
**FPU® SYSTEMS OPERATION MANUAL
(INCLUDING REPAIR PARTS & SPECIAL TOOL LIST)
BOH CONTAINERIZED 5 PERSON SHOWER
BOH FPU Field Pack-up Units**



**BOH CONTAINERIZED SHOWER
BOH FPU® Systems
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WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to persons using equipment.

WARNING



Do not allow the system to swing if using an overhead lift. Always ensure an appropriate sling and lifting points are used in lifting a containerized shower. Always use a properly sized forklift, crane, or lifting device. Ensure there are no personnel in the shower container before any movement of the containerized shower. Failure to follow proper connection procedures may result in damage to the equipment, injury or death.

WARNING



Use caution when moving BOH Containerized Shower into a transport vehicle or system. Make sure all BOH Containerized Shower door locks and vanity doors are properly seated and locked before movement of the BOH Containerized Shower. Ensure there are no personnel in the shower. Failure to comply could cause serious injury or death.



Standard forklift principles apply when working on the BOH Containerized Shower. When working with ground guides during the loading or unloading of the BOH Containerized Shower onto the selected site, do not allow the ground guide between the forks and the BOH Containerized Shower. Serious injury could occur if the ground guide is pinned between the forklift and the Containerized Shower. Forklift operators must maintain visual contact with their ground guides at all times.



Always follow standard forklift procedures. A tilt hazard exists when forklift operators try to lift a container from the wrong side. Always lift with the forklift tines in the fork pockets provided in the base. A tilt situation exists when the heaviest part of the load is out on the tips of the tines or on uneven ground while traveling. Operators should always keep loads low and close to the forklift carriage. Operators should never travel when the load is in the fork's extended position.

WARNING



The BOH Containerized Shower and their components are heavy and could cause injury if they fall onto or strike personnel. A hazard exists when the doors have not been secured when moving the Shower Container.

WARNING



Overhead power lines and obstructions can cause serious injury or damage to property. Forklift operators, truck drivers and ground guides should always clear overhead when loading, unloading the BOH Containerized Shower

WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to persons using equipment.

WARNING



When using a crane to lift the Containerized Shower, ensure the proper sling and sling point are used. Do not allow the system to swing if using an overhead lift. Always use properly sized forklift, crane, or lifting device. Ensure there are no personnel in the container before any movement. Failure to comply could cause injury, death or damage to the equipment.

WARNING



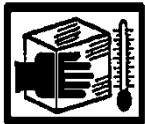
Always inspect the working areas and ensure that the front, rear and sides are free of oils, lubricants, and other potentially slippery substances. Ensure the shower floors are clean and dry and have no standing water before any movement. The shower units may be used to store various forms of cleaning supplies, and other potentially slippery substances. Keeping the surfaces clean and the floor around the work area dry is important to prevent spillage and slippery surfaces. Spills from the shower or sink must be cleaned up immediately. Failure to comply could cause injury from a fall.

WARNING



The Shower components can be heavy and awkward to handle by a single person. This is especially true of the larger components. The movement of these items is a two-person operation. Assistance is required from one or more personnel to remove components from the Containerized Shower.

WARNING



Protective gloves should be worn when handling metal parts in below freezing temperatures. Failure to wear gloves may result in skin freezing to the metal upon contact and cause tearing of the flesh when attempting to pull away from the metal.

WARNING



Never blend or mix cleaning supplies. Toxic vapors may develop causing injury or death. Follow proper storage and use instructions on the cleaning product labels.

WARNING



The containerized shower is not ISO-certified or CSC Safety-Approved. When transporting or storing, never stack the containerized shower. The structure is not designed to support additional containers. Failure to comply could cause damage to the container and equipment or death or injury.

WARNING



Protective gloves should be worn when handling metal parts in high temperatures. Failure to wear gloves may result in burning or blistering of the skin upon contact.

GENERAL WARNINGS



HEAVY PARTS - heavy object on human figure shows that heavy parts present a danger to life or limb.



HEAVY PARTS - heavy object pinning human figure against wall shows that heavy, moving parts present a danger to life or limb.



HEAVY PARTS - hand with heavy object on top shows that heavy parts can crush and harm.



HEAVY PARTS - foot with heavy object on top shows that heavy parts can crush and harm.



