

Operator Card



Do not open the controller enclosure!
Refer all repairs and modifications to your distributor or service technician.

Transaction Setup	
1	If multiple products are defined for the BWC-1 and the transaction to be run uses a different product than the previous transaction, press the PRODUCT key to select the new product. Use the LOCK and ID keys to scroll up and down through the list of defined products.
2	For dual transfer mode (shipped or received) products, use the SHIP/REC key (SHIFT+9) to toggle between shipping and receiving mode, if necessary.
3	If customer IDs are used, use the keypad to enter the customer ID, then press CUSTOMER.
4	If container IDs are used, use the keypad to enter the container ID, then press CONTAINER.
5	For automatic shipping transactions only: If the target weight is different from that used for the previous transaction or different from the default target weight specified for this product, use the numeric keypad to enter the new target weight and press TARGET.
6	If the draft weight is different than the default draft weight specified for this product, use the numeric keypad to enter the new draft weight and press DRAFT.
Automatic Mode Operation	
<p>Once setup is complete, press START/STOP to start an automatic transaction. The BWC-1 controller operates the upper and lower gates to receive or dispense the number of drafts required for the transaction.</p> <ul style="list-style-type: none"> To stop the transaction at any time, press START/STOP. All gates are closed and the BWC-1 display shows the message <i>STOPPED</i>. Press START/STOP again to continue the transaction. To restart an interrupted transaction following a power outage, press START/STOP. (Function must be configured.) To end a shipping transaction before reaching the target weight, press DONE/DUMP. Material in the hopper is dumped and the transaction ends. To cancel the transaction immediately, press and lock the emergency stop switch, then turn the batching switch to the ABORT position. If the BWC-1 is configured for empty hopper verification, the message <i>CLEAN</i> is shown following the final hopper dump. Verify that the hopper is empty, then press DONE/DUMP to continue. <p>To add more material after the transaction is complete, use the ADD key as described below.</p>	
Manual Mode Operation	
<p>The BWC-1 can be operated in manual mode to ship or receive a single draft, or to add material to the previously completed transaction. Manual mode is entered by doing one of the following:</p> <ul style="list-style-type: none"> Press MANUAL to ship or receive a single draft. Pressing this key starts a new transaction. Press ADD to add material to the previous transaction. <p>The system returns to automatic mode when the manual draft is complete.</p> <p>Once in manual mode, drafting is done using the FILL, SLOW, LOCK, and DONE/DUMP keys:</p> <ul style="list-style-type: none"> To start a fill operation, press and hold the FILL key; release the FILL key to stop filling. To lock the FILL key on, press LOCK. Press any other key to unlock the FILL key. To switch between fast and slow fill mode on systems supporting both two-speed filling, press SLOW. This key can be used while in locked fill mode; the lock is not affected. <p>NOTE: Manual fill operations normally start in fast fill mode. To set the system to start all manual fills in slow fill mode, press SLOW before entering manual mode. Repeat procedure to reset for fast fill.</p> <ul style="list-style-type: none"> To dump the hopper and complete the manual transaction, press DONE/DUMP. 	

Display Annunciators

- G Gross weight displayed
- B Transaction in progress
- T Transaction total displayed
- pT Product total displayed



Controller in receive mode. In ship mode if not shown.



Scale at standstill or within the specified motion band.



Center of zero. Gross weight 0.25 grads of zero.

