CleanBlast ™

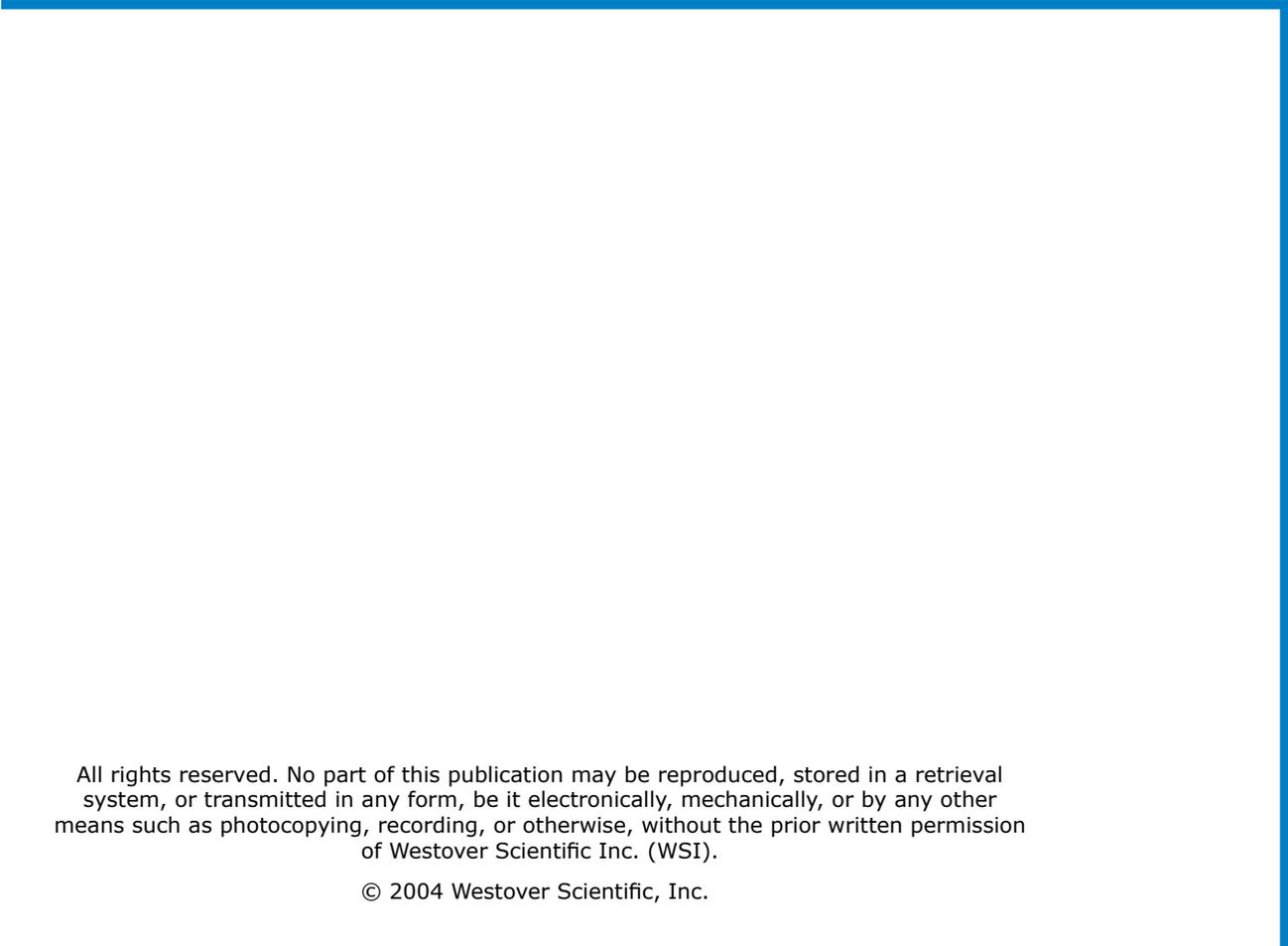## Fiber Optic Connector Cleaning System

Patent Pending

User Guide

For Bench-Top and Portable System Configurations

© 2004 Westover Scientific, Inc.

westover ™
S C I E N T I F I C

Important Information

Certification

F.C.C. Information
Electronic test equipment is exempt from Part 15 compliance (FCC) in the United States.

$C\!\!\!\in$ Information

Electronic test equipment is subject to the EMC Directive in the European Union. The EN61326 standard prescribes both emission and immunity requirements for laboratory, measurement, and control equipment.

Independent Laboratory Testing
This unit has undergone extensive testing according to the European Union Directive and Standards. All pre-qualification tests were performed internally, at WSI, while all final tests were performed externally, at an independent, accredited laboratory. This guarantees the unerring objectivity and authoritative compliance of all test results.

This equipment has been tested and found to comply with the EN 61000-6-3:2001 specifications for electronic and electronic apparatus intended for use in residential, commercial, and light industrial environment. In addition, this equipment has been tested and found to comply with the EN 61000-6-1:2001 specifications for immunity of residential, commercial and light industrial equipment. The requirements of these rules and the measurement methods used for assessing equipment compliance to these rules are available upon request from Westover Scientific.

Information provided by WSI is believed to be accurate and reliable. However, no responsibility is assumed by WSI for its use.

WSI's Commerce And Government Entities (CAGE) code under the North Atlantic Treaty Organization (NATO) is 0L8C3.

The information contained in this publication is subject to change without notice.
Words that WSI considers trademarks have been identified as such. However, neither the presence nor absence of such identification affects the legal status of any trademark.
Units of measurement in this document conform to SI standards and practices.

Safety Conventions

You should understand the following conventions before using the product described in this manual:

WARNING
Refers to a potential *personal* hazard. It requires a procedure which, if not correctly followed, may result in bodily harm or injury. Do not proceed unless you understand and meet the required conditions.

CAUTION
Refers to a potential *product* hazard. It requires a procedure which, if not correctly followed, may result in component damage. Do not proceed unless you understand and meet the required conditions.

IMPORTANT
Refers to any information regarding the operation of the product which you should not overlook.

Safety Information

Cleaning Solvent

IMPORTANT
User is responsible for determining whether this product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate this product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

HFE-Based Cleaning Fluid

Intended Use: FOR INDUSTRIAL USE ONLY. NOT INTENDED FOR USE AS A MEDICAL DEVICE OR DRUG.

Specific Use: Cleaning Solvent for use in the CleanBlast™ System

CAUTION
DO NOT SUBSTITUTE ANY OTHER CLEANING SOLUTION.

Product Information Source: Material Safety Data Sheet or
Westover Scientific, Inc.
Mill Creek, WA 98012
1-800-304-3202 or (425) 398-1298
(7 a.m. to 5 p.m. PST)

Safety Information

Cleaning Solvent

INGREDIENTS	C.A.S. No.	% by Wt
1,2-TRANS-DICHLOROETHYLENE	156-60-5	66 - 70
ETHYL NONAFLUOROISOBUTYL ETHER	163702-06-5	4 - 16
ETHYL NONAFLUOROBUTYL ETHER	163702-05-4	4 - 16
METHYL NONAFLUOROISOBUTYL ETHER	163702-08-7	2 - 8
METHYL NONAFLUOROBUTYL ETHER	163702-07-6	2 - 8
ISOPROPYL ALCOHOL	67-63-0	1 - 3

WARNING

STORAGE

Store away from heat. Store out of direct sunlight. Store away from oxidizing agents. Keep container tightly closed. Keep container in well-ventilated area. Store away from strong bases. Contents may be under pressure if stored/shipped under elevated temperature. Open closure slowly to vent pressure.

