KNIGHT H+C
CFS TECHNOLOGIES

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SCOPETECH DF™

Pre-Cleaning Assist System

TABLE OF CONTENTS

INTRODUCTION

The new ScopeTech™ DF system (ScopeTech) is a comprehensive flexible endoscope cleaning system that dramatically improves the speed of endoscope reprocessing while providing step-by-step cleaning sequence for process management, cycle validation and reports.

The ScopeTech DF is the only 4-in-1 system with automated scope inflation for leak test, precision chemical dosing, automated channel flushing with pulsating fluid technology for the main and auxiliary flush ports, and data management system. An optional barcode scanner reduces the time to input scope serial number and technician I.D.s., which will ease the documentation and reporting burdens for sterile processing managers and document compliance with industry recommended reprocessing protocols and manufacturer's IFU.

The ScopeTech DF is an intelligent system with two flow meters that monitor the flow of the flush water into the endoscope channels and meter precise amounts of detergent into the sink. These exclusive "smart" functions insure the internal channels of the endoscope are flushed and rinsed to the optimum clean level each time, eliminating any guesswork by the cleaning technician. Flush and rinse alarms will sound when water or detergent is not flowing at the calibrated flow rate. This will allow the cleaning technician an opportunity to correct the issue and repeat the step where the error occurred and continue the cleaning process. These alarms will be saved to the internal memory for supervisor inspection and process quality management.

INDICATION FOR USE

The ScopeTech DF Pre-cleaning Assist System is intended for use as an assist device with leak test, detergent dosing, and channel flushing during the pre-cleaning portion of flexible endoscope reprocessing specified by the endoscope manufacturer.

SAFETY SYMBOLS

Listed below are explanations of the safety symbols that appear either on the unit, in the instruction manual, or both. Please familiarize yourself with the meaning of each symbol.

GENERAL CAUTION: This symbol indicates a general safety caution.

SHOCK HAZARD: This symbol indicates that hazardous voltages are inside the enclosure.

READ MANUAL: This symbol indicates to read the manual for important instructions and procedures related to safety.

SAFETY PRECAUTIONS

CAUTION: Wear protective clothing and eye wear whenever operating this system.

CAUTION: Wear protective clothing and eye wear when dispensing chemicals. Observe safe handling instructions (MSDS) provided on chemical container or as supplied by chemical manufacturer.

CAUTION: To avoid severe or fatal shock, physical injury, always disconnect main power when servicing the unit.

CAUTION: Always follow the endoscope manufacturer's guidelines and the established professional protocols for the cleaning, maintenance and care of endoscopes and endoscope accessories.

CAUTION: When installing any equipment, ensure that all national and local safety, electrical and plumbing codes are met.

- System is for indoor use only
- Do not submerge or place in direct path of spray/moisture
- System operates with safe 24 Volt DC power
- Only approved, factory authorized technicians to service unit

WARNING

ScopeTech DF is NOT a sterilization system, does NOT sterilize, and should NEVER be used for sterilization. It is intended only for pre-sterilization cleaning of flexible endoscopes in lieu of using a counter-top or hand-held pump for air leak testing and using a syringe for detergent dosing, detergent flushing and rinsing. It is NOT a substitute for sterilization.

When using the ScopeTech DF system, always follow the testing and cleaning protocols defined by the manufacturer, hospital and/or other facility at which the endoscope is used. Knight is not responsible for the adequacy or efficacy of testing and cleaning protocols.

The pump and irrigation flushing tubes for the ScopeTech DF system require regular cleaning (see instructions for decontamination of the ScopeTech DF).

Consult your chemical supplier for appropriate detergents for use in pre-sterilization cleaning of flexible endoscopes and appropriate high level disinfection solutions for use in daily cleaning of pump and irrigation flushing tubes for the ScopeTech DF system.

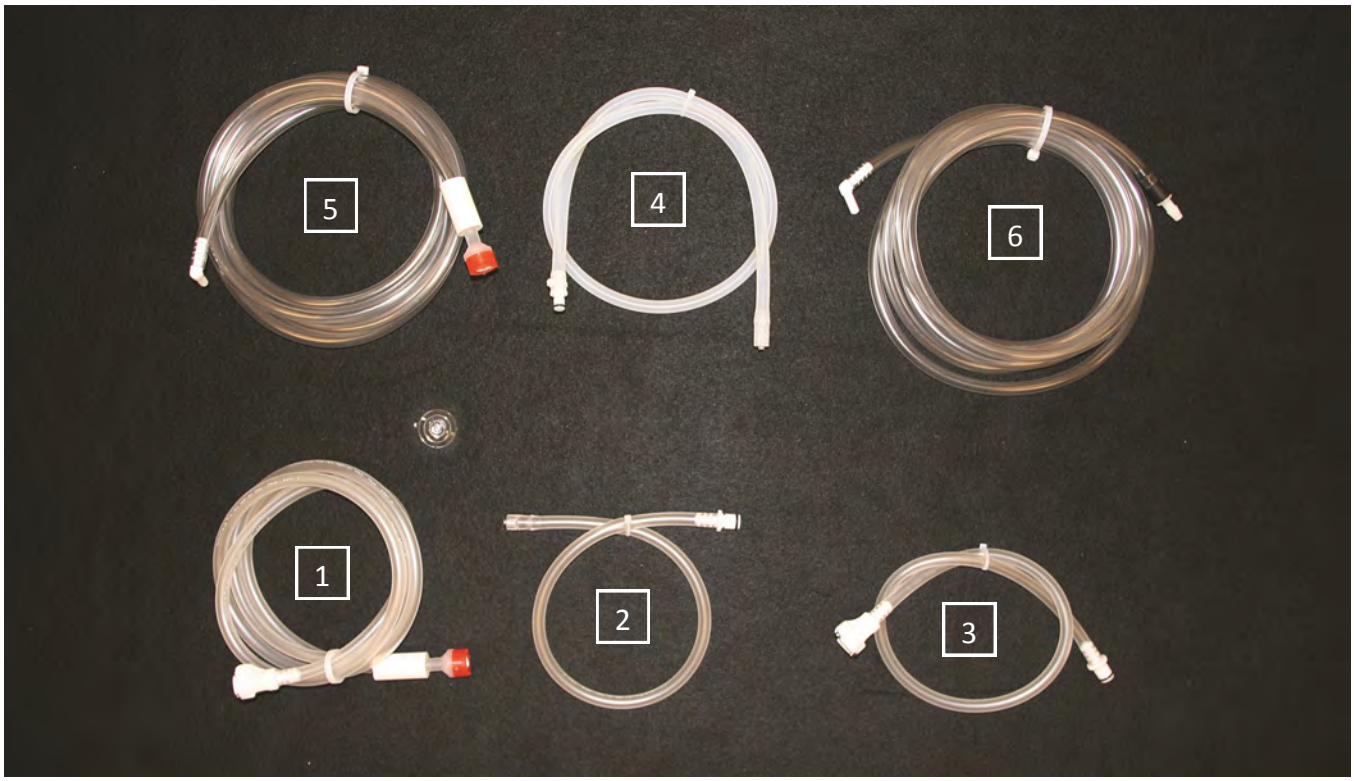
SPECIFICATIONS

Cabinet Materials	#304 Stainless Steel, Powder Coated
Dimensions	9-3/4" H x 7-1/8" W x 8-3/4" D 24.76 cm x 18.09 cm x 22.22 cm
Case Rating	IPX0
Flush Pump Flow Rate	0.75 GPM, 2.8 LPM
Flush Pump Suction	Maximum suction height = 24"/ 61 cm
Dosing Pump Flow Rate	17 oz./min., 500 ml/min.
Dosing Pump Suction	Maximum suction height = 10' / 3 m (300 cm)
Inflation Pressure	1 psi - 4.5 psi (.068 Bar - .31 Bar)
Pressure Regulator	Factory set to 4.5 psi (.31 Bar)
Power Supply/Voltage	Wall Mount Type, In: 100-240 Volts AC, 1A, 50-60 Hz Out: 24 Volts DC 1.67A
Chemical Compatibility - Flush Pump	Industry standard enzymatic and other detergents in diluted form. Do not use Isopropyl Alcohol with the flush pump.
Chemical Compatibility – Dose Pump	Industry standard enzymatic and other detergents.
Flush Tubes/Hook Ups Compatibility	Industry standard enzymatic and other detergents in diluted form. Do not use Isopropyl Alcohol with the flush pump.
Unit Weight	13.8 lbs., 6.26 Kg
Temperature Probe	Max temperature = 160° F, 71° C
Approvals	CAN/CSA-C22.2 No. 61010-1-04 UL Std. No. 61010-1 (2nd Edition) EN 61010-1:2010
Product Testing	CSA International, Irvine, California
Barcode Scanner	Power Supply: 5 Volts DC ± 5% Housing material: 30% PC + 70% ABS, UL94U0 Beep Sound Volume: ≥70dB Safety Approval: CE, FCC Class A, BSMI

ACCESSORY KIT PARTS LIST

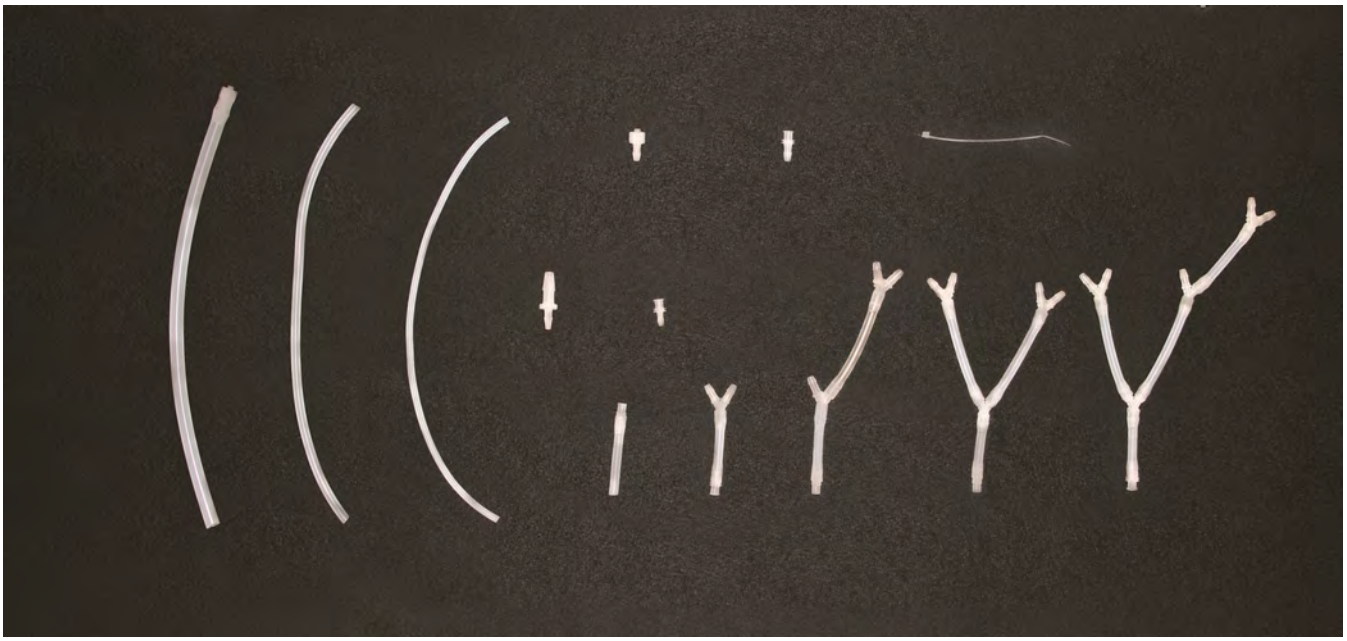
Item No.	Part Number	Qty.	Description
1	7117164	1	Flush Suction Tube with Suction Cup
2	7117165	1	Flush Discharge Tube, Autoclavable
3	7117166	1	Flush Discharge Tube Extension, Autoclavable
4	7117167	1	Auxiliary Flush Discharge Tube, Autoclavable
5	7117155-S	1	Detergent Suction Tube
6	7117155-D	1	Detergent Discharge Tube

*If items are missing from your accessory kit, please contact CFS Technologies / Knight Technical Support by phone at 501-895-2820 | 800-999-2820 or by email: techsupport@cfstech.com. Please have the serial number of your Scope Tech DF available when you call or include it with your email.



FLUSHING TUBE KIT PARTS LIST

Item No.	Part Number	Qty.	Description
1	0600759	2	Tubing, Silicone, 12” (30.48 cm) Cut, 1/16” (.158 cm) ID x 1/8” (.317 cm) OD
2	0600726	6	Tubing, Silicone, 12” (30.48 cm) Cut, 1/8” (.317 cm) ID x 1/4” (.635 cm) OD
3	0600767	2	Tubing, Silicone, 12” (30.48 cm) Cut, 3/16” (.476 cm) ID x 3/8” (.952 cm) OD
4	0600764	3	Fitting, Male Luer w/Lock Ring, 5/32” (.396 cm) Hose Barb
5	0600765	2	Fitting, Reducing, Coupling, 1/4” (.635 cm) x 5/32” (.396 cm)
6	0600766	2	Fitting, Female Luer, 1/8” (.317 cm) Hose Barb
7	0600762	2	Fitting, Female Luer, 5/32” (.396 cm) Hose Barb
8	0300121	6	Cable Ties, 3.5” (8.89 cm)
9	7117168-1	1	One-Way Adapter, Autoclavable
10	7117168-2	1	Two-Way Adapter, Autoclavable
11	7117168-3	1	Three-Way Adapter, Autoclavable
12	7117168-4	1	Four-Way Adapter, Autoclavable
13	7117168-5	1	Five-Way Adapter, Autoclavable



INFLATION KITS

Item No.	Part Number	Qty.	Description
1	7117161-O	1	Olympus Inflation Test Kit
2	7117161-P	1	Pentax Inflation Test Kit
3	7117161-F	1	Fujinon Inflation Test Kit
4	7117161-S	1	Karl Storz Inflation Test Kit

INSTALLATION PROCEDURES

1. Tools you will need: Phillips screw driver, tube cutters (utility knife), needle nose pliers, side cutters, 250 ml graduated cylinder. If the unit is to be mounted on the wall you will also need a drill, drill bit and anchors.

2. To begin the installation of the ScopeTech DF, remove all of the accessories from the included accessory kit.

3. ScopeTech DF can be placed on a countertop, shelf, or mounted on the wall using the keyhole openings on the back of the unit. Select a place for the unit within 6ft (1.8m) of a GFI protected power outlet. It is important to keep the power supply cable above the sink level.

   It is not recommended to use an extension cord. It is important to place or mount the unit on a hard, flat dry surface that is level. See Fig. 1.

4. If mounting the unit on the wall, select the proper wall anchors and screws for your wall surface. Self threading drywall anchors work best on drywall. See Fig 2. For stainless steel, tile or stone surfaces use a similar deep set plastic wall anchor and screw combination.

5. Mark the screw locations where the unit will be mounted. The 2 screw locations should be exactly 5 inches apart. Pre-drill the holes for the anchors in the wall. Insert the anchors and screws. Make sure to leave enough space between the anchors and the head of the tightened screws for the key holes on the unit to fit. Mount the unit by aligning the key holes with the screws and dropping the dispenser in place. Make sure not to put too much pressure on the unit. See Fig. 3

6. Push the detergent suction tube fitting (part #7117155-S) into the detergent suction port marked “Detergent In” on the bottom right of the ScopeTech DF Push the detergent discharge tube with check valve (part #7117155-D) into the “Detergent Out” port on the bottom right of the ScopeTech DF See Fig. 4. To remove fittings from connector push in the collar around the male insert then push in then out. Do not force the fitting out as it will break if the collar is not properly disengaged first.

