

A SIGNIFICANT MILESTONE

COMPLETION OF THE VALVE SERIES

OF THE MOTORIZED GEMÜ eSY ACTUATORS

Dominik Berger is a Product and Application Manager at GEMÜ who is overseeing the latest generation of motorized actuators. In this interview, he talks about his motivations regarding the project, the added value that motorized valves provide and the trend towards electrification in plant engineering.

Mr Berger, we recently read in a press release that GEMÜ is bringing three additional eSy valves to market. Why should this news be taken as much more than a simple product launch?

The launch of the GEMÜ 519 eSyLite and GEMÜ 529 eSyLite globe valves and the 629 eSyLite diaphragm valve marks the completion of the eSy platform. With this, all the major valve types are now available across the three actuator series of eSyLite, eSyStep and eSyDrive – more specifically, diaphragm valves made of plastic, diaphragm valves made of metal, and straight seat and angle seat globe valves.

When did GEMÜ come up with the idea of the eSy actuators?

GEMÜ has focused on electrically operated valves from the very beginning. The GEMÜ type 200 launched in 1964 was not just the first electromagnetic process valve made of plastic on the market, but also served as the impulse for the foundation of the company. The first motorized valve – the GEMÜ 618 launched in 1984 – represented another milestone in the company's history. The eSy series was created to enhance GEMÜ's existing actuators and technologies to a new, innovative level. The idea underpinning this range is a platform with multiple, consistent series of actuators.

The market launch of the first eSyDrive valve in 2017 served as the starting signal for the eSy actuators. Five years later, now that we have the three actuator versions of eSyDrive, eSyStep and eSyLite, and a total of 18 valve assemblies, the platform is finally complete – for the time being, at least.

The new series include technical innovations and numerous functions. Many additional functions that were previously laborious to design and could only be configured with difficulty are now integrated into the actuators as standard and can be easily adjusted via standardized interfaces such as IO-Link or a browser. This includes the stroke limiter, for example. These innovative technical concepts called for ample expertise in various areas during their development.

You mentioned that the project required expertise in various areas. Which disciplines were involved?

Primarily, it was down to research and development. Alongside our mechatronics technicians, who orchestrated the interaction of the motorized actuator and the linear movement, the electronics and software development divisions were specifically called upon to implement the new functions and consequently provide added value for our customers. We were also faced with new challenges when it came to production: Components for energy-saving actuators need to be manufactured with precision.

In the current phase of the market launch, we are not only drawing on the support of engineering, but also product management and sales, seeing as we have completely replaced the old series with the new portfolio. These divisions are driving the changes to the portfolio and changeover work at customer locations.

The motorized eSy actuators are available in three designs: The basic actuator eSyLite, the universal actuator eSyStep and the premium version eSyDrive.

What's behind this concept?

We want to be able to offer the right valve with the right actuator for any respective application. For simple open/close applications, the GEMÜ eSyLite series is intended precisely as an alternative to pneumatically driven valves and solenoid valves. If feedback or other settings such as a stroke limiter or position control are required, our GEMÜ eSyStep universal actuator is the right choice. By contrast, complex and demanding applications can be realized with the GEMÜ eSyDrive premium actuator. This offers a wide range of configurations and setting options. The actuator can be used either for open/close applications or alternatively as a positioner and process controller.



What added value do motorized valves offer?

There is a great deal of advantage and added value. At the present time in particular, in light of significant increases in energy prices, motorized valves result in considerable energy savings compared to pneumatic valves. Lower installation effort and expenditure is required for new plants, since only electrical power is needed for the actuation. The compressed-air infrastructure is omitted altogether. Furthermore, motorized valves provide higher accuracy for control applications in particular, and there is no stick-slip effect.

What does the valve of the future look like? Will motorized actuators squeeze the pneumatic variants out of the market?

I currently believe that both valve types, pneumatically and electrically driven, have their place on the market. This is because every application has different requirements that call for a suitable actuator design. However, the proportion of electrical valves is set to increase significantly, in part thanks to the aforementioned advantages. In the future, valves will become more intelligent, and even pneumatic valves will be further electrified and equipped with additional functions. Through this process, the obstacles that are holding back the transition from electrified pneumatics to motorized valves will continue to be reduced further.

I reckon that the proportion of electrical valves in plant engineering is increasing and taking on the same level of significance as the pneumatics as a minimum.

Given that the eSy series is now complete, are there any future plans for the project?

There's still some exciting things to come. Naturally, we're not going to rest on our laurels now, but will instead get back to work on the next generation of motorized actuators. The state of the art is continually developing and there are new technologies that could be deployed in actuators. Even though our current eSy actuator platform has already made plenty of information available for smart factories, it is the actuators of the future that are set to satisfy the significant megatrends of Industry 4.0 and predictive maintenance.

An overview of all electrical GEMÜ valves can be found at:

https://www.gemu-group.com/en_EN/valve-designs/electric-valves



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