

## **Experiment No: 05**

**Experiment Name:** Study on Hydro-extractor & its Function.

### **Theory:**

#### **Hydro-extractor:**

### **Objectives:**

1. To identify different parts of the machine.
2. To draw the diagram of the machine.
3. To observe function of different parts of the machine.
4. To run the machine and check different functional parameters of the machine.
5. To remove excess water from the wet garments.

### **Requirements:**

### **Machine Specification:**

### **Working Procedure:**

1. Find the specification of hydro-extractor.
2. Observe different parts of the machine.
3. Draw a diagram of the machine by labeling different parts of the hydro-extractor.
4. Observe functions of different parts of the machine.
5. Load some wet garments into the hydro-extractor.
6. Then run the machine.
7. Check different functional parameters of the machine.
8. Observe excess water remove from the loaded garments.
9. Finally check the garments whether excess water is removed or not.

**Diagram:**

## Machine Description:

Sl. No	Name of Parts	Description and Function
01		
02		
03		
04		
05		
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14		

## **Working Principle of the Machine:**

Hydro extractor can be carried out in the following ways:

- **Squeezing:** The water dispersed on the surface and in the spaces of the fabric is removed by means of the pressure applied by two cylinders.
- **Centrifugation:** This process eliminates the greatest quantity of water dispersed on the surface of the textile by centrifugal force.
- **Steam pressure:** A high-speed steam jet blown on the whole width of the stretched fabric passes through the cloth and eliminates the water in excess. Extracted water and steam are condensed and reused.
- **Vacuum:** This method applies vacuum technology and is used to dry very wet fabrics or delicate fabrics that do not stand up to the pressure of the cylinders of a squeezing unit, which could negatively affect the surface structure.

So working principle of hydro-extractor is described as-Centrifuges are used for water extraction (dewatering, pre-drying) of textile materials. Centrifuges with perforated drums or baskets which oscillate vertically in ball-and-socket joints. Most centrifuges have electric drives for speeds of approx. 750–1200 rpm and are generally provided with automatic control over various ranges. For safety reasons, an interlocking lid is essential on a centrifuge so that the motor cannot be started until the lid is locked, nor the lid raised until the basket is stationary again after the machine has been stopped. About 65% water is removed by this process.

## **Conclusion and Comments:**