

KleeBlue™

Diesel Exhaust Fluid
Single & Dual Ultra Tote Enclosure
Models 330TSU-D and 660TSU-D



Left: Single Ultra Tote Enclosure, Model SBD 330TSU-D
Right: Dual Ultra Tote Enclosure, Model SBD 660TSU-D

Installation & Operation Manual

U.S. Patent No. 9,669,991 B1

Meets ISO 22241
and PEI RP1100

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WARNING



TURN POWER OFF

Before performing any maintenance, be sure to turn system power off to avoid electric shock.



EYE PROTECTION

Pressurized systems may cause hazardous leaks and spray that may be dangerous for your eyes. Always wear eye protection.



INJURY

Wear gloves for protection from hazardous liquids that may cause irritation or burns.



READ

Read and understand all related manuals thoroughly. If you have any questions, please consult the factory.

DEF PLUMBING MATERIAL CAUTION

DEF is WATER based and must be kept PURE and UN-CONTAMINATED

Use only compatible wetted materials for storing and dispensing DEF. Compatible materials include:

- 300 series Stainless Steel
- Polypropylene and Polyethylene
- EPDM and Viton gaskets and seals
- Special, approved hose.

DO NOT USE: Cast Iron, black iron, carbon steel, plated steel, aluminum, plated aluminum, copper, brass, bronze, zinc, lead, magnesium, silver, PVC or CPVC. See ISO 22241 and PEI RP1100 for additional information.

Receipt, Inspection, and Identification



CAUTION!
USE PROPER EQUIPMENT AND PROCEDURES
FOR
OFFLOADING DEF STORAGE SYSTEMS.

Upon receipt of the Tank Assembly, inspect for any damage before signing the receipt. Notify the delivery company about damage and refuse receipt of the shipment if damage is present.

Manufacturing information, including serial number, can be found on label attached to inside of electrical control box door.



'Ultra' Tote Enclosure General Description

KLEER-BLUE™ Diesel Exhaust Fluid (DEF) 330- and 660-gallon Ultra Tote Enclosures are specially designed to store and protect storage totes used in the dispensing of DEF to vehicles with diesel powered engines that are fitted with Selective Catalytic Reduction (SCR) pollution control systems.

- The insulated enclosure is designed to protect DEF from direct exposure to severe weather and can fitted with an automatic heater that will prevent the water-based DEF from freezing as well as an exhaust fan to stabilize the enclosure environment when internal temperatures exceed 80°F (27°C) .
- Includes separate, lockable access doors for convenient dispensing and re-filling.
- Forklift access points provide ease of positioning and relocation.
- Units are shipped from the factory pre-wired and pre-assembled

'Ultra' Tote Enclosure Features and Options

- UV protected, impact resistant, exterior aluminum composite shelter for storing DEF storage totes
- R-6 rated insulated top, sides, and R-10 rated insulated floor
- Separate hinged, lockable, filling and dispensing doors
- Powder-coated steel base frame
- Thermostatically-controlled forced-air heating system with visual & audible low-temperature alarm
- Thermostatically-controlled exhaust fan
- 115VAC electrical control panel powers heater(s), exhaust fan, tote pump, controller, and accessory
- Interior GFI electrical receptacle (for accessory)
- Exterior electrical box with weatherproof enclosure
- Interior LED light
- Stainless steel and aluminum fittings and hardware
- Convenient forklift access points
- SBD 330TSU-D: Single storage unit with insulation, heater, and exhaust fan. Dimensions: 48" width x 66" length x 76" side wall with 85" roof peak height. Shipping weight: please contact factory.
- SBD 660TSU-D: Dual tote storage unit with insulation, heater, and exhaust fan. Dimensions: 48" width x 132" length x 76" side wall with 85" roof peak height. Shipping weight: please contact factory.
- Shipped fully assembled



**330-Gallon Tote Enclosure,
Typical Application**

'Ultra' Tote Enclosure Features and Options - continued

Options:

- 330 gallon tote with submersible pump, MicroMatic fill components & vent (part number **SBD QR-330**), designed to connect to a retail dispenser
- Two (2) tote top manifold kits (part number **SBD-2T-CKIT**),
- Spring-rewind reel with 25' hose (part number **SBD-REEL-25**),
- Hose reel mounting bracket (part number **SBD TSU-HRB**)
- Anchoring kit

For a complete list of available options, consult the current KleeBlue Solutions catalog, available online at www.kleerbluesolutions.com

(below) Two DEF totes connected using optional Top Manifold Kit, part number **SBD 2T-CKIT**. Also, shown with 110VAC pump (sold separately).