Front Panel Keys

Key	Description
	START/STOP: Press to start, restart, or stop an automatic multidraft transaction. Also used in test mode to start the automatic build-up test.
	CUSTOMER: Press the CUSTOMER key to display the current customer ID. To enter a customer ID for the current transaction, use the keypad to enter the customer ID, then press CUSTOMER to set the value.
	TARGET: Press the TARGET key to view the current target value, or use the numeric keypad to enter the target weight for a shipping mode transaction, then press TARGET to set the value.
	PRODUCT: Press the PRODUCT key to display the current product name or to select a new product to ship or receive.
	DRAFT: Press the DRAFT key to view the current draft weight, or use the numeric keypad to enter the draft weight, then press DRAFT to set the value.
	CONTAINER: Press the CONTAINER key to display the current container ID. To enter a container ID for the current transaction, use the keypad to enter the container ID, then press CONTAINER to set the value.
	DONE/DUMP: In receive mode, press DONE/DUMP to indicate that the transaction is complete. In ship mode, press DONE/DUMP to finish the transaction before the target weight is reached. In operator setup mode, press DONE/DUMP to exit to normal mode. In setup mode, press the DONE/DUMP key to send all configuration data to the EDP port.
	MANUAL: Places the BWC-1 in manual mode, resets the current draft number to one, increments the transaction number, and clears the transaction accumulator. Also used as an up arrow key when navigating the configuration menus in setup mode.
	ADD: Used to manually add material to a transaction. Pressing the ADD key places the BWC-1 in manual mode but does not change the transaction number and does not reset the current draft number or transaction accumulator value. Also used as a down arrow key when navigating the configuration menus in setup mode.
	CLEAR: Press CLEAR to delete the last character when entering a numeric value or to return to the gross weight display when viewing other data. Also used as a left arrow key when navigating the configuration menus or editing character strings in setup mode.
	ENTER: Used to save previously entered data. Also used as a right arrow key when navigating the configuration menus or editing character strings in setup mode. When the <i>STOPPED</i> message is shown on the display, press ENTER to display the reason for the stopped condition.
	FILL: In manual mode, press and hold the FILL key to hold the fast fill supply gate open.
	SLOW: In manual mode, press the SLOW key to toggle the gate signal between the fast and slow. When not in manual mode, press SLOW to toggle the manual mode start speed between fast and slow.
	ALPHA/NUMERIC: Used to toggle between alpha and numeric entry modes. To temporarily override the current mode, press and hold the ALPHA/NUMERIC key, then press the desired key. For example, to enter the character <i>P</i> while in numeric entry mode, hold the ALPHA/NUMERIC key and press the 4 key.
	LOCK: While holding the FILL key, press to lock the fast fill gate open. Press any key to close the gate.
	ID: Press to display or change a user-defined ID.

Key	Description
	<p>SHIFT: Used in combination with the numeric keypad to provide alternate key functions.</p>
	<p>Numeric keypad: The numeric keypad is used to enter numeric values, such as target weights and ID numbers. To enter a numeric value, use the keypad to enter the number, then press ENTER or the function key. Each digit appears on the display screen as entered.</p> <p>If you key a number and don't press ENTER and/or a function key within several seconds, the display reverts to the previous mode and the number is ignored. If you make a mistake entering a number, press CLEAR to erase the previous digit. Repeat pressing CLEAR to erase as many digits as necessary.</p> <p>Each of the keys on the numeric keypad also provides a second function when pressed in combination with the SHIFT key (see descriptions below); in alpha entry mode, the numeric keys are used to enter upper- or lower-case alpha characters, depending on whether the SHIFT key is pressed.</p>
	<p>ROC (SHIFT+1): Displays the rate of change. Hold SHIFT and press the 1 key repeatedly to cycle through the calculated ROC values listed below. The character (ROC annunciator) shown at the left of the display (C, T, G, F, D, or E) indicates which ROC value is shown.</p> <ul style="list-style-type: none"> • C Current ROC: Material flow rate for last x cycles • T Transaction ROC: Average flow rate from start of transaction to last time fill gate was opened • G Previous gate-to gate ROC: Average flow rate between last two times fill gate was opened • F Fill ROC: Average flow rate during current or previous fill operation • D Dump ROC: Average flow rate during current or previous dump operation • E Estimated time to completion for this transaction, in minutes and seconds (MMM.SS). Value displayed only if a target value is specified. <p>Press CLEAR to return to the gross weight display.</p>
	<p>UNITS (SHIFT+2): Hold SHIFT and press the 2 key repeatedly to cycle the displayed units between primary, secondary, and product units.</p>
	<p>TOTALS (SHIFT+2): Hold SHIFT and press the 3 key repeatedly to cycle through displays of the transaction accumulator, current draft number, and product accumulator values.</p>
	<p>TIME/DATE (SHIFT+4): Display or change the current time and date. Hold SHIFT and press the 4 key once to display the date; press SHIFT+4 again to display the time.</p> <p>You can enter new values for the date and time while they are displayed by keying the new value and pressing ENTER. Use the 24-hour format to enter time values.</p>
	<p>PRINT (SHIFT+5): Hold SHIFT and press the 5 key to send data to the serial port. See Section 5.3 on page 48 for more information. In setup mode, press the DONE/DUMP key to send all configuration data to the EDP port.</p>
	<p>TEST (SHIFT+6): Hold SHIFT and press the 6 key to enter test mode.</p>
	<p>ZERO (SHIFT+7): Hold SHIFT and press the 7 key to zero the scale.</p>
	<p>SETUP (SHIFT+8): Hold SHIFT and press the 8 key to enter operator setup mode.</p>
	<p>SHIP/REC (SHIFT+9): In controllers configured for dual (ship/receive) mode, press SHIP/REC to toggle between ship and receive mode. The rhombus symbol (◊) on the display indicates receive mode; absence of the rhombus indicates ship mode.</p>

