Technical Updates for Pool Professionals

See below for this month's updates.
And visit our Support Center on Hayward.com for immediate access to Troubleshooting Guides, Quick Reference Guides, Manuals, Parts Diagrams, and Instructional Videos.
https://www.hayward-pool.com/shop/en/pools/support-center

Product Info

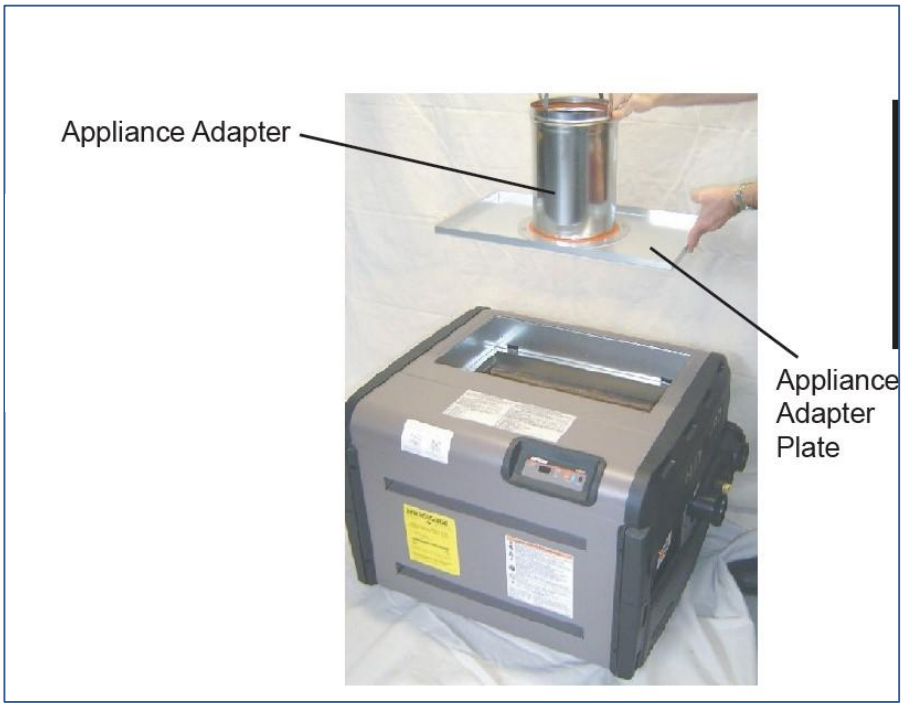
October/2020

1. **Gas Heaters:** UHS
   More information on the new vent kits
2. **Pumps:** All
   Information on the upcoming DOE changes.
3. **Controls:** OmniHub
   Notice About Syncing Smart Relays for Lighting on OmniHub
4. **Controls:** OmniLogic
   How to enable Demo Mode
5. **Controls:** OmniLogic
   Creating an Interlock when using a pool cover
6. **Controls:** OmniLogic
   How to Reset Omni's Salt Average when using an AquaRite Chlorinator
7. **Controls:** OmniLogic
   Information on the recently released 4.0 firmware
8. **Heaters:** Gas Heaters
   How much gas does a heater use?
9. **Controls:** OmniLogic
   Information on new HL Base MSP LCD
10. **Heat Pumps:** Square platform
    10. Changes to wiring and component layout in control box

A Clearer Picture of the New Vent Kits

In October of last year we made a major change in our UHS heater and the associated Indoor Vent Kits.

1. Went to a solid top on the heaters
2. Changed all the vent kits so that the last digit of the kit part number indicated the size of the vent pipe needed
3. Removed the "Appliance Adapter" from Positive Pressure Vent Kits for heaters that were certified for smaller vent pipe.
   a) H250 heaters with 4" vent pipe **(UHXPOSHZ12504)**
   b) H400 heaters with 6" vent pipe **(UHXPOSHZ14006)**
   c) H500 heaters with 6" vent pipe **(UHXPOSHZ15006)**
      - ❖ For these three Positive Pressure Vent Kits an Appliance Adapter will have to be purchased separately and the installer will have to purchase the adapter that matches the type of vent pipe they are using for the installation (DuraVent, or HeatFab).
      - ❖ These kits were set up to give the installer the option of using either type of vent pipe for cost or availability reasons.
      - ❖ With the smaller diameter vents the cost of the installation would be reduced regardless of the type of vent pipe used.
4. <u>All other positive pressure vent kits come with a HeatFab Appliance Adapter in the box, but they are **not certified for use with DuraVent vent pipe.**</u>
5. All Negative Pressure Indoor Vent Kits come with the appliance adapter in the box.



