October 10, 2017
Lit. No. 11833, Rev. 01

SNOWEX®

BP-2000

Brine Pro™ Brine Maker Software Update

Installation Instructions

Original Instructions

⚠ CAUTION

Read the Owner's Manual before installing or operating the equipment.

These instructions are for BP-2000 brine makers with serial numbers beginning with 150615 and higher.

This document supersedes all editions with an earlier date.

These instructions explain how to update the software programming of your Brine Pro™ Brine Maker.

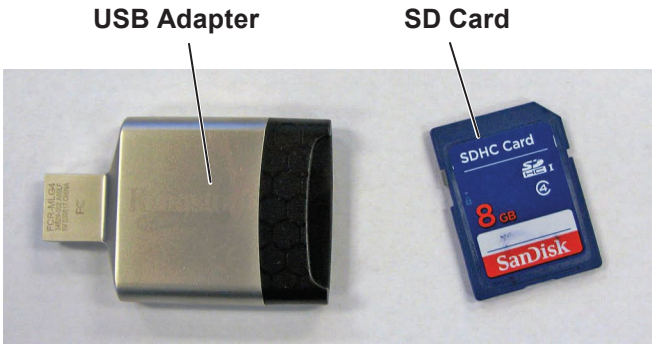
To ensure optimal operation of your brine maker, check annually to ensure that you have the latest software installed. We are committed to continuous improvement of all SnowEx® products, and future software updates will be released periodically.

Refer to the Owner's Manual and Installation Instructions for important safety information and full instructions on installing, operating, or making adjustments to the brine maker. Keep the Owner's Manual and Installation Instructions document accessible for future reference.

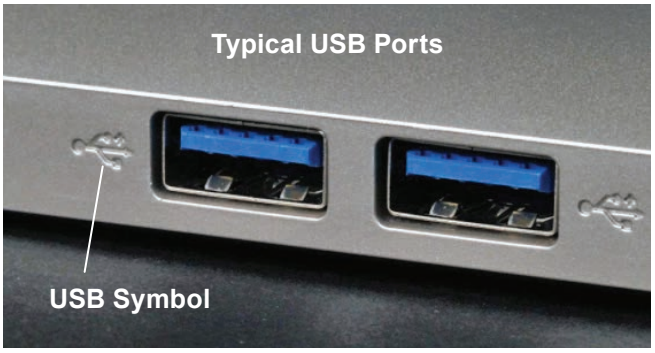
When service is necessary, call SnowEx Technical Service at 1-800-725-8377.

EQUIPMENT & TOOLS REQUIRED

- BP-2000 Brine Pro Brine Maker. Must be connected to power supply.
- SD Card (SnowEx part number 11831) or equivalent.
- SD/USB Adapter (SnowEx part number 11832) or equivalent. ***Adapters that take the SD card from the side may not fit correctly into the USB port on the HMI display unit***.



- Computer with USB port.



- Software update files from SnowEx Technical Service. (Not required for up-to-date preloaded media.)
- Writing utensil to record Brine Pro system info data. (Data Record form provided in the Appendix of this document.)

1. Confirm the version of the software currently installed on your Brine Pro™ unit.

   a. Turn the brine maker ON. On the display screen, touch the **Home** icon to go to the *HOME* screen.

   b. **If the currently installed versions of PLC and HMI* software are not listed on the *HOME* screen,** version 3 software has not yet been installed. Skip to Step 2.

      If the currently installed versions of software are listed, record this information on the Data Record form provided on the last page of these instructions.

   c. To confirm that your unit's software is up to date, do one of the following:

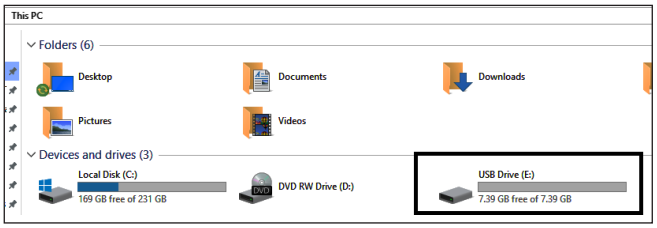
   - Check update notification e-mail received from SnowEx® Technical Service.
   - Check online at *http://library.snowexproducts.com/default.asp?cat=23* . Open the Brine Pro Latest Software READ ME notice.
   - Call SnowEx Technical Service (1-800-725-8377; Option 2).

