

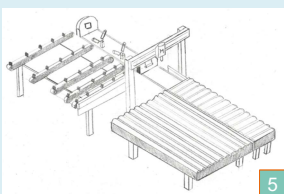
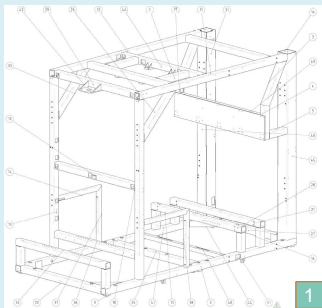
Design of an automatic threading- and chamfer machine

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Specialization Electromechanical Engineering Technology

Situation

Coolen Engineering is a company located in Heythuysen (The Netherlands). They are specialized in producing machine parts and automatization of processes. One of the projects Coolen Engineering is working on, for external client, is to produce machine frames. Eventually these frames will be used for packaging machines. From Coolen Engineering we got an assignment for our GIP.



Design

Problem

The machine frames are made from different square tube profiles-, rectangular tube- and L-profiles. These profiles are imported with pre-lasered holes. The holes are then manually provided with thread or are chamfered. After threading they are welded together.

In order to make the threading and chamfer process faster, easier and cheaper, Coolen Engineering wants to automatize this. Therefore, we received the assignment to design a machine that can do this.



Result



- One operator
- Process duration 2,5 hours
- Transport with a pallet
- Threading holes of M5, M6 and M8
- Precision of min. 0,2 mm
- Tube profiles are max. 80x80x6 mm
- Steel AISI 1035 Tube profiles and L-profiles
- Max. length tube profiles of 3,22 m and min 1 m
- General machine safety rules

Requirements

Supervisors / cosupervisors: John Bijnens Rob Coolen
 Karel Kellens
 Michael Daenen

1. 3D-drawing machine frame, <https://coolen-engineering.eu>
2. Photo tube profiles
3. Hiwin linear guideway, <https://www.hiwin.com>
4. Precision ring guide, <https://www.hepcmotion.com>
5. Concept sketch
6. Spindle, <https://www.maedler.de>
7. Rack guide, <https://www.maedler.de>
8. Main design