SLICK FLOOR - wavy line on floor with legs prone shows that slick floor presents a danger for slipping or falling.



HEAVY OBJECT - human figure stooping over heavy object shows physical injury potential from improper lifting technique.



CRYOGENIC - hand in block of ice shows that the material is extremely cold and can injure human skin or tissue.



HOT METAL SURFACES - Metal surfaces may become hot in extreme heat areas; prolonged contact may cause burning or blistering of the skin.

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REPORTING ERRORS & RECOMMENDING IMPROVEMENTS

You can help improve this manual. Please let us know if you find any mistakes or if you know of a way to improve the procedures. You may send in your recommended changes by E-mail directly to: dcresap@bohfpusystems.com . A reply will be furnished directly to you.

Approved for public release; distribution is unlimited.

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Group Numbers

- 00 Containerized Shower System
- 01 Containerized Shower
 - 0101 Door Assemblies
 - 0102 Water and Waste caps
- 02 External Electrical
 - 0201 Internal electrical
- 03 Containerized Utility Room and Shower Components
 - 0301 Utility Room Components
 - 0302 Interior Components
 - 0303 Shower Components

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REAR MATTER

BOH Product Warranty
Metric Conversion Chart

Appendices Appendix : A,B,C,D and E contain Manufacturer Specification for repair and operation.

- Appendix A.... STATE WATER HEATER
- Appendix B.... BROAN VENT FAN
- Appendix C....TRUEX LIGHT FIXTURE
- Appendix DOLYMPIA FAUCET
- Appendix EVANITY SS SINK

HOW TO USE THIS MANUAL

This manual contains general information, operating instructions, Preventative Maintenance Checks and Services (PMCS), and maintenance/repair instructions for the BOH Containerized Shower Units.

Front matter consists of front cover, warning summary, title block, table of contents, "how to use this manual" pages, and provides information on the BOH Containerized Shower Units and their associated equipment. Chapter 1 provides equipment description and data as well as the theory of operation. Chapter 2 provides instructions for operating under usual and unusual conditions. Chapter 3 contains troubleshooting procedures authorized at the Operator and Unit level. Chapter 4 contains Preventative Maintenance Checks and Services (PMCS) and Operator Maintenance Instructions. Chapter 5 contains Unit Maintenance Instructions. Chapter 6 contains the Maintenance Allocation Chart (MAC); it also includes the Repair Parts & Special Tools List (RPSTL) that identifies parts or tools unique to the operation and maintenance of the showers.

Manual Organization and Page Numbering

This manual is divided into six major chapters that detail the topics mentioned above. Within each chapter are work packages covering a wide range of topics. Each work package is numbered sequentially at page 1, and has its own page numbering scheme that is independent of the page numbering used by other work packages. Each page of a work package has a page number of the form "XXXX YY-ZZ", where "XXXX YY" is the work package number (e.g. 0010 00 is work package 10) and "ZZ" represents the number of the page within that work package. Blank pages will be labeled "This page was intentionally left blank".

Finding Information

The Table of Contents permits the reader to quickly find information in the manual. The reader should start here first when looking for a specific topic. The Table of Contents lists the topics contained within each chapter and the work package sequence number where it can be found.

Types of notations

Warnings - Warnings are posted immediately prior to text covering any area that would present a situation that may result in injury or death. Compliance is mandatory.

Cautions - Cautions will be found on the same page and preceding the text covering any area that would present a situation that may result in damage to equipment.

Notes - Notes will precede text covering an area with the intent to alter normal procedures for unique situations or equipment, or point out areas of special concern.

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CHAPTER 1

**INTRODUCTORY INFORMATION
WITH
THEORY OF OPERATION**

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INTRODUCTORY INFORMATION WITH THEORY OF OPERATION
**FPU® SYSTEMS OPERATION MANUAL
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GENERAL INFORMATION

SCOPE
Equipment Covered

This technical manual contains instructions for the operation, preventive maintenance, and recommended Unit/Direct Support corrective maintenance for the BOH Containerized Shower System and the associated equipment.

Type of Manual

This is an Operator, Unit and Direct Support, Operation and Maintenance Manual. There is Manufacturer's detailed data in the Appendices.

