

User Manual

SCOPLLEANER™

FIBER OPTIC CLEANER COMBINED SCOPE



TheFibers®

www.thefibers.com
2007-11-01

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1. Welcome Message

First of all, we would like to express our appreciation for purchasing **Scopleaner™**. We hope that **Scopleaner™** of TheFibers Inc can assist you with optical equipment, maintenance and repair of the apparatus.

Scopleaner™ scopes and cleans (washes) ferrule fiber optic of work places and job sites and is therefore excellent equipment. You will be able to use this equipment to observe the fiber optic system, optic module and optic apparatus cleans ferrule fiber at the same time. I strongly believe that the **Scopleaner™** which is the first cleaning apparatus combined scoping apparatus worldwide will become your great helper.

Please check if all parts have been delivered with the purchased **Scopleaner™** before you start using it. Please contact our service below, if anything is missing. We will solve the problem immediately.

TheFibers Inc.
K-Center Building 1103, 1591-9 Kwanyang-Dong, Anyang City, Korea
Tel: 031-381-6108
Fax: 031-381-6109
Email: sales@thefibers.com

2. Quality Assurance

At the time of sending out Scopleaner™, the apparatus has passed several tests. In case apparatus is defect before use, please give us a call (see information on previous page).

TheFibers, Inc. provides a warranty for a time period of one year from date of original purchase for quality of the item. Within this period, we are responsible for all repair and replacement costs, the customer just pays for shipping to TheFibers.

We do not provide warranty in the following cases:

- **quality assurance cap is damaged or removed**
- **sticker with serial number is damaged or removed**
- **damages resulting from use of mistakes of the user**
- **damages resulting from use of inappropriate parts**
- **Open Separation Unit without consent of Supplier**



3. Safety Instructions

- ▶ Please read and follow safety instructions to assure safe and correct use of the apparatus and to prevent dangerous situations
- ▶ Safety instructions are stated in “warning” and “caution” and have the following meaning:

Warning: signifies a serious potential for property damage, personal injury or death

