

norweco® SERVICE PRO®

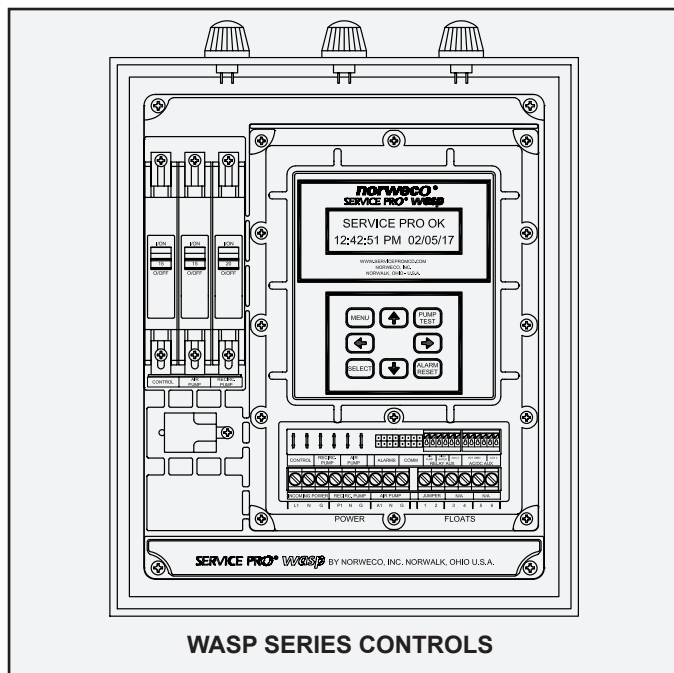
WASP® SERIES 11A HK INTEGRATED SYSTEM CONTROLS

ELECTRICAL WIRING AND CONTROL CENTER INSTALLATION

The information contained in these instructions is not intended to be a complete electrical installation reference, as code requirements vary according to geographic area. These instructions focus only on the specific requirements for the Service Pro WASP 11A HK controls. They do not cover all installation aspects of the underground electrical cable and control center, preliminary inspection, testing and service of the control center or troubleshooting. More instructions are contained in the Hydro-Kinetic Wastewater Treatment System Installation and Operation Manual. All electrical work must be performed in accordance with the latest edition of the National Electrical Code and all applicable local codes.

UNDERGROUND ELECTRICAL CABLE INSTALLATION

1. A separate underground electrical service cable must be installed from the main electrical panel in the home to the Service Pro WASP 11A HK control center. The electrical service cable must be UL or CSA approved, type UF, #12/2 AWG minimum and must have a full-size center ground. Larger cable is required if the underground service needs to be run more than 80 feet.
2. A separate underground electrical service cable must be installed for the recirculation pump within the Hydro-Kinetic system. The electrical service cable must be UL or CSA approved, type UF, #14/2 AWG minimum and must have a full-size center ground. Larger cable is required if the underground service needs to be run more than 80 feet.



3. A separate underground electrical cable must also be installed for the air pump. The electrical service cable supplying power to the air pump must be UL or CSA approved, type UF, #14/2 AWG minimum and must have a full-size center ground. Larger cable is required if the underground service needs to be run more than 80 feet.

4. Each underground cable must be continuous and unspliced from the control center to the main electrical panel in the home, recirculation pump and air pump. Underground cable must be protected in conduit anytime the cable crosses a tank or underground structure.
5. One set of alarm leads must be installed from the air pressure switch and one set of alarm leads from the high water float switch to the control center. The alarm leads should be #16 AWG minimum and installed in conduit where contact with concrete may occur. **IMPORTANT:** Alarm leads and power leads must always be installed in separate conduits. If the air pump will be installed in the aeration riser, the high water and air pump alarm leads should be installed in the same conduit. Properly seal the conduit opening in the riser with mortar or an approved sealing device.
6. Uncoil the electrical service cables into the influent sewer line trench. Extend the recirculation pump cable to the riser over the clarification chamber. Extend the air pump, air pressure switch and high water float switch electrical service cables to the aeration chamber. **NOTE:** Leave sufficient slack in the cables so they will not be stressed during backfilling or settling.
7. Remove the cover from the alarm wire junction box connected to the float switch.
8. Solvent weld the junction box to the conduit containing the alarm leads that are located in the aeration chamber riser.
9. Connect the black and white wires in the junction box to one set of alarm leads from the control center and secure with wire nut connectors.
10. If the air pump is installed in the aeration riser, solvent weld the conduit connection for the pressure switch alarm cable to the junction box.
11. Connect the black and white wires from the pressure switch cable to the remaining set of alarm leads from the control center and secure with wire nut connectors.
12. Reinstall and close the cover on the junction box. Make sure the cover is secure.
13. All underground cables should have at least two feet of earth cover to prevent damage from landscaping, trenches, etc. or be installed in an approved conduit.

