CANCELLED

6/4D/95
5/3/84

NATIONAL STANDARDS COMMISSION

WEIGHTS AND MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/95

This is to certify that an approval has been granted by the Commission that the pattern and variants of the

Berkel Model ED-L 6000 Weighing Instrument

submitted by Berkel Australia Pty Ltd
19 Evans Street
Burwood, Victoria, 3125

are suitable for use for trade.

The approval is subject to review on or after 30/8/85.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/95.

The approval may be withdrawn if instruments are used other than in accordance with the drawings and specifications lodged with the Commission.

Signed
H. Peiry
Executive Director

Descriptive Advice

Pattern: approved 30/6/80

. A Berkel model ED-L 6000 self-indicating price-computing weighing instrument of capacity 12 kg by 0.002 kg scale intervals, with unit price to $999.99/kg and price to $9999.99.

Variants: approved 30/6/80

1. Model ED-L 6000 with a capacity of 6 kg by 0.001 kg scale intervals with unit price to $999.99/kg and price to $5999.94.

2. Model 566 comprising model ED-L 6000 of either 12 kg or 6 kg capacity with weighing unit and console housed in a single unit.

3. A retail or prepackaging instrument comprising a model ED-L 6000 or model 566 of either 12 kg or 6 kg capacity, with a Berkel model 3100 or 3107 ticket printer.

4. Model ED-NC 6000 comprising weighing unit of 12 kg or 6 kg capacity with console indicating mass only, with or without data output socket.

Technical Schedule No 6/4D/95 dated 15/7/80 describes the pattern and variants 1 to 4.

Variants: approved 29/1/82

5. Model ED-M3 self-indicating price-computing weighing instrument of 12 kg by 0.002 kg or 6 kg by 0.001 kg capacity, incorporating a micro-computer and ticket printer.

...../2

6. Variant 5 without the printer, and known as model ED-L3.

Technical Schedule No 6/4D/95 Variation No 1 dated 22/2/82 describes variants 5 and 6.

Variant: approved 16/3/82

7. The pattern or variant 1 connected to a Hugin model H5320 or H5330 price-computing ticket printer.

Technical Schedule No 6/4D/95 Variation No 2 dated 19/4/82 describes variant 7.

Variant: approved 8/11/82

8. The pattern or variant 1 connected to an additional model ED-L 6000 price-computing console.

Technical Schedule No 6/4D/95 Variation No 3 dated 19/11/82 describes variant 8.

Variants: approved 19/11/82

9. Variant 6 with a 48-key PLU keyboard, and known as model SB-48.

10. Variant 6 with a 24-key PLU keyboard, and known as model SB-24.

11. Variants 9 and 10 without the separate keyboard.

12. The pattern and variants 1, 2, 3, 5 and 6 with the keyboard separated from the console.

13. The pattern and variants 1 and 4 to 10 with the calibration adjustments removed from the indicator.

Technical Schedule No 6/4D/95 Variation No 4 dated 14/12/82 describes variants 9 to 13.

Variant: approved 10/2/84

14. Model ED-L3E of either 12 kg or 6 kg capacity.

Technical Schedule No 6/4D/95 Variation No 5 dated 5/3/84 describes variant 14.

Filing Advice

Certificate of Approval No 6/4D/95 dated 14/12/82 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4D/95 dated 5/3/84
Technical Schedule No 6/4D/95 dated 15/7/80 (including Test Procedure and Tables 1 and 2)
Technical Schedule No 6/4D/95 Variation No 1 dated 22/2/82
Technical Schedule No 6/4D/95 Variation No 2 dated 19/4/82
Technical Schedule No 6/4D/95 Variation No 3 dated 19/11/82
Technical Schedule No 6/4D/95 Variation No 4 dated 14/12/82
Technical Schedule No 6/4D/95 Variation No 5 dated 5/3/84
Test Procedure No 6/4D/95 Variation No 1 dated 22/2/82
Figures 1 to 8 dated 15/7/80
Figures 9 to 12 dated 22/2/82
Figure 13 dated 19/4/82
Figure 14 dated 14/12/82.

H 44

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/95

Pattern: Berkel Weighing Instrument Model ED-L 6000

Submittor: Euroscale Pty Ltd,
19 Evans Street,
Burwood, Victoria, 3125.

1. Description of Pattern:

1.1 General

The pattern is a self-indicating price-computing weighing instrument of capacity 12 kg by 0,002 kg scale intervals with unit price in 1 cent increments to $999,99 per kg and price in 1 cent increments to $9999,99. It comprises a weighing unit and a mass-and-price console interconnected by a plug-in cable (Figure 1). Mass, tare mass, unit price and price are digitally indicated on both the vendor's and purchaser's sides of the console (Figures 1 and 2).

1.2 Weighing Unit

The weighing unit contains two vibrating-string weigh cells. One cell is not connected to the lever system and is used as a reference; a constant load is attached to it and the frequency of its vibrating string does not change. The other cell is connected to the lever system; its vibrating string generates a change in frequency proportional to the load applied, this change being compared to the stable frequency in the reference cell.

The weighing unit is provided with a locking device which is disengaged by release of two screws under the weighing unit.

