

### Hydra® Simplex Control Panel

The Hydra® simplex control panels will control a single pump in sewage, wastewater, and dewatering applications. See Water's Hydra® pump panels come standard with a 5.7" HMI touchscreen display, Type 3R rated enclosure, floats, IEC rated contactors, circuit breakers, and adjustable overloads. All panels are UL listed for the United States and Canada and come with a two-year warranty.

Model	Supply Voltage	Motor FLA
HTRS-11-X	120/208/240VAC, Single Phase	1.25-5.0
HTRS-12-X	120/208/240VAC, Single Phase	3.0-12.0
HTRS-13-X	120/208/240VAC, Single Phase	8.0-32.0

### Additional Panel Options:

CO = Convenience outlet  
 SF = Seal failure circuit & indicator lights - simplex  
 TC = Pump thermal cutout circuit & indicator - simplex  
 IS = Intrinsically safe - simplex  
 SS4 = Enclosure - 304 Stainless steel (Type 4X)  
 SS6 = Enclosure - 316 Stainless steel (Type 4X)  
 PM = Phase monitoring  
 LAD/ = Lightning secondary surge arrestor  
 LAW  
 AH = Anti condensation heater  
 S3 = No transducer or floats  
 28 = Power on dry contact (normally open)  
 GR = Generator receptacle  
 PX = Pump Portal® wireless remote panel control & system monitoring

### Features:

- Designed to control a 208/240/480VAC, single phase pump in sewage, wastewater, and dewatering applications.
- Alarm visible features: red beacon alarm light, alarm test, and silence buttons.
- Alarm horn sounds at 85 decibels at 10'.
- Remote monitoring dry contacts: high level alarm, general alarm/fault (normally open).
- Pump protection: motor protective switch included for the pump (branch circuit protection, adjustable overload, and disconnect).
- Integral PLC/HMI provides pump control logic, virtual HOA selector switch and pump run indicator lights, pump run times and cycle counts.
- HMI touchscreen display features:
  - Hand-Off-Auto (HOA) switch for the pump.
  - Green pump run indicator.
  - Red pump fault indicator.
  - Pump and level status screens.
  - Active alarm and alarm history logs.
  - Customizable panel name labeling.
- Password protected user access levels.
- Pump run data logging: records the pump event - start time, stop time and run duration.
- Alarm/fault history: data logging gives access to 250 fault conditions with date and time (optional access to auto save alarm history to USB drive).
- Modbus RTU/TCP communication options.
- UL Listed for the United States and Canada (panel and controls).
- NEMA 3R enclosure: painted steel with lockable front door and through door main disconnect.



www.seewaterinc.com  
 951.487.8073 • 888.733.9283 • info@seewaterinc.com  
 22220 Opportunity Way, Suite 101 • Riverside, CA 92518

## Enclosure Mounting: TYPE 3R RATED

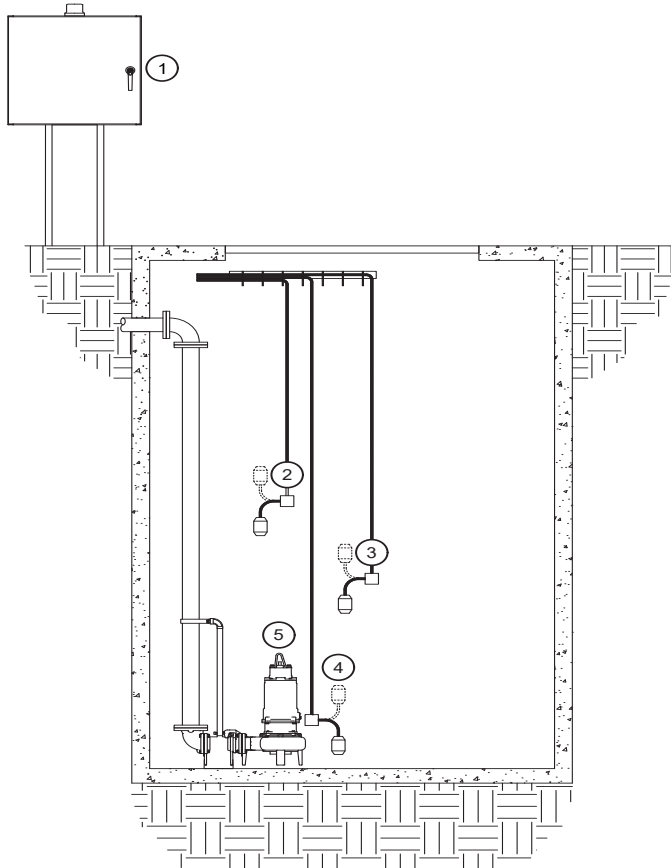
**Mounting Brackets** - A mounting bracket and bolt back are provided with the enclosure. To assemble, open enclosure door and insert the 3/8"-16 x 3/4" bolts through the enclosure mounting hole and attach external mounting feet.

