KNIGHT

IDEX

IDEX CORPORATION

ILCS Edge Jr EDP
Programming Manual

TABLE OF CONTENTS

Control Panel Diagram....3
Programming Introduction....4
Memory Functions....5
Setup Routines....8
Report Setup Routines....10
Programming Routines....13
Operation....15
Warranty Information....16
Knight Locations....16

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.

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**	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. 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. From the default display, you must enter the main access code (following) to begin programming.

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**	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. 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). Follow the programming steps for each section, starting on the next page.

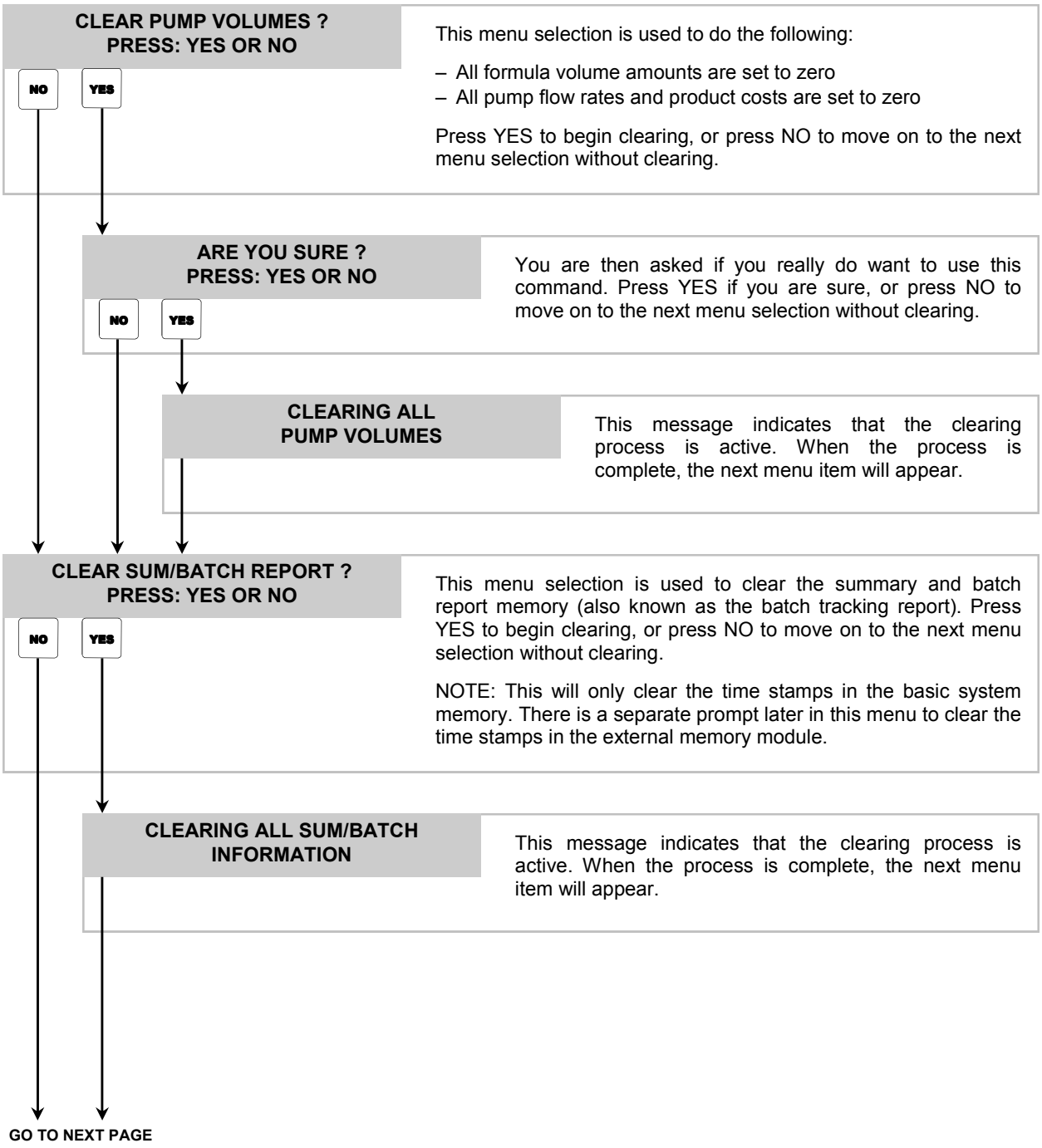
IMPORTANT NOTES:

- 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, 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

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



1 ***** DISPENSER *****
MEMORY FUNCTIONS

- Continued

CLEAR BATCH COUNT ?
PRESS: YES OR NO

NO YES

This menu selection is used to zero out the batch count (this is the digital counter that appears on the screen when pressing the BATCH COUNT button on the control panel). Press YES to begin clearing, or press NO to move on to the next menu selection without clearing.

