

# POWDER COMPACTING SOLUTIONS

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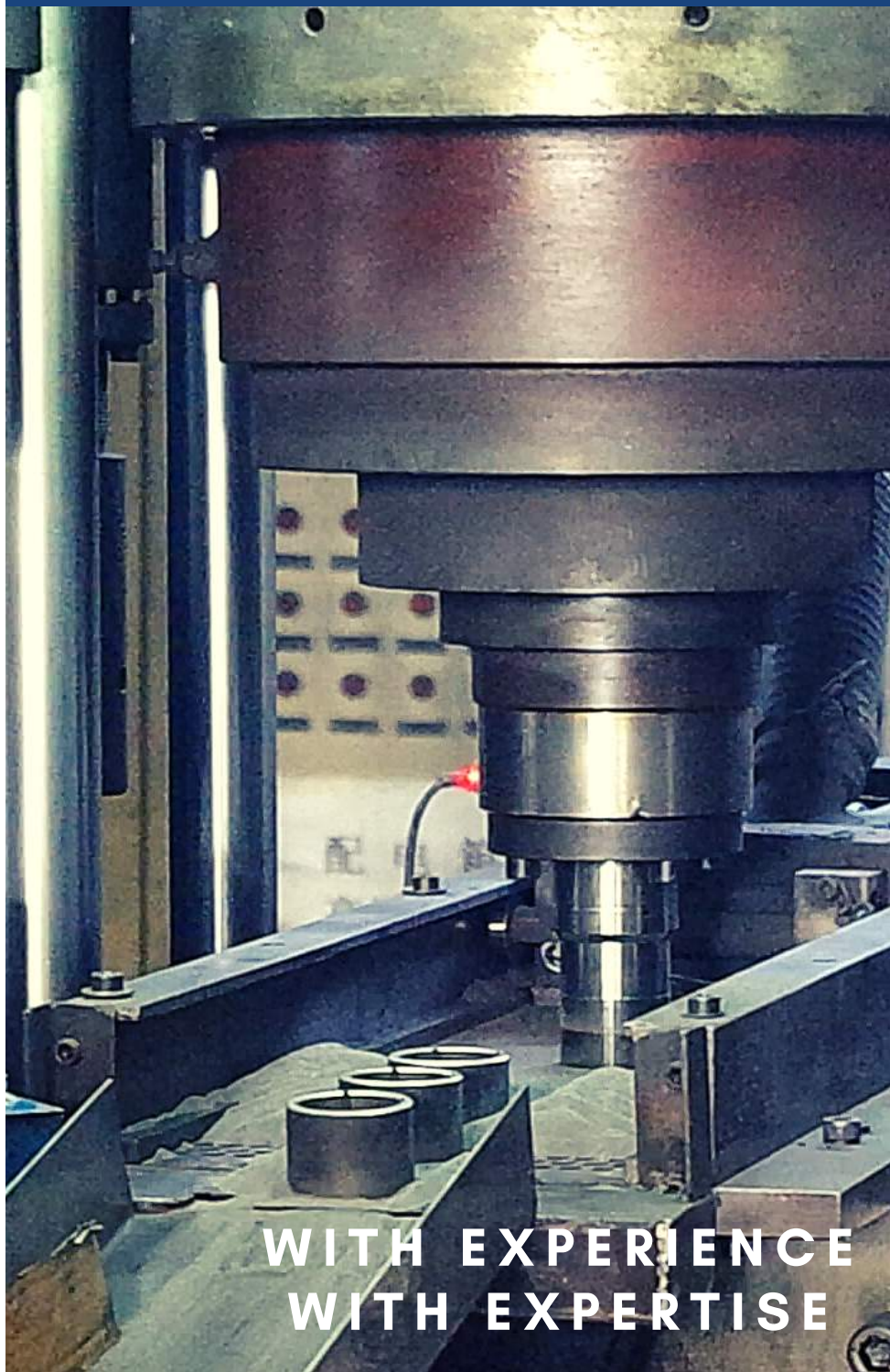
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## UNIQUE SPM

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Solution and Engineering



WITH EXPERIENCE  
WITH EXPERTISE

# OUR STORY

We **Unique SPM Solutions and Engineering** incorporated in the year 2008 as a leading ISO-9001-2008 Certified Company engaged in manufacturing varied range of Hydraulic products including: **Broaching Machines and Hydraulic Presses**. We are based in Ghaziabad a prominent city of NCR. Within a limited time span, we have been able to attain a commendable reputation in the industry by offering products of unparalleled quality and functionality. Our after sales support services to our customers is apt and are appreciated for our reliability and efficiency.



## MANUFACTURING STANDARDS

Symbol of Trust and Quality by providing Innovative and Advanced Engineering Solutions to our Customers.

Our machines are reliable and efficient. We follow a **Complete Client Centric Approach** and have worked with over 100 plus Clients which includes names like **OFB , Hindalco , Volvo Eicher , Honda , Havells and Kirby** all across the country.

We are well Equipped and have a Professional team which is ready to face challenges of **INDUSTRY 4.0** .