7. Route the detergent suction tube (part #7117155-S) to the detergent container.

8. Remove the umbrella foot valve and ceramic tube weight from the detergent suction tube. Drill or cut a 3/8” hole into the bottle cap of the detergent container and insert the detergent suction tube through the hole. Slide the ceramic tube weight and umbrella foot valve back onto the detergent suction tube. See Fig. 5. Place the cap on the detergent. Push the suction tube to the bottom of the container. Be sure there are no kinks in the tube or obstructions that would impede the flow of detergent to the pump. 7


Fig.1

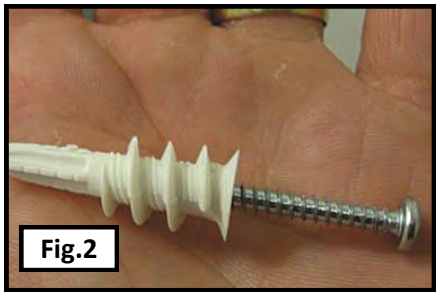


Fig.2

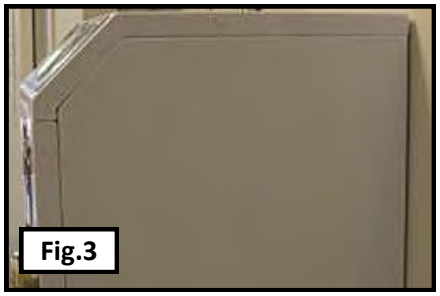


Fig.3

Fig.4


Fig.5

INSTALLATION PROCEDURES (continued)

9. Use the cable tie mounts and cable ties to secure the detergent suction tube to the wall that leads to the ScopeTech DF unit. Trim the excess plastic from the cable ties once the detergent suction tube has been secured. See Fig. 6.

10. Route the detergent discharge tube (part #7117155-D) and temperature probe to the back of the sink where it will be mounted just above the bottom (1-3”), depending on the total volume of the sink fill. Remove the check valve if needed to trim the excess tubing from the dispenser discharge tube once you have verified the length. Re-attach the check valve to the end of the dispenser discharge tube. Make sure that the arrow points in the direction of the flow. Use the vinyl suction cup and cable ties to secure the discharge tube and temperature probe to the inside of the sink. See Fig. 7. Use additional cable ties to secure the dispenser discharge tube to the temperature probe to keep them together.

11. Route the power supply cable to the power outlet and secure with the cable ties. If the detergent suction tube and power supply are located on the same side, secure them together for a cleaner installation.

12. Locate the flush suction tube (part #7117164) and push it over the male fitting labeled “Flush In” on the bottom left of the ScopeTech DF The fitting should snap in place and form a watertight seal. See Fig. 8. Connect the male luer extension tube to lengthen the tube if needed.

13. Locate the flush discharge tube (part #7117165) and push it into the female fitting labeled “Flush Out” on the bottom left of the ScopeTech DF The fitting should snap in place and form a watertight seal. See Fig. 9. Locate the flush discharge tube extension (part #7117166) and plug it into the flush discharge tube. See Fig. 10.

14. If using the dual flushing capabilities of the ScopeTech DF, locate the auxiliary flush discharge tube (part #7117167) and push it onto the female fitting labeled “Aux Out”. See Fig. 11.

15. Before connecting an endoscope for pre-cleaning, you will need to assemble the irrigation flushing tubes for the type of endoscopes you will be flushing. These irrigation tubes will connect to the flush discharge and auxiliary flush tube extensions.

16. Locate the inflation test kit (part #7117161-O, 7117161-P, 7117161-F, 7117161-S) push it into the female fitting labeled “Air Out” on the middle right of the ScopeTech DF The fitting should snap in place to achieve an airtight seal. See Fig. 12.

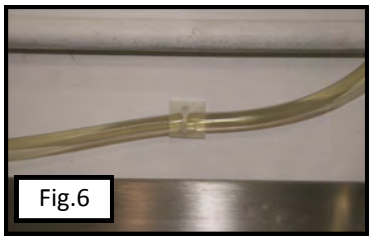


Fig.6


Fig.7


Fig.8

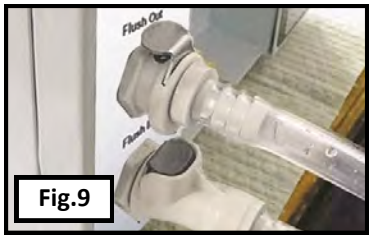


Fig.9


Fig.10

Fig.11

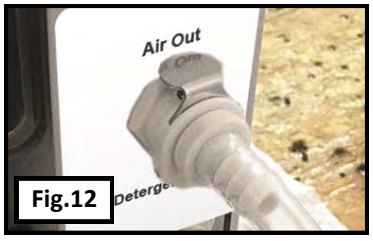


Fig.12

IRRIGATION FLUSHING TUBE ASSEMBLIES

1. To assemble two-way irrigation flushing, connect the one-way adapter (part # 7117168-1) to one of the barbs on the two-way adapter (Part # 7117168-2). Push the tube over the barb until it reaches the bottom of the barb. See Fig. 2.

2. Next, attach a large silicone tube with male luer and lock ring (part # 0600767) to the one-way adapter by screwing the male luer with lock ring clockwise onto the female luer. See Fig. 3.

3. Connect a medium silicone tube (part # 0600726) to the remaining barb on the two-way irrigation adapter. Again, make sure to push the tube over the barb until the tube reaches the bottom of the barb. See Fig. 4.


Fig.1


Fig.2

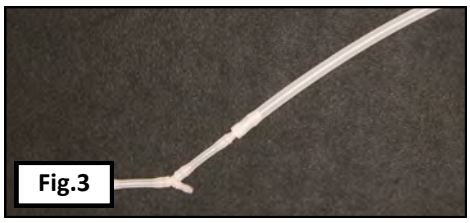


Fig.3

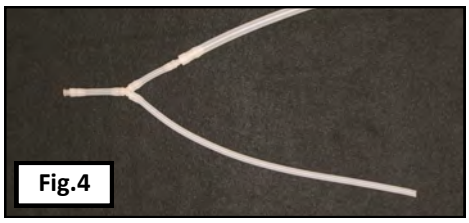


Fig.4

1. To assemble three-way irrigation flushing, connect the one-way adapter (part # 7117168-1) to one of the barbs on the three-way adapter (Part # 7117168-3). Push the tube over the barb until it reaches the bottom of the barb. See Fig. 6.

2. Next, attach a large silicone tube with male luer and lock ring (part # 0600767) to the one-way adapter by screwing the male luer with lock ring clockwise onto the female luer. See Fig. 7.

3. Connect two medium silicone tubes (part # 0600726) to the remaining barbs on the three-way irrigation adapter. Again, make sure to push the tubes over the barbs until the tubes reach the bottom of the barbs. See Fig. 8.

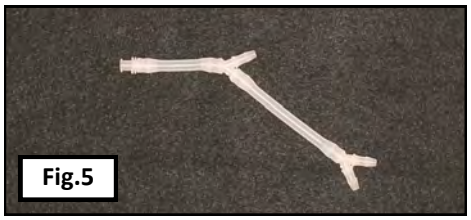


Fig.5

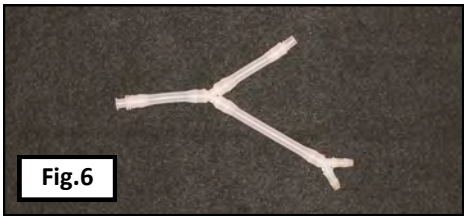


Fig.6

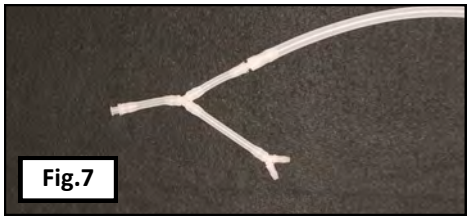


Fig.7

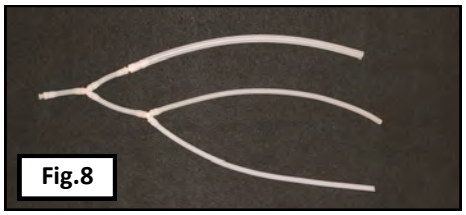


Fig.8

IRRIGATION FLUSHING TUBE ASSEMBLIES

1. To assemble four-way irrigation flushing, connect the one-way adapter (part # 7117168-1) to one of the barbs on the four-way adapter (Part # 7117168-4). Push the tube over the barb until it reaches the bottom of the barb. See Fig. 10.

2. Next, attach a large silicone tube with male luer and lock ring (part # 0600767) to the one-way adapter by screwing the male luer with lock ring clockwise onto the female luer. See Fig. 11.

3. Connect three medium silicone tubes (part # 0600726) to the remaining barbs on the four-way irrigation adapter. Again, make sure to push the tubes over the barbs until the tubes reach the bottom of the barbs. See Fig. 12.

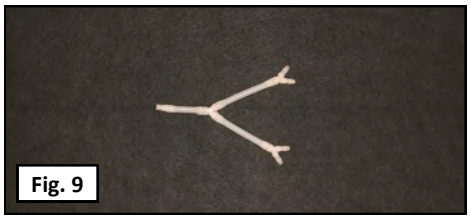


Fig. 9

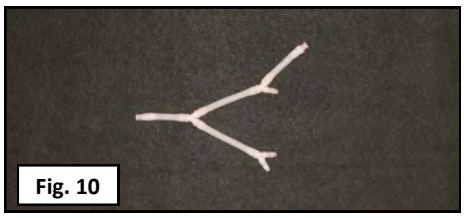


Fig. 10

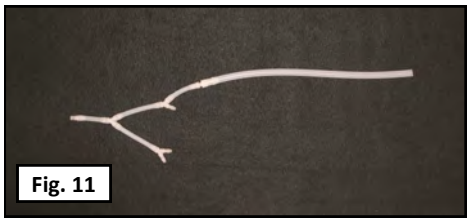


Fig. 11

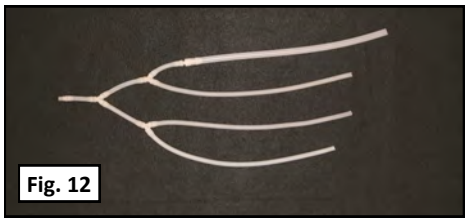


Fig. 12

1. To assemble five-way irrigation flushing, connect the one-way adapter (part # 7117168-1) to one of the barbs on the five-way adapter (Part # 7117168-5). Push the tube over the barb until it reaches the bottom of the barb. See Fig. 14.

2. Next, attach a large silicone tube with male luer and lock ring (part # 0600767) to the one-way adapter by screwing the male luer with lock ring clockwise onto the female luer. See Fig. 15.

3. Connect four medium silicone tubes (part # 0600726) to the remaining barbs on the five-way irrigation adapter. Again, make sure to push the tubes over the barbs until the tubes reach the bottom of the barbs. See Fig. 16.

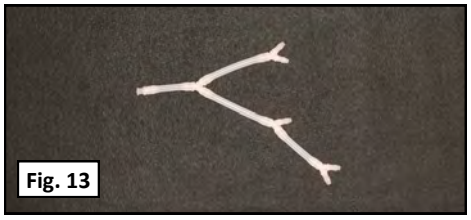


Fig. 13

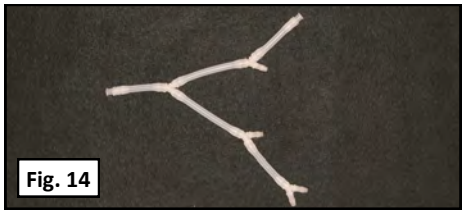


Fig. 14

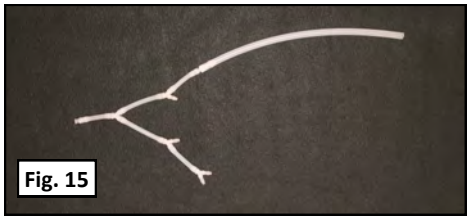


Fig. 15

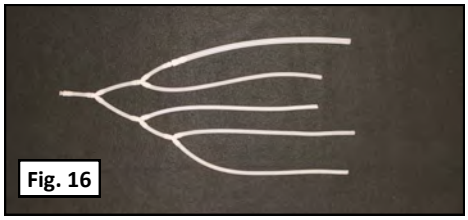


Fig. 16

ELEVATOR WIRE AND AUXILIARY FLUSHING TUBE ASSEMBLIES

Elevator Wire Flushing Assembly

To make the elevator flushing assembly, connect the **1/8" (.317cm) female luer fitting (part # 0600766)** to the **small tubing, 1/16" (.158cm) ID (part #0600759)**. Then attach the endoscope adapter to the elevator flushing assembly. See the guidelines below for **Connecting the Endoscope Adapters**.

Auxiliary Flushing Assembly

To make the Auxiliary Flushing Assembly, connect the **5/32" (.396cm) female luer fitting (part # 0600762)** to the **medium tubing, 1/8" (.317cm) ID (part # 0600726)**. Then attach the auxiliary water channel adapter to the auxiliary flushing assembly. See the guidelines below for **Connecting the Endoscope Adapters**.

Note: **Flushing Tube Decontamination** - ScopeTech DF flushing tubes and plastic fittings can be decontaminated by autoclaving or using high level disinfectant solutions. Consult the manufacturer's instructions for use for required soak time and safe handling procedures. **Compatible High Level Disinfectants** - Ortho-Phthalaldehyde (OPA), Glutaraldehyde, Peracetic Acid (PAA), Quaternary Ammonium.

CONNECTING THE ENDOSCOPE ADAPTERS

After you have assembled the flushing tubes for the type of endoscopes that will be flushed, gather the port adapters that were supplied with the endoscope from the manufacturer. Connect the endoscope adapters to the flushing tubes to complete the flushing tube assembly. Follow the endoscope manufacturer's instructions for connecting the endoscope adapters to the channels of their endoscopes prior to pre-cleaning.

Olympus Endoscope Adapters

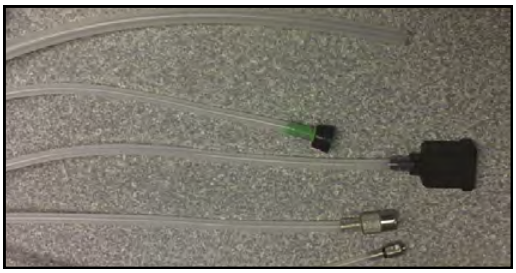
Attaching the Olympus Endoscope adapters to the flushing tubes.

WATER CHANNEL ADAPTER

AIR / WATER CHANNEL ADAPTER

WATER CHANNEL ADAPTER

AIR / WATER CHANNEL ADAPTER



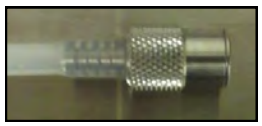
EXAMPLE CONNECTIONS FOR OLYMPUS ENDOSCOPE ADAPTERS

Fujinon Endoscope Adapters

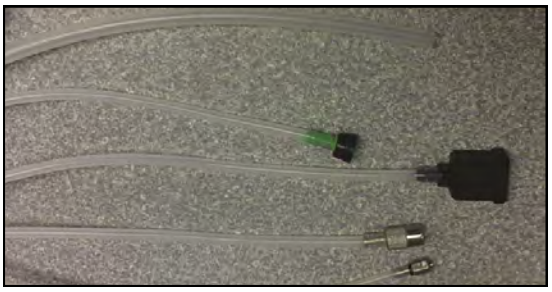
Attaching the Fujinon Endoscope adapters to the flushing tubes.

WATER CHANNEL ADAPTER

AIR/WATER CANNEL ADAPTER



CLEANING ADAPTER



EXAMPLE CONNECTIONS FOR FUJINON ENDOSCOPE ADAPTERS

CONNECTING THE ENDOSCOPE ADAPTERS (CONT.)

Pentex Endoscope Adapters

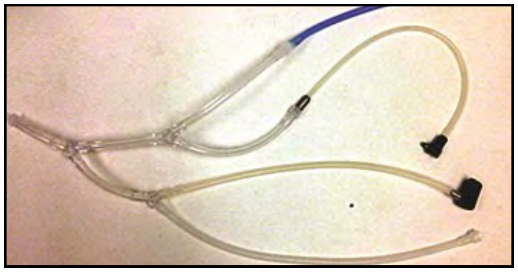
Attaching the Pentex Endoscope adapters to the flushing tubes .

WATER PORT ADAPTER

AIR / WATER CHANNEL ADAPTER

BIOPSY PORT ADAPTER

SUCTION CHANNEL



EXAMPLE CONNECTIONS FOR PENTEX ENDOSCOPE ADAPTERS

Connecting the Flushing Tubes to an Endoscope

After you have assembled the flushing tubes and attached the endoscope adapters, you are ready to connect the endoscope to ScopeTech. Connect the endoscope adapters to the endoscopes.

