



Pursuant to Section 12 of the Weights and Measures Act 1985 Certificate No 1823 Revision 2

Issued by:

The Office for Product Safety and Standards

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

**Innserve Ltd
The Old Maltings
Leeds Road
Tadcaster, LS24 9HB
United Kingdom**

And hereby certifies as suitable for use for trade the following pattern of an intoxicating liquor instrument, in respect of a beer measuring system dispensing fixed quantities of half pint.

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.

This revision replaces previous versions of the certificate.

Issue Date: 14 August 2023

Valid Until: 13 August 2033

**Grégory Glas
Technical Manager**

For and on behalf of the Secretary of State

CONTENTS

CERTIFICATION NO 1823

1 INTRODUCTION

2 CONSTRUCTION

- 2.1 Mechanical
- 2.2 Electrical
- 2.3 Electronic
- 2.4 Legends
- 2.5 Sealing and stamping

3 OPERATION

- 3.1 Controls and features
- 3.2 Sequence

4 AUTHORISED ALTERNATIVES

- 4.1 Measuring chamber
- 4.2 Moulded skeletal form mounting block
- 4.3 Plug-in control circuit for re-pressurisation of dispense tube
- 4.4 Nozzle "sparkler"
- 4.5 Digital counter
- 4.6 Cooler system
- 4.7 Flow restrictor
- 4.8 DFX plug and circuit board
- 4.9 Pneumatic pump
- 4.10 Bar valve
- 4.11 Transformer and relay box
- 4.12 FOB monitor switch box
- 4.13 Multi dispense unit
- 4.14 Arrangement of components
- 4.15 Alternative design

5 VARIANTS

6 CERTIFICATE HISTORY

- ILLUSTRATIONS

- Figure 1 Typical arrangement of components
- Figure 2 Alternative arrangement of components, (FOB monitor and pump interchanged)
- Figure 3 Pump
- Figure 4 Meter
- Figure 5 Bar valve
- Figure 6 Valve mounting block

- Figure 7 Transformer and relay box
- Figure 8 Meter seal
- Figure 9 Fob monitor
- Figure 10 Fob monitor switch box
- Figure 11 Alternative meter
- Figure 12 Alternative valve block
- Figure 13 Alternative valve block sealing arrangement
- Figure 14 Alternative remotely mounted digital counter
- Figure 15 Alternative meter, DFX alternative plug compliant
- Figure 16 DFX replacement plug and circuit board
- Figure 17 Alternative pneumatic pump
- Figure 18 Alternative bar valve
- Figure 19 Alternative transformer and relay box
- Figure 20 Alternative FOB monitor switch box
- Figure 21 Original multi dispense unit and alternative multi dispense unit
- Figure 22 Alternative manifold block
- Figure 23 Alternative PCB & plug
- Figure 24 Alternative measuring sphere
- Figure 25 Alternative meter complete
- Figure 26 Alternative sealing arrangement

CERTIFICATION NO 1823

Descriptive Annex

1 INTRODUCTION

This type of liquid measuring instrument dispenses a volume of liquid upon the momentary depression of a switch at the dispensing point which is normally remote from the meter. The volume dispensed may be either $\frac{1}{3}$ pint or $\frac{1}{2}$ pint.

2 CONSTRUCTION

2.1 Mechanical

The equipment consists of the following components at the dispense point:

- A pump (Figure 3)
- A meter (Figure 4)
- A bar valve (Figure 5)

The meter consists of a cylinder in which a piston moves along a hollow guide spindle. The cylinder is mounted on a transparent block which carries solenoid valves connected with ports to and from the cylinder (Figure 6). Also in the valve block is a magnetic bobbin and reed switch.

The equipment may also have remotely:

- A fob monitor
- A cooler
- A restrictor

See section 4.

2.2 Electrical

The equipment is operated by an A.C. supply of 24V from a separate mains transformer mounted in a box along with relays for starting and stopping the pump motor (Figure 7). Permanent electrical conductors to the block provide for operation of the solenoid valves and carry signals from the reed switch.

2.3 Electronic

A solid state switching circuit is contained in a box adjacent to the measuring cylinder. LED operation indicators are visible from the outside of the box.

2.4 Legends

The inscription "Coldflow" appears on the end-cap of the measuring cylinder, on the mounting block, the electronic circuit cover and the dispensing point valve mounting. The

mounting block and the dispensing point is also marked $\frac{1}{2}$ pt or $\frac{1}{3}$ pt as appropriate, the latter is visible to the purchaser.

2.5 Sealing and Stamping

The meter is sealed by a wire or nylon monofilament which passes through the assembly screws and frame as in Figure 8.

3 OPERATION

3.1 Controls and features

Liquid is dispensed by the momentary depression of a switch on the dispenser at the bar counter. A series of measured volumes is dispensed if the switch is continually depressed. A lamp on the dispenser indicates that the pump is energised on operation of the switch.

The pump is primed either by the bar valve switch or by a push-button switch on the box adjacent to the meter.

A fob monitor (Figure 9) may be mounted in the system before the meter to stop delivery when there is excessive free gas in the liquid. It may be overridden by a switch on the box illustrated in Figure 9.

