



Powerful Movements –
The New Generation of Butterfly Valves
and Actuators from Belimo.


BELIMO[®]



Production system of Kuhn Champignon AG, Full-Reuenthal (CH)

Proven user-friendliness and reliability of the new PR actuator.

In the production plant of Kuhn Champignon AG, seven to eight tonnes of mushrooms are produced daily. In order to accelerate the growth, an artificial "autumn climate" is created in the production. Under ideal temperature and humidity, the mushrooms ripen and become ready for harvest within three weeks. The existing system and especially the hydraulics were obsolete after 30 years and no longer met the current standards of sustainable production. Therefore, the entire system was renewed.

Energy saving was defined as the main objective for the new system. Additional requirements for the new system were:

- Constant temperature and humidity in the production for the optimal growth of mushrooms
- Switching to variable amounts of water in order to be able to react according to the season and demand
- Reliable and innovative products that contribute to energy saving

This test consists of the new impeccable PR actuator from Belimo.

The newest technology for butterfly valves.

In the Heating, Ventilation and Air-Conditioning Industry (HVAC), Butterfly Valves are fundamental components in almost every hydronic system.

Most of the available butterfly valves 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 an easy installation and they cannot be put into operation quickly in the field. However, the new generation of Belimo Butterfly Valves is an exception.

The latest technology for butterfly valves from Belimo is especially designed for the HVAC-Industry and meet the requirements 100%. Thereby, Belimo sets new standards.

Innovative

Actuator and patent pending valve design allow a reduction of investment costs as well as energy savings by 80%. Intelligent self-adjusting end stops ensure easy mounting and commissioning.

User Friendly

Optimized mechanical layout and easier installation due to reduced actuator height and weight. The flexible visual position indicator and the NFC capability allows a fast installation, good visibility of the valve position, easy commissioning and troubleshooting even when the actuator is not connected to the power supply.

Reliable

Thanks to the 5-year warranty, Belimo is the best choice for your application. Backed with more than 40 years of design experience the new butterfly valve design and the PR actuator with its long-life brushless DC motor are perfectly matched to work in synergy and ensure maximum longevity.

**«Belimo always brings new and innovative products
to the market such as the new PR actuator.**

And in case of any questions, I get the necessary assistance quickly.»

Andreas Wechner, Project Manager & Field Controls Representative, Trane

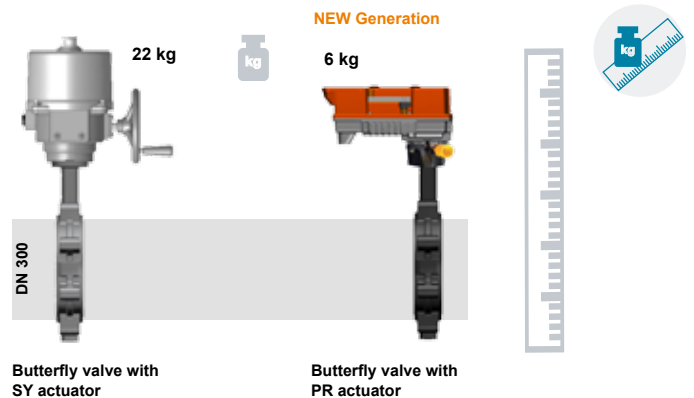
Specially designed for the HVAC industry.

The newly designed butterfly valves and the new PR actuators are the most intelligent, energy efficient and reliable high flow solution in the HVAC market. Having focused on ease of installation, application flexibility and longevity, this series sets new performance standards in HVAC industry. The new generation Belimo butterfly valve actuator is the solution for heating isolation, chiller isolation and cooling tower isolation, change-over systems, large air handler coil control and bypass applications.

Simple installation

Thanks to less overall height and reduced weight of the actuators, it is easy to install the new Belimo PR actuator which can be mounted on the new butterfly valve design with just two bolts.

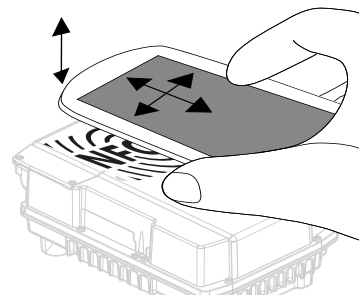
In addition, the easily accessible connection box allows for quick and easy wiring.