**Covers/Doors** - Covers/doors have a gasket pre-assembled to seal against the base.

**Note:** The control panel should not be mounted in a location that may be subject to submersion.

## Typical Installation of Hydra® Transducer Simplex Control Panel

1. Hydra® Pump Panel
2. High Level Float
3. Lead Level Float
4. Stop Level Float
5. Submersible Pump



## Panel Installation:

1. **Caution:** To maintain the Type 3R rating, make all wiring connections with seal tight cable grips or conduit connections.
2. Set motor protectors to FLA of motors
3. Run pump cables, and float cables through conduit. Make field connections as shown on wiring schematic.
4. Run power line conductor through conduit. Wire to terminals per enclosed schematic
5. Branch circuit protection to be provided by installer.
6. Panel circuit breakers are shipped in the closed position.
7. Ensure floats are properly mounted at the correct levels. **Note:** Floats shall have free range of motion without touching each other or other equipment.



## Sequence of Operations:

### Overview:

The panel controls the operation of a pump based upon liquid level from a floats.

### Float Based Operation:

1. When the 'Stop' and 'Lead' floats are lifted, pump #1 will energize. Pump #1 will remain operational until the 'Stop' float falls.
2. If the level continues to rise, the 'High' float will be lifted, and the panel will alarm.

The following are operation details for the pump:

- Place the HOA switch into the Hand position to manually operate the pump.
- Place the HOA switch into the Auto position to allow for automatic pump operation.

The following are operation details during a float sequencing error during float based operation:

- If the 'Lead' float is lifted the lead pump will turn on.

In the event of a pump motor overload condition, the following shall occur:

- The pump shall stop running.
- The pump fault light shall activate.
- The alarm beacon shall activate.
- The alarm buzzer shall activate.
- General Alarm Dry Contact will close.

In the event of a pump motor thermal fault condition, the following shall occur:

- The pump shall stop running.
- The pump fault light shall activate.
- The alarm beacon shall activate.
- The alarm buzzer shall activate.
- General Alarm Dry Contact will close.

In the event of the 'High' float being lifted, the following shall occur:

- The alarm beacon shall activate.
- The alarm buzzer shall activate.
- High Level Alarm Dry Contact will close.
- General Alarm Dry Contact will close.