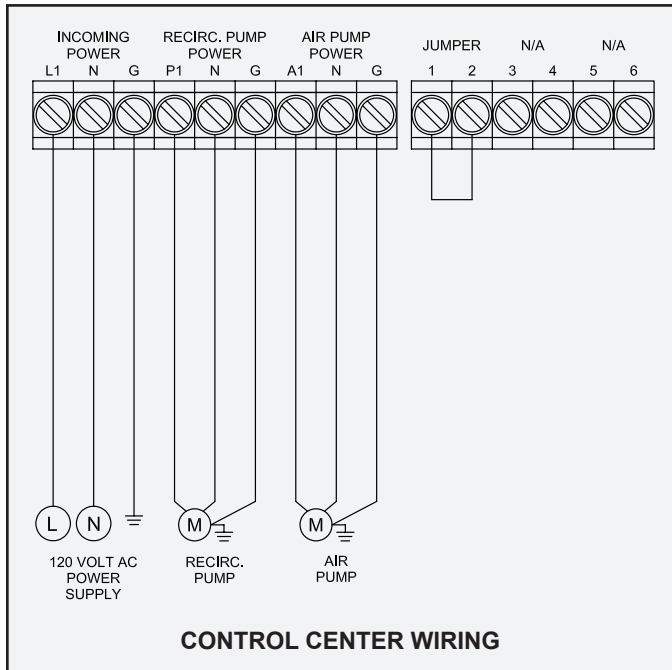
SERVICE PRO® WASP® 11A HK WIRING AND INSTALLATION (Cont.)

INSTALLATION OF ELECTRICAL CONTROL CENTER

The control center should be wired for operation when the tankage and underground electrical cables are installed. The Service Pro WASP controls should be located so that all warning lights can be readily seen and the audible alarm heard. The mounting location should minimize exposure to direct sunlight, freezing rain or conditions that might prevent routine inspection or access. The control center should always be mounted out of the reach of children.

Remove the insert from the control center enclosure. Drill the appropriate openings in the bottom of the enclosure and install a conduit connector in each opening. Exposed wiring to or from the control center should always be encased in conduit. Mount the control center securely using appropriate fasteners. Install the control center insert into the enclosure and secure with the four screws provided. The alarm light wires on the insert must now be connected to the alarm lights. Connect the red, yellow and blue wires to their corresponding light.

1. Use a dedicated 120 volt AC, 20 amp, single-phase circuit breaker in the main electrical panel for service to the control center. **CAUTION: Make sure the breaker is de-energized. Check it with an electrical multi-meter before proceeding with installation of the control center. Use only tools with insulated handles, stand in a dry location and work with extreme care.**



2. Wire from a dedicated breaker in the main service panel to the "INCOMING POWER" terminal marked "L1" in the control center using the black wire. Wire from the neutral in the main service panel to the "N" terminal using the white wire. Wire from the ground lug in the main service panel to the "G" terminal using the bare copper wire. **IMPORTANT:** Never allow the neutral and ground leads to be spliced/connected to common terminals.

3. Connect the power wire from the recirculation pump to "RECIRC. PUMP" terminal "P1", the neutral wire to the terminal "N" and the bare copper wire to "G".
4. Connect the power wire from the air pump to the "AIR PUMP" terminal "A1", the neutral wire to terminal "N" and the bare copper wire to "G".
5. Connect a jumper wire between the float terminals marked "JUMPER".
6. Connect the wires from the high water float switch to the "RELAY AUX" terminals marked "HIGH WATER" on the blue push button terminal block.
7. Connect the wires from air pressure switch in the aeration chamber to the "RELAY AUX" terminals marked "AIR PUMP" on the blue terminal blocks.
8. If an additional auxiliary input is being connected to the control center, push button style terminals are provided for the auxiliary input connections. Use #16 AWG or smaller wires in the push button terminals.
9. If the auxiliary device uses dry contacts (no voltage supplied) to signal an alarm condition, connect the wires from the auxiliary device to the "RELAY AUX" terminal marked "AUX 3" on the blue push button terminal block.
10. If the auxiliary device supplies a voltage (5 to 120 volts) to signal an alarm condition, connect the wires from the auxiliary device to the "AC/DC AUX" terminals marked "AUX 3" on the red push button terminal block. **CAUTION: Do not connect devices to both the "RELAY AUX" and "AC/DC AUX" terminals for a single auxiliary input. Doing so may damage the circuit board.**
11. Inspect your work to make sure that there are no breaks in wiring insulation and that all connections are secure. Tighten all screws on the terminal blocks.
12. Carefully form all wiring neatly into the lower part of the control center. Do not allow the wires to make contact with other electrical components.
13. **IMPORTANT:** Seal all conduit openings with expanding foam sealant or similar appropriate material.
14. Clearly label the dedicated circuit breaker used for the control center inside the door of the main service panel.
15. Place all three circuit breakers in the "off" position. Close and secure the control center cover.

BEFORE LEAVING

Complete all of the remaining steps outlined in the Hydro-Kinetic Wastewater Treatment System Electrical Wiring and Control Center Installation yellow sheet. Check to insure that all electrical controls, circuits and wiring for the system are de-energized. Be sure the red warning tag and distributor identification label are attached to the control center.

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and wastewater treatment*

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