



ILCS EDGE System Programming Manual

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CAUTION: Wear protective clothing and eyewear when dispensing chemicals or other materials. Observe safety handling instructions (MSDS) of chemical mfrs.



CAUTION: To avoid severe or fatal shock, always disconnect main power when servicing the unit.



CAUTION: When installing any equipment, ensure that all national and local safety, electrical, and plumbing codes are met.

MENU MAP

1 *** DISPENSER *** MEMORY FUNCTIONS

- Clear pump volumes
- Clear sum/batch report
- Clear batch count
- Restore default settings
- Set external memory module ID
- Clear external memory module

2 *** DISPENSER *** SETUP ROUTINES

- Change dispenser ID and main access code
- Set date and time
- Set unit of measure
- Set number of CIP pumps
- Set continuous batching
- Set simultaneous pump operation
- Set number of users
- Set number of water valves
- Enable/disable card reader status

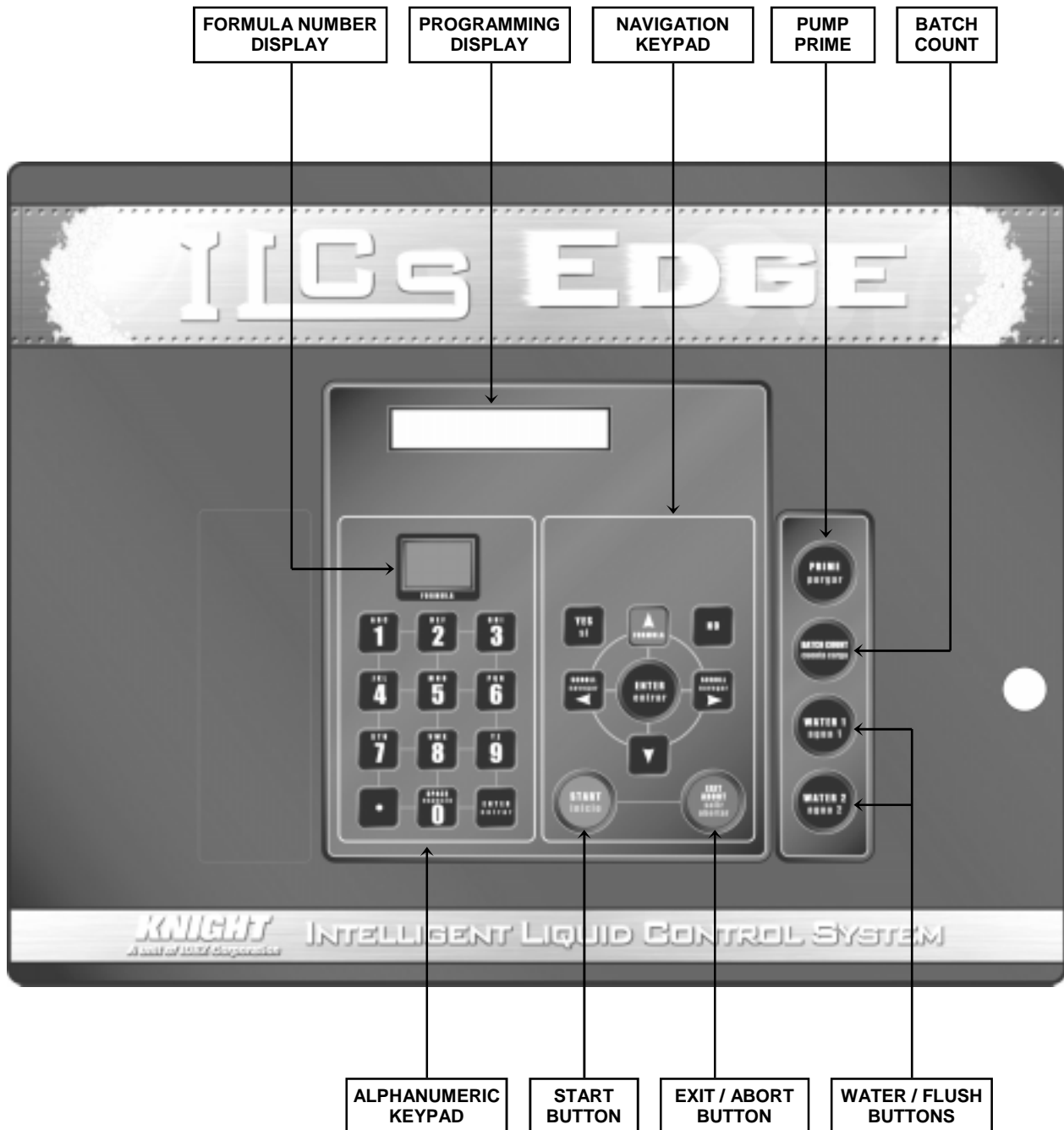
3 *** DISPENSER *** REPORT SETUP ROUTINES

- Change user access code
- Change user name and code / enter proximity cards
- Change formula access
- Change report name
- Change chemical names and costs
- Change formula names
- Set shift times and operating zone

4 *** DISPENSER *** PROGRAMMING ROUTINES

- Prime pumps
- Calibrate pumps
- Manually enter pump flow rates
- Program formulas

CONTROL PANEL DIAGRAM



MOVING THROUGH THE MENUS

ILCS programming is done through the use of menu selections. Any menu can be entered by pressing the ENTER button, or exited by pressing RESET (or in some cases MENU ↓ or ↑). Its that simple! Each of the main menu headings give an idea of what information can be found, entered, or changed. Within each main menu selection are several screen “prompts” that walk you through the complete programming process step-by-step.

Below is an example of the main display when you are not in the programming menus. The main display is more commonly referred to as the *default display*, and appears when the system is in normal operating mode.

FORMULA 01 DATE 05/11 TIME 14:32:54	<p>The default display shows the present formula name on the top line. The bottom line of the display will alternate between date/time and the message ENTER USER CODE.</p> <p>The “user code” should not be confused with system’s access code. User codes allow multiple persons to operate the system for dispensing chemicals, whereas the access code allows entry into the menus for programming or priming pumps.</p> <p>From the default display, you must enter the main access code (following) to begin programming.</p>
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ACCESS CODES

The ILCS system has two access codes for protection:

- The "main" access code, allows entry into ALL of the menus and functions of the system.
- The "user" access code allows only priming pumps and printing reports with WinReporter PC software, without the ability of changing programmed information.

