



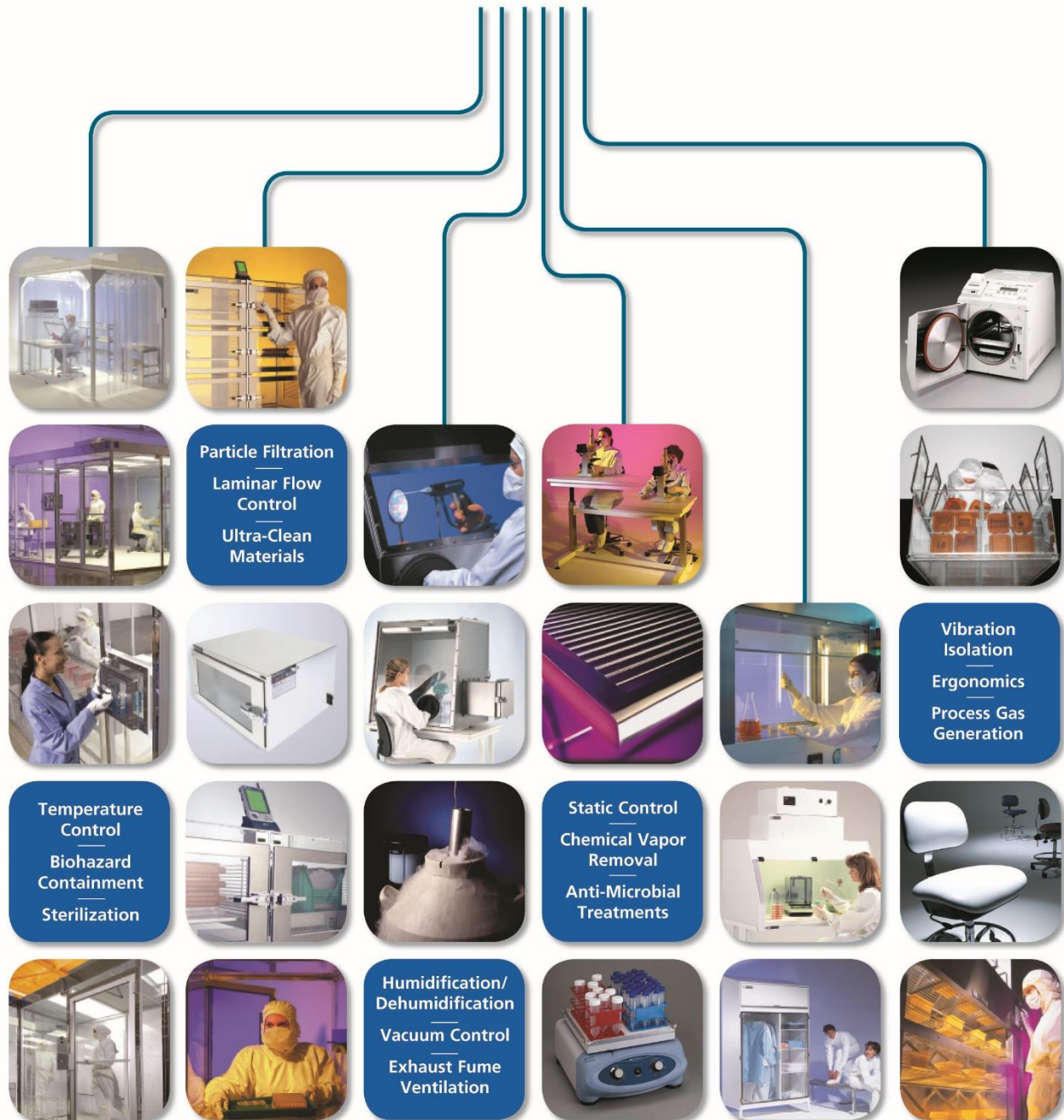
Quick-Start Operating Guide

Document No. 1800-55

Hand Washer/Dryer

© Copyright 2021 Terra Universal Inc. All rights reserved. • Revised May 2021

Your Comprehensive Equipment Source





Proprietary Notice

This manual pertains to proprietary devices manufactured by Terra Universal, Inc. Neither this document nor any portion of it may be reproduced in any way without prior written permission from Terra Universal.

Terra Universal makes no warranties applying to information contained in this manual or its suitability for any implied or inferred purpose. Terra Universal shall not be held liable for any errors this manual contains or for any damages that result from its use.

