

## *CW100 CHECK WEIGHER*

### Fact File

- In line check weigher designed to compliment baggers and carton fillers.
- Programmable under and over reject set points
- Non volatile set point memory
- Batch and reject counters.
- Capable of up to 30 units a minute.
- Capacity up to 25 kg (55 lb's)
- Resolution - 5 grams.
- Air operated under/over reject gate.
- Adjustable legs.
- Large clear display



### Options & Accessories

- Infeed conveyor.
- Infeed conveyor control.
- Second reject gate control.
- Reject PVC chute.
- Left or right hand versions.
- Reject take away conveyor
- Stainless Steel construction
- RS232/RS485 printer or computer link.





## *CW100 CHECK WEIGHER*

### General Data

- Dimensions: (700L,470W)mm.
- Working heights - as requested.
- Weight: 60kg
- Electrical: 230Vac, 50Hz, 600VA
- Air Supply: not less than 80PSI
- Environment: 0 to 60C, IP54

### Other Products & Services

- Automation and control systems.
- Baggers - rotary, fixed or made to order.
- Bin and box tippers and fillers - single and twins.
- Brushing plant - dry and wet.
- Bulk unloaders & hoppers
- Carrot graders - width and length.
- Check weighers
- Conveyors and elevators
- Dirt eliminators.
- Drying tunnels - electric, gas or diesel.
- Drop out conveyors.
- Expanding roller sizers.
- Grading systems - screen graders, expanding roller graders.
- Inspection roller tables.
- Lettuce, cabbage, cauliflower baggers.
- Onion toppers.
- Pack out tables.
- Plant design service.
- Screen graders.
- Screens made order - nylon or steel square mesh.
- Sewing and heat sealing conveyors.
- Special purpose machinery made to order.
- Spreaders and pre-sizers plant.

**BMC Engineering Limited**

14 Nelson Street, Pukekohe, New Zealand  
Phone: +64 9 238 9942 Fax: +64 9 238 5743  
Email: [bmc@ps.gen.nz](mailto:bmc@ps.gen.nz)

---

---

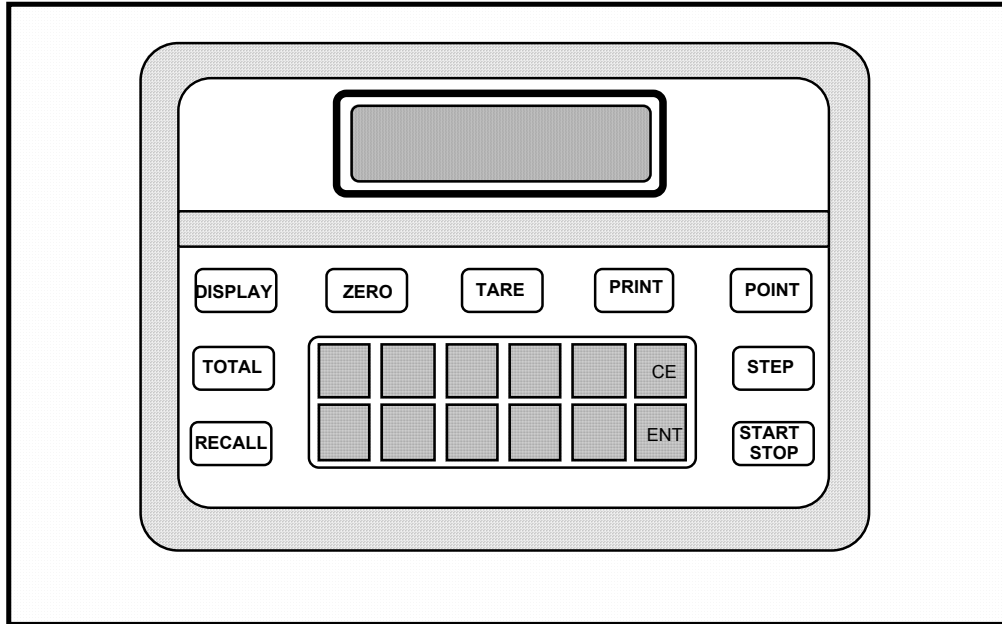
**Table Of Contents**

	<u>Page</u>
1. INSTALLATION & COMMISSIONING	1
2. OPERATING INSTRUCTIONS	2
User Notes	3
4. MAINTENANCE, REPAIR AND CALIBRATION	4
Maintenance	4
Calibration	4
Configuration	4
Trouble Shooting	5