Description

The containerized shower unit is easily loaded and unloaded by forklift rated for 10,000 lb. The containerized shower consists of an 8' wide x 20' long x 8.5' high sturdy metal container with a pallet-like base. It has five individual compartments, each with a door (with security and privacy locks), shower, one utility room, florescent lighting, sink, exhaust fan and vanity cabinet with mirror. The containerized shower comes in two color variations: Forest Green and Desert Sand. The container Tare weight is 8,800 lbs.

CAUTION

The Containerized Shower must be placed on a level surface of a platform, pillars or ground surface to operate properly and prevent grey water discharge backups.

Equipment Name, Part Number and NSN

CONTAINERIZED SHOWER	PART NUMBER	NSN
CONTAINERIZED SHOWER GREEN	99000457-UG	8145-01-606-2577
CONTAINERIZED SHOWER TAN	99000457-UT	8145-01-606-2842
END of TABLE		

END OF WORK PACKAGE

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INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

FPU® SYSTEMS OPERATION MANUAL (INCLUDING REPAIR PARTS & SPECIAL TOOL LIST) BOH CONTAINERIZED 5 PERSON SHOWER BOH FPU Field Pack-up Units

THEORY of OPERATION

Containerized Shower System Description

The Containerized Shower can be quickly unloaded from a transport vehicle and established on a site that has water and electrical service available. The containerized shower grey water discharge is designed with clean out caps and gravity discharge. The containerized shower consists of an 8' wide x 20' long x 8.5' high sturdy metal container with a pallet-like base. It has five individual shower compartments with doors (with security and privacy locks), shower, fluorescent lighting, sink, exhaust fan, vanity cabinet with mirror. The utility room contains the 80 gal. electric hot water system, sufficient to support the 5 shower units, and can act as a utility closet. The Containerized Shower comes in two color variations: Forest Green and Desert Sand. The container Tare weight is 8,800 lbs.

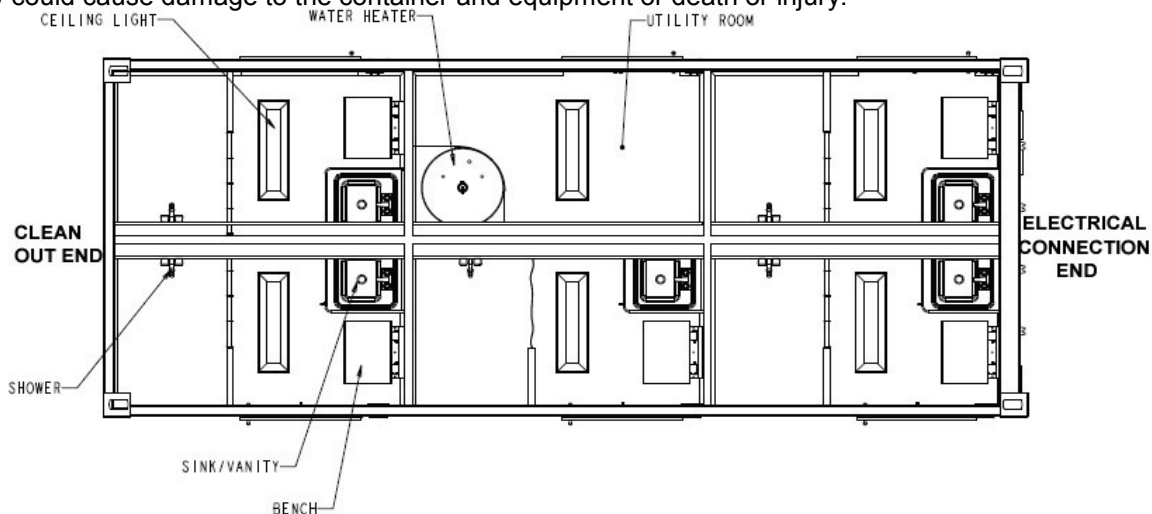
CAUTION

The containerized shower must be placed on a level surface of a platform, pillars or ground surface to operate properly and prevent grey water discharge backups.

WARNING



The containerized shower is not ISO-certified or CSC Safety-Approved. When transporting, never stack the containerized shower. The structure is not designed to support additional containers. Failure to comply could cause damage to the container and equipment or death or injury.