Safety Information

Cleaning Solvent

FIRST AID INSTRUCTIONS:
The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical   personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

Warranty Information

General Information

Westover Scientific, Inc. (WSI) warrants this equipment against defects in material and workmanship for a period of one year from the date of original shipment. WSI also warrants that this equipment will meet applicable specifications under normal use.
During the warranty period, WSI will, at its sole discretion, repair, replace, or issue credit for any defective product free of charge should the equipment need to be repaired.

IMPORTANT

The warranty will become null and void if

- **the equipment has been tampered with, repaired, or worked upon by unauthorized individuals or non-WSI personnel.**

- **the warranty label has been removed.**

- **product enclosure screws, other than those specified in this manual, have been removed.**

- **the product enclosure has been opened, other than as explained in this manual.**

- **the equipment serial number has been altered, erased, or removed.**

- **the equipment has been misused, neglected, or damaged by accident.**

Warranty Information

General Information

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL WESTOVER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL

DAMAGES.

Liability
WSI shall not be liable for damages resulting from the use of the purchased product, nor shall be responsible for any failure in the performance of other items to which the purchased product is connected or the operation of any system of which the purchased product may be a part. WSI shall not be liable for damages resulting from improper usage or unauthorized modification of the product, its accompanying accessories and software.

Table of Contents

Table of Contents

Introduction

Contact Information

Thank you for purchasing our products. Before assembly and use, make certain that all of the parts you have ordered are present. Check the packaging carefully as some parts are small and can be overlooked. Also, locate any additional parts and accessories you may have purchased.

If you are missing any parts, or you are unable to complete the installation of your products, contact Customer Support at the numbers listed below.

Westover Scientific
18421 Bothell-Everett Hwy.
Suite 110
Mill Creek, WA 98012

Phone: 800-304-3202 or 425-398-1298
Fax: 425-398-0717
Web: www.westoverscientific.com

Bench-Top System Overview

Identifying the system components

Solvent Refill Cap
ROTATE to access the solvent refill system

Cleaning Umbilical
Hose system which contains the air, solvent and vacuum lines.

Inspection Probe Input
4 or 6 pin connector used to connect a Westover Scientific Video Inspection Probe

System Status Indicators (3)
LED's which indicate the system's operating status

Filter Access Panel
Removable panel to access the two fine air filters when replacement is necessary

Filter Access Panel Release Knobs (2)
Used to tilt the air filter system for easier access

Filter Access Panel Release Knobs

Solvent Refill Cap

(rear panel)

Filter Access Panel

System Status Indicators

Inspection Probe Input

Cleaning Umbilical

CleanBlast™
Fiber Optic Connector Cleaning System

SOLVENT REFILL

westover scientific

POWER / READY
LOW SOLVENT
SERVICE

PROBE IN
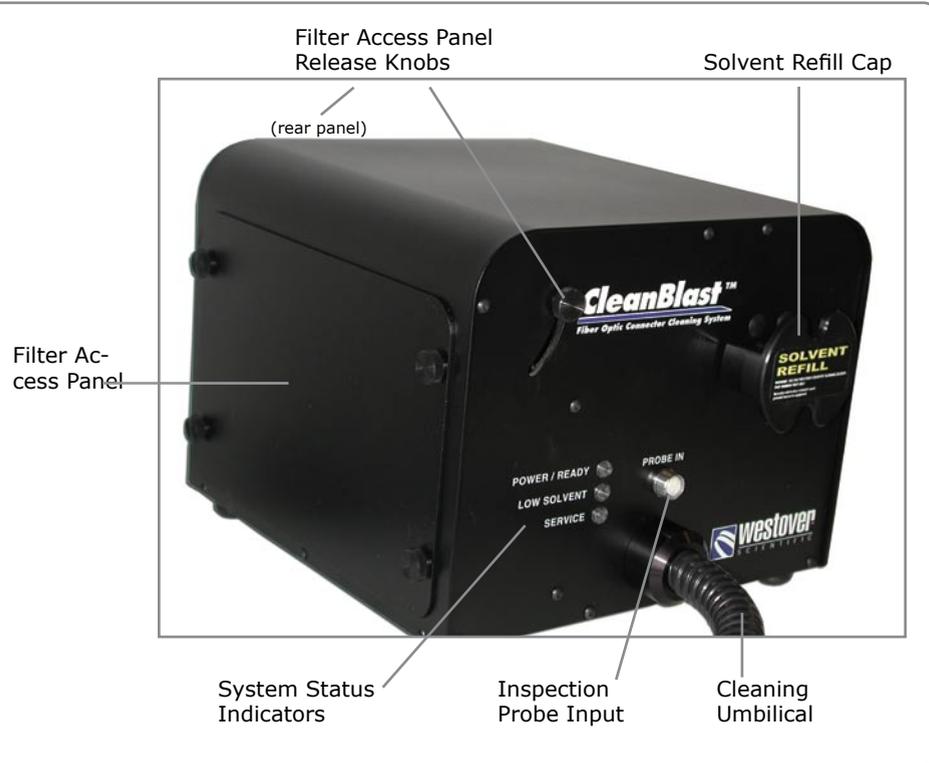
Bench-Top System Overview

System Status Indicators

Power/Ready - This LED will alert the user when there is AC power connected to the system (RED LED), and it will indicate when the nozzle safety switch is released allowing the cleaning cycle to be activated (GREEN LED). The cleaning cycle WILL NOT activate when this LED is RED. This switch is similar to a safety release found on some power tools, i.e. saws, nail guns, etc. To release the safety switch, apply slight pressure against the bulkhead mating sleeve and gently slide the handset forward. Notice the POWER/READY LED turn green. Press the RUN button on the handset.

1. Apply slight pressure and slide handset forward to disable the safety switch.

2. Press RUN button. It is not necessary to hold the button down.

Low Solvent - When lit, indicates the solvent level is too low to operate and the system is in standby mode. The solvent resevoir must be refilled before operation can be continued. The solvent resevoir contains 225 ml. of solvent.

Service - When lit, indicates the system's air filters need to be replaced. The reset button is pushed to reset the system's cycle counter to zero. System will count 100,000 cleaning cycles before the filter change is necessary as indicated by this lit LED.

Bench-Top System Overview

Controls & Functions

Exhaust Port
Used to attach the optional, external exhaust filter.

Filter Access Panel Release Knobs
Used to tilt the air filter system outboard for easier access.

Prime Button
Used for troubleshooting the system. **Not for routine use.**

Video Output
The BNC connection to output video signal from the Inspection Probe.

Power Cord Socket
For detachable power cord.

Power Switch
System On/Off control.

Fuse
Type 500mA, 250V, 20mm

Air Input
1/4" Male Industrial Quick Connect for external air supply.

