

**8 reasons
for the use of
damper actuators.**



**Motorisation of air dampers, VAV units,
fire dampers and smoke control dampers
from Belimo**

Small devices, big impact.



Since 1975, the year in which the first direct coupled actuator was manufactured and Belimo was founded, more than 100 million actuators, small and large, simple and intelligent, have been produced. Thanks to our complete functionally and economically coordinated range of HVAC control devices, we can offer you the perfect product for your application. We are confident that our small devices have a major impact on indoor comfort in buildings, the safety of people and installations, and sustainability in building automation. This is how we offer you unique added value. Save time, costs and hassle during planning, installation and commissioning as well as replacements (retrofit). Ongoing further development of our actuators and sensors, including IoT connection, also offers transparency in building management in order to increase well-being and efficiency. Whether you require professional consulting on specific requirements or the certainty that every actuator is put through its paces before delivery, you can place your trust in the market leader Belimo when it comes to field devices.

Content.

1 The right actuator for every HVAC application

2 Energy-efficient motorisation

3 Uncompromised safety

4 The right product at the right time

5 Easy, universal installation

6 Ready for the future

7 Quick and simple retrofitting

8 Swiss Quality from Belimo since 1975

1. The right actuator for every HVAC application.

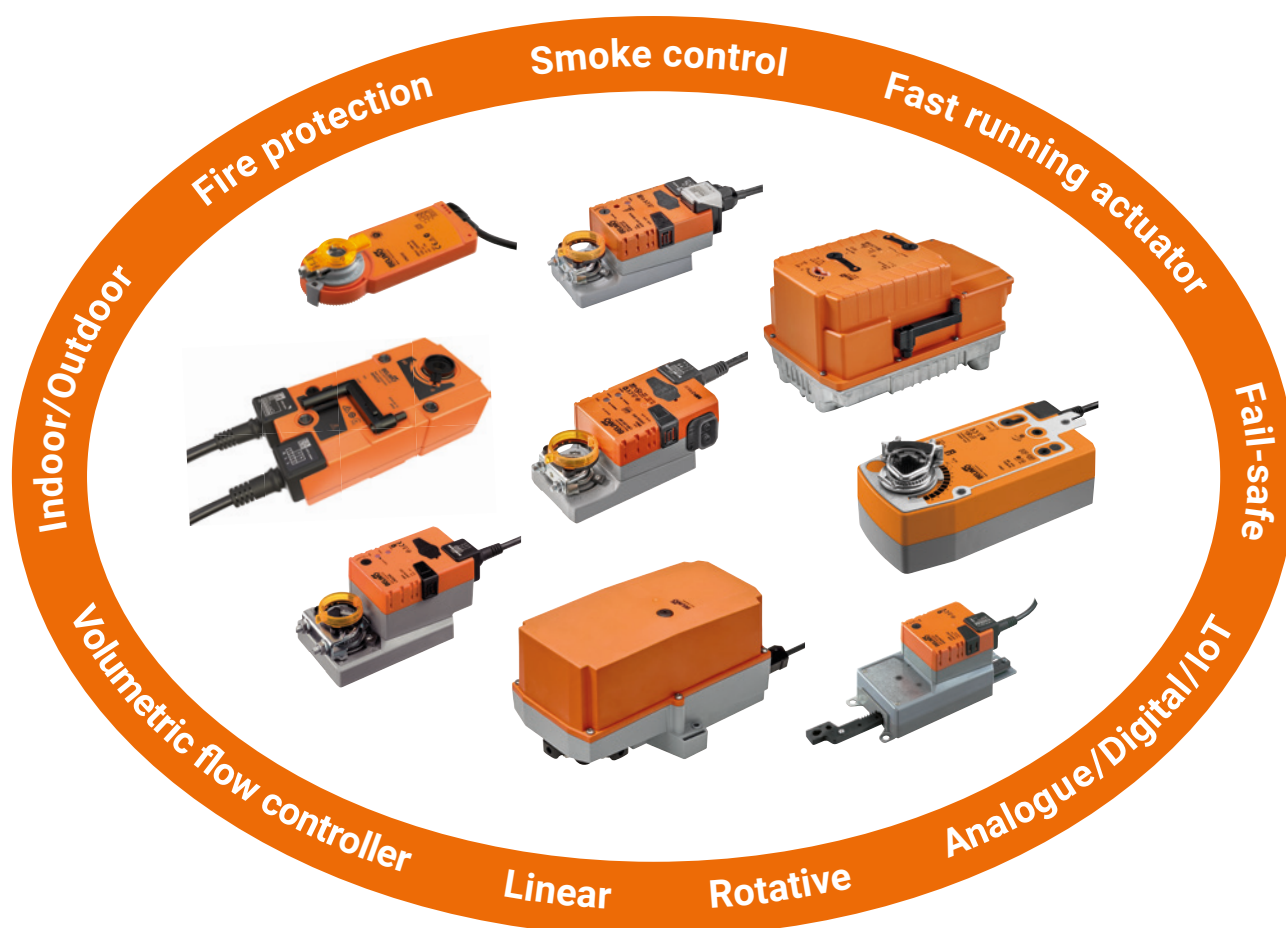
From small to large

Belimo offers a finely graduated product range that allows you to economically motorise your dampers. Even for unfavourable space conditions or if a particularly large or tight air damper must be motorised, Belimo has the right actuator for the job. Does your application require rotary or linear movement? Should it be "slow" or very fast? Is a fail-safe necessary? What type of communication is needed? Belimo offers the most comprehensive product range on the market.