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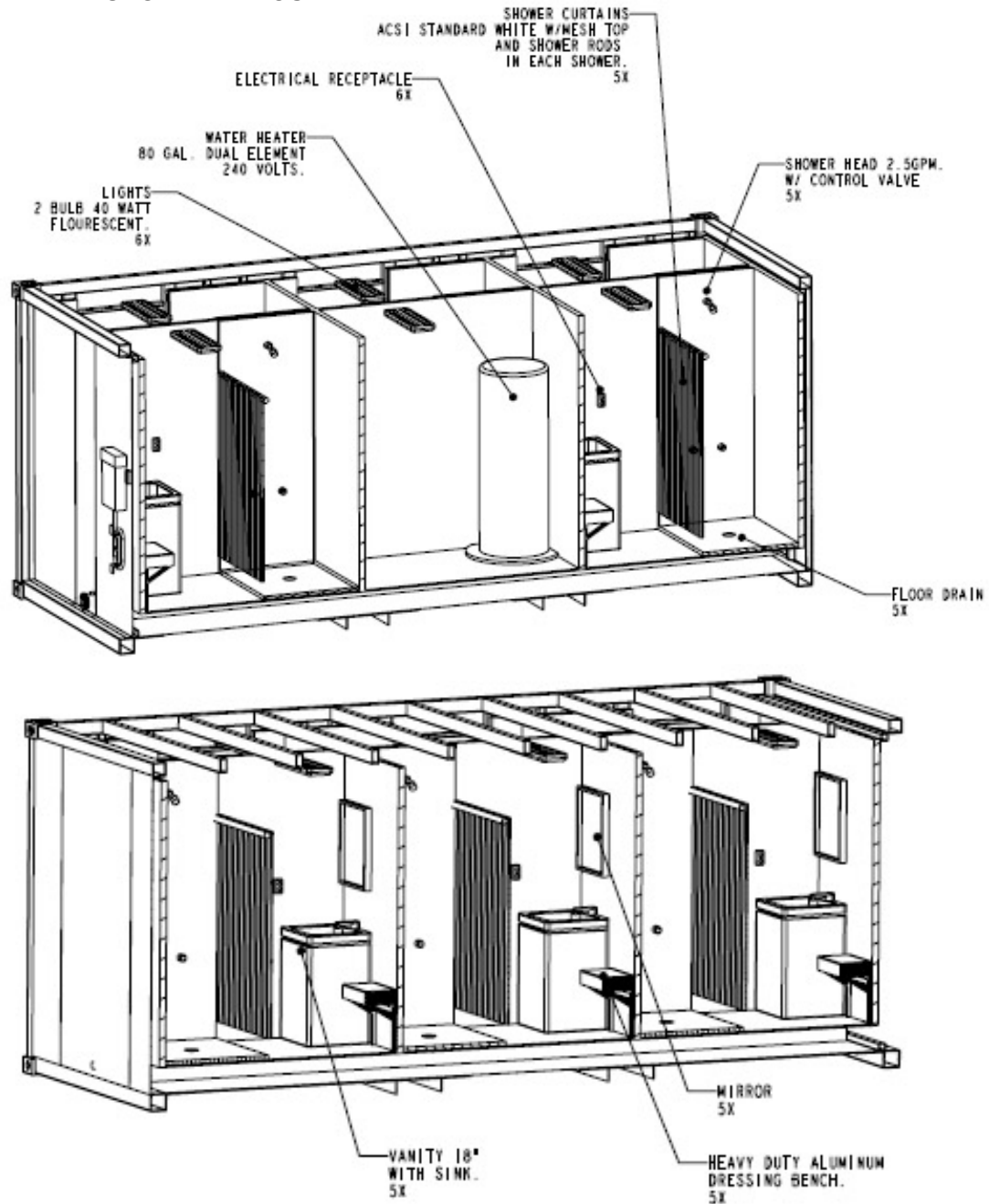
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INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