Caution: signifies a potential for trivial property damage

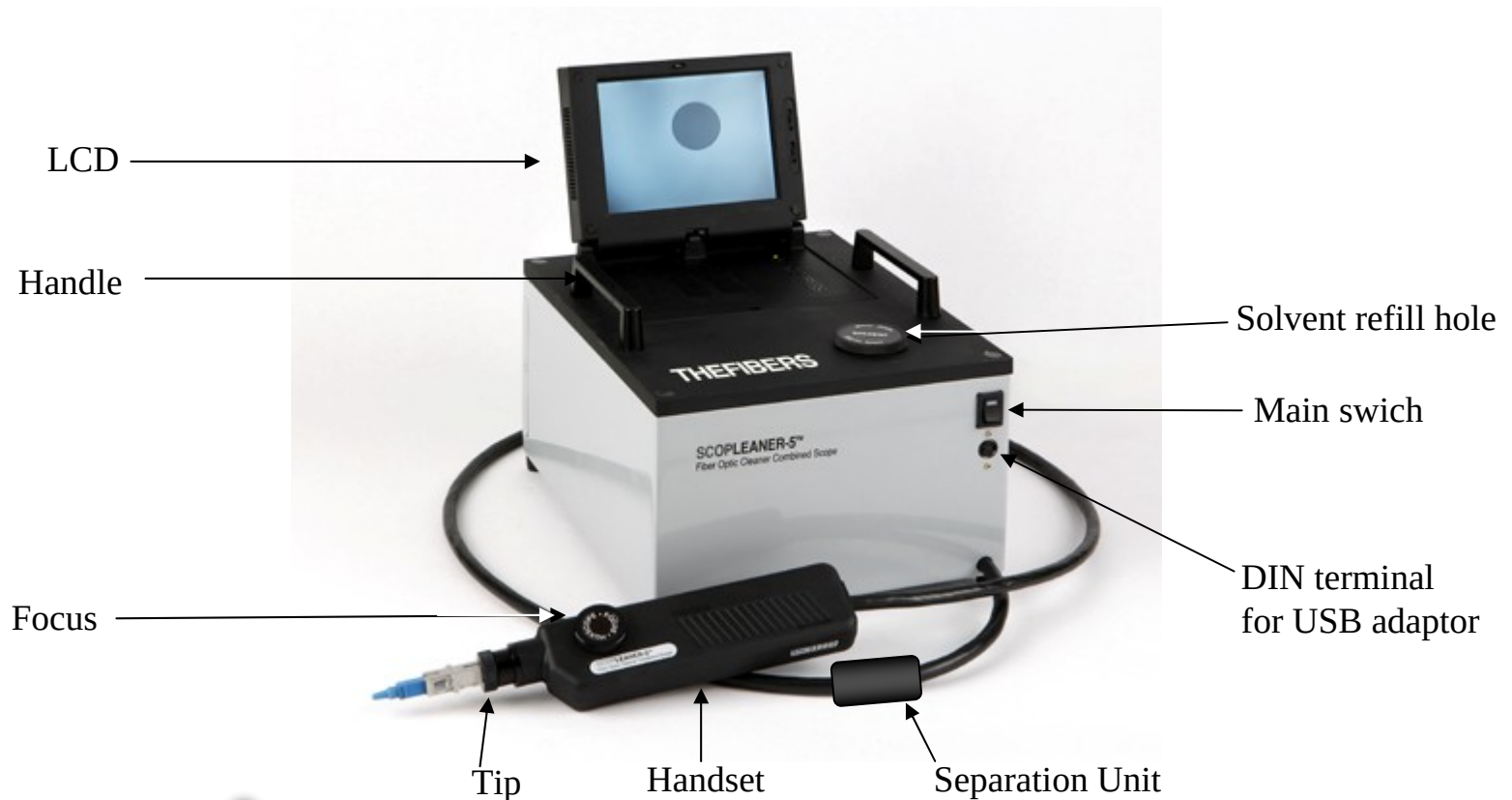
4. Warning

- ▶ Do not touch the terminal block when apparatus is powered on, due to the risk of electric shocks and other danger.
- ▶ Avoid metallic items and water in the inside of the apparatus; this might lead to fire, electric shocks, electric leakage, and other danger.

5. Caution

- **Do not use apparatus for other purposes than cleaning fiber optic.** The apparatus was developed to scope and clean fiber optic. If it is used for other purposes, we do not warrant for damages resulting from inappropriate use.
- **Do not use other adaptors.** We do not warrant for damages resulting from using other adapters. **Scopleaner™** and accompanying AC are in accordance with FCC/CE standards. We do not take any responsibilities for errors or damages that result from using other AC adapter.
- **Do not modify or disassembly apparatus.** If apparatus is disassembled or operated otherwise than stated in the manual, we do not warrant for damages resulting therefrom.
- **Do not use other solvents than suggested.** If other solvents or materials than suggested in the manual are used and filled into the solvent tank, we do not warrant for damages resulting therefrom.

6. Introduce of Product

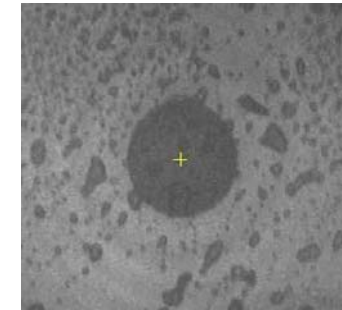


6-1. Information

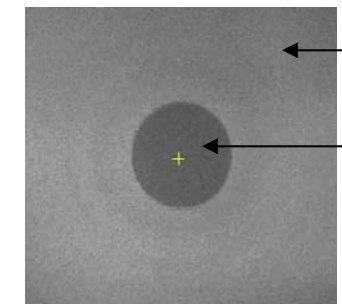
Scopleaner™ is a cleaner combined scope for connector ferrule used on parts of fiber optic.

During connecting fiber optic parts each other, ferrule surfaces in parts should be clean because should removing dust and foreign substances prevent loss and return of signal. It is an inconvenient and difficult process at field which is used optical fiber parts like connector and attenuator to hold up the fiberscope and insert the adapter, adjust the focus, identify the fiber section, insert the cleaner into the adapter, clean, hold up the fiberscope and check cleaning results.

Scopleaner™ is the first fiber optic cleaner combined scope worldwide. Cleaning nozzle which can be disassembled and spray with refillable cleaning liquid and the fiberscope (video microscope) accurately form a line and enables to use both functions of scoping and cleaning; the improved combine tip even allows a “scoping – cleaning – scoping” process with one move.