Follow the endoscope manufacturer's instructions for pre-cleaning and connecting the endoscope adapters to the channels of their endoscopes.

AIR / WATER CHANNEL BLOCKER

BIOPSY PORT CAP

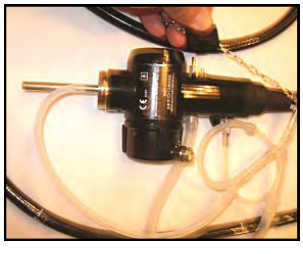
FLUSHING TUBE TO SUCTION VALVE

AIR/WATER CHANNEL ADAPTER

FLUSHING TUBE TO AIR PIPE

AUXILIARY WATER CHANNEL ADAPTER

Endoscope Connection Examples



PC SOFTWARE INSTALLATION

1. Insert the Knight USB drive into the USB port or the Knight CD-ROM into the CD drive on your PC.
2. Locate the “Knight ScopeTech DF Install” file on the USB drive and double-click to run the installation.
3. Follow the installation prompts to install the application.

SET-UP FILE PROGRAMMING

1. Locate the ScopeTech DF Dual Flush desktop icon and double-click it to run the application.
2. The main menu screen will appear after the application has loaded. See Fig. 1.
3. To begin programming a set-up file, click the Create Program File button. The Program File screen will appear. See Fig.

Fig. 1

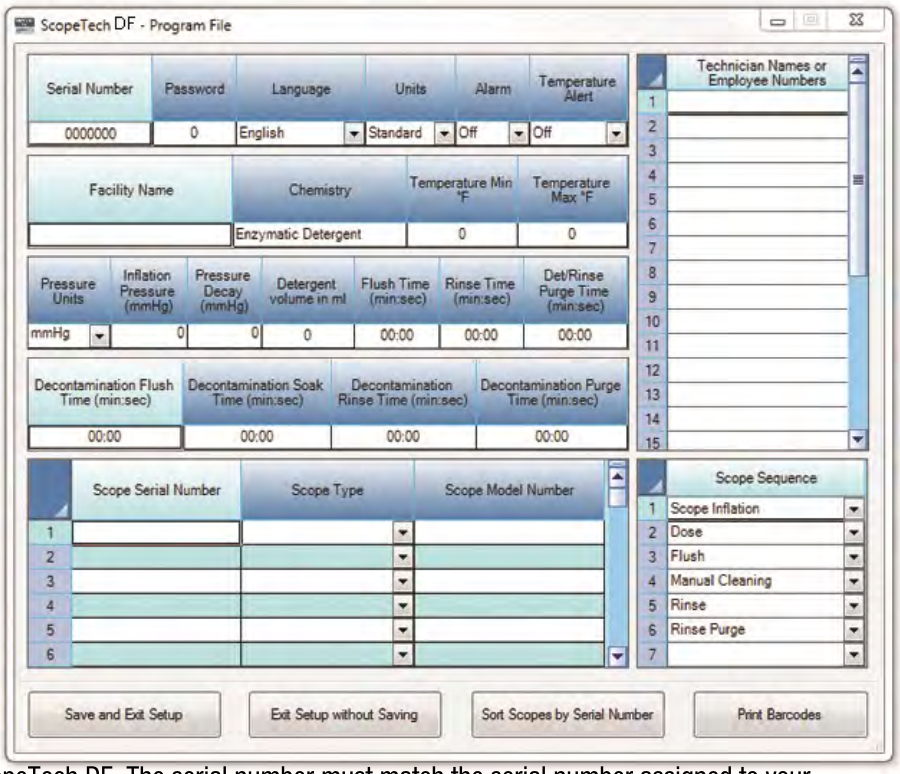


Fig. 2

4. Enter the serial number for the ScopeTech DF. The serial number must match the serial number assigned to your ScopeTech unit for the setup file to load.
5. Enter a password that allows access to all programming and system data input/output. This number should only be known to the department manager.
6. Select the language (English, German, Spanish, or French).
7. Select unit of measure (standard or metric).
8. Select alarm On or Off for an audible alarm when system errors occur.
9. Select temperature alert On or Off for notification when sink water temperature is not within range.

SCOPETECH DF SET-UP FILE PROGRAMMING (CONT.)

Facility Name	Chemistry	Temperature Min °F	Temperature Max °F
Sands Med Ctr	Enzymatic Detergent	90	110

10. Enter the name of the hospital or facility.
11. Enter the name of the detergent/enzymatic that will be used.
12. Enter the manufacturer's minimum required temperature for the detergent.
13. Enter the manufacturer's maximum required temperature for the detergent.

Pressure Units	Inflation Pressure (mmHg)	Pressure Decay (mmHg)	Detergent volume in ml	Flush Time (min:sec)	Rinse Time (min:sec)	Det/Rinse Purge Time (min:sec)
mmHg	186	5	60	03:00	02:30	00:30

14. Enter the pressure unit of measurement.
15. Enter the inflation pressure. ScopeTech is set to pressurize your scope to 3.6 psi (186 mmHg). The factory default value is generally accepted.
16. Enter the pressure decay rate. The pressure decay rate is the acceptable rate for maintaining positive pressure of the endoscope. The factory default value is set to 5 mmHg/sec and this rate is generally accepted.
17. Enter the amount of detergent/enzymatic to be dispensed in milliliters to achieve chemical supplier recommended concentration taking into consideration the sink volume.
18. Enter the amount of time needed to flush the detergent through the endoscope.
19. Enter the amount of time needed to rinse the detergent from the endoscope.

Decontamination Flush Time (min:sec)	Decontamination Soak Time (min:sec)	Decontamination Rinse Time (min:sec)	Decontamination Purge Time (min:sec)
01:00	08:00	01:00	00:30

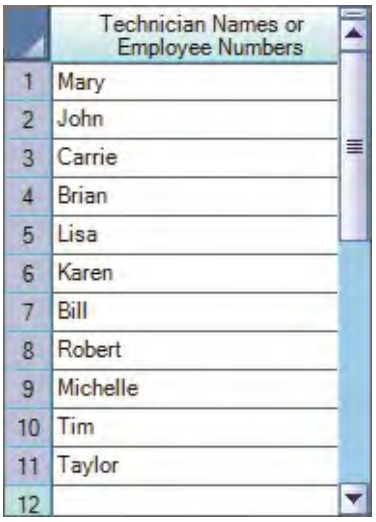
The decontamination cycle built into the ScopeTech DF has four programmable steps. Consult with your chemical supplier for recommendations on the required soak time to effectively decontaminate the internal fluid contact surfaces of ScopeTech DF. See the decontamination procedure on page 31 for step-by-step directions on how to perform the cleaning process.

20. Enter the decontamination flush time. This is the amount of time required to suction the detergent up into the flush pump suction and discharge tubes. The time required varies depending on the length of the suction and discharge tubes, but typically should require less than 30 seconds.
21. Enter the decontamination soak time. Consult with your chemical supplier for how long the soak time should be. The soak time is usually less than 10 minutes, but can be longer depending on the type of high level disinfectant used.
22. Enter the decontamination rinse time. This is the time required to rinse the high level disinfectant from the internal channels of the endoscope. Consult with your chemical supplier as they may have a chemical residual test to validate how much rinse water/time should be used to completely rinse out the chemistry.
23. Enter the amount of time needed to purge the rinse water from the endoscope. Typically this is set for 30 seconds longer than the decontamination flush time.

SCOPETECH DF SET-UP FILE PROGRAMMING (CONT.)

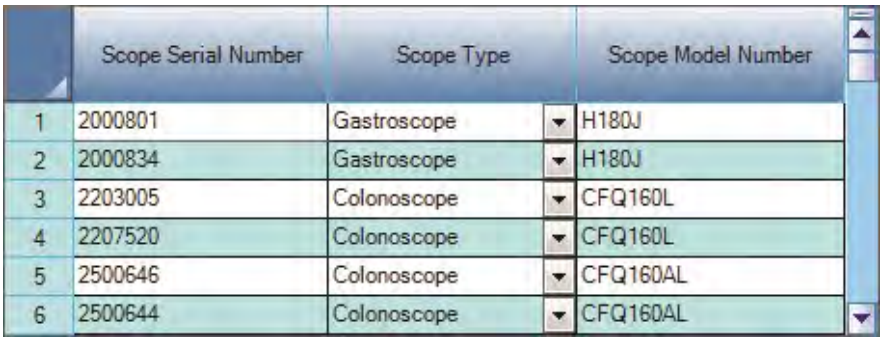
24. Enter the names of each of the cleaning technicians as provided by the department manager. See Fig. 3.

25. Enter the endoscope serial number, type and model number for each endoscope that will be pre-cleaned using the ScopeTech DF See Fig. 4.



	Technician Names or Employee Numbers
1	Mary
2	John
3	Carrie
4	Brian
5	Lisa
6	Karen
7	Bill
8	Robert
9	Michelle
10	Tim
11	Taylor
12	

Fig. 3



	Scope Serial Number	Scope Type	Scope Model Number
1	2000801	Gastroscope	H180J
2	2000834	Gastroscope	H180J
3	2203005	Colonoscope	CFQ160L
4	2207520	Colonoscope	CFQ160L
5	2500646	Colonoscope	CFQ160AL
6	2500644	Colonoscope	CFQ160AL

Fig. 4

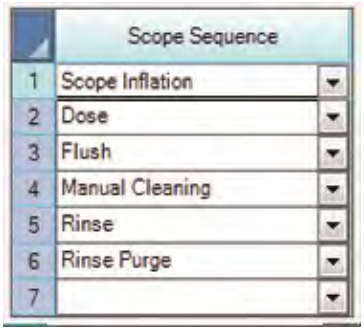
Note: To sort the endoscopes by serial number after entering them in any order, press the Sort Scopes by Serial Number button on the bottom of the Program File screen.

Most industry Instruction for Use (IFU) provide that all flexible endoscopes must be inflation tested, manually cleaned inside, and internal channels flushed with a detergent solution and fresh water rinse.

The most common sequence for the pre-cleaning process is:

(1) Scope Inflation
(2) Detergent Dose
(3) Detergent Flush
(4) Manual Cleaning
(5) Rinse
(6) Rinse Purge

26. Modify the endoscope pre-cleaning sequence if needed. See Fig. 5.



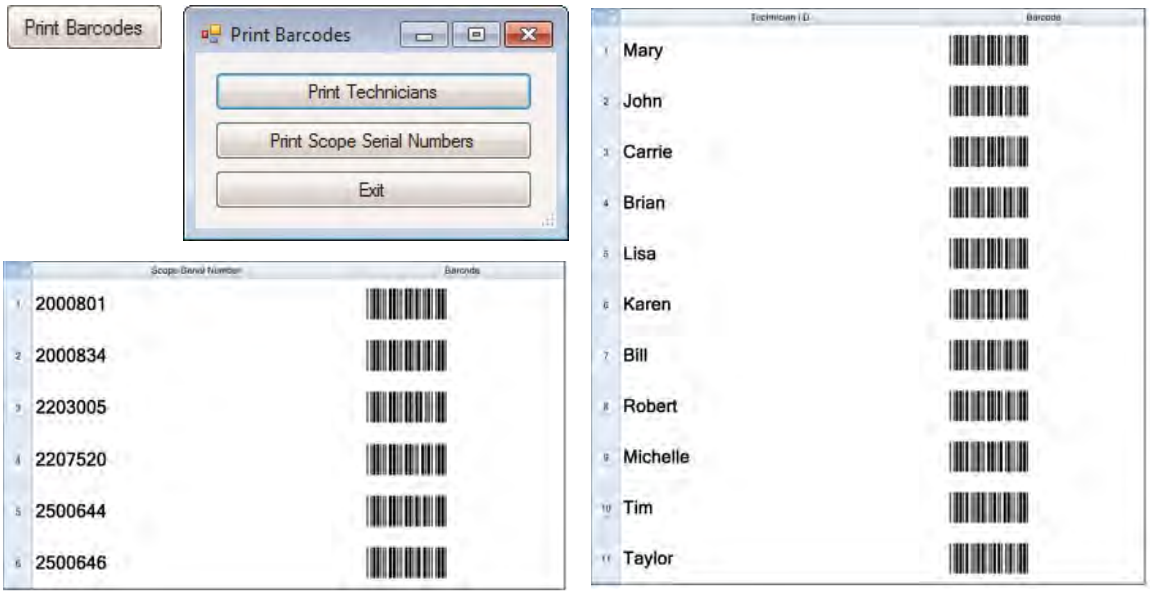
	Scope Sequence
1	Scope Inflation
2	Dose
3	Flush
4	Manual Cleaning
5	Rinse
6	Rinse Purge
7	

Fig. 5

Note: a detergent purge can be added to the cleaning sequence if required, but may not be necessary if the rinse cycle removes a sufficient amount of residual detergent.

SCOPETECH DF SET-UP FILE PROGRAMMING (CONT.)

For systems equipped with a barcode scanner, press the Print Barcodes button on the bottom of the Program File screen which will allow you to print barcodes for the cleaning technicians and endoscopes. Laminate and post these on the wall next to the ScopeTech DF for ease of access.



27. After all fields have been entered click Save and Exit Setup on the bottom of the Program File screen. The setup file will now appear in the System Files view where it can be selected, then uploaded to the ScopeTech DF See Fig. 6 and 7.

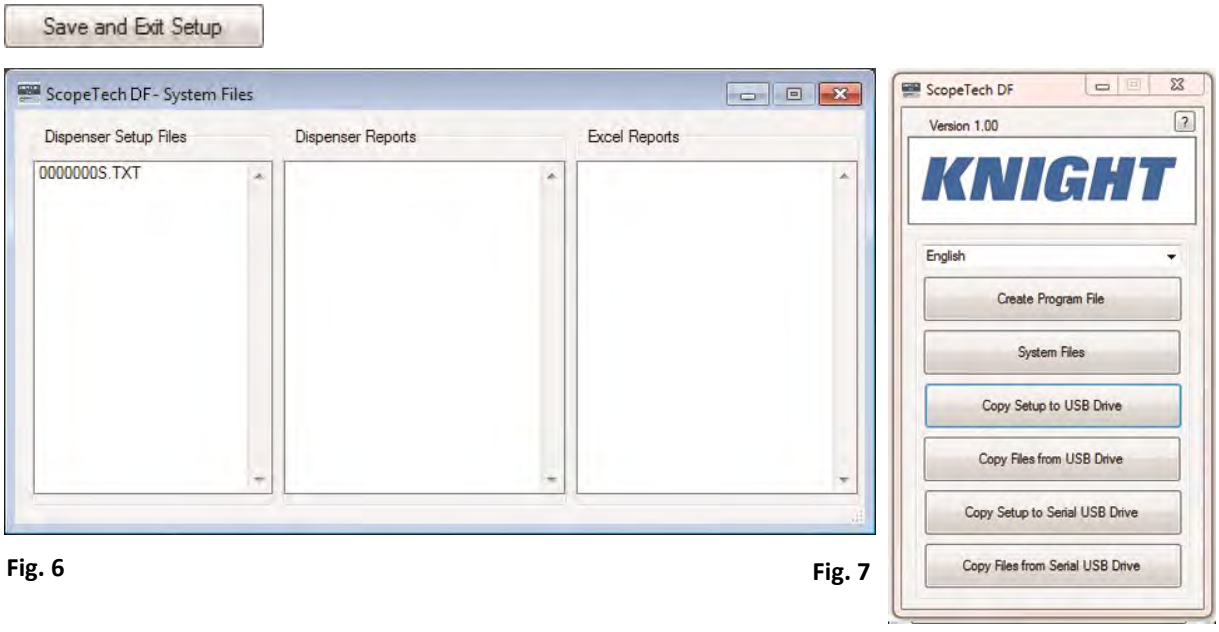


Fig. 6 **Fig. 7**

The system uses the serial number to name the setup file followed by “S” suffix to denote a setup file. To save a file for upload to the ScopeTech DF, press Copy Setup to a USB drive. See Fig 7. Insert a USB drive, highlight the file to be saved and press Copy. Make sure the USB drive flashes for a second or two while it saves. Remove the USB drive from your PC and place it in the ScopeTech DF USB port for uploading. See page 18 step 11 for instructions in programming mode on the ScopeTech DF.

