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Equipment specifications

WATERCRAFT DECON UNIT (AIS) ROYCE-ECOS-AIS TRAILER

TYPE:

Hot water high pressure gasoline powered trailer pressure washer and recovery system. The machine shall be fully automatic with appropriate safety controls. Must be ETL, UL, or CSA certified. Must be certified by a Nationally Recognized Testing Laboratory like ETL, UL, and/or CSA to the pressure washer industry safety standard UL1776 or CSA B140.2.1. All equipment built in a registered factory to the ISO-9001 quality standard and ISO-14001 environmental management.

GENERAL SPECIFICATIONS:

Discharge	4.7 GPM
Pressure	3500 PSI
Pump RPM	1360
Engine	660 cc Electric Start Honda
Generator	4000 Watts
BTU	440,000

ENGINE:

The engine is to be of aluminum, cast iron sleeve, V-twin, air cooled, overhead valve design with electronic magnetron ignition and full pressure lubrication with oil filter. It clears strict CARB and EPA emissions regulations.

HIGH PRESSURE PUMP:

Pump is Landa brand tri-plex with ceramic plunger, oil bath crankcase with forged brass head, rated 3500 PSI (241 bar). Pump equipped with U-seals with temp rating of 185°F. Pump will be fed by a 110v 5 gpm feed pump.

GENERATOR:

4000 watt, rated AC amps 33.3 / 16.7 volts 120 / 4-20 amp 120v nema 5-20 R3600 rpm.

UNLOADER VALVE:

The pressure washer shall be equipped with a pressure trapping unloader valve rated for 4000 PSI (275 bar) and 7.8 GPM (30 lpm).

DRIVES/PUMPS:

Belt drive system with cast iron pulley and adjustment bolts for proper belt tension and alignment. All belts to be covered by safety machine cover. All belts to be of notched design for maximum performance.

PUMP RAILS

Landa brand tru- track, 10 ga. steel; all welds are per ASTM welding standards, polyester powder coated paint for maximum corrosion resistance.

CONTROLS:

Machine shall have control panel with the following:

- Hour meter with tachometer and service monitor.
- Lexan operating instructions and safety information in English, French and Spanish, attached by a high strength adhesive.
- Burner control switches.
- All controls located in an enclosure to protect from moisture.
- . Adjustable thermostat
- . Vacuum motor on-off
- . Transfer pump on-off
- . Engine choke
- . Engine start-stop

HEATING COIL:

Schedule 80 A53 cold formed DuraCoil, with a material thickness of .147" (4 mm), overall length 110 ft. (34 m), pipe dimension .840" OD (21 mm), .546" ID (14 mm). Welding done to ASME standards. The heating coil shall be covered by an aluminized steel inner wrap and insulated with fiberfrax ceramic blanket, No. 6 density, 1" (3 cm) thick. Outer wrap of heating coil to be constructed of stainless steel.

SHUR-TEMP (Customized for Aquatic Invasive Species)

Shall be equipped with a device that maintains the operators set/determined temperatures at +/- 3 Degrees Fahrenheit.

BURNER ASSEMBLY:

Continuous heating coil type, diesel/kerosene fired. TYPE: Class 6421 01 - fuel burning equipment (oil) - units - commercial/industrial. Forced air, automatic ignition, of sufficient capacity to provide 150°F (66°C) temperature rise. Burner fuel pump shall be equipped with safety fuel solenoid and regulator for safety and fuel pressure adjustment.

FUEL FILTER WATER SEPARATOR:

The burner shall be equipped with a replacement element type fuel filter/ water separator with visual check and drain provision.

HIGH TEMPERATURE CONTROL:

Shall be of the adjustable thermostat type located at discharge of coil with an operating temperature setting at 86°-302°F (30°-150°C). This safety control shall only control the fuel solenoid, not the burner assembly, for safety and dependability.

RUPTURE DISK:

A rupture disk shall be located at the discharge port of the coil for over pressurization protection.

SAFETY FLOW SWITCH:

Shall be located on cold water side of heating coil to prevent thermal damage. This safety switch shall be hermetically sealed to prevent moisture damage.