1.3 Console

The mass-and-price console converts the signal from the weighing unit into a mass indication; unit price is entered by means of the push-button keyboard. The price calculated by the console, the unit price, and the mass, are displayed on both sides of the console. The unit price is cleared either by pressing the button marked C, or automatically when the mass indicator returns to zero. Pressing the fix-unit-price button F retains the unit price when the mass indicator returns to zero; this is indicated by illumination of the word FIX.

The indications of mass and price blank out when the load is above or below capacity and when the load is not steady.

A data-output socket may be fitted on the console. When this socket is not in use it is covered by a plate fixed internally.

1.4 Zero

An automatic zero-setting device monitors the mass information and resets zero within 0,25e whenever the instrument comes to rest within 0,5e of zero.

Additionally, this device will reset zero when the instrument is switched on provided the instrument is within ± 20e of the factory-set reference point.

A self-initiating zero-check test program occurs every 0,4 s when the instrument is not loaded; if an error in zero setting is encountered an error signal is given and the instrument becomes inoperative until the fault is cleared. *

1.5 Taring

A semi-automatic subtractive taring device with a maximum effect of 12 kg is provided. A container placed on the load receptor is tared to within 0,25e when the tare button T is pressed. The value of the tare is indicated on the vendor's and purchaser's sides of the instrument; zero is indicated on the mass indicator. When the container is removed the mass indicator goes blank and the tare indicator continues to display the tare value. When the filled container is placed on the load receptor, net mass is indicated. The tare value remains throughout the weighing and is automatically cancelled when the filled container is removed from the load receptor unless the FIX button has been pressed, in which case tare is cancelled by pressing button T.

The instrument is approved for retail counter use.

1.6 Sealing

1.6.1 Weighing unit:

(a) Two circular lead plugs under the load receptor prevent removal of the load receptor support.

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* A separate zero-balance indicator is not provided as the automatic zero-setting system, together with the self-initiating zero-check test program, ensure that the indication of zero always means zero within 0,25e.

(b) The serial numbers of the weighing unit and the console are sealed to the weighing unit by the stamping plug on the side of this unit (Figure 3). A second seal on the same side of the unit prevents the cover from being removed.

1.6.2 Mass-and-price console: two of the cover-retaining screws are sealed with lead-and-wire.

1.6.3 The interconnecting cable is internally connected to the weighing unit and is plugged into the console. This plug is sealed with a lead-and-wire seal (Figure 3).

1.7 Marking

The instrument is marked with the following data:

Manufacturer's name	
Serial number of instrument	
NSC approval number in the form:	NSC No 6/4D/95
Accuracy class in the form:	(III)
Maximum capacity in the form:	Max .....*
Minimum capacity in the form:	Min .....*
Verification scale interval in the form:	d_a = e = ...*
Maximum subtractive tare in the form:	T = - .....*

* These markings appear on both reading faces.

2. Variants

2.1 Model ED-L 6000 of capacity 6 kg by 0,001 kg scale intervals with unit price in 1 cent increments to $999,99 and price in 1 cent increments to $5999,94.

2.2 Model 566 comprising Model ED-L 6000 of either 12 kg or 6 kg capacity with weighing unit and mass-and-price console housed in a single cabinet (Figure 4). The instrument is sealed by two separate lead-and-wire seals passing through the drilled heads of two cover-retaining screws under the load receptor.

2.3 A retail or a prepackaging instrument comprising a Model ED-L 6000 of either capacity, or a Model 566, with a Berkel 3100 or 3107 ticket printer (Figure 5).

The printer model 3100 prints mass, unit price and price (Figure 6); printer Model 3107 can also print two dates and a commodity text.

When the instrument is in retail use, the tickets may be hand-held or self-adhesive, and indicate mass, unit price and price, or price only, in which case the ticket may have the word DOLLARS or the symbol $ printed before the price; the word DOLLARS or the symbol$ may be either preprinted on the ticket or printed by the printer.

The serial number of the printer is sealed to the weighing unit, with the serial number of the console, by the stamping plug. A cover within the printer is sealed by a lead-and-wire seal to prevent access to the printer circuit boards (Figure 7).

2.4 Model ED-NC 6000 comprising weighing unit of 12 kg or 6 kg capacity with console indicating mass only, and with or without data output socket (Figure 8).

8. Test Procedure:

3.1 Accuracy Requirements

The maximum permissible errors are:

± 0,5e for loads between 0 and 500e;
± 1e for loads between 501e and 2000e; and
± 1,5e for loads above 2000e.

3.2 Zero test

As the automatic device resets zero when the weighing mechanism is in equilibrium within 0,5 scale interval of zero, zero should be checked as described in the Commission's Test Procedure for the Elimination of Rounding Errors for Weighing Instruments with Digital Indication (Document 104) with, say, a load equivalent to 10 scale intervals on the load receptor. The indications with 0,25e and 0,75e additional weight on the load receptor should then be 10e and 11e respectively.

3.3 Price-computing accuracy

The indications of mass, unit price and price as listed in Tables 1 and 2, will indicate that price-computing and mass circuits are functioning correctly. The exact figures should be indicated as rounding is effected within the computer.

Note: This test does not establish correct mass indications; a separate test, which may be carried out in conjunction with this test in accordance with the Commission's recommended testing procedure for the elimination of rounding errors - Document 104 - is necessary.