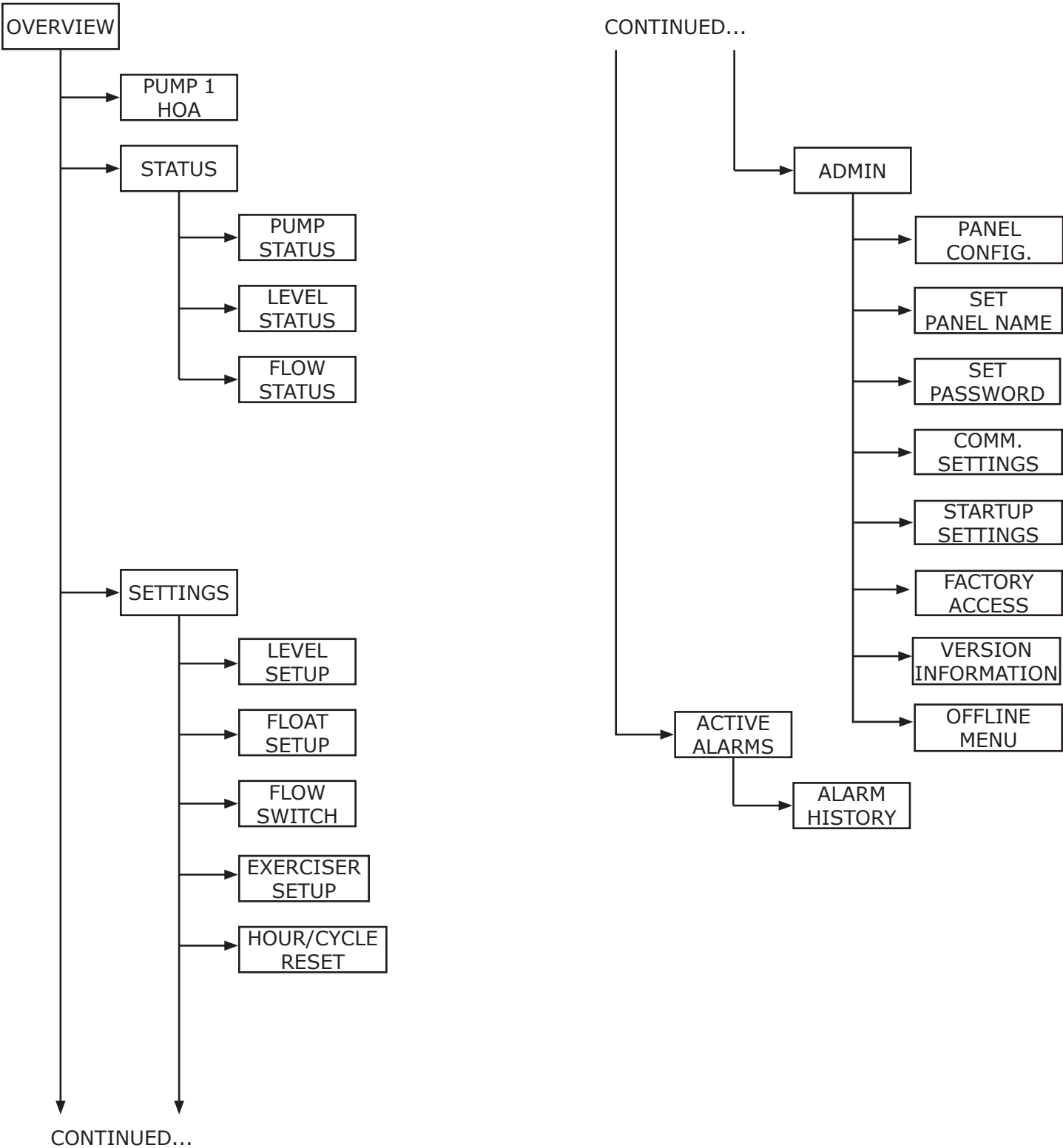
During an alarm test function, the following shall occur:

- The alarm beacon shall activate.
- The alarm buzzer shall activate.
- General Alarm Dry Contact will close.

