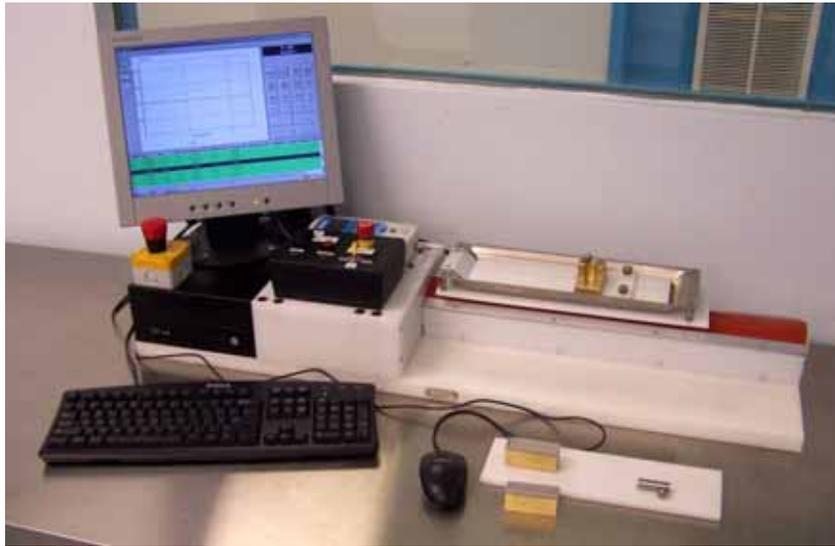


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MEDICAL PRODUCTS INC.



Manual for CFT-3 Friction Tester

The CFT-3 is an integrated apparatus designed for the testing the friction coefficient of catheters, tubes, wires and other bio-medical devices in an accurate, easy to use and efficient manner. The CFT-3 is protected from limited wash-down and exposure to water and some solvents. The CFT-3 produces data per the requirements of ASTM D1894.

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SAFETY INFORMATION
WARNING: READ BEFORE USE

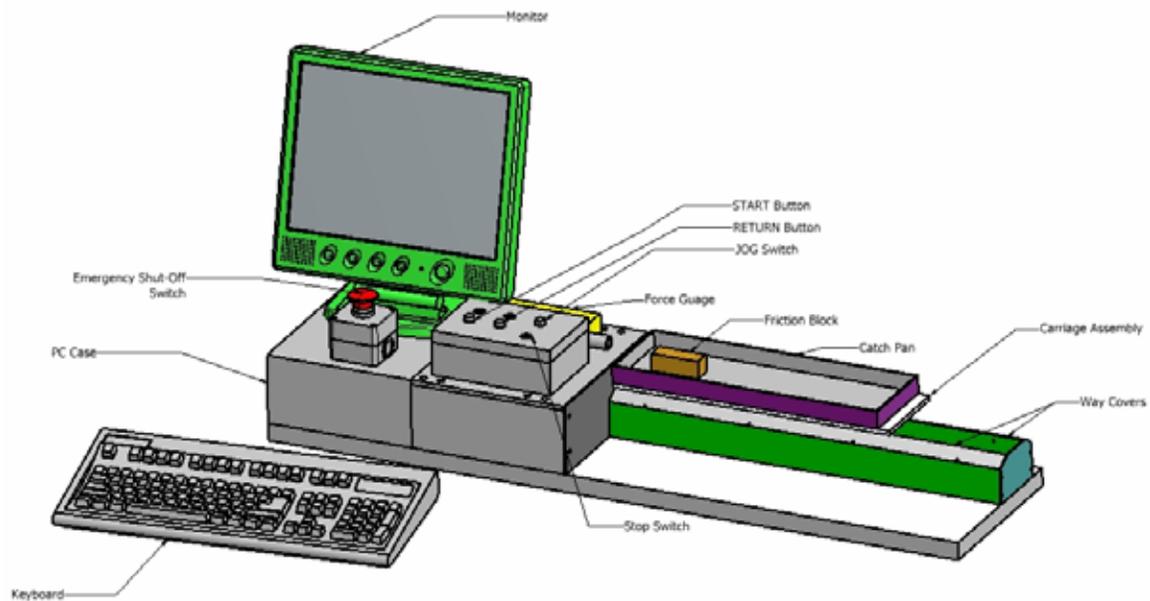
The CFT-3 is protected against minor spray, spills and wash down. However, every precaution should be taken to avoid spills on the CFT-3. If a spill occurs, immediately shut down the computer and unplug the CFT-3 from the power outlet. Clean all spills and residue before using again.

Before every use ensure that the following steps are performed:

- Ensure that there is no obstruction in the path of the moving parts
- Inspect the way covers for any tears, damage, or sticking
- Keep the level of liquid in the catch pan low enough that the liquid does not splash out when the assembly is in motion.
- In case of a spill, shut down the CFT-3 and unplug from any power source. Clean up immediately. Inspect the screw, nut and carriage on the rail for any buildup or residue afterwards.
- Failure to perform maintenance and cleaning of the unit will result in decreased performance and possibly failure. Be sure to keep the unit clean and maintained.
- Do not cycle the on/off switch for the controller and motor on the control panel too quickly. Give at least 30 seconds before movement. Irreversible damage may occur as the result.