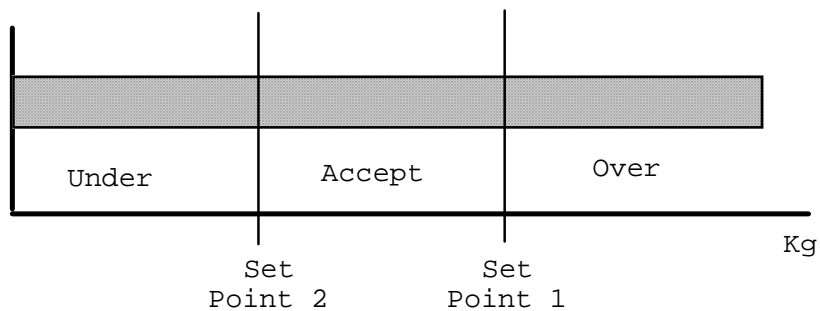
**1. INSTALLATION & COMMISSIONING**

- 1.1 Position the check weigher and adjust the leg height to match the in feed conveyor. Firmly bolt the unit to the floor.
- 1.2 Release the load cell safety clamps - the white knurled knobs located at the four corners of the scale base.
- 1.3 Connect the air supply and adjust the regulator for 80 PSI. If necessary adjust the oil drip for one drip every 15 seconds. You can only do this when the air rams are operating continuously.
- 1.4 Run the power lead to the machine. We recommend that *only the machine is connected to the selected power point.*
- 1.5 Turn on and allow five minutes warm up. Calibrate the scale - see the UMC612 manual for details.
- 1.6 Make your self familiar with the check weighers operation - refer to the operating instructions.

## 2. OPERATING INSTRUCTIONS



- 2.1 Switch on and press DISPLAY until the indicator shows 'kg gross'.
- 2.2 Allow 5 minutes warm up time then press ZERO to zero the scale.
- 2.3 Set point operation. Anything equal to or under set point 2 is under weight. Anything over set point 2 and less than set point 1 is acceptable and every thing over set point one is over weight.



- 2.4 To check and or change the set point settings:

- \* Press RECALL followed by SETPT.

- 
- \* Wait until the display message changes to 'Set point 1' This is the over weight setting.
  - \* Press SETPT again - the display will change to 'Set point 2' the under weight setting.
  - \* To change either set point press the '#' key and enter the new value finishing with 'ENTER'.

2.5 To start check weighing:

- \* Press DISPLAY key until the display changes to 'Start Batch Out'.
- \* Press START. Check weighing will start and run continuously until stopped recording the number of bags checked and the number rejected.

2.6 To stop or suspend check weighing press the START/STOP key. The display will change to 'cycle \*PAUSED\*'. Press 'START/STOP' to resume or press CE to finish followed by 'DISPLAY' to switch over to the scale mode indicated by the 'kg gross' message.

2.7 To recall the last batch bag count press;

- \* RECALL followed by COUNT to display the total bag count.
- \* Press COUNT again to display the under and over bags count.
- \* Press DISPLAY to return to the gross weight scale mode.

### **3. User Notes**

3.1 Changing set point values. You cannot change either set point value whilst in the check weigh mode. Return back to the scale mode then change the set point values.

3.2 'Cycle PAUSED' display message can appear if the weight measured exceeds 24 kg. When this happens check weighing will be suspended. Remove the weight and press the START/STOP key to resume.

3.3 Mains power interruption. The check weigher always remembers what it was doing when the power goes off - that is the current set point values and the mode of operation. When the power comes on again it will take up from where it left off. This means is that you can spread any batch over two or more days and turn the power off over night without loss of data.