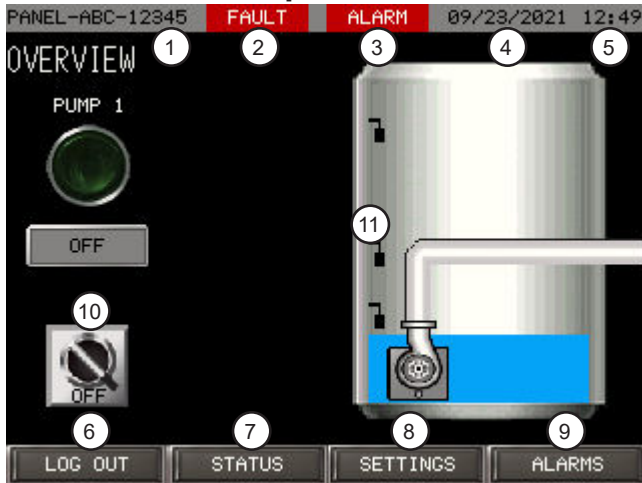
### Start Up:

1. Set the various parameters within the Settings screen. Level 2 access is required.
2. Default passwords are as follows:
  - Level 1: 0000
  - Level 2: 1234
  - Level 3: 76543210 (for startup mode only)
3. Place pump HOA selector switch in Hand to verify manual pump operation.
4. Place HOA selector switches in Auto to verify automatic operation.
5. To test the alarm circuit, press and hold the test button located on the alarm screen. Verify the audible alarm sounds and the red beacon lights. Silence buzzer by pressing on the silence button.

HMI Screen Flow Chart



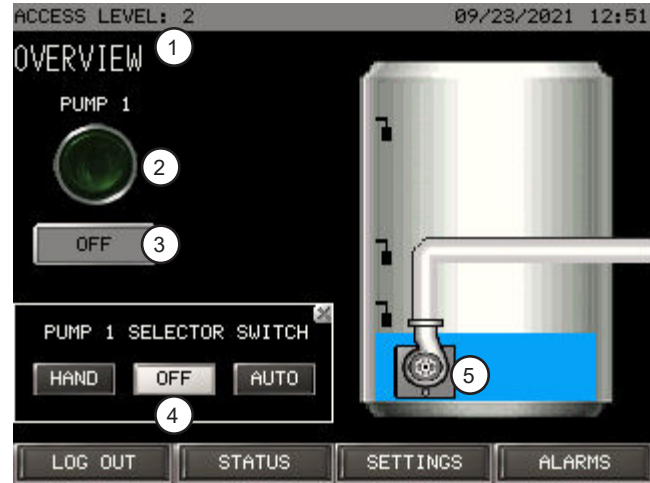
## HMI Screen Descriptions



1. **Control panel name** - Displays panel name
2. **Fault indicator** - Displays when a fault is present.
3. **Alarm indicator** - Displays when an alarm is present.
4. **Date** - Displays current system date.
5. **Time** - Displays current system time.
6. **Log in/Log Out button** - Displays log in prompt.
  - No log in required for turning off pumps.
  - Level 1 log in required for setting pump operation, viewing status and alarm logs.
  - Level 2 log in required for access to settings.
7. **Status button** - Displays status screen.
8. **Settings** - Displays settings screen.
9. **Alarms** - Displays alarm screen.
10. **Pump 1 HOA selector switch** - Displays HOA selector switch window.
11. **Float status indicators** - Displays the status of floats: low, stop and high.



1. **Run status** - Displays the following states of the pumps: Off, Running (when in Hand), Lead, Lag.
2. **Run hours** - Displays the pumps run hours.
3. **Run cycles** - Displays the pumps run cycle counts.
4. **Overload status** - Displays the following states of the pumps motor overload input: Normal, Fault.
5. **Seal fail status** - Displays the following states of the optional pump seal fail input: Normal, Fault.
6. **Thermal status** - Displays the following states of the optional pump thermal input: Normal, Fault.
7. **Phase loss status** - Optional panel feature. Displays the following states of the optional phase loss input: Normal, Fault.



1. **Access level** - Displays the current access level. Alternates display field with control panel name.
2. **Pump 1 indicator light** - Lights green when pump 1 is running.
3. **Pump 1 status** - Displays the following states of pump 1 operation: Off, Running (when in Hand), Lead, Lag.
4. **HOA selector switch window** - Displays Hand, Off, Auto switches.
5. **Pump 1 indicator** - Displays the state of pump 1.
  - Lights green when pump 1 is running.
  - Lights red when pump 1 has faulted.



