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# DESIGN CONCEPT JAW 3 JAW GAUGE FOR DIAMOND INDUSTRTY

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**Abstract:** A gauge in science and engineering, may be a device wont to build measurements or show sure dimensional data. a good type of tools exist that serve such functions, starting from straightforward items of fabric against that sizes may be measured to complicated items of machinery. on the rely of use, a gauge may be referred to as.
On the depend of use, a gauge can be known as "a device for measuring a physical quantity". for example "if we want to determine thickness, gap between two physical quantity, diameter of materials, or pressure of flow we can do with the help of this. or we can say "a device that displays the measurement of a monitored system by the use of a needle or pointer that moves along a calibrated scale"
The experimental work in this research to know "**Design concept of 3 gauge for diamond industry**" and which measures a rough diamond's diameter and height both at a time.

***Keywords*:** Gauge, Height, Diameter, Diamond

## 1. INTRODUCTION

Presidium Electronic Gemstone Gauge is the digital gemstone gauge and remains the only reliable one able to convert gemstone dimensions to estimated carat weight for round brilliant-cuts. Utilizing solid-state electronics to accurately measure up to 1/100mm, this gauge also features a clear and visible high-tech digital display for ease of reading measurements. Its touch button zeroing allows the convenience of resetting to zero at any measurement point. It works with button cell. This paper describe design concept of this gauge by attaching a height anvil to make it more comfortable.

In diamond industry when a buyer is buying a rough diamond, he always measure the diameter because current available gauge can only measure diameter not height and it cause huge lose for rough diamond buyer. Due to this problem we have come up with an equipment which measure the height and it attach with current gauge so that it can be use for both measurement, diameter and height at same time.

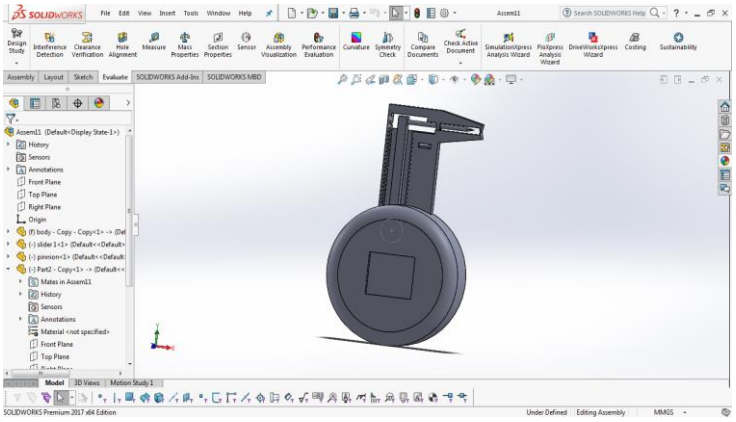
## 2. LITERATURE REVIEW

1. Design and development of presidium
2. Diameter measuring gauge
3. Design of pitch diameter gauge
4. A detecting gauge with high accuracy

## 3. WORKING

- We have used rack and pinion mechanism in this gauge so that When slider anvil slide backward then base anvil will slide forward at the same time.
- When diamond place in between two anvil at that time because of height of the diamond the height anvil will slide upward.
- So height and diameter of diamond can measure easily at the same time.

## 4. DESIGN DIAGRAM



## 5. APPLICATION

1. Measure the height and the diameter at same time.
2. Quickly move around the diamond.
3. By using this gauge measurement and decision making speed can be fast.
4. Easy to use.
5. It can measure in both form carat and millimeter.

## 6. REFERENCES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