Simple commissioning thanks to NFC

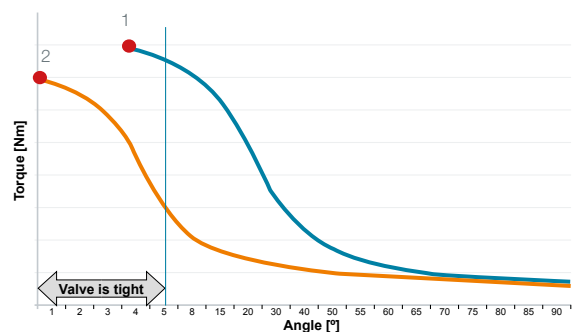
The PR actuator with Near Field Communication (NFC) allows an easy commissioning, parameterisation and maintenance directly from your smartphone. Even if the actuator is not connected to the power supply.

Besides the NFC, other Service Tools are also available.



Reliable operation guaranteed

Thanks to the intelligent self-adjusting design, the newly developed butterfly valves and PR actuators of Belimo are matched for each other throughout their entire lifespan. Electrical end stops inside the actuator adjust themselves depending on the connected valve. The actuator stops either when the maximum permissible torque is attained or at the 0° position.



- 1 Torque end stop @ maximum permissible torque = Valve is closed
- 2 Potentiometer end stop @ 0° = valve is closed

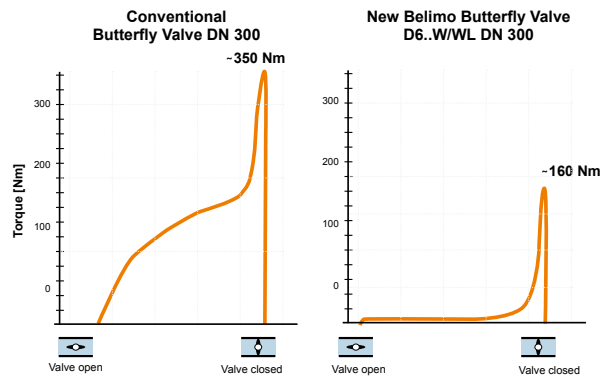
Good visibility

The flexible visual position indicator shows the position of the butterfly valve from distance. At the same time, the linkage performs the function of thermal insulation and prevents condensation on the actuator.



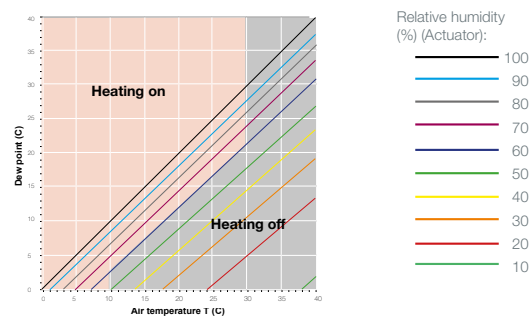
80% energy savings

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 lifespan. With 80% less power consumption the valve-actuator combination saves energy and reduces transformer and wiring costs.



Smart heating prevents condensation

The integrated temperature and humidity sensor allow for switching on the integrated intelligent heating only when required by the application (patent pending).



High safety during power failure

Versions with BACnet and SuperCap emergency control function provide an easy to perform diagnostics as well as superior application data access and allow flexible configurations: Open-Close, 3-point, modulating, MP-Bus, BACnet MS/TP.

The reliable SuperCap actuator PRK allows a high operating safety and moves to the desired safety position during a power failure.



**«I had no concerns in installing the new PR actuator.
It works properly since commissioning.»**

Andreas Wechner, Project Manager & Field Controls Representative, Trane

Innovative – User Friendly – Reliable.



