Abstract

In the previous spinning machine, two tool equalizer types used to move manually to perform the process of forming a metal plate on the mandrel. Another alternative which is more effective is moved by hydraulic power which gives more constant pressure compared to the manual stage.

The first step of the spinning machine planning process is counting the big of shearing force which is used as the basis for determining hydraulic cylinder force and the components. From these force, motor power and rotation can be determined. After the machine finished, it has been conducted the testing using the stainless steel metal plate with the thickness of 1 mm and the diameter of 360 mm for manufacturing skillet products.

The shearing force of stainless steel skillet which uses the shear spinning process is 187,9956 Kgf or 1844,24 N which needs the hydraulic force of 280,319 Kgf or 2749,935 N for moving the tool in position press the metal plate on the mandrel. Piston diameter used 63mm. Electric motors are used is 2 HP with 925 rotation.

Keywords: Equalizer, Rollers tool, Spinning, Stainless steel, Forming, Hydraulic