BENEFITS

- Save costs with a correctly dimensioned actuator
- The most comprehensive product range on the market
- Wide range of electrical and mechanical accessories to complete the respective application





Perfectly suited to your application

The well-being and performance of people in a building greatly depend on room climate. Belimo has a complete assortment of damper actuators in its product range for air conditioning and distribution.

For indoor applications, outdoor applications or even adverse ambient conditions, we have a solution for your office, hotel, production facilities, laboratory or sensitive work area. Belimo VAV solutions, for example, have been setting standards in volumetric flow control since their market launch in 1983. Using motorisation solutions for fire protection and smoke control, our high standards are proven to help protect lives.

BENEFITS

- Health, well-being and performance come first
- Everything from one source to fit your application
- Protecting lives

2. Energy-efficient motorisation.

Safe and energy-efficient

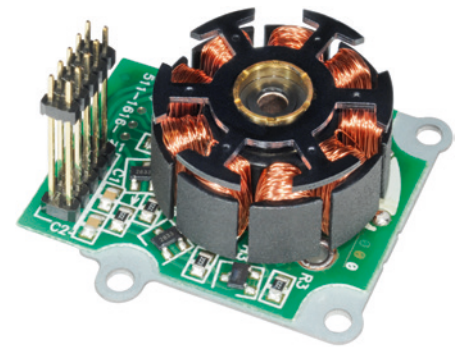
The power consumption of an actuator appears to be negligible at first glance. However, things look different over its entire service life. Utilising energy-efficient actuator solutions offers significant savings potential. This reduces costs and protects the environment.

Belimo actuators guarantee safe and energy-saving operation. Our patented motor control system features dynamic holding force detection. This ensures that only as much current as necessary is used to keep the dampers in the desired position.

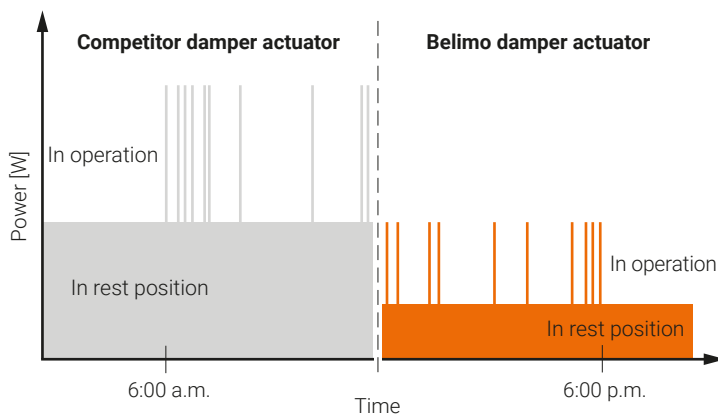
To calculate the annual power required by an actuator, the consumption in the rest position is decisive, as an air damper is at rest most of the time. Using an actuator from Belimo can reduce annual actuator energy consumption by up to 70%.