(above) **SBD QR-330**, 330-gallon Polyethylene Tote with submersible pump, for connecting to a retail dispenser.

Remote or Attached Storage & Dispensing Systems

KleeBlue™ 330 / 660-gallon Tote Enclosures can be connected to dispensers such as the KleeBlue™ Retail, Fleet, Commercial dispenser, third party dispensers.



Alternatively, a **transition box** (part number **SBD KB-A-T** or **SBD KB-A-P**) can be added, for mounting one of the KleeBlue dispensers shown above in either an island-oriented or lane-oriented position at the end of the tote enclosure.

Mechanical Installation Instructions



WARNING ELECTRICAL HAZARD

SERIOUS INJURY OR DEATH MAY RESULT FROM ELECTRICAL SHOCK.
ONLY CERTIFIED CONTRACTORS SHOULD INSTALL SYSTEM

Placement

- Totes placed inside the enclosure should sit level for best operation. Therefore, placement of either 330 or 660-gallon DEF Tote Enclosures on flat, level concrete is recommended.
- All exposed DEF piping (piping installed outside of the enclosure) **MUST** be insulated and heated in cold climates.
- All field supplied plumbing **MUST** be DEF Approved. See DEF CAUTION statement on page 3.

If possible, DO NOT put plumbing and/or electrical conduit holes in the enclosure, unless sealed with bulkhead-type fittings.

Anchoring

In order to prevent movement and minimize damage that may occur as a result of high wind or high water levels, KlearBlue Solutions recommends securing all tote enclosures such as those included with Klearblue Solutions' anchoring hardware kit.

NOTE: The enclosure's steel base comes equipped with eight (8) threaded anchoring points ("nutserts") for attaching brackets (2 per side). Contact KlearBlue Solutions for additional details.



L-bracketes, used for anchoring Tote Enclosure.



Single-tote enclosure, showing frame anchoring points.

Mechanical Installation Instructions - continued

Installing 330-gallon totes in SBD 330TSU-D and SBD660TSU-D Tote Enclosures

KleerBlue Single and Dual Tote Enclosures are equipped with removable end panels and grab handles for easy loading of totes into the enclosure. To remove the end panel, loosen the four end cap door-lock screws where shown in **Fig.7a** and, using grab handles, lift up slightly. Remove panel and carefully set to one side.



SAFETY FIRST! Ensure that end panel is held in place by an assistant prior to loosening end cap door locks!