Safety Notice

A thorough familiarity with all operating guidelines is essential to safe operation of the product. Failure to observe safety precautions could result in poor performance, damage to the system or other property, or serious bodily injury or death. The following symbols are intended to call your attention to two levels of hazard involved in operation.



CAUTION

Cautions are used when failure to observe instructions could result in significant damage to equipment.



WARNING

Warnings are used when failure to observe instructions or precautions could result in injury or death.

The information presented here is subject to change without notice.

1.0 Introduction

This manual provides information on installing and operating your Terra Universal Hand Washer/Dryer.

By studying this document carefully, you can be assured of a long, efficient service life from your system.



2.0 Description

Terra Universal's Hand Washer/Dryer has been designed to meet rigorous cleanroom standards. Stations are fabricated of 304 stainless steel or white polypropylene for optimal cleanliness in controlled rooms; ultra-clean electropolished stainless steel is also available. The HEPA filtration system removes 99.99% of 0.3-micron particles from the drying airstream. The Dyson Airblade uses IR sensors that are mounted behind the faucets to allow hands-free washer activation. Sheets of high-velocity air dry hands in just 14 seconds. Automatic soap dispenser is also IR-beam operated.

The Dyson brushless DC blower motor is isolated in a dampened housing, which minimizes noise and vibration. Its ergonomic cabinet and design enhance operator compliance with cleanroom protocol.



3.0 Installation

Upon delivery, carefully inspect the system for visible damage. (Report any damage according to the procedures specified on the shipping claims form.) Check to make sure that you have received all optional equipment, as indicated on the packing list.



Electrical Connections

A separate electrical outlet is needed for each Hand/Washer Dryer. For multi-sink models, electrical outlets should be positioned every 24" along the wall, 10" from the floor. Models come in 120V or 240V configurations; refer to the product specifications for the correct voltage.

Plumbing Connections (Single Sink)

DRAIN: After wrapping Teflon tape on the male threads of the 1-1/2" drain pipe, thread the pipe into the female threads on the union. Make sure the O-ring is in place between the collar and union. Tighten the collar.

WATER SUPPLY: Connect the 3/8" MNPT PVC pipe for your facility's water supply by following the same steps used to make the drain pipe connections. Check for any leaks, especially at the connections, by opening the main water supply valve.

Refer to **Figures 1 and 2**.

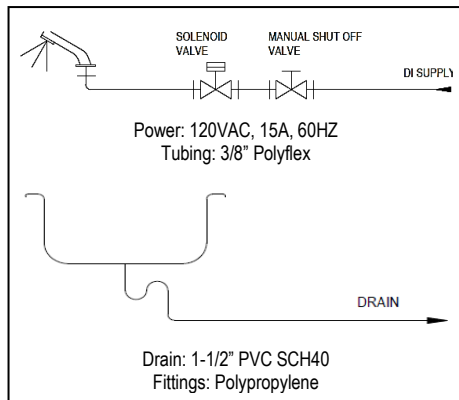


Figure 1: Piping and valve schematic of drain and water supply connections.

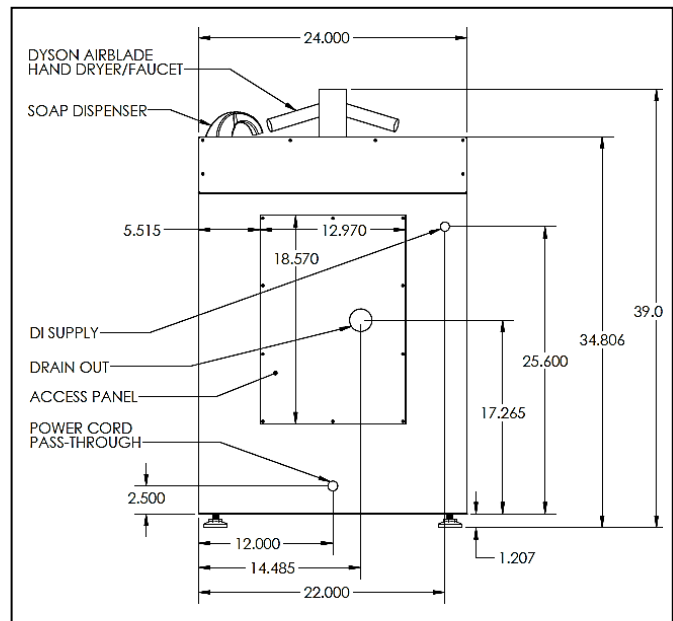


Figure 2: Rear view of single-sink unit shows locations of plumbing and electrical connections. Use 3/8" MNPT PVC piping for water supply; multi-unit sinks use 1/2" pipes.