WATER SUPPLY SYSTEM:

Reinforced polyethylene water tanks with automatic float shut-off valve shall be permanently mounted to machine to supply water to high pressure pump. A mesh in-line filter shall be installed to adequately protect the high pressure pump.

EASY!Force TRIGGER GUNS Patent Pending:

Insulated safety shut-off spray gun supplied shall include ergonomic technology and be rated at 10.5 GPM (40 lpm), 5000 PSI (345 bar), and 300°F (149°C). Constructed from fiber-glass-reinforced polyester with brass and stainless valves and seats.

WANDS:

A 42" (107 cm) angled stainless steel wand with built-in variable pressure control valve. Insulated grab handle and wand for operator protection.

HOSES:

All hoses shall be 3/8" ID x 100' R2 double steel braid type meeting or exceeding SAE100R2 performance specification. Hose ends shall be equipped with swedge and safety protection collars; 24" on operator gun side. Rated at 5800 PSI at 275°F.

HOSE REELS:

Two hose reels shall be supplied. Heavy gauge construction, gloss powder coat, high pressure double swivel seals; one for high pressure and one for low pressure.

NOZZLES:

As required by UMPS's III (Uniform Minimum Protocols and Standards) the appropriate, white color, identifiable high pressure nozzles for single spray gun operation shall be supplied at 40° flat spray pattern. The nozzles shall be of a hardened 420 stainless steel material, with an interlock coupler nipple made of annealed 303 stainless steel with 80 Rockwell hardness rating.

CONNECTIONS:

Quick coupler with stainless steel support balls, 4,000 PSI rated.

AQUATIC INVASIVE SPECIES DECONTAMINATION TOOLS

1= Thru Hull Device, Insulated w/ AIS-QC

Part # ROYCE-AIS-001

1= Under Hull Device, 4 Nozzle w/ AIS-QC

Part # ROYCE-AIS-003

1= Water Craft Diffuser w/ AIS-QC

Part # ROYCE-AIS-005

1= Personal Watercraft Tool, Female w/ AIS-QC

Part # ROYCE-AIS-007

1= Personal Watercraft Tool, Male w/ AIS-QC

Part # ROYCE-AIS-009

1= AIS Flush, Inboard Hi-Temp

Part # ROYCE-AIS-011

1= AIS Flush, Pro Hi-Temp

Part # ROYCE-AIS-013

1= Muffs, Rectangle Hi-Temp

Part # ROYCE-AIS-015

1= Muffs, Round Hi-Temp

Part # ROYCE-AIS-017

1= Muffs, Volvo-Penta Hi-Temp

Part # ROYCE-AIS-019

1= Muffs, Mercury Hi-Temp

Part # ROYCE-AIS-021

1= Muffs, Dual Feed Hi-Temp

Part # ROYCE-AIS-023

1= EZ Force Gun, with AIS-QC

Part # ROYCE-AIS-025

1= Whip Hose, 3' with AIS-QC

Part # ROYCE-AIS-027

ONBOARD AIS TOOL STORAGE

Shall be equipped with a 30" x 7' galley with removable gate has storage for Vacuum Hose and Aquatic Invasive Species (AIS) Tools underneath the floor.

FRAME:

Machine shall be surrounded/protected on all sides by a welded steel tube frame/cage assembly. All welds are per ASTM welding standards. Components to be located for service/inspection accessibility. Frame is polyester powder coated for maximum corrosion resistance. The fuel tank is to be protected in the frame as well. The frame and power platform are to be separated by vibration isolators. Stainless steel coil wrap.

LIGHTS:

LED Brake, signal and marker lights are recessed in the frame and are 12 Volt DOT approved. License plate holder houses an LED indicator light that MEETS DOT REGULATIONS.

AXLES / SPRINGS / BRAKES:

Dual factory installed Leaf spring axles are rated at 3500 lbs class II. Factory installed dual electric brakes. "Break-away" kit includes a stand-alone 12V battery.

TIRES:

205 / 75 / R15" tires with 15" Black steel rims, factory installed and spare tire configuration.

