Powerful Movements –
The butterfly valves and actuators from Belimo.
Thanks to their reliability, flexibility and energy efficiency, many customers have become devotees of Belimo butterfly valves and PR actuators since they were launched in November 2016. The butterfly valve-actuator combinations have already been able to prove themselves in projects such as the new chiller of the SwissCo AG pharmacy group, the heating system of the Kuhn Champignon AG food manufacturing company or as a retrofit solution in the cooling plant of the Müller Produktion GmbH installation company.

Thanks to their communication capability, the actuators were readily integrated in the existing systems, commissioned or parameterized in just a few minutes, providing information regarding their operating status. In combination with the specially developed butterfly valves, they ensure optimum performance and contribute towards reducing energy consumption.

Efficiency and reliability in versatile applications.
The latest technology for butterfly valves.

In the Heating, Ventilation and Air Conditioning Industry (HVAC), butterfly valves are fundamental components in virtually every hydronic system. Most butterfly valves available on the market are less than ideal for this field of application - they leak, their running times are not optimized for HVAC applications, they are too big and heavy for easy installation and they cannot be commissioned quickly in the field. However, the tried and trusted Belimo butterfly valves are the exception here. The latest technology for butterfly valves from Belimo is especially designed for the Heating, Ventilation and Air Conditioning Industry and fully meets all of its requirements. Belimo is setting new standards here.

The actuator and the valve design allow a reduction in investment costs as well as energy savings of up to 80%. Intelligent self-adjusting end stops ensure that they are easy to mount and commission.

Optimized mechanical layout and easy to mount made possible thanks to the reduced height and weight of the actuator. Flexible visual position indication and the NFC capability enable fast installation, good visibility of the valve position, as well as easy commissioning and troubleshooting – even when the actuator is not connected to the power supply.

Thanks to the 5-year warranty, Belimo is the best choice for your application. Backed with more than 40 years of design experience, the newly designed butterfly valves and PR actuator with its long-life brushless DC motor are perfectly coordinated with one another.
Flexible for every application.

Belimo butterfly valves can be used universally as tight-closing 2-way and 3-way valves for open-close, change-over, and control applications (as mixing and diverting valves). This flexibility is guaranteed by the energy-efficient and multifunctional PR actuators.

<table>
<thead>
<tr>
<th>Type</th>
<th>2-way open-close butterfly valve</th>
<th>2-way control butterfly valve</th>
<th>3-way change-over butterfly valve</th>
<th>3-way control butterfly valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange</td>
<td>Wafer-type and lug-type flange</td>
<td></td>
<td>Lug type flange</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Open-close</td>
<td>2...10 V, 0.5...10 V, 4...20 mA, 3-point</td>
<td>Open-close</td>
<td>2...10 V, 0.5...10 V, 4...20 mA, 3-point</td>
</tr>
<tr>
<td>Communication</td>
<td>BACnet MS/TP, Modbus RTU, MP-Bus or conventional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency control function</td>
<td>With PRK actuator</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sensor inputs</td>
<td>-</td>
<td>Two passive sensors can be connected for each PR actuator</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

100% tight for cooling and heating generation

The Belimo wafer-type or lug-type open-close butterfly valves are tried and trusted, tight-closing devices - with up to 14 bar closing pressure (leakage rate A, tight). In addition to motorisation with Belimo rotary actuators, the open-close butterfly valve is also available with lever or worm gear.
Versatile change-over options

The change-over applications are numerous, thanks to the versatile installation situations and possible directions of flow at a single T-piece. Two butterfly valves are always working “hand-in-hand” when it comes to 3-way change-over butterfly valves. One of the butterfly valves is completely opened while the other is closed.

Fit for reliable control tasks

The Belimo butterfly valves have a virtually equal-percentage characteristic curve for opening angles between 0% and 60%. Depending on the desired $K_v$ value, the opening angle can be set via Near Field Communication (NFC) with the Belimo Assistant App on a SmartPhone. Which means that Belimo butterfly valves are ideally suited for use as control device.

Can be used universally for mixing and diverting functions

The 3-way control butterfly valve is for universal use as a mixing or diverting device. In comparison with the conventional globe valve, the control butterfly valve closes tightly throughout its entire service life, regardless of the direction of flow. The butterfly valve actuators can be parameterized using the Belimo Assistant App, which means that the control, running time, and maximum opening angle of the butterfly valve can be set for each application.
Innovative – user friendly – reliable.

Near Field Communication (NFC) enables fast commissioning, parameterisation and maintenance – even when the actuator has no voltage supply.

The universal power supply 24-240 V facilitates planning and increases flexibility for all applications.

Adjustable motor run time from 30 to 120 seconds to meet the requirements of your application.

A maximum of 2 temperature sensors can be connected to the communicative PR actuator.

The IP66/67 housing allows for outdoor usage and protects the actuator against UV radiation, rain, snow, dirt, dust, and humidity.

Valve housing: Possible with wafer or lug types for flanges according to ISO 7005-1/-2, EN 1092-1/-2, DIN 2641/2642.