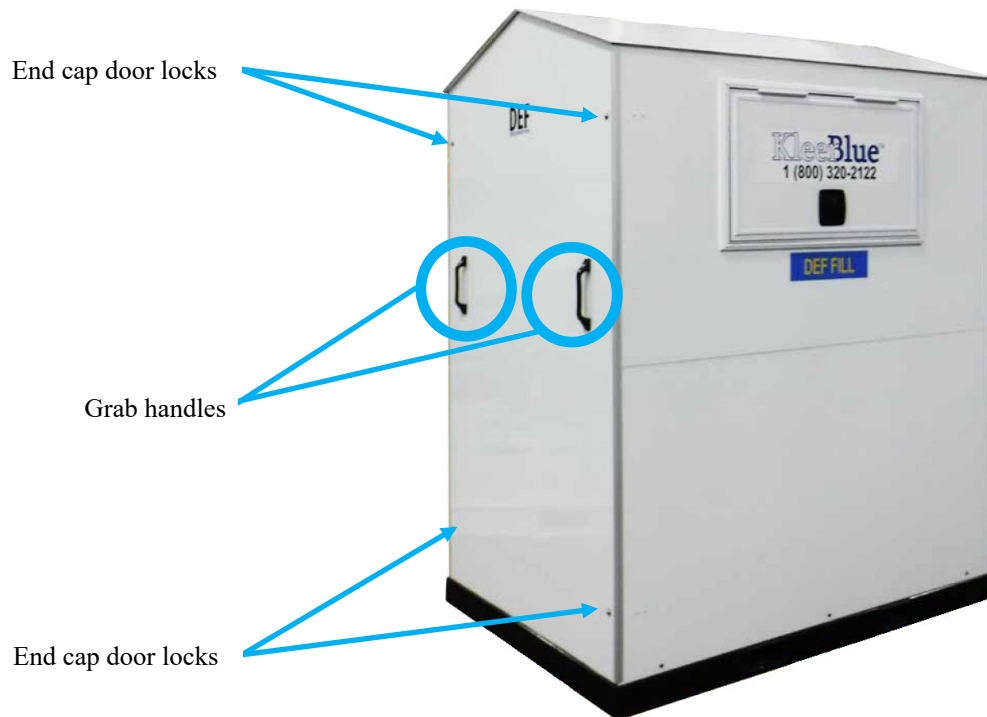


Figure 7a: SBD 330 TSU-D Single Tote Enclosure

Electrical Installation Instructions



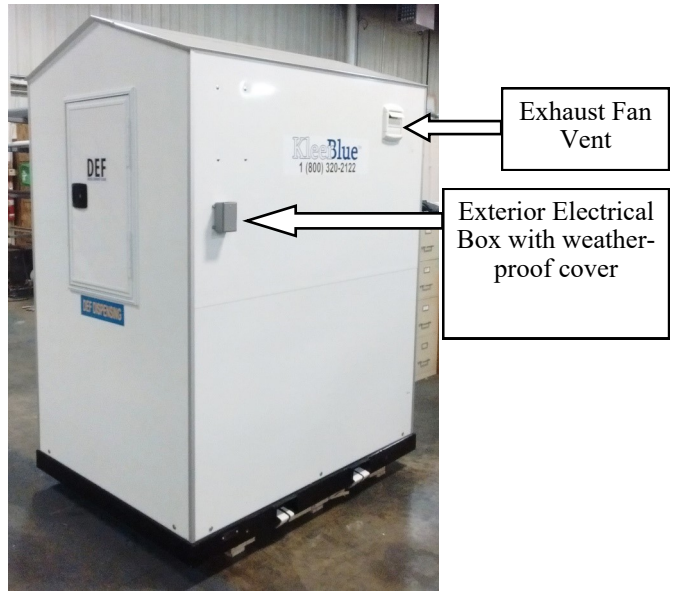
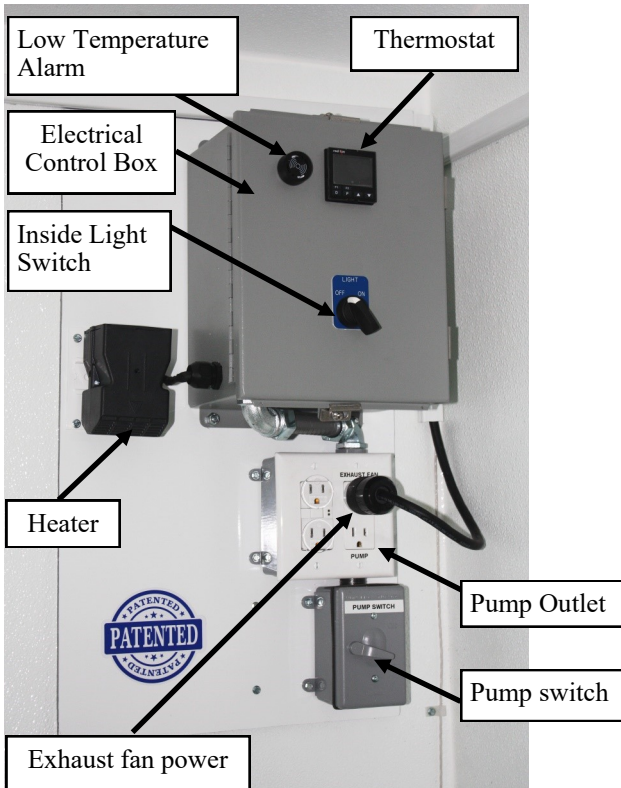
WARNING ELECTRICAL HAZARD