Systems are shipped from the factory with both access codes set to zero. Only a person with the "main" access code can change the "user" access code. (changing codes is explained later in this manual). If desired the two access codes can be the same, however the user will then have access to ALL of the functions of the system, including the ability of changing programmed information.

TO PROGRAM DISPENSER PRESS “ENTER” ...

ENTER ACCESS CODE THEN PRESS ENTER	<p>From the default display shown above, press the ENTER button. The screen at left should appear. If the screen at left does not appear, wait 2 seconds, press RESET, then press ENTER.</p> <p>When you see the screen at left, type in the access code and press ENTER. Remember, for a new system, the access code will be zero (until you change it later).</p> <p>Follow the programming steps for each section, starting on the next page.</p>
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IMPORTANT NOTES:

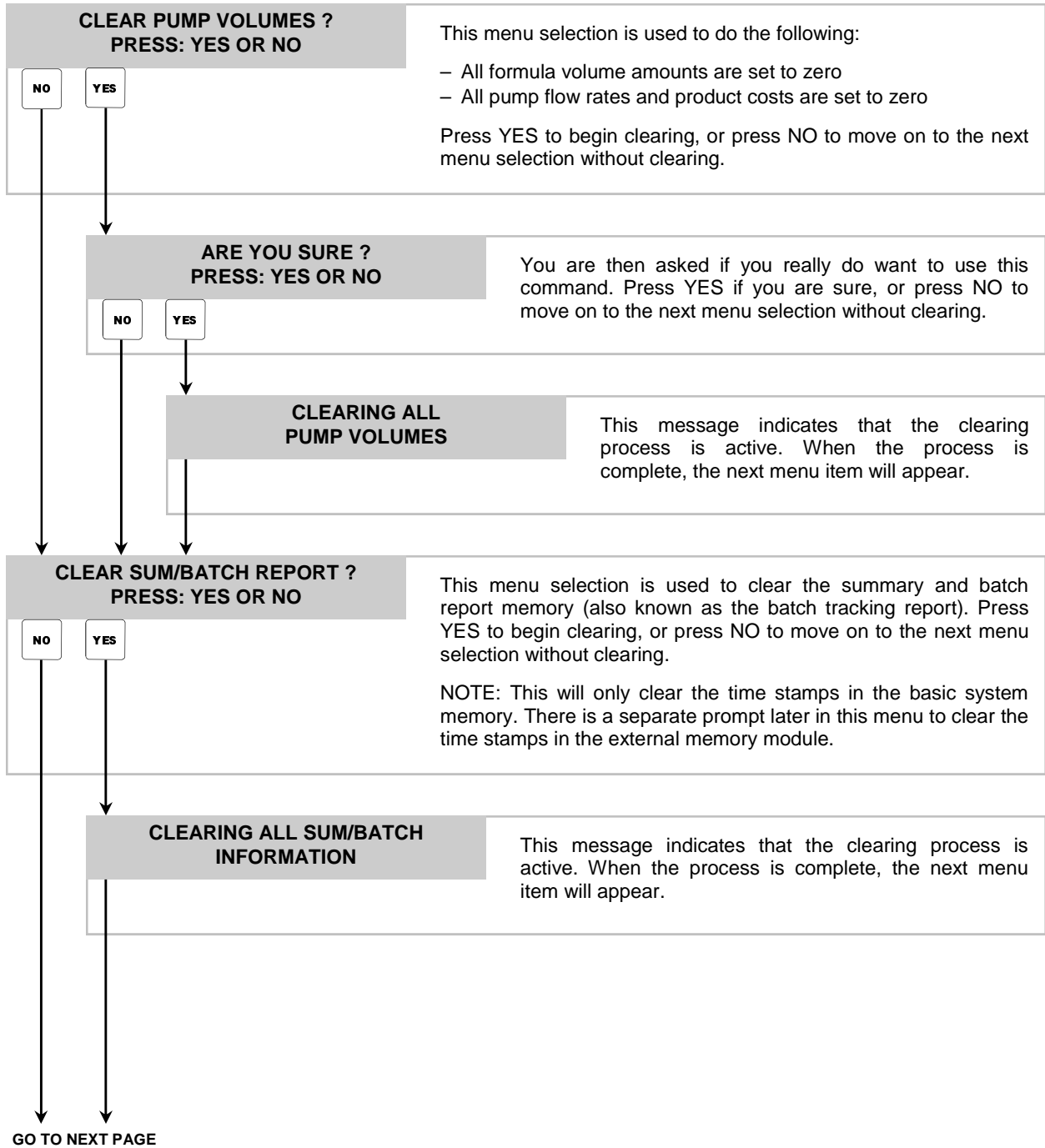
- Leading zeroes on the main access code and user access code, and user passwords, are not required to be entered. For example, an access code of “010” can be typed in as “10”, then press ENTER.
- Leading zeroes on user codes (for dispensing chemical) are required to be entered.
- Its recommended to clear pump volumes, sum/cycle report, batch count, memory module, and restore default settings prior to initial programming of formulas. See MEMORY FUNCTIONS [menu 1] for details.
- If at any time you get lost in the programming and are not sure what to do, press the RESET button until the section menu heading appears, then proceed.

1

*** DISPENSER *** MEMORY FUNCTIONS

- Clear pump volumes
- Clear sum/batch report
- Clear batch count
- Restore default settings
- Set external memory module ID
- Clear external memory module