TABLE 1

Indicated mass	Unit Price	Price
kg	$/kg	$
0	0	0
00,040	869,11	34,76
00,052	753,12	39,16
00,064	641,13	41,03
00,076	532,14	40,44
00,088	413,15	36,36
00,090	394,16	35,47
00,110	997,99	109,78
00,220	103,50	22,77
00,330	265,88	87,74
00,400	959,55	383,82
00,500	949,44	474,72
00,600	939,33	563,60
00,700	929,22	650,45
00,800	919,11	735,29
00,900	9,14	8,23
01,000	910,57	910,57
02,000	870,03	1740,06
03,000	784,67	2354,01
04,000	950,52	3802,08
05,000	884,96	4424,80
06,000	906,99	5441,94
07,000	899,64	6297,48
08,000	949,53	7596,24
09,000	988,72	8898,48
10,000	999,99	9999,90
11,000	909,09	9999,99
12,000	833,33	9999,96

Test Procedure - 12,000 kg Instrument by 0,02 kg Scale Interval with Unit Price to $999,99 and Price to $9999,99

TABLE 2

Indicated mass	Unit price	Price
kg	$/kg	$
0,000	000,00	0000,00
0,010	999,99	0010,00
0,011	899,99	0009,90
0,022	799,99	0017,60
0,033	699,99	0023,10
0,044	599,99	0026,40
0,055	499,99	0027,50
0,066	399,99	0026,40
0,077	299,99	0023,10
0,088	199,99	0017,60
0,099	988,88	0097,90
0,100	977,77	0097,78
0,200	966,66	0193,33
0,300	955,55	0286,67
0,400	944,44	0377,78
0,500	933,33	0466,67
0,600	922,22	0553,33
0,700	911,11	0637,78
0,800	990,90	0792,72
0,900	950,90	0855,81
1,000	944,77	0944,77
2,000	654,32	1308,64
3,000	765,43	2296,29
4,000	876,54	3506,16
5,000	986,35	4931,75
6,000	999,99	5999,94

Test Procedure - 6-kg Instrument by 0,001 kg Scale Interval with Unit Price to $999,99 and Total Price to $5999,94.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/95

VARIATION No 1

Pattern: Berkel Weighing Instrument Model ED-L 6000

Submittor: Euroscale Pty Ltd,
19 Evans Street,
Burwood, Victoria, 3125.

1. Description of Variants

1.1 Variant 5

1.1.1 General

Berkel Model ED-M3 self-indicating price-computing weighing instrument of capacity 12.0 kg by 0.002 kg scale intervals with unit price in 1c increments to $999.99/kg and price in 1c increments to $9999.99, or of capacity 6.0 kg by 0.001 kg scale intervals with unit price in 1c increments to $999.99/kg and price in 1c increments to $5999.94. It comprises a weighing unit and console interconnected by a plug-in cable (Figures 9 and 10).

1.1.2 Weighing Unit

The weighing unit is identical with that described in Technical Schedule No 6/4D/95 dated 15/7/80.

1.1.3 Console

The ED-M3 mass and price console is similar to the ED series console described in Technical Schedule No 6/4D/95 except that it incorporates a micro-computer and a ticket printer.

Mass, unit price and total price are indicated on the display and are printed on a paper-tape ticket (Figure 11).

Unit prices are entered into the instrument memory by means of the keyboard which may also be used to recall stored information or to enter new or additional information. The keyboard is also used for other managerial functions.

The instrument contains an internal battery which allows it to continue to operate for up to 2 hours after loss of the mains supply. When operating on battery power, the indicator displays E23 as an error indication when the voltage becomes too low for reliable operation.

1.1.4 Marking

As per Technical Schedule No 6/4D/95 dated 15/7/80.

1.2 Variant 6

1.2.1 General

Variant 5 without the printer and associated totalising functions (Figure 12).

TEST PROCEDURE No 6/4D/95

VARIATION No 1

Tests for these variants are as described in Technical Schedule No 6/4D/95 dated 15/7/80 and in addition.

3.4 Range of Indication

(a) The maximum mass indicated should not exceed the marked maximum capacity by more than 10 scale intervals; above this, the indicator should be blank.

(b) The minimum mass indicated should be zero; below this the indicator should blank or display a series of "U's" in the mass indicator.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/95

VARIATION No 2

Pattern: Berkel Weighing Instrument Model ED-L 6000

Submittor: Berkel Australia Pty Ltd,
19 Evans Street,
Burwood, Victoria, 3125.

1. Description of Variant 7

1.1

The pattern or variant 1 connected to a Hugin model H5320 or H5330 price-computing ticket printer (Figure 13). The connection of either printer to the ED-L 6000 does not interfere with the weighing process of the ED-L 6000.

Unit price data for the ticket printer may only be entered via the Hugin instrument by use of the price look-up (PLU) facility. This may be done by entering the PLU number on the plug in keyboard, then pressing the PLU key. The total price of the transaction will be displayed on the Hugin indicator and the mass, unit price (stored in the PLU) and the total price will be displayed on both the customer's and vendor's indicators on the ED-L 6000.

