

Our performance. Your advantage.

# NetShape

01 | 2019



## Customer story

**Defremm Italy with Industry 4.0 since 2014** 14 – 15

## Focus

**Preheated is the new cold** 08 - 11

[www.hatebur.com](http://www.hatebur.com)

**HATEBUR**

# Defremm Italy with Industry 4.0 since 2014

Text: Hatebur/Defremm  
Illustrations: Defremm S.p.A.

●  
Lecco

Company: Defremm S.p.A.  
Location: Lecco, Italy  
Employee: 54  
Machines: Carlo Salvi  
CS 663, CS 667, CS 668

Defremm S.p.A. specializes in cold forgings for small parts, e.g. threaded tubular rivets. In addition, they produce parts according to the technical specifications and drawings of customers. The company was founded in 1980 and is located in Lecco, Italy. It has 54 employees and a turnover of around 10 million Euros.



**Reinach** The company Defremm S.p.A. in Italy is a long-term customer and partner of Carlo Salvi S.p.A. Several machines are operated in Lecco, Italy to produce cold forming parts from the Italian supplier located just a few kilometers from Lecco.

## History

Founded in 1980, Defremm S.p.A. has its roots in the company Minuterie Metalliche which was founded by G. Molinari in 1962. Initially, the company focused on manufacturing blind rivets, after the father of Mauro Molinari had bought a first double stroke header from Carlo Salvi. Later, Defremm began to specialize in cold forming of small parts according to technical specifications and drawings of customers as well as producing threaded tubular rivets.

At the same time, Molinari acquired several new multi-stage machines to start production of special parts. In 1994, the company expanded the production of special parts and also procured multi-station cold forging machinery in different brands. Four years later was another big year: New five-station and six-station machines made it possible to produce the first rivet nuts as well as new complex parts across a range of different materials. 2003 was another big milestone with the purchase of new multi-stage cold forming machinery from Sacma and Carlo Salvi for the purpose of renovating machines and standardizing the production range.

The production range of stainless steel parts without pre-heating technology on the machine started in 2014. The company currently managed by Mauro, Rosa, Andrea and Paolo

Molinari has been reorganized to make better use of the skills and talents of their outstanding personnel. The same period saw the first steps towards Industry 4.0 being taken with a view to optimize coordination of all processes within the factory.

## Quality control

Defremm has always been keen on compliance with international quality standards and has therefore achieved several certificates, including

- \_ 1994 ISO 9001
- \_ 1998 QS9000
- \_ 2003 ISO TS 16949
- \_ 2016 IATF 16949
- \_ 2018 IATF 16949 re-certification in order to maintain the high levels in production and





service that customers in the automotive industry have come to expect from suppliers.

#### **Customers in 22 countries**

Production is taking place in Lecco, Italy, where Defremm has two plants, one for production and one for logistics. The main sectors for which they manufacture are automotive, fasteners, domestic appliances, fittings for plumbing, windows and doors and mechanical construction (most important: popular automotive brands and construction industry). About 60 % of production is being exported. The customers are located in 22 countries (e.g. Italy, Germany, France, Czech Republic, Hungary, Slovenia, Spain, etc.)

In 2018, Defremm managed to make a turnover of EUR 10 million with 54 employees in total (approx. 40 people in production).

#### **Up to 200 million parts per series**

Defremm manufactures small metal parts for a range of highly specialized applications. These include fasteners for brakes, locks, doors, roof systems and engines in the automotive industry. Another production range comprise parts for household appliances as well fittings for plumbing, window and door frames, sports equipment and general mechanical applications. The company also produces standard fasteners including rivet nuts and blind rivets.

Materials used are carbon steel, aluminium alloy, copper, brass and stainless steel wire to produce parts from 5 to 90 mm length. The production series runs from 150,000 up to 200,000,000. The quantity depends on shapes and dimensions of parts and on which cold forming machine production is running. Several process come into operation after the forming process. These are important to meet increasingly complex customer requirements. Defremm is continually investing in advanced machinery for recovery, threading, punching, turning, assembly and optical control selection. Some parts are ready for use after forming, but most need additional operations.

#### **Carlo Salvi machines in use since 1970s**

At present, the Carlo Salvi machines CS 663, CS 667 and CS 668 are in use. In total, Defremm has 15 forming machines in use, nine from Carlo Salvi, the rest from other suppliers. Defremm decided to buy Carlo Salvi machines because of the technology – they are of good quality, approved and the Company is located only 5km from Lecco which makes distance short for discussions and any kind of assistance, an advantage in daily life. The most appreciated part of the Carlo Salvi machine is the technology of the Knuckle

Joint Drive (Carlo Salvi Toggle-Action) in the cold forging machine. Another important advantage is the stable production and the increased tool life.

#### **Industry 4.0**

In 2015, Defremm started sourcing a concrete partnership with manufacturers of hardware and software to provide tangible support for its ongoing organisation and growth. All the details have now been defined and 1 January 2016 is the date set for start-up of a project that will see Defremm become fully digitalised over the next few years. One of these partners is FASTDEV Srl, a company specialising in IT solutions for the fastener sector, which has supplied not only the company's ERP system but also its EASYPROD 4.0 MES system module for governance of primary sectors such as production and quality. This has permitted automation and monitoring of the various stages in the production processes, both external and internal. The use of interactive dashboards means not only constant control of the entire production cycle and quality checks, but also signals of any critical alerts, enabling real-time intervention.

In collaboration with Platinum Autodesk partner NKE, supplier of the company's CAD and PLM systems, FASTDEV has used ERP automation to integrate all the document coding and management processes. This means that the finished product, equipment, raw materials and everything linked to production of any particular formed article can now be managed with the technical specs. Yet another step forward has been made possible thanks to the electronic components fitted to Schwer + Kopka GmbH machines.

Thanks to development of the latest generation of SK 800, a high-end system based on PC/Windows, capable of total governance of the production process and to the technical competence provided by this German company, supported by the Italian DFV team, the FASTDEV F-TERM module has been integrated into the company's equipment. This digitalises the entire production and document process relating to both articles and machines, as well as relative maintenance procedures.