A Clearer Picture of the New Vent Kits

Vent Kits that require purchase of Appliance Adapter are highlighted in Blue

Part Number	Description	Heater Use	Indoor Vent Kit or Appliance Adaptor Use	Notes
Negative Pressure Vent Kits				
UHXNEGVT11506	6" Negative Pressure Indoor Vent Kit	H150FDN/P, SW150DHN/P	N/A	
UHXNEGVT12006	6" Negative Pressure Indoor Vent Kit	H200FDN/P	N/A	
UHXNEGVT12506	6" Negative Pressure Indoor Vent Kit	H250FDN/P, H250FDN/PASME, SW250DHN/P		
UHXNEGVT13008	8" Negative Pressure Indoor Vent Kit	H300FDN/P, SW300DHN/P		
UHXNEGVT13508	8" Negative Pressure Indoor Vent Kit	H350FDN/P		
UHXNEGVT14008	8" Negative Pressure Indoor Vent Kit	H400FDN/P, H400FDN/PASME		
UHXNEGVT15008	8" Negative Pressure Indoor Vent Kit	H500FDN/P, H500FDN/PASME		
Appliance Adaptors				
UHXDVA004	4" Duravent Positive Pressure Appliance Adaptor	H250FDN/P, H250FDN/PASME, SW250DHN/P	UHXPOSHZ12504	
UHXDVA006	6" Duravent Positive Pressure Appliance Adaptor	H400FDN/P, H400FDN/PASME H500FDN/P, H500FDN/PASME	UHXPOSHZ1406, UHXPOSHZ1506	
UHXHFA004	4" HeatFab Positive Pressure Appliance Adaptor	H250FDN/P, H250FDN/PASME, SW250DHN/P	UHXPOSHZ12504	
UHXHFA006	6" HeatFab Positive Pressure Appliance Adaptor	H400FDN/P, H400FDN/PASME H500FDN/P, H500FDN/PASME	UHXPOSHZ1406, UHXPOSHZ1506	
Positive Pressure Vent Kits				
UHXPOSHZ11506	6" Positive Pressure Indoor Vent Kit (Includes 6" HeatFab appliance adaptor)	H150FDN/P, SW150DHN/P		Cannot be converted for use with Duravent Pipe
UHXPOSHZ12006	6" Positive Pressure Indoor Vent Kit (Includes 6" HeatFab appliance adaptor)	H200FDN/P		Cannot be converted for use with Duravent Pipe
UHXPOSHZ12504	4" Positive Pressure Indoor Vent Kit (No Appliance Adaptor Included)	H250FDN/P, H250FDN/PASME, SW250DHN/P	Installer must chose appliance adaptor to match type of vent pipe used (HeatFab or Duravent)	UHXDVA004, UHXHFA004
UHXPOSHZ12506	6" Positive Pressure Indoor Vent Kit (Includes 6" HeatFab appliance adaptor)	H250FDN/P, H250FDN/PASME, SW250DHN/P		Cannot be converted for use with Duravent Pipe
UHXPOSHZ13008	8" Positive Pressure Indoor Vent Kit (Includes 8" HeatFab appliance adaptor)	H300FDN/P, SW300DHN/P		Cannot be converted for use with Duravent Pipe
UHXPOSHZ13508	8" Positive Pressure Indoor Vent Kit (Includes 8" HeatFab appliance adaptor)	H350FDN/P		Cannot be converted for use with Duravent Pipe
UHXPOSHZ14006	6" Positive Pressure Indoor Vent Kit (No Appliance Adaptor Included)	H400FDN/P, H400FDN/PASME	Installer must chose appliance adaptor to match type of vent pipe used (HeatFab or Duravent)	UHXDVA006, UHXHFA006
UHXPOSHZ14008	8" Positive Pressure Indoor Vent Kit (Includes 8" HeatFab appliance adaptor)	H400FDN/P, H400FDN/PASME		Cannot be converted for use with Duravent Pipe
UHXPOSHZ15006	6" Positive Pressure Indoor Vent Kit (No Appliance Adaptor Included)	H500FDN/P, H500FDN/PASME	Installer must chose appliance adaptor to match type of vent pipe used (HeatFab or Duravent)	UHXDVA006, UHXHFA006

DOE Compliant Pumps Information

As most of you are aware by now the U.S. Department of Energy has instituted new energy regulations on swimming pool pumps that will eliminate a large segment of our single and two speed offerings on July 19, 2021.