## **4. MAINTENANCE, REPAIR AND CALIBRATION**

### **Maintenance**

#### **4.1 Do's and Don'ts**

- \* DO clean the machine regularly - use air and a damp cloth.
- \* DO check and empty the air water trap regularly.
- \* DO check the air pressure regularly - set for 80 LB's.
- \* DO allow 5 minutes warm up after connecting the power.
- \* DO remember to 'ZERO' the scale before starting check weighing.
- \* DO ensure lock up the scale base before moving or transporting the machine.
- \* DON'T hose down the machine.
- \* DON'T leave packets on the scale over night.
- \* DON'T oil the rollers - they are self lubricating.

### **Calibration**

- 5.1 This test can only be performed if you have a calibrated test weight or access to calibrated weigh scale. If you do not have these resources call your local scale company.
- \* Stop check weighing and switch back to the scale mode.
  - \* Follow the calibration procedure detailed section 5 of the UMC612 manual standard single slope calibration routine.
  - \* Check and recalibrate once a year.

### **Configuration**

- 5.2 Please note that the check weigher configuration and programming must not be changed from that entered at the factory. Your check weigher may perform erratically if the configuration is changed from that shown in the tables found in the appendices.

---

---

**Trouble Shooting**

5.3 The following table lists symptoms and repair action and should be used in conjunction with the drawings and diagrams found at the back of this manual.

No display.	No mains power. Check mains supply and internal circuit breaker.
Inaccurate weighing.	Bad zero. Stop check weighing and zero the scale. Scale out of calibration - re-calibrate.
Reject rollers or stop barrier will not open or are slow to operate.	No air supply, or Low pressure - set to 80 IB's.

Check Weigher Model CW100 & CW100SS			
Batch Out Programme			Revision 1.1 dated 27/8/98
Step	Code	Description	Notes
			<b>PON - start batch set up.</b>
1	10 07	CHKW RST	Reset O/P 1[Over],2[under] & 3[Accept]
2	09 01	GROSS	Select gross mode
3	11 12	OUT4 OFF	Infeed Gate/Conveyor off
4	11 13	OUT5 OFF	Out gate closed
5	08 02	CLR CT	Clear under/over counter
6	08 03	CLR GCT	Clear grand total counter
			<b>End start up - begin main line.</b>
7	13 02	LP NULL	Do forever
8	11 13	OUT5 OFF	Out gate closed
9	11 04	OUT4 ON	Infeed on - get bag
10	11 09	OUT 1 OFF	Close reject gate
11	13 07	LP>ALM	Loop until Gross kg > Low Alarm kg
12	13 01	LP End	Loop end - return to 10
13	11 12	OUT4 OFF	Stop Infeed, bag on scale
14	06 01	DELAY 1	Wait 1 second.
15	10 03	CHKW	Single pass check weigh, no O/P's
16	14 07	IF ACCEPT	If bag in range.
17	11 09	OUT1 OFF	Close reject gate
18	14 02	ELSE	Else bag out of range
19	11 01	OUT1 ON	Open reject gate
20	08 01	COUNT	Increment under/over counter
21	14 01	IF END	End if
22	11 05	OUT5 ON	Raise Out gate - eject bag
23	08 03	GRAND CT	Increment batch total counter
24	00 01	NULL	delay to allow bag to escape
25	00 01	NULL	delay to allow bag to escape
26	00 01	NULL	delay to allow bag to escape
27	13 01	LP END	Return to start of do forever
28	00 03	END	End of programme

