



## MMV and the Importance of Choosing Circular Products and Processes in the Industrial Cleaning of Small Metal Parts

Industrial cleaning of small metal parts is one of the production activities that demand ever-higher quality results and, at the same time, ever-lower consumption and emissions. MMV revolutionised its cleaning process by adopting DOLLMARSOL G120, a modified alcohol with a low environmental impact developed by Dollmar, achieving optimal results and creating a fully circular process.

**B**e they used as intermediate or final process steps, cleaning operations are now fully integrated into the production flow of every manufacturing company. The selection of the right plant technology and cleaning products are therefore crucial to achieve optimal degreasing and removal of all impurities from the parts' surfaces. The choice made by MMV, a company with more than forty

years of experience in the production of small metal parts, is an example of how it is possible to implement responsible resource management and create a circular cleaning cycle without sacrificing industrial growth. The company's thirty-year collaboration with Dollmar has always helped it identify the most suitable technology for its current needs. In the last few years, for example, it has been using the modified alcohol DOLLMARSOL





G120, which has not only optimised MMV's cleaning process and reduced consumption but also opened up new market opportunities, positioning the company as a pioneer in its field.

**One family, many industries**

The growth of MMV spanned the history of R&D in the field of cleaning products. MMV - Minuteria Meccanica Valsesiana S.r.l. (Scopa, Vercelli, Italy) is a contract manufacturer of brass, aluminium, and steel mechanical small parts. It is part of a corporate Group with over 300 employees also including Sirit, Kramer, and at the helm Tosi F.lli Srl (Varallo, Vercelli), founded by Renzo, Mario, and Serafino Tosi in 1963, which acquired MMV in 1981 to complement its small parts production.

The Group has always been focused on growing through investments in new machines, such as multi-spindle mechanical lathes, and digital

solutions, such as the AS400 management software package.

In order to cope with the increasing production rates brought by this growth, in 2006 the company moved to a new factory within the artisanal area of Scopa, a larger and more modern facility. The Group's annual investments have gradually led it to expand its target markets to include motorbike and automotive components, cookware, filters, chrome pipes and taps, fittings for truck and trailer braking systems, valves for gas boiler hydraulic circulation systems, and other parts for the electronics, solar panels, and fastening system sectors.

Below photos:

The storage area for the procured bars with many different shapes and sizes and an overview of MMV - Minuteria Meccanica Valsesiana's production plant.







One of the many CNC machines at the company's premises.



The cleaning department.

### **MMV: precision small parts for over forty years**

MMV has therefore been the Group's heart for small part turning for more than forty years, producing over sixty-five million components in seven hundred types every year. MMV performs various machining operations on its procured metal bars, such as turning, drilling, milling, threading, and broaching with high production-rate machine tools such as bar transfer systems and single and multi-spindle lathes. "We can produce any type of high-precision turned small metal parts to customer drawings. Our production is indeed very diversified: for example, we use eight different brass alloys and we can machine round, hexagonal, and square bars from Ø4 to Ø45 through our high-tech plants," states MMV owner Davide Tosi. "Our whole production flow is also supported by an efficient and systematic quality control process prior to the manual packaging of the components to be shipped to our customers, mainly Italian companies that export their products abroad – which means that they all have different requirements and specifications. Furthermore, since some parts are assembled before packaging, it is essential that each component is of high quality and free of any contamination. That is why our production process ends with two metal cleaning systems supplied by IFP Europe (Galliera Veneta, Padua, Italy). Here, cleaning is performed in a vacuum with the addition of ultrasound and a modified alcohol supplied by Dollmar Spa.

### **A pioneer in metal cleaning**

Cleaning is therefore an essential step in MMV's production cycle, which needs to process 240 50-kg baskets per day. The company has always devoted much attention to this operation. Its first cleaning machine was made in-house by one of the founders of the Group and the grandfather of the current owner. "That rudimentary solution performed a cleaning phase in barrels with kerosene



and a subsequent rinse with hot water in another tank, followed by a drying phase. Of course, over the years, we have constantly revolutionised our equipment by analysing the various technologies available to find the most suitable machine for every current need. What has remained unchanged, however, is the collaboration with Dollmar, which has been lasting for over thirty years now,” emphasises Tosi.

**The benefits of DOLLMARSOL G120**

“In 2008, we decided to change our cleaning cycle to reduce the environmental impact of our operations. However, our production volumes had increased and so had our consumption, naturally. Together with Dollmar’s technicians, we selected modified alcohol as the ideal solution to replace perchloroethylene,” says Tosi.

“DOLLMARSOL G120 is an environmentally friendly glycol ether (modified alcohol) with excellent solvent power and low toxicity, guaranteeing stability even after countless vacuum distillation cycles. Its formulation is compatible with all modified alcohol cleaning machines on the market. More generally, modified alcohol is suitable on all metals for the removal of pollutants such as machining oils and greases,” explains Mario De Cenzo, the sales manager of Dollmar’s Mechanical Division.

**A circular cleaning process**

Using DOLLMARSOL G120, MMV can perform a circular cleaning process. The components to be treated are placed in a basket, which is then loaded into the cleaning chamber through a conveyor. The parts are cleaned in modified alcohol using ultrasound technology. This is followed by a two-stage high-pressure distillation phase in which the product is fully recovered so that it can be recirculated, whereas the machining oil removed from the parts is extracted from the plant to be reused again in the machining process and dry swarf is fully recovered. “This cleaning process enables



The handling system that takes the baskets carrying the small parts to be treated inside the cleaning machines and the IFP Europe cleaning systems.





us to remove any contaminants such as machining oils and swarf even from parts with complex geometries and blind holes in a continuous-flow, circular cycle. All waste material can be recovered and fed back into production: nothing is disposed of. As a result, consumption has dramatically reduced and the impact of this operation on the environment and the health of our operators was reduced to zero," states Tosi.

### The thirty-year collaboration with Dollmar

"We have a transparent approach and we often invite our potential customers to visit our facilities, so that they can see for themselves the

advantages of our manufacturing cycle. Many of them are positively impressed by the quality of our products and the attention we pay to researching innovative and circular cleaning solutions," says Tosi with satisfaction.

"The changes that occurred in this company's cleaning process reflect its high environmental and entrepreneurial awareness. Davide Tosi and MMV's technicians are driven by a strong innovative spirit and thorough knowledge of the entire supply chain, which in turn fuel our continuous and long-lasting collaboration in a synergetic manner," notes Adina Diaconu, Dollmar's marketing spokesperson. ○



Davide Tosi, the owner of MMV, and examples of the small metal parts produced by MMV.

