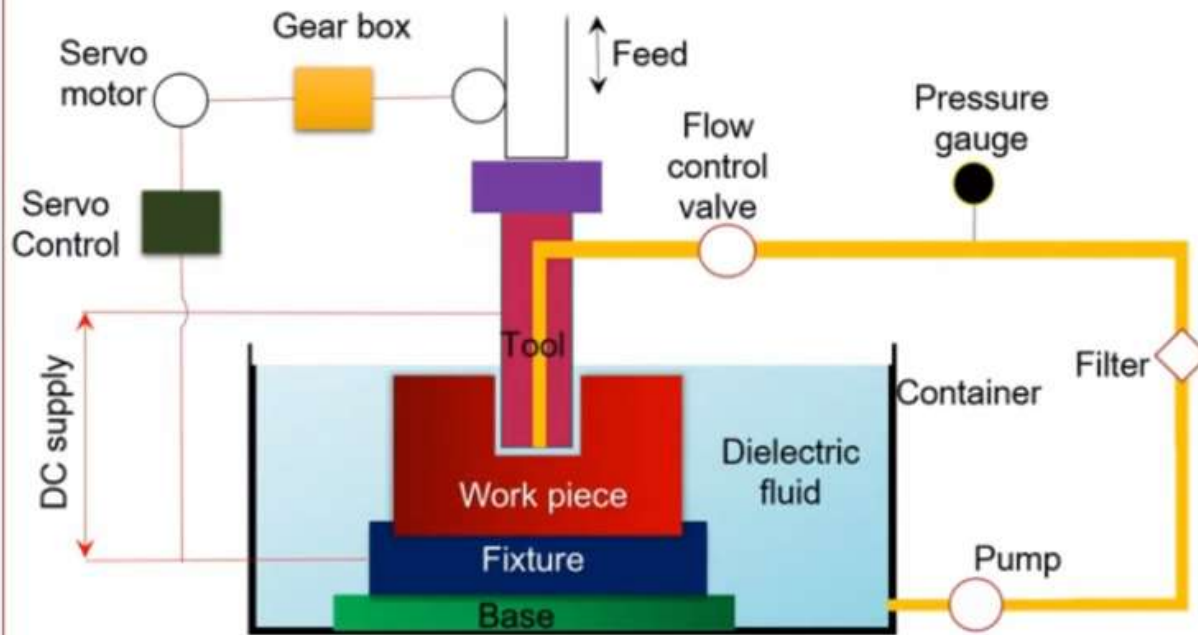


ELECTRICAL DISCHARGE MACHINING

Mech
Talkies



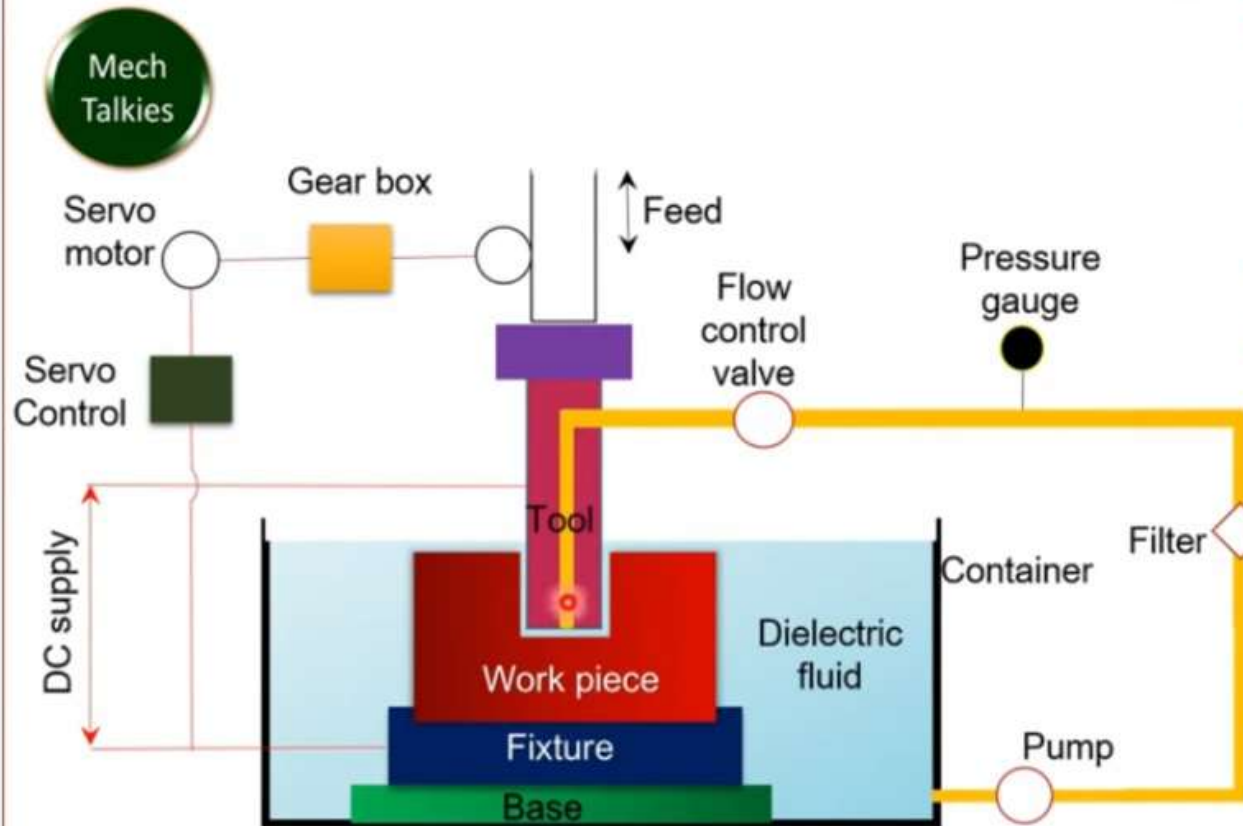
Principle

- ❖ In this process metal is removed by powerful electric spark.
- ❖ EDM also known as spark erosion machining.

Construction

- ❖ Work piece is held in the dielectric fluid.
- ❖ Positive terminal is connected with the work piece.
- ❖ Negative terminal is connected with the tool.
- ❖ Tool is used as a hollow. And it is made by copper or brass.
- ❖ Dielectric fluid is passed in the tool pipe.
- ❖ 0.005 mm to 0.05 mm gap is maintained between the work piece and tool..

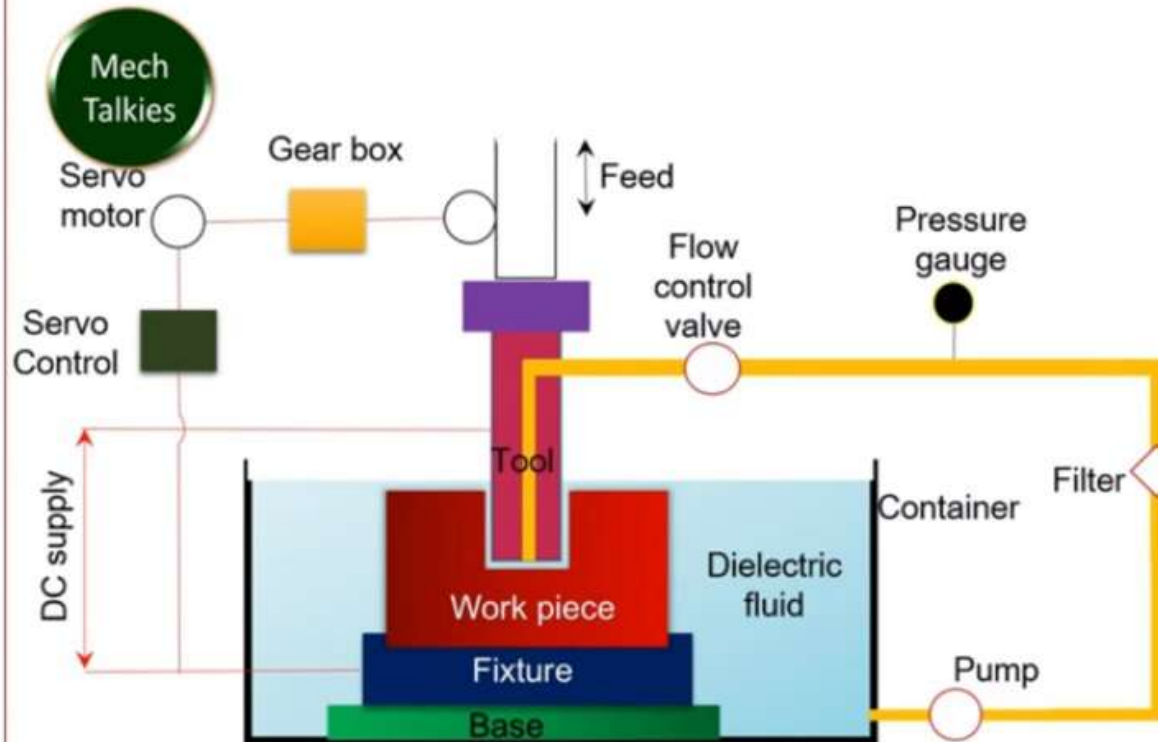
ELECTRICAL DISCHARGE MACHINING



Working

- ❖ When the DC supply is given electric spark is produced in this gap.
- ❖ And High heat (1200°C) is produced.
- ❖ Small area of the material is melted by this heat.
- ❖ Molten metal is spitted into small particles.
- ❖ These particles are carried away by the dielectric fluid.
- ❖ The dielectric fluids generally used are petroleum based hydro carbons (Paraffin, Transformer oil, Kerosene, Mineral oil)
- ❖ Dielectric fluid also act as a coolant.

ELECTRICAL DISCHARGE MACHINING



Advantages

- ❖ Fast process.
- ❖ Conductive materials can be machined.
- ❖ Complex and irregular surfaces can be machined.

Disadvantages

- ❖ High electric power is needed.
- ❖ Suitable only for conductive material.
- ❖ Square corners cannot be formed.

Applications

- ❖ Used to make small holes in nozzles.
- ❖ It is used to machine hard and brittle materials.
- ❖ It is used to cutting off the work piece.
- ❖ It is used to sharpening the tool and cutters.