BENEFITS

- Sustainable solution, conserving resources
- Reduction in operating costs thanks to reduced consumption (up to 70%)



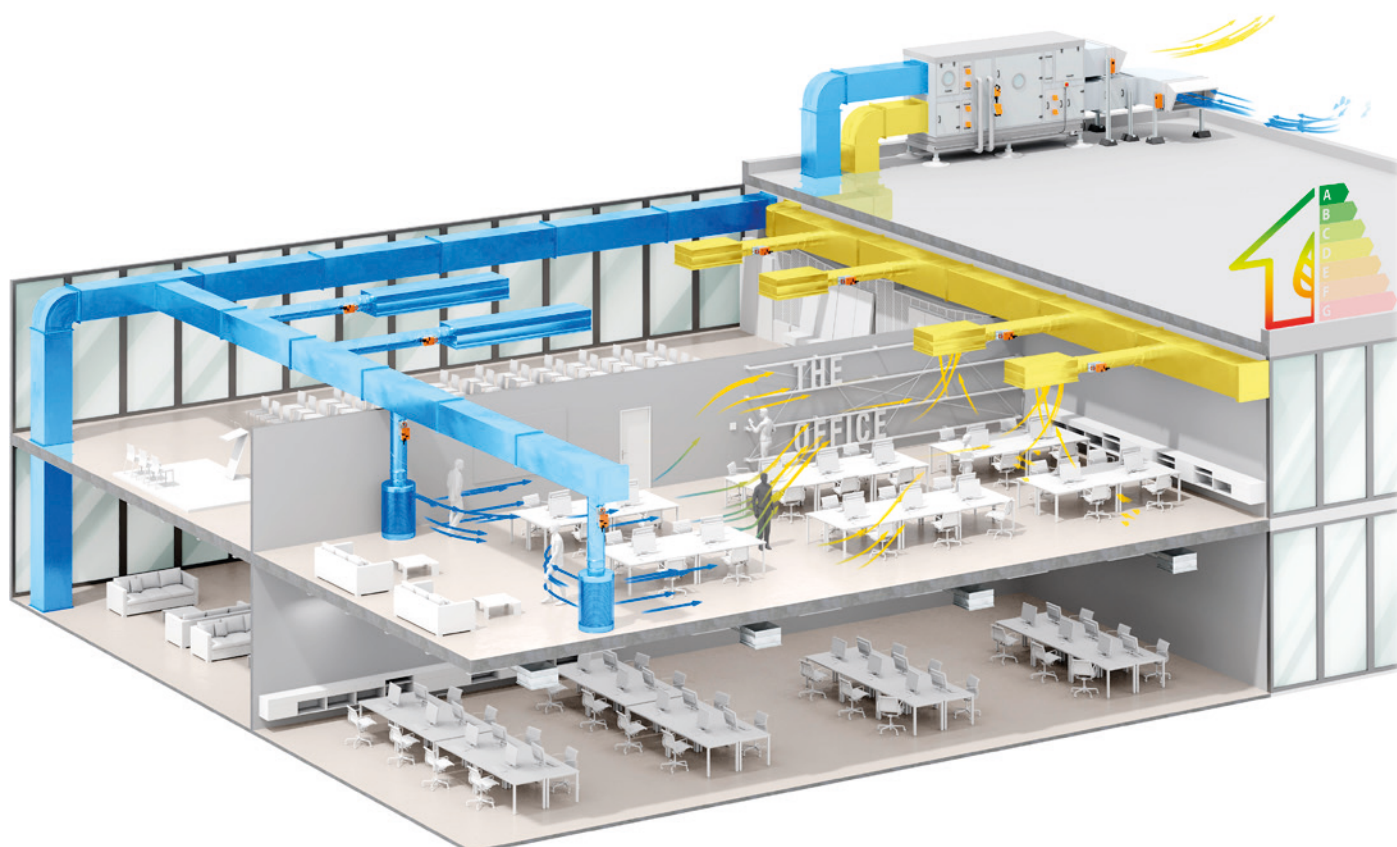
Energy saving potential for damper actuators in a building



Example: 5 Nm, 24 V, modulating

| Power | Comparable competitor | Belimo |
|------------------|-----------------------|--------|
| In operation* | 2 W | 1 W |
| In rest position | 1 W | 0.4 W |

*Actuator moves/readjusts



Thinking one step further

The power consumption of the fan is a significant factor in the operating costs of an air handling unit. The supply and extract air dampers or VAV (variable air volume) units are directly controlled in modern buildings by using presence, temperature and air quality sensors. The air handling unit must therefore only deliver as much air as is really needed. This is also referred to as a demand-driven ventilation concept. The system thus operates at the optimum operating point, saving energy and reducing airflow noise. Communication with the fan control system takes place via our networkable field devices using BACnet, Modbus, KNX or MP-Bus.

