



SNS COLLEGE OF TECHNOLOGY

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Department of Mechanical Engineering Drilling Machine

Introduction:

In a drilling machine holes may be drilled quickly and at a low cost. The hole is generated by the rotating edges of a cutting tool known as the drill, which exerts large force on the work clamped on the table.

Types of drilling machine:

1. Portable
2. Sensitive
3. Upright
4. Radial
5. Gang
6. Multiple spindle
7. Automatic
8. Deep hole

Principle parts of Radial drilling machine:

Base:

The base is a large rectangular casting that it is mounted on its one end vertically it supports radial arm, electrical motor. Which impacts vertical adjustment of the arm by rotating a screw.

Column:

The column is a cylindrical casting, it supports radial arm which may slide up or down on its face. An electric motor is mounted at the top of the column, which impacts vertical adjustments of the arm by rotating a screw passing through a nut to the arm.

Radial arm:

Radial arm is mounted on the column horizontally over the base; the arm may be swung round the column. In some machines this movement is controlled by a separate motor.

Drill Head:

Drill Head is mounted on the radial arm and drills spindle is driven. All the mechanism is housed with in a small drill head. The drill head is properly adjusted and clamped on the radial arm.

Spindle drive and feed mechanism:

A constant speed motor is mounted at the extreme end of radial arm, which balances partially the weight of the overhanging arm. The motor drives a horizontal spindle, which runs along the length of the arm, and motion is transmitted to drill head through bevel gears. In some machines, a vertical motor is fitted directly on the drill head and through gearbox multiple speed and the feed of the spindle can be obtained.

