



elsa s.r.l.



The Portable Mechanic

A machine tool that is always available for on-site emergencies and that conquers boring and welding work speedily and with maximum flexibility. This is the story of a patent that inspired an entire sector.

Back in 1960, Evangelista Russo was already admired for his creative thinking and innovation, in a world that he knew in the finest details — industrial and earthmoving machinery. This is Elsa's birthplace: a modest repairs workshop in the small artisan environment in the province of Catanzaro in Southern Italy.

Over time, experience and fresh ideas led Evangelista Russo to set up his own components manufacturing business: in 1975 he invented a chain for agricultural and industrial tracked machinery that had great success at Verona's Samoter trade fair. One of its first clients was the Fiat-Allis brand. Russo followed his first achievement with the invention of a sealed oil-lubricated pin for the arms of excavators. But the invention that would change the course of events forever for the small Calabria-based company was just around the corner.

The "Supercombinata", a genius invention

Russo had the idea of creating a machine tool that would be capable of boring work on worn holes directly on-site, without having to dismantle the pieces needing repair. Russo's vision and the dedicated talents of his staff led to a patent on a portable boring machine that can be easily used for boring and automatic overlay welding. The success they obtained is the kind that changes a company's life forever. In 1997, in Sellia Marina, a coastal town in the province of Catanzaro, Evangelista Russo established Elsa, a firm dedicated to the manufacturing of the machine tool model that would be named "Supercombinata". In the same year Russo won an award at the International Inventors Show in Geneva and began a real "world tour" to promote his "creature": the Supercombinata obtains enormous success, which led to full-scale production for the domestic and international markets (Italy, Australia, France, Spain, the US, Canada and North Africa).

At the beginning of the new millennium the series expanded with the introduction of the new Supercombinata 60/1 and 60/2 models for work on large diameters, and in 2004 Elsa achieved full distribution of its machine tools models, and confidently won new export sales in Latin America, Northern Europe and the Middle East. In recent years the company focused on research and technological development with the aim of meeting the needs of an ever-evolving market. The launch of leading-edge solutions and the introduction of systems and accessories completed a well-established product range valued by all repairs specialists across various industry sectors.

Export absorbs 95% of Elsa's output, with a very high market penetration in Germany and in German-speaking countries, in Central Europe, the UK, South Africa, the Middle East, China, Russia & Australia.

Products and accessories

The SC1 (40/1) model is the flagship of the Elsa's Supercombinata series: a tool suited to boring work on diameters of 45—400 mm. Its compact design and low weight represent some of the main distinguishing features of portable boring machines patented by Elsa. The Supercombinata SC1 can be used in any position and ensures high performance and an optimal efficiency even in problematic working conditions.

The standard version is equipped to allow immediate use in-situ and the optional accessories further extend the machine's possible applications. Like all Supercombinata models, the fully optioned standard model is compatible with most MIG/MAG welders available on the market. The Supercombinata SC2 (60/1) and SC3 (60/2) models are used to work on diameters of 65—600 mm and 65—800 mm respectively; with additional optional kits the field of application can vary between 25 mm and 1200 mm. The machine is as easy to handle as the Supercombinata SC1 (40/1), but it has been designed with a different transmission to provide more power and has a shaft measuring 60 mm in diameter for work that

requires larger diameters.

Among the details of the Supercombinata SC3 (60/2) model, it is certainly worth mentioning its two engines, 1800 W each, and the double ventilation system. The SC3's boring bar has a diameter of 60 mm, which allows for work on large diameters.

Furthermore, for the whole Supercombinata series there are extra kits to reduce and expand the boring diameters (these include shafts, reducer bushings, tool carriers, cutting edges and, for large diameters, a reduction gear to boost the machine's performance). Other pieces of equipment are dedicated to flange facing operations of orthogonal surfaces; for instance, one of the most requested kits is no. 363 for flange facing operations between 250 and 500 mm, which comes with a protection clutch that adjusts its performance during heavy-duty use. It is fitted on the 60 mm bar, is easy to install, and is equipped with a protection clutch that adjusts its performance during heavy-duty use.

Elsa's other accessories for the Supercombinata include a digital control panel, joints to connect two or more shafts, and a Cam system. The digital control panel consists of a programmable positioner with microprocessor and relay outputs, and controls right/left/stop movements with positioning at the set height and the gear/stop rotation (only in one direction) of a second movement independent from the first one. Along with the feed height, the device also displays the related speed (in mm/min) and rotation speed (in rpm). When the machine is off, the data is stored in a non-volatile EEPROM memory, while the Cam system enables operators to carry out automatic welding operations in a discontinuous mode, and the flexibility of stopping operations in the desired areas.

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