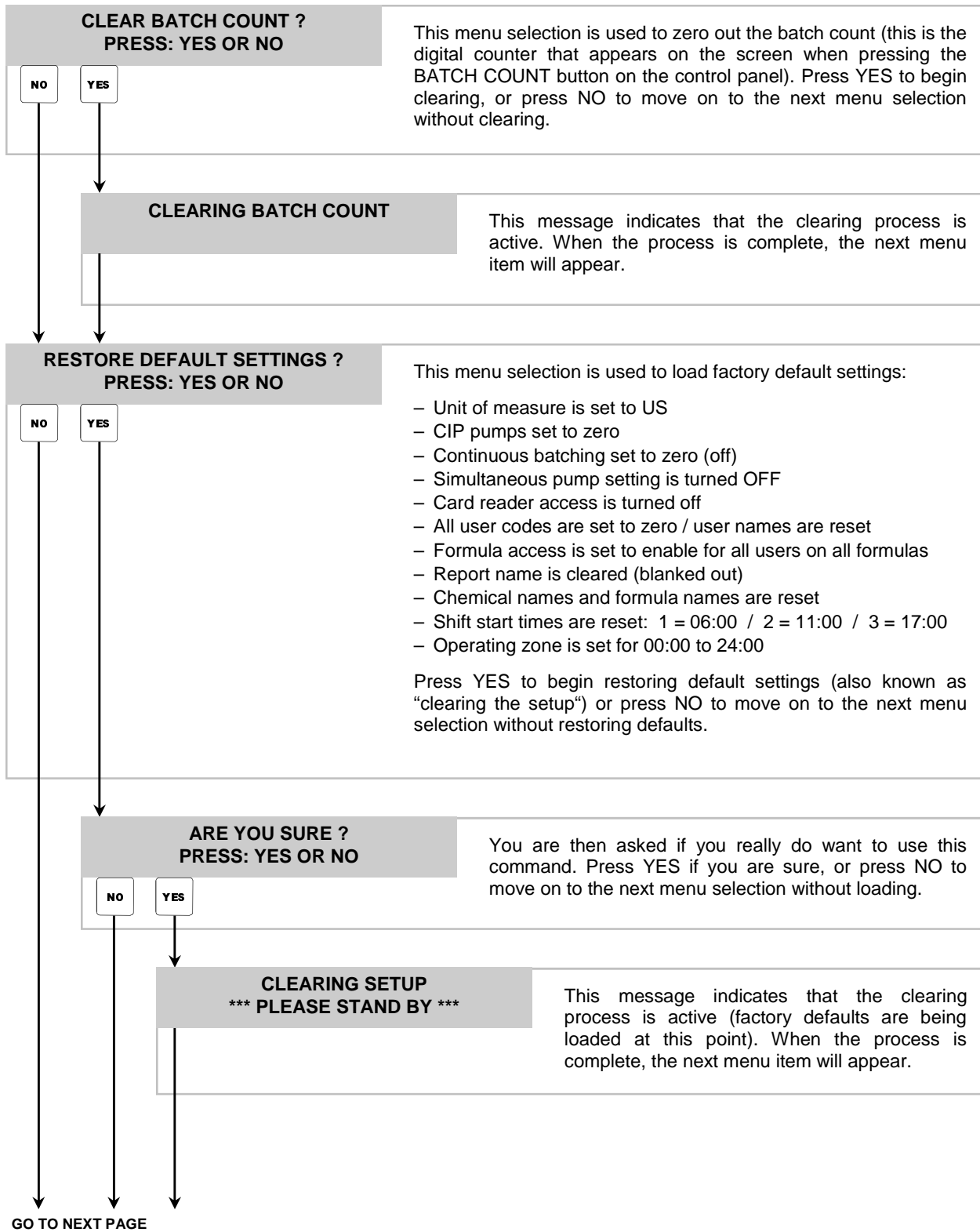
NOTE: Answer YES on all memory clearing prompts for new installations prior to loading a HEX (setup) file.



1

*** DISPENSER *** MEMORY FUNCTIONS

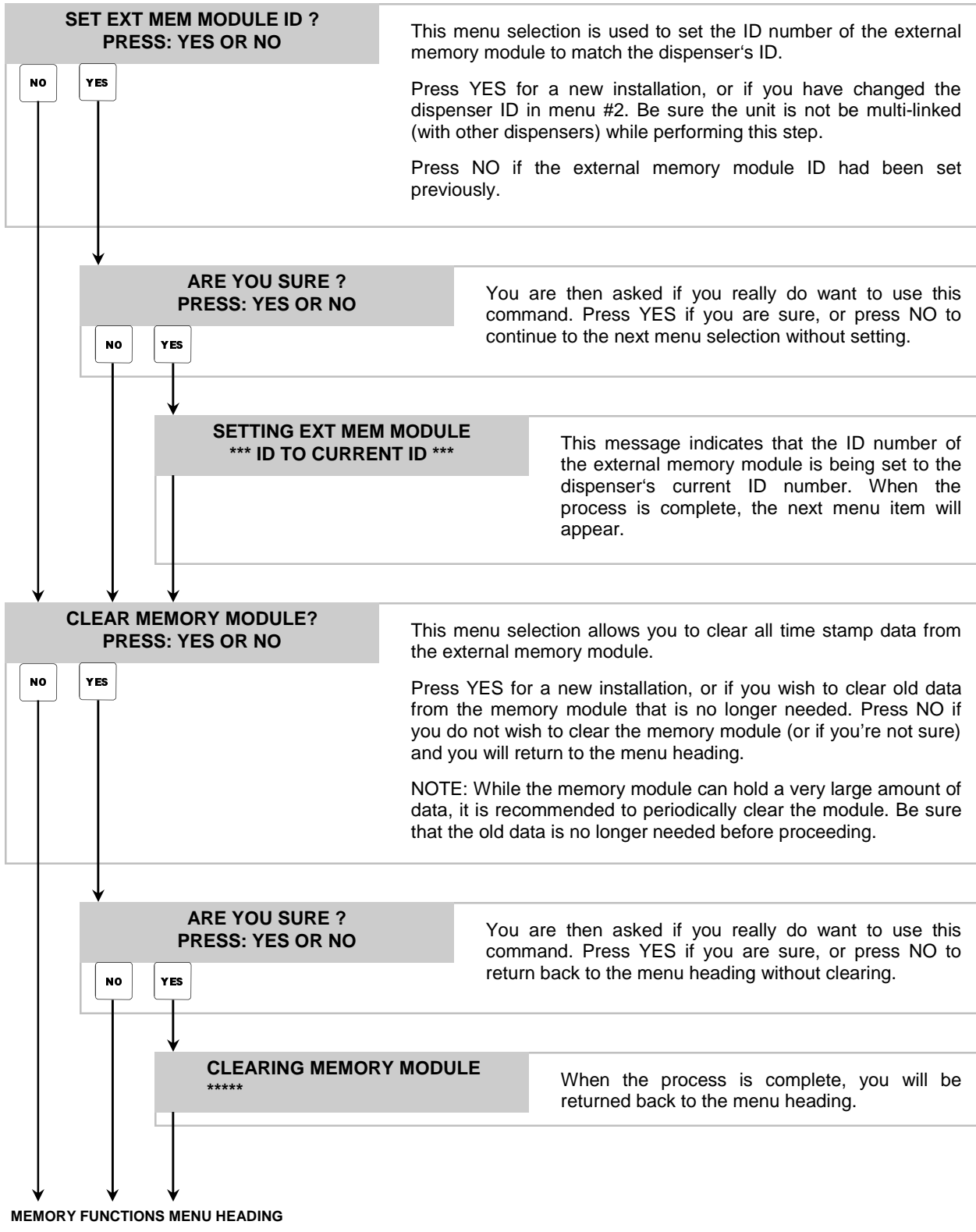
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1

