

Review Article

## Survey of Semi Automatic Viscous Fluid Filling Machine

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**Abstract:** Changes in today's manufacturing environment allow tedious, fatiguing and repetitive tasks to be mechanically performed by robots, as manually controlled work is transition to auto-cycle control equipment. Such changes tend to take advantage of, and expand upon, operator process knowledge. As this trend continuous, the operator's contribution becomes more technically oriented and less physically oriented with significantly greater product output being release. A robot is a reprogrammable multifunctional manipulator designed to move material parts, tools or specialized devices through variable programmed motions for the performance of variety of tasks. The step by step control and feedback is provided by a computer program run on either an external or embedded computer or a microcontroller.

**Keywords:** Traditional methods, Semi automatic viscous fluid filling machine, PLC.

### INTRODUCTION

Semi-automatic viscous Fluid Filling Machine is a great time saver machine generally used for small scale industry. Main purpose of this machine batch production in industry Viscous fluid filling machine time reduction in filling and accuracy maintained .It is easily filling viscous fluid in pouch packing. This machine Are reduced effort human and operated by unskilled worker. The machine construction is very simple and component of machine are Hopper, Screw conveyor, stepper motor, non return valve Knob etc. Motor to machine are motion Transfer belt drive. Stepper motor is drive clockwise and anticlockwise direction and control switch adjust motor speed. All construction machine are fixed in bed, the bed is manufacturing hard cast iron material. The major by product of the dairy industry are in form of viscous because Of their temperature limit. Due to their high viciousness it is very critical to filling in cup and pouch by manually. The accuracy occurs by manually maintain is very critical in limit. To reduce this problem we can use semiautomatic viscous fluid filling machine. This machine cost is reliable to small scale industrial consumer.

### LITERATURE REVIEW

Yusong Pang Fac, et al [1], Conveyor belt systems have been significantly developed for decades and are playing a critical role in today's large-scale continuous transport systems. Traditional conveyor belt monitoring focuses on catastrophic failure. Failure alarms and maintenance decisions are submitted separately without revealing relationships of monitored events. Causal modeling such like Bayesian

methodology provides intuitive and mathematically sound tools to understand complex relations between uncertain variables and failure causes. However to derive inference knowledge for validating causal modeling is difficult.

Liyun Zhuang, et al[2], In order to ensure the belt conveyor operation reliable and safe, centralized monitoring and control is very necessary. This paper takes the belt conveyor for coal mine as the background, designs the monitoring system based on PLC technology. The system is composed of PLC and touch screen. It is used to control the machine and display running information real-time. The hardware and software of the system station is designed by S7-300 PLC, including the module setting of PLC and its interface wires. After introducing the system design, simulation is made in the software PLCSIM. The simulation results illustrate the effectiveness and correctness of the proposed method.

Aniket A Jagtap, [3], this process is in manufacturing industry, raw materials need to be transported from one manufacturing stage to another. Material handling equipment are designed such that they facilitate easy, cheap, fast and safe loading and unloading with least human interference. For instance, belt conveyor system can be employed for easy handling of materials beyond human capacity in terms of weight and height.

Joshua Risiro, et al [4], The purpose of the study was to examine the strengths and weaknesses of the current traditional marking and explore possibilities

and challenges of introducing conveyor belt marking at Great Zimbabwe University. Individual interviews were carried out for students enrolled in the Bachelor of Education Programmes. Lecturers who have been involved in conveyor belt marking were purposefully sampled to answer questionnaires. There are possibilities of introducing belt marking at the Institution.

Gokul Prasath B [5], Quick Closing Non-Return Valve (QCNRV) is basically a Non return valve, equipped with a power cylinder to close the valve quickly. This non return valve allows the fluid to flow in one direction only. These valves are used mainly in typical power plant application. The valve is installed in turbine extraction lines wherein the back flow of wet steam to turbine is not allowed. In case of boiler trips, steam to turbine will be disconnected, at same instant the QCNV Valve is actuated by power cylinder and it closes the flap in 0.5seconds, thus preventing the reverse flow of wet steam to turbine which is detrimental to the turbine casing and rotor.

L. C. Leow [6] proposes a numerical procedure to better compute the characteristics of pressure surges when check valves close under different flow conditions in a pumping station. Studies have shown that the effects of check valve closure on the pressure transients are predominantly dependent on the magnitude and gradient of the flow velocities immediately downstream of the check valve at the instant of valve closure. Through the present study, it was noted that the transient flow velocities near the check valve of a fluid system are also dependent on the characteristics of the air entrained into the fluid system.

Shigeru Matsuo [7], Interaction between the normal shock wave and the turbulent boundary layer in a supersonic nozzle becomes complex with an increase of a Mach number just before the shock wave. When the shock wave is strong enough to separate the boundary layer, the shock wave is bifurcated, and the 2nd and 3rd shock waves are formed downstream of the shock wave. The effect of a series of shock waves thus formed, called shock train, is considered to be similar to the effect of one normal shock wave, and the shock train is called pseudo-shock wave. There are many researches on the configuration of the shock wave. However, so far, very few researches have been done on the asymmetric characteristics of the leading shock wave in supersonic nozzles. In the present study, the effect of nozzle geometry on asymmetric shock wave in supersonic nozzles has been investigated experimentally.

Tunggal D [8], Pneumatic actuators are highly nonlinear characteristics and uncertainties make it difficult to achieve high performances. The objective of this paper is to present a brief overview of pneumatic actuators based on modeling and control strategies that

has been proposed by various researchers. Before the main discussion, some background information will be presented in a relation to pneumatic actuators. This review concludes with a short summary and discussion of modeling and control approaches of pneumatic actuators. The implication of this paper is for further improving the performance of existing pneumatic actuators.

Michaël De Volder [9], Future microrobotic applications require actuators that can generate a high actuation force in a limited volume. Up to now, little research has been performed on the development of pneumatic or hydraulic microactuators, although they offer great prospects in achieving high force densities. In addition, large actuation strokes and high actuation speeds can be achieved by these actuators. This paper describes a fabrication process for piston-cylinder pneumatic and hydraulic actuators based on etching techniques, UV-definable polymers, and low-temperature bonding. Prototype actuators with a piston area of 0.15 mm<sup>2</sup> have been fabricated in order to validate the production process. These actuators achieve actuation forces of more than 0.1 N and strokes of 750 μm using pressurized air or water as driving fluid.

## CONCLUSION

- Increase the productivity large extent.
- Researcher can also use the machine in a high viscosity fluid filling in pouch it
- We will able to control and vary speed with required attachment
- This method is used in time reduction.

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