3.2 Sequence

The flow of liquid is shown in Figure 1. The pump induces a pressure which causes liquid to flow into the empty side of the meter cylinder when the switch on the dispensing point is depressed. Operation of this switch opens appropriate pairs of valves on the valve block as well as the valve at the dispensing point. All valves are closed when a measured volume has been dispensed. The pump runs only when the valves are open.

The electronic control circuit locks the system out of action if the flow detector fails to function. Operation can only be restored by disconnecting and re-connecting the electrical supply.

4 AUTHORISED ALTERNATIVES

4.1 The measuring chamber may be a spherical cavity machined or moulded in a pair of transparent blocks in which an hemispherical diaphragm forms a partition. In this alternative, liquid is admitted to and ejected from each side of the diaphragm successfully. The alternative is shown in Figure 11 while the valve block arrangement is seen in Figure 12 and the sealing method in Figure 13.

The measuring chamber is marked “Coldflow” and $\frac{1}{2}$ pint or $\frac{1}{3}$ pint as appropriate and the diaphragm “Coldflow” or “Mills Bros”.

4.2 The transparent mounting block in both the pattern and the alternative may be of moulded skeletal form.

- 4.3** A plug-in control circuit marked “R” and “Coldflow” may be used which automatically re-pressurises the tubing between the meter and the dispensing point following the complete delivery of a prescribed volume.
- 4.4** The dispensing point nozzle may be with or without a “sparkler” fitting.
- 4.5** A digital counter of dispensing operations may be mounted in the box adjacent to the meter or remotely as shown in Figure 14.
- 4.6** A cooler consisting of the immersion of a section of the drink delivery tube in a chilled water bath may be inserted into the system.
- 4.7** A fixed or adjustable flow restrictor may be inserted between the meter and the dispensing point. The restrictor cannot be completely closed.
- 4.8** Having an alternative mains connection plug into the meter (Figure 15), coupled an alternative circuit board contained inside the meter support bracket as shown in Figure 16.
- 4.9** Having an alternative pneumatic pump, Figure 17.
- 4.10** Alternative bar valve, Figure 18.
- 4.11** Alternative transformer and relay box, Figure 19.
- 4.12** Alternative FOB monitor switch box, Figure 20.
- 4.13** Original multi dispense unit and alternative multi dispense unit, Figure 21.
- 4.14** Having an alternative arrangement of components whereby the pump and FOB monitor are interchanged, see Figure 2. The FOB monitor chamber must be of the type which if activated contains enough liquid volume, in this case ½ pint, to enable a complete refill of the diaphragm meter.
- 4.15** Having an alternative design dispensing fixed quantities of ½ pint, comprising a modified manifold block (Figure 22), PCB & plug (Figure 23) and measuring sphere (Figure 24). The complete design is shown in Figure 25 and shall be sealed as shown in Figure 26.

5 VARIANTS

Submitter (if different from original) and description	Date approved	As described in
Alternative sealing	25 April 1988	Amendment 1
Hartwell Ltd. Hartwell bar console	29 January 1985	1823/1

Pektron bar tap	-	1823/2
LC10 automatic beer line cleaner connected	10 November 1999	Amendment 1
Optional CO ₂ conservation device	27 May 1987	1823/3
Optional pressure damper unit	13 August 1987	1823/4
LC10 automatic beer line cleaner connected	10 November 1999	Amendment 1
Alternative meter layout	8 June 1988	1823/5
LC10 automatic beer line cleaner connected	10 November 1999	Amendment 1
An Info 1000 monitor + authorised alternatives	6 July 1988	1823/6
Speed-o-clean system	21 February 1993	1823/7
Two circuit boards merged into one. Valve block and measuring chamber rotated through 90°	14 September 1989	1823/8
LC10 automatic beer line cleaner connected	10 November 1999	Amendment 1
Metering system (multi dispense unit)	1 October 2006	Amendment 2
Kombi automatic beer line cleaner	8 June 1990	1823/9
New facia panel for MCU	18 December 1991	Amendment 1
Modified to allow two taps to be served from one meter	4 February 1991	1823/10
LC10 automatic beer line cleaner connected	10 November 1999	Amendment 1
Beer Piper automatic beer line cleaner	18 November 1991	1823/11
Kombi Junior automatic beer line cleaner	17 December 1991	1823/12
New facia panel for MCU	3 January 1992	Amendment 1
Beer Piper automatic beer line cleaner with Beer Save	24 March 1992	1823/13
LC10 automatic beer line cleaner connected, (previously issued as 1823/2 amendment 1)	2 April 2003	1823/14

6 CERTIFICATE HISTORY

Certificate Number	Date	Description
1823 Revision 1	22 January 2014	Certificate renewed for 10 years. Addition of section 4.14.
1823 Revision 2	14 August 2023	References to National Measurement Office replaced with Office for Product Safety and Standards. Certificate renewed for 10 years. Addition of section 4.15.