*** DISPENSER MEMORY FUNCTIONS ***

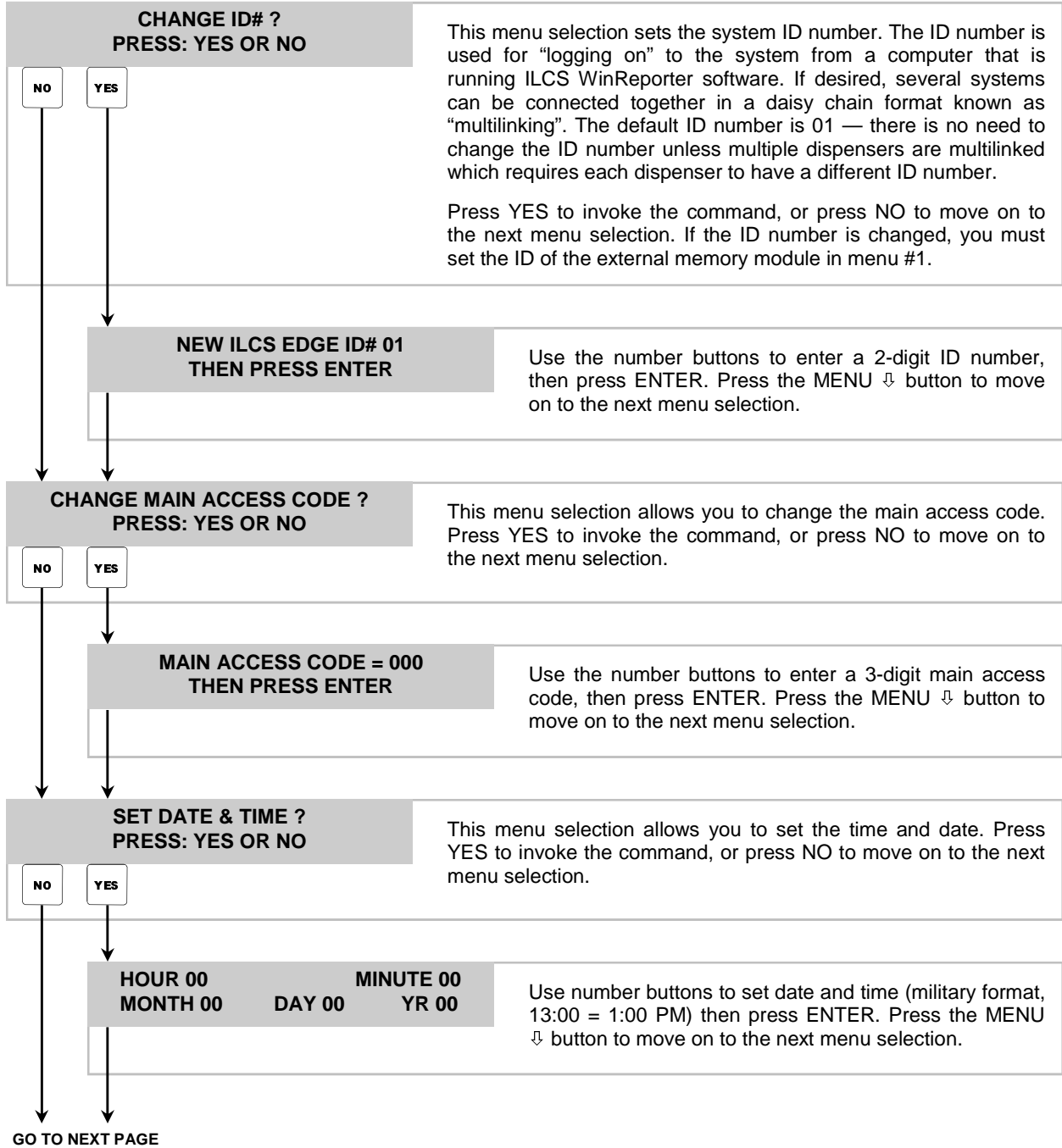
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2

*** DISPENSER SETUP ROUTINES ***

- Change dispenser ID and main access code
- Set date and time
- Set unit of measure
- Set number of CIP pumps
- Set continuous batching
- Set simultaneous pump operation
- Set number of users
- Set number of water valves
- Enable/disable card reader status



UNIT OF MEASURE = US
1=US 2=METRIC 3=IMPERIAL

This menu selection allows you to change the unit of measure. Use the number buttons to choose the desired unit of measure. Press the MENU ↓ button to continue.

OF CIP PUMPS = 00
TIMESTAMP AFTER = 255 SECONDS

This menu selection allows you to set which pumps are externally controlled by a CIP system, and the time frame before the system timestamps the product usage of a CIP-controlled pump.

The **# of CIP pumps** includes all pumps up to that number (starting with pump 1, up to the number you specify). All other pumps will be controlled by the formula programming. For example, if you set # of CIP pumps = 4, then pumps 1 through 4 will be externally controlled by the CIP system, and pumps 5 through 10 will be internally controlled by the EDGE system.

CIP pumps run in “relay mode” and will turn on for as long as their respective signals are present. **Timestamp after** sets how long a CIP-controlled pump must remain “off” before product usage is logged. This allows the controller to track accurate accumulated product usage while letting the CIP pump turn on and off as needed in a typical feed cycle.

Formulas 101 – 110 are reserved for tracking CIP pump product usage (to correspond with pump outputs 1 – 10). For example, if pump 1 is CIP-controlled, then the product usage for that pump will be tracked as formula 101. Pump 2 would be formula 102, and so on, for as many CIP pumps that are in use.

CONTINUOUS BATCHING
USER 1 TO 000 000 SEC

This menu selection is used to setup the continuous batching feature. The number of users can only be from 1 to the number you specify. For example, you cannot select users 25 to 40 only.