Exhaust Port

Video Out (LCD) *optional*

LCD attachment knob

Filter Access Panel Release Rear Knob (Rear)

Air Input

EXHAUST

AIR INPUT

westover
FCL-B1100
C1604-6556-004
Air/Nitrogen Input: 40 to 200 psi
Power Input: 100-240 VAC, 2Amp
Made in USA*
****PATENT PENDING****

Fuse

Power Switch

Power Cord Socket

PRIME

VIDEO OUT

Prime Button

Video Output (BNC)

USB Output
(*optional*-Digital models only)
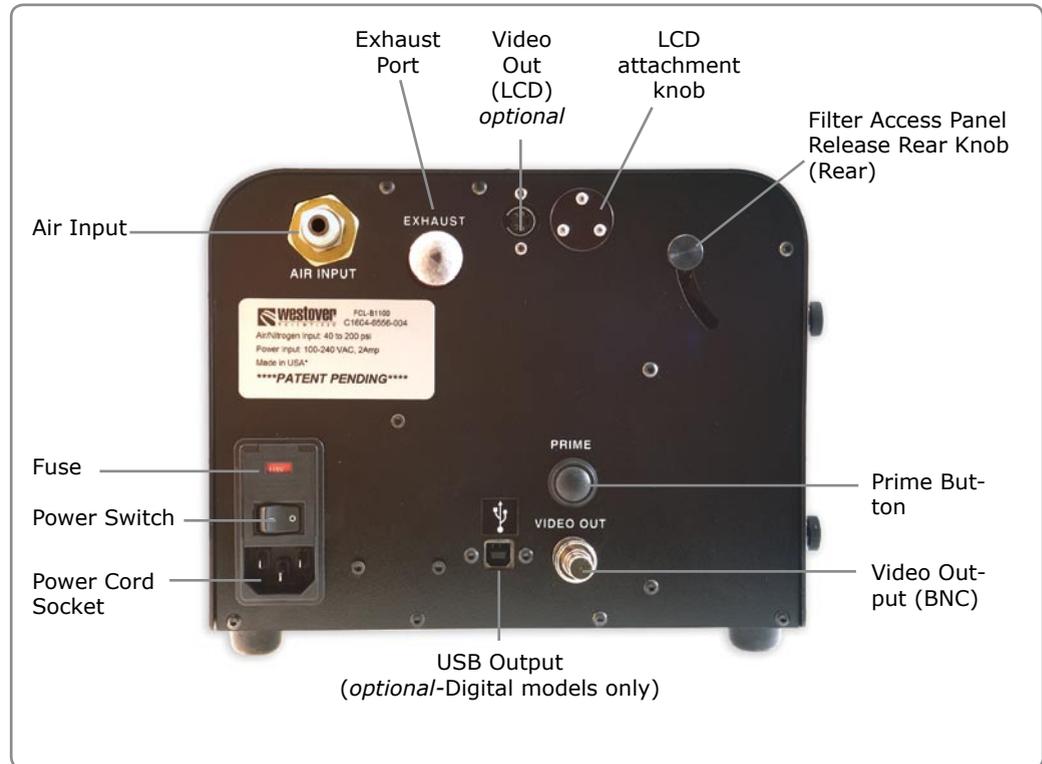
Bench-Top System Overview

Filter System

If the "Service" LED indicator is lit, the two air filters should be replaced. This condition occurs after 100,000 cleaning cycles.

See "Maintenance" for filter change procedure.

To access filter assembly:

1. Power the unit off.

2. Remove the air supply hose.

3. Remove the side panel

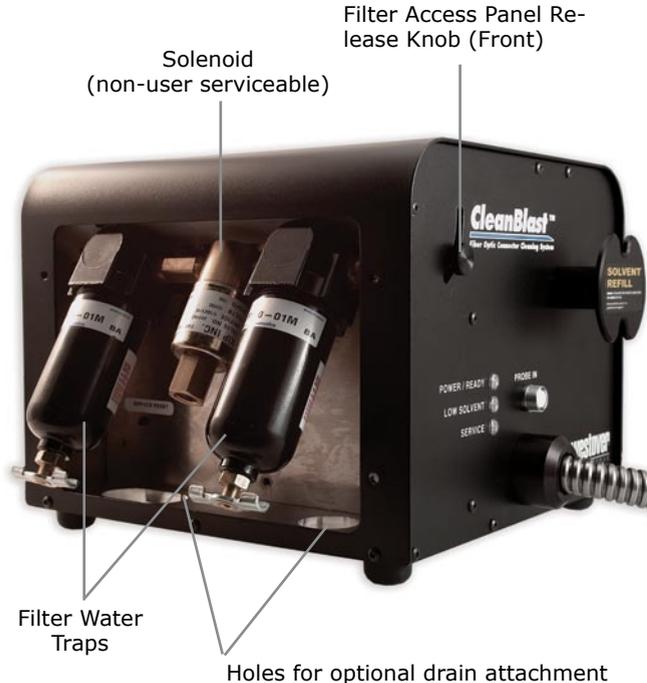4. Loosen the two release knobs and slide the knobs down to tilt the assembly outward from the chassis.

5. Unscrew the water trap bowls and replace each filter inside the bowls.

NOTE: Periodically open the side panel and check for condensation inside the water traps. Open the traps by loosening the drain knobs on the bottom of the traps.

Solenoid
(non-user serviceable)

Filter Access Panel Release Knob (Front)

Filter Water Traps

Holes for optional drain attachment

Filter Access Panel Release Knobs
Used to tilt the air filter system for easier access

Fine Filters
Used to filter air supply

Holes for optional drain attachments
Access holes to attach external drains to filter water trap

Bench-Top System Assembly

Attaching necessary elements

Step 1
Attach the power cord.

Step 2
Attach an external air supply.

The system requires a minimum of 60 psi and a maximum of 250 psi of clean air.

Male 1/4" Industrial Quick Connect

System requires a Female 1/4" Industrial Quick Connect

Step 3
Attach a cleaning tip to handset.
A variety of tips are available.
The cleaning tips thread onto the handset.

To deactivate the safety switch, hold the handset securely in one hand and push the tip into the handset. Notice the spring release tension. This is the safety feature which prevents the system from accidentally discharging. The tip must be retracted into the handset and the Run button depressed before initiating a cleaning cycle. If the system has been idle for over 4 hours, the handset may need to be primed to assure proper solvent delivery. It is best to run 3-5 cleaning cycles to prime the handset, or press the "Prime" button twice in succession, and then press the RUN button. **Always point the nozzle away from people and objects.**

Cleaning tip
(Universal 2.5 mm Bulkhead)

Run Button

Bench-Top System Assembly

Attaching the Optional Exhaust Filter

(Assembled)

Exhaust Filter Assembly

(Disassembled)

Exhaust Filter
Cap

Activated
Carbon Filter
Cartridge

Exhaust Filter
Housing
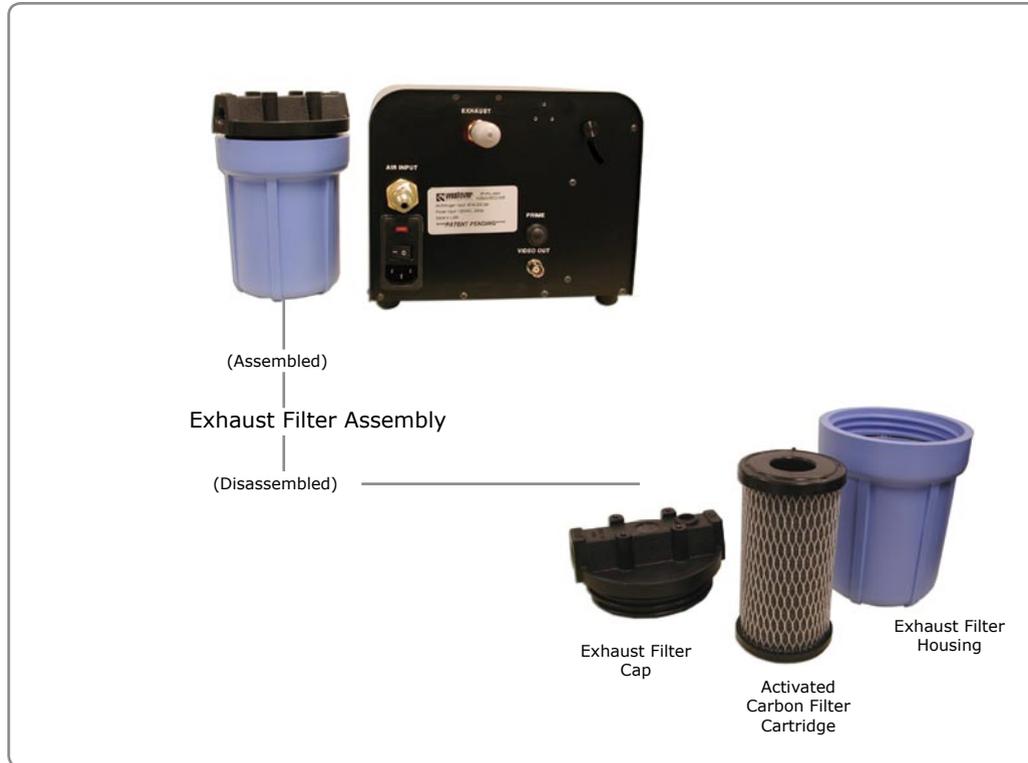
Bench-Top System Assembly

