Ohmic heating, also known as Joule heating, electrical resistance heating, and direct electrical resistance heating, is **a process of heating the food by passing electric current**. In ohmic heating the energy is dissipated directly into the food. 25-Oct-2016

INTRODUCTION

- Ohmic heating, a thermal electrical heating method, is also termed as resistance heating.
- Ohmic heating is direct heating method where food is in contact with the electrodes.
- The concept of ohmic heating is quite simple. The passage of electric current through an electrically conductive food material obeys Ohm's law (V = IR); and heat is generated due to the electrical resistance of the food.

- Almost all electric power is transformed into heat.

- It is possible to heat the product containing large particles upto 2.5 cm in size which would be damaged in conventional equipment, to sterilization temperature of upto 140°C in less than 90 sec.

- It is regarded as Green process.

PRINCIPLE

Ohmic heating works on the principle of Ohm's law of electricity.

$$V = I * R$$

Where V is the voltage (volts)

I is the amperage (amperes)

R is the resistance (ohms)

MAIN PARTS OF OHMIC HEATING SYSTEM

Contains mainly 3 parts:

1. Power supply

2. Heater assembly

3. Control panel