CLEARING BATCH COUNT

This message indicates that the clearing process is active. When the process is complete, the next menu item will appear.

RESTORE DEFAULT SETTINGS ?
PRESS: YES OR NO

NO YES

This menu selection is used to load factory default settings:

- Unit of measure is set to US
- Continuous batching set to zero (off)
- Simultaneous pump setting is turned OFF
- Card reader access is turned off
- All user codes are set to zero / user names are reset
- Report name is cleared (blanked out)
- Chemical names and formula names are reset
- Shift start times are reset: 1 = 06:00 / 2 = 11:00 / 3 = 17:00
- Operating zone is set for 00:00 to 24:00

Press YES to begin restoring default settings (also known as “clearing the setup“) or press NO to move on to the next menu selection without restoring defaults.

ARE YOU SURE ?
PRESS: YES OR NO

NO YES

You are then asked if you really do want to use this command. Press YES if you are sure, or press NO to move on to the next menu selection without loading.

CLEARING SETUP
***** PLEASE STAND BY *****

This message indicates that the clearing process is active (factory defaults are being loaded at this point). When the process is complete, the next menu item will appear.

GO TO NEXT PAGE

1 ***** DISPENSER *****
MEMORY FUNCTIONS

- Continued

SET EXT MEM MODULE ID ?
PRESS: YES OR NO

NO YES

The external memory module is a communication link that is only required for use with the optional card reader. This menu selection allows you to set the ID number of the external memory module to match the dispenser's ID.

Press YES if you will be using the optional card reader. Be sure the unit is not be multi-linked (with other dispensers) while performing this step.

Press NO if you will not be using the optional card reader.

ARE YOU SURE ?
PRESS: YES OR NO

NO YES

You are then asked if you really do want to use this command. Press YES if you are sure, or press NO to continue to the next menu selection without setting.

SETTING EXT MEM MODULE
***** ID TO CURRENT ID *****

This message indicates that the ID number of the external memory module is being set to the dispenser's current ID number. When the process is complete, the next menu item will appear.

MEMORY FUNCTIONS MENU HEADING

2 *** DISPENSER *** SETUP ROUTINES

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

CHANGE ID# ?
PRESS: YES OR NO

NO YES

This menu selection sets the system ID number. The ID number is used for "logging on" to the system from a computer that is running ILCS WinReporter software. If desired, several systems can be connected together in a daisy chain format known as "multilinking". The default ID number is 01 — there is no need to change the ID number unless multiple dispensers are multilinked which requires each dispenser to have a different ID number.

Press YES to invoke the command, or press NO to move on to the next menu selection. If the ID number is changed, you must set the ID of the external memory module in menu #1.

NEW ILCS EDGE JR ID# 01
THEN PRESS ENTER

Use the number buttons to enter a 2-digit ID number, then press ENTER. Press the MENU ⇩ button to move on to the next menu selection.

CHANGE MAIN ACCESS CODE ?
PRESS: YES OR NO

NO YES

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

MAIN ACCESS CODE = 000
THEN PRESS ENTER

Use the number buttons to enter a 3-digit main access code, then press ENTER. Press the MENU ⇩ button to move on to the next menu selection.

SET DATE & TIME ?
PRESS: YES OR NO

NO YES

This menu selection allows you to set the time and date. Press YES to invoke the command, or press NO to move on to the next menu selection.

HOUR 00 MINUTE 00
MONTH 00 DAY 00 YR 00

Use number buttons to set date and time (military format, 13:00 = 1:00 PM) then press ENTER. Press the MENU ⇩ button to move on to the next menu selection.

GO TO NEXT PAGE

2 ***** DISPENSER *****
SETUP ROUTINES

- Continued

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.

CONTINUOUS BATCHING
USER 1 TO 00 000 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.

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 9 and 10, then press ENTER. Press the MENU ⇩ button to continue.

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

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 report name
- Change chemical names and costs
- Change formula names
- Set shift times and operating zone

CHANGE USER ACCESS CODE ?
PRESS: YES OR NO

NO YES

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

USER ACCESS CODE = 000
THEN PRESS ENTER

Use the number buttons to set the user access code, then press ENTER. Press the MENU ⇩ button to move on to the next menu selection.

CHANGE USER NAME ?
PRESS: YES OR NO

NO YES

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

001 USERID NAME 001
CHANGE NAME THEN ENTER

Use SCROLL and alphanumeric keypad to enter a descriptive name (up to 15 characters) for the user ID number shown, then ENTER. Use MENU ⇩ or ⇧ to review or change other user names. Press RESET when finished to return to the previous screen.

CHANGE USER CODE ?
PRESS: YES OR NO

NO YES

This menu selection allows you to change the user codes that allow the user to dispense chemical. Press YES to invoke the command, or press NO to move on to the next menu selection.