The number of seconds is the time frame allowed from the end of one batch to the start of another without having to re-enter the user code. For example if you entered 30 seconds, then those users would be able to dispense batches continuously providing that 30 seconds is not exceeded between batches.

Use the number buttons to enter your settings, then press ENTER. A setting of user 1 to 000 turns this setting off (disable). Press the MENU ↓ button to continue.

SIMULTANEOUS PUMPS = OFF
1=OFF 2=ON

This menu selection allows you to choose if you want all pumps in a formula to run at the same time. When this selection is off, all pumps in the formula will run in sequence from left to right (lowest number to highest). Use the number buttons to make your selection. Press the MENU ↓ button to continue.

GO TO NEXT PAGE

**NUMBER OF WATER VALVES = 2
THEN PRESS ENTER**

This menu selection tells the system which water valves will be used. This prevents manual activation of any water flush valves that will not be used. Choose 0 if no flush, 1 if only using output 11, or 2 if using both outputs 11 and 12, then press ENTER. Press the MENU ↵ button to continue.

NOTE: Make sure you enter 1 if you are only using one flush.

**NUMBER OF USERS = 300
1=300 2=100**

This menu selection allows you to choose the total number of users you want to program into the system. The formula access settings will differ based on this setting. See notes below.

- **300 Users:** Formula access settings for each user can be programmed as either enable (on) or disable (off).
- **100 Users:** Formula access settings for each user can be programmed as a total number of batches allowed per shift. The selectable range is 0 - 99 batches.

Use the number buttons to make your selection. Press the MENU ↵ button to continue. If you change this setting on an existing (programmed) system, you will need to use menu #3 to set user names, user codes, and access settings.

**CARD READER ACCESS = OFF
1=OFF 2=ON**

This menu selection tells the system if a card reader will be used. When using a card reader, user codes are 8 digits long. The 8 digit code can be entered at the keypad if necessary (i.e. someone lost their card) however defeats the convenience of having a card.

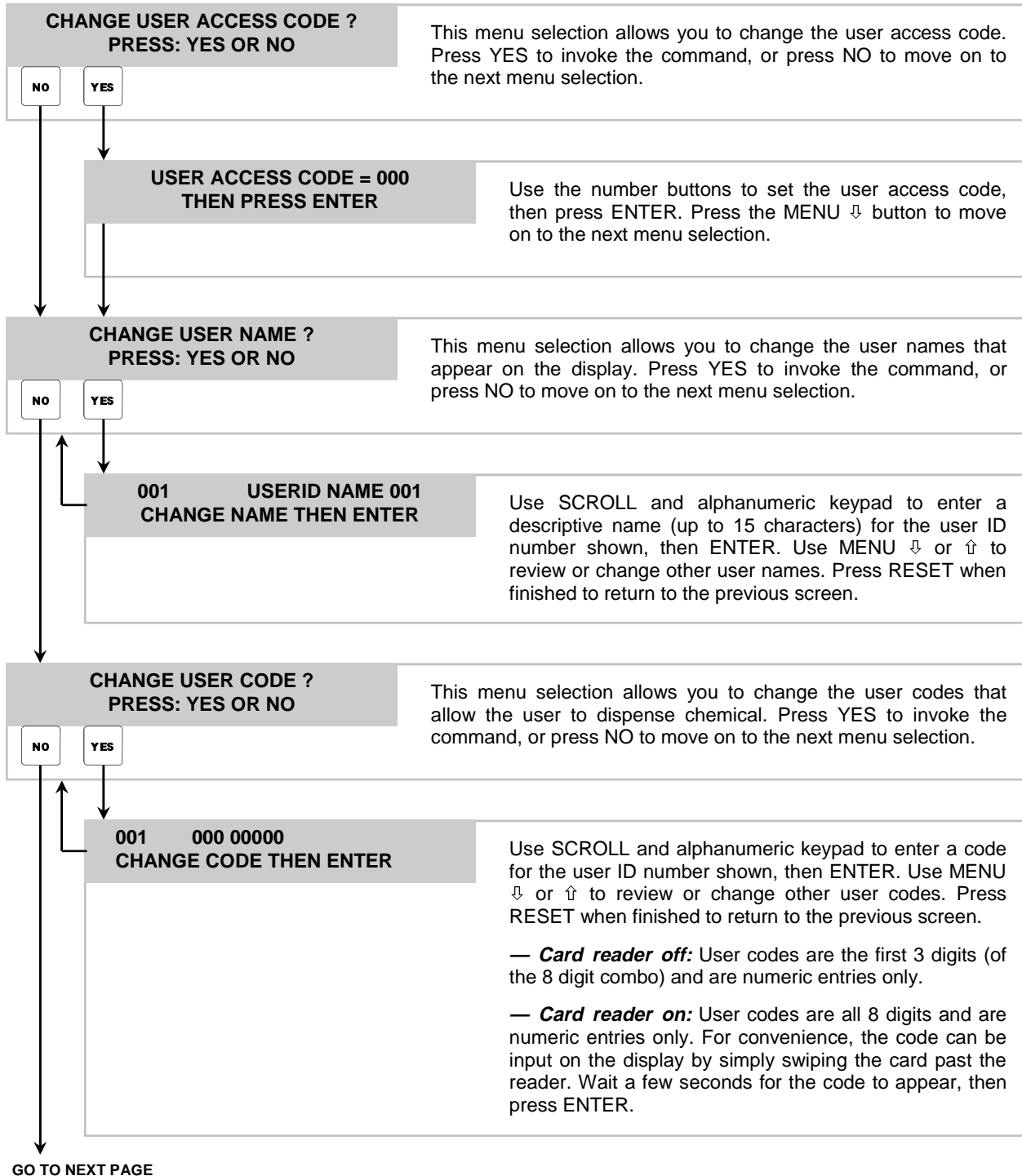
If not using a card reader, then user codes are 3 digits long and must be entered at the keypad. Use the number buttons to make your selection. Press the MENU ↵ button to return to the menu heading.

SETUP ROUTINES MENU HEADING

3

*** DISPENSER *** REPORT SETUP ROUTINES

- Change user access code
- Change user name and code / enter proximity cards
- Change formula access
- Change report name
- Change chemical names and costs
- Change formula names
- Set shift times and operating zone



**CHANGE FORMULA ACCESS ?
PRESS: YES OR NO**

NO

YES

This menu selection allows you to restrict the users access to specific formulas. How you program formula access is based on the "number of users" setting (300 or 100) in menu #2. Press YES to change or press NO to move on to the next menu selection.