JACK:

Shall be equipped with a welded on 2000 lb screw type jack.

TONGUE COUPLER:

Trailer shall be equipped with an adjustable lunette hitch.

Trans-Heat HEAT EXCHANGER:

Shall be equipped with a stainless, patent pending trans-heat technology heat exchanger for improved efficiency; max flow 4.7 gpm, T 10°C / 18°F .

WATER TANKS:

Trailer shall be equipped with 4 tanks—100 gallon HDPE water tanks with 5" round fill cap and 1" NPT drain fitting.

FUEL TANKS

Steel diesel fuel tank 17 gal, powder coat paint, with ratchet cap. Steel unleaded fuel tank 17 gal, powder coat paint, with ratchet cap.

RECOVERY SYSTEM

Three stage filter system, 500 micron mesh and 100 micron duo-polyester bag filter, 20 micron pleated polyester filter and second 5 micron pleated polyester filter; 12V centrifugal transfer pump; 40 gal reclaim tank with replaceable oil absorption pillow; 120V vacuum motor, 105 CFM with 50 ft., 2" diameter hose with powder coated steel vacuum head with skid pad for no snag movement and anti-tip over operation.

TRAILER CERTIFICATION

Trailer to be certified by the National Association of Trailer Manufacturers.

AQUATIC INVASIVE SPECIES DECALS

Trailer shall be affixed with two each of the following vinyl decals:

"Clean * Drain * Dry"

"Watercraft Decontamination Unit"

"Department Logos" as determined by Owner

DIMENSIONS:

174"L x 75"W x 73.5"H (with swing-away tongue extended)

SHIPPING DIMENSIONS:

161"L x 85"W x 82"H (pallet and crate)

DRY WEIGHT:

2,865 lbs.

SHIPPING WEIGHT:

3,500 lbs.

OPTIONS:

Ladder rack

LANDA®

Since 1969

Industrial Pressure Washers
... Built Right to Do the Job Right

ROYCE-ECOS-AIS

Mobile Watercraft Decontamination
and Reclaim System

- 4.7 GPM at 3,500 PSI
- Captures, filters, and recycles wash water for continuous use
- Trans-Heat Technology for better fuel efficiency
- Shur-Temp AIS Temperature Control

• **Vacuum/Water Reclaim System** with 50 feet of 2-inch vacuum hose and druggable, non-tipping suction head provides continuous suction of wash water.

• **Multi-Stage Filtering System** includes a 40 gallon holding tank with a 50 mesh/100 micron **Pre-Filter Sock**, a 20 micron **Pleated Cartridge Filter**, a 5 micron **Carbon Filter**, and an **Oil Skimmer Bag**. Clean water is directed to selected tanks for reuse, or can be dumped directly to drain, pending local EPA requirements.

• **Honda GX660 Engine** and **LANDA LT Pump** with 7-year warranty provide 4.7 GPM at 3500 PSI of cleaning might.

• **Heavy-Duty 4,000 Watt Generator** produces reliable 120V AC power to the burner and vacuum.

• **Durable Swing-Away Tongue** (rated for 7,500 lbs) with **2-5/16 inch Ball Coupler**, **7-pin Electrical Trailer Plug** and heavy-duty 2,000 lb. capacity **Swivel Jack**.

• **Two Hose Reels** hold up to 100 ft. of high-pressure hose and 75 ft. of low-pressure hose.



• **Patent-Pending Trans-Heat Technology** captures exhaust from the engine to preheat water increasing water temperatures up to 15°F providing better fuel efficiency.

• **LANDA Duracoil** with stainless steel top wrap and 5-year warranty heats water using high-efficiency 120-volt Burner.

• Conveniently placed **Locked Control Panel** includes key start, choke, **Burner On/Off Switch**, **Adjustable Thermostat**, and an **Hour Meter** with low oil indicator. Also includes reclaim pump and vacuum motor switches and **Low Point Drain** for water tanks.

• **Four Polyethylene Water Tanks** provide 400 gallons of clean water and are linked for even distribution. **Main Control Valve System** includes easy to use valves for controlling water distribution. **Feed Pump** with pressure-sensing switch alleviates wear and tear on main pump.