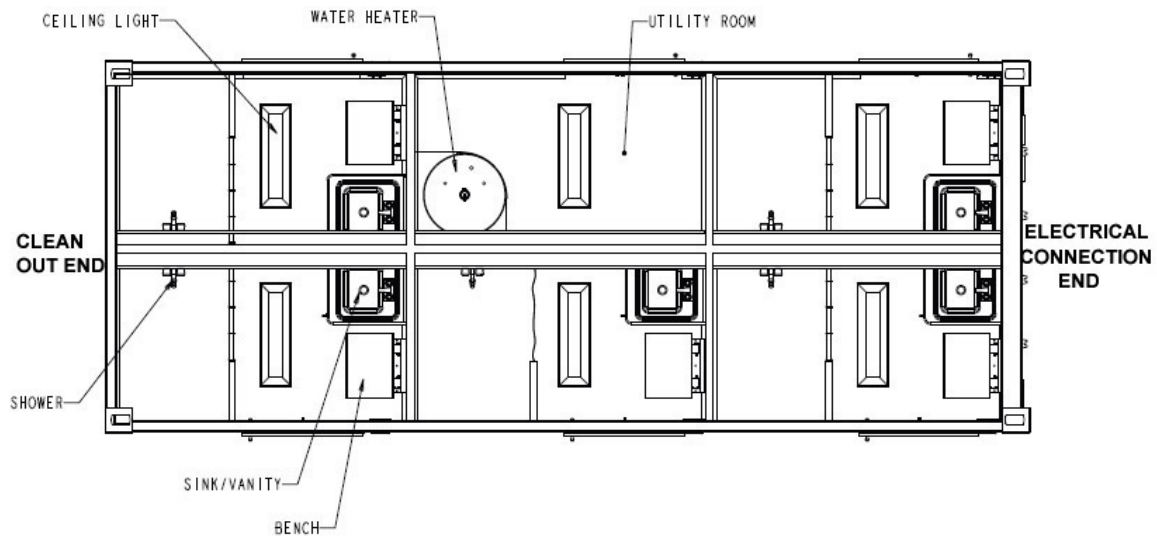
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EQUIPMENT CHARACTERISTICS, COMPONENTS AND FEATURES