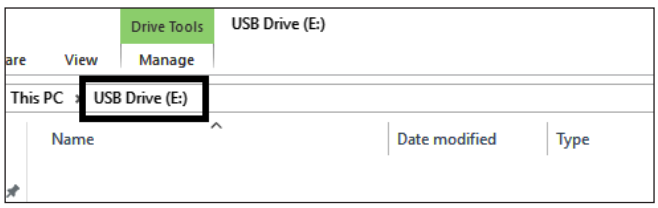
   d. If the current software on your unit matches the latest released versions, no further action is required. If software update is required, proceed with Step 2.

NOTE: Even if only one software version is out of date, it is critical that both the PLC and HMI display are updated. Failure to update both may prevent the machine from operating as designed.

2. Assemble the SD card into the USB adapter and insert the USB adapter with SD card ("USB drive") into the computer's USB port.

3. Navigate to see the contents of the USB drive. (Examples below show Windows 10 interface. Your view may differ.)

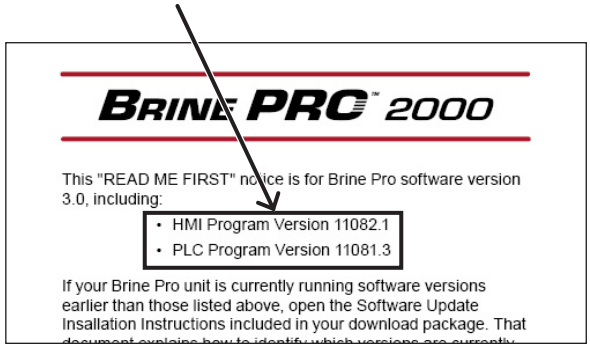




* PLC: Programmable Logic Controller. HMI: Human Machine Interface.

4. **If no files are visible,** skip to Step 6.

   If there are already files on your USB drive, open the "Instructions and Readme" folder and review the "READ ME FIRST" file to verify that the files on the USB drive are the latest version.**



5. If the versions listed in the "READ ME FIRST" document match the versions you confirmed in Step 1c, you are up to date; proceed to Step 8.

6. If there are no files on the USB drive, or the files are not up to date, contact SnowEx® Technical Service and request the link to the latest Brine Pro™ software update files.

   a. Download the software update files to your computer.

   b. *Delete all existing files from the USB drive.*

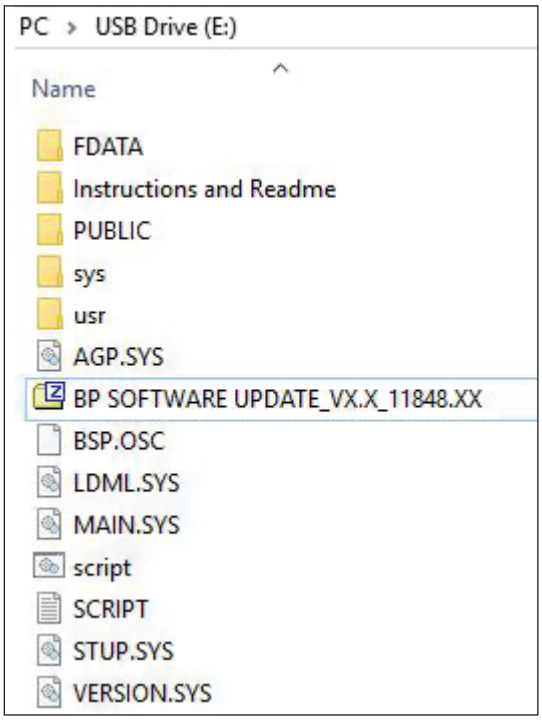
   c. Copy the downloaded .zip file from the computer to the USB drive.

   d. Open the .zip file folder, select all the contents, and click on "Extract" to decompress all the folders and individual files.

      Depending on the utility used to compress the files, you may be asked to select options to properly extract the files. In general, the files should be extracted to the USB drive *without path names*.

      If the option to "Extract Here" is available, choose that. If that option is not available, all files need to be extracted to the top level directory of the USB drive. They should not be grouped within another folder.

