

Draft EAC dispensing pumps regulations, 2011

1. “Dispensing Pump” means a liquid fuel measuring instrument which has a meter on one or more measuring chambers and with a maximum rate of delivery not exceeding 100 litres per minute; and “liquid fuel” includes lubricants or any other mixture of liquid fuel and lubricants. **Definition**

2. No dispensing pump for use in the presence of a buyer shall – **Construction**

- a) Have more than one outlet for measured liquid unless an automatic mechanism is provided to ensure that liquid can flow from only one outlet at a time;
- b) Be installed in such a manner that the nozzle, or delivery outlet, of the instrument can deliver measured liquid fuel directly into any storage tank of the instrument.

3. (1) A dispensing pump which forms part of a fixed installation shall be so positioned that a buyer may readily obtain a clear and an unobstructed view of – **Installation**

- a) All the operations carried out by any person using the instrument to measure the liquid fuel being supplied to the buyer; and
- b) Any device on the instrument which indicates the quantity supplied or the amount payable, or that delivery is being effected.

(2) Where a dispensing pump is connected to two or more storage tanks, suitable valves shall be fitted in each suction line, or at the junction of the suction lines so that any line can be closed when the corresponding tank is empty.

4. (1) Every dispensing pump, other than piston or container type instruments, shall – **Dispensing pumps to have inter-lock and zero setting mechanism**

- a) Have a zero reset mechanism so constructed that a delivery having been completed and –

- i. The solenoid valve de-energized; or
- ii. In the case of manually operated instruments, the motor switched off (Or the starter switch in the “off” position), it shall not be possible to make a further delivery until every individual sales indicator has been reset to zero:

Provided that this sub-paragraph shall not apply to any instrument intended only for measurement of lubricating oil or other liquid of high viscosity;

- b) Have the starting mechanism so constructed that the delivery nozzle cannot be hung up on its normal position, or what appears to be its normal position until –
- i. The solenoid valve is de-energized; or
- ii. In the case of manually operated instruments, the motor is switched off (or the starter switch is in the “off” position); and the expression “Normal Position” shall, for the purpose of this sub-paragraph be taken to mean the nozzle being properly located on its hung up hook with its spout in the holster;

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- c) Be so constructed that the re-set mechanism cannot be operated whilst the solenoid valve is energized or, in the case of manually operated instrument, the motor is switched off (or the starter

switch is in the “off” position).

(2) The housing of every dispensing pump, other than a piston or container type instrument, shall be so constructed as to permit ready access to the interior of the instrument for the purpose of inspection and stamping.

5. (1) Every dispensing pump, shall be provided with a calibration device designed in such a manner as to permit adjustment of the ratio between indicated quantity and the actual quantity of liquid passing through the meter.

Calibration device

(2) Where the calibration device modifies the relation in a digital manner the consecutive value of the relationship shall not differ by more than 0.002.

(3) Adjustment of the instrument by means of a by-pass valve on the meter shall not be permitted.

6. Every dispensing pump submitted for verification shall –

Certificate of notice of approval number

- a) Be legibly and durably marked with the certificate number or the number of the notice of approval issued, or duly adapted, by the Head of Legal Metrology in respect of the pattern in accordance with which it is made , preceded by the words “Certificate No” or “Notice No” as the case may be; and
- b) Where it is made in accordance with an authorization of the Head of Legal Metrology, bear a legible and durable indication of the date of such authorization preceded by letter “M”.

7. Every dispensing pump shall be marked with the identity or grade of the product that it is meant to deliver, or if the product is a mixture, with an indication as to the ratio of the mixture and where the instrument will only give correct deliveries when used with liquids having particular properties or under particular operating conditions, it shall be conspicuously and clearly marked to indicate such limitations.

Marking of grade of product

8. (1) Every indication of quantity on a dispensing pump shall be marked either in full or by means only of one or each other of the abbreviations specified in the First Schedule:-

Manner of marking the quantity

Provided that the indication may be shown by figures only where the unit of measurement is boldly marked on the display panel of the instrument, or the container; and provided also that the unit of measurement is in immediate association with such figures so that no confusion can arise therefrom.

(2) In the case of an instrument which is designed to deliver pre-determined quantities by using stop or other setting devices –

- a) The position for the proper setting of each stop or setting device shall be positively and accurately defined and marked; and
- b) Adequate provision against inadvertent displacement from this position shall be made; and
- c) The delivery for which the instrument is set shall be clearly and conspicuously indicated.