1.2 Keyboard Layout

The layout of the keyboards on all models is flexible to permit variations in user requirements.

PLU keys shall always be fitted.

There should be no key denominated SCALE on the keyboard.

1.3

The mass, unit price and total price of each weighed item are displayed on both the vendor's and customer's indicators on the ED-L 6000.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/95

VARIATION No 3

Pattern: Berkel Model ED-L 6000 Weighing Instrument

Submittor: Berkel Australia Pty Ltd
19 Evans Street
Burwood, Victoria, 3125.

1. Description of Variant 8

The pattern (12 kg) or variant 1 (6 kg) with an additional model ED-L 6000 price-computing console, displaying to the same capacity.

A mass placed on the load receptor will have its mass displayed at each console.

Tare can only be entered from one console at a time, and can only be cancelled at the console from which it was entered. Only one unit price can be in the system at any one time. Entering a unit price at one console cancels any unit price entered at the other.

19/11/82

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/95

VARIATION No 4

Pattern: Berkel Model ED-L 6000 Weighing Instrument

Submittor: Berkel Australia Pty Ltd
19 Evans Street
Burwood, Vic, 3125.

1. Description of Variants

1.1 Variant 9

Berkel model SB-48 self-indicating price-computing weighing instrument of capacity 12 kg by 0.002 kg scale intervals with unit price to $999.99/kg and price to $9999.99, or of capacity 6 kg by 0.001 kg scale intervals with unit price to $999.99/kg and price to $5999.94. It comprises a weighing unit, console and keyboard interconnected by plug-in cables (Figure 14).

1.1.1 Weighing Unit

The weighing unit is identical to that described in Technical Schedule No 6/4D/95 dated 15/7/80.

1.1.2 Console

The SB-48 mass and price console is similar to the ED-series console described in Technical Schedule No 6/4D/95 dated 15/7/80 except that it incorporates a micro-computer for a 48-key price-look-up (PLU) keyboard.

Mass, unit price and total price are indicated on the digital display. The unit price is recalled from the memory via the PLU keyboard.

1.1.3 Separate Keyboard

Unit prices are entered into the instrument memory by means of the separate keyboard which may also be used for other managerial functions.

1.1.4 Sealing

Sealing is only required for the weighing unit and plug-in cable, and is as described in Technical Schedule No 6/4D/95 dated 15/7/80.

1.2 Variant 10

Similar to variant 9 but with a 24-key PLU keyboard and known as model SB-24.

Sealing is as for variant 9.

1.3 Variant 11

Variants 9 and 10 without the separate keyboard, i.e. PLU facility only, in which case the tare facility is inoperative.

Sealing is as for variant 9.

1.4 Variant 12

The pattern and variants 1,2,3,5 and 6 with the keyboard separated from the console (similar to the arrangement shown in Figure 14).

Sealing is as for variant 9.

1.5 Variant 13

The pattern and variants 1 and 4 to 10 with the calibration adjustments removed from the indicator and incorporated in the basework.

The indicator is not required to be sealed.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/95

VARIATION No 5

Pattern: Berkel Model ED-L 6000 Weighing Instrument

Submittor: Berkel Australia Pty Ltd
19 Evans Street
Burwood, Victoria, 3125.

1. Description of Variant 14

A model ED-L3E of either 12 kg or 6 kg capacity. The weighing unit is as described in Technical Schedule No 6/4D/95 dated 15/7/80 and the ED-L3E console is a smaller version of the console described in the same document.

NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/95

CHANGE No 1

The following changes are made to the description of the Berkel Weighing Instrument Model ED-L 6000:

a) Certificate of Approval No 6/4D/95 dated 19/4/82;
to "Variant 6. Variant 5 without the printer."

add "and known as model ED-L3."

b) Technical Schedule No 6/4D/95 Variation No 1 dated 22/2/82;
to "1.2.1 General

Variant 5 .....(Figure 12)"

add "and known as model ED-L3."

c) Test Procedure No 6/4D/95 Variation No 1 dated 22/2/82;
to "3.4 (a) ..... should be blank"

add "or show a series of "n's"."

d) Figure 12;
change caption to read "Berkel Model ED-L3 - Variant 6".

Signed

H. Pelin

Executive Director

13/5/82

FG

NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/95

CHANGE No 2

The following change is made to the description of the Berkel Model ED-L 6000 Weighing Instrument:

In Technical Schedule No 6/4D/95 dated 15/7/80, paragraph 1.7 Marking:

Delete the requirement to include the Marking for Maximum Subtractive Tare on the reading faces.