MULTI-SINK UNITS: Contact Terra Universal to request drain and water supply connection drawings.

Testing the Hand Washer/Dryer

Plug in the unit and test the plumbing connections and water pressure by placing your hands under faucet to activate the sensor. If there is a problem with the water pressure at any of the sinks, adjust the valve for the sink(s). If the pressure for all the sinks needs the same adjustment, that adjustment should be made at the main valve in the supply line.



4.0 Operation

To operate Terra Universal's Hand Washer/Dryer, simply place your hands under the center of the tap and water will flow automatically for as long as the hands remain in place. The sensors auto-calibrate so that air and water are only activated when a hand is underneath. Place hands to either side of the center tap to activate the hand dryer, creating sheets of air to scrape water from the hands with a 14 seconds hand dry time. After installation, the tap will go through a 30 second calibration cycle.

1. A continuous, invisible light beam is emitted from the infrared sensors.
2. As the user's hands enter the beam's effective range, 4 to 5 inches (102 mm to 127 mm) below the spray head, the beam is reflected into the scanner window and activates the solenoid valve allowing water to flow from the faucet into the sink. This range should be satisfactory for most installations. As long as the user's hands are within range, water will flow up to the 30-second automatic shut-off limit. The Dyson hand washer/dryer faucet is shown in **Figure 3**.
3. When hands are moved away from the sensor, the loss of reflected light indicates an electrical signal that deactivates the solenoid valve, shutting off the water flow. The circuit then automatically resets and is ready for the next user.



Figure 3

Soap Dispenser

Soap dispenser is IR-beam operated and passing hands in front of the dispensing nozzle activates an electrical pump, which delivers an adjustable amount of soap. To refill the soap cartridge, do not handle by tube. If using the 1600ml refill, snap open black rubber seal. Move the switch from "UP" (1K) to "DOWN" (2k) position. Reseal black rubber seal. Press the refill reset button (M). This will automatically prime the soap refill bottle and initiate counting mechanism. The flashing red light indicates low refill and the flashing yellow light indicates low battery. The dispenser uses 4 "D"-Cell Alkaline batteries.

Soap Dispenser Range Adjustment

The range potentiometer and dip switches are located on the internal control module.

To adjust the soap dispenser range, move the rubber seal to see the two small holes underneath. The bottom hole is where the switch is to select the refill size. The top hole is where the sensor activation range can be adjusted. Use a very small screwdriver to adjust the range. To reduce the range, turn to the left (counter clockwise) slightly. Verify if this is enough of a reduction, if not, repeat by turning counter clockwise. Repeat this method until you have the desired range. Repeat this method, but be sure not to over turn. You may feel a slight "speed bump" – do not go past the speed bump. To increase the range, do the reverse adjustment method.



5.0 Maintenance

Cleaning

DO NOT use abrasive or chemical cleaners (including chlorine bleach) to clean faucets as they may dull the luster and attack the chrome or special decorative finishes. Place cleaning cap over sensors to prevent activation. Use ONLY soap and water, then wipe dry with clean cloth or towel.

While cleaning other surfaces, the faucet should be protected from any splatter of cleaner. Acids and cleaning fluids will discolor or remove chrome plating.

Changing a Filter

To change the HEPA filter in the blower, locate the filter housing near the bottom of the motor bucket underneath the sink. Use a thin object such as the end of a flat screwdriver and wedge it in the tab to pop the filter housing out of the unit. Replace the HEPA filter (please use proper replacement filter for Dyson Airblade Tap AB 09) and place the filter housing back into position.

6.0 Troubleshooting

Problem: No power. The hand dryer fails to start.

Solution(s):

- Make certain that main power is on. Check receptacle, transformer, solenoid, leads and connections.
- Junction box circuit board is faulty; replace.
- Check transformer for 24-volt output using a test light or volt meter.
- Check supply stop(s); open if closed.
- Debris in filter; remove, clean and reinstall.

! Caution: Never touch or short transformer outlet wires. Touching wires together will blow internal fuse and transformer will have to be replaced.

Problem: No water is coming from the tap.

Solution(s):

- Supply stop valve(s) may be turned off.
- Check for power to solenoid valve. Note: Valve will fail-safe in closed position.
- Solenoid valve strainer may be plugged.
- Check that the aerator is free from debris, remove and clean/replace if necessary.

Problem: There is no air running.