001 FORM-01 02 03 04
USERID NAME 1 1 1 1

...if you selected 300 users (in menu #2)

TO CHANGE: Type in the user ID number and press ENTER. Then use the SCROLL buttons to move to the cursor below the formula you wish to change. Choose 1 (allowed) or 0 (not allowed) for each formula shown (note: the PRIME button will change all formulas shown to 0) and press ENTER. When ENTER is pressed, you are only changing the formula number "set" that is shown on the display. To change other formulas, use MENU ↓ or ↑ then make your changes to the formula set shown and press ENTER again. See details below regarding the information shown on the window.

Top line: The first three digits are the user ID number (001 - 300). The next set of double digits represent the formula numbers.

Bottom line: The first thirteen characters indicate the user's descriptive name. The numbers directly below the formula numbers show which formulas this user can access. 1 means the formula is allowed, 0 means the formula is not allowed.

TO VIEW: Type in the user ID number and press ENTER. The screen will display current settings for each formula. Use MENU ↓ or ↑ to choose other formula numbers.

Press RESET when finished and you will be returned to the previous screen.

001 FORM-01 02 03 04 05
USERID N 99 99 99 99 99

...if you selected 100 users (in menu #2)

TO CHANGE: Type in the user number and press ENTER. Then use the SCROLL buttons to move to the cursor below the formula you wish to change. Type in the desired numbers for each formula shown (the PRIME button will change all formulas shown to 00) and press ENTER. When ENTER is pressed, you are only changing the formula number "set" that is shown on the display. To change other formulas, use MENU ↓ or ↑ then make your changes to the formula set shown and press ENTER again. The following paragraphs explain the information shown on the window.

Top line: The first three digits are the user ID number (001 - 100). The next set of double digits represent the formula numbers.

Bottom line: The first eight characters indicate the user's descriptive name. The numbers directly below the formula numbers show how many batches (0 - 99) for each corresponding formula that this user can dispense per shift.

TO VIEW: Type in the user ID number and press ENTER. The screen will display current settings for each formula. Use MENU ↓ or ↑ to choose other formula numbers.

Press RESET when finished and you will be returned to the previous screen.

GO TO NEXT PAGE

3

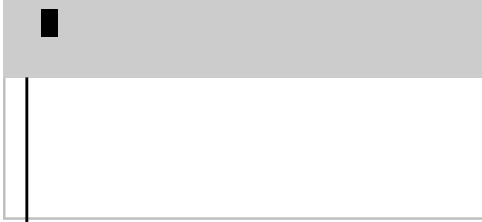
*** DISPENSER ***
REPORT SETUP ROUTINES

• Continued

**CHANGE REPORT NAME ?
PRESS: YES OR NO**

This menu selection allows you to change the report name. Press YES to invoke the command, or press NO to move on to the next menu selection.

NO YES

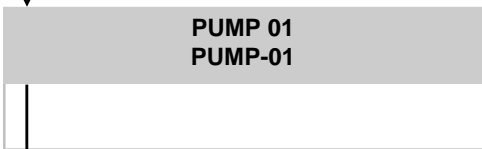


The screen will be blank with only a blinking cursor displayed. Use the alphanumeric buttons to set the report name (up to 23 characters on each line) and the SCROLL buttons to move the cursor position, then press ENTER. Press the MENU ↓ button to move on to the next menu selection.

**CHANGE CHEMICAL NAMES
PRESS: YES OR NO**

This menu selection allows you to change the chemical names. Press YES to invoke the command, or press NO to move on to the next menu selection.

NO YES

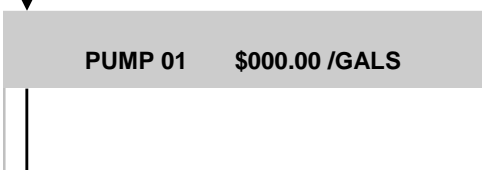


Choose pump number and press ENTER. Move cursor (SCROLL) to set the product name and press ENTER. Repeat for all pumps. Press MENU ↓ when finished.

**CHANGE PRODUCT COSTS ?
PRESS: YES OR NO**

This menu selection allows you to change the product costs. Press YES to invoke the command, or press NO to move on to the next menu selection.

NO YES



Choose pump number and press ENTER. The screen will display the current value. Move cursor (SCROLL) to enter the product cost and press ENTER. Repeat for all pumps. Press MENU ↓ when finished.

GO TO NEXT PAGE

3

*** DISPENSER *** REPORT SETUP ROUTINES

• Continued

CHANGE FORMULA NAMES ? PRESS: YES OR NO

This menu selection allows you to change formula names. Press YES to invoke the command, or press NO to move on to the next menu selection.

NO YES

FORMULA 001
FORMULA 01

Choose the formula number on the top line and press ENTER. The current formula name will appear on the bottom line (SCROLL) and use alphanumeric buttons to enter the formula name, then press ENTER. Repeat for all formulas. Press MENU ↓ when finished.

NOTE: Formulas 101 – 110 are reserved for tracking CIP pump product usage (to correspond with pump outputs 1 – 10). For example, if pump 1 is CIP-controlled, then the product usage for that pump will be tracked as formula 101. Pump 2 would be formula 102, and so on, for as many CIP pumps that are in use.

WANT TO SET SHIFT TIMES ? PRESS: YES OR NO

This menu selection allows you to enter shift times. Press YES to invoke the command, or press NO to move on to the next menu selection.

NO YES

START TIMES #1 06:00
 #2 11:00 #3 17:00

Use the number buttons to enter the shift start times, then press ENTER. Time must be in military format (i.e. 13:00 = 1:00 PM) Press the MENU ↓ button to move on to the next menu selection.

SET OPERATING ZONE ? PRESS: YES OR NO

This menu selection sets the operating zone. The operating zone is the time range that formulas (batches) can be dispensed. Formulas cannot be dispensed during any time outside the operating zone. This feature only applies to formula dispensing and does not apply to CIP pumps. Press YES to invoke the command, or press NO to return to the menu heading.