Signed

Executive Director

14/12/82

FIGURE 6/4D/95 - 1

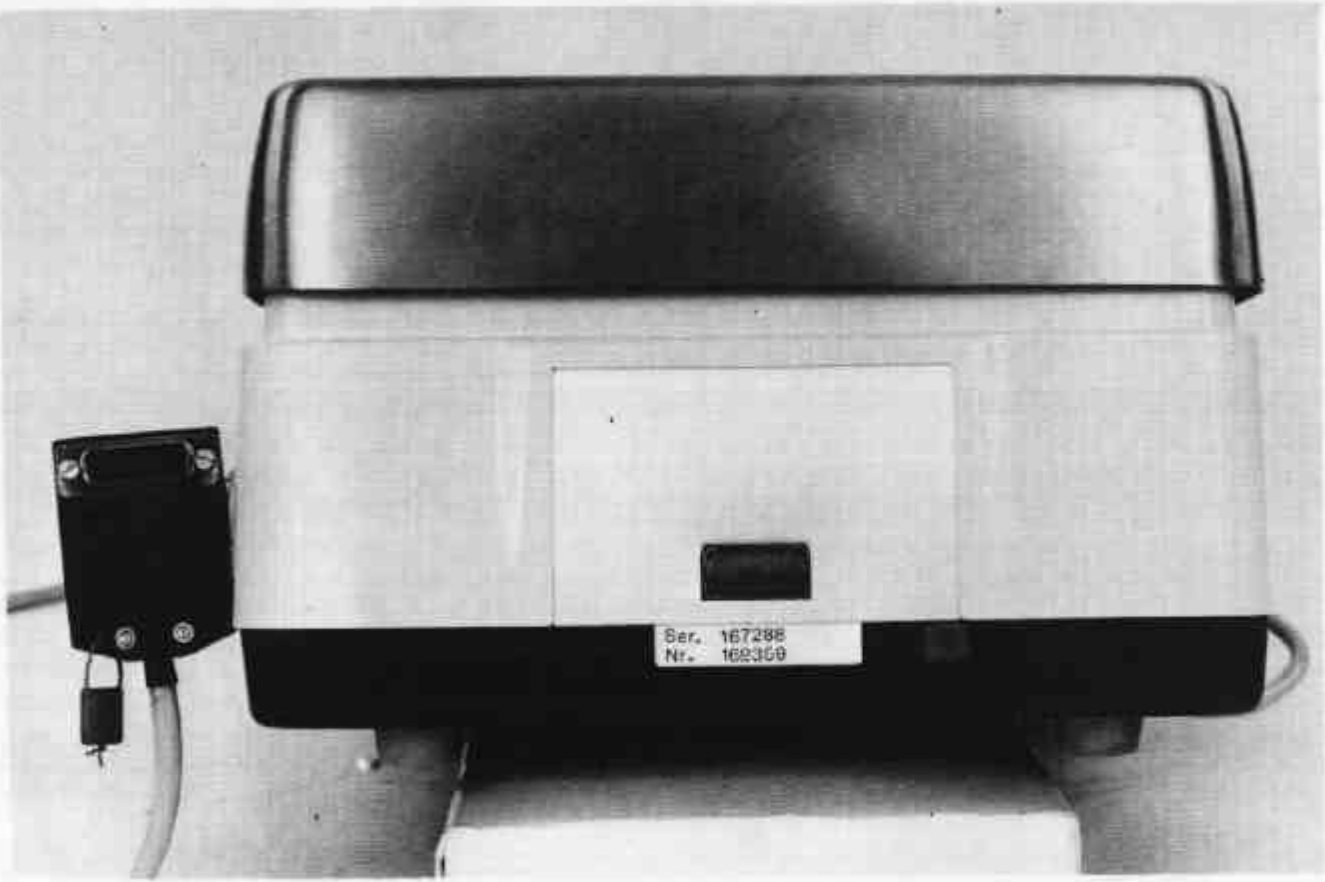
Berkel Model ED-L 6000

15/7/80

FIGURE 6/4D/95 - 2

Berkel ED-L 6000, Purchaser's Side

FIGURE 6/4D/95 - 3



Weighing Unit Showing Sealing of Serial Numbers and Plug of Interconnecting Cable