Product Management, and Marketing have put together three marketing slicks along with a Hayward Specific DOE Resource Center Website that explains what is happening, when it is happening, and what the effects will be on our business.

The website is hayward.com/regulations and it is available to anyone with the web address.

Notice About Syncing Smart Relays for Lighting on OmniHub

Description:

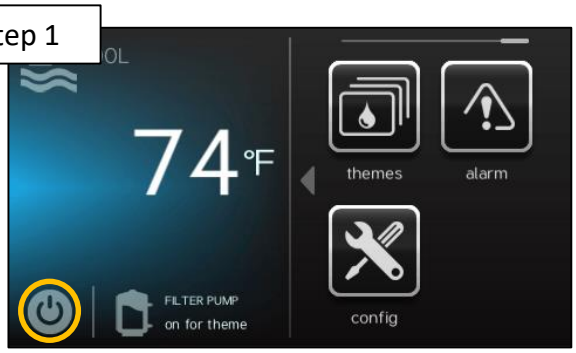
- The OmniHub does **not** allow for multiple Smart Relays to be chosen when configuring lights.
- Light(s) wired to a Smart Relay can only be configured as an independent light.
- Syncing lights across multiple Smart Relays is currently **not** supported on OmniHub.
- Users needing to configure lights using multiple Relays should use an OmniLogic or OmniPL.

How to Enable Omni's Demo Mode

Demo Mode

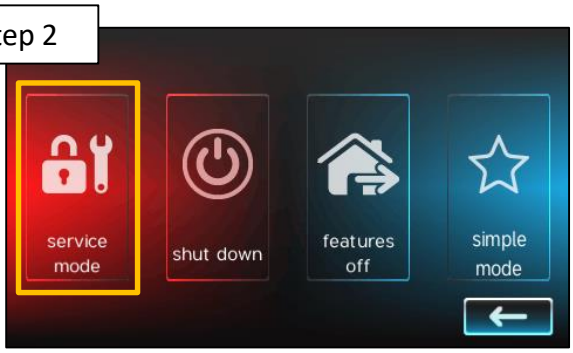
- Follow the steps below to activate Omni's demo mode

Step 1



Press the power button

Step 2

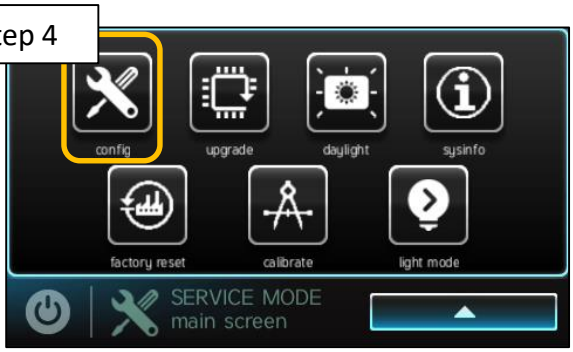


Press "service mode"

Step 3

Press "Yes" to continue

Step 4

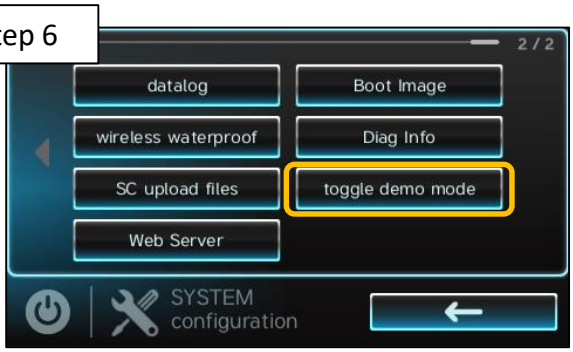


Press "config"

Step 5

Press the right arrow

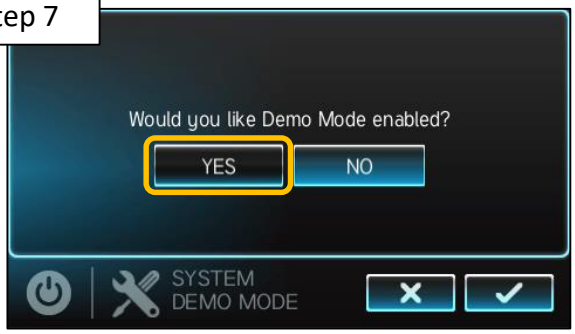
Step 6



Press "toggle demo mode"

Continue to next page

Step 7



Select “YES”

Step 8

Press the checkmark to save. The Omni will now reboot in Demo Mode.