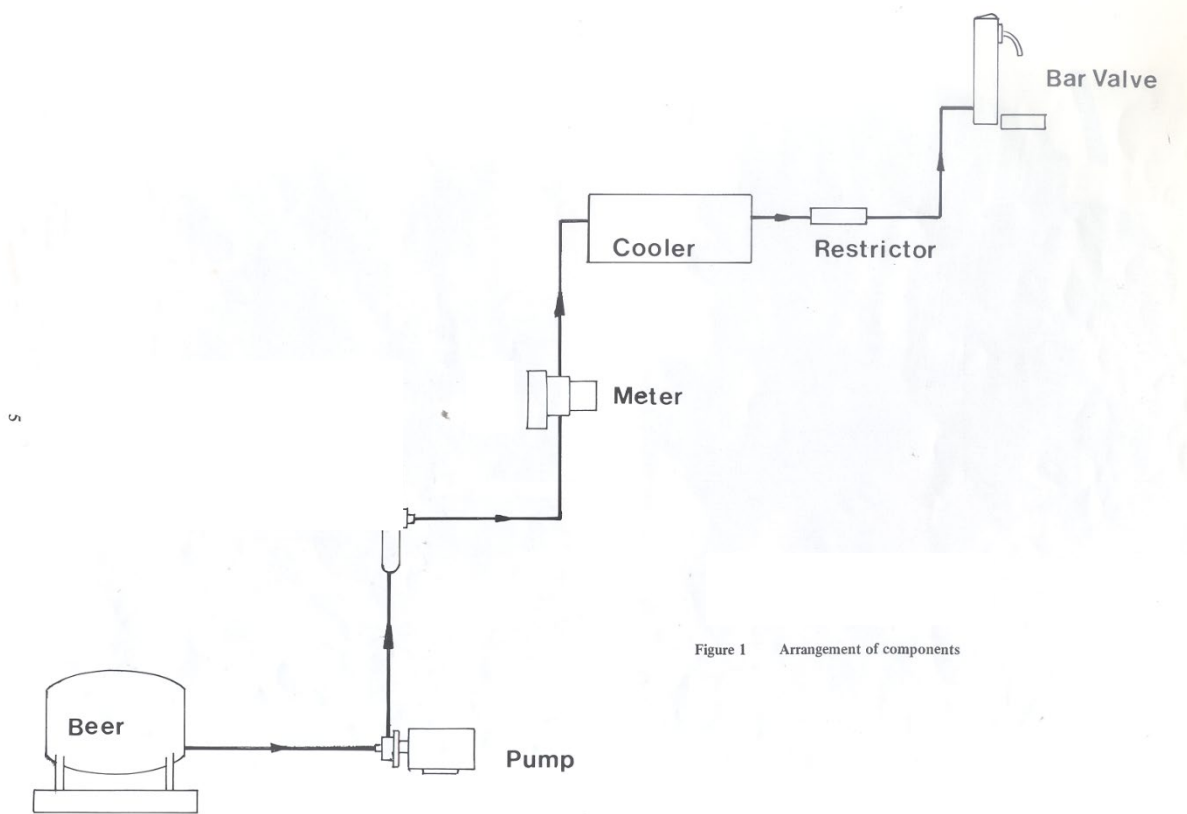


Figure 1 Arrangement of components

Figure 1 - Typical arrangement of components

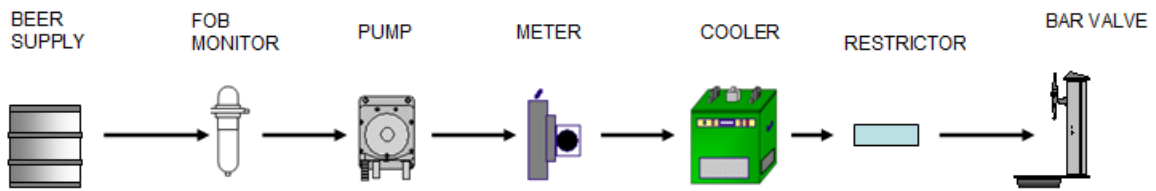


Figure 2 - Alternative arrangement of components, (FOB monitor and pump interchanged)