<b>Check Weigher Model CW100 &amp; CW100SS</b>					
<b>UMC612 Configuration Revision 1.1 dated 27/8/98</b>					
<b>Calibration</b>	<b>Selection</b>	<b>ID</b>	<b>Selection</b>	<b>Key board</b>	<b>Selection</b>
Conv/Sec	20/sec	Id	0	Zero key	On
Cal Mode	Single step	<b>Print</b>	Off	Tare key	Off
Capacity	25 kg x 10g	<b>Count</b>	On	Print key	On
<b>Display</b>	<b>Selection</b>	<b>Trim</b>	Off	Trim Key	Off
Net	Off	<b>Delay</b>	<b>Selection</b>	Disp Rcl	Off
Rate	Off	Delay 0	1 sec	Zero Rcl	Off
Peak	Off	Delay 1	1 sec	Print Rcl	Off
Batch	On	<b>SET POINTS</b>	<b>Batch Out</b>	Trim Rcl	Off
Updates	Auto	SP HL BO	Selection	ID Rcl	Modify
Graph	Off	Hi Alarm	user entry	T/D Rcl	Modify
<b>Zero</b>	<b>Selection</b>	Output	Out 0 - off	Dely Rcl	Modify
Zero	2%	Low Alarm	user entry	Filt Rcl	Off
Auto	3 Div	Output	Out 0 - off	Rate Rcl	Off
No Load	Off	Pause AL	Off	Angl Rcl	Off
Motion	3	Output	Out 0 -off	Inp Rcl	Off
<b>Tare</b>	<b>Selection</b>	<b>SETPT 1</b>	Over weight	Unit Rcl	Off
Auto	Off	#Value	user entry	Alarm Rcl	Modify
Manual	Off	Mode	Gross	Dsch Rcl	Off
Pre-store	Off	Main 1 O/P	Out 1	STPT Rcl	Modify
<b>Total</b>	<b>Selection</b>	Main 1	STD	Drib Rcl	Off
Total	Off	Drib 1#	0	Prea Rcl	Off
Units		Drib 1 O/P	0	Tol Rcl	Off
Lb/kg conv	On	Preact 1#	0	<b>Start/Stop</b>	<b>Selection</b>
<b>T&amp;D</b>	<b>Selection</b>	HYST 1 #	0	Bat Mode	Batch Out
Time	24 hr clock	Hi Tol 1#	0	Input 1 to 2	Off
Input 1,2,3,4	None	Lo Tol 1#	0	Speed	Fast
<b>Filters</b>	<b>Selection</b>	Tol 1 O/P	Out 0	Display	Auto
D-Filter	1	<b>SETPT 2</b>	Under weight	<b>Inputs</b>	<b>Selection</b>
A-Filter	2-Hz	#Value	user entry	1 to 4	None
Adaptive	Off	Mode	Gross	<b>Outputs</b>	<b>Colour</b>
<b>Rate</b>	<b>Selection</b>	Main 1 O/P	Out 2	OP 1	Black
DV/DT	0.1 Sec	Main 1	STD	OP 2	White
Units	Sec	All others	as for Sept 1	OP 3	Green
<b>Analog</b>	<b>Selection</b>	SETPT 3 on	NA in BO mode	OP4	Blue
Analog	Off	SETPT Dsch	NA in BO mode	OP 5	Brown
Remainder	default values			VDC+5V COM	Red



# ***BMC Engineering Limited***

***Design and Manufacturing Engineers to the Horticultural and  
Agricultural Industries***

## **WARRANTY PROVISIONS**

### **CERTIFICATION**

BMC Engineering Limited certifies that this product met its published specification at the time of shipment.

### **WARRANTY**

This product is warranted against defects in material and workmanship from the date of shipment for a period of:

- a) 3 months for software products
- b) 12 months for hardware products

During the warranty period, BMC Engineering Limited will, at its discretion, either repair or replace products that are proven to be defective.

BMC Engineering Limited warrants that where software alone is supplied it will perform as specified when properly installed on an approved machine. BMC Engineering Limited does not warrant that the software is error free.

### **LIMITATION OF WARRANTY**

The warranty offered above does not apply to defects resulting from improper or inadequate maintenance, misuse, abuse, and modification. Or when used with non-approved third party products.

No other warranty is expressed or implied. BMC Engineering Limited specifically disclaims the implied warranties of merchantability and fitness for purpose. The remedies provided herein are the buyer's sole and exclusive remedies. BMC Engineering Limited shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

### **MAINTENANCE AGREEMENTS**

Product maintenance agreements and other customer assistance agreements are available from BMC Engineering Limited.

---

***14 Nelson Street  
Pukekohe  
New Zealand***

***P.O. Box 886  
Pukekohe  
New Zealand***

***Ph. 64 (09) 238 9942  
Fax. 64 (09) 238 5743  
Email: [bmc@ps.gen.nz](mailto:bmc@ps.gen.nz)***

***“Home of the Martin Baggers”***