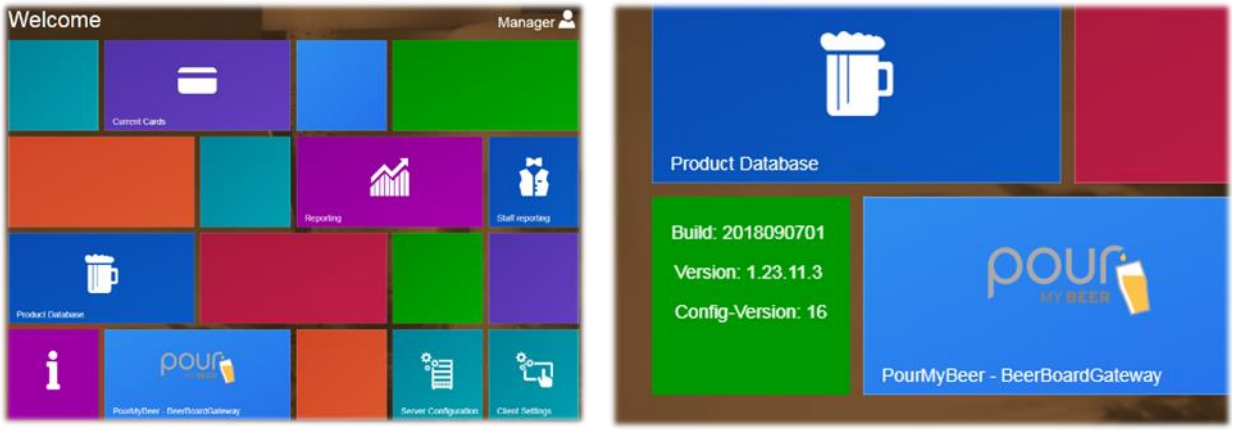

Figure 12 - Software version icon on server software

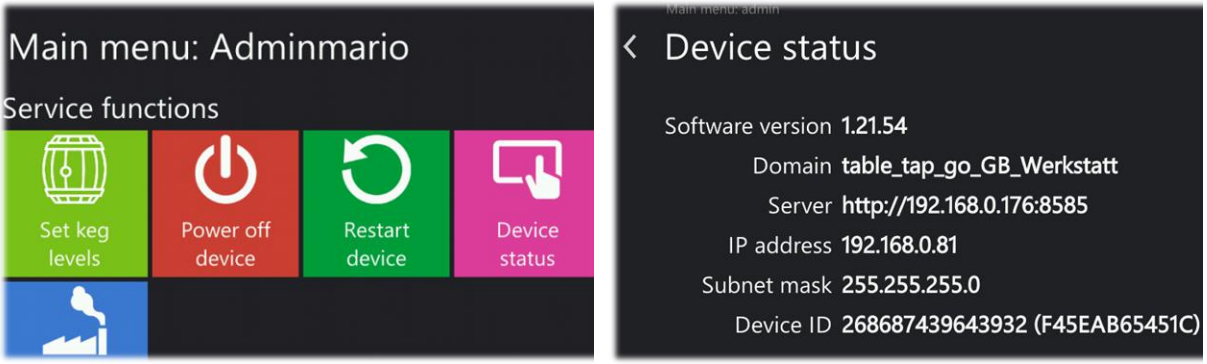

Figure 13- Software version on TTG

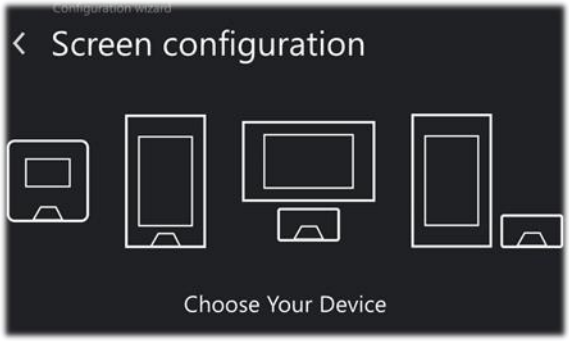

Figure 14 - TTG type selection

Figure 15 - Large (9") TTG

Figure 16 – 4.3" TTG

Figure 17 - 4.3" TTG with separate RFID card reader

Figure 18 - TTG in table setting

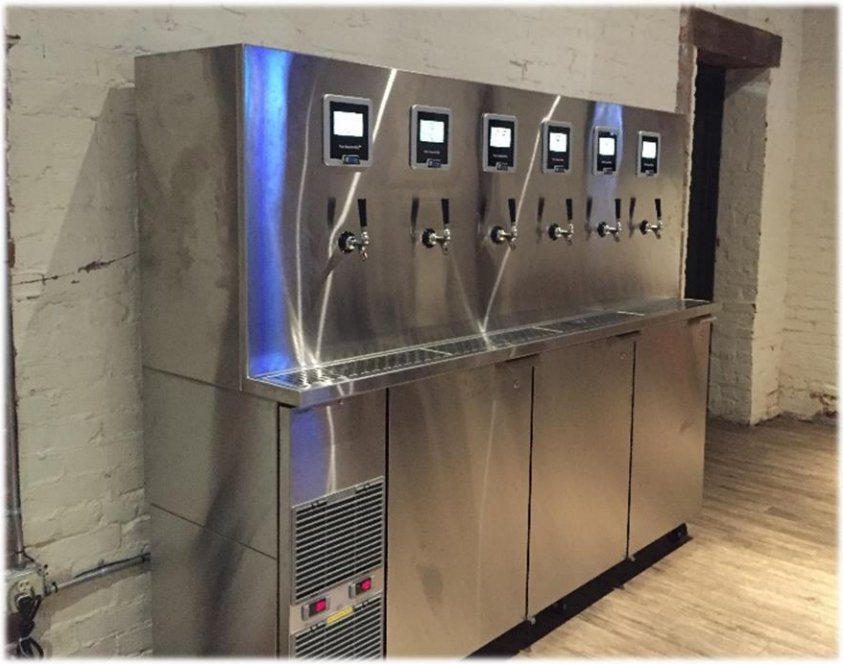