FIGURE 6/4D/95 - 4

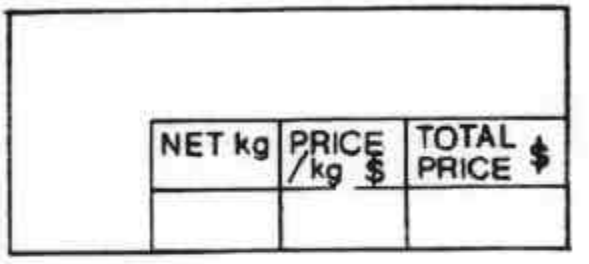
Berkel Model 566

FIGURE 6/4D/95 - 5

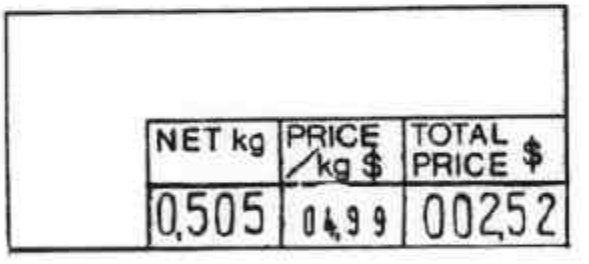
Berkel 3107 Printer

15/7/80

FIGURE 6/4D/95 - 6



(a) Before printing

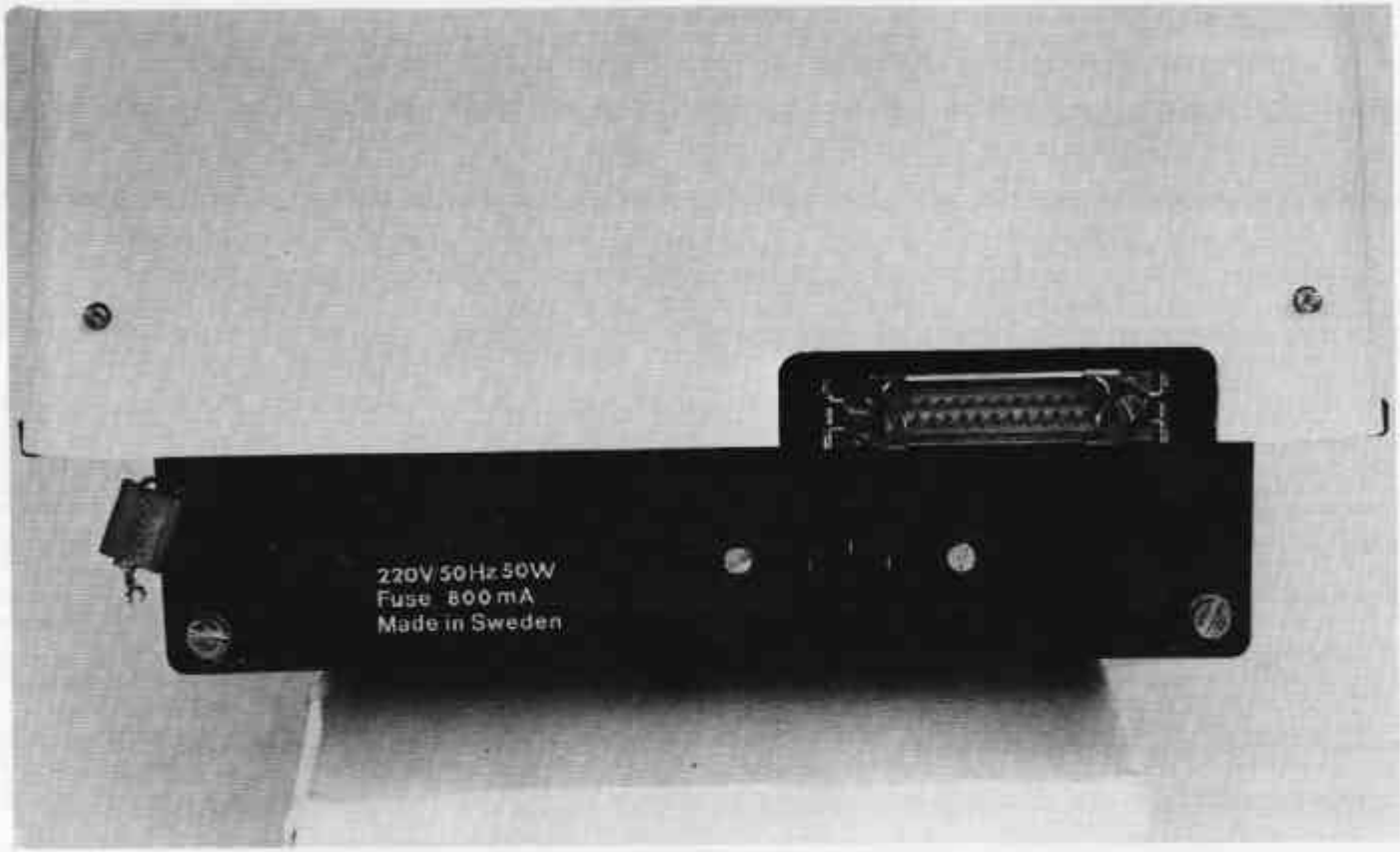


(b) After printing

Sample Ticket Berkel 3100 Printer (actual size)

