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CANCELLED

6/4D/89
15/10/84

NATIONAL STANDARDS COMMISSION

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/89

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

Berkel Model 570 Weighing Instrument

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

are suitable for use for trade.

This approval is subject to review on or after 31/3/85.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/89.

This approval may be withdrawn if instruments are constructed and used other than as described in the drawings and specifications lodged with the Commission.

Signed K Adams

Acting Executive Director

Descriptive Advice

Pattern: approved 4/5/80

. Berkel model 570 self-indicating price-computing weighing instrument of 15 kg capacity with 0.005 kg scale intervals.

Technical Schedule No 6/4D/89 describes the pattern.

Variants: approved 4/8/82

1. With the purchaser indicator mounted on a pillar attached to the weighing instrument.
2. With the purchaser indicator separate to the weighing instrument.
3. With both the purchaser and vendor indicators separate to the weighing instrument.
4. With both the purchaser and vendor indicators on a pillar attached to the weighing instrument.
5. With the keyboard separate to the weighing instrument.
6. With output sockets for peripheral and/or auxiliary equipment.

Technical Schedule No 6/4D/89 Variation No 1 describes variants 1 to 6.

Variant: approved 9/7/84

7. With an integral price-look-up (PLU) facility in which case the instrument is known as a model 571.

Technical Schedule No 6/4D/89 Variation No 2 describes variant 7.

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Filing Advice

Certificate of Approval No 6/4D/89 Variation No 2 dated 3/9/82 is superceded by this Certificate and may be destroyed.

The documentation for this approval now comprises:

Certificate of Approval No 6/4D/89 dated 15/10/84
Technical Schedule No 6/4D/89 dated 4/7/80 (including Test Procedures and Table 1)
Technical Schedule No 6/4D/89 Variation No 1 dated 3/9/82
Technical Schedule No 6/4D/89 Variation No 2 dated 15/10/84
Figures 1 to 3 dated 4/7/80
Figures 4 to 8 dated 3/9/82
Figure 9 dated 15/10/84

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/89

Pattern: Berkel Weighing Instrument Model 570

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

1. Description of Pattern:

The pattern is a self-indicating price-computing weighing instrument of capacity 15,000 kg by 0,005 kg scale intervals with price computing in 1c increments to $999,99/kg and price to $9999,99 (Figure 1). Mass, tare, unit price and price are digitally indicated on both sides of the instrument (Figure 2). Unit price is entered by ten push buttons and cancelled by pressing a button marked C. Pressing the button marked F retains unit price. The button marked P is disconnected.

The load receptor is supported by a frame which is attached to the load cell (Figure 3).

The output voltage from the load cell, which is proportional to the load applied, is digitally encoded to indicate mass, and is multiplied by the unit price to indicate price.

1.1 Zero:

The instrument will rezero automatically whenever it comes to rest within 0,5e of zero; this is indicated by a zero light being illuminated when zero is set within 0,25e.

The power switch and a tool-operated zero are used to rezero the instrument when zero has changed by more than 1 increment.

1.2 Indicator Segment Test:

When power is applied to the instrument, an automatic circuit causes all the indicators to indicate 8's. Operation of the button marked C causes all indicators to blank before the instrument zeroes.

1.3 Tare:

A semi-automatic subtractive taring device with a maximum effect of 9,995 kg is provided. A container of mass up to 9,995 kg, 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 to the nearest whole graduation on tare-mass indicators on the purchaser's and vendor's sides of the instrument, and zero ± 0,25e is indicated on the main indicators. When the container is removed the mass indicators go blank; the tare-mass indicators continue to display the tare value, and zero light is illuminated.

When the filled container is placed on the load receptor, the main indicator indicates net mass. The tare value remains throughout the weighing. The tare is deleted by removing the load from the platter and pressing the button marked T.

The instrument is approved for retail counter use.

1.4 Levelling:

The instrument is provided with a level indicator and four adjustable feet. Adjacent to the level indicator is a notice advising that the instrument must be level when in use.