7. The following content should appear when you click on the USB drive icon:



- **If the file list on the USB drive does not match the above example,** repeat Step 6d and/or contact SnowEx® Technical Service.

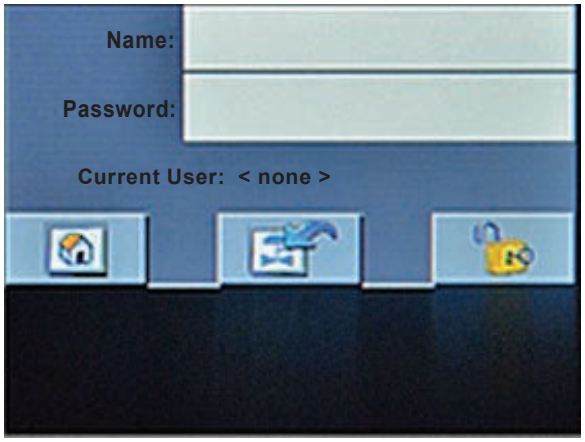
- **If the extraction was correct and the file list matches the example,** remove the USB drive from the computer USB port.

** Not required in 2017; proceed to Step 8.

8. The SD card will be used to update the Brine Pro™ unit's Programmable Logic Controller. If required, turn the Brine Pro unit ON and allow it to boot up.

   a. If the Brine Pro 2000 *HOME* screen shown below does not appear in the display, touch the **Home** icon button in the lower left corner to return to the home screen.

   b. Touch the upper left corner of the home screen to access the *SERVICE* screen:



   c. Touch the white field for **Name** to bring up the keyboard. Press **Cap** to disable capital letters. Type "**factry"** into the **Name** field, then press **Enter**.

   d. Repeat Step 8c, this time typing "**factry"** into the white **Password** field.

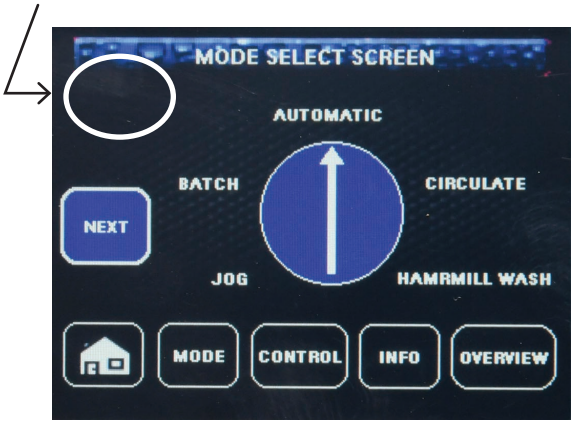
   e. Press the Lock icon on the *SERVICE* screen; the name field will display ***factry***.

   f. Press the home icon to return to the Brine Pro 2000 *HOME* screen. Look for a red circle in the upper right to confirm that the machine is now unlocked.

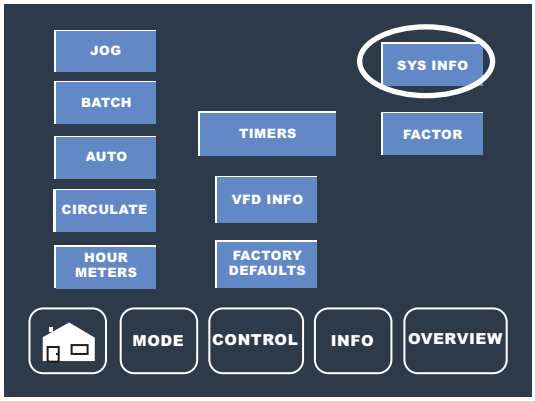
Red Circle = Unlocked

g. Select preferred language. When the *MODE SELECT* screen shown below appears, touch the top left corner to access the *FACTORY ADMIN* screen.

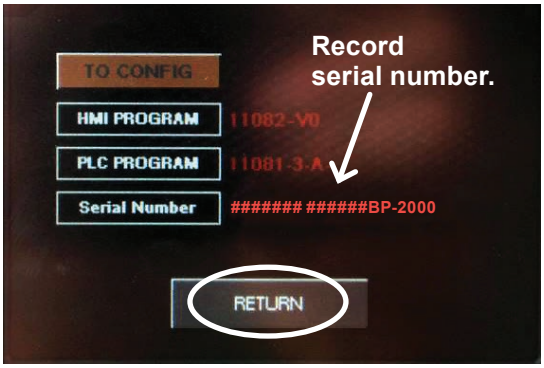
Touch here to go to next screen.