Attaching the Optional Exhaust Filter

Step 1
Remove the exhaust fitting from the rear panel of the system.

Step 2
Install the Filter Cap. Assure that the **"IN"** port of the cap is threaded onto the exhaust port.

Bench-Top System Assembly

Attaching the Optional Exhaust Filter

Step 3
Thread the cap onto the exhaust port and hand tighten. **DO NOT OVERTIGHTEN.** Assure that the cap is facing upward. Place the carbon filter cartridge on the cap.

Step 4
Thread the housing onto the cap and hand tighten.
DO NOT OVERTIGHTEN.

Bench-Top System Quick Start

Start-up Instructions

Step 1 **Complete** the assembly instructions.

Step 2 **Turn** the power switch to the ON position.

Step 3 Prime the system.
If you are using the system for the first time, or it has been turned OFF for greater than 4 hrs., you may need to prime the handset.

WARNING: **Always point the handset away from you when operating.**

Using a Universal 2.5mm Tip, hold the handset securely in one hand and push the tip into the handset. Notice the POWER/READY LED turns green. Press the RUN button on the handset. Repeat 2-3 times. Note: If you are using a tip with a smaller diameter nozzle, i.e. LC, it may be necessary to prime up to 5 times.

Step 4 *For bulkhead applications:* **Plug** the cleaning tip into the bulkhead mating sleeve as if you would, using a Westover Scientific Video Inspection Probe. Apply slight pressure against the mating sleeve and gently slide and hold the handset forward. Notice the POWER/READY LED turns green. Press the RUN

Bench-Top System Operation

Using a Video Inspection Probe

A **Westover Scientific Video Inspection Probe** can be used with the CleanBlast system. The video signal from the probe is routed through the unit to the Video Out connector on the rear panel of the system. A NTSC video monitor can be connected to the system via a BNC connector, and used to view connectors which are being inspected.

Step 1
Attach a Video Inspection Probe to the "Probe In" connector on the front panel of the system.

Step 2
Attach a BNC cable from the video monitor to the CleanBlast "Video Out" connector on the rear panel of the system.

Step 3
Assure that the CleanBlast system is ON and the video monitor is ON and set to the correct channel input if necessary.

Westover Scientific manufactures two types of Inspection Probes which are compatible with the CleanBlast system: the *Analog* and *Quick Capture* Inspection Probes.

The *Analog Probe* has a four-pin connector which requires a 4-6 pin conversion cable in order to mate with the 6-pin connector on the Digital version of the Bench-Top CleanBlast System. To order this cable, use Westover part number: *FBPP-DPAC2*

The *Quick Capture Probe* is equipped with a 6-pin connector, which will plug directly into the 6-pin probe input on the Digital version of the CleanBlast Systems.

Video Inspection Probes

FBP-P1
Analog, 4-pin Video Inspection Probe, 200x

FBP-P5
Analog, 4-pin Video Inspection Probe, Dual Magnification 200x & 400x

FBP-P105
Quick Capture, 6-pin Video Inspection Probe, 200x

FBP-P505
Quick Capture, 6-pin Video Inspection Probe, Dual Magnification 200x & 400x

FBPP-DPAC2
Digital conversion cable - interfaces 6-pin connector on Digital CleanBlast systems to 4-pin Analog Probe.

Bench-Top System Maintenance

Scheduled and Preventative Maintenance

Replacement Part Numbers

Cleaning Solvent
FCLP-SOL1*

FCLP-FA-F1**
Filter, Air, 0.01 micron
(2 per system)

FCLP-FE-02***
Filter, 5" Activated
Carbon (Exhaust)

*REQUIRES reusable
bottle cap refill as-
sembly:
FCLP-RCA-1

Scheduled

• Every 100,000 cleaning cycles - Replace the 2 (fine) air filters**

As Necessary

• **Replace the solvent***
   Cleaning cycles - You should expect the following number of cleaning cycles per
      FULL solvent resevoir, depending upon the type of cleaning tip used:

   2.5mm tip: 9,500 cycles
   1.25mm tip: 12,500 cycles
   Ribbon fiber: 9,500 cycles

• Replace the external exhaust filter *** - recommended at least once per year

Bench-Top System Maintenance

Refilling the Solvent Reservoir

Refill Cap

Solvent Refill Cap Assembly

Solvent Bottle 225 ml.

When the system solvent level reaches a level too low to operate, the Low Solvent LED will illuminate, and the system will go into standby mode.

The solvent resevoir must be refilled before operation can be continued.

The solvent resevoir contains 225 ml. of solvent.

Step 1
Disconnect the power and air source from the CleanBlast System.

Step 2
Rotate the Refill Cap on the front panel of the system to the left to expose the 2 refill ports with quick connect fittings.

Step 3
Attach the Solvent Refill Cap Assembly to the Solvent Bottle.

Bench-Top System Maintenance

Refilling the Solvent Reservoir

Step 4
Attach the two quick connect valves to the two refill ports of the system. Either port will work with the two quick connects -one line for fill and the other for venting.

Step 5
Invert and hold the bottle above the level of the refill ports. The <u>entire contents</u> of the bottle should be drained into the solvent resevoir.

Step 6
Disconnect the two quick connects and **rotate** the Solvent Refill Cap back into position. **Attach** the power and air supply to the system and switch the power on.

Step 7
Prime the system
Press the Prime button twice in succession on the rear panel of the system. Hold the handset and nozzle away from any person or object and press the Run Button on the handset. The system will perform a 3 second prime.

Bench-Top System Maintenance

Replacing the disposable air filters

If the "Service" LED indicator is lit, the two air filters should be replaced. This condition occurs after 100,000 cleaning cycles.