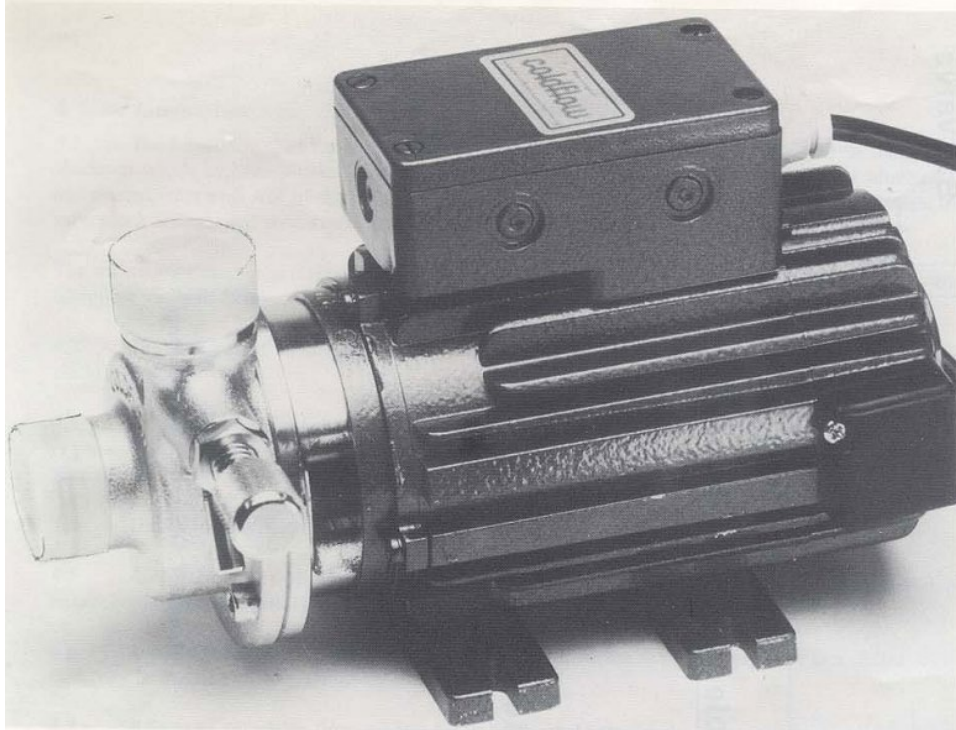


Figure 3 - Pump

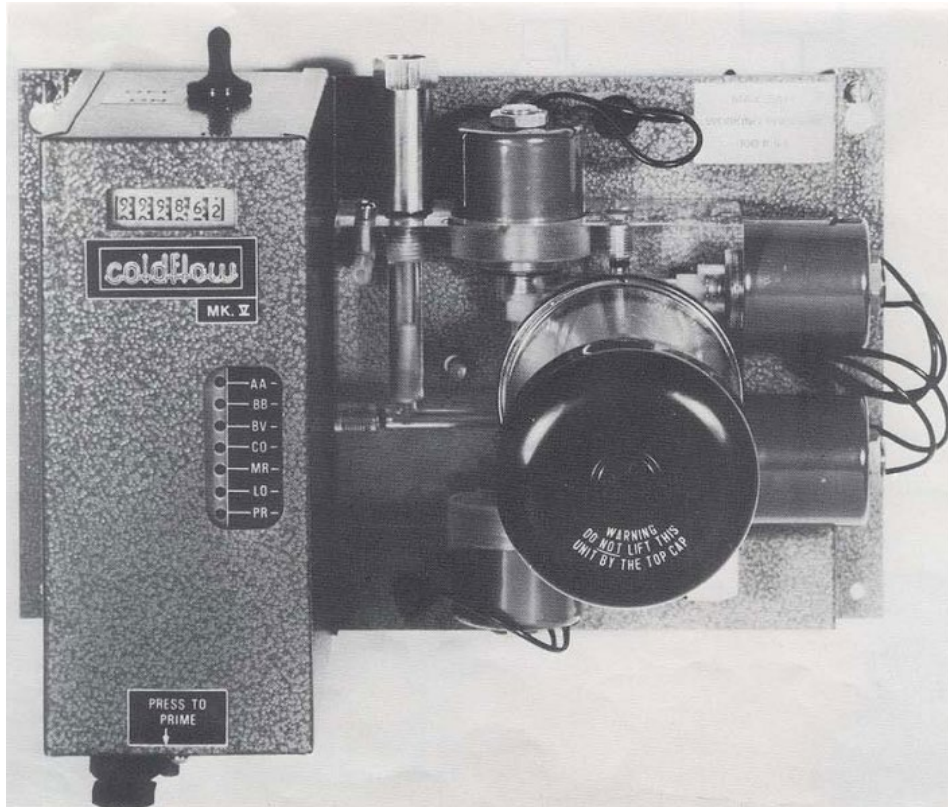


Figure 4 - Meter

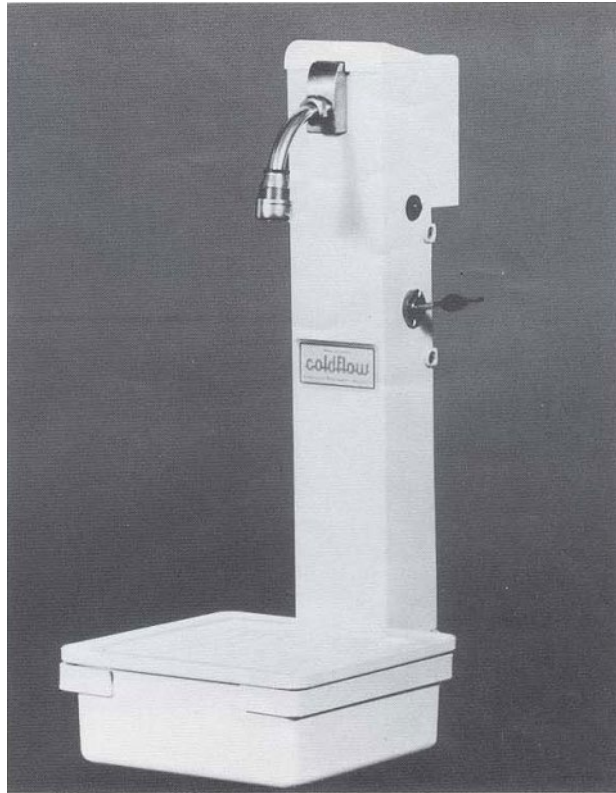


Figure 5 - Bar valve

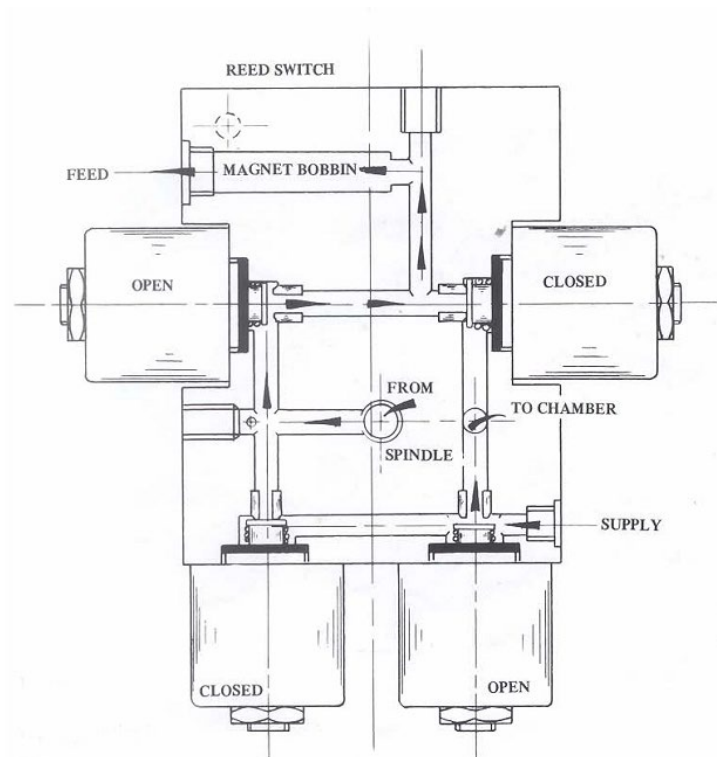