[before cleaning]



[after cleaning]

6-2. Properties

- Cleaning dynamization: The inconvenient cleaning process becomes very easy with the **Scopleaner™**. Enterprisers for Backbone network of each country dominate the fiber optic market. If you compare the old fashioned method that engineers used with the new apparatus you will see that the “optical fiberscope cleaner” is an epoch-making discovery. Especially due to the fact that the apparatus is portable, engineers can easily carry it with them.
- Reduction of cleaning time: The average time for the whole standard program “scoping – cleaning – scoping” takes about 5 seconds. **Scopleaner™** is capable to do all three processes simultaneously in 5 seconds. This is a great advantageous property, especially because Labor Costs can be reduced to 67%.
- Improvement of quality: **Scopleaner™** reduces errors during the cleaning process and prevents from harmful damages caused by contact and reflection; errors are minimized and quality is improved. This helps to reduce of maintenance fees and ensures improvements of quality and a improvement of the broadband communication.

6-3. Originality

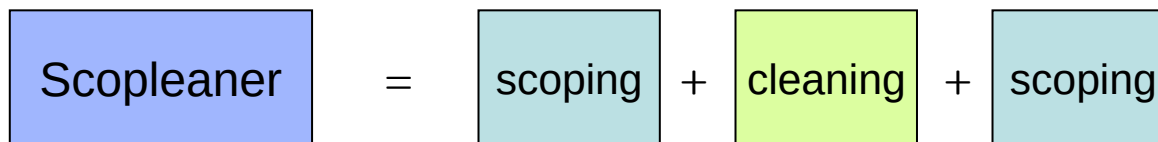
Scopleaner™ has the originality to be the first cleaner combined fiber optic scope worldwide. The invention and development of combined mechanism of “fiberscope” and “cleaner” was registered at the patent office; it has a pending status at the PCT (patient cooperation treaty) at present.

☐ existing cleaning method (7 steps):

insert scope and focus ► remove scope ► insert cleaner ► cleaning ► remove cleaner ► insert scope and check cleaning results

☐ new cleaning method (3 steps):

insert scope and focus ► find foreign substances ► turn switch and check cleaning results



6-4. PATENT



특 허 증
CERTIFICATE OF PATENT

특 허 제 10-0718601 호 출원번호 제 2006-0128544 호
(PATENT NUMBER) 등록번호 2006년 12월 15일
등록일 2007년 05월 09일

발명의명칭 (TITLE OF THE INVENTION)
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위의 발명은 「특허법」에 의하여 특허등록원부에 등록되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2007년 05월 09일

 특허청
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

[Patent registration certificate]