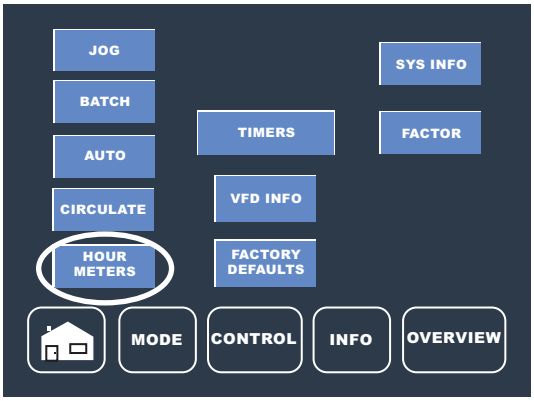
h. Press the **SYS INFO** button on the *FACTORY ADMIN* screen.



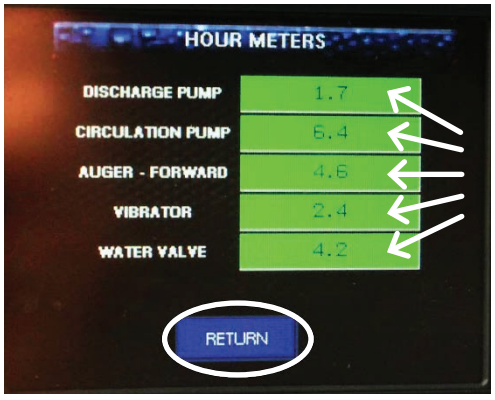
i. Record the serial number displayed on the next screen on the data record page you started at Step 1a. Press the **RETURN** button to go back to the *FACTORY ADMIN* screen.



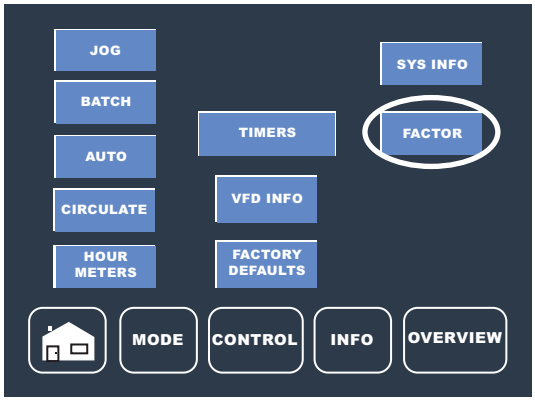
j. Press the **HOUR METERS** button.



k. On your data record form, record the values displayed for each component, then press **RETURN** to go back to the *FACTORY ADMIN* screen.

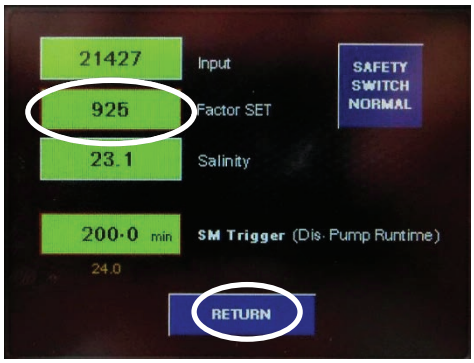


l. Press the **FACTOR** button.



m. Record the Factor SET number, then press **RETURN.**

Record Factor SET number.