Figure 6 - Valve mounting block

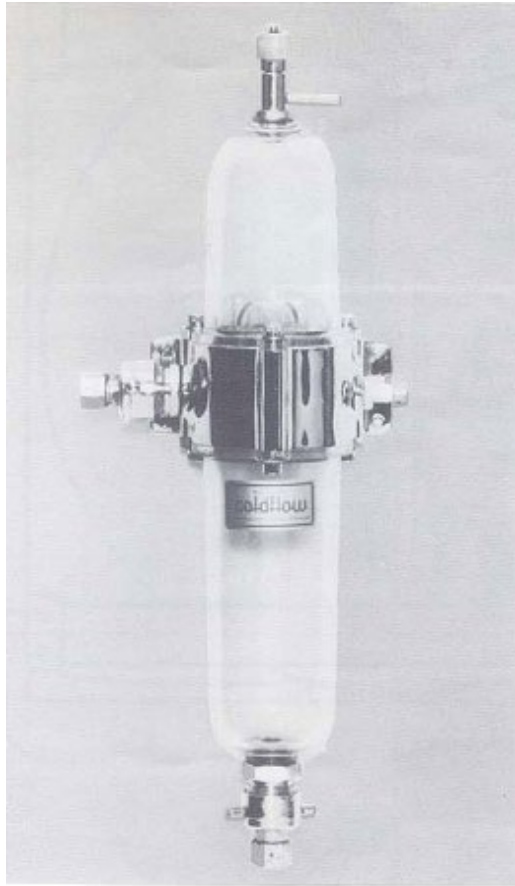


Figure 9 - Fob Monitor

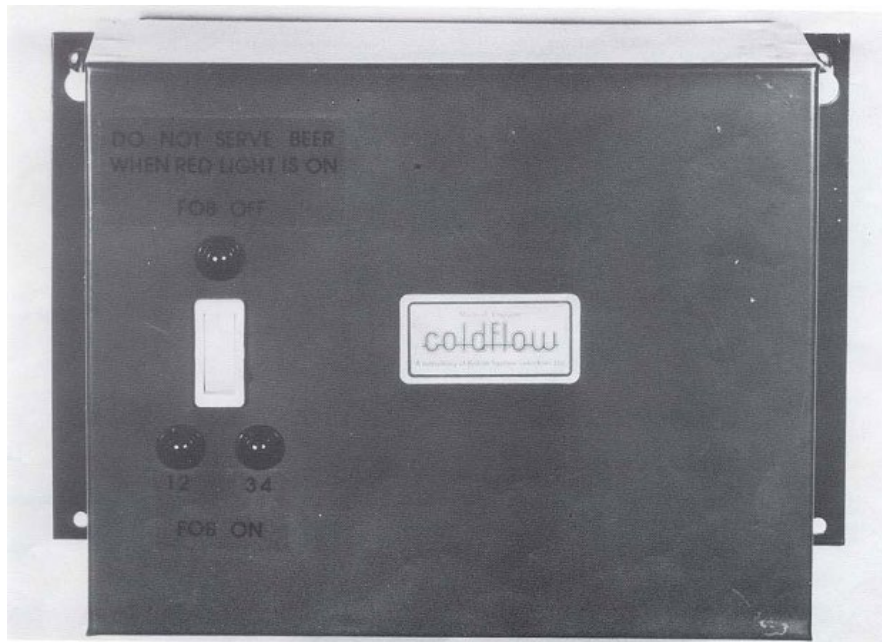


Figure 10 - Fob Monitor switch box