발급번호 : 5-5-2007-019945861

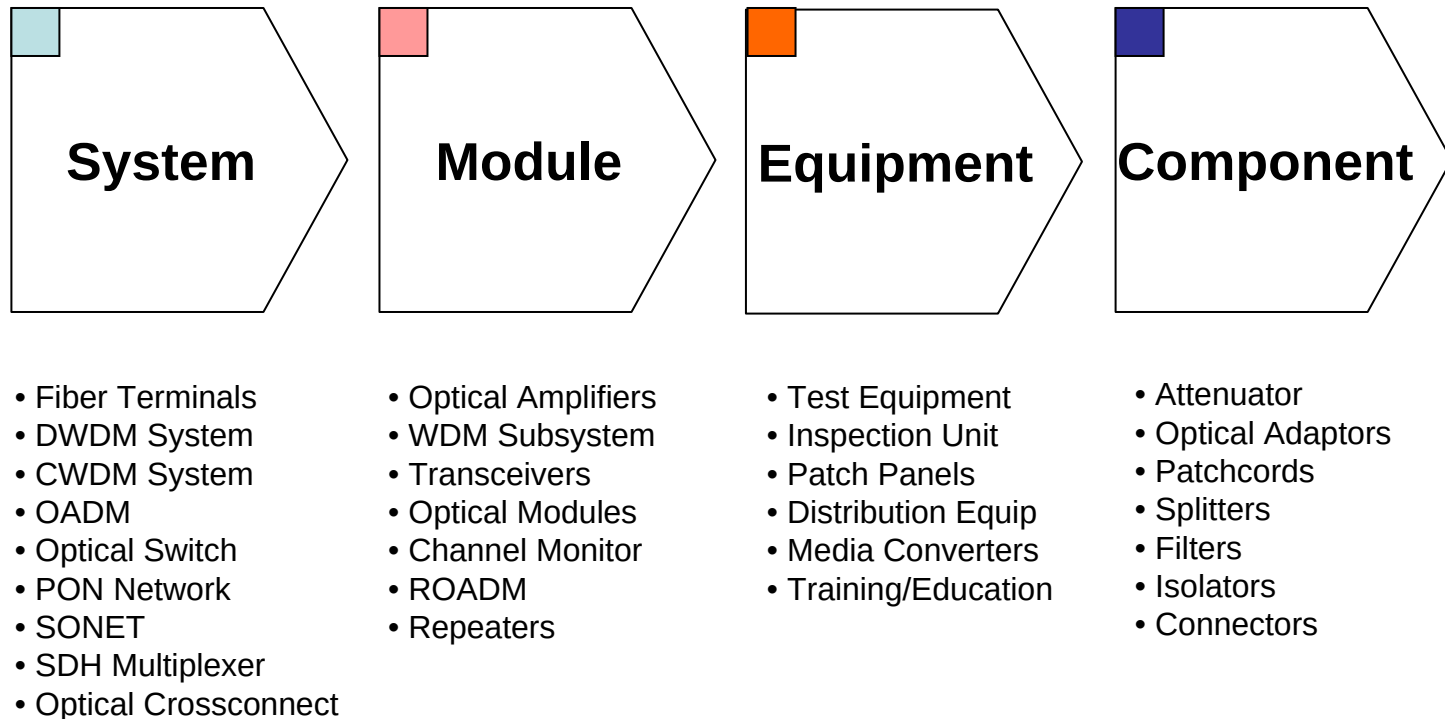
출원사실증명원
CERTIFICATE OF APPLICATION

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출원번호 Application Number		PCT/KR2007/001719	출원일자 Filing Date	년 월 일
발명(고안)의 명칭, 디자인을 표현할 문표, 상표(서비스의)류 구분		APPARATUS FOR CLEANING AND SCOPING OF OPTICAL FIBER		
Title of Invention, Product(s) Embodied in Design, or Classification of Mark				
용 · 도	제출용			
최종지본상대		최종지본일		
위 사항을 증명함. This is to certify that the above applicant has filed as stated in this certificate at the Korean Intellectual Property Office 2007년 04월 16일 특 허 청 장 COMMISSIONER				

◆ 본 증명서는 특허청에서 발급하였으며, 특허청 홈페이지(www.kipo.go.kr)의 「특허법-출원사실증명원」 메뉴를 통해 발급번호 또는 전자서명의 내로 드로 내용의 유·변조 여부를 확인할 수 있습니다. 단, 발급일자를 증명하는 책임은 발명자에게 있습니다.

[PCT pending]

6-5. Application



6-6. Key Accounts

❑ Important key accounts: a enterpriser for backbone network

▪ Domestic: Korea Telecom, Hanaro Telekom, Powercom, KTF, SKT, LGT, etc

▪ Abroad: AT&T, BY, NTT, China Unicom, France Telecom, UK Cable and Wireless, Deutsche Telecom, Sprint, Swiss Telecom, Italia Telecom, Voice Stream Wireless, Vodafone Air Touch, Hutchison 14, KPN, Bellsouth, etc.

❑ Next target: partnership with key communications network industry/cooperation with construction company (installers)

❑ fiber optic system and server equipment, module, etc. supplying network construction companies, key accounts like Nortel, JDSU, Lucent, Alcatel, ADC, Sisco, Juniper, Liverston, Extreme Networks, 3 Com, Huawei, etc.