Key	Description
	<p>LED Annunciators: The LED annunciators provide status information about the BWC-1 controller.</p> <p>On the left side of the front panel, the <i>Manual</i> LED lights when the unit is in manual mode; the <i>Slow</i> LED flashes when the minimum material flow specified for a dump or fill operation is not being met.</p> <p>The <i>lb</i> and <i>kg</i> LEDs on the left side of the display indicate the display units. These LEDs function as follows:</p> <ul style="list-style-type: none"> • If the displayed weight is in pounds, the <i>lb</i> LED is lit; if kilograms, the <i>kg</i> LED is lit. • If the primary unit of weight is pounds, the <i>kg</i> LED is lit for secondary units—or, if the primary unit is kilograms, the <i>lb</i> LED is lit for secondary units, unless the secondary unit of weight is the same as the primary unit. • If neither primary nor secondary units are pounds or kilograms, the <i>lb</i> LED is used as a primary units annunciator and the <i>kg</i> LED is used as the secondary units annunciator. • When displaying product-specific units, if the units are the same as either the primary or secondary units, the LED representing primary or secondary units is lit. If the product-specific units are not the same as either primary or secondary units, both LEDs are lit.
	<p>On the right side of the front panel, all four LEDs represent alarm conditions:</p> <ul style="list-style-type: none"> • <i>Low</i> flashes when material in the supply garner is below the bindicator (LOWPROD alarm) • <i>High</i> flashes when material in the surge garner is above the bindicator (HGHSRGE alarm) • <i>Hopper</i> flashes when material in the hopper is above the bindicator (HOPPER alarm) • <i>Gate</i> flashes when the supply gate is open during a dump operation (PRDGATE alarm) or the hopper gate is open during a fill operation (HPRGATE alarm) <p>All of the alarm conditions indicated by a flashing LED also present an alarm message on the display. See Section 5.5 on page 49 for more information about alarm conditions and display prompts.</p>

Display Prompts and Error Messages

The table below lists the prompts and error messages that can be shown on the BWC-1 display. Several alarm conditions are indicated by both the displayed message and a flashing front panel LED, as shown in the table.

Message	Meaning	Flashing LED
CLEAN	Prompt for operator to verify that the hopper is empty. This message is shown only if empty hopper verification (EHVERIFY parameter on the CONFIG menu) is turned on. Verify hopper is empty, then press DONE to continue.	—
DUMP	Manual fill operation at maximum draft size for current product. Press DONE/DUMP to empty the hopper. To add another manual draft to the transaction, press the ADD key.	—
FILL	Manual or add mode entered. Press FILL to open product gate and start hopper fill operation.	
HIGHREC	For systems using high material surge garner bindicators, material in surge garner is above the bindicator.	
HIGHHPR	For systems using high material hopper bindicators, material in hopper is above bindicator.	<i>Hopper</i>
HPRGATE	Hopper gate detected open during fill operation or prior to printing gross or tare weight.	<i>Gate</i>
LOWPROD	For systems using low material supply garner bindicators, material in the supply garner is below the bindicator.	<i>Low</i>
MOTION	Upper and lower gates are closed but hopper weight is not stable.	—
PRDGATE	Supply gate detected open during dump operation or prior to printing gross or tare weight.	<i>Gate</i>
PRINTER	Printer problem. Either the <i>printer_available</i> signal was lost or a print request failed to receive a <i>print_complete</i> signal.	—
SLWDUMP	Minimum material flow rate specified for dump not being met.	<i>Slow</i>
SLWFILL	Minimum material flow rate specified for fill not being met.	
SLWOPER	Minimum material flow rate specified for transaction not being met.	
STOPPED	Transaction stopped. Press START/STOP to continue operation. Press ENTER to display the reason for the stopped condition.	—