BENEFITS

- Up to 50% less energy consumption with demand driven fan control
- Reduced flow noise
- More comfort in rooms thanks to the prevention of draughts

3. Uncompromised safety.

Where safety counts

Our safety actuators help save lives and minimise damage to buildings and tangible assets. Our specially developed and reliable fire damper actuators and smoke control damper actuators form the foundation of comprehensive fire protection management in buildings.

A complete product range of fail-safe and fast running actuators increases safety by preventing hazardous situations and creating and maintaining controlled conditions such as in production rooms, laboratories or other sensitive areas. As the inventor of the direct coupled damper actuator (actuator mounted directly on the damper shaft), Belimo has extensive knowledge of the applicable standards and directives concerning fire protection and smoke control and can help you in the certification of your dampers.

BENEFITS

- Many years of experience in the field of safety solutions
- Support with questions regarding standards and certifications
- The most extensive product range on the market
- Increased safety thanks to the application-specific use of high-tech material

Periodic operational check
 Pressure maintenance
 Fire protection
 Room pressure
 Labor
 Hospital
 Isolation rooms
 Standards/Directives
 Certification
 EN12101-8
 EN1366-2
 EN15650
 EN1366-10
 Smoke control
 Frost protection
 Fail-safe
 Fast running
 Fast volumetric flow changes
 Controlled air conditions

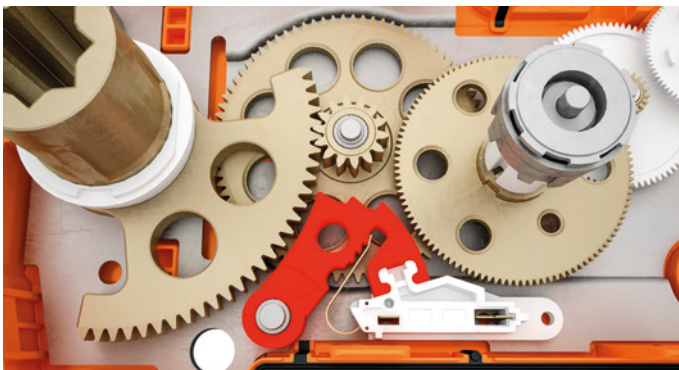
Safety in exceptional situations

Especially in exceptional situations, such as fires or the risk of frost, it is important to use products that are suitable for the respective application. Protecting lives and tangible assets is paramount.

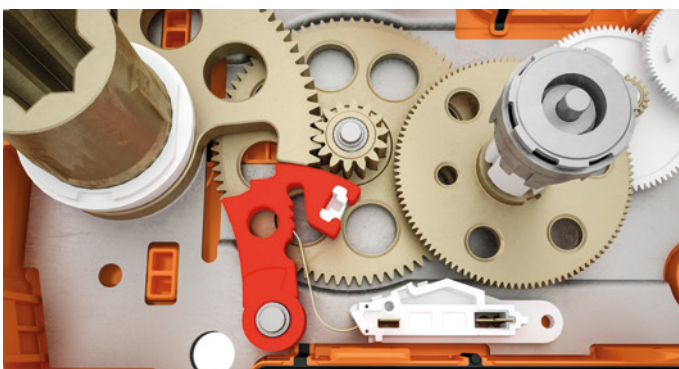
Based on our many years of experience, we have developed an extensive product range of safety actuators that meet national and international application standards. Our safety actuators offer maximum reliability in critical operating states.

BENEFITS

- Meeting the highest safety requirements without compromise
- Trust the market leader
- Powerful safety technology in a compact design



Safety Position Lock™ – standard mode



Safety Position Lock™ – triggered

Fire damper actuators with a steel gear and Safety Position Lock™, which securely locks the fire damper in the closed position in case of fire.



4. The right product at the right time.

From batch size 1

Whether as a damper manufacturer (OEM) or as a contractor or system integrator in the project business, the day-to-day challenges are diverse, such as optimising manufacturing processes, ensuring short lead times in projects, managing a lack of installation personnel and reducing troubleshooting costs. We offer solutions that support you in planning, on the construction site or in mounting the assembly with custom-made products for large quantities or a single product.