CONTAINERIZED SHOWER LAYOUT

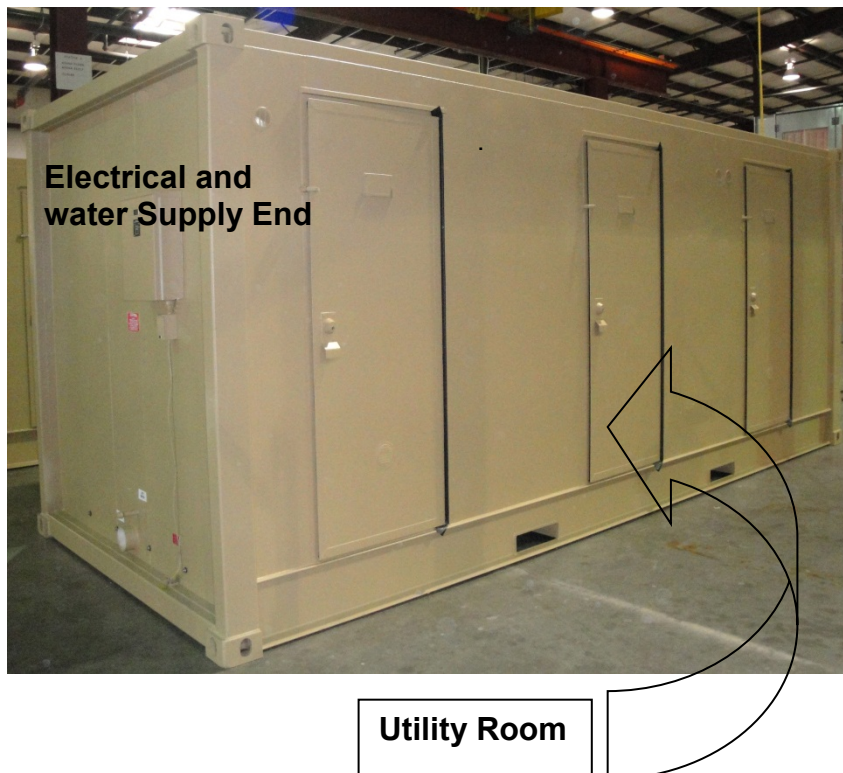


Shower Top View Layout



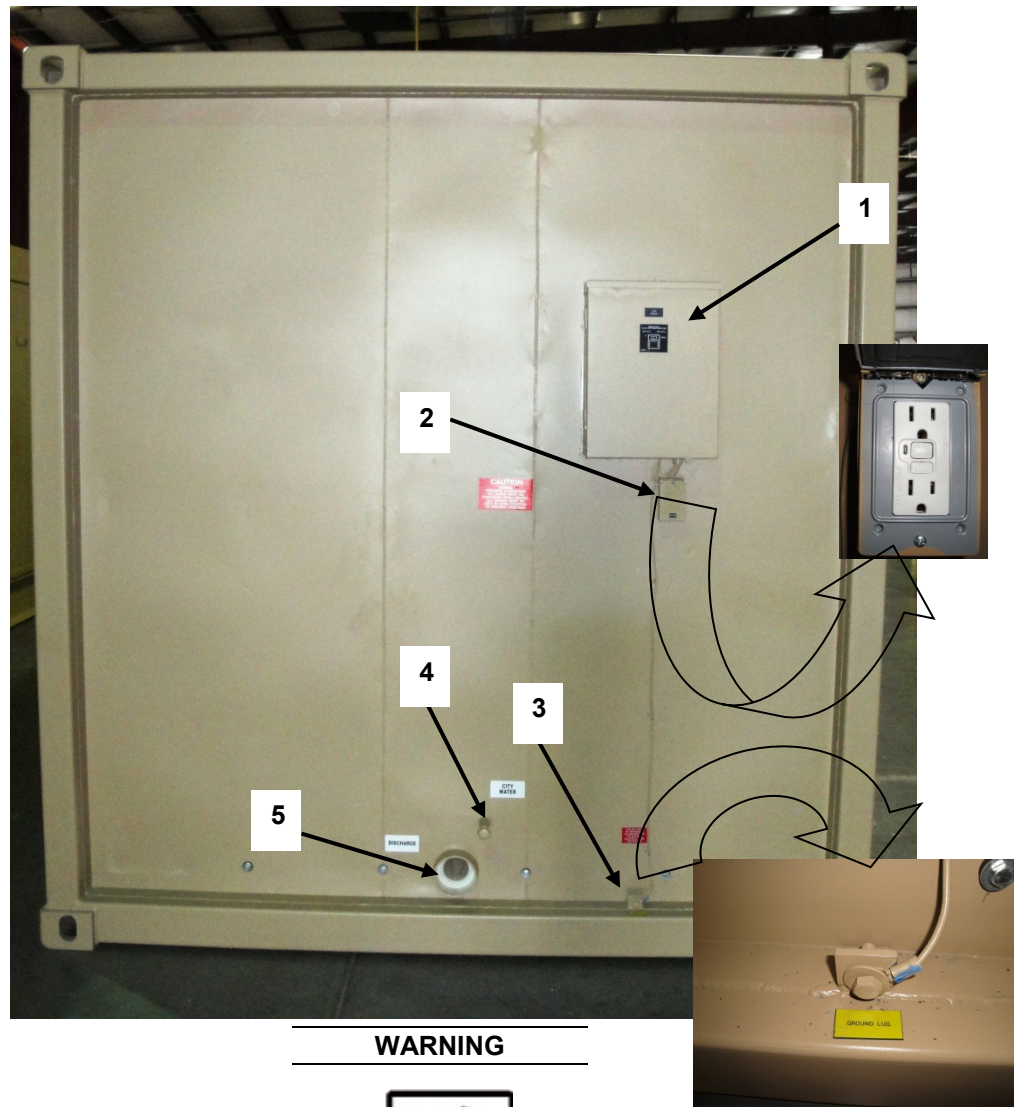
NOTE

The electrical and water connection end is recessed 3" to keep within the container profile. Ground rod and strap assembly and city water valve are stored in the utility room.



Containerized Shower Exterior Water and Electrical hook-ups

- Circuit Panel Box, 120/240 Volt 1 Phase 40 AMP, NEMA 3R (1)
- Weather Proof Exterior GFCI Receptacle (2)
- Ground rod and strap are stored in the left corner of the utility room.
- Ground Lug (3)
- 1" Cold Water Inlet (4)
- 4" PVC Black Water Drain (5)