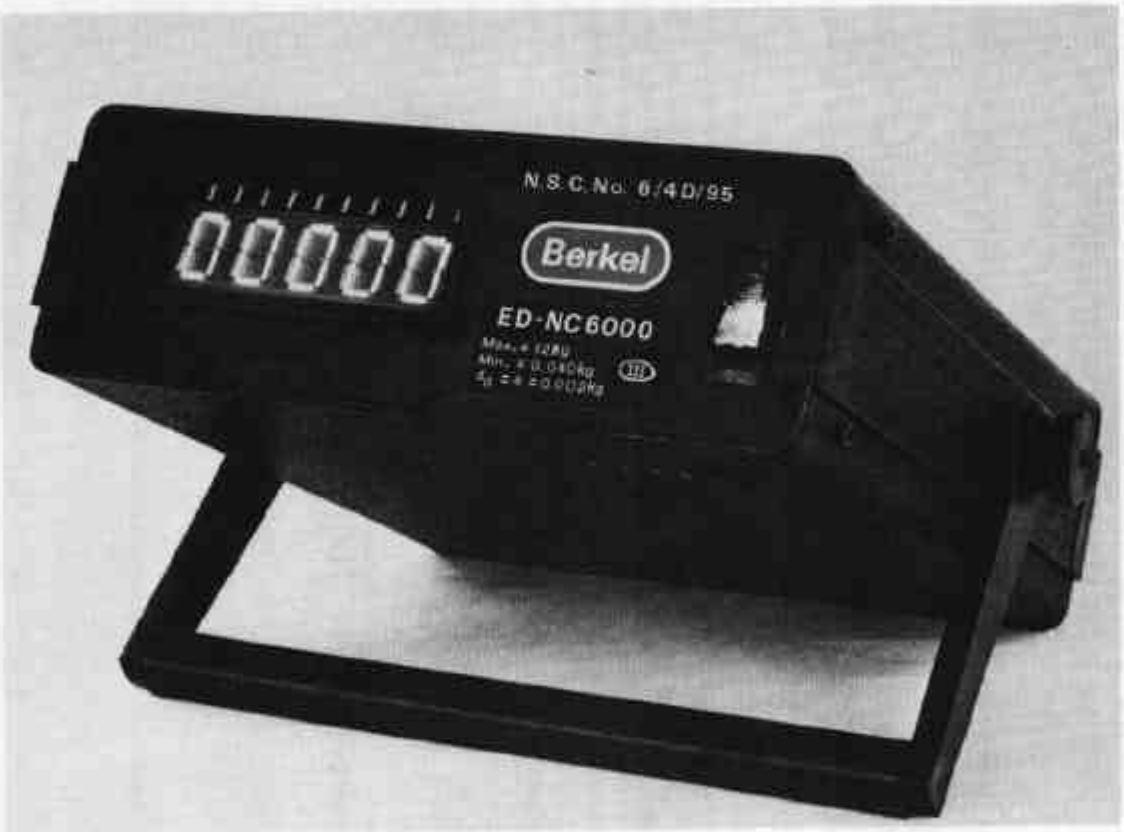
15/7/80

FIGURE 6/4D/95 - 7



Berkel 3107 Printer Showing Sealing of Cover

FIGURE 6/4D/95 - 8

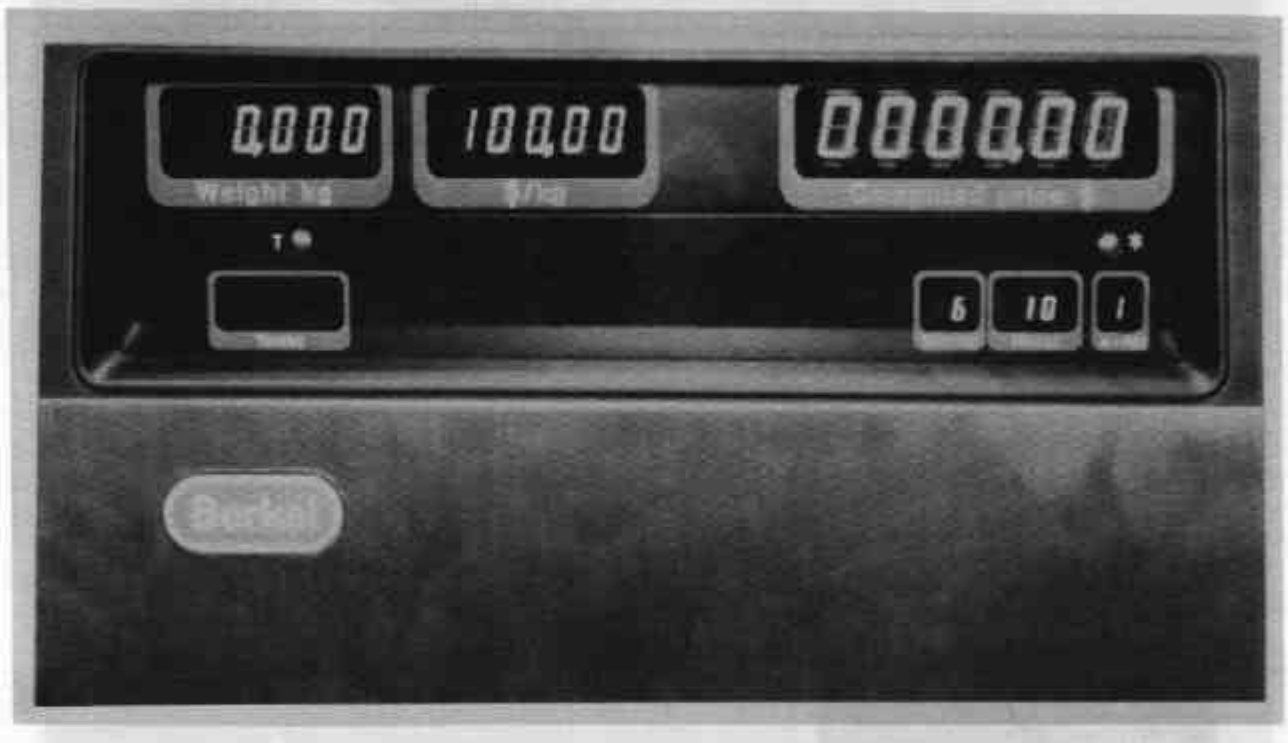


Berkel Model ED-NC 6000

15/7/80

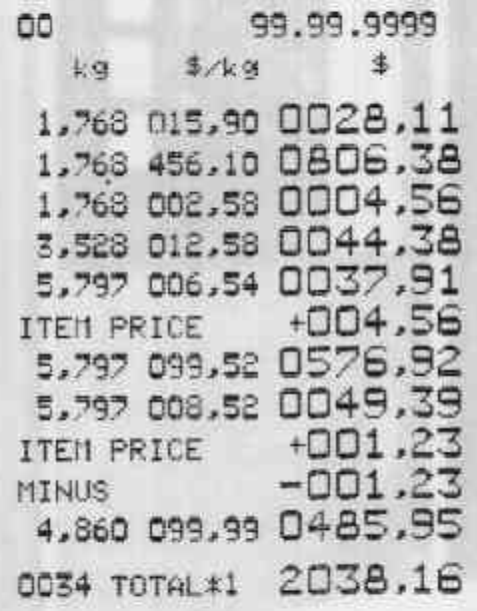
FIGURE 6/40/95 - 9

Berkel Model ED-M3 - Variant 5



Berkel Model ED-M3 - Customers Side

FIGURE 6/40/95 - 11



00 99.99.9999

kg	$/kg	$
1,768	015,90	0028,11
1,768	456,10	0806,38
1,768	002,58	0004,56