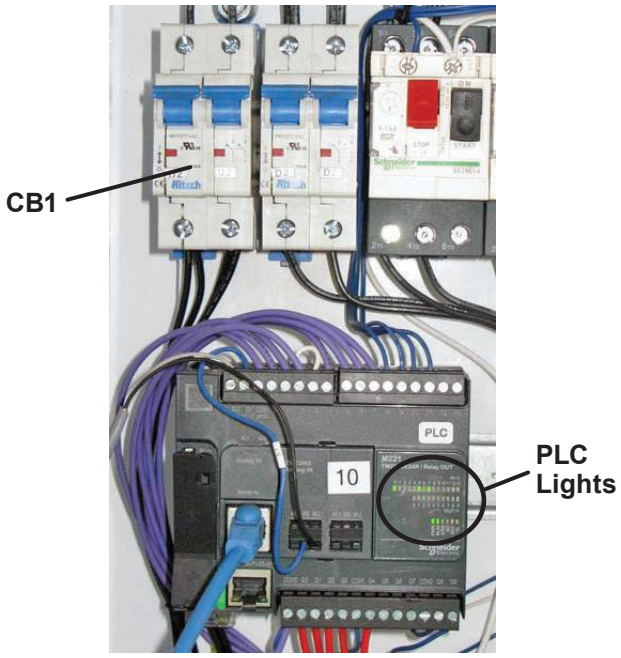


⚠ WARNING

Electrical shock hazard. Brine maker operates on 220V current. Touching bare wires or terminals in the unit's control box can result in serious injury or death.

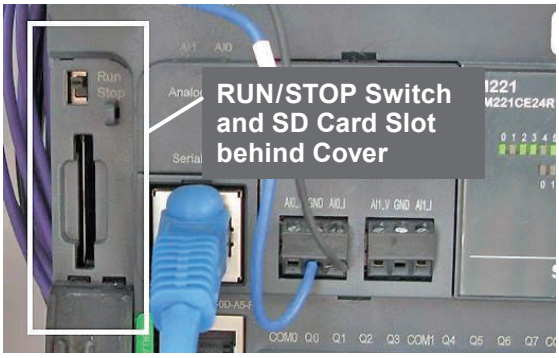
9. **Using extreme caution,** open the brine maker control box and move the lever in the left circuit breaker (CB1) to the OFF position.

   Touch nothing else, and make sure all lights on the PLC are OFF before proceeding.



10. Remove the SD card from the USB drive. The SD card will be used to update the PLC software.

    a. Locate the SD card slot and RUN/STOP switch behind the small hinged cover on the left side of the PLC unit. Insert the SD card into the PLC slot until it clicks.

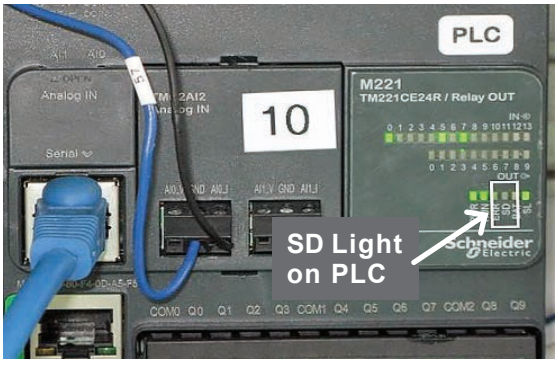


SD Card Orientation

⚠ WARNING

Electrical shock hazard. Brine maker operates on 220V current. Touching bare wires or terminals in the unit's control box can result in serious injury or death.

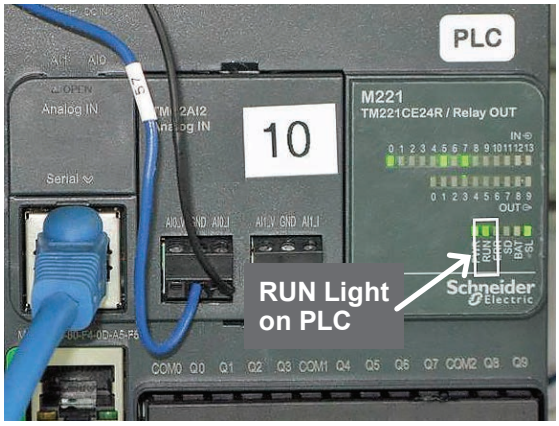
    b. **Using extreme caution**, move the CB1 lever back to the ON position. Verify that the SD indicator light on the PLC illuminates yellow. This may take several minutes.



    c. When the yellow SD indicator light turns off, remove the SD card from the slot by gently pushing on it until it clicks and then pulling it out.

11. Move the switch above the SD card slot to the STOP position. Wait 5 seconds, then move the switch back to the RUN position. The RUN light on the PLC will illuminate.

