



Industry Notification - Machine Tool Industry

Delta High Speed Punch Solution

High Speed Punch Application

Introduction

The punch is mainly used for sheet metal machining. It features molds for machining of blanks, punching parts, forming parts, stretch forming parts, trimming parts, fine blanking parts, sizing parts, rivet parts as well as extrusion parts for a wide range of areas, from daily necessities, such as switches and sockets, cups, cupboards and dishes, to computer cases, even missiles and aircraft.

Application

This solution is mainly used for punching of middle and small sheet metal, such as automobile parts and motor parts.

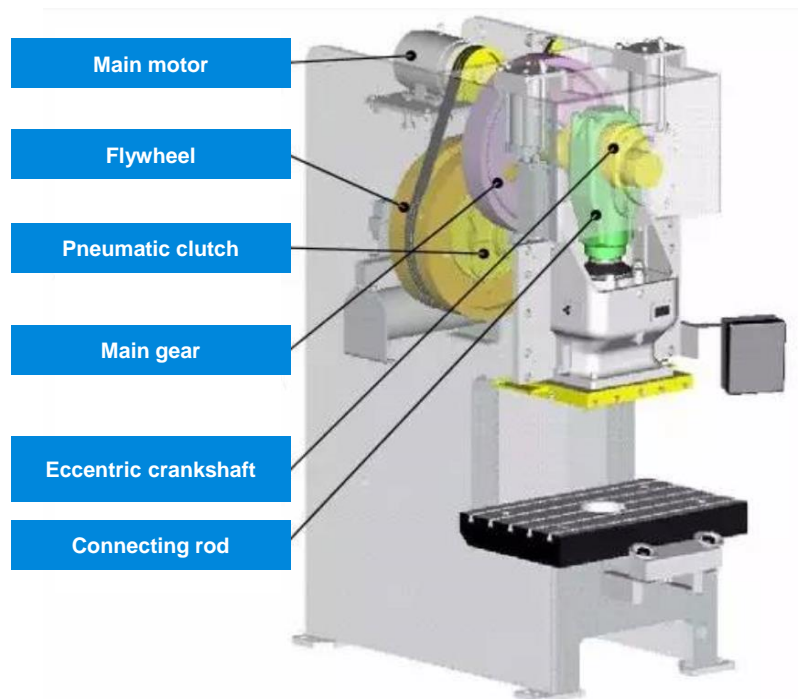
Principle

The technology behind the punch is to convert circular motion to linear motion, i.e., the flywheel, driven by the main motor, drives the gear, crankshaft (or eccentric gear) and rod through the clutch, to achieve linear motion of the slider.

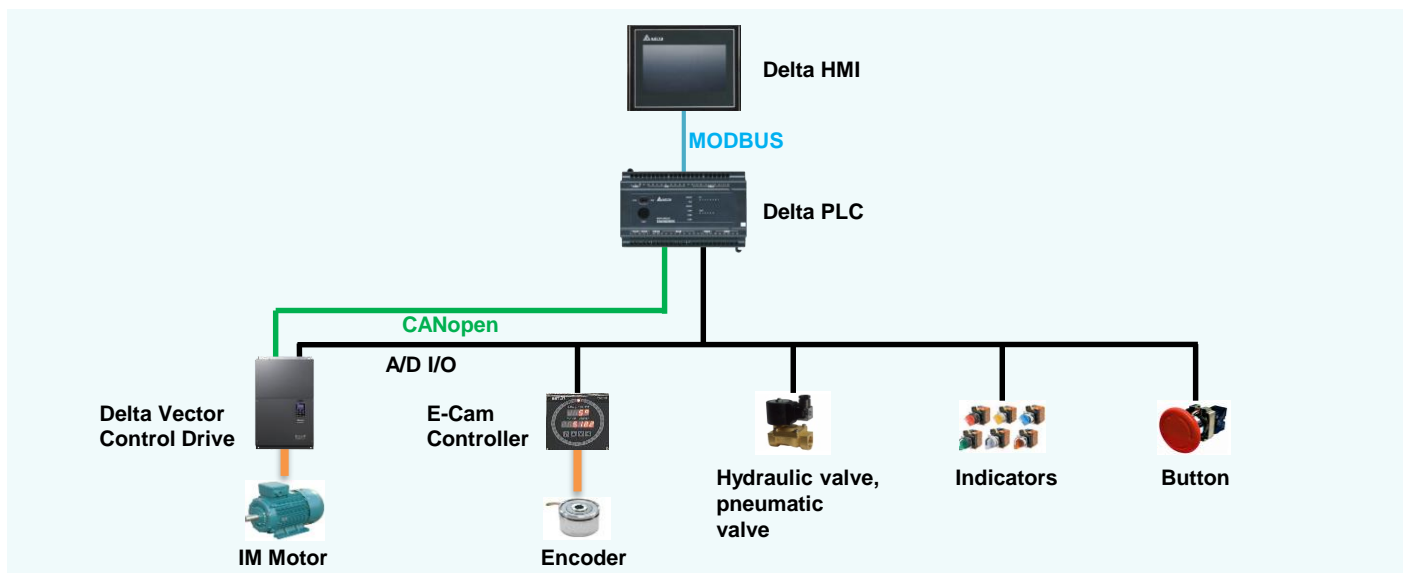
Punch machining companies usually pay employees by piece or by hour. Either way, a higher productivity is always expected.

The traditional mechanical punch can no longer meet the increasingly higher efficiency requirements. For this reason, high speed punch is introduced.

Comparing with the traditional mechanical punch, the high speed punch has a shorter offset of crankshaft. The first reduction from motor to flywheel is reduced by half. The second reduction of the gearbox is eliminated. The slider punching speed is up to 600spm (400T).



Solution Architecture



Features and Advantages

Complete Industrial Control Solution

- The whole solution adopts Delta industrial control products, including Delta HMI, Delta PLC, Delta Vector Control Drive, for excellent driving performance and stable operation.

Fast Deceleration and Stop

- Regenerated energy during operation may trigger voltage alarms. This solution integrates Delta's fast deceleration and stops function to effectively suppress regenerated energy and ensure smooth and fast deceleration and stop, eliminating the need for braking resistors.

Higher Overload Capacity

- Delta solution offers 3 different loads: for extra heavy-duty, it can bear 150% of the rated output current for 1 minute every 5 minutes, 180% for 3 seconds every 30 seconds. Its enhanced overload capacity ensures stable output under acceleration, jogging, and other conditions.

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