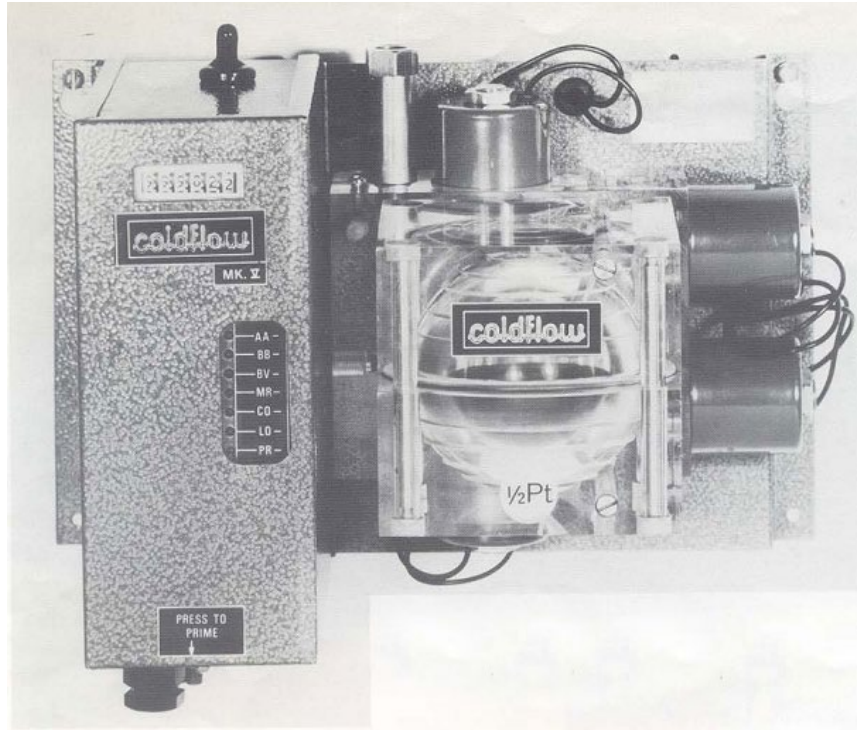


Figure 11 - Alternative meter

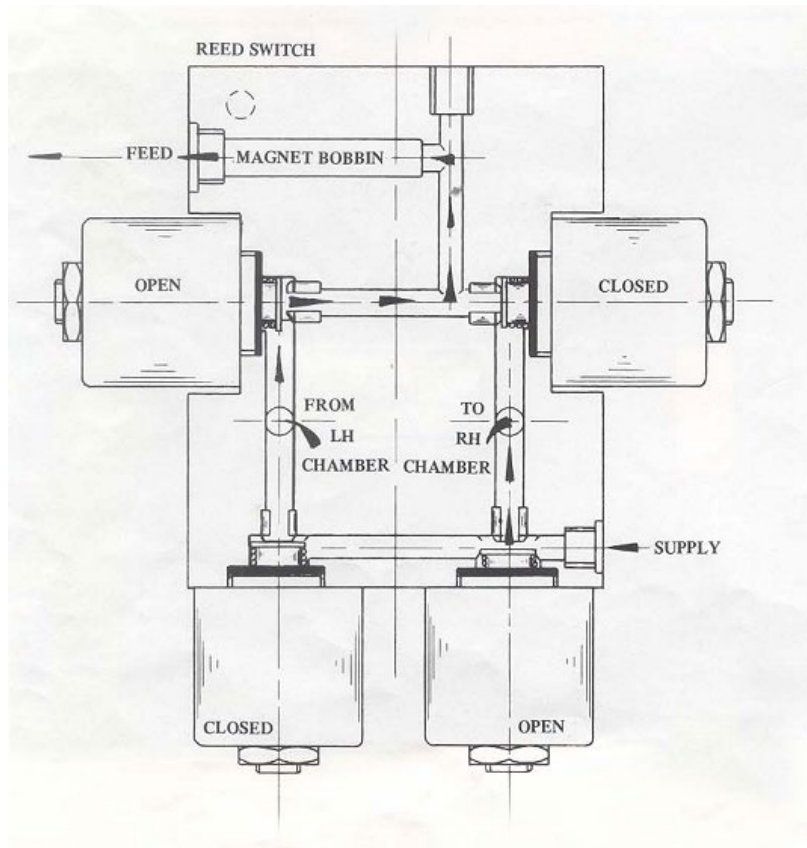


Figure 12 - Alternative valve block

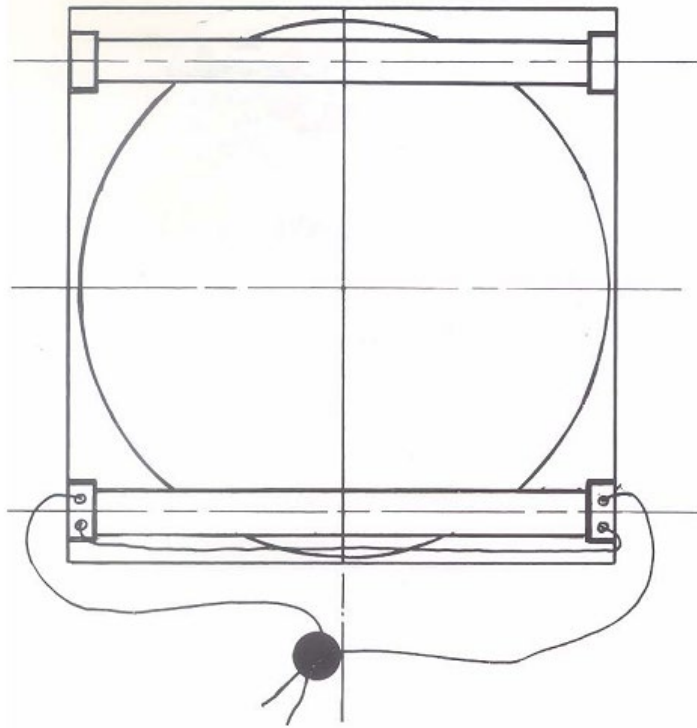