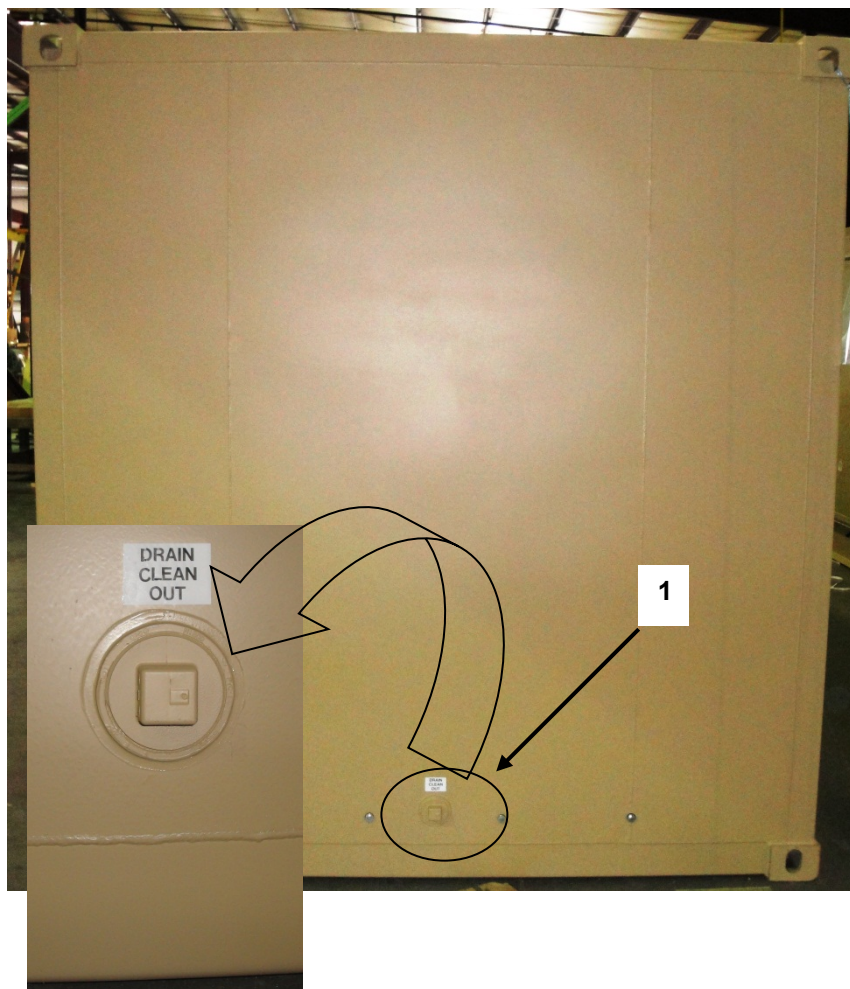


WARNING



The electrical ground must be established first to prevent electrical shock to personnel.

Grey Water Cleanout



NOTE

The Grey Water Cleanout (1) is located on the opposite end from the Load Center and water hookups.

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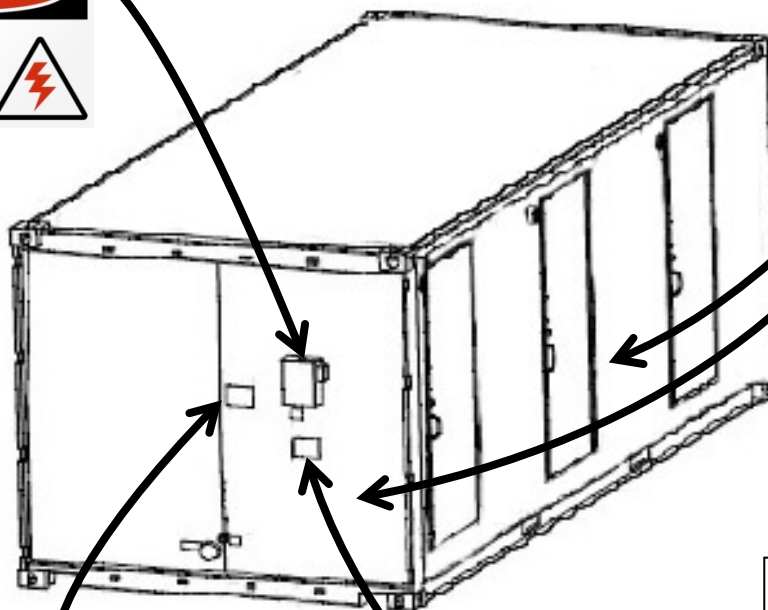
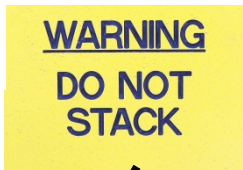
INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