1. **Current liquid level** - Displays the current liquid level.
2. **Transducer signal level** - Displays the transducer level.
3. **High level float status** - Displays the following states of the backup high level float input: Disabled, Up, Down.
4. **Low level float status** - Displays the following states of the backup low level float input: Disabled, Up, Down.
5. **Stop level float status** - Displays the following states of the backup stop level float input: Up, Down.

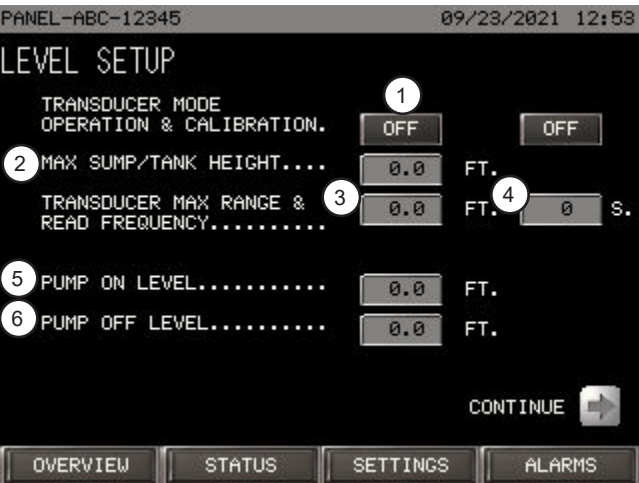
HMI Screen Descriptions



1. **Flow switch status** - Displays the state of the flow.



1. **Level setup** - Displays the level setup screen.  
2. **Float setup** - Displays the backup float setup screen.  
3. **Flow switch setup** - Displays the flow switch setup screen.  
4. **Exerciser setup** - Displays the exerciser setup.  
5. **Run hours/cycle reset** - Displays the run hours/cycle reset screen.  
6. **Admin** - Displays the admin setup screen.



1. **Transducer mode operation** - Activate or disable transducer mode operation.  
2. **Max sump/tank height** - Enter the max height of the sump/tank.  
3. **Transducer's maximum range** - Enter the level transducer's maximum range in feet (assumes the transducer is positioned at the bottom of the sump).  
4. **Transducer's read frequency** - Enter the rate at which the transducer's level is read. Range: 0 - 99 seconds.  
5. **Pump on level** - Enter the levels at which the lead pump and the lag pump turn on.  
6. **Pump off level** - Enter the levels at which the lead pump and the lag pump turn off.



1. **Activation** - Activate or disable the low level and high level alarm input.  
2. **Alarm level** - Enter the levels at which the low level and high level alarms occur.  
3. **Trigger** - Select whether to trigger an alarm or a fault.

HMI Screen Descriptions



- 1. **Float mode operation** - Activate or disable float only mode operation.
- 2. **Input Type** - Select a normally open or normally closed input type.
- 3. **Activation** - Activate or disable the high level alarm input and backup float override alarm.
- 4. **Trigger** - Select whether the high level will trigger an alarm or backup float override.



- 1. **Activation** - Activate or disable the flow switch input.
- 2. **Input Type** - Select a normally open or normally closed input type.
- 3. **Low Flow Timeout** - Enter the time it takes to recognize a low flow condition during pump operation. Range: 1-99 seconds.
- 4. **Trigger** - Select whether to trigger an alarm or a fault.



- 1. **Activation** - Activate or disable pump exerciser feature.
- 2. **Operation Frequency** - Enter the time between pump exerciser activations. Range: 1-99 days.
- 3. **Operation Duration** - Enter the time the pump runs when the pump exerciser is active. Range: 1-99 seconds.



- 1. **Run hours** - Displays the pumps run hours.
- 2. **Run cycles** - Displays the pumps run cycle count.
- 3. **Pump 1 Reset** - Resets pump 1 hours and cycle counts.



