



DEPARTMENT OF MATERIALS
SCIENCE AND ENGINEERING

Budapest University of Technology and Economics

Metal Forming – BSc 2024/25-1

Forming equipments

Introduction

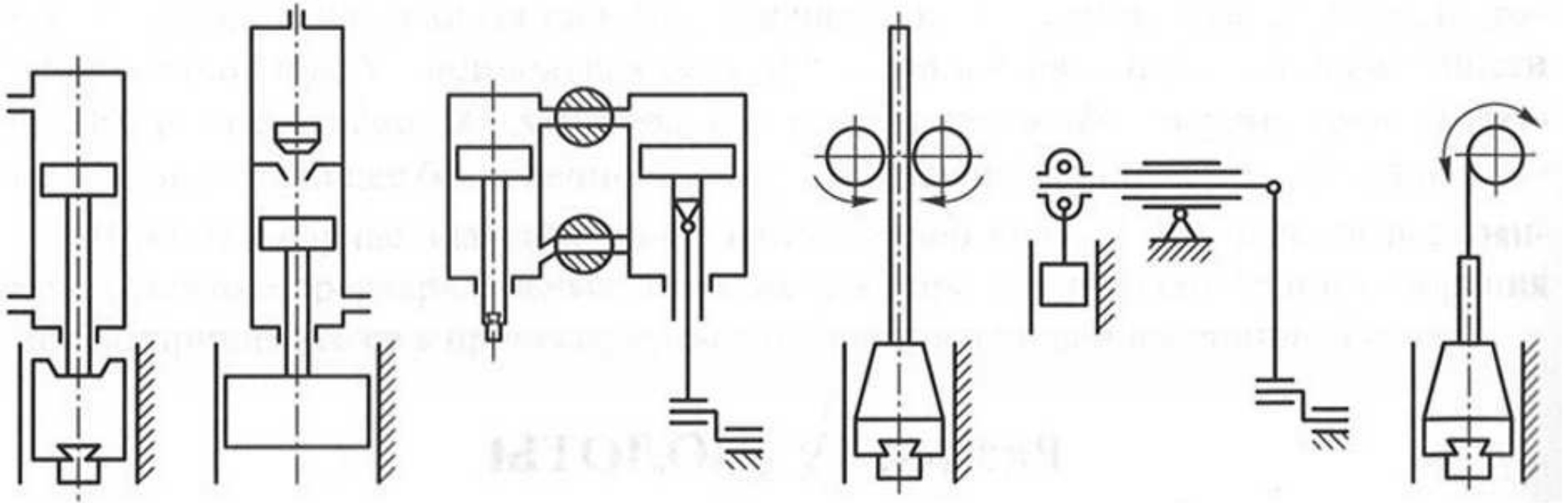
Forming machine characteristics

- **Energy** restricted machines
(hammers, screw presses)
- **Stroke (displacement)** restricted machines
(mechanical presses)
- **Force** restricted machines
(hydraulic / pneumatic presses)