PROGRAMMING SCOPETECH DF

The ENTER key is the main navigation key that will advance the menu from function to function each time it is pressed. Pressing and holding the ENTER key will save any changes and exit you from the programming menu. The screen is blue when the unit is in run mode and amber when it is in the programming mode.

	Instructions	
1.	To access the programming menu, press and hold the ENTER key until the screen changes to an amber color. The Decontamination Cycle is the first menu when you enter the programming mode. To save changes and exit the programming menu, press and hold the ENTER key until the display changes back to the blue screen. It is recommended that you restart the ScopeTech DF system before using it in run mode.	PRESS START FOR DECONTAMINATION CYCLE
2.	Upon installation or whenever the chemical container runs low use the prime function to re-prime the dosing pump. Press UP to start and stop priming. Make sure the flow meter pulse counts are 5 or more before completing the prime.	PRESS UP TO START OR STOP DETERGENT PRIMING FLOWMETER 005
3.	Upon installation use the prime function to re-prime the flush pump. Press UP to start and stop priming. Make sure the flow meter pulse counts are at 5 or more before completing the prime.	PRESS UP TO START OR STOP FLUSH PRIMING FLOWMETER 005
4.	Use the SCROLL, then the Up/Down keys to enter the private usercode. The default code is: 0000.	PRESS SCROLL TO ENTER PASS CODE 0000
If you have a configured setup file for ScopeTech DF, go to step 7. You may skip steps 5, 6, 12, 14-18, 27-36. The setup file contains ScopeTech programming information to allow you to skip these steps.		
5.	A private usercode protects the system settings and allows only authorized personnel to make programming changes and view reports. Use the SCROLL, then the Up/Down keys to set or change a private usercode.	PRESS SCROLL TO CHANGE PASS CODE 0000
6.	Use the SCROLL, then the UP/DOWN arrows to set the unit serial number. The unit serial number will appear in reports. Press ENTER to proceed. Note: The setup file name should match the unit serial number or the file will not load correctly.	PRESS SCROLL TO ENTER UNIT S/N: 0000

PROGRAMMING SCOPETECH DF (CONT.)

	Instructions		
7.	To view reports press the SCROLL and UP/DOWN arrows to select the date range desired. Press ENTER to proceed. See pages 22-27 for more information.	ENTER DATE RANGE TO VIEW REPORTS FROM 08-22-13 TO 08-30-13	
8.	To download reports to a USB drive for printing/viewing on a PC press ENTER at the first summary report screen.	SUMMARY REPORT COLONOSCOPE 002 INCOMPLETE CY 002 TEMP. ERROR 002 OUT OF CHEM 002	PRESS UP TO START REPORT DOWNLOAD TO USB MEMORY
9.	Insert USB drive in system, then press the UP key and wait until “Done” message appears.	COPYING DATA...	
10.	To load a setup file that was configured with the ScopeTech DF PC software, Insert USB drive, then press UP to load the set-up file from the USB drive into the ScopeTech DF.	PRESS UP TO START LOADING NEW SETUP INTO DISPENSER	
11.	Press SCROLL to select mode of operation. Sequence with ID or Express. Press ENTER to proceed. Sequence with ID - Allows the user to choose a technician and endoscope to track pre-cleaning to meet regulatory requirements. Express - Allows the user to choose the operation they would like to perform in any order.	PRESS SCROLL TO SELECT MODE OF OPRERATION SEQUENCE WITH ID	PRESS SCROLL TO SELECT MODE OF OPRERATION EXPRESS MODE
12.	Use the SCROLL and UP/DOWN arrows to enter the name of the facility. Press ENTER to proceed.	PRESS SCROLL TO ENTER FACILITY SC HOSPITAL	
13.	Use the SCROLL and UP/DOWN arrows to enter the correct Date/ Time. Press ENTER to proceed.	PRESS SCROLL TO CHANGE DATE/TIME TIME 02:31:56 PM DATE 08-20-13	
14.	Press SCROLL key until the language to be used is displayed. Select the language (English, German, Spanish, or Chinese) for your location.	PRESS SCROLL TO SELECT WHICH LANGUAGE TO USE ENGLISH	

PROGRAMMING SCOPETECH DF (CONT.)

	Instructions	
15.	Press SCROLL to select temperature units. Select Fahrenheit or Celsius.	SCROLL TO SELECT TEMPERATURE UNITS FAHRENHEIT
16.	Press SCROLL to select pressure units. Select mmHg, psi or bar. Press ENTER to proceed.	PRESS SCROLL TO SELECT WHICH UNITS TO USE mmHg
17.	Press SCROLL to turn on or off the internal audio alarm. Press ENTER to proceed. Note: Alarm sounds will occur anytime temperature is not achieved, detergent supply is empty or flush water is not flowing. The display color will also change to red during any of these events.	PRESS SCROLL TO TURN ALARM SOUND ON OR OFF ALARM SOUND OFF PRESS SCROLL TO TURN ALARM SOUND ON OR OFF ALARM SOUND ON
18.	Using the SCROLL and UP/DOWN arrows enter the name of the detergent. Press ENTER to proceed.	PRESS SCROLL TO TURN ALARM SOUND ON OR OFF ALARM SOUND OFF
19.	Place the detergent discharge tube (part #7117155-D) into a 250 ml graduated cylinder and press the UP key. The pump will run and stop on its own. The target calibration volume is 100 ml ± 3 ml. Enter the volume captured. Repeat step 19 until the volume captured is 100 ml ± 3ml.	PRESS UP TO START DETERGENT PUMP CALIBRATION VOLUME = 100 ml
20.	Press ENTER. The resulting flow rate should be at least 100 ml/min. Press ENTER to save the volume captured and proceed.	ENTER CAPTURE VOLUME IN ML VOLUME = 98 ml FLOWRATE FOR THE DETERGENT PUMP IN ML/MIN IS: FLOWRATE=220
21.	Place the flush discharge tube (part #7117150-D) and the auxiliary flush discharge tube (part #7117167) into a 200 ml graduated cylinder and press the UP key. The pump will run and stop on its own.	PRESS UP TO START FLUSH PUMP CALIBRATION VOLUME = 100 ml
22.	Enter the volume captured and press ENTER. If the volume saved is “out of range” try again until the system accepts the volume entered and displays the flow rate of the pump. Repeat step until you capture 100 ml ± 5 ml. Press ENTER to proceed.	ENTER CAPTURED VOLUME IN ML VOLUME = 094 ml FLOWRATE FOR THE FLUSH PUMP IN ML/MIN IS: FLOWRATE = 857

PROGRAMMING SCOPETECH DF (CONT.)

	Instructions	
23.	ScopeTech is set to pressurize your scope to 200 mmHg (3.87psi). The factory default value is generally accepted. Should you need to change the pressure, press SCROLL to move the cursor. Press the UP or DOWN arrow to change the pressure value. Always follow the endoscope manufacturer's recommended pressure parameters. CAUTION: If you set the inflation pressure point too low, you may not achieve the required scope pressure to conduct the water immersion bubble test. If you set the pressure point too high, this may damage your endoscope. Follow the endoscope manufacturer's instruction manual for the recommended inflation pressure and procedures to perform a leak test.	PRESS SCROLL TO ENTER INFLATION PRESSURE: Press: 200mmHg
24.	The ScopeTech DF is factory calibrated. In the event the inflation pump requires field calibration, this menu will allow you to enter the new calibrated pressure. NOTE: Contact Knight for assistance. You will need a pressure gauge with an air port fitting. A 10 psi (500 mmHg) calibrated pressure gauge is recommended. A. Connect the air line of the pressure gauge to the air port. B. Press START to begin calibration. Allow the pressure gauge some time to stabilize. C. Enter the pressure value reading from the pressure gauge into ScopeTech ± 15% by pressing UP or DOWN.	PRESS START TO TURN AIR PUMP ON. PRESS UP/DOWN TO ENTER VALUE DISPLAYED ON GAUGE PRESSURE: 200mmHg
25.	Use the UP/DOWN arrows to set the temperature to match an external temperature gauge. Press ENTER to proceed.	PRESS UP/DOWN TO ENTER CALIBRATION TEMPERATURE Temperature 073 F
26.	Press SCROLL to select temp alert on or off. System will ignore the temp sensor input if turned to off. Note: If water temperatures is not a factor in the cleaning of the endoscopes with your detergent, select off.	PRESS SCROLL TO SELECT OPTION: TEMP. ALERT IS: ON PRESS SCROLL TO SELECT OPTION: TEMP. ALERT IS: OFF
27.	Use the SCROLL and UP/DOWN arrows to set the minimum and maximum water temperature ranges. Once this range is set, you will have to ensure the sink is filled with water to meet your minimum setting, but not exceed your maximum.	PRESS SCROLL TO ENTER TEMP. RANGE MIN TEMP. 000 MAX TEMP. 000

PROGRAMMING SCOPETECH DF (CONT.)

	Instructions	
28.	To decontaminate the ScopeTech DF using a disinfectant solution use these default flush rinse and purge times. The soak time required for proper high-level disinfection should be programmed per the use instructions of the HLD solution you are using. To change these settings use the SCROLL and UP/DOWN arrows to adjust accordingly.	Decontam Settings Flush Time 020s Soak Time 480s Rinse Time 030s Purge Time 020s
29.	Program the order of the scope inflation and processing sequence using the SCROLL and UP/DOWN arrows to select the numbered step and order of the processing sequence (left to right). Scope inflation is always first followed by detergent dosing flush rinse and rinse purge. Detergent purge can be used to remove remaining detergent from the scope before rinsing. Use a “0” for any unused step. Press ENTER to proceed.	Cleaning Sequence 1-Flush 2-Rinse 3-Purge 4-ScopeInflation 5-Dose 6-Manual 7-Detergent Purge 4-5-6-1-7-2-3
30.	Use SCROLL and the UP/DOWN arrows to program the detergent dose volume flush rinse and purge times for all scopes. These settings will apply to all scopes entered into the scope database.	Default Settings Det. Volume 275ml Flush Time 030s Rinse Time 030s Purge Time 030s
31.	Use the UP/DOWN arrows to select a TECH ID#. Press the SCROLL to move the cursor and the UP/DOWN arrows to enter the names of the cleaning technicians. Press ENTER to proceed.	PRESS SCROLL TO ENTER USER NAMES TECH ID#: 01 JIM PARKER
32.	To use the endoscope data logging features of the ScopeTechDF system press SCROLL to select Yes then press ENTER.	ENTER ENDOSCOPE DATABASE? NO ENTER ENDOSCOPE DATABASE? YES
33.	This menu will allow you to input your scope information manually. Press the UP/DOWN arrow to select the scope number to be used. Press SCROLL to advance to the next line. Press the UP/DOWN arrow to select the scope type. Press SCROLL to advance to the next line. Press the UP/DOWN arrow to enter the model number. Press SCROLL to advance to the next line. Press the UP/DOWN arrow to enter the serial number. Press the SCROLL to go back to the top to make any type of corrections.	Scope #: 001 Bronchoscope Model#: CFQ160L S/N: 203480
34.	It may take up to four minutes to save scope data for up to 100 scopes. Fewer scopes will require less time. Note: Do not cycle power during this operation or any changes you made will be lost.	SAVING SCOPE DATA This may take some time

PROGRAMMING SCOPETECH DF (CONT.)

	Instructions	
35.	To enter another endoscope into the database press SCROLL to select Yes then press ENTER and repeat step 28-29.	BACK TO SCOPE DATABASE? YES BACK TO SCOPE DATABASE? NO
36.	To delete old or unwanted report data from memory press the SCROLL and DOWN keys simultaneously to clear the usage data memory. Press the SCROLL and DOWN keys again to confirm.	PRESS SCROLL AND DOWN TO CLEAR USAGE DATA MEMORY ARE YOU SURE?
37.	To delete old or unwanted endoscope settings from memory press the SCROLL and DOWN keys simultaneously to clear the scope data memory. Press SCROLL and DOWN keys again to confirm.	PRESS SCROLL AND DOWN TO CLEAR SCOPE DATA MEMORY ARE YOU SURE?
38.	To save all of the programming settings press and hold the ENTER key until the screen changes back to green.	TIME 11:38:23 AM DATE 06-08-13 PRESS UP TO ENTER TECH ID#:

VIEWING SUMMARY REPORT

	Instructions	
1.	Summary Reports provide “at a glance” visibility of endoscopes processed over the “From – To” date range. Endoscopes are categorized by “types” including Colon, Gastro, Broncho, Duodena, Pediatric and “other”. Each scope type summary includes the total precleaning events and any process “errors” that occurred.	SUMMARY REPORT Colonoscope 002 Incomplete CY 002 Temp Error 002 Out of Chem. 002 Insuff. Flow 000
2.	Press SCROLL key to advance through scope types and view summary data. Press ENTER to exit the summary report screens.	SUMMARY REPORT Colonoscope 001 Incomplete CY 001 Temp Error 000 Out of Chem. 001 Insuff. Flow 002
3.	The Decontamination report provides a quick view of the frequency that the system is decontaminated.	SUMMARY REPORT Syst. Decontam 002 Incomplete CY 000

VIEWING SUMMARY REPORT

	Instructions	
1.	Use the SCROLL and UP/DOWN arrows to enter a valid date range for the reports. Press ENTER to advance to the next screen.	ENTER DATE RANGE TO VIEW REPORTS FROM 08-22-13 TO 08-30-13
2.	This screen will show the summary by scope type. Press SCROLL to change the scope type. Press ENTER to advance to the next screen.	SUMMARY REPORT Colonoscope 001 Incomplete CY 001 Temp Error 000 Out of Chem. 001 Insuff. Flow 002
3.	This screen shows the total for Cycle Counts Error Counts and Chemical Usage.	SUMMARY REPORT Total Cycle Count 002 Total Error Count 001 Total Chem. Usage 100
4.	Press UP/DOWN arrows to cycle through errors for individual scopes. Press ENTER to advance to the next screen.	Scope# 001 Bronchoscope Model #: CFQ160L S/N: 203480 Cycle Cnt: 002 Error Cnt: 001
5.	On this screen the user can select to view errors report details. Press SCROLL to change the selection from NO to YES. Press ENTER to advance to the next screen.	VIEW ERROR REPORT DETAIL? NO VIEW ERROR REPORT DETAIL? YES
6.	If YES was selected for view error report detail the screen to the right is displayed. Press ENTER to exit the error reports and continue in the programming menu.	ERROR# 001 DATE: 08-22-13 TECH ID #: 001 SCOPE #: 001 Incomplete Cycle

DOWNLOADING AND VIEWING REPORTS ON PC

1. The USB drive you use to download reports must be formatted to FAT32. If is not properly formatted you will not be able to save report files from the ScopeTech DF
2. To format the USB drive to FAT32 follow these steps:

   A. Insert USB drive into PC.
   B. Open My Computer. See Fig. 1.
   C. Right-click on USB drive and select Format from the drop-down menu.
   D. Select FAT32 in File System drop-down menu. See Fig. 2.
   E. Click Start to reformat the USB drive.