7. Standard Package

• Main Apparatus + Handset ----- 1 Set -----

• SC/FC Cleaning Tip -----1 piece -----

• Rubber Cap -----1 piece -----

• Transport Bag -----1 piece -----

• HUXCleaner - 2.5 -----1 piece -----

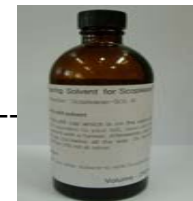
• Funnel -----1 piece -----

• AC Power Cord -----1 piece -----

[Optional]

• USB Cable -----1 piece -----

• Solvent -----250ml -----



7-1. Specification

Cleaning Method	Solvent Non-Contact Cleaning System Use 3M Solvent (P/N:HFE-72DE) Non-Flammable, Zero Ozone Depletion
Driving Type	Compressed air by Pump
Cleaning time (scoping-cleaning-scoping)	5 sec
Cleaning tip	SC / FC
Light source	LED (Internal)
Power	SMPS (Internal) by AC 100~240V
LCD and magnification	5.6" TFT LCD, 260X
Dimension	206(w) x 257(l) x 156(h)mm
Weight	8kgs

7-2. Product Installment

For your safety, please read the safety instructions carefully before installing the product. The apparatus uses internal AC/DC adaptor for power. So never open the adaptor cover at discretion. Please check your code type and volt before connecting code.

7-2-1. Connecting power : Connect power cord with power outlet at the backside of the apparatus. AC range can be used for 100~240V. Turn the power switch on.

7-2-2. Check LCD: 2 button by LCD are used to control brightness and contrast each. Rotate focus button to adjust.

7-2-3. Check Pump : A cleaning with the **Scopleaner™** requires compressed air. To obtain compressed air, a pump can be used. To fill compressed air, the pump is operated for 10 sec when turning power on automatically. To check whether the refill cap has been installed properly. If you hear air escaping from the cap, the cap should be taken out and installed again.

7-2-4. Check Handset : Handset has 2 function : scoping and cleaning. To check cleaning, push the start button about twice and check whether some solvent is burst out. To check scoping, please see the lens. Never lens has pollutants like finger print or dust. Always keep the lens clean.

7-2. Product Installment

7-2-5. Solvent refill: **Scopleaner™** bursts out a solvent into the compressed air to make cleaning process possible. For the solvent, 3M Solvent (P/N:HFE-72DE), which can be easily obtained in stores locally is used. 3M Solvent is not flammable and is ozone-friendly. Please see the attached Material Safety Data Sheet for further information. To refill solvent, pull the refill cap which is on the upper part of the apparatus to your left, open and refill the solvent with a funnel. Afterwards, turn the refill cap clockwise all the way.

Do not refill more than 250 ml at once.



Caution: The solvent is not flammable, but it is recommended to store the solvent at room temperature. Keep out of reach of children. Please check is cap is placed appropriately before storing, because evaporation would minimize cleaning effects. Store away from heat or open flames . Do not swallow and inhale. If it comes in contact with eyes, wash immediately with plenty of water. If it comes in contact with skin, rinse immediately

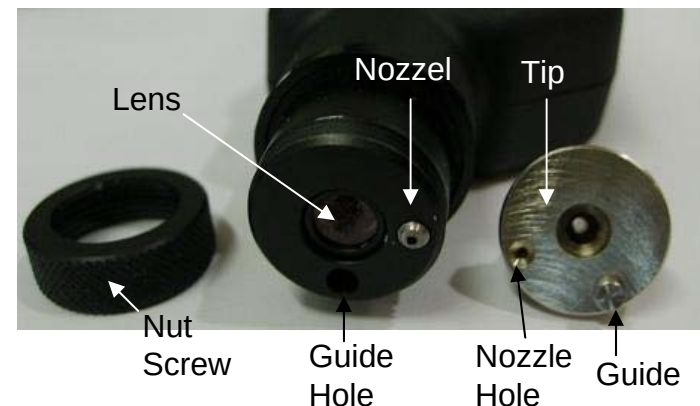
7-3. Method of Use

Scopleaner™ is very simple to use. It is yet recommended to know about a few operational facts, e.g. tip exchanging, etc. Please read the following instructions carefully:

7-3-1. Tip assembly and exchange: The apparatus comes with SC/FC tip for 2.5mm Ferrule type. If necessary, Tip can be exchanged. Tip has a Nut Screw thread to connect tip with a handset. If tip is turned, it can be easily assembled and disassembled. Insert the end of the nozzle pooping out from the front side of the handset into the tip and turn the Nut (screw thread).

The end of Nozzle must be fitted well into Nozzle Hole of Tip. To help it, the Guide of Tip should be fitted well into the Guide Hole.