SERIOUS INJURY OR DEATH MAY RESULT FROM ELECTRICAL SHOCK.
ONLY A LICENSED ELECTRICIAN SHOULD CONNECT POWER TO SYSTEM

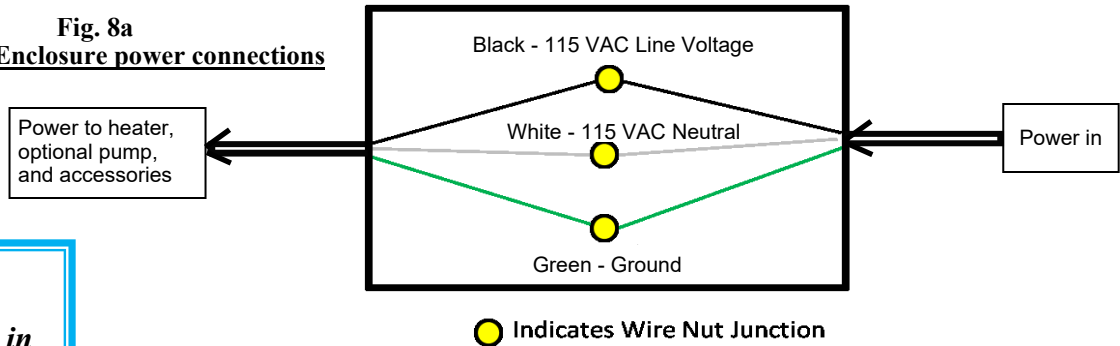
- All electrical components contained in KleerBlue Solutions Single or Dual Tote Enclosures are pre-wired at the factory. All incoming electrical power connections are made at the Exterior Electrical Box.
- All electrical lines to the Tote Enclosure must be protected in conduit.
- Any holes made in electrical control box should be sealed with proper conduit fittings to maintain the NEMA rating of the enclosure.

Electrical Installation Instructions - continued



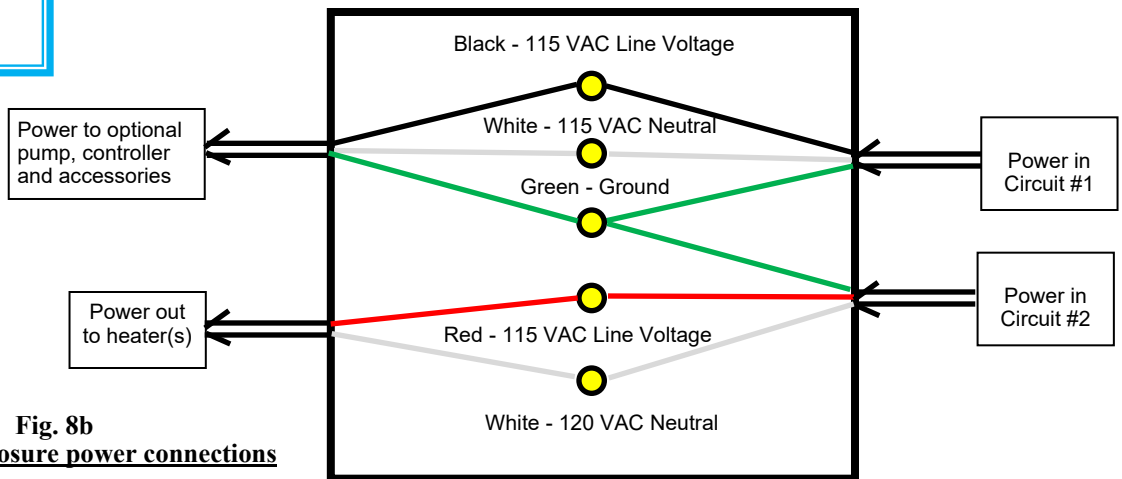
Power Requirements for 400-Watt Heater and Accessories (including pump with 3/4 HP motor): 1 dedicated 115VAC, 60 Hz, 20-amp circuit (pump draw, 14 amp max).

