

“PNEUMATIC SHEET METAL SHEARING MACHINE ”

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ABSTRACT

We are using scissors for simple sheet metal cutting. It is a manual method so that sheet metals are to be wasted sometimes because of mistakes happened such as wrong dimensions etc., and also even a simple cutting may take long time. Hydraulic machines are also available for sheet metal cutting. But this method is used for only heavy metal cutting and its cost is very high. We are using a pneumatic system for sheet metal cutting in a easy way. It is operated by a pneumatic hand lever of two ways control valve. Control valve is operated by a compressor.

Sheet metal is simply a metal formed into thin and flat pieces. It is one of the fundamental forms used in metal working and can be cut and bent into a variety of different shapes. Countless everyday objects are constructed of the material. Thicknesses can vary significantly, although extremely thin thicknesses are considered foil or leaf, and pieces thicker than 6 mm(0.25 in) are considered plate. Sheet metal is available in flat pieces or as a coiled strip. The coils are formed by running a continuous sheet of metal through a roll slitter. The thickness of the sheet metal is called its gauge. Commonly used steel sheet metal ranges from 30 gauges to about 8 gauge. The larger the gauge number, the thinner the metal. Gauge is measured in ferrous (iron based) metals while nonferrous metals such as aluminum or copper are designated differently; i.e., Copper is measured in thickness by Ounce. There are many different metals that can be made into sheet metal, such as aluminum, brass, and copper, steel, tin, nickel and titanium. For decorative uses, important sheet metals include silver, gold and platinum (platinum sheet metal is also utilized as a catalyst.)Sheet metal also has applications in car bodies, airplane wings, medical tables, roofs for buildings (Architectural) and many other things. Sheet metal of iron and other materials with high magnetic permeability, also known as laminated steel cores, has applications in transformers and electric machines. Historically, an important use of sheet metal was in plate armor worn by cavalry, and sheet metal continues to

have many decorative uses, including in horse tack. Sheet metal workers are also known as "Tin Bashers",("Tin Knockers") which is derived from the hammering of panel seams when installing tin roofs. Hydraulics present certain advantages over pneumatics, but in a given application, pneumatic powered equipment is more suitable, particularly in industries where the factory units are plumbed for compressed air. Moreover, to avoid corrosive actions, oil or lubricants are added so that friction effects can be reduced. Compressed air is used in most of the machines and in some cases compressed carbon dioxide, whereas cutting process is become easy. Fast cutting action is carried out. Cutting without bending is achieved.



				
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