SuperCap option ensures operating safety during a power failure.

2-way open-close or control butterfly valve with SuperCap actuator PRK.
The communication protocol via BACnet or Modbus provides comprehensive access to the application data.

80% lower power consumption saves energy and reduces transformer and wiring costs.

Thanks to reduced height and weight, the PR actuator ensures simple planning and mounting.

The smart heating prevents condensation in the actuator and increases operating safety and extends service life.

Flexible position indication ensures good visibility and shows the position of the butterfly valve from distance.

Thermal insulation avoids condensation in the actuator.

Leakage rate A, tight up to 14 bar closing pressure.

3-way change-over or control butterfly valve with PR actuator.

5-year warranty

SWISS QUALITY
Specially designed for the HVAC industry.

The butterfly valves and PR actuators from Belimo are the most intelligent, energy-efficient, and most reliable solution for high flows on the HVAC market. Having focused on ease of installation, application flexibility and longevity, this series sets new performance standards in HVAC industry. The Belimo butterfly valve actuators are the solution for heating, chiller and cooling tower applications, for change-over systems, as well as control applications in large ventilation systems and bypass applications.

**Simple installation**

Thanks to the low overall height and reduced weight of the actuator, it is easy to install the Belimo PR actuator: it can be mounted on the Belimo butterfly valve with just two screws. In addition, the easily accessible connection box makes wiring quick and easy.

**Up to 80% energy savings**

Thanks to the new valve design, the contact surface between the valve seal and valve disk is reduced. This ensures a low torque over the entire service life. With up to 80% less power consumption, the valve-actuator combination saves energy and reduces transformer and wiring costs.

**Good visibility**

Flexible visual position indication shows the position of the butterfly valve from distance. At the same time, the linkage acts as thermal insulation, preventing condensation in the actuator.
Smart heating prevents condensation
The integrated temperature and humidity sensor ensure that the integrated intelligent heating only switches on when required by the environmental condition. This means that the formation of condensation water in the actuator can be prevented.

High level of safety during power failure
The emergency control function of the reliable SuperCap actuator PRK enables high operation reliability for your plant. The butterfly valve moves to its specified position in the event of a power failure. This can be set between 0% and 100% using the Belimo Assistant App.

Communicative actuator for flexible configurations
The communicative PR actuator enables expanded data access with diagnostics options and offers flexible configuration possibilities: Open-Close, 3-point, DC 0.5...10 V, DC 2...10 V, 4...20 mA, MP-Bus®, Modbus RTU and BACnet MS/TP. With the Belimo Assistant App, the types of control and bus parameters are easy to set using Near Field Communication (NFC).

Seamlessly integrated temperature measurement
The Belimo temperature sensors can be easily connected to the communicative PR actuators, providing a system solution that works perfectly. Two sensor inputs for passive temperature sensors provide accurate measurement data via the BACnet MS/TP or Modbus RTU protocol.
The Belimo Assistant App: The parameterisation and diagnostics tool.

The PR actuators can be easily parameterized via SmartPhone, even if the actuator is not connected to the power supply. The health status of the PR actuator can be checked at any time using the diagnostics parameters.

Simple commissioning thanks to NFC
The PR actuator with Near Field Communication (NFC) allows easy commissioning, parameterization and maintenance directly from a SmartPhone.
With the Belimo Assistant App, the 2-way or 3-way control butterfly valves or the 3-way change-over butterfly valves can be parameterized via Near Field Communication (NFC)

Reliable operation guaranteed
Key performance indicators reveal the state of the health of the actuator to ensure reliable operation. At the same time, numerous diagnostics parameters provide the user with an impression of how the product interacts with the system during ongoing operation. Rapid failure analysis is made possible, should a service call become necessary.

Belimo Assistant App
Display, parameterisation and diagnostics for Belimo actuators and HVAC performance devices with an NFC interface, even when deenergised.
Install the app via the App Store or Google Play. The QR codes take you there directly.

Valve Sizer App also available
You can easily find the suitable valve and the right actuator for your application with the convenient valve sizing app. Easy to install via App Store or Google Play. The QR code take you directly to the app.
The PR actuators as retrofit solution for third-party butterfly valves.

Belimo produces universal actuators for motorising existing installations. With the help of simple adapters, these actuators can be mounted on installed butterfly valves from a variety of manufacturers.

New PR actuators from Belimo
Whether as standard PR actuator for open-close or 3-point applications, BACnet actuator for modulating and Bus applications or as SuperCap actuator with emergency control function - the PR actuator can be used universally as a Retrofit solution.

Retrofit linkage from Belimo
Adapter to connect third-party butterfly valves and PR actuator from Belimo: ZPR05...ZPR12

Retrofit installation with SuperCap actuator PRK and ZPR linkage.

Retrofit-Tool
Convenient replacement and modernisation of actuators in existing installations.
Install the app via the App Store or Google Play. The QR code take you there directly.
All-inclusive.

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