

# Pneumatic Operated Bolt Slotted Machine

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**Abstract:** *The Pneumatic operated bolt slotting machine is to be use for slotting the bolt at certain parameters 6mm length and 4mm at the lower side end of bolt size is M10 ,M08, M24 etc. The pneumatic operated bolt slotted machine is operated by pneumatically by using compressor double acting cylinder pressure control valve also time relay FRT22U. Pneumatic operated bolt slotted machine overall modified milling machine used to slot the bolt at different categories and dimension required as per our requirement and need of supply to costumers satisfied their condition and situation of need of operation of bolts in operation*

**Keywords:** Pneumatic operated bolt slotted machine, Lenth of bolt, Overall review of project

## I. INTRODUCTION

Pneumatic bolt slotting machine is a machine is used to slot bolt which has various types of size bolts is used for various purpose in industries like automobile ,manufacturing, Railway workshops etc. Now a days we use bolt slot in milling machine in our machine we use pneumatic operated which means machine operated by air pressure which we get from air compressor. This machine is semi automatic which means a processor or device that does part of the task automatically, but still need human input for each cycle like a semi-automatic weapon firing one shot per trigger pull, or a semi- automatic car handling gears but still needing a clutch in some modes.



Fig: Actual design of machine



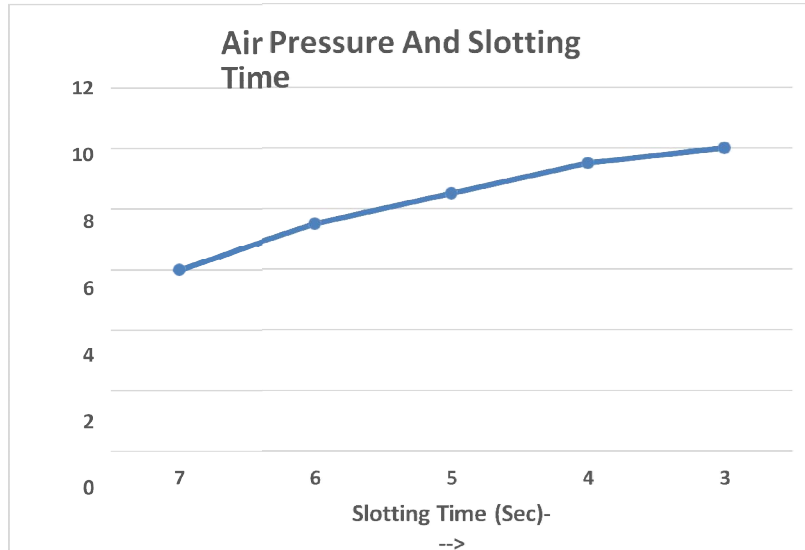
Fig: Operation by the machine.

Final Output

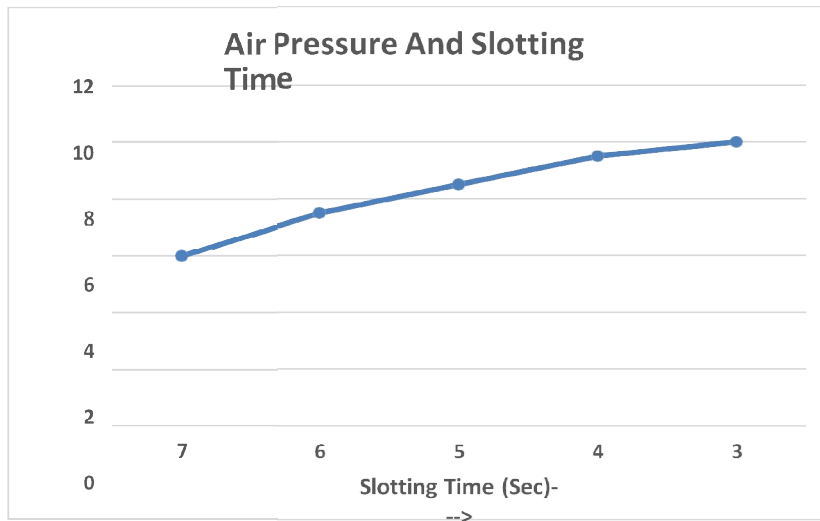
Sr. No	Operating Method	Time	Quantity
1	Manually Operated	2.5 to 3 Hrs.	1000 Job's
2	Pneumatic Operated	1 To 1.5Hrs	1000 Job's



This is the final outcome of machine mentioned above is as seen that as per previous reference job is same but required time consumption may be less the benefit of the easy to handle, less time required to slotted the job is help to increase the production with less efforts and less time. Now a days we see less humans needs effortless work. As per this condition this is best way to increase production using pneumatic operated bol slotted machine.



Graph Between Air Pressure And Slotting Time



Graph Between Air Pressure And Slot Depth

Above mentioned graphs are indicated that time reduce production increase the required air pressure for operating the machine also accuracy maintained by operator.



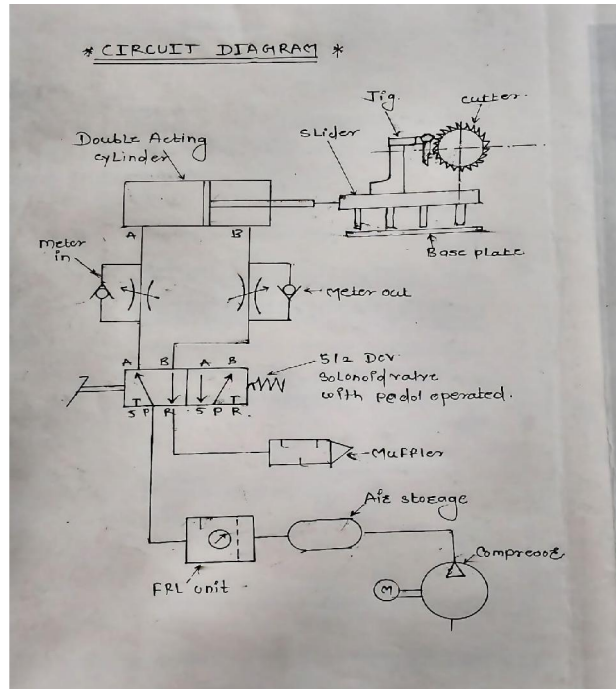


Fig. 1. Circuit diagram which shows total circuit of machine structure.

The pressure part is connected to the actuator part A. When pressured air passes to part A it goes from flow control valve to actuator at the same time B part is connected to return line part i.e. exhaust part where we control flow to move slider slowly towards cutter and forward stock takes place. The pressure part is connected to the actuator part B it goes from check valve to actuator. At the same time A part is connected to easy exhaust part. When the pressure air comes in the actuators it pushes piston backward and air present at part is easily exhausted through part and hence backward stock takes place. That cycle takes continuously to produce job.

## II. RESULT



Manually operated bolt slotted machine

It usually takes 2.5 to 3 hrs. to finish 1000 jobs  
It require some efforts as well as more time to finish given target job



Pneumatic operated bolt slotting machine

It usually takes 1 to 1.5 hrs to complete 1000 jobs  
It is easy to do jobs also within in time and more jobs as compare manually operated bolt slotted machine.



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