

**SPECIFICATIONS – SHALLOW WATER MINI-BOAT
ELECTROFISHING SYSTEM
INFINITY CONTROL BOX AND CUSTOM FIBERGLASS MINI-
BOAT**

The Department of Environmental Protection (DEP), Acid Mine Drainage (AMD) Development Division requires a custom shallow water mini-boat, electrofishing system, as detailed below. The boat shall be provided as requested in these specs and NO SUBSTITUTIONS WILL BE ACCEPTED.

Any questions regarding the technical aspects of the Specifications should be directed to David Leiford at 814.472.1886. Questions regarding the contracting or bidding procedures shall be directed to Tammy Cree at 814.472.1811.

The heavy duty mini-boat tow barge electrofishing system shall be crafted from reinforced heavy duty fiberglass. The Infinity Control Box is the only one of its kind that offers 1200 volts for low conductivity electrofishing, water resistant design without a hinged lid, displays generator frequency and voltage, allows data recall via battery when unit is powered down, ability to pulse the AC, complete and independent control of frequency, voltage, and duty cycle using push button control panel, displays peak wattage, equipped with high voltage soft starts, can serve as an ohmmeter to test for continuity on the safety switch circuit, and performs automatic voltage range shifts.

Recon Fiberglass Mini-Boat System. Designed specifically for use with Infinity Control Box.

- Crafted from durable fiberglass with gel coat
 - Reinforced at corners and along gunwales
- 76" long
- Tapered front is 39" at gunwales, 34" bottom at bow
- 47" gunwale 38" bottom at stern
- Sides are 12.5" tall
- Strakes molded in bottom of boat for better handling, hull and cathode protection
- Stainless steel cathode plate attached to bottom of hull between strakes
- Aluminum support cross bracing inside bottom of boat
 - Encased in fiberglass
 - Provides secure generator mounting location
- Additional brackets for mounting and stabilizing electrofishing equipment
 - Provides contact point to bond generator to ground
- All brackets and bracing sprayed with non-conductive coating
- Safety switch system integrated into boat push handle
- Weather-resistant junction boxes and cord assemblies integrated into system
 - All cord assemblies are waterproof, contain strain reliefs, and wrapped with corrugated looms and/or expandable sleeving
 - Utilizes IP68 rated plugs and receptacles
- All mounting hardware is 300 series stainless steel
- Heavy 3/8" stainless steel bow eye for towing
- Equipped with 4 gunwale comfort grip handles for easy transport and lifting
- Standard boat drain hole at stern w/ plug.
- Fully loaded, the mini-boat drafts approximately 3" of water

Infinity Control Box

- DC output power 12000+ watts
 - continuous and pulsed
 - output varies by duty cycle
- DC output voltage 0-1200 VDC at 40 A
- AC output power up to 7200 watts

- continuous and pulsed
- AC output voltage 0-240 VAC at 30 A
- Pulse Rate adjustment from 1 pps to 300 pps in 1 pps (Hz) increments
- Duty Cycle adjustment from 1% to 100% in 1% increments
- Voltage adjustment in 1 volt increments
- Modern electrofishing technology
 - automatic voltage range shifting for three ranges of voltage
 - high voltage soft start protection
 - software protection for internal circuitry and overloading
 - dead short detection
 - ability to set a voltage ceiling
 - digital (live) displays to notify user of overloading errors, incorrect settings and dead shorts
 - data recall when unit is powered down
- Digital metering of peak watts, amps, volts
- Monitors input frequency and voltage from source generator
- Auto-correction of frequency and voltage to ensure consistent output waveforms
- Isolated high voltage output from safety switch circuit
- Integrated safety switch continuity test function
- Nine programmable electrofishing settings
 - able to set and recall waveform (AC or DC). duty cycle, pulse rate, and volts
- Resettable fishing time
- Emergency shut-down switch
- Red illuminated display for night time electrofishing
- Hermetically sealed / splash resistant design
- Cooling via convection by oversized heat sink
- Water resistant main breaker (electric hydraulic)
- Three high voltage 25A external fuses (water tight and spare fuse included)
- External hardware gasketed and o-ringed for splash resistance
- System incorporated with rechargeable nickel metal hydride battery for data recall
- 16"x12"x11" aluminum chassis
- 29 lbs
- Powered by commercially available 240V 60Hz generators (must have an isolated neutral)
- Sealing caps for primary control box connectors (input, switch, output)

Generator

- 3kw generator w/isolated neutral. Equipped with appropriate power cable, plug, and bonding cable.

Manual/pull start. Dry weight 1151bs

Anode poles

- Electrode poles (QTY: 3) with 11" aluminum anode rings. Each pole with integrated safety switch; crafted from non-conductive reinforced fiberglass protruded tubing with nominal O.D. of 1" and 0.125" wall. Each pole contains 20' of heavy-duty, waterproof/oil resistance electrical cable with floats and a waterproof anode connector

Switch bypass connectors

- Dummy plugs (QTY: 2) that provide safe bypass connections for front junction box. Allows single and dual users of anode poles

Options/upgrades

Infinity HC-80 electrofishing control box in lieu of Infinity 40 amp

- 600V, 80A; 24000+ peak watts
- Similar features as Infinity 40 amp
- Applicable if routinely in higher conductivities 700 - 2300uS shocking with a fully configured electrofishing boat

- Contract Requirements
 - Bidder shall complete Attachment A, Reciprocal Limitations Act Requirements, and electronically attach to the bid. Failure to do so may result in your bid being rejected as non-responsive.
 - Ship To/Delivery Location: Items do not need to be shipped. They will be picked up at the factory address by BAMR personnel.

- Bid Award
 - The contract shall be awarded to the lowest responsive and responsible bidder based on the lowest total price submitted.

- Payment Terms
 - Payment shall be made upon satisfactory receipt of items ordered and invoice submitted.