1.5 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/89
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_s = e = ...*
Maximum subtractive tare in the form:	T = - .....*

* These markings appear on each reading face.

1.6 Sealing:

1. The access cover in the load receptor frame is sealed with a lead-and-wire seal passing through the two retaining screws.

2. The plastic housing is sealed by a lead-and-wire seal through the retaining nut closest to the keyboard.

3. The stamping plug is located on the vendor's side of the instrument.

2. Test Procedures

2.1 Accuracy Requirements:

The maximum permissible errors are:

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

2.2 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 Error for Weighing Instruments with Digital Indication (Document 104), with a load equal to, say, 10 scale intervals on the load receptor. The indications with 0,25e and 0,75e additional mass on the load receptor will then be 10e and 11e respectively.

2.3 Zero range - The maximum range of operation of the tool-operated and power switch zero devices should not exceed 4% of the capacity of the instrument (± 2% approximately). Satisfactory setting may be checked by the following method:

(a) with zero balance indicated, apply a load of 0,36 kg to the instrument and press the zero contactor; the instrument should not rezero; and

(b) reduce the load to 0,24 kg and again press the zero contactor; the instrument should indicate zero balance.

2.4 Level sensitivity - As the automatic zero device may prevent the zero from changing when the instrument is tilted at zero load, the effect of tilt should be initially checked with a small load on the instrument, say, 10e.

When the instrument is tilted so that the bubble in the level indicator moves 2 mm, the indication 10e should not change by more than 2e, and when the 10e load is removed and zero allowed to automatically reset, or is manually reset, in the tilted position, the instrument should satisfy the accuracy requirements given above.

2.5 Price-computing accuracy - The indications of mass, unit price and total price as listed in Table 1 will indicate that the 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 and in accordance with the Commission's recommended testing procedure for the elimination of rounding errors - Document 104 - is necessary.

2.6 Range of indication -

(a) The maximum mass indicated should not exceed the maximum capacity (Max); above this mass the mass indicator should indicate horizontal bars.

(b) The minimum mass indicated should be zero; below zero the mass indicator should indicate horizontal bars.

2.7 Taring - At any load within the capacity of the tare mechanism, the tare mechanism in conjunction with the automatic zero device should be able to reset the mass indicator to zero within 0,25e. This may be checked as described for ZERO TEST.

TABLE 1

Indicated mass kg	Unit price $/kg	Price $
0,000	0	0
0,100	999,99	100,00
0,105	498,99	52,39
0,110	997,99	109,78
0,120	696,99	83,64
0,130	595,99	77,48
0,140	764,50	107,03
0,150	993,99	149,10
0,160	882,31	141,17
0,170	991,99	168,64
0,180	990,96	178,37
0,190	389,88	74,08
0,200	179,77	35,95
0,300	269,66	80,90
0,400	959,55	383,82
0,500	949,44	474,72
0,600	939,33	563,60
0,700	929,22	650,45
0,800	919,11	735,29
0,900	9,14	8,23
1,000	910,57	910,57
2,000	870,03	1740,06
3,000	784,67	2354,01
4,000	950,52	3802,08
5,000	884,96	4424,80
6,000	906,99	5441,94
7,000	899,64	6297,48
8,000	949,53	7596,24
9,000	988,72	8898,48
10,000	999,99	9999,90
11,000	50,00	550,00
12,000	50,00	600,00
13,000	50,00	650,00
14,000	50,00	700,00
15,000	50,00	750,00

Test Procedure - 15-kg Instrument with Unit Price to $999,99/kg and Price to $9999,99.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/89

VARIATION No 1

Pattern: Berkel Model 570 Weighing Instrument

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

1. Description of Variants

1.1 Variant 1

With the customer indicator mounted on a pillar attached to the weighing instrument (Figure 4).

1.2 Variant 2

With the customer indicator separate to the weighing instrument and the interconnecting cable permanently connected within the weighing instrument (Figure 5).

1.3 Variant 3

With both the customer and vendor indicators separate to the weighing instrument and the interconnecting cables permanently connected within the weighing instrument (Figure 6).

