UNC CHARLOTTE
Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

OPERATING THE HAMPDEN FLUID CIRCUITS EXPERIMENT

Location: Smith 103

Required Training: The Hampden Fluid Circuits Experiment is designed and intended for use by properly trained and experienced operators. If you are not familiar with the proper and safe operation of this apparatus, do not use until proper training and knowledge have been obtained.

Required Personal Protective Equipment (PPE): Safety glasses.

Reference Materials: Manufacturer's safety rules and operating instructions

PHOTOS	TASK	HAZARDS	CONTROLS
	Wear clear safety glasses with side shields.	High pressure water stream	• Students are required to provide their own safety glasses. • See laboratory instructor or laboratory manager if you do not have safety glasses before proceeding to use equipment.
	Inspect safety glasses for cracks, scratches or other defects. Ensure the ANSI standard Z87.1 is stamped into the side of glasses. If necessary inspect leather gloves and face shield.	High pressure water stream	• If defects are found report to your laboratory instructor before using.
	Put on PPE	High pressure water stream	• Wear safety glasses at **ALL TIMES** around this apparatus!
	Inspect work area, walk around area looking for water, oil, or other foreign objects	Slips, trips & falls	• Clean area around apparatus as needed prior to beginning experiment. .
	Visually inspect electrical cord.	Electrical shock	• If the electrical cord is worn, it should be unplugged and tagged "Out of Service-Do Not Use". • This should be reported to the laboratory manager immediately. • Electrical cord replacement should only be conducted by a factory authorized technician or electrician.

	Ensure the electrical cord is connected to electrical outlet.	Electrical shock, injury	• Caution: Apparatus is moveable. **Always** disconnect electrical cord before moving.
	Run experiment	High pressure water stream, water leaks.	• Ensure that the water reservoir lid is on properly to avoid splashes and spills. • When taking pressure measurements at tap locations, ensure that the connection is secure to avoid leaks. • When disconnecting pressure sensor from tap locations, "bleed" the water from the sensor tube into a container to avoid drips onto floor..
	Shut down	Water spills, slips, trips, falls.	• Allow the experimental apparatus to drain thoroughly back into the reservoir. • **Always** unplug the power cord prior to moving the apparatus. • When moving the apparatus, move it slowly to avoid spillage from the reservoir.
	Clean work area and return all PPE to clean, dry storage area.	Water spills, slips, trips, falls.	• Ensure adequate housekeeping measures to prevent accidents. • Clean up any areas where water may have collected on the floor around the apparatus.

For more information about this LSA, contact the *Department of Engineering Technology* at UNC Charlotte (704) 687-2305

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The development of Laboratory Safety Analyses is a very effective means of helping reduce incidents, accidents, and injuries in the workplace. It is an excellent tool to use for training purposes and can also be used to investigate "near misses" and accidents.