To replace the filters:

1. Power the system off and unplug the unit from the AC power source.

2. Remove the air supply hose.

3. Remove the side panel.

4. Loosen the two release knobs and slide the knobs down to tilt the assembly outward from the chassis.

5. Unscrew and remove the water trap bowls.

6. Unscrew and remove both fine filters and replace with part number FCLP-FA-F1.

7. Replace the water trap bowls.

9. Press the Service Reset Button. This will start the auto-counter to zero.

10. Close the filter panel, connect the power cord, air supply, and turn the unit on.

Drain Plugs

Service Reset Button   Fine Filter (0.01 um)
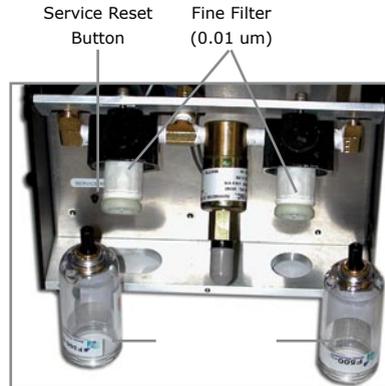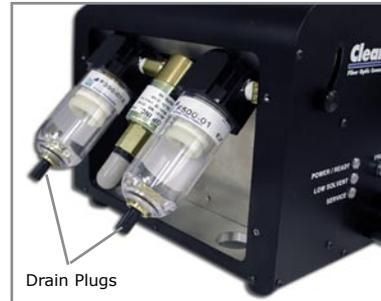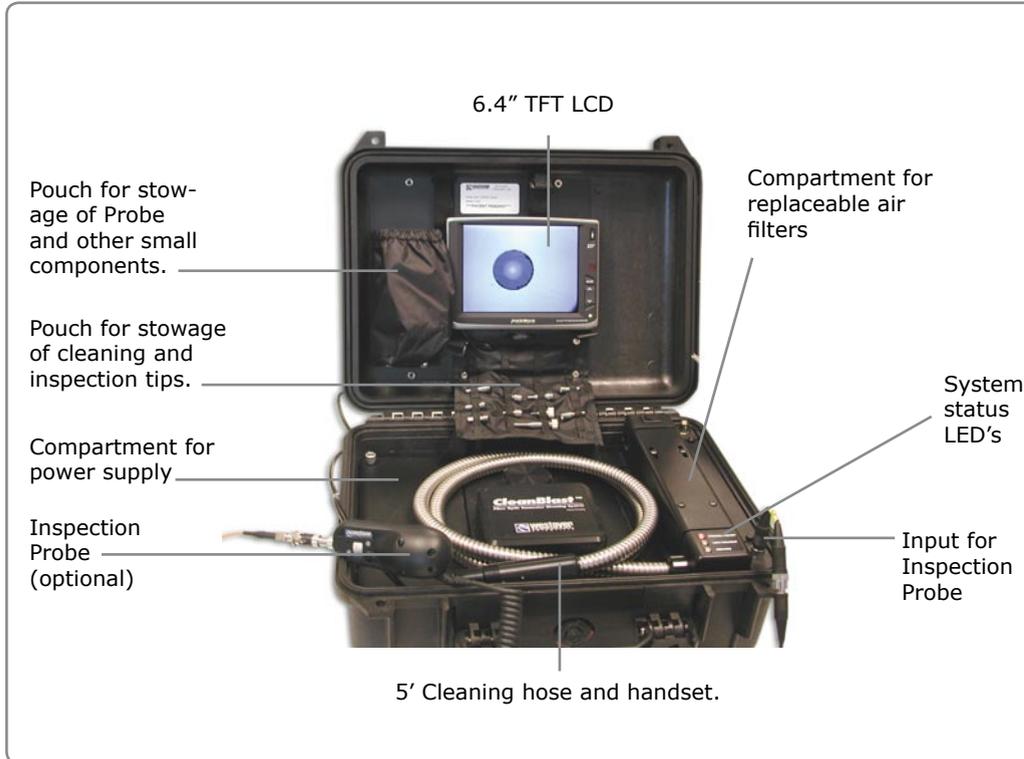
Bench-Top System Specifications

IMPORTANT

The following technical specifications can change without notice. The information presented in this section is provided as a reference only. To obtain this product's most recent technical specifications, visit the WSI website at: http://www.westoverscientific.com or contact WSI directly.

Power Requirements:	100VAC - 240 VAC, (50-60 Hz) 2 Amp
Dimensions :	8.25"L x 8.5"W x 6.75"H
Weight:	12 lbs.
Air Source:	External, compressed air or Nitrogen, regulated between 60-250psi
Solvent Consumption:	At least 9,500 cleaning cycles per full tank (depends upon type of tip used)
Maintenance:	100,000 cycles per filter change, 2 fine filters required
Video Output:	NTSC (BNC to video monitor), DIN connector to optional LCD
Digital Output (optional):	USB 1.1 (includes USB cable and software)
Cleaning Cycle Time:	0.8 seconds
Certification:	CE approved

Portable System Overview

Identifying the system components

6.4" TFT LCD

Pouch for stowage of Probe and other small components.

Pouch for stowage of cleaning and inspection tips.

Compartment for power supply

Inspection Probe (optional)

Compartment for replaceable air filters

System status LED's

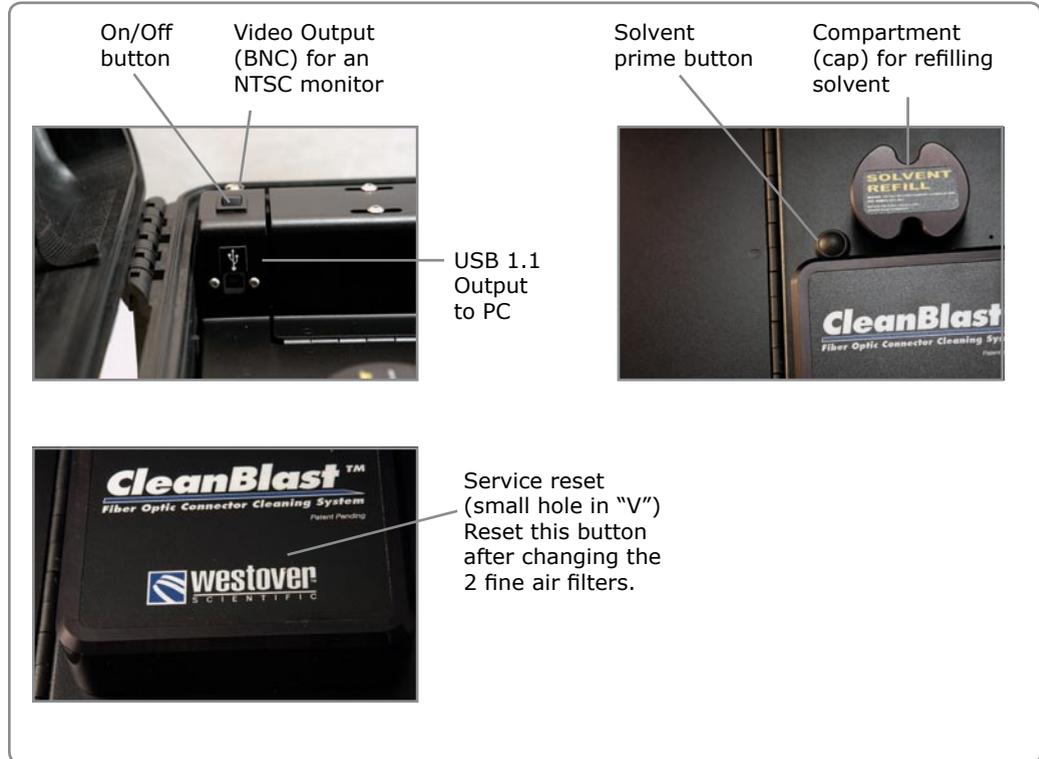Input for Inspection Probe

5' Cleaning hose and handset.

The portable Clean-Blast system is a self-contained unit built into a durable Pelican® brand transport case.

This system utilizes a built-in compressor as its air and vacuum source.

Portable System Overview

Identifying the system components

On/Off button

Video Output (BNC) for an NTSC monitor

Solvent prime button

Compartment (cap) for refilling solvent

USB 1.1 Output to PC

Service reset (small hole in "V") Reset this button after changing the 2 fine air filters.