TRANS-HEAT



• 30 in. x 7 ft. **Galley** with removable gate has storage for **Vacuum Hose** and **AIS Tools** underneath the floor.

• **Insulated, EASYFace Trigger Gun** and insulated, dual-lance **Variable Pressure Wand** make it easy to switch between detergent wash and rinse modes.

• Locked compartment includes **Dual Fuel Tanks** for gasoline engine (17 gallons) and diesel burner (17 gallons). Also includes space for two detergent buckets.

• **Safety Features** including redundant devices such as a **Rupture Disk**, and high-temperature shut down to guard against excessive pressure or heat.

• **Four 15-inch Black Steel Wheels** with 205/75/R15 tires on **Tandem Axles** rated at 3,500 lbs each (7,000 lbs total) with **Electric Brakes** on both axles and battery operated **Breakaway Kit** for added safety.

• **Four White 40 Quick-Couple Nozzles** made of hardened stainless steel are mounted near hose reel for ready access.

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Mobile Watercraft Decontamination and Reclaim System

- 4.7 GPM at 3,500 PSI
- Captures, filters, and recycles wash water for continuous use
- Trans-Heat Technology for better fuel efficiency
- Shur-Temp AIS Temperature Control



LANDA's revolutionary ECOS Mobile unit with Royce's Watercraft Decontamination and Reclaim System upgrades cleans and recycles the dirty water from watercraft decontamination for safe disposal or reuse—meeting most municipal and environmental regulations.

For a Better Tomorrow... Clean Green with ROYCE!

LANDA's revolutionary ECOS Mobile unit with Royce's Watercraft Decontamination and Reclaim System upgrades cleans and recycles the dirty water from watercraft decontamination for safe disposal or reuse—meeting most municipal and environmental regulations. And the fuel burner savings from the patent-pending Trans-Heat Technology allows for a fast return on investment. Call a R. Calvin Rasmussen at Royce Industries to learn more!

For a Better Tomorrow . . . Clean Green with ROYCE!

ECOS-ROYCE-AIS Mobile Watercraft Decontamination and Reclaim System Specifications

Pressure Washer System

Volume	4.7 GPM
Pressure	3,500 PSI
Engine	Honda GX660, 688cc
Engine Fuel	Gasoline (17 gallon tank)
Pump	LANDA LT (1360 RPM)
Generator	4,000 watts/120VAC
Gun Control	EASY!Force Ergonomic Trigger
Wand Assembly	Variable pressure wand with 100' hose
Detergent	Downstream detergent injector

Heating System

Pre-Heating	Patent-pending Trans-Heat Technology
Coil	1/2" Schedule 80
Burner Fuel	Diesel/kerosene/fuel oil (17 gallon tank)
BTUs	440,000
Shur-Temp	Temperature Customization System for Aquatic Invasive Species Decon Programs

Vacuum System

Suction	105 CFM
Hose	50' x 2" diameter

Multi-Stage Filter System

Pre-Filter	50 mesh/100 micron duo-polyester bag
Oil Removal	Oil skimmer bag
Sediment	20 micron pleated polyester
Polish	5 micron carbon

Trailer

Water Tank Capacity	400 gallons
Load	7,000 lb. capacity
Trailer Axles	Dual, 3,500 lbs. each with electric brakes
Wheels	15-inch wheels, ST205/75/R15 tires
Swing-Away Tongue	7,500 lb. capacity with 2 5/16 inch ball coupler
Swivel Jack	2,000 lb. capacity
Safety Chains	Dual 5/16 inch steel link with latching hooks
Lighting	DOT Approved Recessed lights, license plate holder
AIS Decals	"Clean * Drain * Dry"

"Watercraft Decontamination Unit"
"Department Logos"

Dimensions	174" L x 75" W x 73.5" H (with swing-away tongue extended)
Dry Weight	2,865 lbs.
Shipping Dimensions	161" L x 85" W x 82" H (pallet & crate)
Shipping Weight	3,500 lbs.

Royce Industries

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