How to Create an Interlock for Equipment when using a Pool Cover

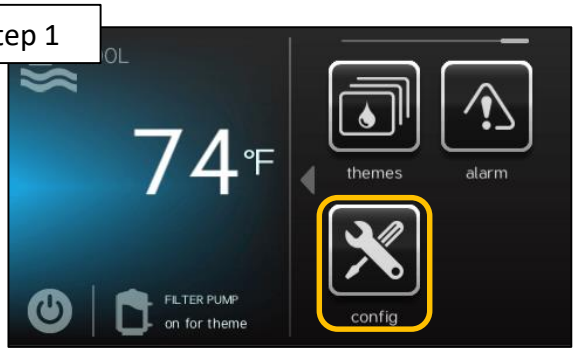
Omni Control Systems

- Omni controllers running R3.2.0 or higher, now have the ability to create an interlock to control what happens when a pool cover is either open or close.
- The interlock will allow users to enter values settings for the
  - Filter Pump
  - Heating
  - Chlorination
- To create this interlock first requires configuring an external sensor for a Pool Cover. This is done in the Omni's configuration menu.
- Follow the Pool Cover's manufacturer instructions on how to wire an external sensor to a controller.
- Remember to add separate interlocks to the pool cover to block water features.

How to create a Pool Cover interlock

Perform the following at the Omni controller's display:

Step 1



Press "config"

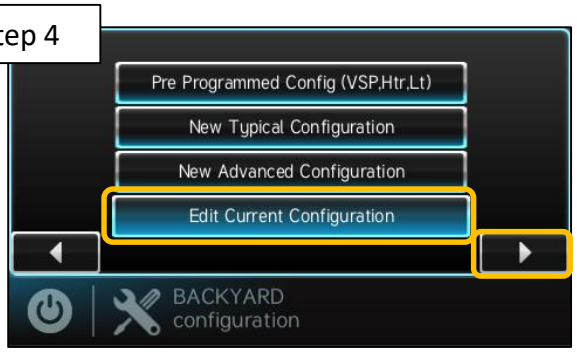
Step 2

Press "config wizard"

Step 3

Enter your password, then press the checkmark to continue.

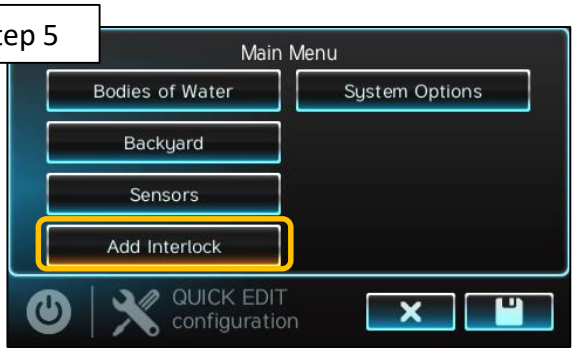
Step 4



Select "Edit Current Configuration", then press the right arrow to continue.

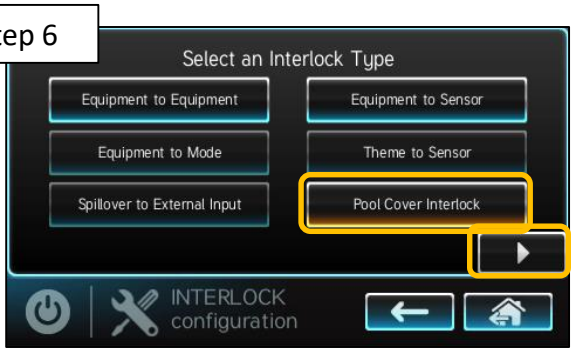
Continue to next page

Step 5



Press “Add Interlock”

Step 6

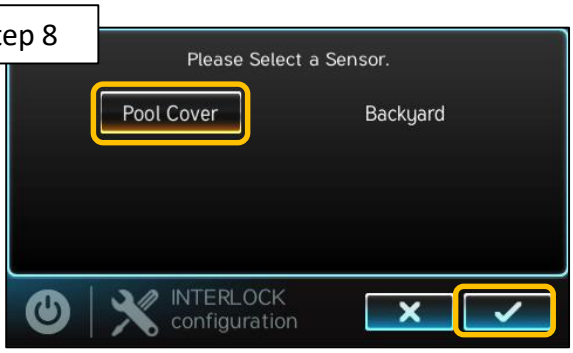


Select “Pool Cover Interlock”, then press the right arrow to continue.