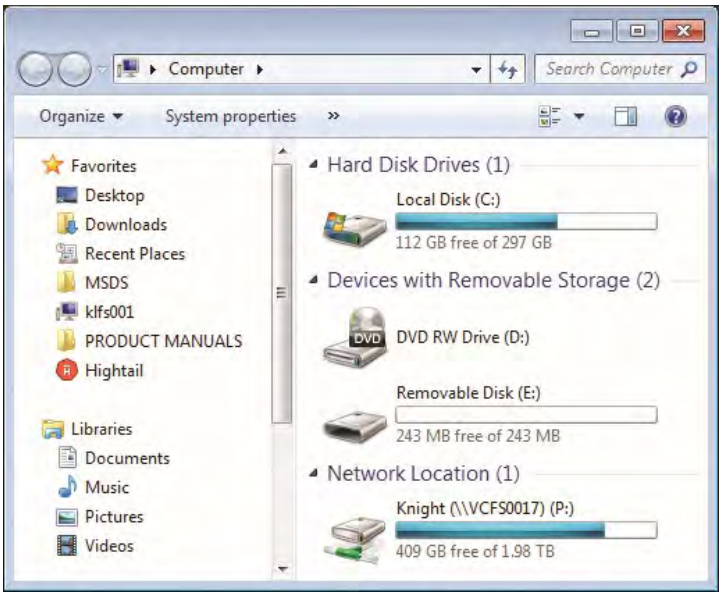


Fig. 1

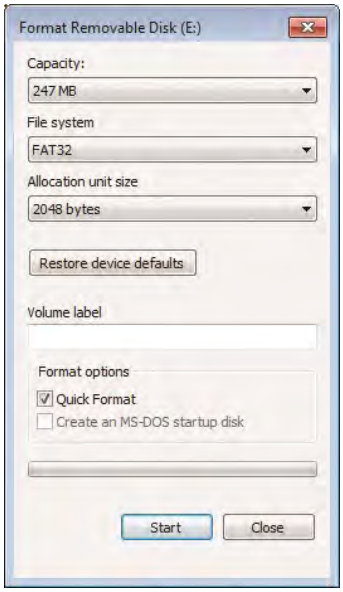


Fig. 2

3. Insert the USB drive into the USB port on the ScopeTech DF Follow the programming instructions on page 18 steps 8-10 to download the report data to the USB drive.

4. Remove the USB drive from the USB port on the ScopeTech DF and insert it into the USB port on a PC.

5. Start ScopeTech DF PC application if it is not already running.

6. Once the main menu appears, press Copy Files from USB Drive. See Fig. 3.

7. Highlight the report and press Copy. See Fig. 4. Close the Copy File window when complete.

Fig. 3

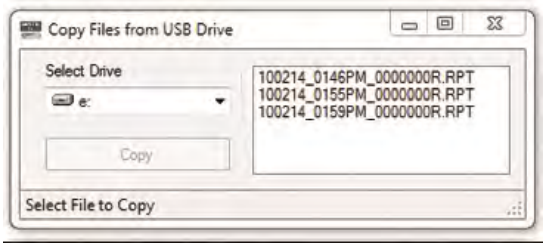


Fig. 4

DOWNLOADING AND VIEWING REPORTS ON PC

8. Click System Files from the main menu. See Fig. 5.

9. The report will appear in the System Files under Dispenser Reports. See Fig. 6. Double-click the report to open.

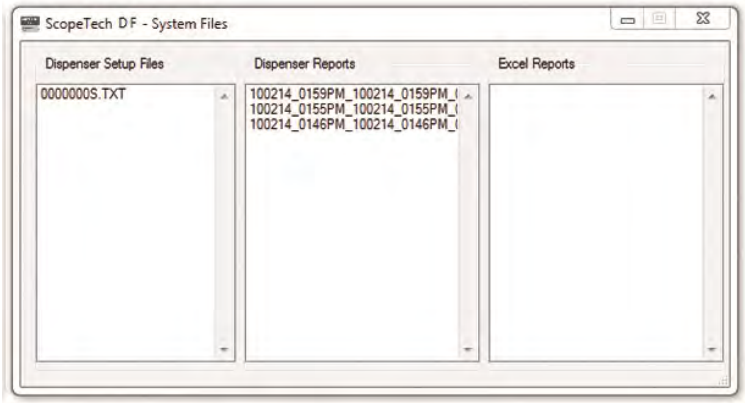
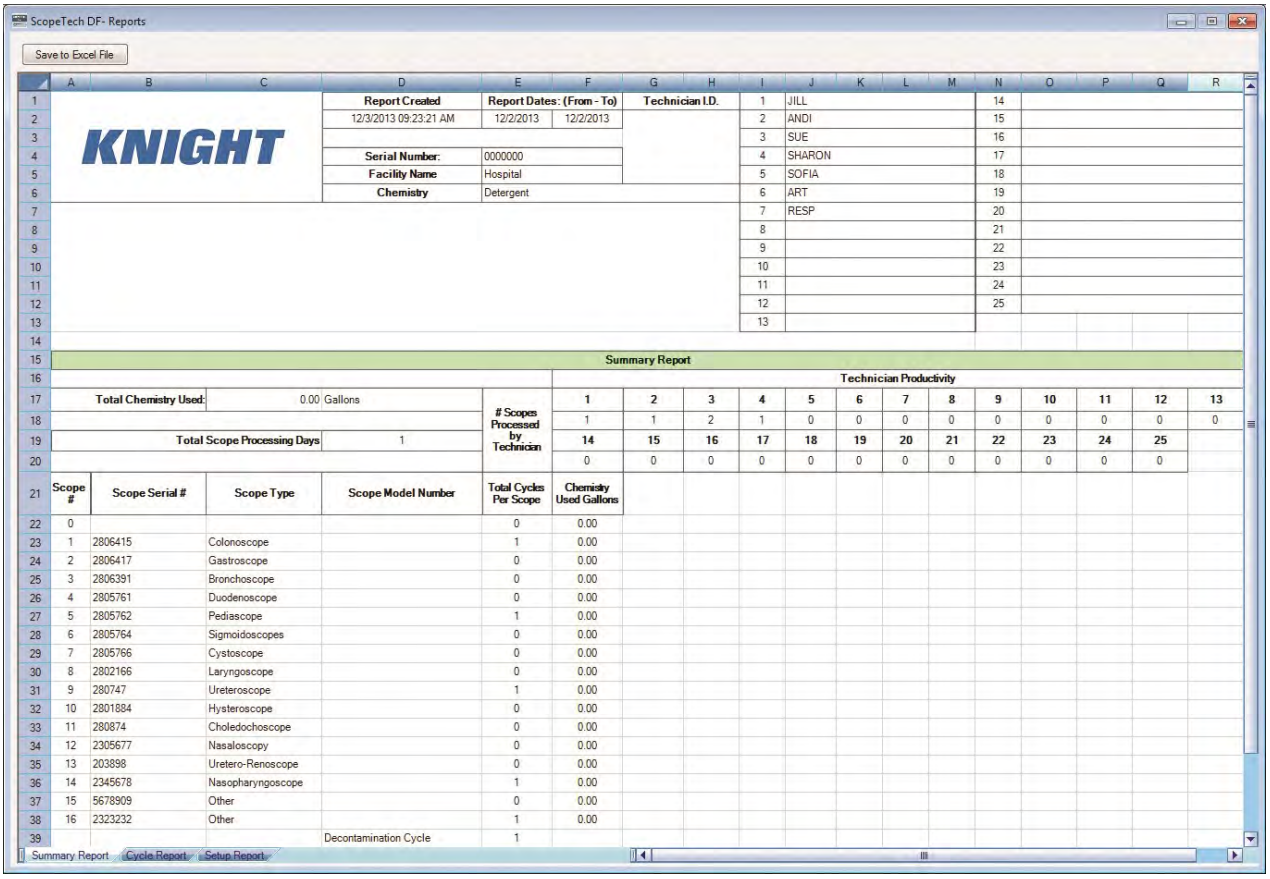


Fig. 6

Fig. 5

PC SUMMARY REPORT

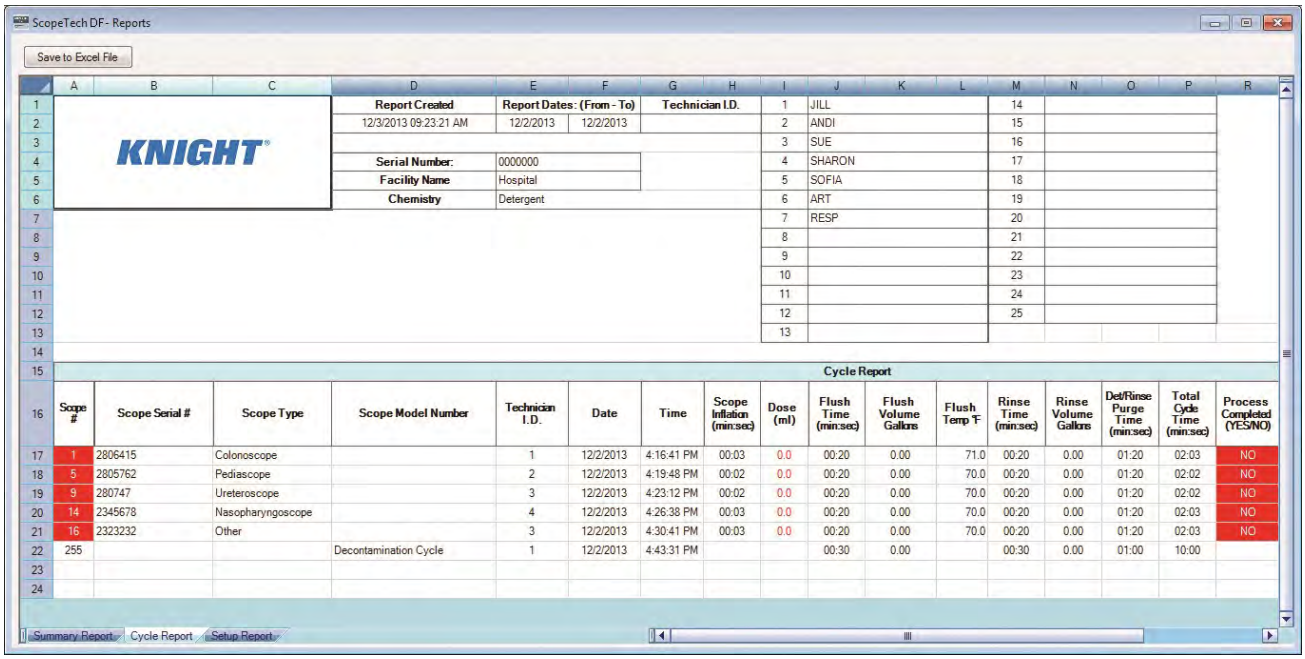
The summary report provides data on individual scope cycles run, chemical usage and technician productivity.



Note: All ScopeTech DF reports include the system settings in the header section. This information provides reference for the productivity and consumption data in the reports. The 3 types of reports are in the 3 tabs at the bottom left.

DOWNLOADING AND VIEWING REPORTS ON PC

The Cycle report provides data for managing cleaning quality, technician productivity, and consistency of the pre-cleaning process.



ScopeTech DF- Reports

Save to Excel File

KNIGHT

Report Created	Report Dates: (From - To)		Technician I.D.
12/3/2013 09:23:21 AM	12/2/2013	12/2/2013	

Serial Number:	0000000
Facility Name	Hospital
Chemistry	Detergent

1	JILL
2	ANDI
3	SUE
4	SHARON
5	SOFIA
6	ART
7	RESP
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

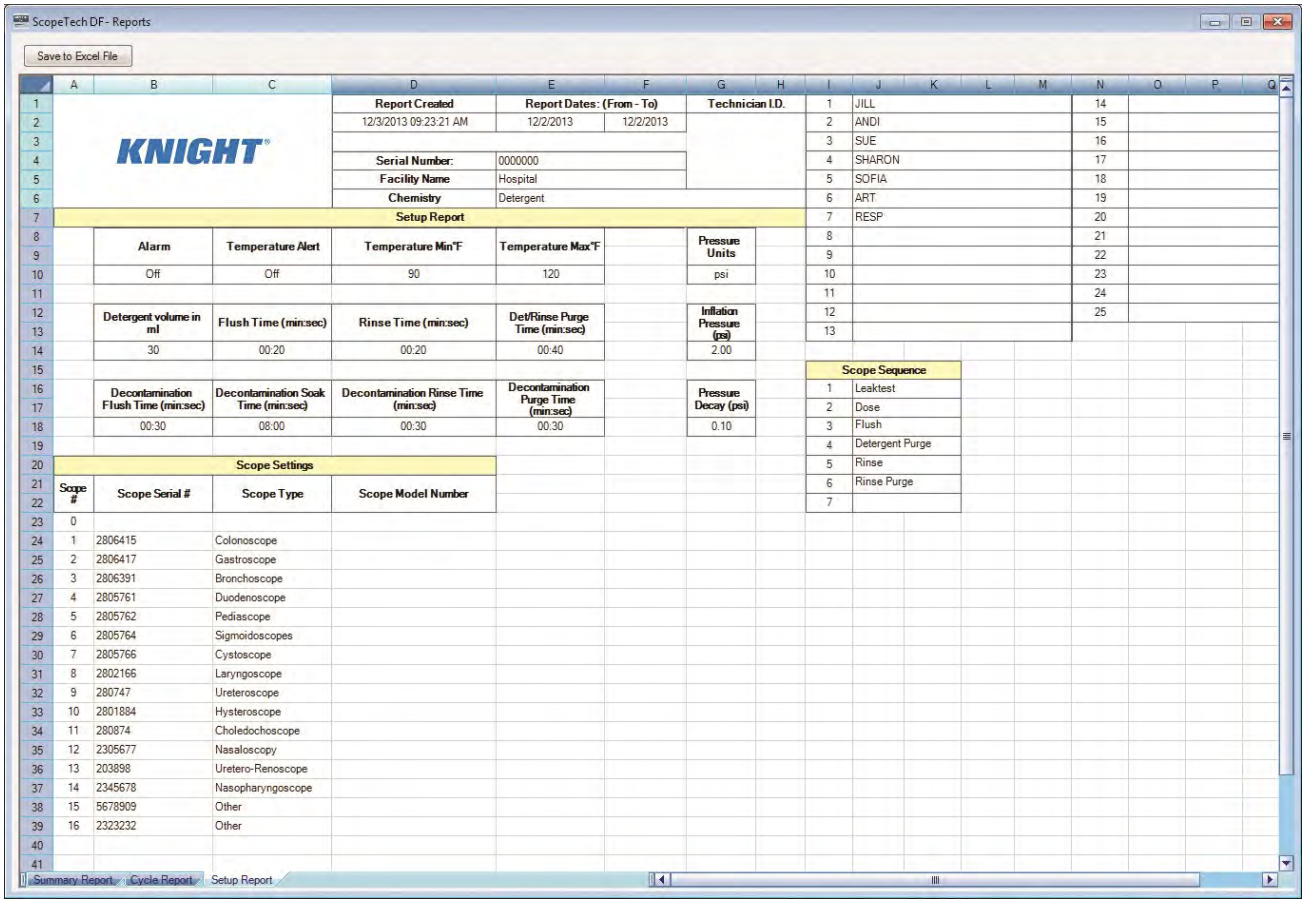
Cycle Report

Scope #	Scope Serial #	Scope Type	Scope Model Number	Technician I.D.	Date	Time	Scope Inflation (min:sec)	Dose (ml)	Flush Time (min:sec)	Flush Volume Gallons	Flush Temp °F	Rinse Time (min:sec)	Rinse Volume Gallons	Det/Rinse Purge Time (min:sec)	Total Cycle Time (min:sec)	Process Completed (YES/NO)
1	2806415	Colonoscope		1	12/2/2013	4:16:41 PM	00:03	0.0	00:20	0.00	71.0	00:20	0.00	01:20	02:03	NO
5	2805762	Pediascope		2	12/2/2013	4:19:48 PM	00:02	0.0	00:20	0.00	70.0	00:20	0.00	01:20	02:02	NO
9	280747	Ureteroscope		3	12/2/2013	4:23:12 PM	00:02	0.0	00:20	0.00	70.0	00:20	0.00	01:20	02:02	NO
14	2345678	Nasopharyngoscope		4	12/2/2013	4:26:38 PM	00:03	0.0	00:20	0.00	70.0	00:20	0.00	01:20	02:03	NO
16	2323232	Other		3	12/2/2013	4:30:41 PM	00:03	0.0	00:20	0.00	70.0	00:20	0.00	01:20	02:03	NO
255			Decontamination Cycle	1	12/2/2013	4:43:31 PM			00:30	0.00		00:30	0.00	01:00	10:00	

Summary Report | Cycle Report | Setup Report

PC SETUP REPORT

The Setup report contains the settings record for operation of the ScopeTech DF



ScopeTech DF- Reports

Save to Excel File

KNIGHT

Report Created	Report Dates: (From - To)		Technician I.D.
12/3/2013 09:23:21 AM	12/2/2013	12/2/2013	

Serial Number:	0000000
Facility Name	Hospital
Chemistry	Detergent

1	JILL
2	ANDI
3	SUE
4	SHARON
5	SOFIA
6	ART
7	RESP
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

Setup Report

Alarm	Temperature Alert	Temperature Min°F	Temperature Max°F	Pressure Units
Off	Off	90	120	psi

Detergent volume in ml	Flush Time (min:sec)	Rinse Time (min:sec)	Det/Rinse Purge Time (min:sec)	Inflation Pressure (psi)
30	00:20	00:20	00:40	2.00

Decontamination Flush Time (min:sec)	Decontamination Soak Time (min:sec)	Decontamination Rinse Time (min:sec)	Decontamination Purge Time (min:sec)	Pressure Decay (psi)
00:30	08:00	00:30	00:30	0.10

Scope Sequence	
1	Leaktest
2	Dose
3	Flush
4	Detergent Purge
5	Rinse
6	Rinse Purge
7	

Scope Settings

Scope #	Scope Serial #	Scope Type	Scope Model Number
0			
1	2806415	Colonoscope	
2	2806417	Gastroscope	
3	2806391	Bronchoscope	
4	2805761	Duodenoscope	
5	2805762	Pediascope	
6	2805764	Sigmoidoscopes	
7	2805766	Cystoscope	
8	2802166	Laryngoscope	
9	280747	Ureteroscope	
10	2801884	Hysteroscope	
11	280874	Choledochoscope	
12	2305677	Nasaloscopy	
13	203898	Uretero-Renoscope	
14	2345678	Nasopharyngoscope	
15	5678909	Other	
16	2323232	Other	

Summary Report | Cycle Report | Setup Report

DOWNLOADING AND VIEWING REPORTS ON PC

Anytime a ScopeTech DF report is open for viewing in the Reports window, you can choose to save the file in an Excel format by clicking the Save to Excel File button located in the upper left of the Reports window. See Fig 7. The Excel version of the report appears in the System Files directory in the column marked Excel Reports. See Fig. 8. Double-click to open in Excel.