BACnet communication protocol provides superior application data access and allows an easy commissioning, parameterising and maintenance



Near Field Communication (NFC) allows a fast commissioning, parameterising and maintenance – even when the actuator is not supplied with voltage



IP66/67 degree of protection allows outdoor usage and protects the actuator against UV radiation, rain, snow, dirt, dust and humidity



Intelligent self-adjusting end stops ensure an easy installation, less commissioning effort and an intelligent adaptation over the entire lifespan of the valve



Good visibility: Flexible visual position indicator shows the position of the butterfly valve from distance



Valve housing: Wafer and lug type for flanges according to ISO 7005-1/-2, EN 1092-1/-2, DIN 2641/2642



Universal power supply 24-240 V requires only one actuator, facilitates planning and increases flexibility for all applications



Reduced height and weight of the PR actuator allow for an optimised mechanical layout and easy mounting



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



SuperCap option ensures operating safety during a power failure



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



Smart heating: Prevents condensation in the actuator and increases the operating safety and the lifespan (patent pending)



Thermal insulation avoids condensation in the actuator



Patent pending valve design especially designed for HVAC applications



Leakage rate A, tight up to 14 bar closing pressure



Also available as a safer SuperCap actuator



Economical electronic emergency control function for a higher operating safety in case of a power failure.



- Flexible configurations: Open-close, 3-point, Modulating, MP-Bus and BACnet MS/TP
- Power-off position (POP): 0...100% adjustable
- NFC for adjustments and diagnostics

5
years warranty
SWISS QUALITY

The new butterfly valve-actuator combinations from Belimo.

Belimo wafer type and lug type butterfly valves are maintenance-free. They are tirelessly doing their work for all automated open-close and control applications. You can easily install the butterfly valve-actuator combination and rely on their performance.

The following table shows the new butterfly valve-actuator combinations from DN 100 to DN 300 motorised with DR and PR actuators. Further butterfly valve-actuator combinations from DN 25 to DN 700 combined with the Belimo SR, GR, DR, PR and SY actuators are indicated in the Belimo Product & Price Catalogue.

Suitable Actuators	Nominal torque	Open-close	3-point	Modulating/Bus	Terminal connection	Emergency control function	Nominal voltage	Running time motor 90°	Auxiliary switch	IP protection	Actuator type	
	<90 Nm	X					230 V	150s	available as accessories	IP54	DR230A-5	
							24 V	35s			DR24A-5	
			X	2-10 V		— —		150s			DRC24A-5	
			X	2-10 V; MP			35s	DR24A-SR-5				
							230 V	150s			DR24A-MP-5	
								35s			DRK24A-5	
								24 V		150s	IP66	DRC24G-5
			X	2-10 V		— —	35s			DR230A-7		
			X	2-10 V; MP			150s			DR24A-7		
							24 V			35s		DRC24A-7
										150s		DR24A-SR-7
										35s		DR24A-MP-7
	160 Nm	X	X	2-10 V; MP; BACnet	X	— —	24 V - 240 V	35s	2	IP66/ IP67	PRCA-S2-T	
				2-10 V; MP; BACnet							PRCA-BAC-S2-T	
											PRKCA-BAC-S2-T	

Wafer types: PN 6, 10, 16 / DN 100–300
Lug types: PN 10, 16 / DN 100–150
 PN 16 / DN 200–300



Butterfly valve D6..N/W with wafer type



Butterfly valve D6..WL with lug type and visual position indicator ZPR01

Flange	DN 100 – 150:
	Wafer or lug types for flanges according to ISO 7005-2 and EN 1092-2
	DN 200 – 300:
	Wafer or lug types for flanges according to ISO 7005-1/-2, EN 1092-1/-2, DIN 2641/2642
Medium temperature	-20...120°C
Permissible pressure	1600 kPa
P_s	
Leakage rate	A, tight (EN 12266-1)

DN 100		DN 125		DN 150		DN 200		DN 250		DN 300	
k _{vmax} [m³/h]	type	k _{vmax} [m³/h]	type	k _{vmax} [m³/h]	type	k _{vmax} [m³/h]	type	k _{vmax} [m³/h]	type	k _{vmax} [m³/h]	type
580	D6100N D6100NL	820	D6125N D6125NL	1600	D6150N D6150NL	2900	D6200W D6200WL	4400	D6250W D6250WL	7300	D6300W D6300WL
Δp_s ¹⁾											
1200 kPa											
1200 kPa											
1200 kPa											
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		1200 kPa									
				1200 kPa		1400 kPa		1400 kPa		800 kPa	
				1200 kPa		1400 kPa		1400 kPa		800 kPa	
				1200 kPa		1400 kPa		1400 kPa		800 kPa	

Closing pressure recommended

Closing pressure conditionally recommended

¹⁾Δp_s = closing pressure

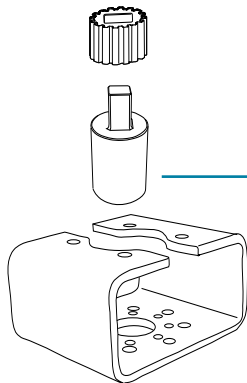
Retrofit actuators for third-party butterfly valves.