Figure 19 – Example of a mobile beer wall

INS/NNNN/YY

Figure 20 – Example of the mark of the authorised verification authority

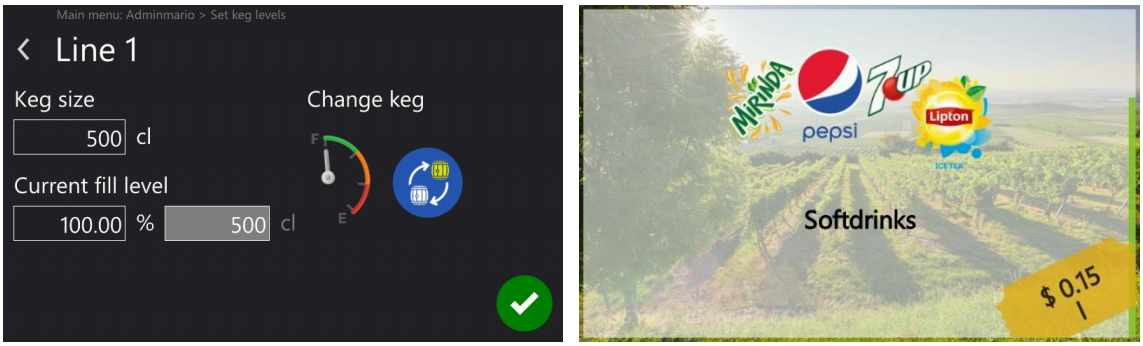

Figure 21 – Example of the keg of bottle fill level status screen and user screen fill level indicator bar

Figure 22 – Example of a typical back-office server enclosure

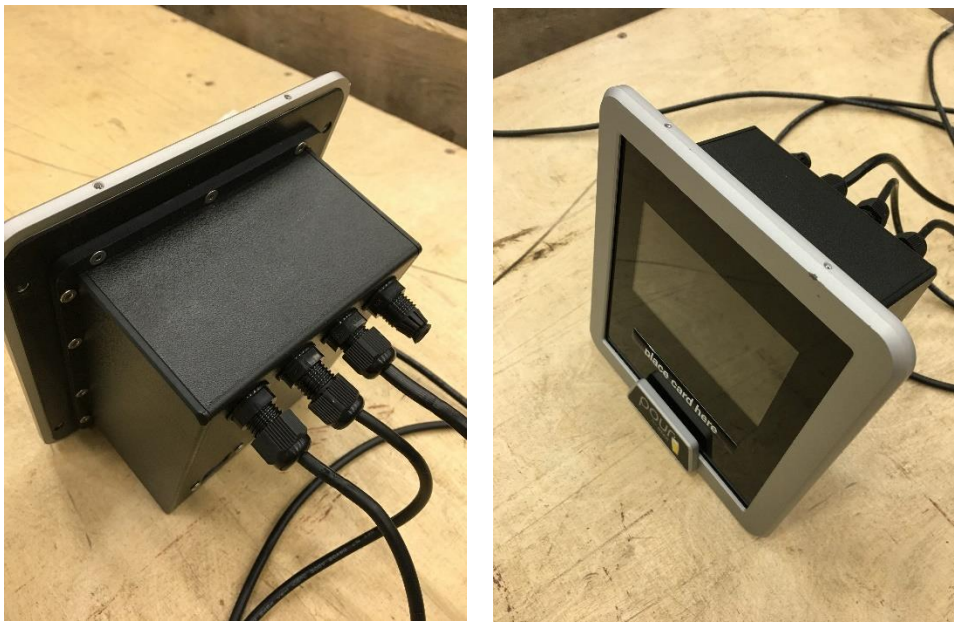

Figure 23 - Example of the upgraded semi-outdoor TTG enclosure