System Status Indicators

Power/Ready - This dual LED indicator will alert the user when there is AC power connected to the system (RED LED). This LED will also indicate when the nozzle safety switch is released, allowing the cleaning cycle to be activated (GREEN LED). The RUN button on the handset WILL NOT operate when this LED is RED. To disable the safety switch, apply slight pressure against the bulkhead mating sleeve and gently slide the handset forward. Notice the POWER/READY LED turn green. Press the RUN button on the handset.

System Status LED's

POWER / READY
LOW SOLVENT
SERVICE

Inspection Probe Input

Low Solvent -
When lit, indicates the solvent level is too low to operate and the system is in standby mode. The solvent resevoir must be refilled before operation can be continued. The solvent resevoir contains 225 ml. of solvent.

Service -
When lit, indicates the system filters need to be replaced. The reset button is pushed to reset the system cycle counter to zero. System will count 100,000 cleaning cycles before filter change is necessary and indicated.

Portable System Assembly

Attaching the necessary elements

Step 1
Plug the system into the AC power source. The detachable power cord is located inside the left side compartment of the system. Assure that the cord is plugged into the power converter inside the compartment, and the converter is plugged into the system.

Step 2
Turn the system ON. Note that the RED Power/Ready LED is lit.

Step 3
Attach a cleaning tip to the handset. A variety of tips are available. The cleaning tips thread onto the handset.

SAFETY SWITCH

To deactivate the switch, hold the handset securely in one hand and push the tip into the handset. Notice the spring release tension. This is the safety feature which prevents the system from accidentally discharging. The tip must be retracted into the handset and the Run button depressed before initiating a cleaning cycle. If the system has been idle for over 4 hours, the handset may need to be primed to assure proper solvent delivery. It is best to run 3-5 cleaning cycles to prime the handset, or press the "Prime" button twice in succession, and then press the RUN button.

Always hold the nozzle away from people or objects.

Cleaning tip
(Universal 2.5 mm Bulkhead)

Run Button

Portable System Quick Start

Start-up Instructions

Step 1
Complete the assembly instructions.

Step 2
Power ON the unit.

Step 3
Prime the nozzle. If you are using the system for the first time, or it has been OFF for greater than 4 hrs, you may need to prime the handset.

WARNING: Always point the handset away from you when operating.
PRACTICE - Using a Universal 2.5mm Tip, hold the handset securely in one hand and push the tip into the handset. Notice the POWER/READY LED turns green. Press the RUN button on the handset 2-3 times. Note: If you are using a tip with a smaller diameter nozzle, i.e. LC, it may be necessary to prime up to 5 times.

Step 4   *For bulkhead applications:*
Plug the cleaning tip into the bulkhead mating sleeve as you would an using a Westover Scientific Video Inspection Probe. Apply slight pressure against the mating sleeve and gently slide and hold the handset forward. Notice the POWER/READY LED turns green. Press the RUN button on the handset.

Portable System Operation

Attaching a Video Inspection Probe

A Westover Scientific Video Inspection Probe can be used with the CleanBlast system.

The video signal from the probe is routed through the system to the BNC Video Out connector on the top panel of the system, and also the mini DIN connector for use with the optional 6.4" LCD.

Attach the Probe to the CleanBlast system

Step 1
Attach a Video Inspection Probe to the Probe Input.

Step 2
A. Attach a BNC cable from the CleanBlast "Video Out to a video monitor.
B. Attach the mini DIN connector from the LCD to the plug on the CleanBlast unit (if applicable).
C. Attach a **USB1.1 (A-B)** cable to the USB port of the CleanBlast unit, and to a PC.

Step 3
Assure that the CleanBlast system is ON and the video monitor is ON and set to the correct input channel if necessary.

Inspection Probe Input
(6 pin connector)

IMPORTANT

For USB/PC Applications:

The digitally configured CleanBlast Systems include multiple video outputs. *You cannot utilize all three outputs simultaneously without signal degradation.* To achieve a quality image when utilizing the USB video output feature, one of the following conditions must apply:

1) The LCD display must also be connected to the 4-pin LCD jack;
                    OR
2) An external monitor must also be connected to the BNC connector;

                    OR
3) Attach the supplied video termination plug onto the BNC connector if neither of the two above apply.

Portable System Operation

Using a Video Inspection Probe

Westover Scientific manufactures two types of **Video Inspection Probes** which are compatible with the **CleanBlast** system: the **Analog** and **Quick Capture** Inspection Probes.

The **Analog Probe** has a four-pin connector <u>which requires a 4-6 pin conversion cable in order to mate with the 6-pin connector on the portable CleanBlast unit.</u>

Order Westover part number:
FBPP-DPAC2

Quick Capture Probe (6-pin) with conversion cable attached to the 4 pin Inspection Probe Input connector.

The **Quick Capture Probe** is equipped with a 6-pin connector, which will plug directly into the 6-pin probe input on the CleanBlast unit. Quick capture probes have a built-in video capture switch. When used in conjunction to a digital configured CleanBlast unit, this switch is used to capture the image that is displayed on the PC monitor.

<u>Video Inspection Probes</u>

FBP-P1
Analog, 4-pin Video Inspection Probe, 200x

FBP-P5
Analog, 4-pin Video Inspection Probe, Dual Magnification 200x & 400x

FBP-P105
Quick Capture, 6-pin Video Inspection Probe, 200x

FBP-P505
Quick Capture, 6-pin Video Inspection Probe, Dual Magnification 200x & 400x

FBPP-DPAC2
Digital conversion cable-interfaces 6-pin connector on Digital CleanBlast systems to 4-pin Analog Probe.

Portable System Operation

Operating the 6.4" LCD

Power button - Press the button once to turn on the LCD. Press and hold for 1-2 seconds to power off the LCD.

Mode button - Used for switching and selecting Brightness, Contrast, Color, Tint, and Reset modes.

Up/Down button - First, select the **Mode** to adjust. Then, by pressing either of these two buttons, you can adjust the on screen image quality, e.g. brighter or darker screen, high or low contrast, etc.

Power/Signal Cable - The terminal for power and video signal between the LCD and the video inspection probe. This S-video jack is connected to the corresponding plug on the CleanBlast system panel.

NOTE: If the optional 6.4" LCD is purchased with the CleanBlast system, the LCD will be pre-installed and will require no installation. If you would like to purchase the optional LCD, please refer to the Parts and Accessory section in this manual to order this part. Installation instructions for the LCD will accompany the LCD when ordered separately from the CleanBlast system.

Specifications:

Panel Display Method	Active Matrix TFT - LCD
Display Size	6.4" Diagonal
Color System	NTSC/PAL Auto Switchable
Resolution	960(H) x 234(V)
Operation Temperature	-10°C (14°F) ~ +60°C (140°F)
Storage Temperature	-20°C (-4°F) ~ +70°C (158°F)

Portable System Maintenance

Refilling the Solvent Reservoir

Refill Cap

Step 1
Disconnect the power cord from the AC power source.

Step 2
Rotate the Refill Cap to the left to expose the refill ports with quick connect fittings.

Step 3
Attach the Solvent Refill Cap Assembly to the Solvent Bottle.

Solvent Refill
Cap Assembly
FCLP-RCA-1

Solvent Bottle
225 ml.

Portable System Maintenance

Refilling the Solvent Reservoir

Step 4
Attach the two quick connect valves to the two refill ports of the system. Either port will work with the two quick connects - one line for fill and the other for venting.

Step 5
Invert and hold the bottle above the level of the refill ports. The entire contents of the bottle will drain into the system solvent resevoir.