RUN/STOP Switch above SD Card Slot



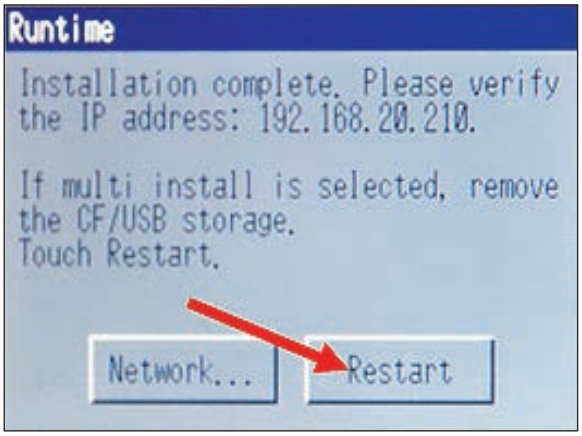
- **If the RUN light illuminates steadily**, the PLC software update was successful. Close the cover over the SD card slot and RUN/STOP switch.
- **If the RUN light is flashing,** open the brine maker control box and move the CB1 lever to the OFF position. Wait 5 seconds, then move the CB1 lever back to the ON position.
    - *If the RUN light on the PLC is steady on,* the PLC update was successful.
    - *If the RUN light still flashes,* contact SnowEx® Technical Service.

12. The USB drive will be used to update the Brine Pro™ HMI display. Reinsert the SD card completely into the USB adapter.

13. With the brine maker power ON and the display active, insert the USB drive into the display unit as shown. The display unit is mounted to the inside surface of the control box door.

14. The display will show a prompt asking if you want to install a new project from the USB drive. Press the YES button to launch the installation.

15. Installation may take several minutes. Once the installation is complete, a confirmation screen will display. Remove the USB drive, then press RESTART. There is no need to verify the IP address.



15. Re-enter the serial number and hour meters data you recorded in Step 8.

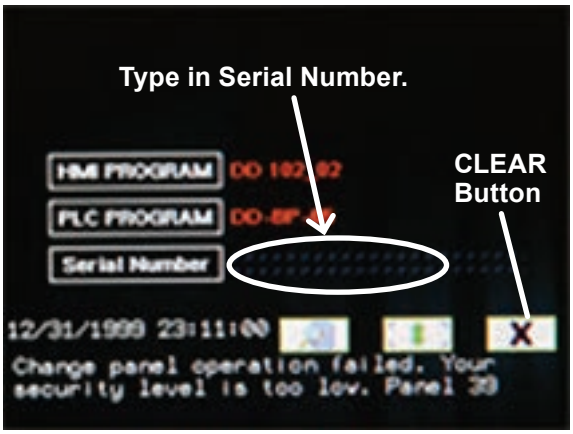
    a. Navigate to the *HOME* screen. Touch the upper left corner of the screen to access the *SERVICE* screen.

    b. Enter name and password ("**factry**"), unlock the machine, and navigate to the *SYS INFO* screen, as previously described in **Steps 8a through 8h**. No serial number will appear on the SYS INFO screen at this point.

    c. Unlock the *SYS INFO* screen by touching in the top *left* corner.

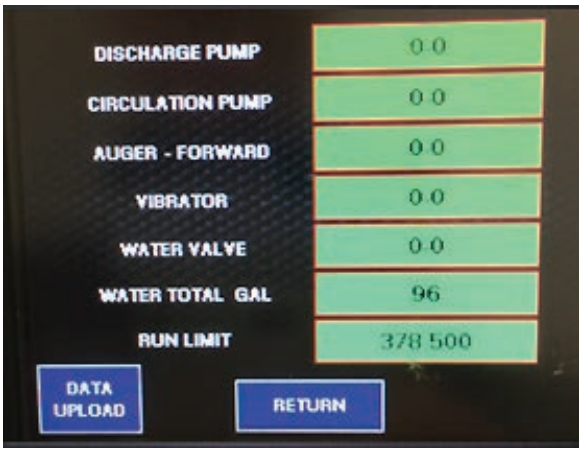
    d. Touch the screen to the right of the **Serial Number** box. Use the keyboard to re-enter the serial number you recorded at Step 8i, check that the number is correct, then press **ENTER** in the lower right corner of the keyboard.

       If an error screen appears, press the **X** button to clear, then re-enter the serial number.