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EQUIPMENT DATA LABELS, IDENTIFICATIONS, MARKINGS

Manufacturers Data Plates Location

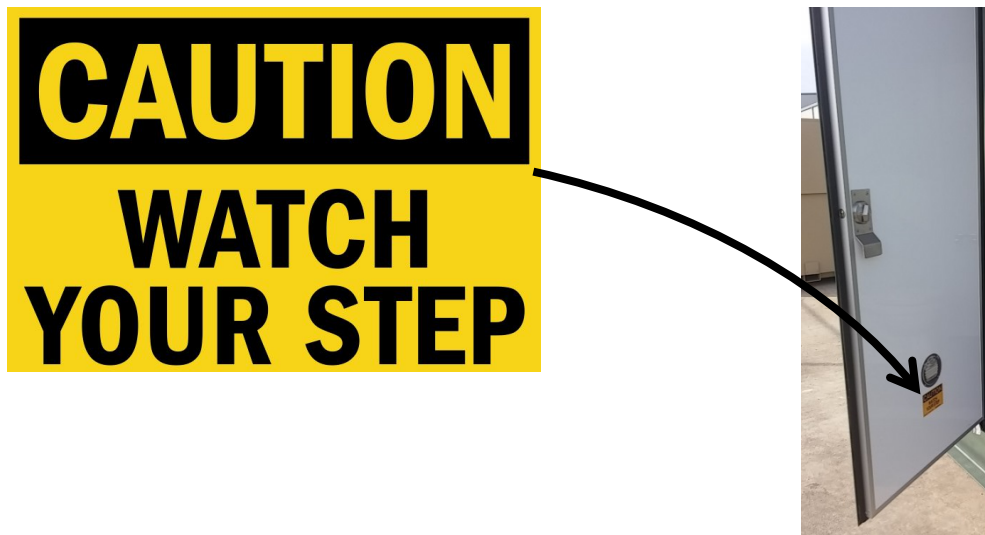
(All 4 Sides)



Example

BOH CONTAINERIZED MISSION SYSTEM	
MANUFACTURER ADVANCED CONTAINMENT SYSTEMS INC. 8720 LAMBRIGHT HOUSTON, TX. 77075 TEL. (713) 987-0336 FAX. (713) 987-0885	PATENT HOLDER / PRIME CONTRACTOR BOH FPU SYSTEMS® BOH ENVIRONMENTAL, L.L.C. 148 TERRA BELLA BLVD. COVINGTON, LA, 70433 TEL. (986) 874-0725
NSN	
MODEL NO.	
MANUFACTURER'S PIN	
PATENT NUMBER	BOHFPU SYSTEMS.COM/PATENTS
SERIAL NUMBER	
DATE MANUFACTURED	
CONTRACT NUMBER	
DO NO.	
MAXIMUM GROSS WEIGHT	
GROUND	KG LB
AIR	KG LB

Other Identifications and Markings



REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your Containerized Shower needs improvements in design and/or performance, let us know. Send a description of the recommended change to dcesap@bohfpusystems.com.

CORROSION PREVENTION AND CONTROL (CPC)

It is our understanding that Corrosion Prevention and Control (CPC) is a continuing concern for the military. While corrosion is typically associated with rusting of metals, it can also include deterioration of other material, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

All units must adhere to their specific corrosion maintenance plan. At a minimum, equipment should be inspected for corrosion on a quarterly basis (monthly if equipment is operated/stored in a high salt air environment). If corrosion is discovered, consult your unit/installation corrosion control manager to schedule repair. It is important that any corrosion problem with the FPU be reported so that the problem can be corrected and improvements can be made to prevent the problem in the future.

PREPARATION FOR STORAGE OR SHIPMENT

All preventative maintenance checks (WP 0012 00 and 0013 00) services should be performed on the Containerized Shower and its components prior to any storage or shipment.

RECEIVING THE FPU INVENTORY

Unpacking and Inventory of Containerized Shower Components upon Initial Receipt

With the Containerized Shower downloaded, check the equipment against the packing list. Report any discrepancy to your supervisor.

END OF WORK PACKAGE

BOH-PM-04-1
Chapter 1 Rev. 1.06