1.4 Variant 4

With both the customer and vendor indicators on a pillar attached to the weighing instrument (Figures 4 and 7).

1.5 Variant 5

With the keyboard separate to the weighing instrument and the interconnecting cable permanently connected within the weighing instrument (Figure 8).

1.6 Variant 6

With an output socket for peripheral equipment.

1.7 Sealing

Variants 1 to 6 are sealed as described in Technical Schedule No 6/4D/89 dated 4/7/80.

In addition, Variant 6 has the output socket sealed unless connected to a peripheral device.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/89

VARIATION No 2

Pattern: Berkel Model 570 Weighing Instrument

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

1. Description of Variant 7

With an integral price-look-up (PLU) facility and with semi-automatic tare of up to 5 kg capacity, in which case the instrument is known as a model 571 (Figure 9).

4/7/80

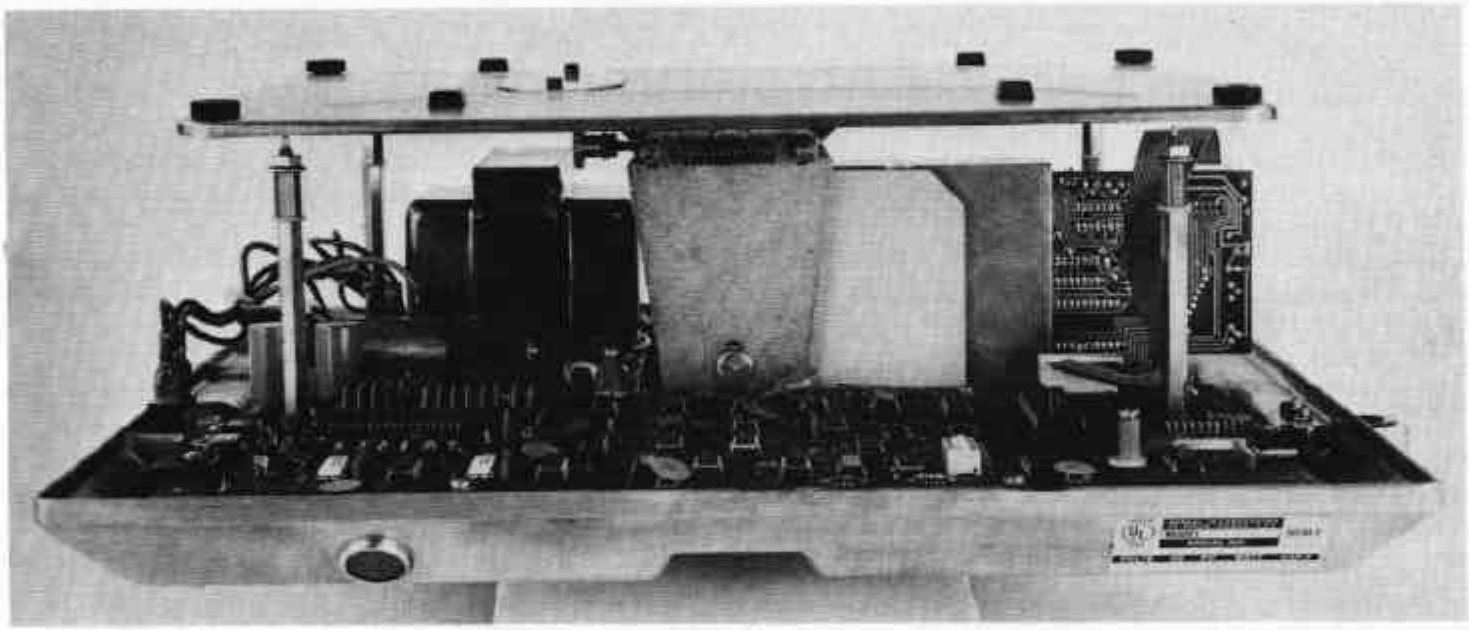
FIGURE 6/4D/89 - 1

Berkel Model 570 - Vendor's Side

FIGURE 6/4D/89 - 2