Figure 13 - Alternative valve block sealing arrangement



Figure 14 - Alternative remotely mounted digital counter

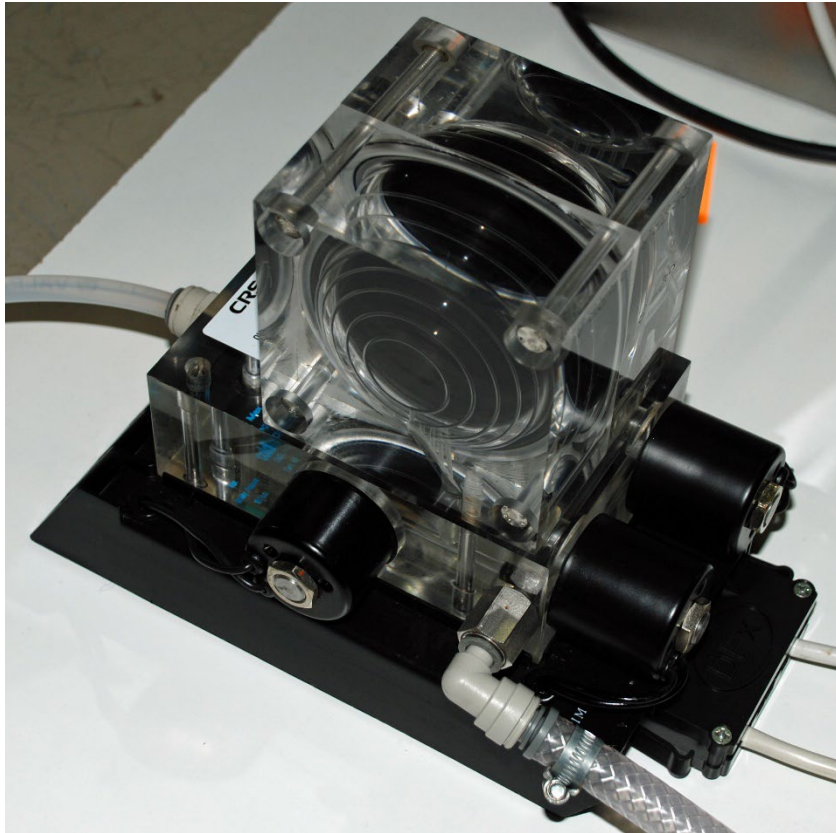


Figure 15 - Alternative meter, DFX alternative plug compliant.