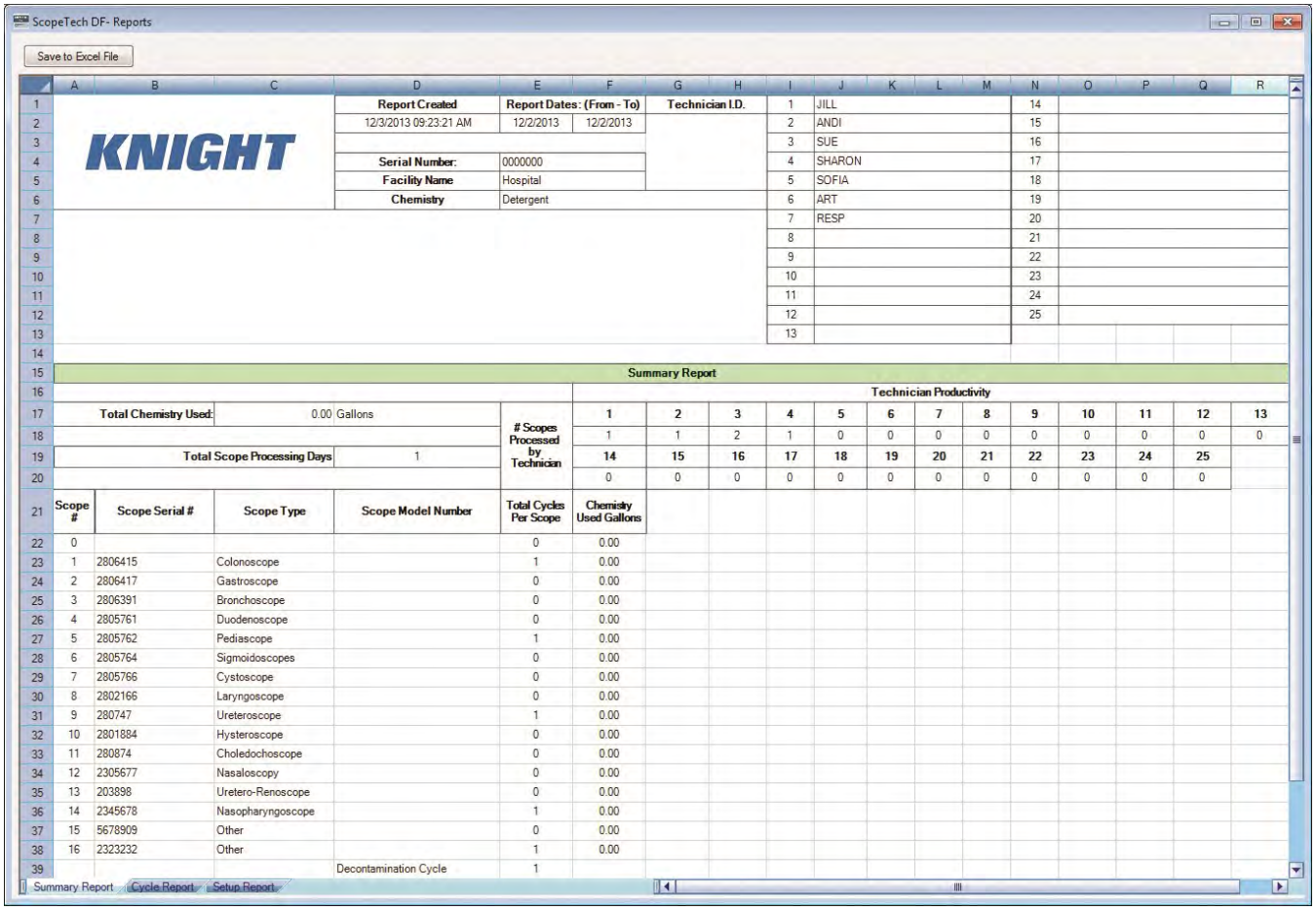


Fig. 7

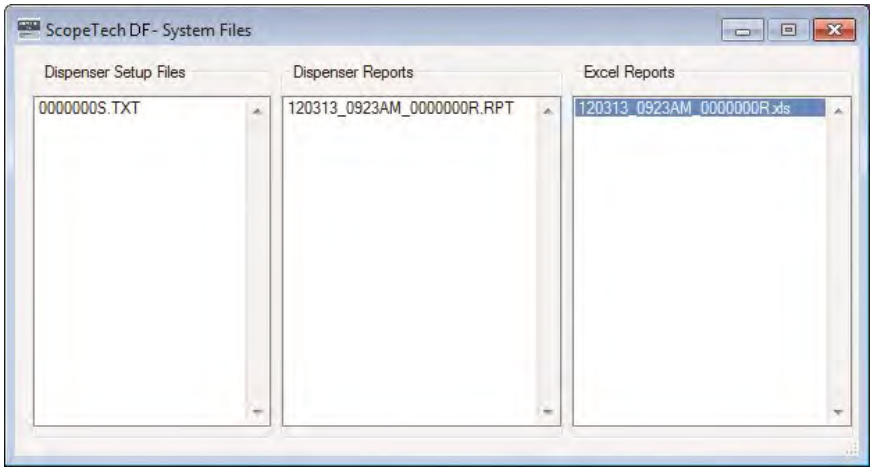
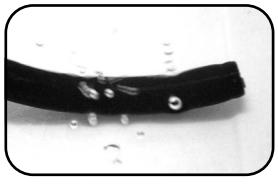
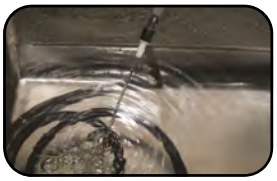


Fig. 8

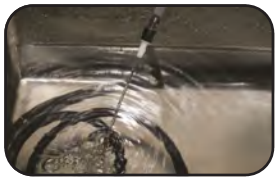
OPERATING SCOPETECH DF - SEQUENCE MODE

	Instructions	
1.	**Enter Technician ID (if required)** A. Press UP ARROW to select a Technician ID or use the barcode scanner to read Technician ID from barcode. B. Press ENTER to confirm Technician ID.	TIME 11:38:23 AM DATE 06-08-13 PRESS UP TO ENTER TECH ID #: 
2.	**Enter Scope ID (if required)** A. Press UP/DOWN ARROW to select a Scope ID or use the barcode scanner to read Scope ID from barcode. B. Press ENTER to confirm Scope ID.	PRESS UP/DOWN TO SELECT SCOPE 01 GASTROSCOPE 2801884
3.	A. Fill the container or sink with clean water to the appropriate level as recommended by the endoscope manufacturer or department protocol. B. Connect the inflation adapter to scope at venting connector. C. Press START to begin pressurizing the scope while the scope is out of the sink. Watch for expansion of rubber covering due to increased internal pressure. With the scope pressurized, manipulate the control knobs in all directions. Did scope maintain pressure? If yes, continue to step D - Water Immersion Leak Test. If no, do not immerse the scope in water. Follow the endoscope manufacturer's instructions or department protocol for further processing. NOTE: If the pressurizing parameters for the scope are not met, a red screen will come on. Press ENTER to deflate or press SCROLL to keep scope inflated. Follow the endoscope manufacturer's instructions or department protocol for further processing. **Water Immersion Leak Test** D. Immerse the scope under clean water and angulate the distal tip. Observe for a steady stream of bubbles. No Leak: If the technician observes no bubbles from the scope and has determined there is no leak at the end of the water immersion test, press ENTER to deflate the scope. Go to step 4 - Detergent/Enzymatic Dosing. Technician Observes a Leak: If the technician observes bubbles from the scope and has determined there is a leak, press SCROLL to keep the scope inflated. Then follow the endoscope manufacturer's instructions or department protocol for further processing.	CAUTION: Always ensure the scope connectors and tubing are free from moisture. Follow department protocols for drying the connectors and connector lines. >SCOPE INFLATION DETERGENT 055ml MANUAL CLEAN NO SINGLE FLUSH 60  CANNOT INFLATE! TRY AGAIN OR CONTINUE CLEANING PRESS ENTER TO DEFLATE OR SCROLL TO KEEP INFLATED  

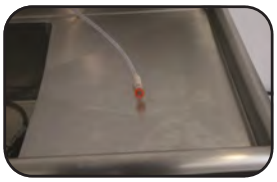
OPERATING SCOPETECH DF - SEQUENCE MODE (CONT.)

	Instructions	
4.	**Detergent/Enzymatic Dosing** A. Check water temperature on the ScopeTech DF display, and if needed, adjust water temperature. B. Press START to dispense detergent into sink.	SCOPE INFLATION >DETERGENT 055ml MANUAL CLEAN NO SINGLE FLUSH 60 
5.	**Manual Cleaning** A. Manually clean the exterior of the scope and the internal channels as instructed by endoscope manufacturer's IFU or industry cleaning protocol. B. Press SCROLL when done manually cleaning the scope to update the MANUAL CLEAN field from NO to YES.	SCOPE INFLATION DETERGENT 055ml >MANUAL CLEAN NO SINGLE FLUSH SCOPE INFLATION DETERGENT 055ml >MANUAL CLEAN YES SINGLE FLUSH 60
6.	**Scope Flush** A. Attach flushing tubes and channel blockers to scope. ScopeTech DF has a Main and Auxiliary flushing ports. Use the auxiliary flushing port to flush the elevator wire channel, auxiliary water channel, or when dual port flushing is needed. B. Place flush suction tube in sink. C. Press SCROLL to select Single Flush or Dual Flush. For Dual Flush operation, make sure the Main and Auxiliary discharge tubes are connected to the flush ports before continuing. D. Press START to begin flushing detergent though scope. Allow timer to count down to zero. E. Drain detergent solution from sink.	SCOPE INFLATION DETERGENT 055ml MANUAL CLEAN YES SINGLE FLUSH 60  SCOPE INFLATION DETERGENT 055ML MANUAL CLEAN YES >DUAL FLUSH 60 
7.	**Detergent Purge** A. Fill the sink with fresh water to desired level. If a separate sink is used for rinsing, move scope to rinse sink. B. Ensure flush suction tube is in the fresh water. C. Press START to begin purging detergent from scope. Allow timer to count down to zero.	>DETER PURGE 30 SCOPE RINSE 60 RINSE PURGE 30 SAVE/EXIT YES 
8.	**Scope Rinse** A. Ensure flush suction tube is in the fresh water. B. Press START to begin rinsing detergent from scope. Allow timer to count down to zero.	DETER PURGE 30 >SCOPE RINSE 60 RINSE PURGE 30 SAVE/EXIT YES
9.	**Rinse Purge** A. Remove flush suction tube from the sink and place it on the counter to draw air in and displace the cleaning solution. B. Press START to begin purging water from scope. Allow timer to count down to zero.	DETER. PURGE 30 SCOPE RINSE 60 >RINSE PURGE 30 SAVE/EXIT YES 
10.	**Save Cleaning Record** A. Press START to save cleaning record.	DETER. PURGE 30 SCOPE RINSE 60 RINSE PURGE 30 >SAVE/EXIT YES

OPERATING SCOPETECH DF - EXPRESS MODE

	Instructions	
1.	A. Fill the container or sink with clean water to the appropriate level as recommended by the endoscope manufacturer or department protocol. B. Connect the inflation adapter to scope at venting connector. C. Press SCROLL to select AIR from menu. D. Press START to begin pressurizing the scope while the scope is out of the sink. Watch for expansion of rubber covering due to increased internal pressure. With the scope pressurized, manipulate the control knobs in all directions. **Did scope maintain pressure?** If yes, continue to step E - Water Immersion Leak Test. If no, do not immerse the scope in water. Follow the endocope manufacturer's instructions or department protocol for further processing. E. Immerse the scope under clean water and angulate the distal tip. Observe for a steady stream of bubbles. **No Leak:** If the technician observes no bubbles from the scope and has determined there is no leak at the end of the water immersion test, press ENTER to deflate the scope. Go to step 2 - Detergent/Enzymatic Dosing and Manual Cleaning. **Technician Observes a Leak:** If the technician observes bubbles from the scope and has determined there is a leak, press SCROLL to keep the scope inflated. Then follow the endoscope manufacturer's instructions or department protocol for further processing.	CAUTION: Always ensure the scope connectors and tubing are free from moisture. Follow department protocols for drying the connectors and connector lines. AIR DOSE SINGLE ◆ OFF 055ml 015s Temperature: 100°F  AIR DOSE SINGLE ◆ ON 055ml 015s Temperature: 100°F  AIR DOSE SINGLE ◆ ON 055ml 015s Temperature: 100°F
2.	**Detergent/Enzymatic Dosing and Manual Cleaning** A. Check water temperature on the ScopeTech DF display, and if needed, adjust water temperature. B. Press SCROLL to select DOSE from menu. C. Press START to dispense detergent/enzymatic into sink. D. Manually clean the exterior of the scope and the internal channels as instructed by endoscope manufacturer's IFU or industry cleaning protocol.	AIR DOSE SINGLE ◆ OFF 055ml 015s Temperature: 100°F 

OPERATING SCOPETECH DF - EXPRESS MODE

	Instructions	
3.	**Scope Flush** A. Attach flushing tubes and channel blockers to scope. ScopeTech has a Main and Auxiliary flushing ports. Use the auxiliary flushing port to flush the elevator wire channel, auxiliary water channel, or when dual port flushing is needed. B. Place flush suction tube in sink. C. Press SCROLL to select flush from the menu. Press ENTER to select Single Flush or Dual Flush. For Dual Flush operation, make sure the Main and Auxiliary discharge tubes are connected to the flush ports before continuing. D. Press START to begin flushing detergent though scope. Allow timer to count down to zero. E. Drain detergent solution from sink.	AIR DOSE SINGLE ◆ OFF 055ml 060s Temperature: 100°F  AIR DOSE SINGLE ◆ ON 055ml 060s Temperature: 100°F  Note: When flushing the endoscope, please visually check all scope channel outputs to ensure they are free flowing and not blocked. The ScopeTech DF is designed as a flushing aid and is not designed to remove channel
4.	**Scope Rinse** A. Fill the sink with fresh water to desired level. If a separate sink is used for rinsing, move scope to rinse sink. B. Ensure suction tube is in the fresh water. C. With flush mode still selected, Press START to begin rinsing detergent from scope. Allow timer to count down to zero.	AIR DOSE SINGLE ◆ ON 055ml 060s Temperature: 100°F 
5.	**Rinse Purge** A. Remove flush suction tube from the sink and place it on the counter to draw air in and displace the cleaning solution. B. With flush mode still selected, Press START to begin purging water from scope. Allow timer to count down to zero.	AIR DOSE SINGLE ◆ ON 055ml 060s Temperature: 100°F 

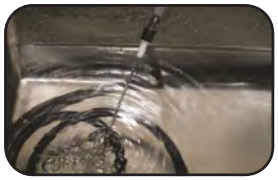
Note: By placing the ◆below the Flush time in express mode, you can press the UP/DOWN arrows to increase or decrease the time* for flushing. Once the operation is complete it will revert back to the originally programmed time. *If the programmed time is not completed the report will indicate an error. The next rise step will not be prevented or blocked from execution.