NO YES

START TIME 00:00
END TIME 24:00

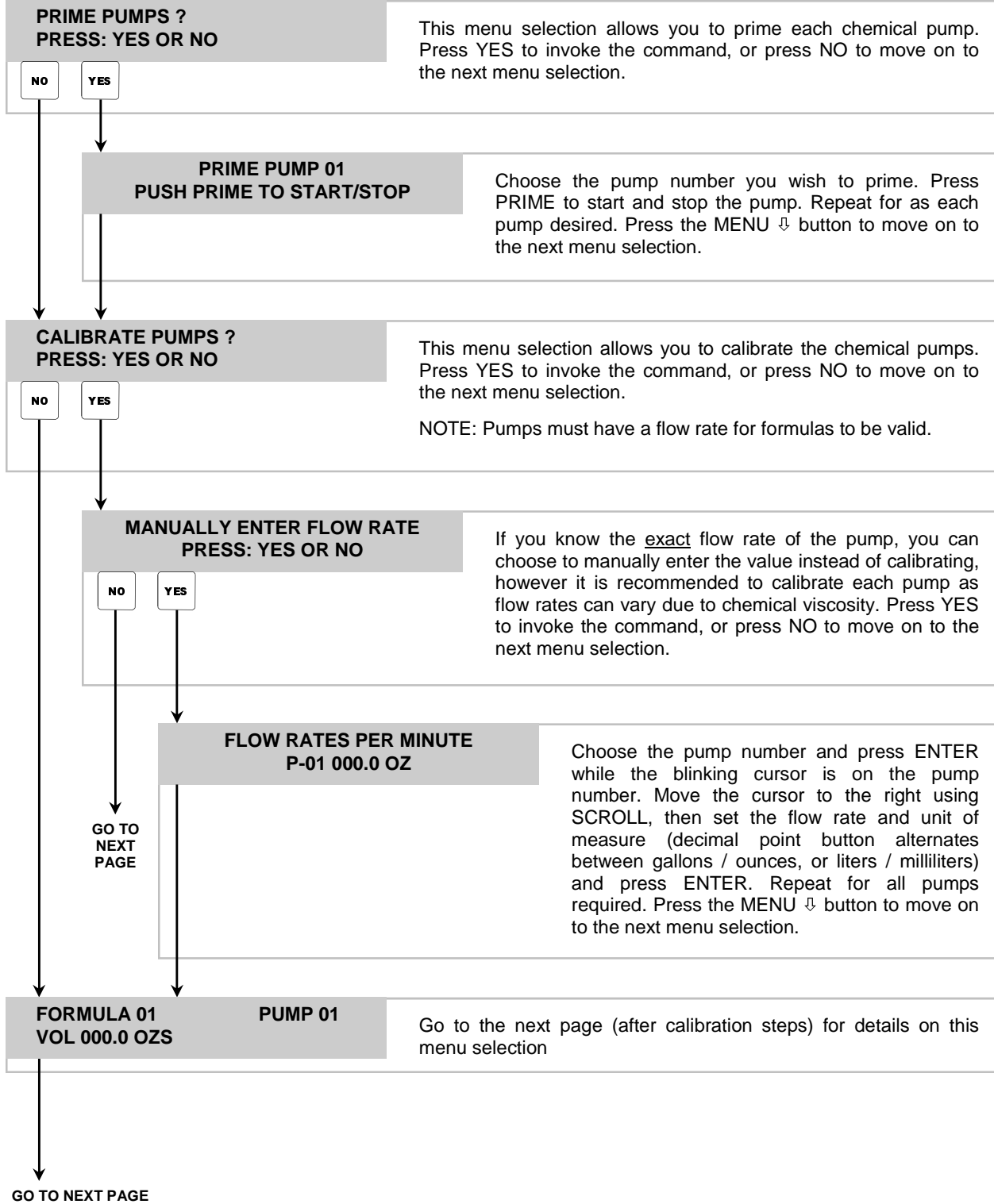
Use the number buttons to set the start and end times of the operating zone, then press ENTER. Time must be in military format (i.e. 13:00 = 1:00 PM). For example, if the operating zone is 06:00 to 15:00, then formulas can only be dispensed between 6 am and 3 pm. Press the MENU ↓ button to return to the menu heading.

