



SNS COLLEGE OF TECHNOLOGY

(An autonomous institution)



Department of Mechanical Engineering

Unit – I

Topic

Abrasive Jet Machining

Prepared by

P.Divyakumar,

Assistant Professor / Mechanical Engineering

SNS College of Technology, Coimbatore



Principle of AJM

In Abrasive Jet Machining (AJM), abrasive particles are made to impinge on the work material at a high velocity. The jet of abrasive particles is carried by carrier gas or air.

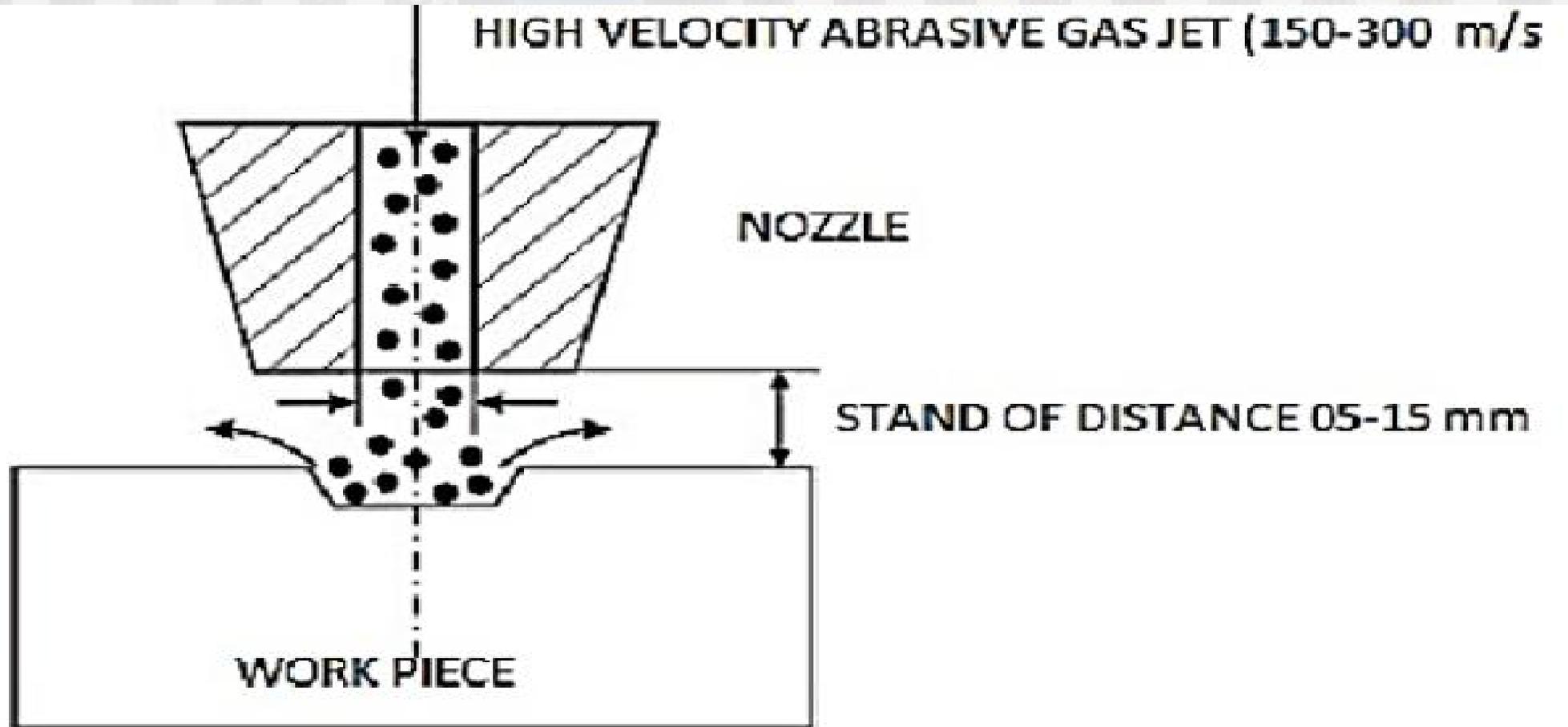
High velocity stream of abrasive is generated by converting the pressure energy of the carrier gas or air to its kinetic energy and hence high velocity jet.