DAILY CLEANING AND DISINFECTION OF THE SCOPETECH DF FLUSH PUMP AND TUBES

The ScopeTech DF flushing tubes should be cleansed and decontaminated with an approved high level disinfectant solution or sterilization method on a daily basis.

The frequency of the decontamination of the ScopeTech pump itself depends on whether the source of the water/detergent solution is a clean external supply container or the sink itself. Daily cleaning is recommended when the flush pump is drawing its cleaning solution and rinse water from the sink. If the cleaning solutions are coming from a clean, separate supply container the decontamination interval can be monthly.

DAILY CLEANING AND DISINFECTION OF THE SCOPETECH DF FLUSH PUMP AND TUBES

	Instructions	
1.	To disinfect the flush pump internal parts and the flush tubing, fill a container or sink with the recommended dilution of High Level Disinfectant (HLD). Insert the flush suction tube, the flush discharge tube(s), and the irrigation flushing tubes into the container or sink with the HLD.	
2.	Press the Decontamination key.	
3.	Press START and watch the HLD solution prime up into the pump. Once the line is primed with HLD, the unit will emit a “beep” sound and the lines should be filled with HLD solution. If the tube is not completely filled with HLD press UP and repeat this step.	>FLUSH CYCLE 20 SOAK CYCLE 480 HLD PURGE 15 RINSE CYCLE 30 RINSE PURGE 15
4.	With the cursor on Soak Cycle, press START and the display will begin to count down from 480 sec (8 min) to 000 seconds before the “beep” tone occurs. This is the default time and can be changed in the programming mode. See page 21 step 29 to change this time.	FLUSH CYCLE 20 >SOAK CYCLE 480 HLD PURGE 15 RINSE CYCLE 30 RINSE PURGE 15
5.	With the cursor on HLD Purge, remove the flush suction tube from the HLD solution and press START. The system will pull in air to displace the HLD from the fluid lines and pump. Consult your chemical supplier for instructions on reuse or disposal of HLD solution.	FLUSH CYCLE 20 SOAK CYCLE 480 >HLD PURGE 15 RINSE CYCLE 30 RINSE PURGE 15
6.	With the cursor on Rinse Cycle, place the flush suction tube in a sink or container filled with fresh water and press START. Fresh water should then flush through and displace HLD solution from the tubes and pump.	FLUSH CYCLE 20 SOAK CYCLE 480 HLD PURGE 15 >RINSE CYCLE 30 RINSE PURGE 15
7.	With the cursor on Rinse Purge, remove the flush suction tube from the sink or container and press START. At the end of this step the system will “beep” and return to the main run screen. Use a disposable disinfectant wipe or a damp cloth with a diluted chlorine solution to wipe down the exterior of the ScopeTech DF.	FLUSH CYCLE 20 SOAK CYCLE 480 HLD PURGE 15 RINSE CYCLE 30 >RINSE PURGE 15

OPERATING SCOPETECH DF - EXPRESS MODE

	Instructions	
1.	To disinfect the flush pump internal parts and the flush tubing in Express Mode, fill a container or sink with the recommended dilution of High Level Disinfectant (HLD). Insert the flush suction tube, the flush discharge tube(s), and the irrigation flushing tubes into the container or sink with the HLD.	
2.	Press the SCROLL key to select the flush function. Then press the ENTER key to select Single or Dual flush. Use the UP/DOWN key to change the flush time to 20 seconds or as need to flood the tubes with HLD solution. Press START to begin pumping the HLD solution through the internal tubing. Allow the timer to count down to zero.	AIR DOSE SINGLE OFF 055ml 020s Temperature: 100°F
3.	Allow to soak for 480 seconds (8 minutes) or as recommended by the HLD usage instructions.	
4.	Then remove the flush suction tube from the HLD solution and press START. Allow the timer to count down to zero. The system will pull in air to displace the HLD from the fluid lines and pump. Consult your chemical supplier for instructions on reuse or disposal of HLD solution.	AIR DOSE SINGLE ON 055ml 020s Temperature: 100°F
5.	Place the flush suction tube in a sink or container filled with fresh water and press START. Fresh water should then flush through and displace HLD solution from the tubes and pump. Use a disposable disinfectant wipe or a damp cloth with a diluted chlorine solution to wipe down the exterior of the ScopeTech DF.	AIR DOSE SINGLE ON 055ml 020s Temperature: 100°F
6.	Remove the flush suction tube from the sink or container and press START. Allow the timer to count down to zero. The system will pull in air to displace water from the fluid lines and pump.	

CYCLE ERRORS

Note: See page 22 to view reports on decontamination.

	Instructions	
1.	If the endoscope just processed was not processed using each of the sequence steps the message “Cycle Incomplete” with the step omitted will be shown after the save/exit button is pushed. Press ENTER to bypass and repeat the omitted step.	CYCLE INCOMPLETE! PURGE TIME WAS 0s CYCLE INCOMPLETE! FLUSH TIME WAS 0s
2.	If the cleaning solution temperature is out of range this message will appear. Adjust the water temperature up/down to achieve the desired temperature.	SCOPEFLUSH 51s

CYCLE ERRORS

	Instructions	
3.	If the cleaning solution flow rate is insufficient this mes-sage will appear. Check that the flushing suction tube is below the water level, press the ENTER key to return to the flushing step and press START. If this does not resolve the error message go to the troubleshooting section of this manual on page 33.	INSUFFICIENT FLOW
4.	When the detergent supply is low this message will appear. Check that the suction tube is in the product container. Replace the empty container if needed. Press the ENTER key to return to the step and press START. If this does not resolve the error mes-sage go to the troubleshooting section of this manual on page 33.	CHECK DET. SUPPLY

TROUBLESHOOTING

Symptom	Indication	Solutions/Cause
ScopeTech DF not working	• ScopeTech DF does not run when a key is pressed	• Restart the ScopeTech DF. Turn the system off and then turn it back on
Temperature alarm	• Flashing temperature on display • Audible alarm	• Adjust temperature range • Adjust water temperature • Replace temperature probe
Flush alarm	• Screen notification	• Suction tube sucking air • Suction tube not sinking to bottom of sink • Recalibrate flush pump • Flush fitting broken or leaking
Dosing alarm	• Screen notification	• Detergent container empty • Recalibrate detergent pump • Detergent discharge tube worn or broken • Detergent pump squeeze tube worn out or broken
Inflation pump not working	• No air coming out of the inflation kit	• Inflation hose fitting broken • Inflation pump broken
Flush pump not working	• Water or detergent solution is not being pumped through the ScopeTech DF	• Pump seals worn out • Pump suction tube obstructed • Pump suction filter dirty
Can’t access system menus	• Screen unresponsive	• Reboot the system • User interface switch inoperable • Incorrect pass code - contact Knight for temporary pass code

TROUBLESHOOTING (CONT.)

Symptom	Indication	Solutions/Cause
No data in the reports	• Reports contain no data	• Check for FAT32 formatting on USB drive • Clear usage data • Contact Knight for assistance
Files not transferring from USB drive to unit	• Set-up data does not appear loaded on the ScopeTech DF	• Check for FAT32 formatting • No file on report to transfer • Check USB port connection
Data in reports incorrect	• Incorrect data appearing in reports	• Check set-up report • Check system settings • Reset date/time • Clear usage data
Pump tube broken or worn	• Tube looks visually worn or is leaking	• Replace with factory tube only

SCOPETECH DF MAINTENANCE

Component	Maintenance Requirement	PM Frequency
Detergent Pump Tube	Replace/Recalibrate	6 months
Flushing Tubes	Replace	6 months
Leak Test Connector	Inspection/Replacement	6 months
Detergent Foot Valve	Replace	12months
Flushing Tube Quick Connect Fittings	Inspection/Replace as needed	6 months

ENDOSCOPE FLUSHING GUIDES

Approximate times in seconds to flush 90 mls through each channel or compination of endoscope as applicable.

Updated September 2015

Olympus Endoscopes							
Type	Model	Ports			MODE	Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Colonoscope	CFQ 140L	Suction	Air	n/a			
		x			Single	5	15
			x		Dual	21	31
		x	x		Dual	6	16
Olympus Endoscopes							
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Colonoscope	Q180AL	Suction	Air	Irrigation (Aux)			
		x			Single	5	14
			x		Single	10	19
		x	x		Single	10	19
		x	x	x	Dual	15	22
Olympus Endoscopes							
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Gastroscope	GIF 160	Suction	Air	n/a			
		x			Single	6	16
			x		Dual	35	45
		x	x		Dual	6	16
Olympus Endoscopes							
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Duodenoscope	TJF-160F	Suction	Air	Elevator			
Total volume through elevator channel while simultaneously flushing suction and air ports							
90		x	x	x	Dual	16	38
60		x	x	x	Dual	11	25.5
30		x	x	x	Dual	5.5	12.8
15		x	x	x	Dual	2.6	6.4
Olympus Endoscopes							
Cystoscope	CYF-3	Bio			Single	5	14
Olympus Endoscopes							
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Cystoscope	CYF V2	Bio			Single	5	14
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Bronchscope	BF 1T180	Air	Water	Biopsy	Single		
			x	x	Single	5	11
		x		x	Single	9	16
Pentax Endoscopes							
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Gastroscope	EG 2970K	Suction	Water (air)	Irrigation (Aux)			
		x			Single	5	15
			x		Dual	17	27
				x	Dual	12	22
		x	x	x	Dual	5	15
		x	x	block	Dual	5	15
x		x	block	x	Dual	5	15
Pentax Endoscopes							
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Colonoscope	EC 3872 TLK	Suction	Water (air)	Irrigation (Aux)			
		x			Single	7	17
			x		Dual	21	31
		x	x	x	Dual	5	15
		x	x	block	Dual	6	16
		x	block	x	Dual	6	16
		block	x	x	Dual	5	15
Pentax Endoscopes							
Type	Model	Ports				Avg Time (sec) (Lines Full)	Avg Time (sec) (Lines Clear)
Bronchoscope	EB 1750K	Suction	Water	Biopsy	Single		
			x	x	Single	7	12
		x		x	Single	12	18
		x	x	x	Single	14	20

REPLACEMENT PARTS

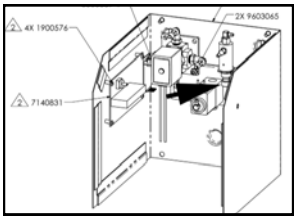
Item	Part No.	Description
1	9600811	Valve, Solenoid 3-Way 24VDC
2	0200188	Valve, Solenoid 3-Way 12VDC
3	0300373	Cable, Ribbon 20 Pins
4	0300389	USB Interface Module
5	0300413	Cover, Dust DBP
6	0300997	Carton,Rsc 200C Plain
7	0600723	Fitting, 1/4 Tube 1/4 Stem
8	0600728	Fitting, 3/8 MNPT x 1/4 Tube
9	0600729	Fitting, Tube-Hose Stem
10	0600730	Fitting, 1/4 Barbed Elbow
11	0600733	Fitting, 1/4OD x 1/4OD
12	0600784	Fitting, Elbow PP
13	0600750	Fitting, Adapter, STR, PP
14	0600754	Fitting, PNL MT Socket Valved
15	0600770	Fitting, Panel MT Plug Valved
17	0600771	Fitting, PNL MT Socket Valved
18	0600820	Fitting, Elbow, Brass
19	0600821	Fitting, Tee, 1/8 Barb, Brass
20	0600774	Fitting, PNL MT SKT Non-Valved
21	0600775	Tubing, Tygon ND-100-65
22	0600776	Tubing, Tygon ND-100-65
23	0600777	Tubing, Tygon ND-100-65
24	0800103	Cover, Dust DB9
25	0600780	Tubing, Tygon ND-100-65
26	1600152	Pump, 24VDC PP Head w/Bypass
27	1600708	Probe, Theremistor NTC
28	2000519	Power Supply, 60W 24VDC
29	2300265	Assy, Air Pump, 12VDC
30	6204000	Flow Meter, Detergent
31	7010261	Gearmotor w/Cap 200RPM
32	7018051	Tube, T-50E Elastic
33	7020148	Clamp, Hose, S.S.
34	7020152	Clamp, Nylon, Snap
35	7020160	Clamp, Nylon, Snap-Grip
36	7117164	Assy, Flush Suction Hose
37	7117165	Assy,Main Flush Discharge Hose
38	7117166	Assy, Main Flush Discharge
39	7117167	Assy, Aux Flush Discharge
40	7117169	Kit, Flushing Tube

REPLACEMENT PARTS

Item	Part No.	Description
41	7140831	C.B. Assy, I/O w/pressure transducer
42	0200188	Valve, Solenoid 3-Way 12VDC
43	0300373	Cable, Ribbon 20 Pins
44	0300389	USB Interface Module
45	0300413	Cover, Dust DBP
46	0300997	Carton,Rsc 200C Plain
47	0600723	Fitting, 1/4 Tube 1/4 Stem
48	0600728	Fitting, 3/8 MNPT x 1/4 Tube
49	0600729	Fitting, Tube-Hose Stem
50	0600730	Fitting, 1/4 Barbed Elbow
51	0600733	Fitting, 1/4OD x 1/4OD
52	0600743	Fitting, Elbow PP
53	0600750	Fitting, Adapter, STR, PP
54	0600754	Fitting, PNL MT Socket Valved
55	0600770	Fitting, Panel MT Plug Valved
56	0600771	Fitting, PNL MT Socket Valved
57	0600773	Fitting, Tee, 1/8 Barb, Nylon
58	0600774	Fitting, PNL MT SKT Non-Valved
59	0600775	Tubing, Tygon ND-100-65
60	0600776	Tubing, Tygon ND-100-65
61	0600777	Tubing, Tygon ND-100-65