Step 6
Disconnect the two quick connects and **Rotate** the Solvent Refill Cap to the closed position. **Attach** the power cord to the system and switch the power on.

Step 7
Prime the system by pressing the Prime button twice in succession, then press the Run Button on the handset. The system will perform a 3-second prime.

Always hold the handset and nozzle away from any person or object.

Portable System Maintenance

Replacing the disposable air filters

If the "Service" LED indicator is lit, the two micro air filters should be replaced. This condition occurs after 100,000 cleaning cycles.

To replace the filters:

Step 1
Power the system off and unplug the unit from the AC power source.

Step 2
Loosen the two release knobs and open the panel to expose the filter assembly.

Step 3
Loosen the drain plugs on the water trap bowls.

Step 4
Unscrew and remove the water trap bowls.

Portable System Maintenance

Replacing the disposable air filters

Step 5
Unscrew and remove both fine filters and replace with part number:
FCLP-FA-F1.

Step 6
Replace the water trap bowls and close filter panel.

Step 7
Using a pin or paperclip, **Press** the Service Reset Button located in the top panel (small hole). This will reset the auto-counter to zero. Replacement of the filters is not required again, until 100,000 cleaning cycles are reached.

Step 9
Connect the power cord and turn the unit on.

Service Reset

Portable System Maintenance

Scheduled and Preventative Maintenance

Scheduled

• Every 100,000 cleaning cycles - Replace the 2 (fine) air filters**

As Necessary

• **Replace the solvent***

Cleaning cycles - You should expect the following number of cleaning cycles per FULL solvent resevoir, depending upon the type of cleaning tip used:

2.5mm tip:	9,500 cycles
1.25mm tip:	12,500 cycles
Ribbon fiber:	9,500 cycles

System Troubleshooting

Troubleshooting tips

Symptom	Potential Cause	Test/Remedy
UNIT WILL NOT TURN ON.		
	No power to unit	Make sure power cord is connected.
		Make sure power switch is in the on position.
		Check fuses
UNIT ON: WILL NOT FIRE		

System Troubleshooting

Troubleshooting tips

Symptom	Potential Cause	Test/Remedy
Unit operates but doesn't clean properly		
	No cleaning tip or wrong tip installed	Install cleaning tip.
	Tip not fully inserted into bulk-head	Ensure that the tip comes to a stop within the mating adapter
	No solvent spray	See previous remedy - "No solvent is dispensed".
	Vacuum flow restricted	Check exhaust port or filter for obstruction.

Other System Configurations

Transceiver Cleaning System

This system is designed for both cleaning and inspection of optical transceivers. The cleaning/inspection module utilizes our standard B1000 series system as the base unit.

The base units' operation, is identical to the Bench-top system described earlier in this manual.

The transceiver cleaning module is attached to the base unit via a 5' hose.

Run-Safety switch

Two buttons operate the cleaning cycle operation and safety function. Press one button to open the safety switch and then the other button to initiate the cleaning cycle - either button will perform each function.

The safety function can be disabled by using the Safety Disable switch. Move this switch from the default position to disable the safety feature.

WARNING

The cleaning solvent is under pressure inside this system. Westover Scientific highly recommends using the safety switch feature to prevent accidental discharge of solvent.

Cleaning and Inspection Module

Base Unit

Run-Safety Switch

Safety Disable Switch

Run-Safety Button
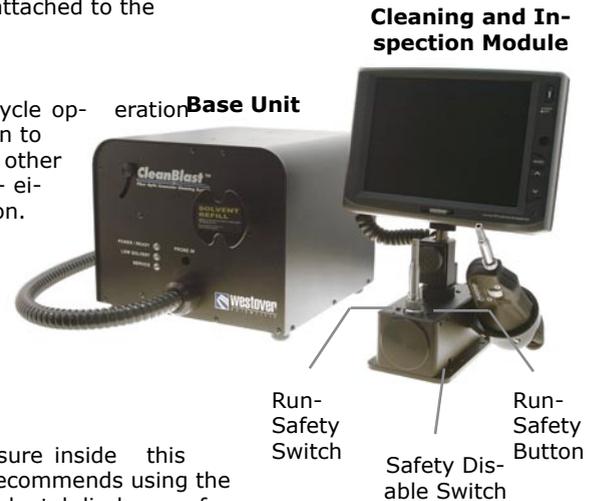
Other System Configurations

Transceiver Cleaning System

Cleaning Procedure

Step 1
Complete the Bench-top System assembly instructions.

Step 2
Turn the power switch to the ON position.

Step 3. Prime the system
If you are using the system for the first time, or it has been OFF for greater than 4 hrs, you may need to prime the tip on the cleaning module.

a) Thread a cleaning tip onto the nut of the module.

b) Press the safety button on the top-left side of the module. Notice the POWER/READY LED on the base unit turns green. Press the RUN button on the top-right side of the module 2-3 times. Note: If you are using a tip with a smaller diameter nozzle, i.e. LC, it may be necessary to prime up to 5 times.

Step 4.
Clean a transceiver
Place a transceiver onto the cleaning tip.

Step 5
Push the safety button, then the run button to clean the transceiver.

Cleaning Tip   Inspection Tip

Other System Configurations

Transceiver Cleaning System

Inspection Procedure

Step 1
Connect the probe to the Cleaning and Inspection Module.

Step 2
Connect the LCD to the Cleaning and Inspection Module.

Step 3
Connect an inspection tip to the probe.

Step 4
Place the transceiver onto the tip.

Step 5
Focus the image on the LCD screen by adjusting the focus adjustment on the probe.

Focus Adjustment

Other System Configurations

Patch Cord Cleaning System

Cleaning Procedure

Step 1
Complete the Bench-top System assembly instructions

Step 2
Turn the power switch to the ON position.

Step 3
Prime the system
If you are using the system for the first time, or it has been OFF for greater than 4 hrs., you may need to prime the tip on the cleaning module.

a) Thread a cleaning ADAPTER onto the patchcord cleaning module adapter mount.

b) The adapter mount has a safety release which is spring loaded. This prevents accidental discharge of the cleaning cycle. Push the adapter mount in and notice the POWER/READY LED on the base unit turns green, then press the RUN button on the top of the module to activate the cleaning cycle.

Step 4
Clean a patchcord. Place a the connector into cleaning adapter.

Step 5
Push the run button on the top of the unit to clean the parchcord. Inspect the connector.

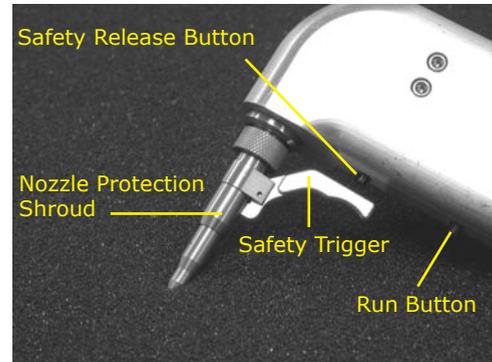This system also utilizes the Bench-top system as the base unit.

The patchcord cleaning module is attached to the base unit via the 5' hose.

To save workspace, the base unit can be located elsewhere, while the module can be placed in a convenient location for the user.

Other System Configurations

90 degree Handset and Mil Tip

The 90 deg. handset can be built for either Bench-top or Portable System configurations. This handset is particularly useful when cleaning termini inside Mil type connectors mounted in hard to reach locations. Similar to the standard bulkhead handsets, this handset has a safety switch installed to prevent accidental discharge of the cleaning cycle.
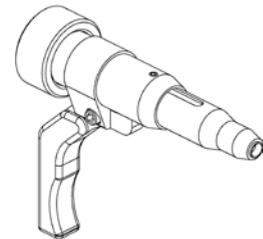

Safety Release Button

Nozzle Protection Shroud

Safety Trigger

Run Button

This combination tip can be used to clean both pins & sockets inside 38999 connectors.