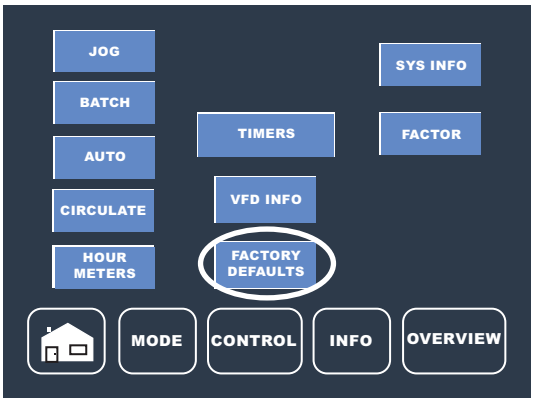
    e. Touch in the top *right* corner of the serial number screen to access the *HOURS* screen.

    f. The first 5 fields on the HOURS screen will all show a value of 0.0, as shown. Touch each field in turn to bring up the keyboard and re-enter the hours data recorded in Step 8k.



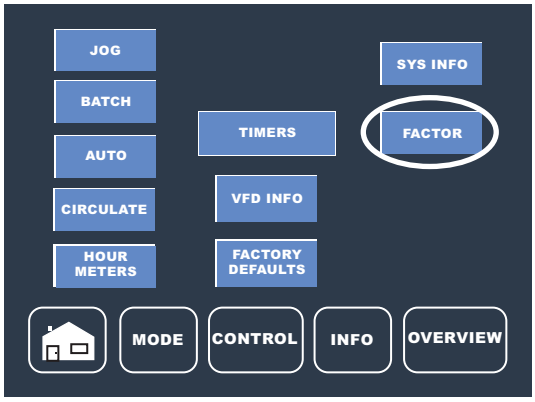
    g. Once all fields are filled in, press the **DATA UPLOAD** button at the bottom left of the screen, then press the **RETURN** button to return to the *SYS INFO* serial number screen.

    h. Press **RETURN** on the *SYS INFO* screen to go back to the *FACTORY ADMIN* screen. Press the **FACTORY DEFAULTS** button.



16. Reprogram the Factor SET.

    a. Press the **FACTOR** button on the *FACTORY ADMIN* Screen

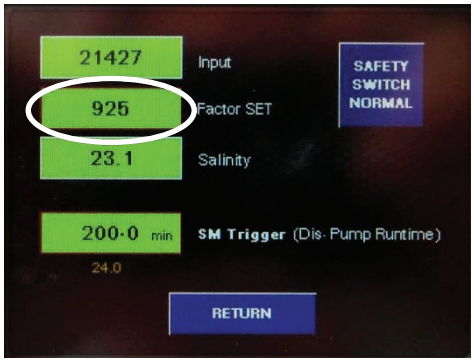


    b. Touch the green field next to **FACTOR SET** to bring up the keyboard and enter the correct factor:

    - *If you have previously used the refractometer to calibrate your machine AND you have installed a software version higher than 3,* re-enter the Factor SET number you recorded at Step 8m.

    - *If you have never calibrated your machine with the refractometer and/or are installing software Version 3,* enter **900** for your Factor SET. (Number 900 may already appear in the field.)

Enter Factor SET number.



    c. Press **RETURN** to go back to the *HOME* screen.

⚠ WARNING

Electrical shock hazard. Brine maker operates on 220V current. Touching bare wires or terminals in the unit's control box can result in serious injury or death.

17. **Using extreme caution,** open the brine maker control box and move the CB1 lever to the OFF position. Wait 5 seconds, then move the lever back to the ON position.

Your brine maker is now ready for use.

NOTE: If you have installed software version 3, make sure to calibrate the brine maker's salinity measure using the refractometer. Instructions were included in the Refractometer Kit and are also available in the Brine Pro™ Owner's Manual and Installation Instructions.

Data Record for Software Update

Record the following values at Steps 1 and 8 of the update procedure.

- HMI Program Version (Step 1b) _____
- PLC Program Version (Step 1b) _____
- Serial Number (Step 8i) _____
- Hour Meters Data (Step 8k)

  Discharge Pump _____ Vibrator _____

  Circulation Pump _____ Water Valve _____

  Auger – Forward _____
- Factor SET Value (Step 8m) _____

Re-enter the above values at Steps 15 & 16 of the update procedure.

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