Hammers

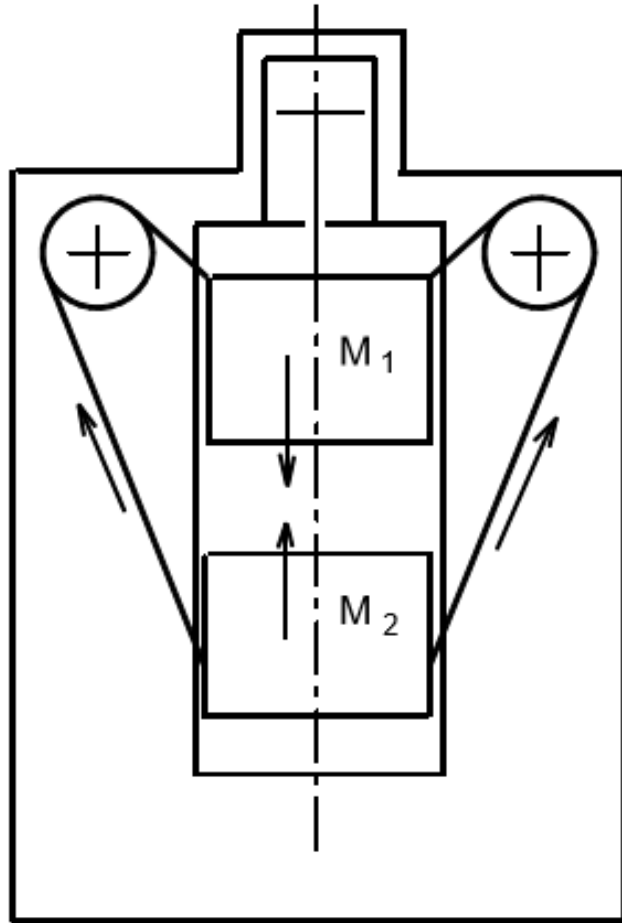
Hammer motion types

The total energy is to be used !