Description of features and parts:

The CFT-3 is a complete and integrated system for the friction coefficient testing of wires and catheters. The motion profile is executed via a programmable controller giving input to a stepper motor that drives a linear rail. The data collection is provided via the DFS Nexygen software.



CFT-3 Friction Tester

Description of operation

The CFT-3 is operated using the buttons on the front control panel as shown below. The length of the travel is determined by the right hand limit switch. Moving the switch along its mounting will adjust the length of travel. The left side limit switch is not to be moved, as it may cause the carriage to crash causing irreparable damage.

When the controller is ready to execute movement, the green indicator START light on the control panel will be lit. Movement is initiated by pressing the green START button. The controller will then output power to the motor. The carriage is set to move at one inch per second and travel for a distance of six inches.

At the end of the travel the red indicator will light up. To return the carriage to the home position, press the red RETURN button. The carriage will come back to the initial starting point and reset the controller to the beginning.

The carriage may be manually moved using the jog switch, which, when pushed from the center position, will move the carriage in the corresponding direction that the lever is pushed to.

An emergency motor power cut-off switch is provided on the control panel in the case that the carriage motion needs to be stopped but without shutting off the entire apparatus. The stop switch only stops power to the motor; the controller will still be running.

An emergency cut-off switch is provided on top of the PC assembly. A firm smack on top of this red button will instantly cut-off power to the PC, force gage, the motor and controller. The emergency stop should not be used in normal or non-life or non-machine threatening situations.

The CFT-3 features a programmable motion controller. If required, the top cover of the control box may be removed without disconnecting the switches and indicators. This will reveal a USB connector to the controller. Refer to programming manual for the Anaheim Automation PCL-601USB controller if a program change is required. **Be extremely careful around the power on-off switch. It uses 120V directly from the outlet and, while it is insulated, can cause injury if touched.**

Operational Procedure

Turn on the CFT-3 by rotating the power switch clockwise to the on position. When the green START light comes on, start the computer and the Chatillon force gage. Start the Nexygen software on the computer.

Testing of Wires (Guidewires)

On the Nexygen Software, select “Perform Tests” at the top menu. Select <test file name> and click open.

Place the block for testing of wires into the catch pan. Mount test specimen in clamp and lay the remainder so that, during motion, the specimen will pass through the friction block. Place the weight on the friction block. Apply water from the squirt bottle to ensure that the foam is well soaked.

Ensure that the path of the slide is unobstructed and the green ready light is lit on the control panel. Start the data collection on the DFS software by clicking on TEST START and answer the questions presented. Then click OK on the question box and then press the green start button on the control panel. The carriage will then proceed to move at a rapid pace through its programmed profile. Be sure to keep hands and other body parts clear of the carriage, lest injury or other damage should occur.

At the end of the motion, the carriage will stop and the red RETURN indicator will light. The software will stop the data collection.

Remove the weight from the friction block and press the return button on the control panel. The carriage will return to its original position and the controller will reset to its starting point. The latter will be indicated by the green START light on the control panel.

Review the results of the test. They maybe transferred out of the computer using the provided USB ports in the front or through an Ethernet connection in the back.

Testing of Tubes (Catheters)

Place the tube tray into the stainless catch pan. Place the tubes into the designated grooves and tighten the clamp using the provided thumb screw. On the Chatillon force gage, install the weight guide by screwing on to the threaded protrusion. Do not over tighten or apply excess force to the threaded protrusion as it may cause irreparable damage to the Chatillon force gage. Slide the weight on to the guide and place the block on the tube tray. Tighten the set screw on the block to hold it securely to the weight guide. The Right Hand edge of the weight block must face the Left Hand Edge of the clamp.

Ensure that the path of the slide is unobstructed and the green ready light is lit on the control panel. Start the data collection on the DFS software by clicking on TEST START and answer the questions presented. Then click OK on the question box and then press the green start button on the control panel. The carriage will then proceed to move at a rapid pace through its programmed profile. Be sure to keep hands and other body parts clear of the carriage, lest injury or other damage should occur.

At the end of the motion, the carriage will stop and the red RETURN indicator will light. The software will stop the data collection.

Remove the weight from the friction block and press the return button on the control panel. The carriage will return to its original position and the controller will reset to its starting point. The latter will be indicated by the green START light on the control panel.

Review the results of the test. They maybe transferred out of the computer using the provided USB ports in the front or through an Ethernet connection in the back.

After completion of testing, save any test information required. Close the Nexygen software and by using the mouse on the windows panel. After, the computer shuts down turn off the Chatillon force gage by pressing the on/off switch. If the carriage is not in the forward most position, return using either the return switch (if the red light is on) or by using the jog switch. Finally, shut off the CFT-3 by turning the power switch counter clockwise to off.

Maintenance:

The CFT-3 requires a minimal of care. However, failure to provide this level of care may result in premature wear, failure or injury to the operator.

It is imperative to keep the CFT-3 free of any spills, dirt or soiling on its moving parts. Way covers are provided to keep spills from reaching the power screw in the slide. Periodically, these covers should be removed and cleaned for the inspection of the screw and underlying parts for damage or contamination. Clean off any residue using a soft lint free rag. If need be a solution of detergent and water or acetone maybe used. If that is the case, ensure that the assembly is dried immediately afterwards (for example by using compressed air).

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Document Rev. Original (2007/April 04)

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