We manufacture the right actuator for you with customer-specific or project-specific actuator parametrisation (control and feedback signals, running times, baud rates, bus addresses, etc.), the right cable length and with a suitable connector plug. In addition, we can provide your actuator with site-specific labelling in order to ensure that the actuator will be mounted on the right place.

BENEFITS

- The right actuator for you – more than just a standard solution (e.g. with a pre-mounted connector plug)
- Save time and costs
- Quality and innovation from Belimo to stand out from the crowd





Close to our customers with short delivery times

It is important to us to design products that are easy to install and operate and require no maintenance. We are happy to advise you in selecting the right products and our network of experts is always on hand to offer consultation and support.

Fast delivery to the desired location is a matter of course at Belimo. Our motto for standard actuators or products from our configurator is: Order today – install at the construction site tomorrow. Over the last five years, Belimo has invested over 90 million Swiss francs in the logistics chain in order to guarantee short delivery times and deliveries right on time.

BENEFITS

- Fast and competent consulting
- Short delivery times prevent delays on the construction site
- Rely on our fast delivery and benefit from lower warehousing costs as a result

5. Easy, universal installation.

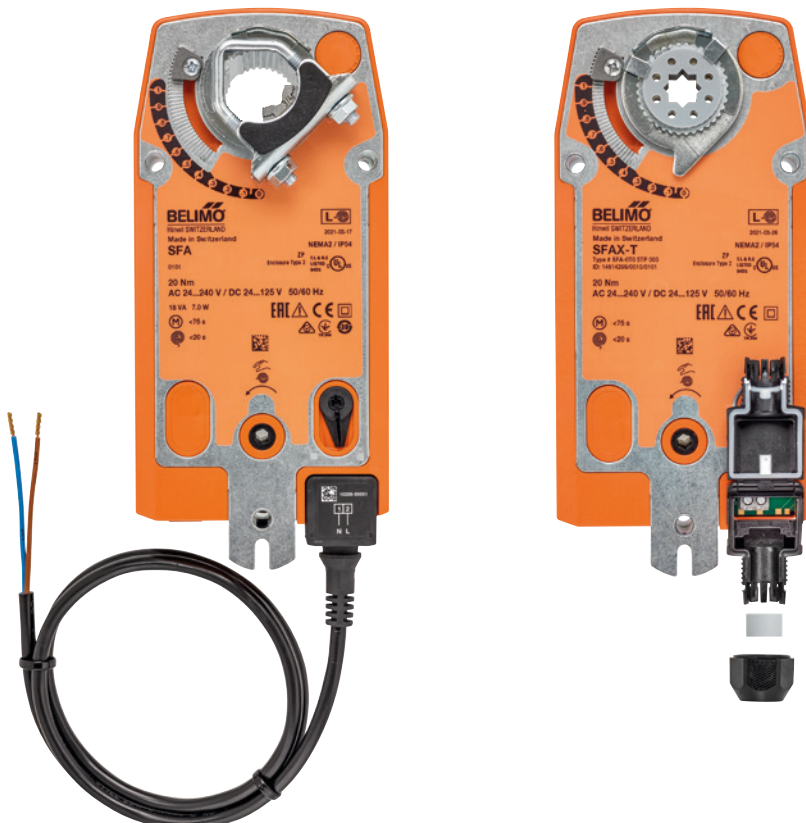
Mounting and connection are easier than ever

To minimise your effort, we deliver our actuators pre-assembled and ready for installation on site. With the universal shaft clamp, small to large shaft diameters, whether round or square, can be permanently mounted. A form fit actuator can be connected to a square shaft in even less time.

In addition to actuators with ordinary connecting cables, we also supply actuators with connecting terminals for direct wiring. This eliminates the need for an additional junction box. Our consistent colour and numbering concept for the connecting cables reduces any potential confusion during wiring. For whatever situation you are facing, our actuators with universal connection voltage (24...240 V) always provide the right solution. Incorrectly connected actuators belong to the past. Our actuators meet up to protection class IP66/67 and NEMA 4X. We guarantee the respective IP protection regardless of the mounting positions.