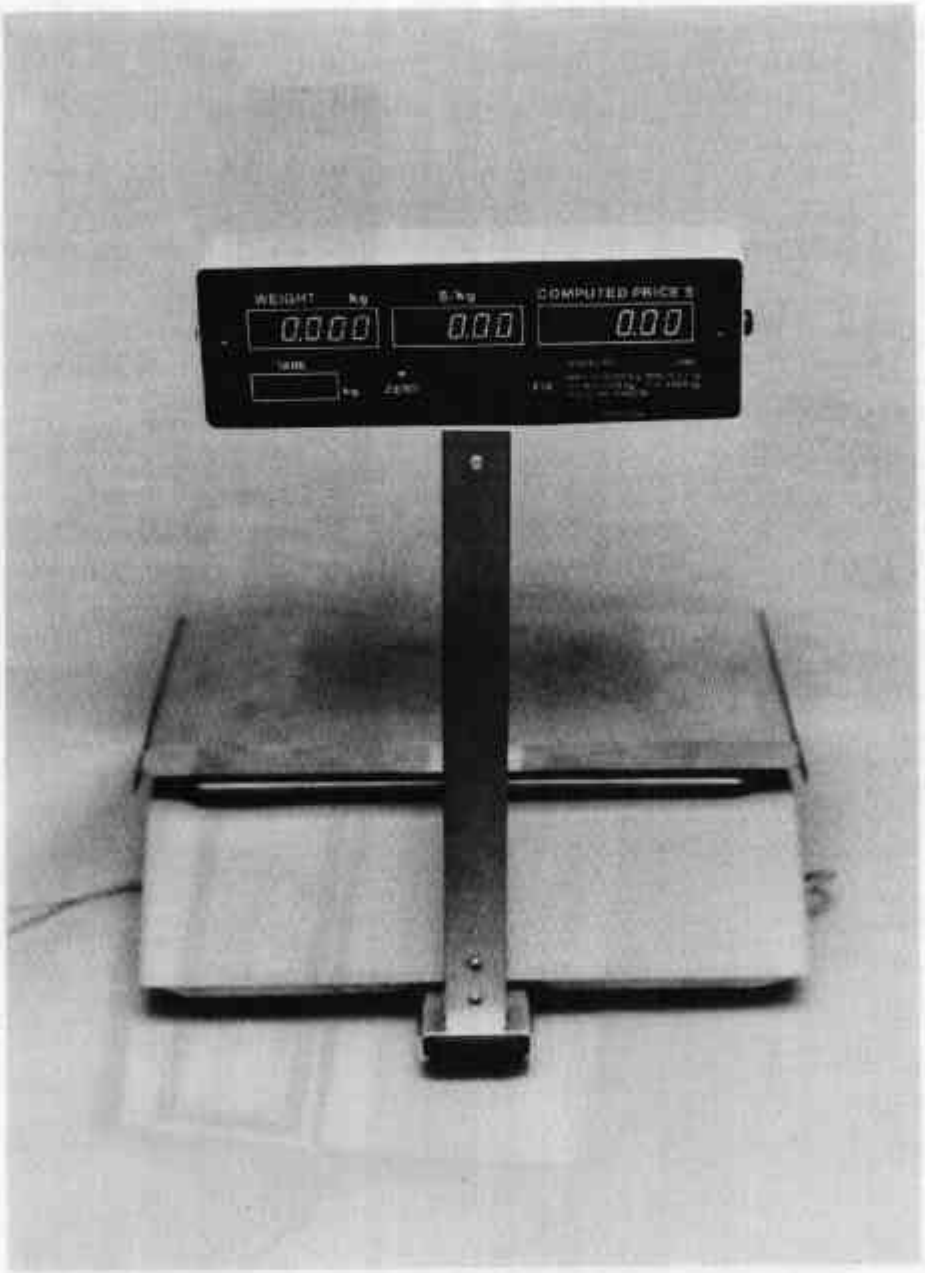
Berkel Model 570 - Purchaser's Side

FIGURE 6/4D/89 - 3



Berkel Model 570 - With Covers Removed

FIGURE 6/40/89-4



Customer Indicator On A Pillar

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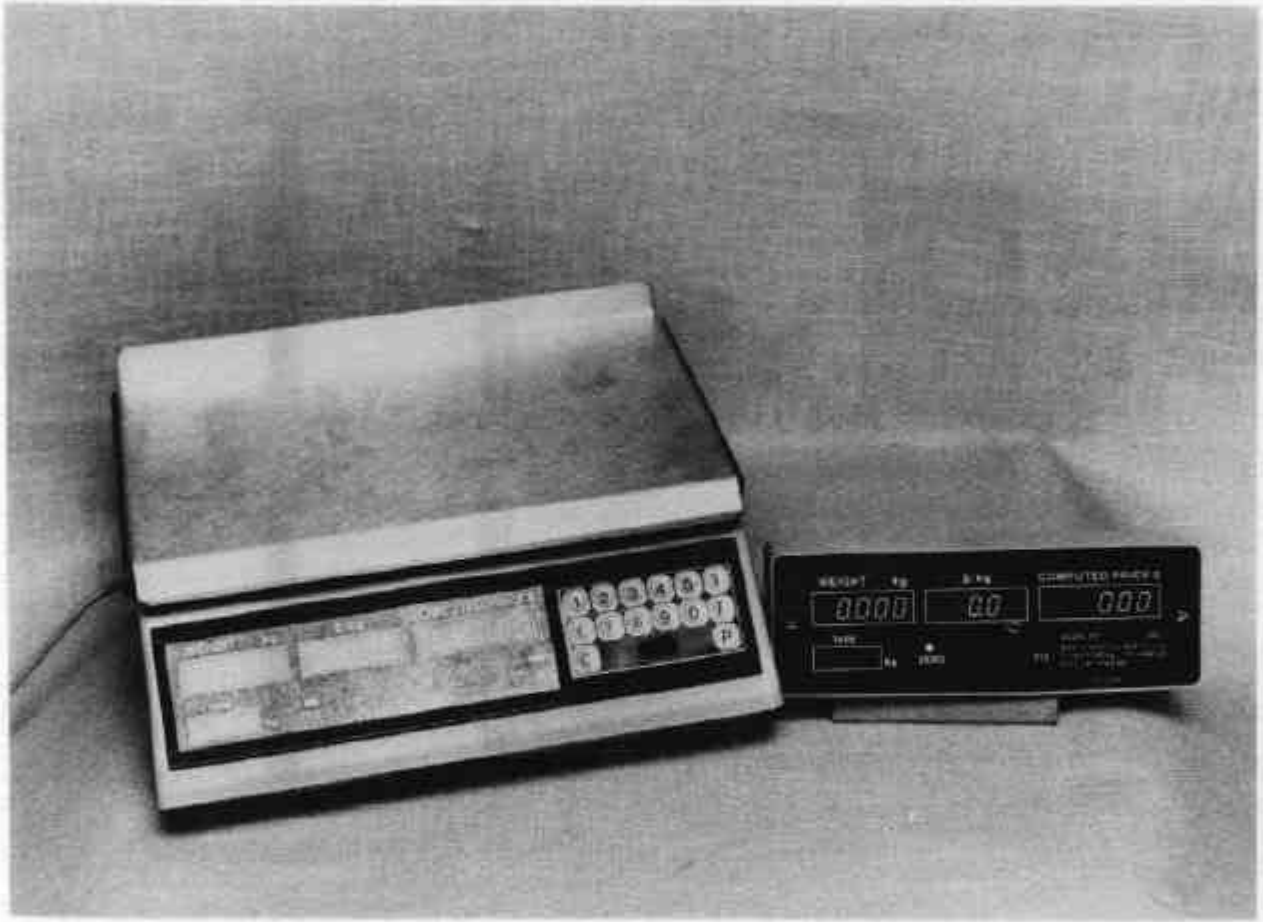
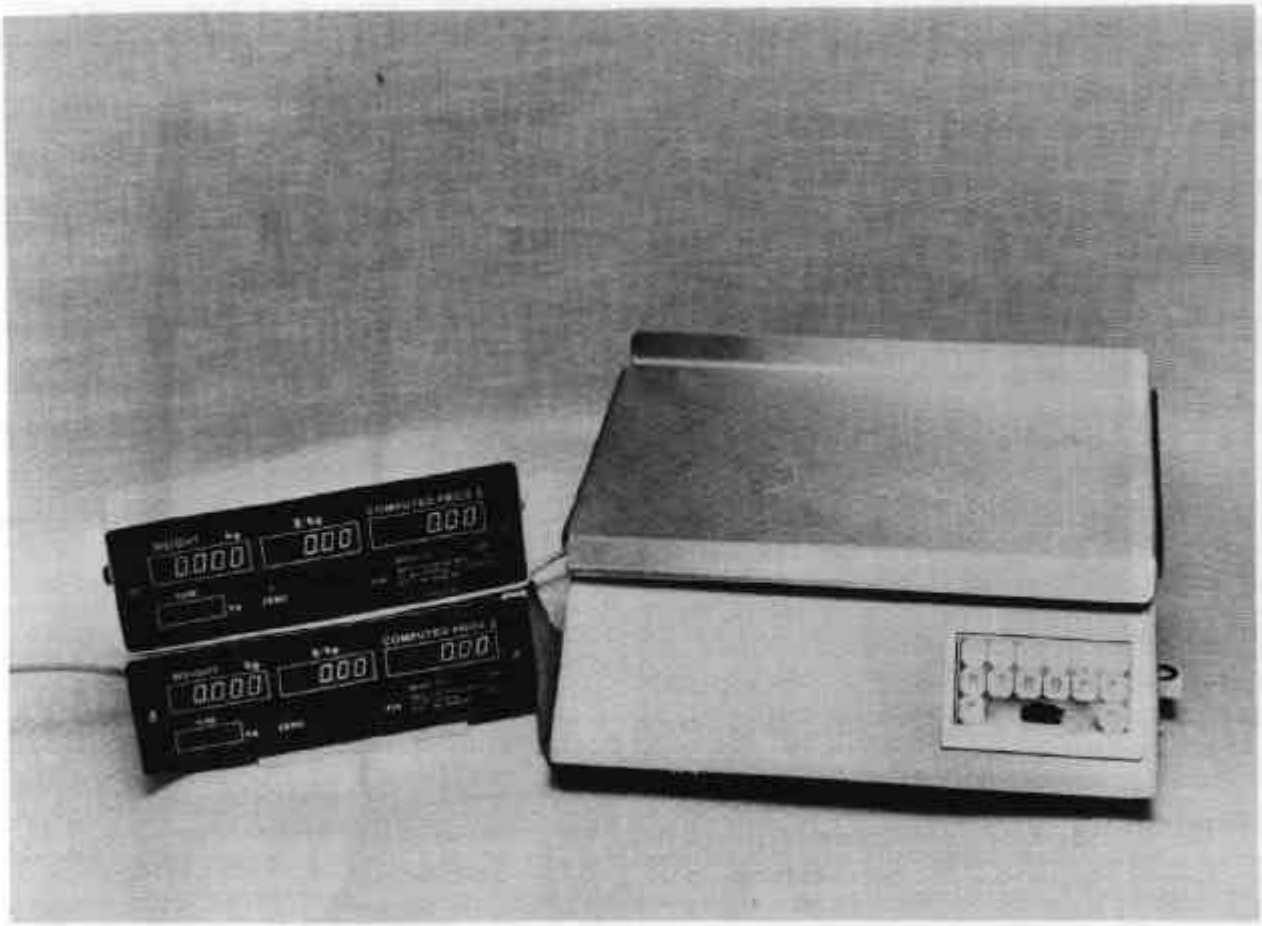
FIGURE 6/40/89-5