Fig. 8a
Single-tote Enclosure power connections



Consult 'Appendix' in this manual for typical electrical schematic

Fig. 8b
Dual-tote Enclosure power connections



System Operating Instructions

Filling Totes in KlearBlue™ Enclosures with DEF (ALL MODELS)



Only clean, uncontaminated DEF from a Certified source should be used in the tote!

- The tote's inlet port can be accessed through the tote refill access door (see photo).
- **Do NOT attempt to exceed the tote's maximum fill limit**, otherwise, spillage may occur.
- If your tank is equipped with a tank monitor, please refer to your specific tank monitor owner's manual, for detailed information.

INSTRUCTIONS FOR FLEET & COMMERCIAL INTERNAL DISPENSING MODELS



1. Open dispensing door.
2. Remove the nozzle from the nozzle hanger and pull out enough hose for the nozzle to reach the DEF fill neck. In models equipped with a hose reel, you can hear a series of rapid "clicks" each time the reel rotates. Stop between the rapid "clicks" to lock the hose in place.
3. Turn on the pump (if present).
4. Locate the "Blue" DEF fill cap on the Vehicle to be filled.
***** DO NOT ADD DEF TO THE DIESEL FUEL TANK!!! *****
5. Squeeze the nozzle handle to dispense DEF.
6. After DEF tank is full, turn off the pump. If your model is equipped with a reel, unlock by gently pulling on the hose, allowing it to slowly retract back into the reel.
7. Place the nozzle back in the nozzle holder. Turn off the pump switch. Close dispensing door.

Switch for optional pump
(located beneath electrical control box)



INSTRUCTIONS FOR REMOTE STORAGE MODELS

- Remote storage models are operated from the dispenser. No additional instructions are needed.
- Please consult operating instructions for your particular dispenser for additional instructions.

System Operating Instructions - continued

TOTE ENCLOSURE HEATING AND VENTILATION SYSTEM: DESCRIPTION



NOTE: Power to the Storage System must be left on at all times (except during maintenance) to allow the heating and ventilation systems to work properly!

Storage System Enclosure Heater

- A forced air heater heats the air inside the enclosure to prevent freezing of DEF in the totes(s) and plumbing.
- For most cold weather locations, KlearBlue™ recommends that the thermostat be set to maintain Tote Enclosure temperature at 55°F (13°C).
- During periods of extreme cold, KlearBlue™ recommends a thermostat setting of 60-65°F (16-19°C) .
- Temperature settings are pre-set at the factory.

Ventilation Fan

- The Tote Enclosure is equipped with a ventilation fan which is activated by the temperature control system. It is set by the factory to turn on whenever temperatures inside the enclosure exceed 80°F (27°C)



Temperature Alarm:

- If Storage System temperature drops below 20°F (-6.7°C), the audible alarm will activate. This indicates either (a) an incorrect thermostat setting, (b) heater failure, or (c) failure to properly close an access door. After the condition has been corrected, the alarm can be silenced. See the following section “**Programming Temperature Control**” in this manual.

INSTRUCTIONS FOR TOTE ENCLOSURE TEMPERATURE CONTROL

Although temperature settings for KlearBlue Tote Enclosures are preset at the factory, all KlearBlue Ultra Tote Enclosures feature a programmable thermostat. Temperatures are preset at the factory with upper and lower setpoints (51°F - 79°F).

Programmable temperature control settings can be accessed by pressing and holding down the “P” key. Scroll through available options by pressing the “UP” and “DOWN” **arrow keys**, and then pressing the “P” key once again to select the desired option. Select “END” on the display (or press the “D” key) to exit programming.

When in “normal” display mode (shown) the top number indicates current detected temperature, while the bottom number show the current setpoint.

Refer to illustrations on the following page for examples for interpreting readouts on the programmable thermostat’s display.

System Operating Instructions - continued

INSTRUCTIONS FOR ENCLOSURE TEMPERATURE CONTROL (CONTINUED)



A: Normal Operation (moderate conditions)

- Heater setpoint is 51°F. Enclosure temperature is 74°F.
- No alarm condition displayed.
- Heater is OFF.
- Ventilation fan is OFF.