BENEFITS

- The actuators are immediately ready for installation – simple, fast and reliable
- Universal actuator application (small to large shaft diameters, connecting cables/terminals, universal connection voltage 24...240 V)
- Connecting terminals for direct wiring without additional junction box
- IP protection is guaranteed regardless of the mounting position





Belimo Assistant



Service-Tool ZTH EU

Simple parameterisation, setup and monitoring

The focus is on flexibility and simple commissioning. Our actuators are perfectly adaptable to the conditions on site thanks to the parametrisation options. Whether in the office, in the workshop or on site – parametrisation has never been easier with the right tool:

- With the Belimo Assistant, parameterisation is possible via smartphone/tablet or PC/laptop (Windows).
- The practical service tool ZTH EU is connected to the service socket of the actuator via a cable. This tool is suitable for simple parametrisation and control on site and is powered directly by the actuator.

BENEFITS

- The right tool for every job
- Maximum flexibility thanks to on-site parametrisation
- Parametrisation of actuators with the Belimo Assistant, even when de-energised



6. Ready for the future.

Seamlessly integrated

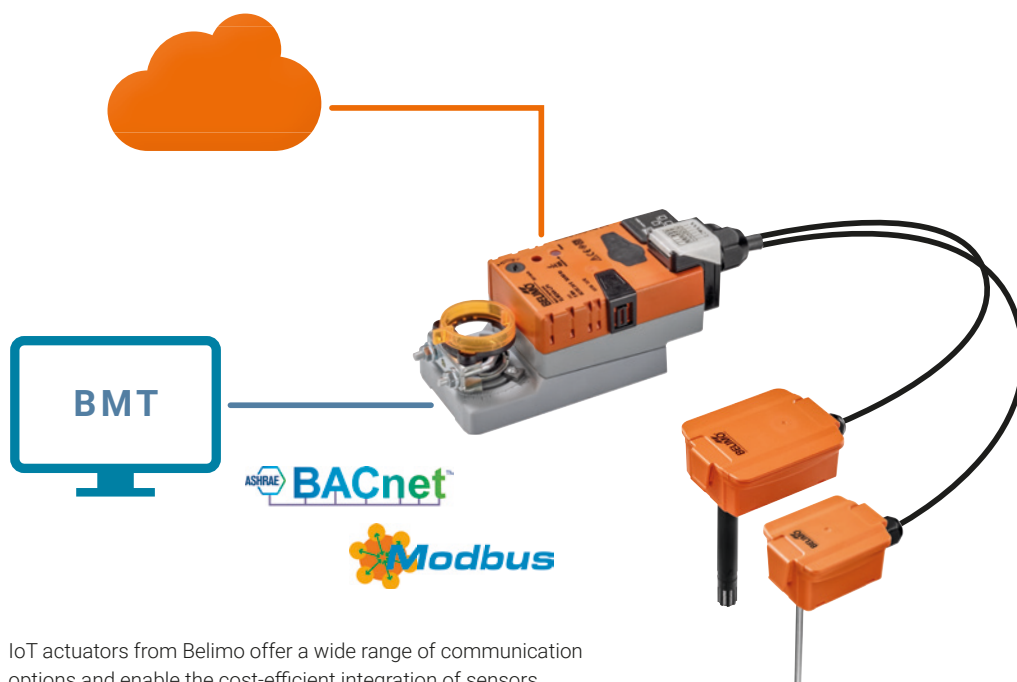
Networking technical building systems increases comfort, safety and transparency. Their operation can be optimised and overall energy consumption can be significantly reduced in new installations as well as in renovations/modernisations. Networking of individual components can be easily implemented with bus systems that extend throughout the entire building.

Belimo offers the industry's largest product range of HVAC control devices with bus communication capability. As a result, a connection via BACnet, Modbus, KNX, MP-Bus or IoT can be implemented. Moreover, up to two sensors (active, passive, switching contact) can be connected directly to an actuator. These signals are digitised in the actuator and are thus available as bus signals, saving inputs on the controller.

Belimo actuators even facilitate gradual modernisation of building automation. In hybrid operation, the actuator is controlled via a conventional analogue signal. In addition, integration and monitoring via bus is available. For the time being, the existing control system can be retained and additional transparency can be created by integrating the bus.

BENEFITS

- Continuous operational optimisation and energy efficiency thanks to transparency
- Sustainably save energy and reduce costs
- Hybrid operation enables gradual modernisation



IoT actuators from Belimo offer a wide range of communication options and enable the cost-efficient integration of sensors.

Our investment in the future

Challenges such as population growth, trend towards urbanisation, climate change and increasing demands for comfort, safety and energy efficiency require advanced building operations. Simple and quick installation, commissioning and trouble-free operation are becoming increasingly important.