Nozzle directs the abrasive jet in a controlled manner onto the work material, so that the distance between the nozzle and the work piece and the impingement angle can be set desirably.

High velocity abrasive particles remove the material by micro-cutting action as well as brittle fracture of the work material



Principle of AJM





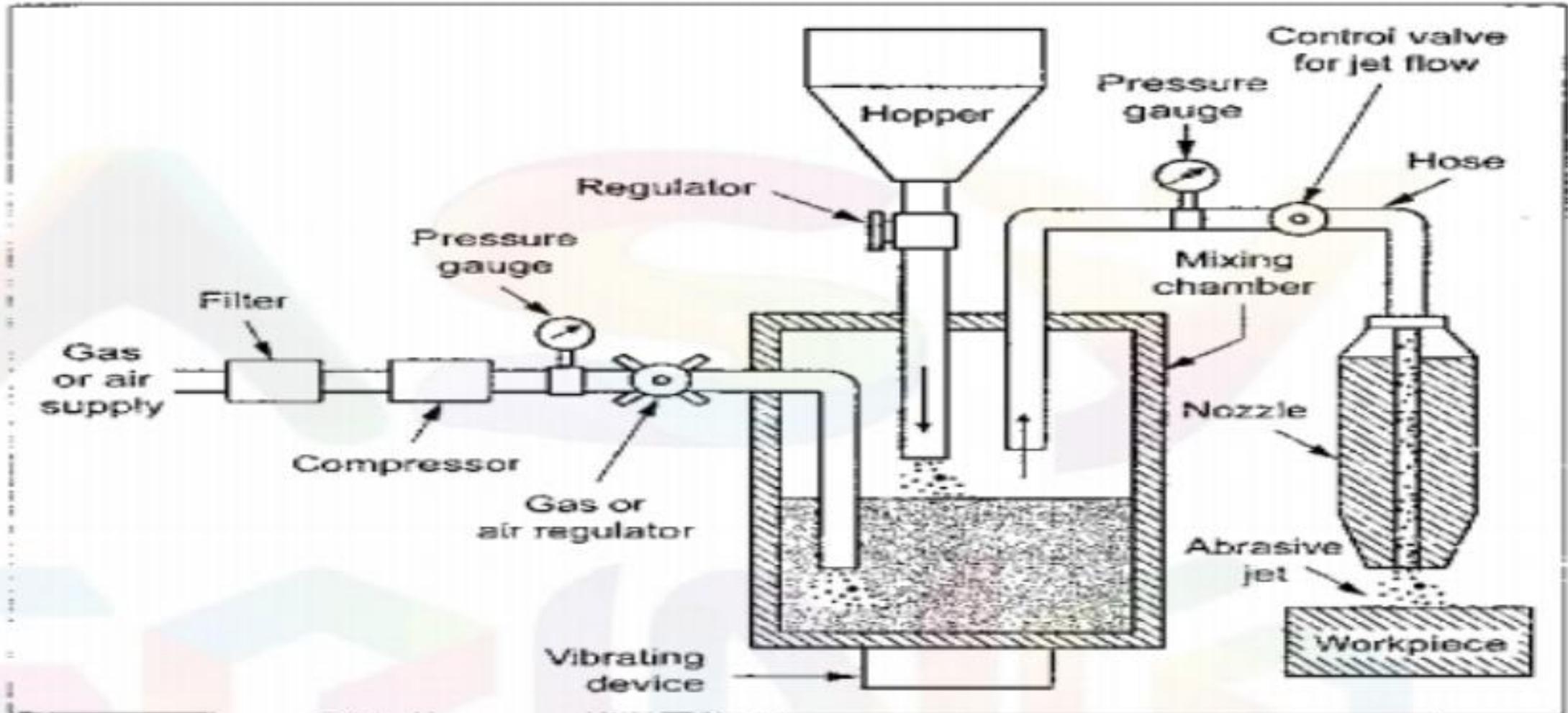
Principle of AJM

Physics of the Process:

- Fine particles (0.025mm) are accelerated in a gas stream
- The particles are directed towards the focus of machining
- As the particles impact the surface, it causes a micro fracture, and gas carries fractured particles away
- Brittle and fragile work better



Construction and Working





Thankyou