Do not place hands on the lens during this process. Substances on the lens can affect the quality. If lens is contaminated, use a cotton swap or a lens cleaning tissue.



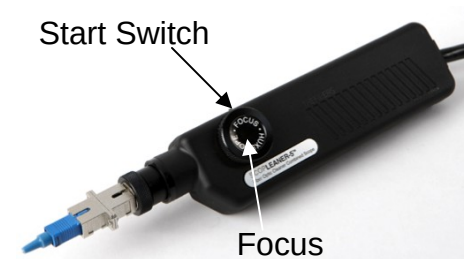
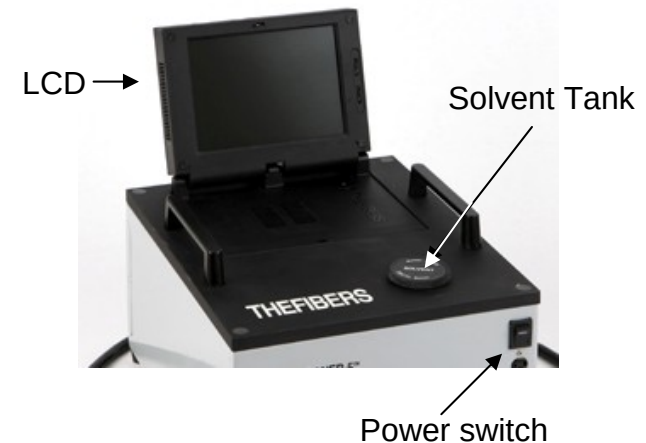
7-3. Method of Use

7-3-2. Turn on the main power switch.

7-3-3. To check cleaning performance, push the start switch about twice and check whether some solvent is burst out well.

7-3-4. To insert the tip into an optical adapter to see : place tip on the ferrule surface, turn the button of the focus on the handset and tune until a clear picture is obtained.

7-4-5. Use the contrast and bright buttons on the side of the LCD panel to adjust LCD monitor.



7-3. Method of Use

7-3-6. If contaminants are detected on LCD screen, slightly press the start switch on your handset. Cleaning will start immediately. Please check the results of the cleaning.

7-3-7. If cleaning result is not satisfying, press the start switch again and / or use HUXCleaner enclosed afterwards.

7-3-8. After cleaning results are checked, tip is separated from optical adapter and closed with a cap.

Caution: If apparatus was not used for more than 3 hours, push the start switch over twice. In case of apparatus is used after a break, solvent is not enough out. So check solvent out to clean after a break.



Contaminations

8. USB Cable

A USB cable can be optionally delivered with the **Scopeleaner™**. If USB cable is plugged into the DIN connector of the side of the apparatus and connected to a computer, the screen on LCD will be shown on the computer monitor. Pictures can be saved by using the capture function on the computer.

Easy-to-install software is delivered with the USB cable. Place CD in the CD-Rom of the computer, program will be installed automatically.

Insert USB cable into DIN and computer each before running the program. After optical adapter ferrule surface is seen on the screen, use capture button to save on computer.