Belimo accepts this responsibility and is actively shaping the future. In doing so, the focus remains on providing sustainable customer benefits. We work with competent partners and research institutes and invest in both technology and skilled workers of tomorrow.

Belimo is one of the pioneers of digitalisation in the HVAC sector and does not limit itself to focusing on products. In planning with BIM, ordering via our webshop, support or documentation provision, digitalisation will increase productivity in the industry.

BENEFITS

- Innovative solutions tackle the challenges of tomorrow
- Solution leadership thanks to Belimo field devices

7. Quick and simple RetroFIT+.

Turning old into new

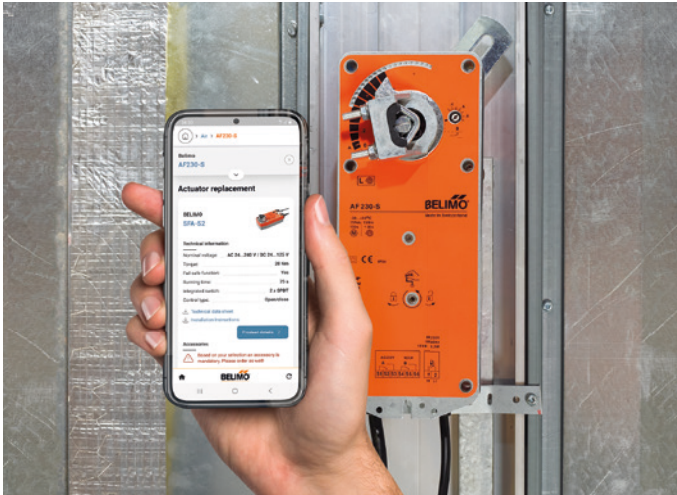
Building modernisation and retrofitting existing HVAC systems is becoming increasingly important. If an old actuator fails or an entire building is being modernised (dampers and valves often remain installed), finding replacement actuators is not always easy. But not with Belimo. Our product range includes universal, mechanically adaptable replacement actuators that offer flexible control. They can be parametrised on site for the respective requirements (torque, angle of rotation, running times and control signal). Actuators with terminals allow existing cables to be used. We also offer special components such as adapter plates and mounting kits as accessories, which are precisely matched to the requirements of replacements.

In the area of volumetric flow control for ventilation applications, complete retrofit sets are available. These sets contain all components that are designed to work together. In addition, if you have not found what you are looking for in our standard range, we can also offer you special solutions.

BENEFITS

- Greatest possible flexibility when replacing products (parametrisable actuators, terminals, compatible accessories)
- Fast replacement and therefore the shortest system downtimes





Finding a replacement is simple

Are you looking for the right replacement for a defective actuator? Whether from Belimo or a market competitor, the RetroFIT+ app from Belimo will help you find the right replacement product in just a few steps. With the OCR (Optical Character Recognition) function, the app is easy to use. Take a photo of the labelling of the defective device. The OCR software recognises and searches for the relevant text modules in our RetroFIT+ database. After a few more entries, the replacement is ordered. Belimo RetroFIT+ is available in twelve languages. You can find replacement products for ventilation damper actuators, valves and sensors. However, if you would like a personal consultation, we look forward to hearing from you.

BENEFITS

- Find the right actuator quickly and reliably thanks to our large product database
- The app is available for download in the most popular stores



1. Take a photo or select one from your media library



2. Select replacement product according to specifications, click to the webshop



3. Buy with just one click

8. Swiss Quality from Belimo since 1975.



Tested quality

Operational excellence ensures that our products are manufactured with the highest quality and reliability at marketable prices. In doing so, we operate according to the priorities: quality first, timeliness second and cost third.

Belimo was the first manufacturer of HVAC actuators to offer a five-year warranty. To meet the highest quality requirements, each product undergoes intensive testing with up to 100 test steps before delivery. In addition, Belimo has its own test centre for long-term load tests, even under extreme environmental and climatic conditions, for both new developments and series products.