B: Ventilation Fan Operation (hot weather conditions)

- Heater setpoint is 51°F. Enclosure temperature is 90°F.
- “ALM1” displayed, indicating enclosure temperature has exceeded ventilation fan setpoint (80°F).
- Heater is OFF.
- Ventilation fan is ON.
- No audible alarm.



C: Heater Operation (cooler weather conditions)

- “ALM2” displayed, indicating enclosure temperature has dropped below heater setpoint (51°F).
- Heater is ON.
- No Audible Alarm.

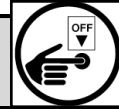


D: Heater Operation + Freeze Warning (cold weather conditions)

- Heater setpoint is 51°F. Enclosure temperature is 17°F.
- “ALM2” displayed, indicating enclosure temperature has dropped below heater setpoint (51°F).
- “OUT1” displayed, indicating enclosure temperature is below 20°F..
- Heater is ON.
- Audible alarm present.

NOTE: PRESS THE F1 KEY TO SILENCE AUDIBLE ALARM.

Maintenance and Repair



⚠ WARNING
ELECTRICAL HAZARD

SERIOUS INJURY OR DEATH MAY RESULT FROM ELECTRICAL SHOCK.
SHUT OFF ALL POWER TO SYSTEM BEFORE PERFORMING MAINTENANCE OR REPAIR

⚠ WARNING
PRESSURIZED FLUID HAZARD

SERIOUS INJURY OR DEATH MAY RESULT FROM PRESSURE IN SYSTEM
RELIEVE SYSTEM PRESSURE TO ZERO BEFORE PERFORMING MAINTENANCE OR REPAIR

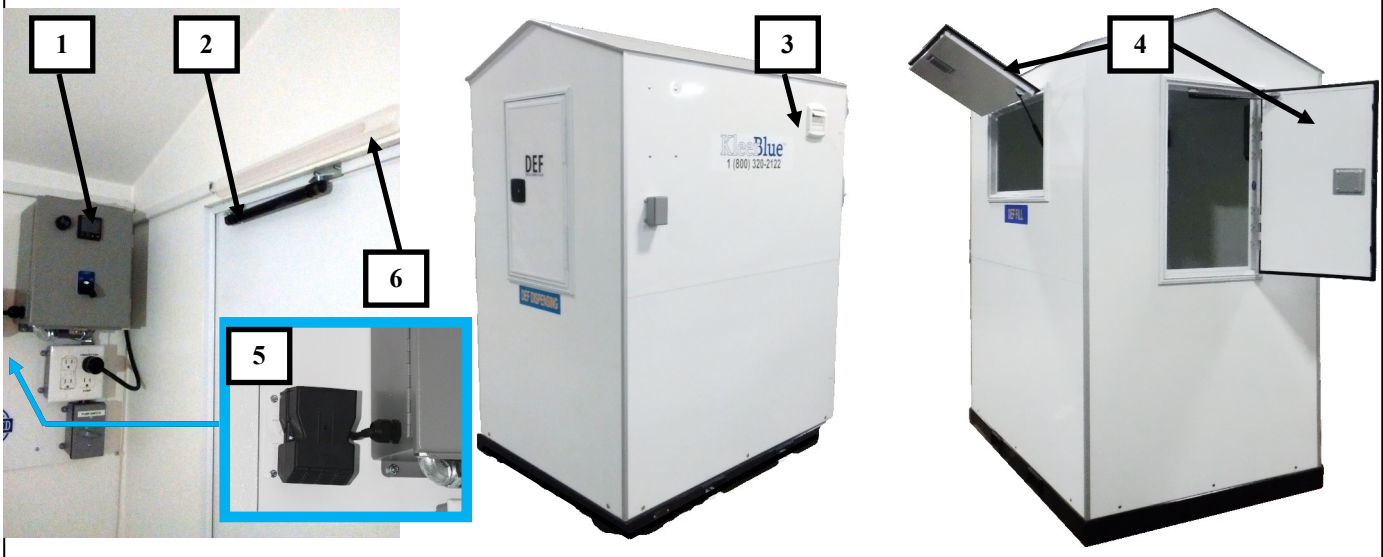
⚠ WARNING

Maintenance and repair must be performed by a licensed electrician or certified contractor

- Keeping accurate maintenance records can be an excellent tool in determining the frequency of inspection or maintenance for a system.
- Great care should be utilized in the maintenance of the system. Personal safety protection, environmental hazards, and government regulations need to be the foremost priority. Only fully trained personnel should be involved in maintenance.
- Refer to the dispenser owners manual for maintenance and repair instructions on the dispenser.