Step 7

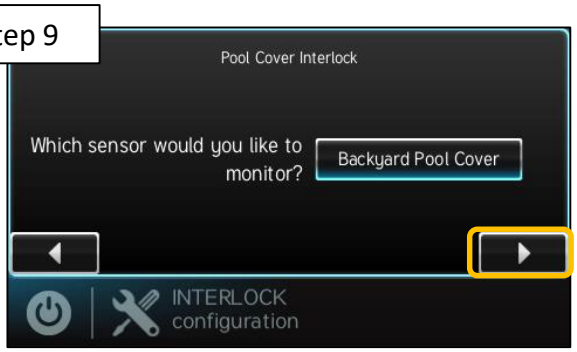
Select the empty box to choose a sensor

Step 8



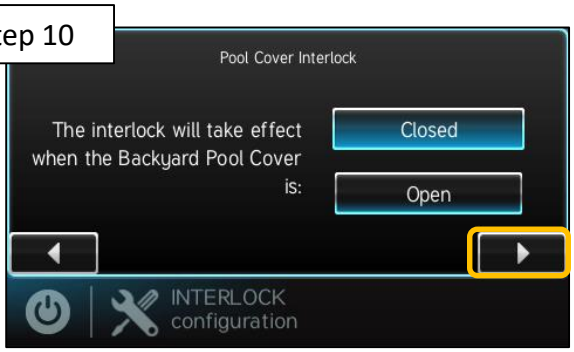
Select the “Pool Cover” sensor, then press the right arrow to continue.

Step 9



Confirm the sensor is displaying in the box, then press the right arrow to continue.

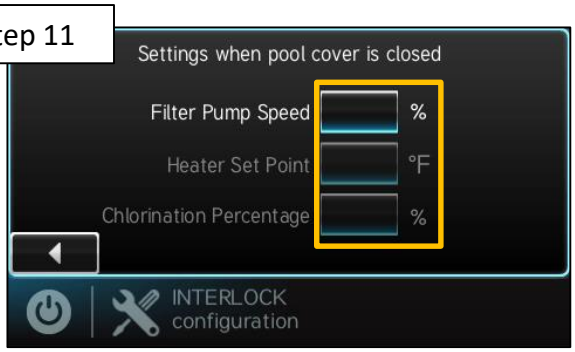
Step 10



Select “Closed” or “Open”, then press the right arrow to continue.

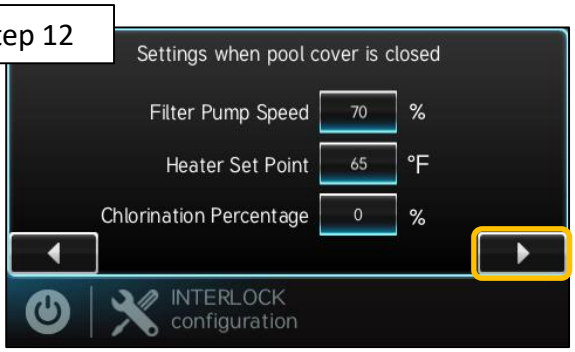
Continue to next page

Step 11



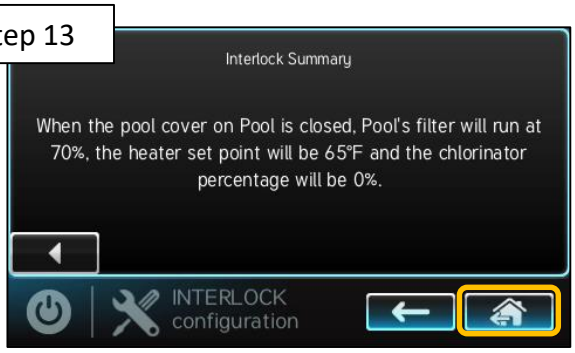
Select the empty boxes to enter the values.