BENEFITS

- Highest degree of reliability in operation, even under adverse ambient conditions
- Long product life
- All products undergo extensive testing to meet our high quality standards before delivery

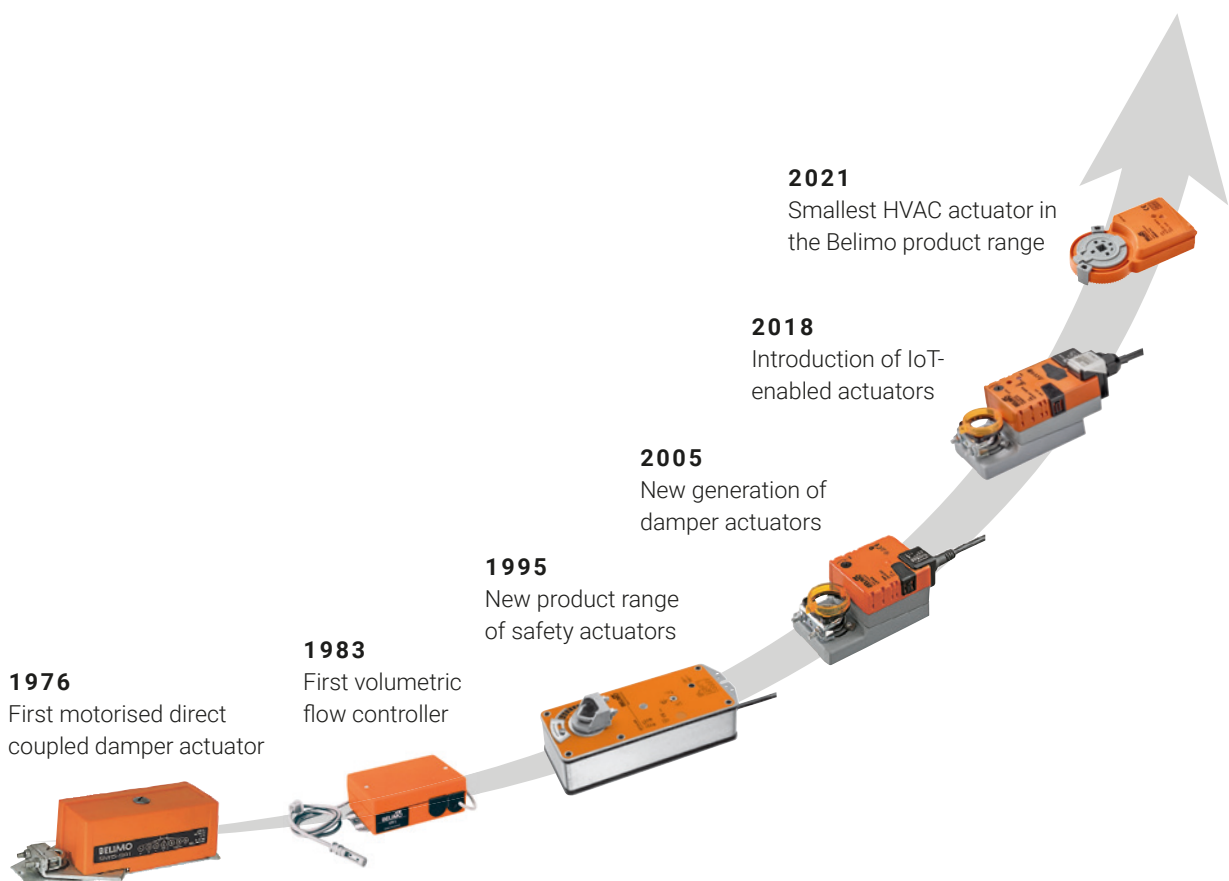
Added value for our customers

Added value for our customers is the measure of our success. We support our customers by offering solutions with greater comfort, efficiency and safety. Our damper actuators are easy to install and are maintenance-free.

Belimo has been a pioneer in the HVAC sector since 1975. Benefit from our experience with over 100 million actuators delivered. We are committed to Swissness – fairness, precision, reliability and sustainability. For us, trust begins with the consultation.

BENEFITS

- 5-year warranty
- Competent consulting
- Trust the market leader



All inclusive.

Belimo is the global market leader in the development, production, and sales of field devices for the energy-efficient control of heating, ventilation and air-conditioning systems. The focus of our core business is on damper actuators, control valves, sensors and meters.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries guarantee short delivery times and comprehensive support through the entire product life. Belimo does indeed include everything.

The "small" Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance.

In short: Small devices, big impact.



5-year warranty



On site around the globe



Complete product range



Tested quality



Short delivery times



Comprehensive support

BELIMO Automation AG

Brunnenbachstrasse 1, 8340 Hinwil, Switzerland
+41 43 843 61 11, info@belimo.ch, www.belimo.com

BELIMO[®]