001 000 00000
CHANGE CODE THEN ENTER

Use SCROLL and alphanumeric keypad to enter a code for the user ID number shown, then ENTER. Use MENU ⇩ or ⇧ to review or change other user codes. Press RESET when finished to return to the previous screen.

— Card reader off: User codes are the first 3 digits (of the 8 digit combo) and are numeric entries only.

— Card reader on: User codes are all 8 digits and are numeric entries only. For convenience, the code can be input on the display by simply swiping the card past the reader. Wait a few seconds for the code to appear, then press ENTER.

GO TO NEXT PAGE

3 ***** DISPENSER *****
REPORT SETUP ROUTINES

- Continued

CHANGE REPORT NAME ?
PRESS: YES OR NO

NO YES

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.

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

NO YES

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.

PUMP 01
PUMP-01

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

NO YES

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.

PUMP 01 $000.00 /GALS

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

NO YES

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.

FORMULA 01
FORMULA 01

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

WANT TO SET SHIFT TIMES ?
PRESS: YES OR NO

NO YES

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.

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

NO YES

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.

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

PRIME PUMPS ?
PRESS: YES OR NO

NO YES

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

PRIME PUMP 01
PUSH PRIME TO START/STOP

Choose the pump number you wish to prime. Press PRIME to start and stop the pump. Repeat for as each pump desired. Press the MENU ⇩ button to move on to the next menu selection.

CALIBRATE PUMPS ?
PRESS: YES OR NO

NO YES

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

NOTE: Pumps must have a flow rate for formulas to be valid.

MANUALLY ENTER FLOW RATE
PRESS: YES OR NO

NO YES

If you know the exact flow rate of the pump, you can choose to manually enter the value instead of calibrating, however it is recommended to calibrate each pump as flow rates can vary due to chemical viscosity. Press YES to invoke the command, or press NO to move on to the next menu selection.

FLOW RATES PER MINUTE
P-01 000.0 OZ

Choose the pump number and press ENTER while the blinking cursor is on the pump number. Move the cursor to the right using SCROLL, then set the flow rate and unit of measure (decimal point button alternates between gallons / ounces, or liters / milliliters) and press ENTER. Repeat for all pumps required. Press the MENU ⇩ button to move on to the next menu selection.

GO TO NEXT PAGE

FORMULA 01 **PUMP 01**
VOL 000.0 OZS

Go to the next page (after calibration steps) for details on this menu selection

GO TO NEXT PAGE

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

- Continued

CALIBRATE PUMP 01
PUSH PRIME TO START/STOP

Use a container with calibration marks for this process, such as a beaker or graduated cylinder (minimum 1/2 gallon recommended — larger containers will yield more accurate calibrations). Also make sure that the pump suction lines are fully primed.

Enter the pump number to be calibrated, then place your container under the discharge tube of the pump. Press the PRIME button and the pump will start. Let the pump run for about 60 seconds, then press PRIME again to stop. You will advance to the next step automatically.

ENTER CALIBRATION
VOL PUMPED = 000.0 OZS

Enter the actual volume pumped into your container, then press ENTER. Units will be in ounces or milliliters (only) depending on which "unit of measure" you chose in menu #2. The system will then determine the flow rate and will automatically advance to the next step.

CALIBRATE ANOTHER ? Y/N
P-01 000.0 OZ

YES NO

Press YES to repeat the calibration process for another pump. Be sure to calibrate all pumps in the system (including pumps 9 & 10 if using water in the formula programming). If all pumps have been calibrated press NO to continue on to the next step.

FORMULA 01 PUMP 01
VOL 000.0 OZS

This selection is used to input up to 99 formulas. A formula can consist of one or more chemicals with different volumes of chemical per formula. Each formula can include water (pumps 9 & 10) for dilution if desired. If pumps 9 or 10 are programmed on a formula, they must also be calibrated to have a valid flow rate.

Choose the formula and pump number and press ENTER while the blinking cursor is on the top line. Then move the cursor to the bottom line (using SCROLL), set the desired volume (the decimal point button alternates between gallons and ounces, or liters and milliliters) and press ENTER. Repeat the process for all desired pump and formula combinations. Press the MENU ⇩ button when finished to return to the menu heading.

NOTE: Minimum on-time is 2 seconds. The formula volume that is programmed must be large enough for the pump to run for at least 2 seconds (based on the flow rate of the pump) otherwise the pump will not dispense.

PROGRAMMING ROUTINES MENU HEADING

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.

- 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.

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.

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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Fax: 949.595.4801	Fax: 800.752.9518	Fax: 905.542.1536	Fax: 44.1293.615.585	Fax: 61.2.9725.2025	Fax: 82.2.3482.5742	Fax: 65.6764.4020