HMI Screen Descriptions



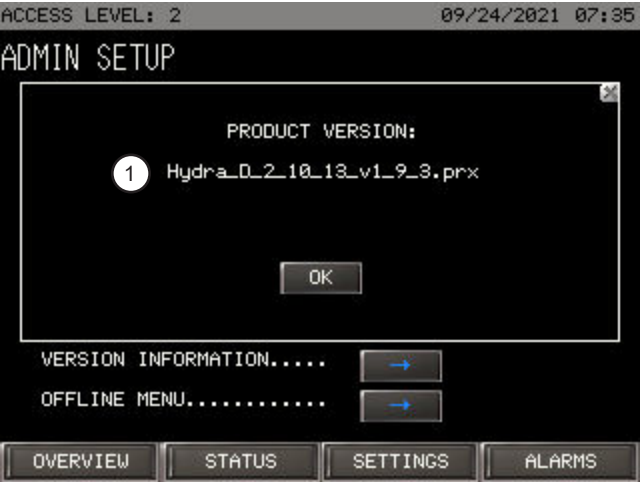
- 1. **Panel configuration** - Configure the motor overloads, thermals and optional seal fail and phase loss inputs.
- 2. **Set control panel name** - Displays the panel name entry prompt.
- 3. **Set password** - Displays the password change prompt.
- 4. **Communication Settings** - Displays the communication settings screens.
- 5. **Startup mode settings** - Requires level 3 access. Displays startup mode settings screens.
- 6. **Factory access** - Displays factory access settings screens.
- 7. **Version information** - Displays the version information screen.
- 8. **Offline menu** - Access the HMI hardware menua to set date and time.



- 1. **Panel name entry prompt** - Enter the control panel name. The name may be up to 15 characters in length.



- 1. **Change password prompt** - Default passwords are as follows:
  - Level 1: 0000
  - Level 2: 1234
  - Level 3: 76543210 (for startup mode only)



- 1. **Version information** - Displays the software version.



## HMI Screen Descriptions



1. **Active alarm list** - List of alarms currently active. Recovered alarms are automatically removed from the list.
2. **Date** - Date of alarm occurrence.
3. **Time** - Time of alarm occurrence.
4. **Message** - Scrolling display of alarm.
5. **Ack** - Time of alarm acknowledgement.
6. **Recov** - Time of alarm recovery.
7. **Up** - Scroll up through the alarm list.
8. **Down** - Scroll down through the alarm list.
9. **Ack** - Acknowledgement of the alarm.
10. **Test** - Activates alarm beacon and horn while pressed.
11. **Silence** - Silences the alarm horn during an alarm.



1. **Alarm history list** - List of all alarm occurrences, both active and recovered, up to 128 records. When list has reached 128 records, the earliest records become overwritten.
2. **Date** - Date of alarm occurrence.
3. **Time** - Time of alarm occurrence.
4. **Message** - Scrolling display of alarm.
5. **Ack** - Time of alarm acknowledgement.
6. **Recov** - Time of alarm recovery.
7. **Up** - Scroll up through the alarm list.
8. **Down** - Scroll down through the alarm list.
9. **Page up** - Scroll up through the alarm list 10 records at a time.
10. **Page down** - Scroll down through the alarm list 10 records at a time.
11. **Alarm data logging** - A USB flash drive may be installed in the controller to save alarm history. A 1GB USB drive can store approximately 500,000 alarm records.

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- To test the alarm light and buzzer, press the test button on the HMI. If either the light or buzzer do not indicate, replace the light bulb or buzzer with the same type.
- Verify control settings (level, flow, float) are configured properly.
- Inspect the condition of the pumps, transducer, floats, and flow switch.

The manufacturer of this warranty shall not be liable under this warranty if the product has not been properly installed; any alterations/additions/changes to the product will result in a void warranty. Failure to properly install and test this product can result in personal injury or equipment malfunction. See Water, Inc. shall not be liable for any loss, damage or expenses from installation or use of its products.



IM 2639 REV. 9/21