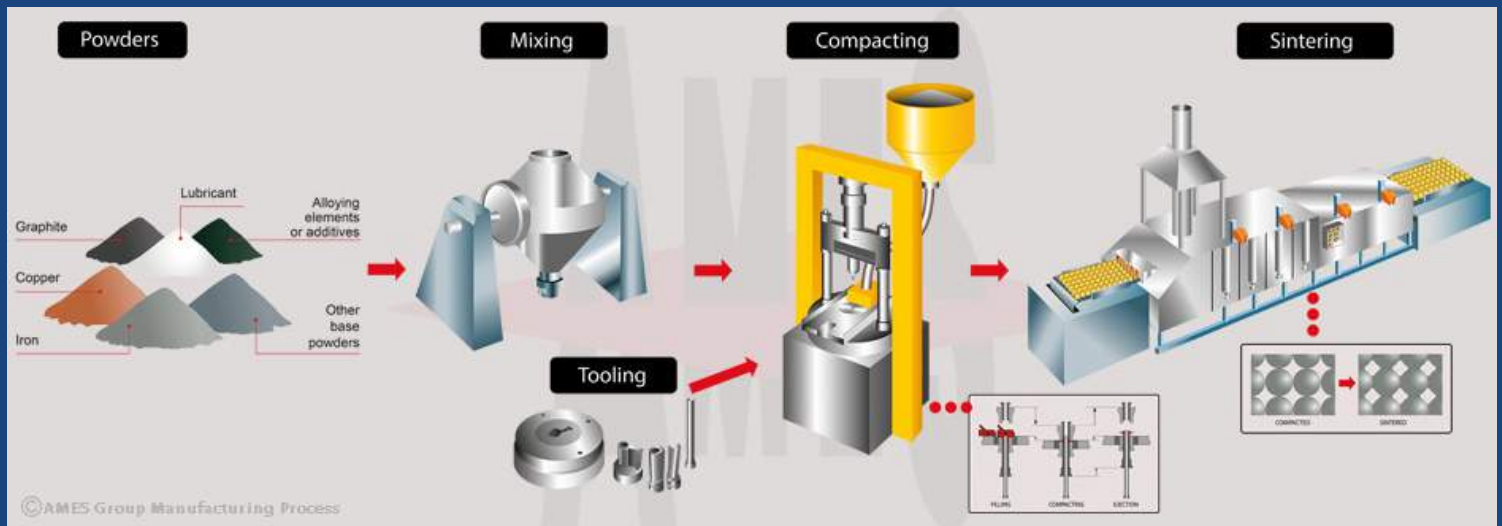
- High Quality Machines for Welding , Drilling , Cutting , Turning , etc. Operations along with CAD CAM facilities.
- Geometrical Accuracies as per JIS Grade
- Lean manufacturing techniques
- Demand flow and Continuous flow Manufacturing Techniques

**At Unique SPM Solution and Engineering, We do not just sell Machines, We sell complete Service with End-to-End Solutions Right from Choosing the Right Machine for you to Commissioning and Training.**

# POWDER COMPACTION PRESSES

Powder compacting is a compression molding process that uses a press to form complex shapes from metallic, ceramic, composite, PTFE, and other powder compounds. We at Unique SPM manufacture a multi-action design for powder compacting presses because it allows operators to set fill heights via the lower or middle action while also providing uniform compaction density. With a triple action design, the main ram applies downward force to the powder, a middle "cavity" ram sets the fill depth, and a lower "knockout" cylinder ejects the finished parts. The machine has a CNC Closed Loop System Customized For Programmable Force-Speed-Position Profile.

**Upto 500 Tons**



## ADVANTAGES OF POWDER COMPACTED COMPONENTS



### COMPLEX SHAPES

Facilitates manufacture of **complex or unique shapes** which would be impractical or impossible with other metalworking processes

### ALLOYING

Permits a wide variety of alloy systems to create components with desired properties like strength and wear resistance.

### SELF LUBRICATION

The internal porosity gets filled with Oil/Lubricants which provides constant Self lubrication between Bearings and Shaft.



### HIGH PRECISION

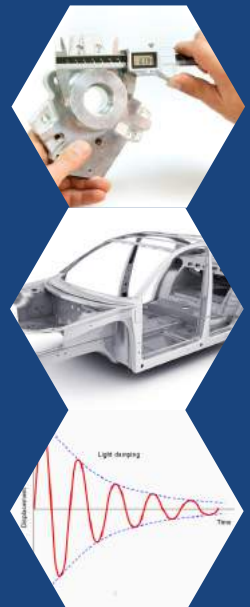
Minimizes machining by producing parts at, or close to, final dimensions with good surface finish.

### WEIGHT REDUCTION

Sintered parts are typically 5% to 25% lighter than the same wrought components, due to the internal micro-porosity.

### VIBRATION DAMPING

The internal micro-porosity of sintered parts produce a damping effect on the vibration propagation.





**We also offer the following options on any powder compacting press:**

- To facilitate sintering and improve overall part strength, heated platens or Oven facility with precise temperature control can be included
- Automated powder weighing, filling, and leveling stations
- Pick and Place Part Transfer Unit
- Single- or Multi-axis bed shuttles
- High-speed motion controllers
- Neoprene or nylon cylinder bellows
- Vibration dampening pads

**APPLICATIONS**

- Automotive & Electrical Components
- Manufacturing Arms , Ammunition and Explosives
- To produce refractory metal composites
- To Produce Diamond impregnated tools
- To Produce Magnets
- Light Weight Motor Stators made using Soft Magnetic Composites



**CONTACT US:**

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**UNIQUE SPM**  
**SOLUTIONS AND ENGINEERING**  
 (ISO 9001-2008)