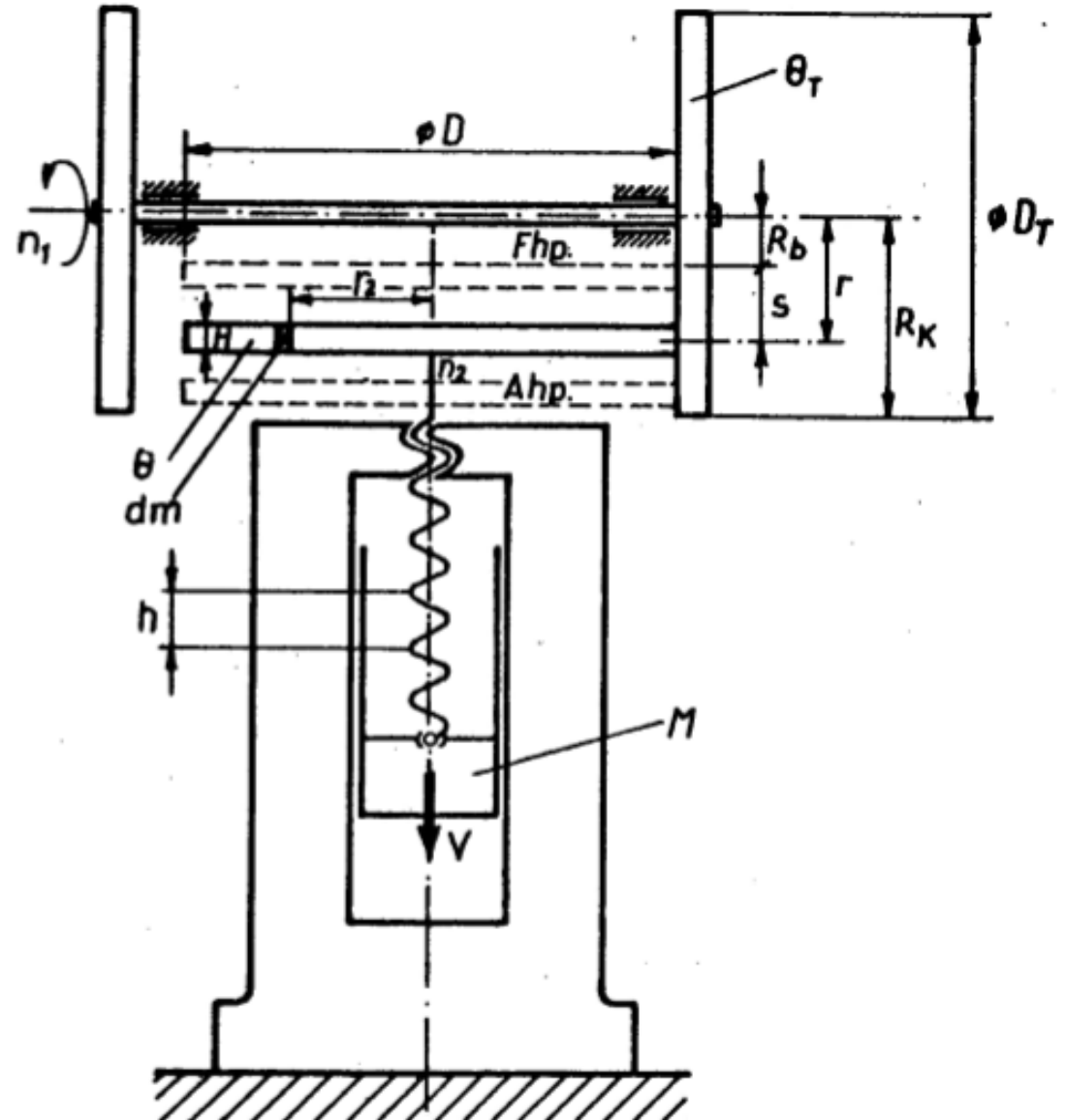


Hammer, screw press

Counter blow hammer



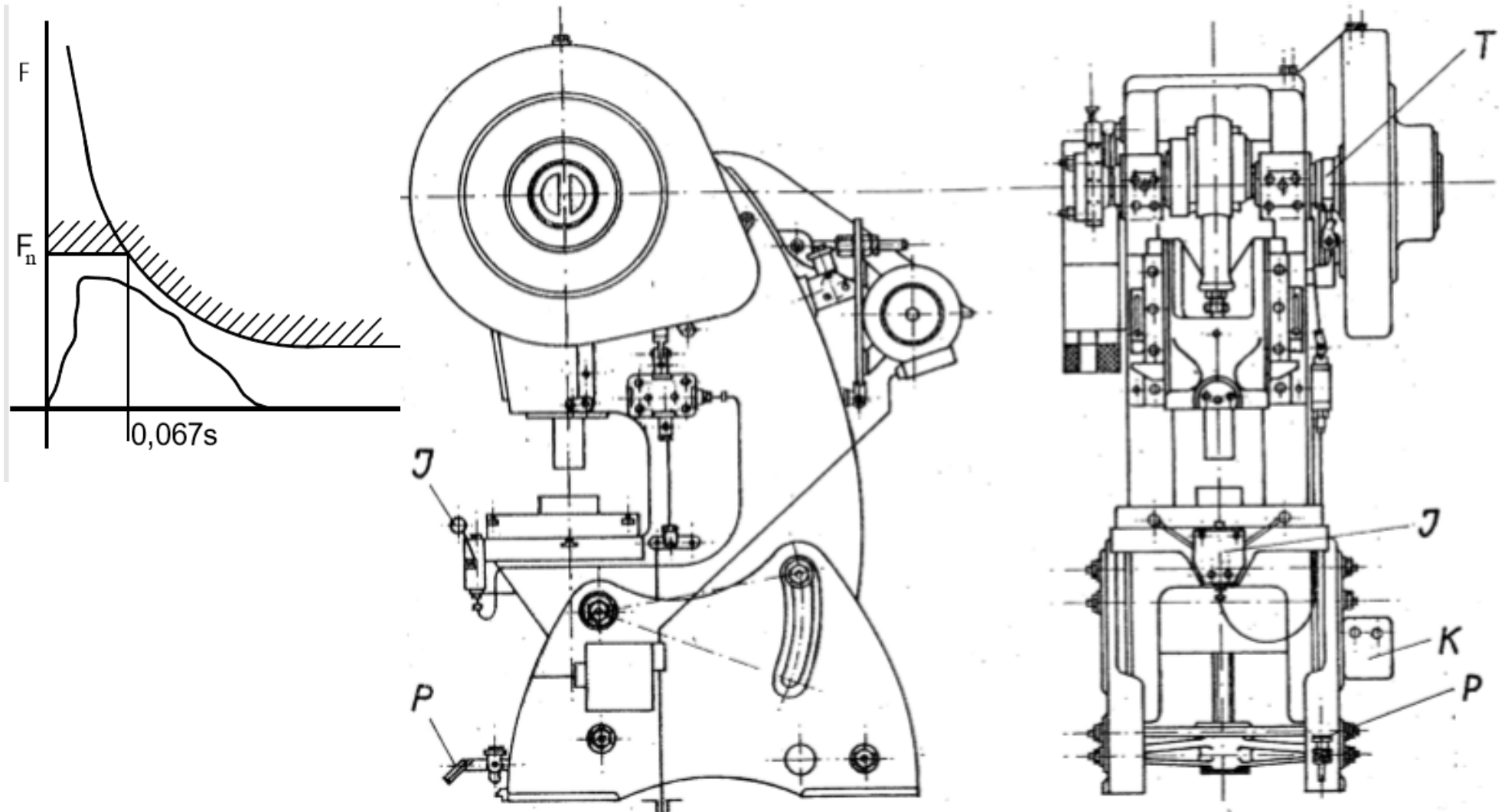
Screw press



Mechanical press

Stroke (displacement) characteristics

The ram has to move along the whole stroke!



