Don't play with gas

Safety, reliability and ease of use are fundamental requirements for users of a recreational vehicle. For this reason, Truma has created a center of excellence near Brescia in Italy to redesign from scratch pressure regulators, filters and other accessories.

Words and photo Paolo Galvani

Truma DuoControl CS with gas filters

Gas is one element of a recreational vehicle where safety and reliability are, obviously, of paramount importance. The importance of gas safety has never been questioned, but the difference between a poor-quality pressure regulator or filter and a well designed and built one is not usually given enough consideration.

Truma, which has been producing gas heating systems for caravans and motorhomes for over 70 years, has recently completely renewed its range of regulators and filters. As a result, Truma has simplified their maintenance and reduced their dimensions so that these products reach the next level of quality and reliability.

Previously, Truma relied on external suppliers, but decided to create its own research, development and production centre in Italy, called Gas Technology, as a global pole of excellence in gas management to bring together the people, skills and innovative tools which resulted in the redesign of its range of products from scratch.

Fabrice Piccioli

Skills and technology

Starting from a blank sheet gave Truma the opportunity to re-analyze the structure and details of its products to create more efficient versions, without being bound by constraints due to existing production lines.

For assembly, robot stations integrating accurate conformity and quality checks are being used. The Kuka robots chosen for some of the production phases guarantee precision and speed of execution. The machines integrate special cameras that record every single moment of the production, allowing Truma to quickly trace any anomalies.

During assembly, each partially assembled piece is subjected to leak and functionality tests, which are then repeated at the end of the process to ensure compliance with the requirements defined during the design phase. All finished products are identified with a unique serial number and a QR-Code, which allow Gas Technology, at any time, to trace the production batch, the components used and the result of testing in the production line. Before final approval, regulators, filters and other accessories are subjected to a complete check and all registered parameters are stored on dedicated servers.

Truma MonoControl CS

Truma gas filter and filter pad

Focus on quality and compliance

Equally important as the assembly process is the checking of the incoming components, whose compliance with the design specifications is carried out with numerical control machines.

A central element in the Gas Technology philosophy is the human one: people are involved at all levels to co-operate in achieving corporate standards and objectives.

Finally, there is the "stress test". At Gas Technology, regulators do not just comply with current regulations, which requires for 50,000 opening and closing cycles at a temperature of 20 °C, but 10,000 of these are done at -20 °C and another 10,000 at +50 °C. These values are certainly closer to the reality of a use in a recreational vehicle. These tests can take weeks to be fully completed.

To check the crash sensor there is also a machine equipped with an automatic slide that reproduces the decelerations necessary to trigger the safety valve.

"It was certainly an incredible challenge," said Fabrice Piccioli, CEO of Gas Technology. *"In less than two years we have gone from scratch to a production reality like this one. In 2017, Claudio Peli, managing director and technical manager and I were in a two-room office with many ideas to develop. In a very short period of time, we gathered some of the best technically skilled people of this region. That kind of competence is the most important challenge to achieve the Truma objectives."*

Smaller and lighter regulators and filters

Today, the results are clear. The new MonoControl CS and Duo-Control CS regulators are much more compact than previous versions, but above all they have been designed from the outset for vertical or horizontal installations. This has also reduced the number of warehouse SKUs to a total of three and allows for more efficient logistics management.

The reduction in size has also made the product lighter in weight, which is always an important topic for motorhome manufacturers. On a technical level, the internal gas path has been redesigned, so instead of passing through two opposing membranes, GPL now passes from just one, thus increasing the system's reliability.

The crash sensor has now been excluded from the fuel path and positioned externally. This avoids unwanted drops in pressure and eliminates several connections that may give reliability issues over time.

The importance of filters

Truma has completely revised its gas filters to increase effectiveness and ease of use. The new, more compact version is able to extract up to 99.9 percent of impurities to protect all systems, the gas pressure regulators as well as the refrigerator or heating system.

The new filter pads inside the gas filters allow campers to save money and to protect the environment as they only need to replace the small pad instead of the whole cartridge as before.

The filter is released by pushing a button and the closure by snap, without the need to screw and unscrew the device body anymore. Together, the combination of Truma regulators and filters in a motorhome or caravan has resulted in a maximum weight increase of just over 3.5 lbs (1.6 kg) for the DuoControl CS equipped with a pair of filters.

Truma's decision to have its own Gas Technology competence center will make it possible to increase the speed of product development in the future to offer its customers excellent, cutting-edge solutions, while always remaining focused on safety, reliability and practicality.

Size matters

Product	Dimensions (W x H x D)	Weight
Truma MonoControl CS	106 x 101 x 102 mm	500 g
Truma DuoControl CS	184 x 95 x 103 mm (horizontal mount) 104 x 158 x 116 mm (vertical mount)	900 g
Truma Gas Filter	67 x 81 x 54 mm	370 g