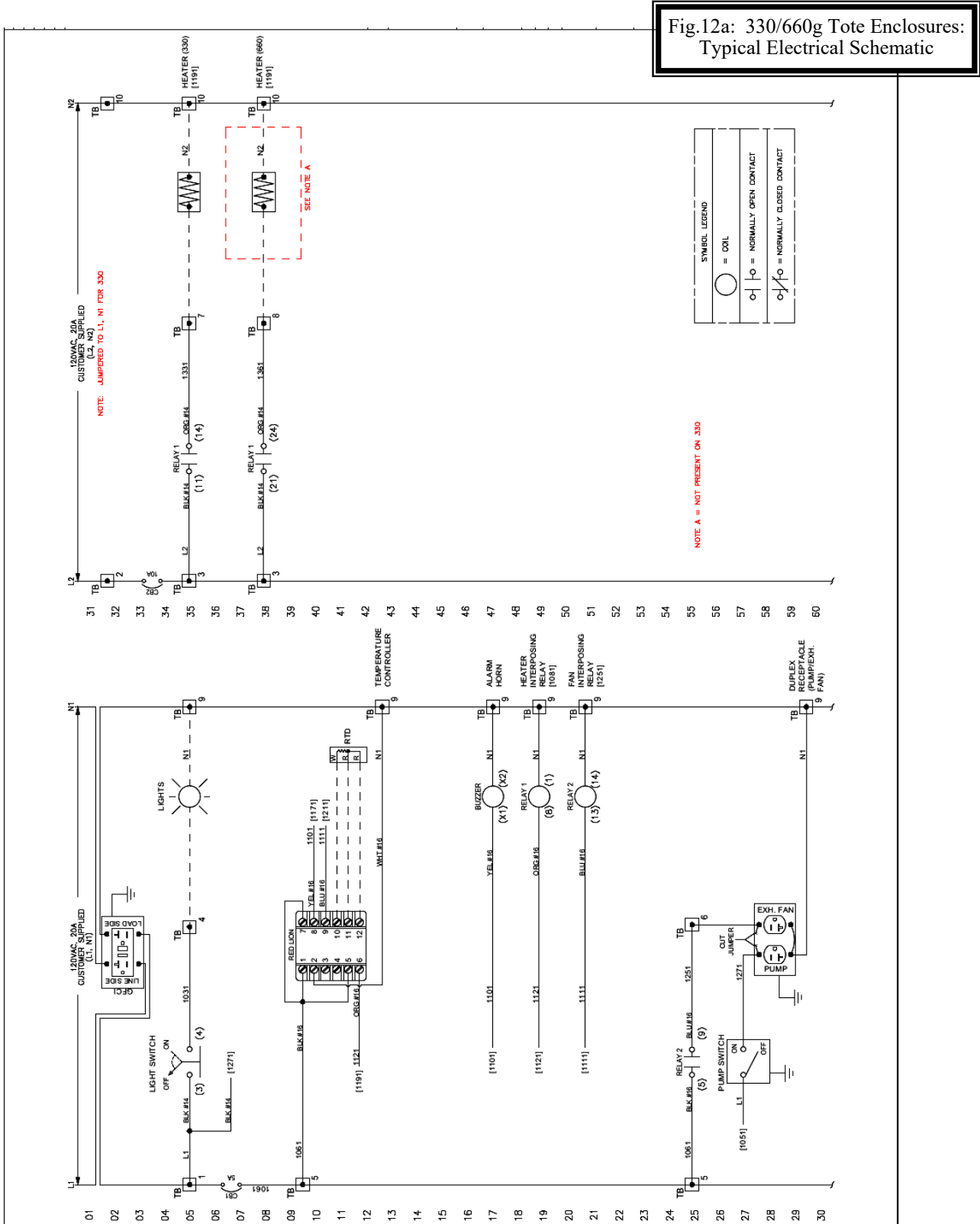
Parts List

REF	DESCRIPTION	PART #
1	Temperature Controller	953118
2	Access Door Gas Shocks	940028
3	Vent Cover	940028
4	Access Door	940016
5	Enclosure Heater	92030
6	Overhead LED light	953783
7	Outlet Safety Plugs (not shown)	954255