Step 12



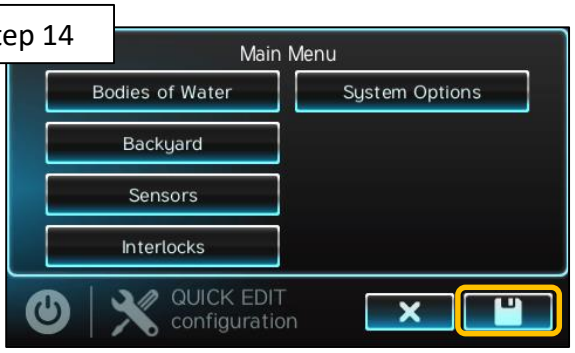
After you've entered the preferred settings, press the right arrow to continue.

Step 13



Confirm the summary statement is correct, then press the house icon to continue.

Step 14



Press the save icon to save the changes. The Omni Controller will now reboot.

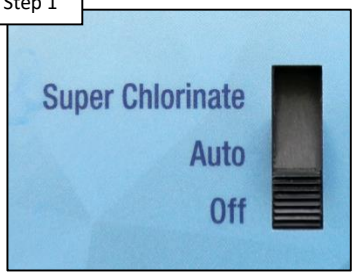
How to Reset Omni's Salt Average when using an AquaRite Chlorinator

Resetting the salt average of an AquaRite with Omni:

When using an AquaRite (with daughterboard) connected to an Omni control use the steps below to reset the salt average.

- The AquaRite's salt average cannot be reset from the Omni display or App
- Resetting the salt average requires being at the AquaRite panel
- The salt average on the Omni control's chlorinator diagnostic screen may take up to 30 seconds to update

Step 1

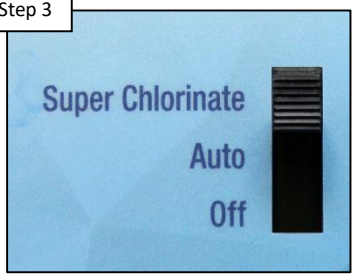


To reset, move the switch to 'Off' and then back to 'Auto'. Wait for the relay to click (5 to 10 seconds).

Step 2

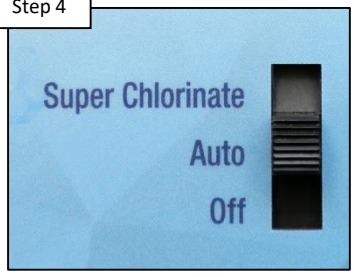
Press Diagnostics button 5 times to display the Instant Salt level. Wait for the number to stabilize.

Step 3



When the instant salt level is stable (and the negative sign still present), slide switch to 'Super Chlorinate' and back to 'Auto'.

Step 4



It takes about 30 seconds for the unit to settle back on the default reading. It should now reflect the new average salt level.

NOTE: Repeat this process once more to ensure both polarities are reading within 500ppm of each other.

New features available with Omni release 4.0.0

Over the Air (OTA) Firmware Updates - once version 4.0.0 is installed, subsequent upgrades can be performed with the click of a button. There will be no more need to remove the dead front to access the USB port to perform an upgrade.
Support for competitor lights - Pentair and Jandy lights, colors and shows are now supported via relay control. Omni direct remains a unique Hayward-only feature.
Solar priority/set point - Systems with a solar heater now have the ability to set the solar temperature separately from the rest of the heaters. In addition, if solar priority is enabled it turns off the other heaters that are running when the solar heater becomes available. Solar prioritization of multiple solar heaters is not supported.
Temperature sensor calibration - If temperatures being read by the system do not match the real temperature, users can now adjust the output by +/- 10 degrees F to allow a more accurate reading.
Edit Interlocks - Users are now allowed to edit the settings of an existing interlock within Quick Edit. They are allowed to edit the monitored state, affected state, and unaffected state by going through an abbreviated version of the full interlock configuration screen flow. Users are also able to edit the pool cover settings of a pool cover interlock.