9. A dispensing pump of the price-computing type shall display the “price

Price Indication

per litre” on every display panel and the indications of price shall either be full or abbreviations of appropriate currency by member states–

10. Every marking, notice, inscription or indication on a dispensing pump having reference to its method of operation or to the quantity delivered, shall be conspicuously and legibly marked in a suitable position of the instrument in plain block characters on a plain background and in distinct colour contrasting thereto.

Markings to be conspicuous, legible and on contrasting background

11. (1) Every dispensing pump for use for sale in the presence of a buyer shall be provided with both quantity and price indicators, and each individual sales indicator so graduated as to indicate all possible deliveries; and any other counting or totalizing device that may be provided shall be so arranged as to avoid any possibility of confusion with an individual sales indicator.

Individual sales indicator

(2) When an instrument is provided with more than one individual sales indicator, all the indicators shall give the same equivalent quantity readings.

(3) Any electronic individual sales indicator shall be constructed such that in the event of power failure the indications of the quantity delivered up to the time of the power failure can be re-called (on at least one display panel where the instrument has more than one) for a total time of at least 5 minutes over a period of at least 30 minutes after the power failure.

(4) Every individual sales indicator shall be arranged so that indication cannot be advanced-

- a) By means other than by the flow of the liquid through the instrument; and
- b) Beyond the zero graduation line.

(5) In the case of the dispensing pump of the twin or multiple container type, the individual sales indicator shall be so arranged as not to register before the discharge from each container respectively has commenced.

(6) No audible or other signals of discharge of liquid which can be operated to signal before the movement of the individual sales indicator is completed shall be permitted.

12. (1) On dispensing pumps, other than container type instruments, every pointer or indicator used with a graduated scale or dial to indicate quantity of liquid delivered or its total price shall be symmetrical about the line at which it stands.

Quantity indications

- (2) Any such pointer or indicator-
 - a) Shall reach the graduation lines; and its extremity shall not be wider than such graduation lines; or
 - b) If in the same plane as the graduation line, shall not be more than 1.5mm from their ends.

13. (1) Every indicating device on a dispensing pump shall be graduated and numbered in numerical sequence in one direction only.

Graduation

(2) The graduations shall be straight and of uniform thickness and the thickness shall not exceed one-fourth of the smallest scale division.

(3) The actual or optically magnified width of the smallest scale division shall not be less than 2mm.

(4) The value of the scale division shall be equal to 1, 2, or 5 litres or decimal multiple or submultiples thereof.

14. (1) All figures associated with graduation lines on any indicating device shall be uniformly placed in reference to those lines and shall be as close thereto as practicable but not so as to interfere with the accuracy of the reading.

Numbering

(2) The actual or optically magnified height of the figures shall not be less than 4mm.

(3) In the case of an instrument fitted with a digital indicator the figures shall not be less than 18mm in height.

(4) Where an indicator has an analogue scale only part of which is visible through an aperture or window, the size of the aperture measured parallel to the direction scale, shall be at least equal to 1.5 times the distance between two numbered graduation lines.

(5) Where a dispensing pump is fitted with a ticket – printing mechanism, any letters, symbols or digits indicating the quantity, unit price and total price shall be clear and legible and shall not be less than 4mm in height; and if the mechanism prints the total price on the ticket, the unit price must also be printed and the words “total price” and “price per litre” shall appear in appropriate positions in letters not less than 3mm in height.

15. Every dispensing pump, other than an instrument for the measurement of lubricating oil or other liquids of high viscosity, shall be fitted either-

Discharge indicators

(a) With a device to show that the container or containers are properly filled or discharged; or

(b) With a device to show that instrument is properly primed before use, and that the liquid is flowing through the instrument.

16 (1) Where a dispensing pump is provided with a swing arm or other form of rigid extension pipe, such arm or pipe shall be so constructed as either –

Swing arm and drainage of hose

a) to empty itself completely through the delivery outlet ; or

b) to remain permanently filled up to the nozzle ;in which case the device referred to in paragraph (b) of rule/regulation 162 shall be fitted at the highest point of the swing arm or extension pipe.

(2) A flexible discharge hose ,together with any swing arm or extension pipe which empties itself on delivery , shall be so arranged

as to facilitate drainage of the liquid

17. No dispensing pump shall be fitted with a flexible discharge hose exceeding 5 meters length:

Length of hose

Provided that these rule shall not apply to instruments for use for the delivery of -

- a) Liquid fuel to ships or aircrafts;
- b) Lubricants

18. (1) A dispensing pump shall be tested under practical working condition with the liquid the instrument is intended to deliver (or a liquid having similar characteristics) by reference to standard measure or testing equipment, or gravimetrically.

Mode of testing

(2) No dispensing pump shall be tested unless__

- (a) it is complete with all parts and attachments concerned in the operation of all measurements and delivery; and
- (b) all parking glands, couplings and joints are free from leaks.