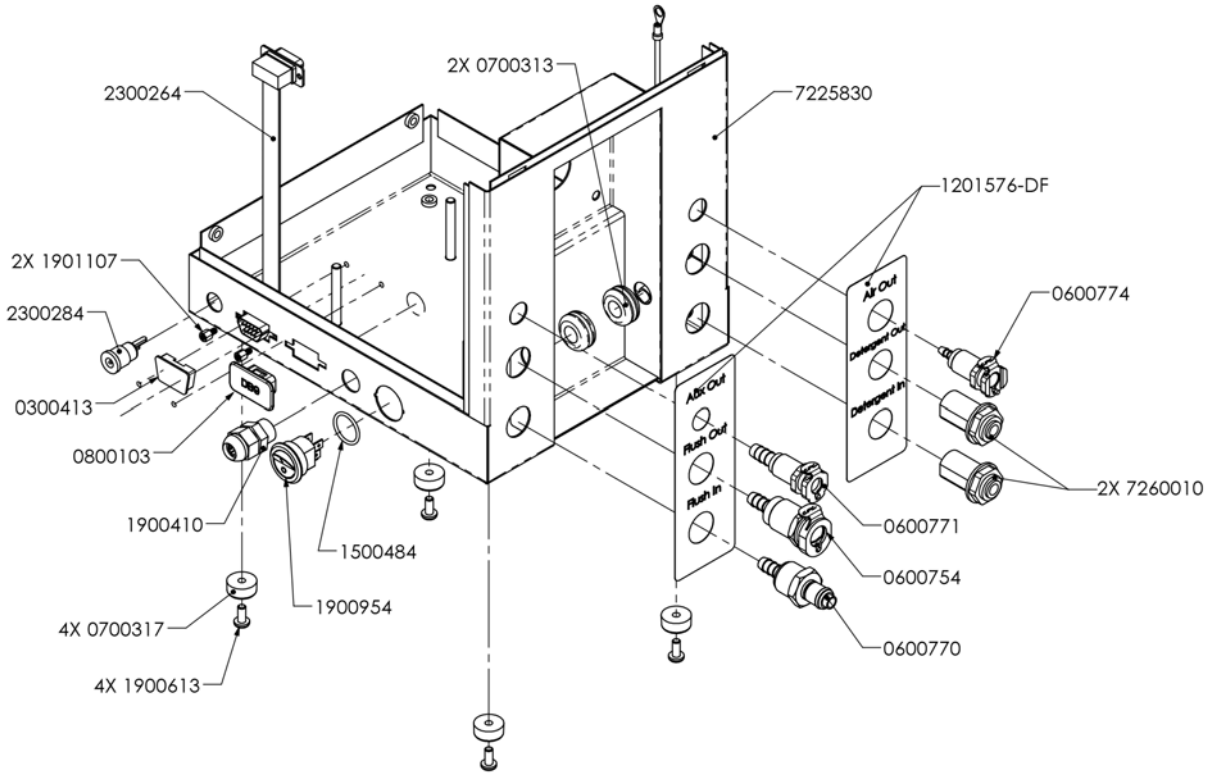
PRESSURE REGULATOR

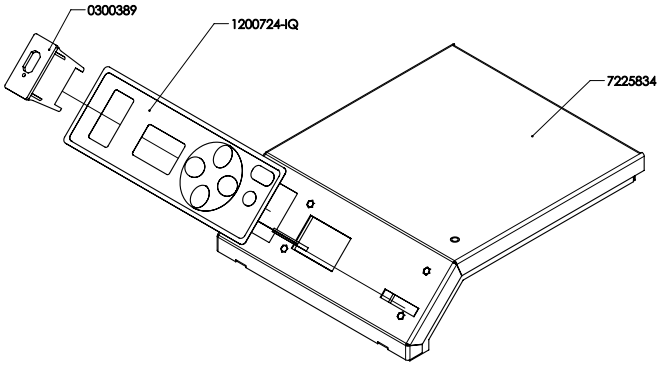
The maximum inflation pressure of the air pump is controlled by a built-in pressure regulator factory set to 4.5 psi (.31 Bar, 233 mmHg). Should your scope manufacturer specify a different maximum inflation pressure, you can change the pressure regulator value by doing the following:

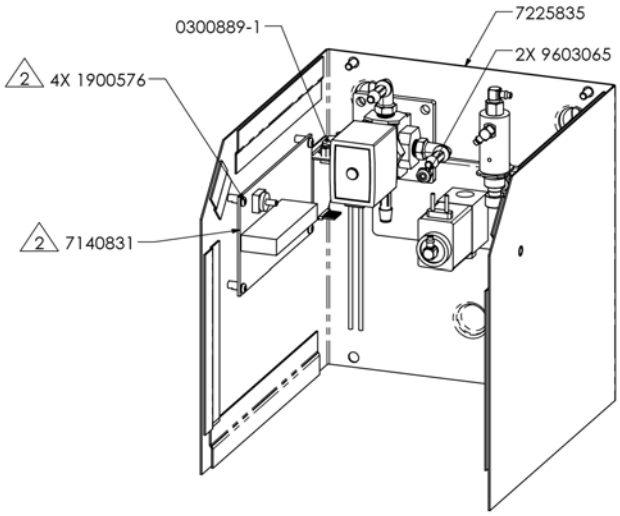


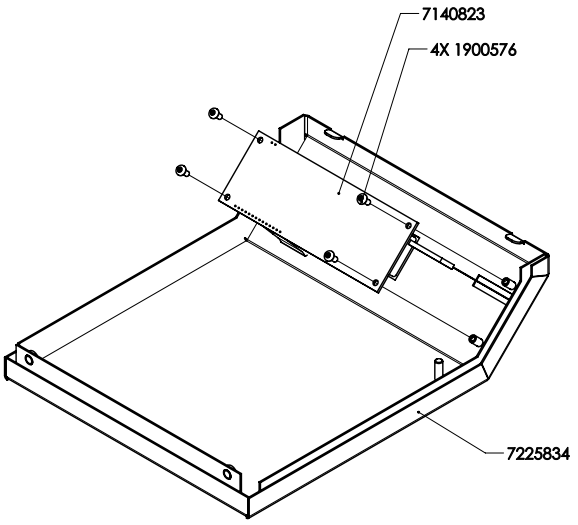
1. Remove the ScopeTech top cover.
2. Connect the air line of the pressure gauge to the air port (Air Out).
3. Press START to pressurize the gauge. Allow the pressure gauge some time to stabilize.
4. Locate the pressure regulator knob on the inside of the unit. Turn the regulator knob clockwise to increase regulator pressure, counter clockwise to decrease pressure.

SCOPETECH DF PARTS DIAGRAM

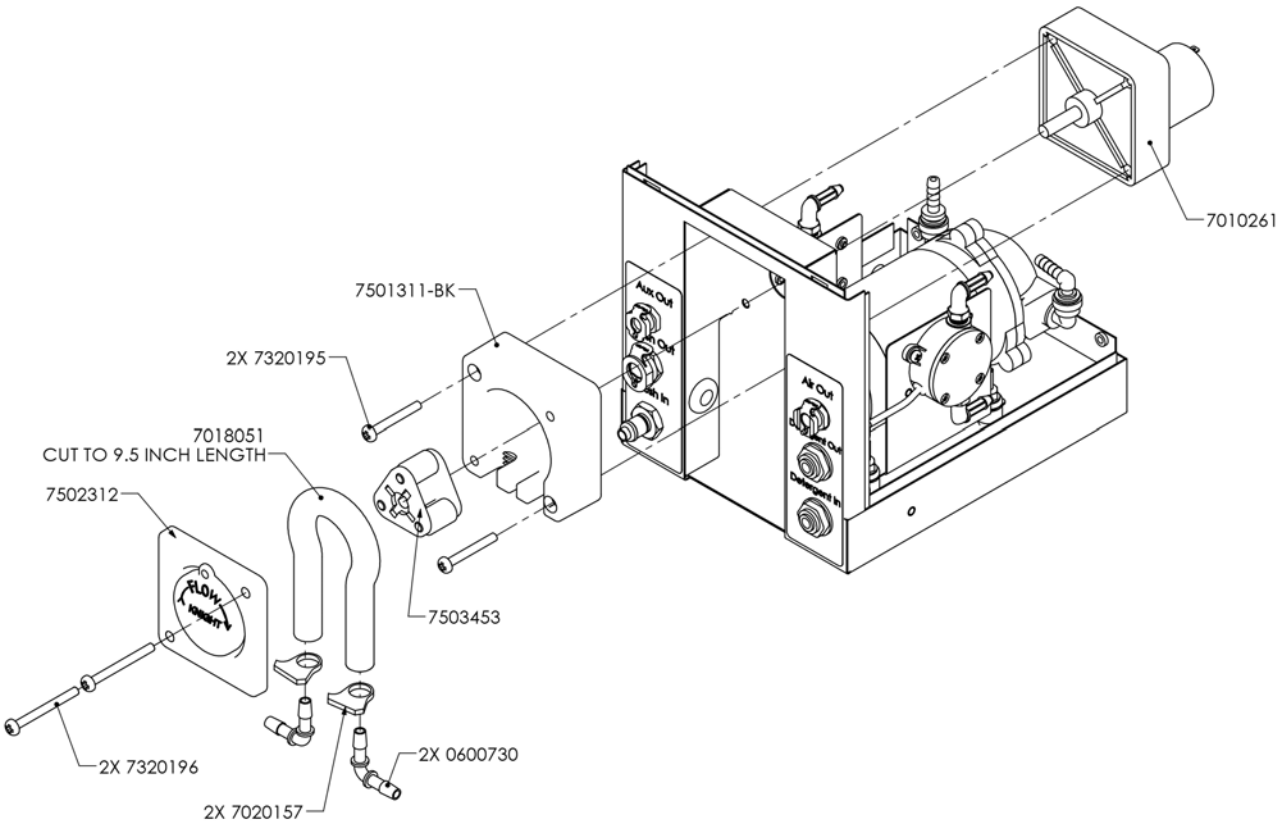


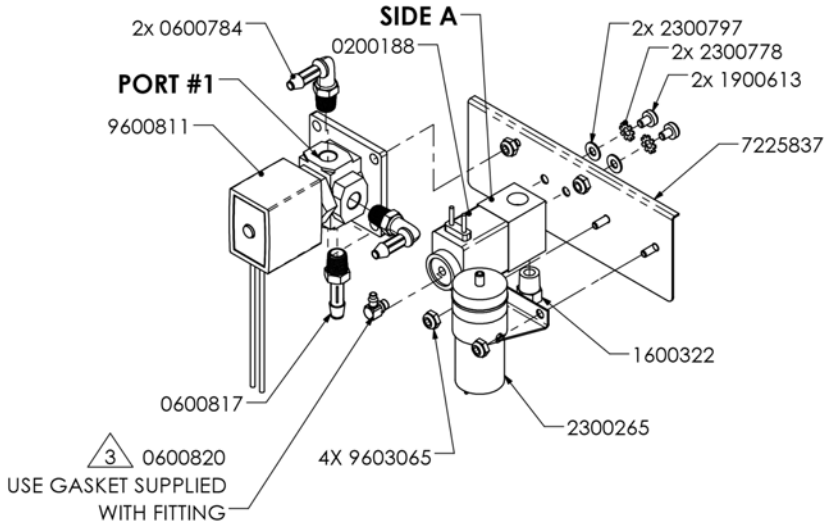




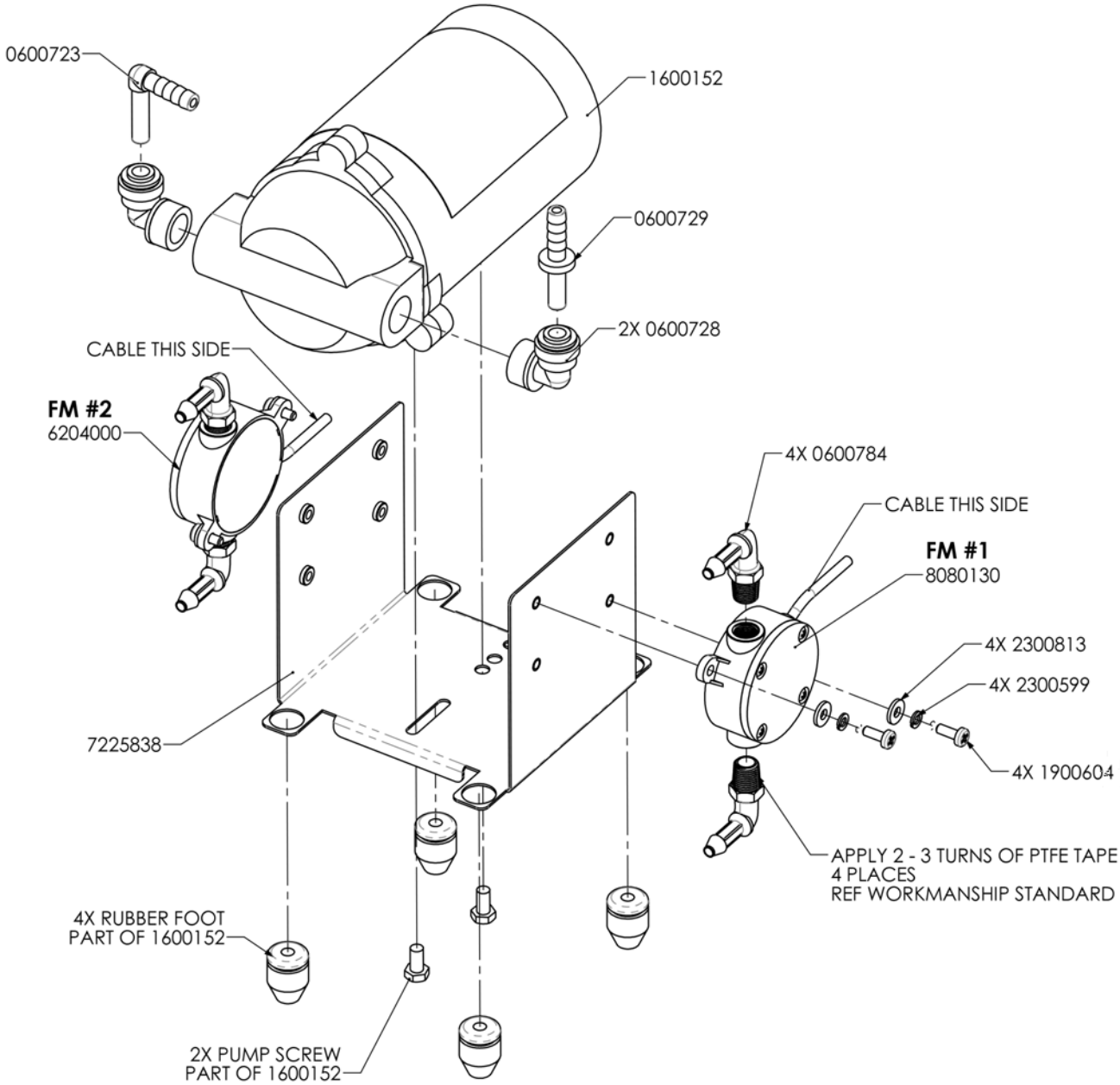


SCOPETECH DF PARTS DIAGRAM (CONT.)





SCOPETECH DF PARTS DIAGRAM (CONT.)



REPLACEMENT PARTS

KNIGHT

EC – Declaration of Conformity

We declare that the product listed below, to which this Declaration of Conformity relates, is in conformity with the Standards and other Normative Documents listed below:

Equipment Description: **Endoscope Processing Systems**
Type/Model Number: Steris RevitalOx, Knight Dose Tech, Ruhof DoseValet, Knight Scope Tech, Knight Scope Tech IQ and Ruhof ScopeValet

Low Voltage Directive - 2006/95/EC (and former Directive 73/23/EEC)
Standards to which Conformity is Declared:

Electrical Safety: IEC 61010-1 (2nd Ed). EN 61010-1 (2nd Ed) - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements.

For Information: The "Electrical Safety Test" took place at the CSA International, Irvine, CA, U.S.A

Electromagnetic Compatibility
EMC Directive - 2004/108/EC and former Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC)
Standards to which Conformity is Declared:

EMC Emissions: CISPR 11: Industrial, scientific and medical (ISM) radio-frequency
EN 55011: Equipment - Radio disturbance characteristics - Limits and methods of measurement

EN 61000-3-2: Limits for harmonic current emissions
EN 61000-3-3: Limitation of voltage changes, voltage fluctuations and flicker in public

EMC Immunity: EN 61326-1: 2006 Electrical Equipment Measurement,Control & Laboratory Use (Normal Environment)
EN 61000-4-2: Electrostatic discharge immunity test
EN 61000-4-3: Radiated, radio-frequency, electromagnetic field immunity test
EN 61000-4-4: Electrical fast transient/burst immunity test
EN 61000-4-5: Surge immunity test
EN 61000-4-6: Immunity to conducted disturbances, induced by diofrequency fields
EN 61000-4-11: Voltage dips, short interruptions and voltage variations immunity test

For Information: The "Electromagnetic Test" took place at the Aegis Labs,, Lake Forest, CA, U.S.A

Certification Marking: CE

We declared that the equipment specified above conforms to the referenced EU Directives and Harmonized Standards."

Signature:_____ Date: 06/05/2012

Name: Yanez, Rick Title: VP New Market Development

WARRANTY

For complete product terms and conditions scan the QR code below or enter the following URL into your browser:
http://cfstech.info/t-and-c

SCAN

DISCLAIMER

Knight LLC does not accept responsibility for the mishandling, misuse, or non-performance of the described items when used for purposes other than those specified in the instructions. For hazardous materials information consult the label, MSDS, or Knight LLC. Knigh products are not for use in potentially explosive environments. Any use of of our equipment in such an environment is at the risk of the user. Knight does not accept any liability in such circumstances.

FOOTNOTE

The information and specifications included in this publication were in effect at the time of approval for publishing. Knight LLC reserves the right to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever.

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