APPENDIX: Electrical Diagrams

- All electrical components contained in KlearBlue Solutions Single or Dual Tote Enclosures are pre-wired at the factory. All incoming electrical power connections are made at the Exterior Electrical Box.



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KleerBlue™ Solutions Exclusive Limited Warranty

Subject to the terms and limitations set forth in this limited warranty (“Warranty”), KleerBlue Solutions (“KleerBlue”) warrants to the original purchaser (“Purchaser”) of the **KleerBlue Ultra™ Tote Enclosure** (“Equipment”), Equipment to be free, under normal use and service, from defects in materials and workmanship **for a period of one (1) year** from date of original invoice. KleerBlue’s entire liability under this Warranty is limited to either repairing or replacing, at KleerBlue’s option; provided that Equipment is returned to KleerBlue transportation charges prepaid, and that upon KleerBlue’s examination, Equipment or workmanship is determined to have been defective upon delivery to the Purchaser.

For this Limited Warranty to take effect, Purchaser must submit completed DEF Installation Checklist, supplied in the equipment Installation and Operating Manual to KleerBlue Solutions.

Claim Procedures

In order to obtain performance by KleerBlue of its obligations under this warranty, the Purchaser must first contact KleerBlue Solutions in order to report the problem. **Only KleerBlue Solutions Customer Service can approve or authorize warranty claims.** Purchaser must supply the following information:

1. Contact name, address, and telephone number for site where KleerBlue equipment is located
2. Original invoice or model and serial number of the Product
3. A description of the problem and how it occurred.

KleerBlue reserves the right to request photos of the defect for which return authorization is being sought.

Limitations

There are no other warranties of any kind expressed or implied. KleerBlue specifically disclaims any warrant of merchantability or of fitness for any particular purpose. KleerBlue’s sole obligation, which shall represent the buyer’s sole and exclusive remedy, shall be to repair or at KleerBlue’s option to replace any product or part determined to be defective. In no event shall KleerBlue be held liable for any special, direct, indirect, incidental, consequential or other damages of similar nature incurred, nor any liability to be assumed except as expressly provided herein; there is no other express or implied warranty.

Exclusions

Neither labor nor travel costs which may be incurred to repair or replace defective parts or equipment are covered under this warranty. This Warranty does not cover any products not manufactured by KleerBlue; such items are subject to warranties provided by their respective manufacturers. This warranty does not extend to any equipment which has been subjected to improper installation, misuse, negligence, or accident, or if installed and/or operated in any manner other than in accordance with KleerBlue’s **Installation and Operating Instructions**, nor does it extend to any equipment which has been modified in any way without express authorization from KleerBlue Solutions. This warranty applies only to KleerBlue products sold in the United States and Canada.

Design and Equipment

Any changes in design or improvements added shall not create any obligation to install same on equipment previously sold or ordered.

Returning Products to KleerBlue

Under the terms of the Limited Warranty, KleerBlue may ask for return of the Product that is the subject of the warranty claim. Such Products must be clearly labeled with a **Return Goods Authorization Number** (“RGA Number”), which must be obtained prior to return shipment. Products returned to KleerBlue without a RGA Number will not be processed. All Products to be returned must be shipped freight prepaid by the Purchaser to KleerBlue at the address shown below.

KLEERBLUE SOLUTIONS
1601 Buchanan Road, Evansville, IN 47720
(800) 320-2122
sales@kleerbluesolutions.com

KleerBlue™

DEF Storage & Dispensing Systems

KleerBlue Solutions

Evansville, Indiana

Fort Wayne, Indiana

Phone (800)320-2122

www.kleerbluesolutions.com