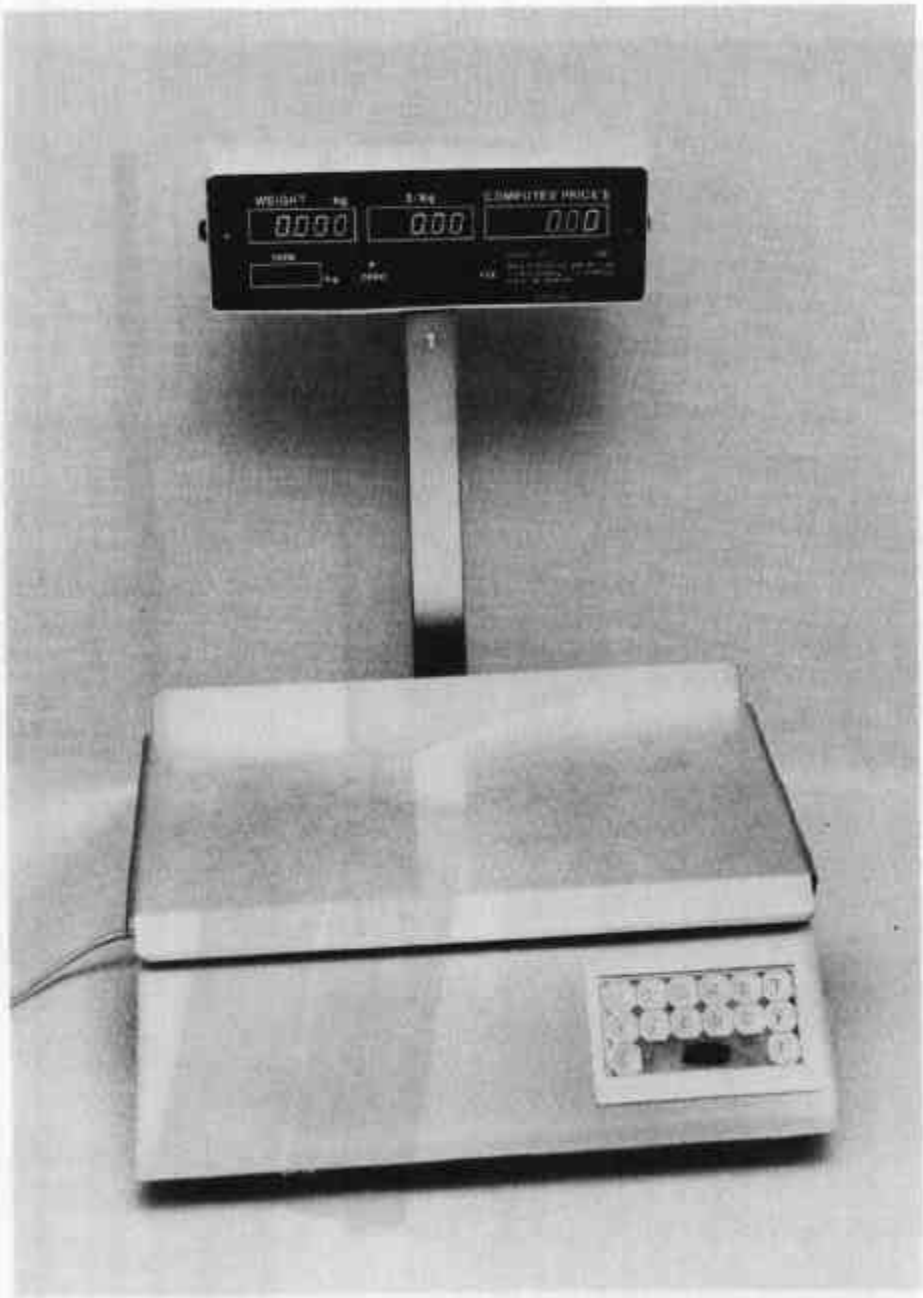
Customer Indicator Separate

FIGURE 6/40/89-6



Customer And Vendor Indicators Separate

FIGURE 6/40/89-7



Customer And Vendor Indicators On A Pillar

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FIGURE 6/40/89-8

Keyboard Separate

FIGURE 6/4D/89 - 9

Berkel Model 571