**Screw Gauge**

Screw Gauge is a mechanical tool which facilitates measuring diameter or radius or thickness of a thin wire or thickness of thin metal sheet with utmost accuracy. It comprises of a U-shaped mount which is fixed with a screwed pin which is fixed to a thimble. A screw gage also known as the thread pitch gauge which is an engineering tool. It is used to degree the size of the screw thread. A scale passed in mm is inscribed side by side to the axis of the thimble. A screw gauge measures even the tiniest length with exact accuracy having a U shaped metallic mount.

On the other hand just like Vernier calipers, a screw gauge also holds two scales - a key scale and an additional scale. The key scale is a millimeter scale passed to 0.5 mm, on the other hand, the additional scale is split into 50 uniform divisions. The additional scale is on the little metal cap which shields the finger while sewing of the screw gauge and measures 100th of the estimation. The mandible of the measure is moved rotating the thimble. The additional scale on the thimble is also termed as the Vernier revolving scale. Also, the thimble is so adapted that 2 changes of the thimble will let the mandible to shift by 1 mm. This implies that a solitary rotating will move the mandibles simply by 0.50 mm. The key scale lay with respect to the screw gauge named as the "sleeve". The ratchet is provided to avoid excessive pressure on the wire. It prevents the spindle from further movement.

The device's main component verifies precision and protects the object from damage. The key scale reading is taken considering also the 0.5 mm divisions that are given below the key scale. The additional scale reading is captured by noticing the level on the thimble that coexists with the key scale on the sleeve. There is a screw gauge which is called micrometer screw gauge. Micrometer screw gauge is a device incorporating a calibrated screw is widely used for precise measurement of components in the manufacturing of mechanical parts.

The thing is set between the mandibles that are moved by the thimble in order of priority to take the studies using a screw gauge. The transmission button is used to set the object strongly between the mandibles. The thimble should be moved before three clicks can be heard from the device's main part for accurate reading. While on the circular scale it is 0.001 inch. Hence the total reading is 0.375+0.001 which is 0.376 inches. Total Reading = Pitch Scale Reading + Circular Scale Reading x LC of the gauge. LC in the above equation is the least count of the gauge.

According to the accuracy of apparatus, we can conclude that the screw gauges has the higher rate of accuracy compared to the vernier caliper as it has more sensitive scale that enable the measurement taken were as accurate as possible.