REPORT SETUP ROUTINES MENU HEADING

4

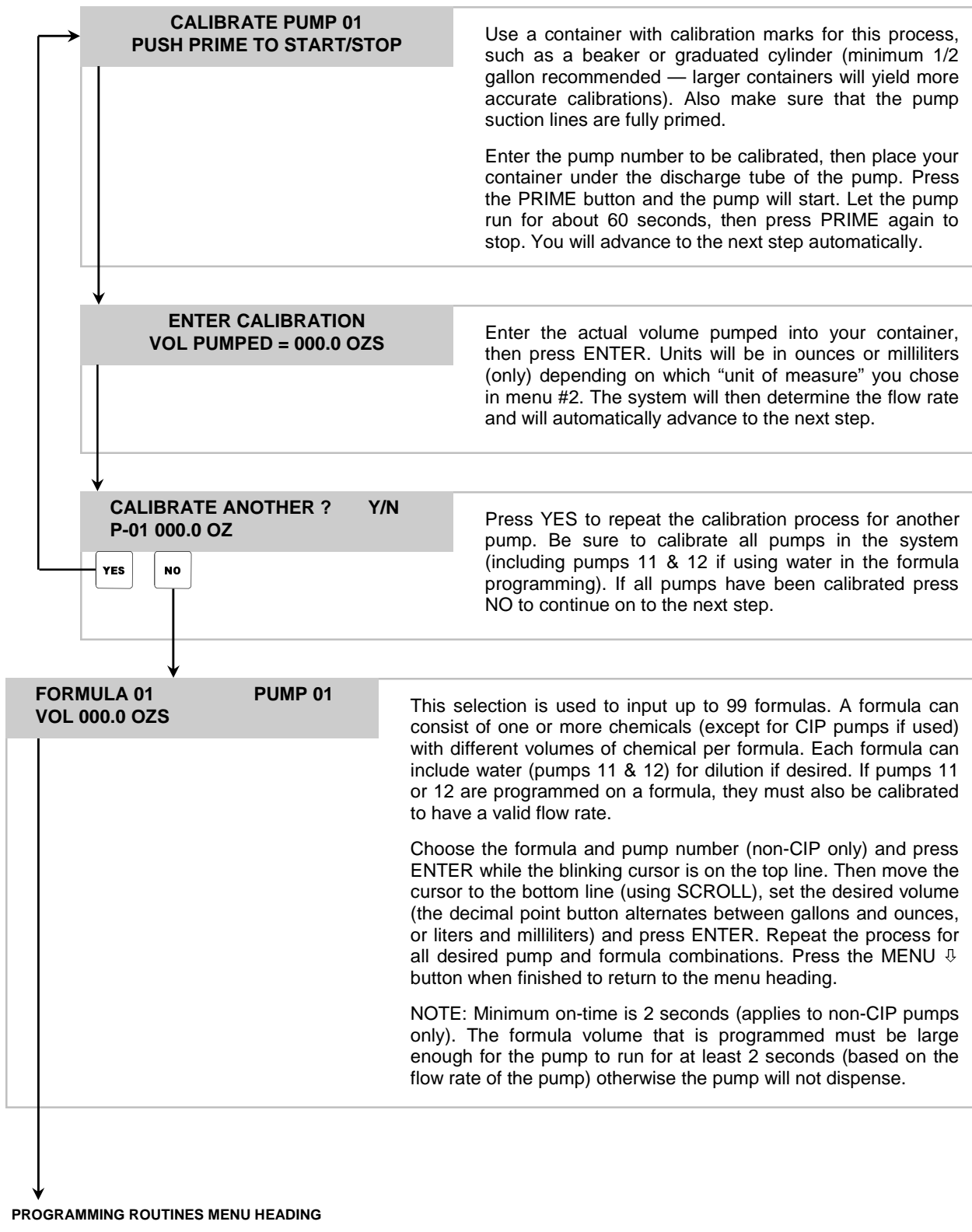
*** DISPENSER *** PROGRAMMING ROUTINES

- Prime pumps
- Calibrate pumps
- Manually enter pump flow rates
- Program formulas



4***** DISPENSER ***
PROGRAMMING ROUTINES**

• Continued



OPERATION

When all system programming is complete, you will be ready for operation to dispense formula batches. Check that all chemical lines are primed and that the water source is turned on (if applicable).

- (1) Toggle the Main Power switch to ON position.
- (2) Place container under the discharge spout (if applicable).
- (3) Type in your user code and press ENTER, or use your proximity card (if applicable) — if your code was accepted, the display will flash a brief acknowledgement and you will then see the following.

FORMULA 01 SELECT FORMULA/HIT START

- The top line will show the current formula name.
- The bottom line will alternate between the date/time and the display shown to the left.

Press FORMULA and key in the desired formula, then press ENTER. Press **START** to begin dispensing. If the message “ACCESS RESTRICTED” appears, it indicates that the current user is not allowed to dispense the formula selected. Otherwise, the unit will operate as follows.

- Chemicals will begin pumping, starting with the lowest number pump to the highest number (if there is more than one pump programmed in the formula).
- If simultaneous pumps option is turned ON, then all pumps on the formula will run together (if there is more than one pump programmed in the formula).
- The display will count down the remaining time left to dispense.
- Users that have continuous batching allowances can press START again to dispense another batch without having to re-enter their user code (providing that the continuous batching timeout period has not expired).
- If the EXIT/ABORT button is pressed during operation, you will then see the following message.

ABORT CURRENT BATCH? PRESS: YES OR NO

- If you press NO, the system will finish the batch as normal.
- If you press YES, the batch that is currently dispensing will be aborted. When finished, the system will return to the default display and will record the *actual* amount dispensed (instead of the *programmed* amount) in the batch tracking memory.

NOTE: If you abort a batch, you may wish to flush the manifold with water (if applicable) by using the manually activated water buttons on the control panel.

CIP PUMP OPERATION

Formulas 101 – 110 are reserved for tracking CIP pump product usage (to correspond with pump outputs 1 – 10). For example, if pump 1 is CIP-controlled, then the product usage for that pump will be tracked as formula 101. Pump 2 would be formula 102, and so on, for as many CIP pumps that are in use. CIP pumps are controlled externally and will run for as long as their respective signals are present. The EDGE system tracks the “on time” of each CIP pump and calculates the product usage based on the calibrated flow rates.

NOTES:

- The system will track and record CIP pump usage even if formulas are being dispensed for bucket filling.
- CIP pumps can be operated even if the system is outside of the operating zone.

PRIMING PUMPS

- (1) Press the PRIME button.
- (2) Enter your access code (main or user).
- (3) Type in the pump number and press PRIME to start the pump.
- (4) Press PRIME again to stop the pump.
- (5) Repeat steps 3 & 4 as needed for any other pumps you wish to prime.
- (6) Press the MENU ↵ button to exit the pump prime function.

WATER ACTIVATION

Water (also called flush) can be activated manually at any time during pump operation. Press the WATER 1 or WATER 2 buttons and the flush will activate for as long as the button is held down.

LOW AIR WARNING

The system has a built-in air pressure sensor that is factory set to 60 PSI. If the air pressure drops below this level, the letters LA will appear in the formula number window and a warning message will appear on the top line of the LCD display. A notification will be displayed on printed reports to show when the low air warning occurred and when the condition was satisfied.

NOTES:

- The system can still be accessed for programming in the event of a low air warning.
- Pumps cannot be activated if a low air warning occurs.
- If the low air warning cannot be resolved, please contact Knight for assistance.

DISCLAIMER

Knight LLC does not accept responsibility for the mishandling, misuse, or non-performance of the described items when used for purposes other than those specified in the instructions. For hazardous materials information consult label, MSDS, or Knight LLC. Knight products are not for use in potentially explosive environments. Any use of our equipment in such an environment is at the risk of the user, Knight does not accept any liability in such circumstances.

WARRANTY

All Knight controls and pump systems are warranted against defects in material and workmanship for a period of ONE year. All electronic control boards have a TWO year warranty. Warranty applies only to the replacement or repair of such parts when returned to factory with a Knight Return Authorization (KRA) number, freight prepaid, and found to be defective upon factory authorized inspection. Bearings and pump seals or rubber and synthetic rubber parts such as "O" rings, diaphragms, squeeze tubing, and gaskets are considered expendable and are not covered under warranty. Warranty does not cover liability resulting from performance of this equipment nor the labor to replace this equipment. Product abuse or misuse voids warranty.

FOOTNOTE

The information and specifications included in this publication were in effect at the time of approval for printing. Knight, LLC reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever.

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