CleanBlast cleaning Tip for use on 38999 (Mil29504/4/5) connectors.

Part Number: **FCLT-MIL2-R**

FCLT-MIL2-R (for cleaning 38999 termini)

To clean **pin** termini, slip the tip onto the termini, pull the trigger to contact and release the safety switch, then press the Run button on the handset.

To clean the **socket** side, place the tip over one of the sockets and seat the tip perpendicular against the connector insert. Pull the trigger and with slight pressure, push the handset against the insert until you feel a stop. (The Nozzle Protection Shroud will retract, and the cleaning nozzle inside the tip will advance inside the socket.)

Press the Run button to activate the cleaning cycle.

Cleaning Tips

Universal 2.5 mm

Universal 2.5*mm BULKHEAD TIP (FCLT-U25)

Universal 2.5mm PATCHCORD tip (FCLT-U25-MA)
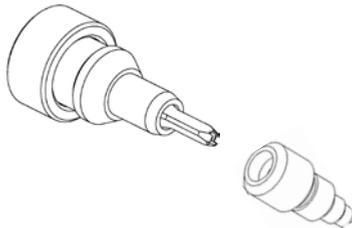
Universal 2.5mm PATCHCORD TIP MATED TO BULKHEAD TIP

> **Slide Patchcord tip onto Bulkhead Tip**
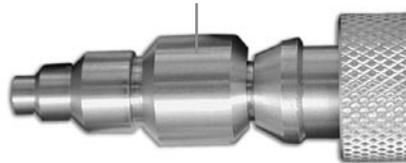
*Compatible with SC, FC, ST connectors

There are cleaning tips available for many different connectors, and applications.

Bulkhead tips are designed for connectors mounted in the backside of patch panels, but can also be used for test equipment and transceivers, i.e. SC & LC.

Mating adapters (designated by the suffix -MA, are designed for patch cords, pigtails, etc. They typically slide over their specific bulkhead tips.
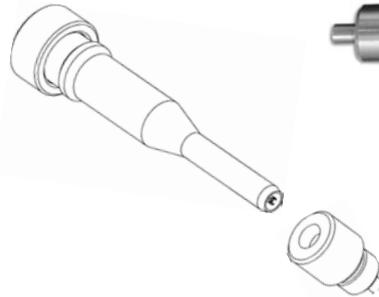
Cleaning Tips

Universal 1.25 mm

Universal 1.25*mm BULKHEAD TIP (FCLT-U12)

Universal 1.25mm PATCH CORD TIP (FCLT-U12-MA)

Universal 1.25mm PATCHCORD TIP MATED TO BULKHEAD TIP

Slide Patchcord tip onto Bulkhead Tip

*Compatible with LC and MU connectors

Part Numbers

Cleaning Tips

FCLT-E2-250	Bulkhead E2000 (2.5" long)
FCLT-HBMT2	HBMT Dual Tip
FCLT-HBMT2-DC	HBMT Dual DC Tip
FCLT-LC	Bulkhead LC, Works with LX5 connectors
FCLT-LC-A6	Bulkhead LC Angled, 60°, works with LX5 connectors
FCLT-LC-MA	Patchcord Mating adapter, LC
FCLT-MIL1	MIL29504/14/15 Cleaning tip, Pin & socket termini
FCLT-MIL1-R	MIL29504/14/15, Pin & socket termini, Ruggedized with safety trigger
FCLT-MIL2-A6	MIL29504/4/5 (38999) , Pin and Socket, Angled at 60°
FCLT-MIL2-CPA	MIL2CPA for Glenair Test Probe Adapters
FCLT-MIL2-R	MIL29504/4/5 (38999), Pin & Socket termini; Ruggedized with safety
FCLT-MPX	Bulkhead MPX
FCLT-MT	Bulkhead MT
FCLT-MT-MA	MT Ferrule
FCLT-MT45	MT-45
FCLT-MTP	Bulkhead MTP
FCLT-MTP-A6	Bulkhead MTP, Angled, 60°
FCLT-MTP-MA	Patchcord Mating adapter, MTP
FCLT-MTRJ	Bulkhead MTRJ
FCLT-SC-250	Bulkhead SC, (2.5" long)
FCLT-SC-A6	Bulkhead SC, Angled, 60°
FCLT-SCFC-A6	Bulkhead SC and FC combination, Angled, 60°
FCLT-SCX	Bulkhead SC, hardened stainless
FCLT-SMA	Bulkhead SMA
FCLT-U12	Bulkhead Universal 1.25mm, LC, MU
FCLT-U12-MA	Patchcord mating adapter, 1.25mm Universal, LC, MU
FCLT-U12X	Bulkhead Universal 1.25mm, hardened stainless, LC, MU
FCLT-U25	Bulkhead ST, SC , FC
FCLT-U25-MA	Patchcord mating adapter ST, SC, FC

Part Numbers

Bench-top Systems

FCL-B1000	CleanBlast Bench-top System; Analog; w/4pin probe output; Univ. 5mm Tip
FCL-B1100	CleanBlast Bench-top System; Digital; w/6 pin probe output, Univ. 2.5mm tip
FCL-B2000	CleanBlast Bench-top System; Analog w/ 90-degree handset; Univ. 2.5mm tip
FCL-B2000-22	CleanBlast Bench-top System; Analog w/4-pin probe output; 90° Handset, 22' Umbilical
FCL-B2100	CleanBlast Bench-top System; Digital; w/6 pin probe output; 90° Handset; Univ. 2.5mm tip
FCL-B3000	CleanBlast Bench-top System Analog; w/4 pin probe output; Dual Bulkhead; (2) FCLT-U25 tips
FCL-B4000	CleanBlast Patch-Cord System Analog; w/4 pin probe output; No adapters
FCL-B5000	CleanBlast Transceiver System Includes Analog dual mag. probe; 6.4" LCD; No tips
FCL-B5100	CleanBlast Transceiver System Includes Digital dual mag. Probe; 6.4" LCD; No tips

Part Numbers

Portable Systems

FCL-P1100   CleanBlast Portable System Digital w/ 6 pin probe output; Univ. 2.5mm tip

FCL-P1100-08   CleanBlast Portable System, 8' umbilical, Digital, w/6 pin probe output

FCL-P1100-EU   CleanBlast Portable System Digital w/6 pin probe output; Univ. 2.5mm tip; EU power cord

FCL-P2100   CleanBlast Portable System Digital w/90-deg. handset Univ. 2.5mm tip.

Part Numbers

Parts and Accessories

FCLP-CH12	Coil Hose Assembly, 12', rated 250 psi
FCLP-CH25	Coil Hose Assembly, 25', rated 250 psi
FCLP-FA-F1	Filter, Air, 0.01u, 1/8" NPTF
FCLP-FE-01	Exhaust Filter Kit for Benchtop Systems
FCLP-FE-02	Filter replacement, 5" cartridge activated carbon, for Exhaust Filter Kit
FCLP-RCA-1	Bottle Cap Refill Assembly
FCLP-SOL1	Solvent Refill Bottle for CleanBlast System, 8oz.
FCLP-SOL4	CleanBlast Solvent Refill, 8oz Mild, Ionic
FCLP-TRXA1	Ring Adapter-transceiver cleaning sys. for old version Video Inspection Probes
VM-LCD-64	LCD, Color, 6.4"