Solution(s):

- Turn the unit off and on.
- Check the fuse/circuit breaker for power connection.
- Check that the sensors are clean.
- Verify that the air hose is securely attached to the base of the tap and no leaks.
- Check that the sensor cable from the tap is securely connected.



7.0 Specifications

| | |
|---------------------|---|
| Dimensions: | 40"H x 25"D x 24"W (per sink station) |
| Filter: | HEPA filter (99.97% efficient at 0.3 m particles) |
| Power: | 120VAC, 50/60Hz, 11.3 Amps; 1450 total Watts (240VAC, 50/60Hz, 10 Amp available) |
| Cord: | 5-foot |
| Motor: | Dyson digital motor – V4 brushless DC motor |
| Faucets and Valves: | Stainless Steel Faucet; Brass Valve Fittings |
| Dryer and Faucet: | Integrated touchless IR sensors for faucet and blowers – automatically turns on water or dryer when hands are inserted. |
| Soap Dispenser: | IR-beam operated – dispensing nozzle activates an electrical pump to deliver soap. |



8.0 Warranty

Products Manufactured by Terra: Terra Universal, Inc., warrants products that it manufactures to be free from defects for a period of 12 months for parts and 90 days for labor, commencing from the date of shipment. Terra's sole responsibility is to repair or replace, at its option, any part of the product that proves defective or malfunctioning during this time limit. In some cases, components incorporated in Terra Universal products are covered by additional warranties from component manufacturers; obtain specific information from Terra sales representatives. This warranty is void if the equipment is abused or modified by the customer, is operated outside Terra's operating instructions or specifications, or is used in any application other than that for which it is specified. This warranty does not include routine maintenance or service procedures, breakage of quartz baths after 60 days, shipping damage, nor damage from misuse, intentional or unintentional abuse, neglect, natural disasters, or acts of God.

Products Manufactured by Others: Terra Universal, Inc., warrants that, to the best of its ability, Terra's representations of products that are manufactured by others reflect the manufacturer's representations, subject to change without notice. Sole warranty for these products is the original manufacturer's warranty that is passed forward to the purchaser and constitutes the customer's sole remedy for these products. Detailed warranties for distributed products are available through Terra sales representatives.

Freight Shortage or Damage: Upon receipt of any equipment from Terra Universal, Inc., customer shall immediately unpack and inspect for damage or shortage. The customer shall not accept a damaged package or a short shipment until the carrier makes a "damage or shortage" notation on both the carrier's and customer's copy of the freight bill or delivery receipt. Service title passes when the shipment is loaded, so customer is responsible for filing and collecting a freight claim. Any replacement products must be ordered and paid for separately. For Terra's "Policy and Procedures for Returning Goods," see Terra's Internet site: www.TerraUniversal.com.

Generally, customers can improve the chance of collecting on a freight claim by following these procedures: 1) formally requesting that the carrier inspect the shipment immediately upon suspecting damage or shortage to verify condition; 2) notifying the carrier upon discovery of concealed damage and requesting an inspection within 15 days of receipt, both in person or phone and following up via mail; 3) keeping the shipment as intact as possible, including retaining original packaging materials and keeping the product as close to the original receiving location as possible; 4) holding salvage for disposition by the carrier.

All Claims: Terra Universal expressly disclaims all other warranties, expressed or implied or implied by statute, including the warranties of merchantability or fitness for intended use. Terra Universal is not responsible for consequential or incidental damages arising out of the purchase or use of the products supplied by Terra Universal. Terra Universal is not liable for damage to facilities, other equipment, products, property or personnel of others, or of their agents, suppliers, or affiliated parties, which is caused or alleged to have been caused by products supplied by Terra Universal. In any event or series of events, Terra Universal's total liability for any and all damages whatsoever is limited to the lesser of the actual damages or the original invoice cost of the items alleged to have caused the damage. The customer's sole and exclusive remedy for any cause of action whatsoever is repair or replacement of the non-conforming products or refund of the actual purchase price, at the sole option of Terra Universal. All claims must be made in writing within 90 days of the date the product was shipped. Any claims not made within this time limit shall be deemed waived by the customer. Terra Universal is not responsible for any additional costs of repair caused by poor packaging or in-shipment damage during return.

Warranty Returns: All warranty returns must be authorized in advance by Terra Universal and approved under an RMA. Unless approved in advance for good reason, all returns must be in original condition, including all manuals, and must be packaged in original packaging materials. All returned goods are to be shipped to Terra Universal, freight prepaid at customer's expense. See Terra's "Policy and Procedure for Returned Goods."

*Thank you for ordering from
Terra Universal!*