Figure 16 - DFX replacement plug and circuit board



Figure 17 - Alternative pneumatic pump



Figure 18 - Alternative bar valve



Figure 19 - Alternative transformer and relay box



Figure 20 - Alternative FOB monitor switch box



Figure 21 - Original multi dispense unit and alternative multi dispense unit

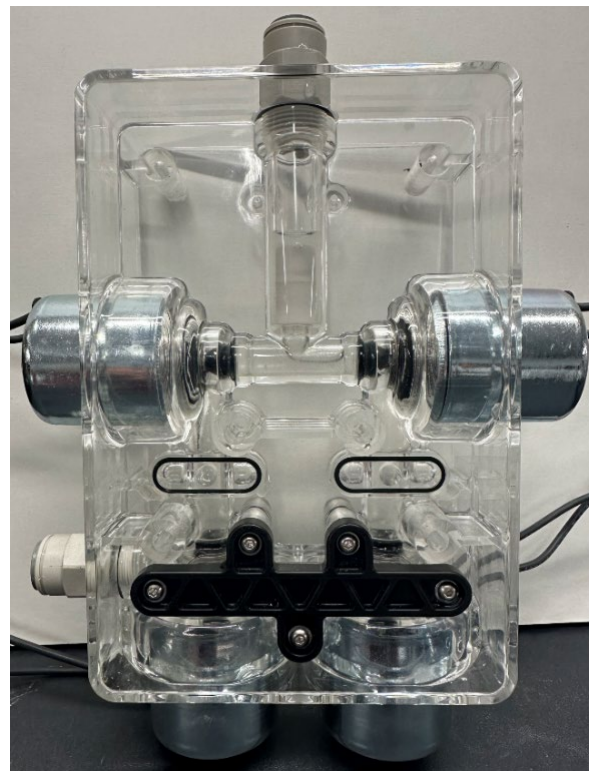


Figure 22 - Alternative manifold block

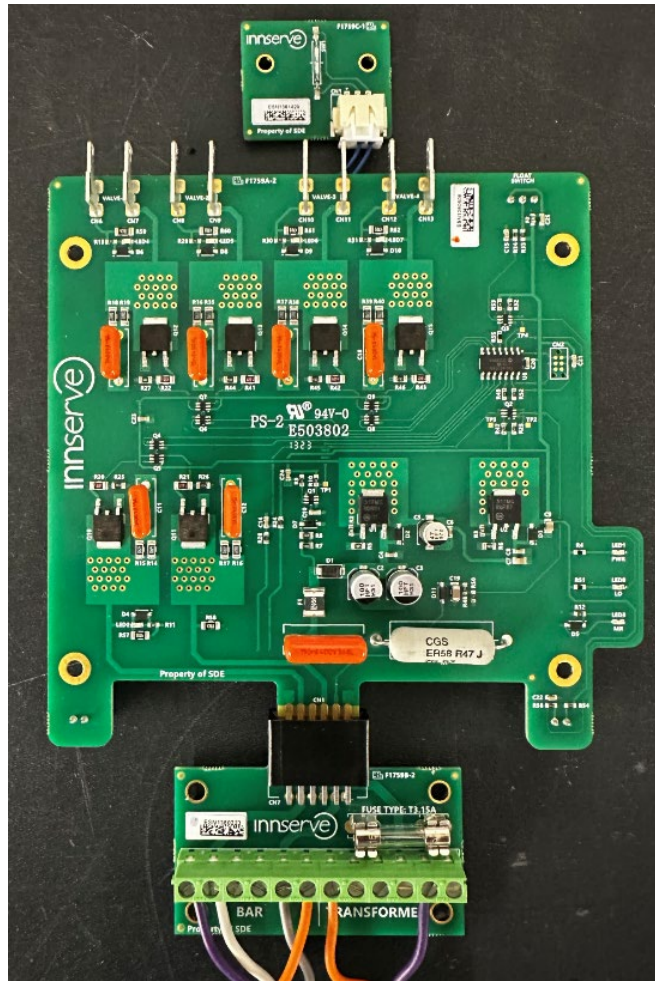


Figure 23 - Alternative PCB & plug

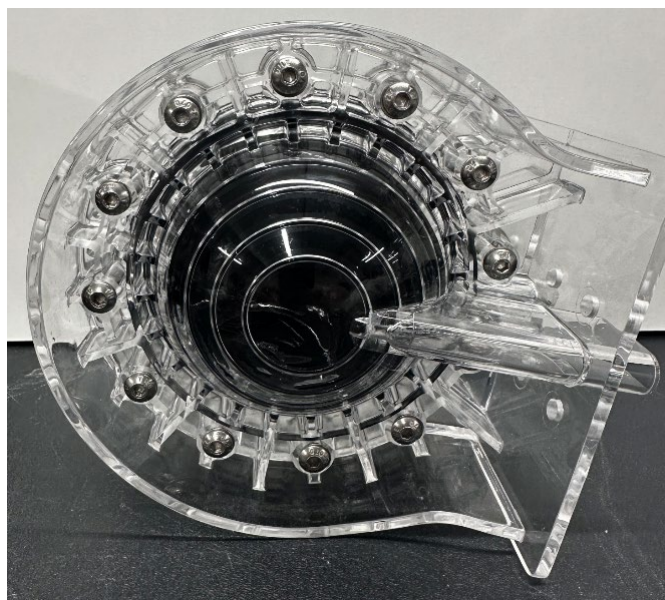


Figure 24 - Alternative measuring sphere

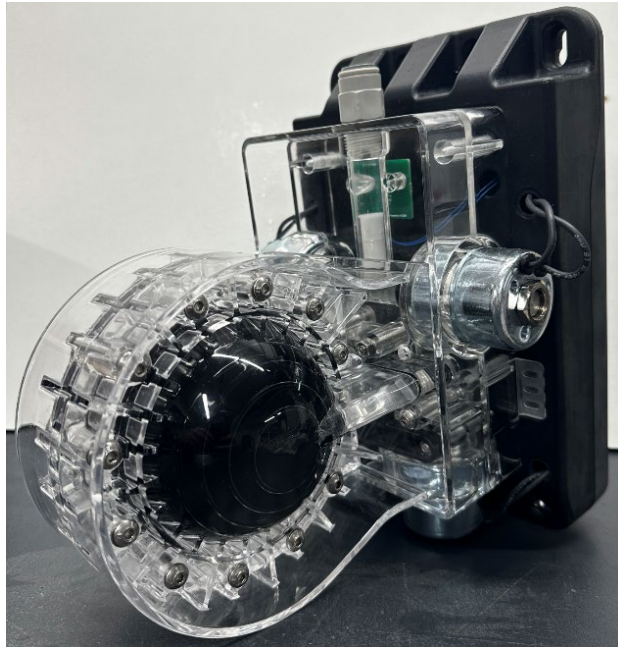


Figure 25 - Alternative meter complete



Figure 26 - Alternative sealing arrangement