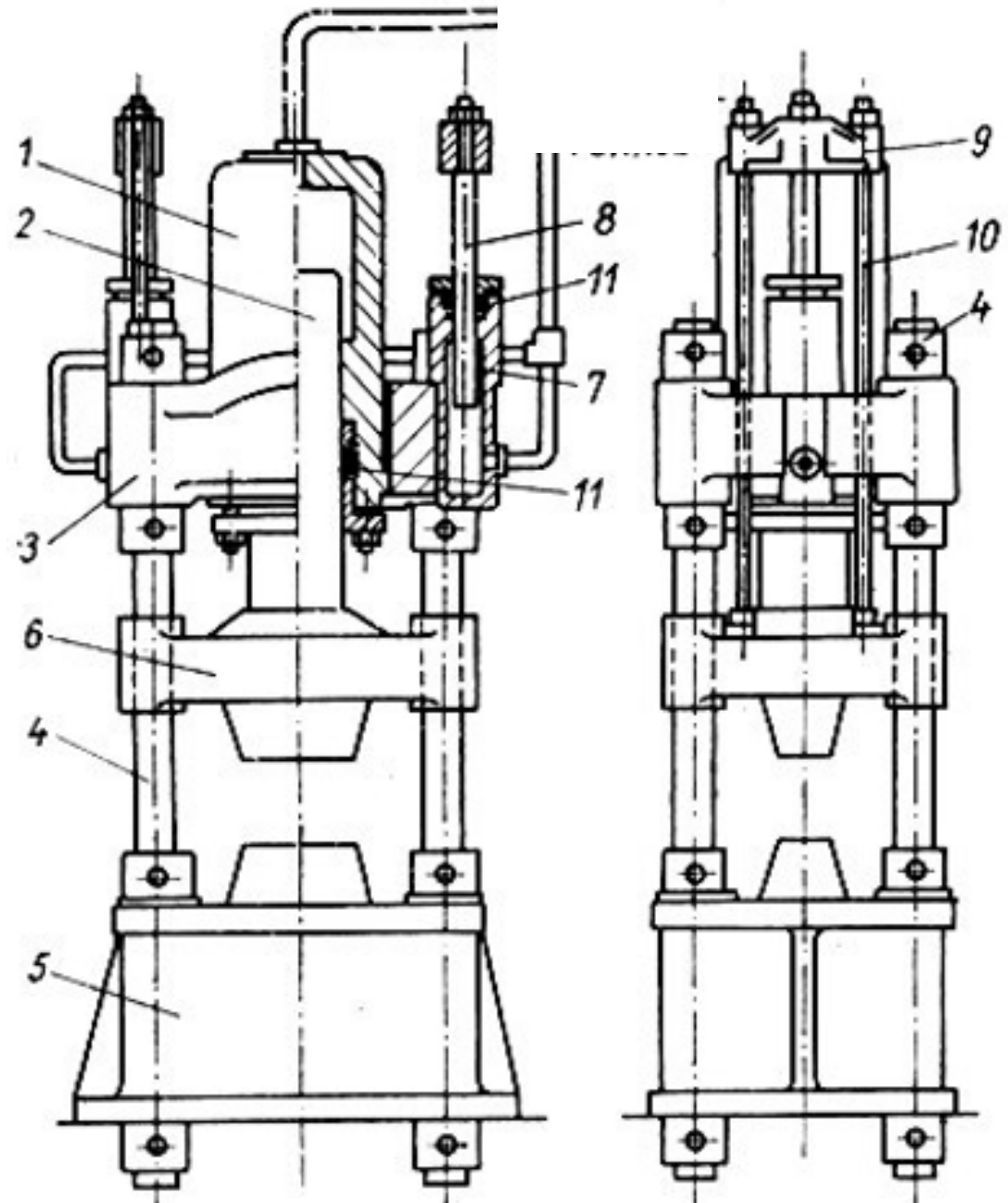
Hydraulic press

The force is restricted by the fluid pressure

The machine stops at the maximum pressure (by the safety valve).

The force is proportional to the fluid pressure.

Safe, relatively slow and expensive machines.



Thank you for your attention!