Screen Calibration Utility:
Also, we want to make sure everyone is aware there is a USB stick with software installed to calibrate an OmniLogic screen even if the screen is so far out of calibration that the internal calibration can't be used. The way it's used is to power down the OmniLogic, place the USB drive into the unit and then re-boot. The system will boot in calibration mode and allow calibration to take place. Once complete, power down the unit and remove the USB stick from the system and power back up as normal and you should be good to go.
Greg Fournier sent multiple USB stick drives with this software installed to key service personnel.
These USB’s were sent to all Hayward field personnel earlier this month.

How much gas does my heater use?

We are asked on a fairly regular basis "How much gas does my heater use?"

That is a tough question to answer on an individual basis since it varies from pool to pool based on:

- How big is the pool?
- How warm do you want it?
- Where is it located (both locally, and geographically)

What we can answer is how much gas does the heater use per hour of operation.
A few facts:

1. **Our** heaters are sized based on the amount of input gas they need per hour in BTU's. Example: A H250FDN needs 250,000 BTU's of natural gas input to it per hour of operation, and a H250FDP needs 250,000 BTU's of propane gas input to it per hour of operation.
2. **A BTU** or British Thermal Unit is the amount of heat necessary to raise the temperature of one pound of water one degree.
3. **Natural gas** has a BTU rating of 1037 BTU's per cubic foot. Put another way there are 100,000 BTU's in a Therm of natural gas. This is the way it is sold.
4. **Propane** has 91,000 BTU's per gallon which is the way it is sold.

With these facts in mind we can calculate how much gas a heater will use per hour of operation.

For the H250FDN we mention above the heater will require 2.5 therms of gas per hour of operation.
For the H250FDP the heater will require ~2.75 gallons per hour of operation.

A H500 heater will require exactly twice as much gas per hour, but will also deliver twice as much heat per hour, so the cost per btu is the same.

One last bit of math….
If you have a 18,000 gallon pool and you want to raise the temperature in the pool from 70 to 85 you will need:

- (18,000 gallons X 8.34 pounds per gallon)150,120 BTU's per degree,
- or 150,120 X 15 degree temperature rise = 2,251,800 BTU's to bring the temperature up the desired 15 degrees

Our heaters are 84% efficient and that means you get 84% of the BTU's that you put into the heater added to the pool water.
So the H250 with an input of 250,000 BTU's actually puts 210,000 BTU's into the water per hour.

Discounting heat loss (which there is always some) if you are using one of our gas heaters to heat the 18,000 gallon pool we have discussed above you will need:

- 22.58 therms of natural gas
- 24.75 gallons of propane
- To raise the pool water temperature 15 degrees

These numbers hold true no matter which heater size you choose since the number of BTU's needed does not change.

What will change is how fast the pool is heated!

- For the H250 to heat the pool 15 degrees (again discounting heat loss) it would have to run for 10.71 hours
- If you were using a H400 it would take 6.7 hours

Time to heat would not change between natural gas and propane heaters

New (HL-BASE) MSP LCD

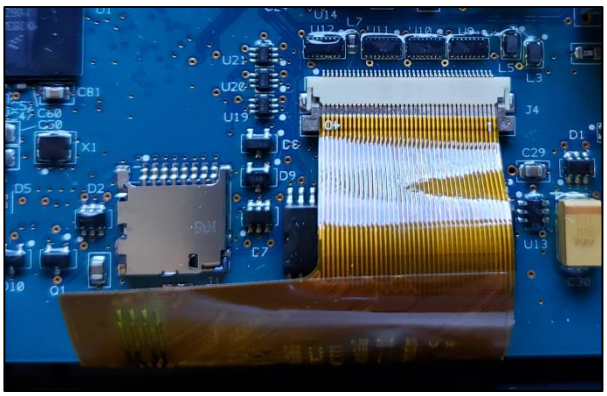
New LCD Information

A change has been made to the OmniLogic's (HL-Base) LCD. We have switched to a new manufacture for the LCD in the HL-Base MSP. The part number for the new LCD is **HLX-LCD0520.**

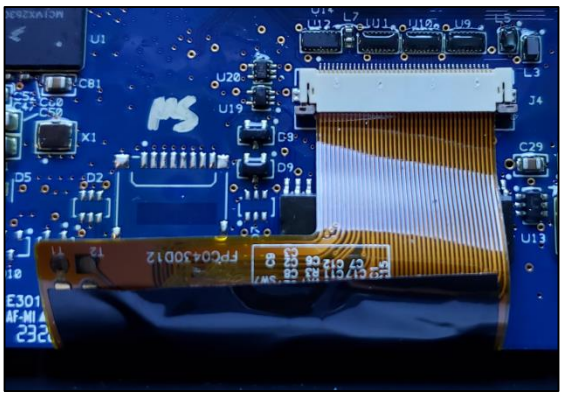
What to know If replacing an LCD:

- If the HL-Base was manufactured prior to May 14, 2020 continue to use **HLX-LCD** for a replacement LCD screen.
- HL-Base manufactured after May 14, 2020 will have the new LCD screen with part number **HLX-LCD0520**. If a replacement LCD is needed, use only **HLX-LCD0520.**
- HLX-LCD0520 is not backwards compatible with units manufactured prior to May 14, 2020.
- HLX-LCD cannot be installed in MSPs manufactured after May 14, 2020.
- The connector for the LCD's ribbon cable has changed. See the photos below to learn how to disconnect the ribbon cable.

MSP's before May 2020



MSP's after May 2020



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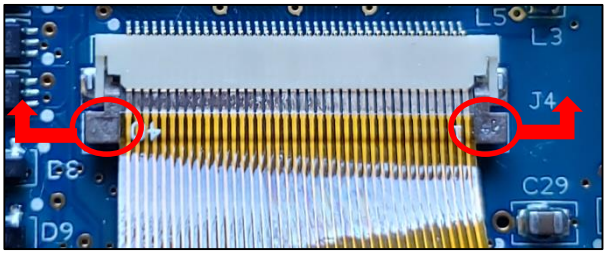
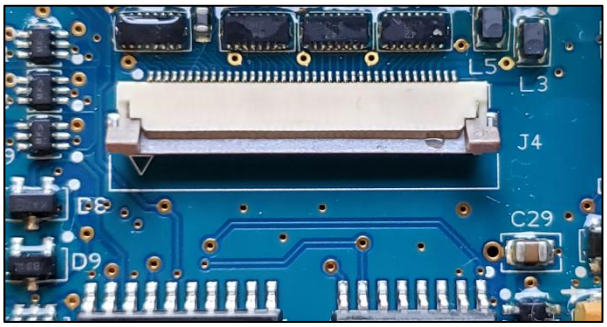
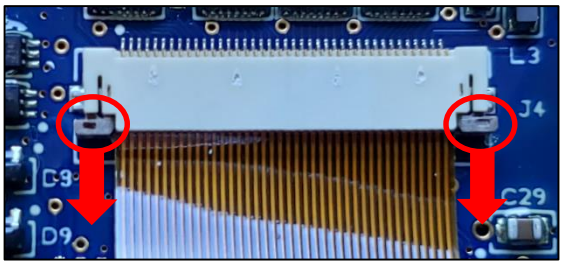
MSP’s before May 2020



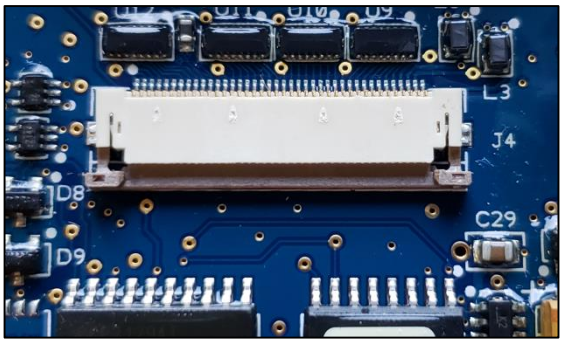
To remove the ribbon cable, lift up the two tabs on both ends. This will loosen the ribbon cable so it can be pulled out.



MSP’s after May 2020



To remove the ribbon cable, pull down on the two tabs on both ends. This will loosen the ribbon cable so it can be pulled out.



Changes to the wiring and component layout for Square Platform heat pumps (ex. HP31204T)

Beginning with serial # **21132010107749001** model **HP21404T** all square platform heat pumps will be built with changes to the wiring compartment layout.

Major changes include:

- A single dual capacitor will replace the two separate capacitors
- Single dual capacitor part # is HPX511000010001
- A fan relay has been added that will take all high voltage off the control board
- Fan relay part # is HPX51000010301
- Water pressure switch has been moved to the bottom of the control box to lessen the possibility of water spraying on the electrical components
- Transformer moved from the door of the enclosure
- A 3 amp fuse was added to the low voltage circuit
- This is the same 3 amp fuse as in the UHS heaters