(3) A dispensing pump intended to be permanently fixed in the position in which it is to be used shall be tested and stamped only when completely erected ready for use and installed at the place where it is to be used.

19. Before testing a dispensing pump the inspector shall ensure

Pre-requisites to testing

(a) that liquid has been passed through the instruments:

Provided that the requirements of this paragraph shall not apply to instrument in which the delivery hose remains permanently filled up to the nozzle;

(b) that any safeguarding interlocks or limiting mechanism and other automatic device are functioning satisfactorily.

20 (1) Every dispensing pump shall deliver correctly when it is operated at any speed between its maximum speed of operation and of 5 Litres per minute:

Correct delivery within maximum and minimum flow-rates

Provided that where an instrument is found to have maximum speed of operation lower than 40 Litres per minute, the test at a minimum speed shall be carried out at rate of not less than 25 percent of the maximum speed obtained with the instrument.

(2) The speed of operation for any single delivery during testing shall be as uniform as possible.

(3) In the case of an instrument connected to two or more storage tank, any quantity of liquid delivered shall be within the maximum permissible error when:

- a) Each suction line is opened in turn and the remainder closed;
- b) Where practicable, all suction lines are opened, regardless of the fact that some storage tanks maybe empty:

Provided that the requirements of this rule shall not apply to instruments arranged to blend liquids drawn from two or more storage tanks into a liquid which is then measured and delivered at a single delivery point.

21. The inspector shall ascertain that any dispensing pumps which is so constructed to calculate and indicate price, number or any

Price computing instrument

other dependence function of the quantity measured shall indicate such information correctly, and in the case of preset instruments, that the mechanism functions correctly.

22. (1) For the purpose of the performance by an inspector of his test, the person in-charge of the instrument shall, if requested by the inspector, provide for the inspector's use such liquid as the inspector may reasonably require.
- a. Any liquid withdrawn from any tank or container for the purpose of an inspector's test of an instrument shall upon the conclusion of the test be forthwith returned to the tank or container from which it was withdrawn, or be placed in another respectable provided by the person incharge of the instrument.
 - b. The inspector shall, if requested, furnish the person in charge of the instrument with a signed and date statement of the quantity withdrawn from the tank or container and returned as aforesaid.

Inspector to be provided with the liquid for testing

23. An inspector may open any locked or sealed tank or container from which liquids may have been withdrawn for the purpose of his test in order to return the said liquid thereto and, immediately after the liquid has been so returned, he securely refasten the said return or container and he shall replace any seal or link broken by in opening the said tank or container with a sealed upon which he shall affix his stamp.

Power of inspector to break seals

24. The Head of Legal Metrology may authorize any fit and proper person employed in the erection, repair and adjustment of dispensing pumps to break any seal or sealing device on any instrument which that person intend to erect, repair or adjust , and to seal or reseal the same subject to the following conditions:

Authorization of person who erect, repair or adjust dispensing pumps.

- a) The person seeking authorization must satisfy the director that he possess the necessary technical know-how to engage in the repair of the instrument.
- b) The Head of Legal Metrology may withdraw any authorization at any time if the authorized person contravenes the requirement of these rules/regulations.
- c) The person authorized shall examine and verify instruments in accordance with directions given by an inspector;
- d) The person authorized shall seal or re-seal any dispensing pump only by means of stamping pliers so constructed as to impress upon every seal or sealing device such mark and number as the Head of Legal Metrology may a lot to him for the purpose of identification;
- e) The person authorize shall forward to the inspector in charge of weight and measure administration of the area in which the instrument is situated a notice, in writing, the contain the following information:
 - i. The location of, and particulars by which the instrument may be identified;
 - ii. The date on which the authorized person intend to

- erect, repair or adjust the instrument;
- iii. The business name and address of the proprietor of the instrument and
- iv. The name, authorization number and address of the authorized person.

25. (1) The maximum permissible error on a dispensing pump shall not exceed:-
- a) On verification 0.25 percent of the quantity delivered in excess only; and
 - b) On re-verification or inspection 0.5 percent of the quantity delivered in excess or 0.25 percent of the quantity delivered in deficiency.

Maximum permissible errors

2. The dilation error of the delivery hose of a dispensing pump in normal condition of use, shall not exceed 50ml.

26. (1) Every dispensing pump shall be provided with one or more plugs, seals or sealings materials to protect all stops or other adjustable parts affecting delivered or with such alternative sealing arrangements as may be authorized by the Head of Legal Metrology .
- (2) The verification mark shall be placed on all such plugs, seals and sealing devices as the case may be.

Stamping