



**Department of Mechanical
Engineering
Faculty of Industrial Technology
and Systems Engineering**

STANDARD OPERATING PROCEDURE

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Head of Laboratory

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Operation of Bernoulli Apparatus

Laboratory : Fluid Mechanics and Machineries

HAZARD POTENTIALS	Fluid leaks can damage electrical equipment. Loose wires in the system can cause electric shock.
PERSONAL PROTECTIVE EQUIPMENT (PPE)	Eye protection (safety glasses, goggles, etc.). Wearpack (protective clothing). Hair protection (hair net or hat). Shoes and gloves. First aid kit.
BEFORE OPERATING THE MACHINE	Ensure that the equipment and work area are clean, and all personal protective equipment (PPE) is worn. Sleeves must be securely rolled up. Ensure there is no damage to the electrical installation. Check for any leaks in the equipment.
NEVER	Operate the equipment without wearing personal protective equipment (PPE). Ignore damaged or exposed electrical wiring. Allow fluid leaks to persist.
STEPS FOR USING THE EQUIPMENT	<ol style="list-style-type: none">Control the flow rate and motor operation:<ul style="list-style-type: none">Open the flow rate controller.Turn the motor switch to ON to start the motor.Set the fan/blower inlet opening to half-open, then measure the length of the pitot static tube outside the venturimeter ($L_o = 60$ mm). Then, measure:<ul style="list-style-type: none">Total Head (h_t), Static Head (h_s), and Head Velocity (h_v) using the height difference on the U-manometer.Upstream pressure (h_1), downstream pressure (h_2), and pressure difference (Δh) for the venturimeter on the U-manometer.Adjust the installation opening to fully open, then take measurements again for the set parameters.Withdraw the pitot tube needle by 18 mm.The experiment is now ready to be conducted.
AFTER USE	Close the installation opening Turn off the motor switch Check and clean the equipment and work area