DIN terminal for USB adaptor



USB to Computer

DIN

9. Trouble shooting

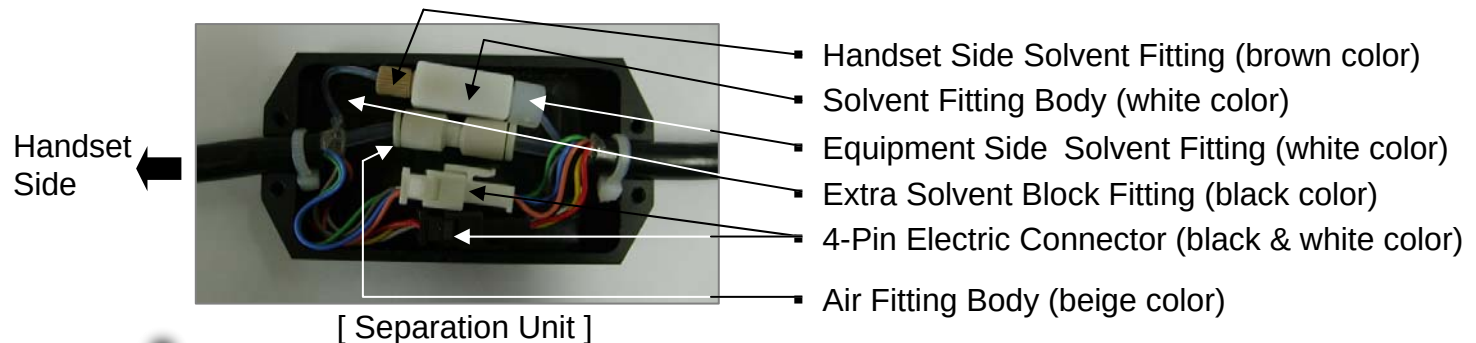
Problem	Cause	Solution
Low cleaning effect	Air pressure of cleaning tank minimized	Check whether solvent refill cap is closed tightly well.
	Lack of solvent	Refill solvent
	Inappropriate assembly of tip	Disassemble and re-assemble tip
	Damage of tip	Replace tip
	Spread of solvent on ferrule surface after 1st cleaning	Use HUXCleaner
Cleaning switch or main switch does not work	Power supply not connected	Check power connection
	Main switch is OFF	Main switch is ON
LCD screen does not work or not clear well	Problem of adjusting Contrast and Bright functions	Adjust Contrast and Brightness
	Contamination of lens	Remove pollutant on lens
	Static Electricity by Hand	Main Power Switch OFF and ON again

10. Separation of Handset

According to trouble shooting, you can solve by yourself or find solution. In case the enduser cannot find a solution, please inform the situation of the trouble and then we will let you know the way how to repair or replace. We will recommend whether you have to return whole equipment of the **Scopleaner™** or whether you have to return **Handset** only.

Please read the following instructions carefully for separation of Handset from the equipment. **Don't allow open this Separation Unit without our consent.**

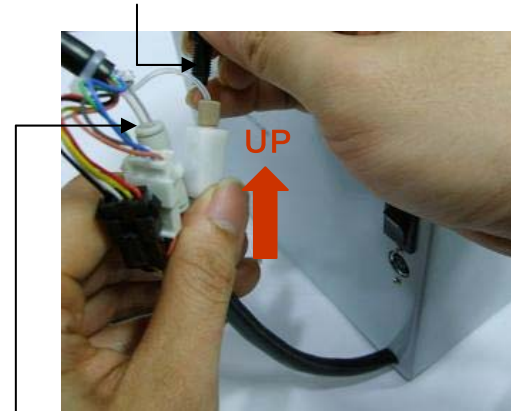
- a) Power OFF and Open Solvent Refill Cap and remove compressed air inside Solvent Tank and close the Cap again.
- b) Remove screw of Separation Unit and open it.



10. Separation of Handset

- c) Hold it up like right picture (otherwise solvent may be flow out) and turn out Handset Side Solvent Fitting (brown color) counter-clockwise from Solvent Fitting Body (white color) and immediately close-up by enclosed extra Solvent Block Fitting (black color). Solvent is closed up by this Block Fitting during separation of Handset. Don't open Equipment Side Solvent Fitting (white color).
- d) Draw out 4-Pin Electric Connector (black color) and 4-Pin Electric Connector (white color).
- e) With press Air-Fitting Stopper (beige color), pull out Handset Side Air-Tube from Air Fitting Body (beige color). Don't pull out Equipment Side Air-Tube.
- f) For re-assembly of this Separation Unit, reverse the above way. **Keep the Electric Connector Color, black to black and white to white absolutely.**

Extra Solvent Block Fitting (black color)



Air-Fitting Stopper (beige color)

10. Part Number

Scopleaner-5	Fiber Optic Cleaner Combined Scope Set
Scopleaner-T-SF	Scopleaner Tip for SC and FC
Scopleaner-AC	AC 100~220V Power Cord
Scopleaner-CAP	Cap for Scopleaner
Scopleaner-B	Hand-carry Bag/Case for Scopleaner
Scopleaner-USB	USB Cable with Software for Scopleaner
Scopleaner-H25	HUXCleaner-2.5
Scopleaner-SOL-R	Solvent for Refill 250ml
Scopleaner-F	Funnel

Contents of this manual can be modified without notice. Manual may not be modified without permission.
The latest version of the manuals can be downloaded from the webpage: www.thefibers.com.