3,528	012,58	0044,38
5,797	006,54	0037,91
ITEM PRICE		+004,56
5,797	099,52	0576,92
5,797	008,52	0049,39
ITEM PRICE		+001,23
MINUS		-001,23
4,860	099,99	0485,95
0034 TOTAL*1		2038,16

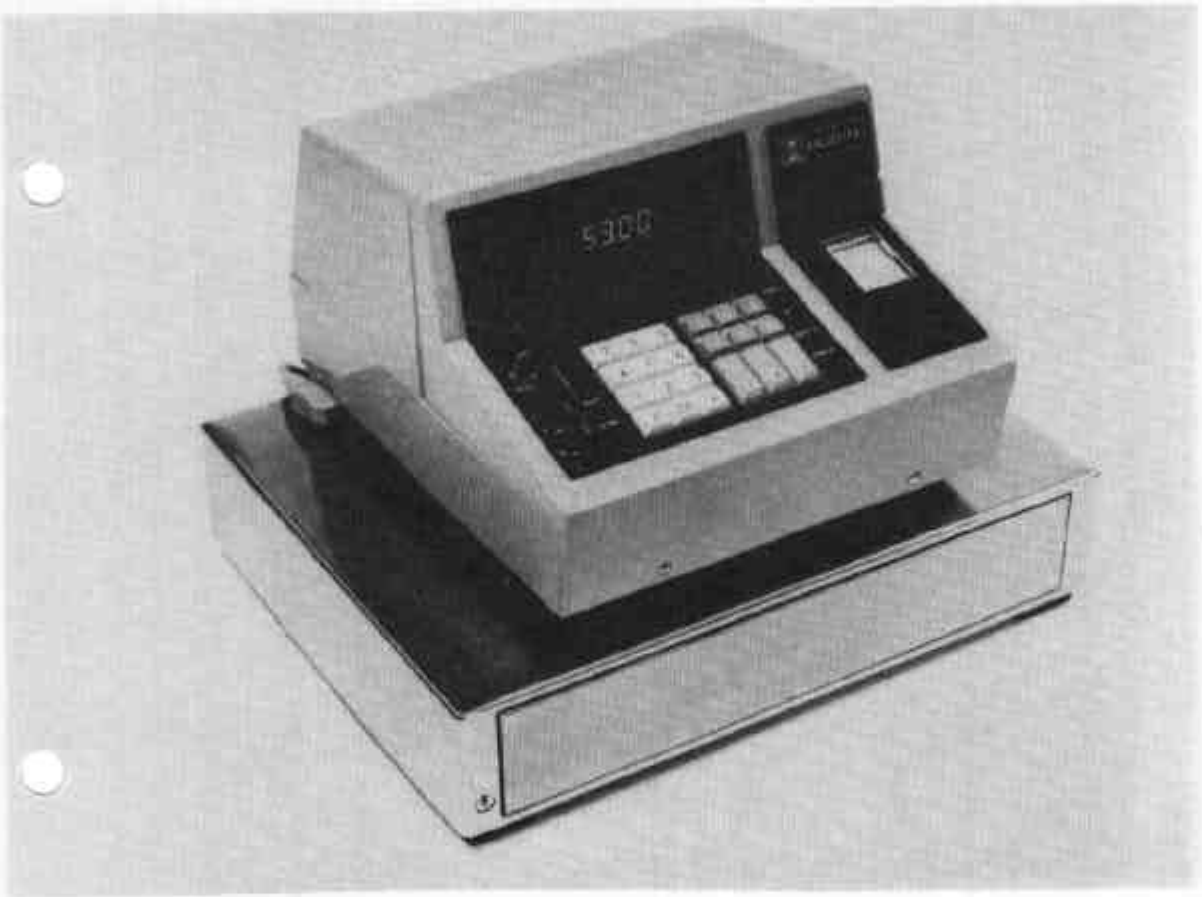
Berkel Model ED-M3 - Showing Typical Ticket

22/2/82

FIGURE 6/4D/95 - 12

Berkel Model ED-M3 - Variant 6

FIGURE 6/4D/95 - 13



Hugin 5300 Series Instrument

19/4/82

FIGURE 6/4D/95 - 14

Model SB-48 With PLU Console And Separate Keyboard

14/12/82