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.



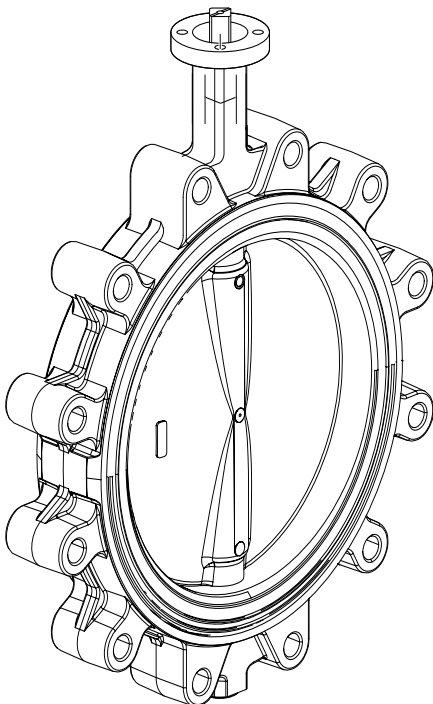
New PR actuator from Belimo

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

Retrofit-Tool

Comfortable replacement and modernisation of actuators in existing installations.

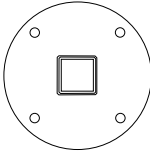
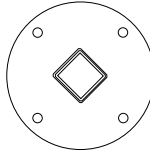
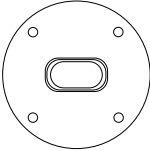
To start the tool, simply scan the QR-Code or go to the following web address:

toolbox.belimo.xiag.ch/retrofit

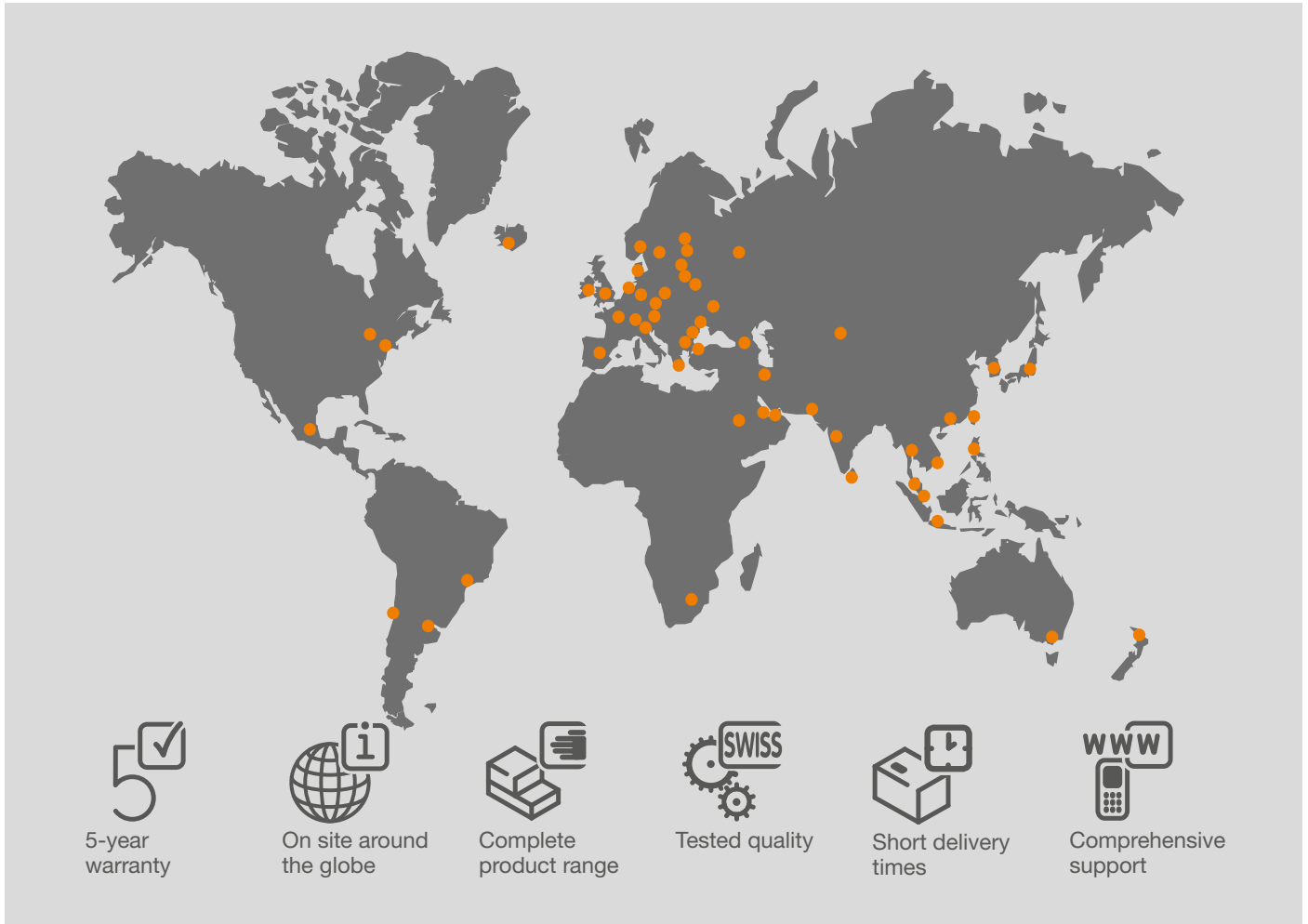
Or download at:



The following table shows the interfaces and the manufacturer, which can be motorised with PR actuators PRCA-S2-T, PRCA-BAC-S2-T and PRKCA-BAC-S2-T.

PRCA-S2-T PRCA-BAC-S2-T PRKCA-BAC-S2-T				Actuator type	 Flange square		 Flange square 45° turned		 Flange flat head	
Manufacturer	type	DN	Flange	Type Linkage	Wrench size	Height [mm]	Wrench size	Height [mm]	Wrench size	Height [mm]
ARI	Zesa Gesa	125 150 200	F07	ZPR05					17	18
Buracco	600B / T	150	F07	ZPR06			14	25		
Danfoss	Sylax	100 125 150	F07	ZPR06			14	19		
Ebro	Z011-A Z014-A	150 200	F07	ZPR05					17	19
Econosto	Series 58	125	F07	ZPR06			14	30		
		150 200		ZPR08			17	33		
	Series 63	125 150 200	F07	ZPR05					17	18
Keystone	F320 F322	125 150	F07	ZPR09					14	30
KSB	Boax-S Boax-SF	150	F07	ZPR05					17	25
Sauter	DEF	125	F05	ZPR10	14	16				
		150 200	F07	ZPR05	17	19				
Siemens	VKF-46	125	F05	ZPR10	14	15,5				
		150 200	F07	ZPR05	17	18,5				
Tour & Anderson	Xurox Wafer	150	F07	ZPR11			18	30		
Wouter Witzel Eurovalve	Dinaxe	100 125 150	F07	ZPR05					17	28
		EVS	150 200	F07	ZPR12	16	34			

All-inclusive.



The image features a dark grey world map with numerous orange dots scattered across all continents, representing a global presence. Below the map are six icons, each with a corresponding text label:

- 5-year warranty:** An icon of the number 5 with a checkmark inside a square.
- On site around the globe:** An icon of a globe with an information 'i' symbol.
- Complete product range:** An icon of a stack of three boxes with a list icon.
- Tested quality:** An icon of two interlocking gears with the word 'SWISS' in a box above them.
- Short delivery times:** An icon of a box with a clock icon.
- Comprehensive support:** An icon of a mobile phone with 'WWW' above it.

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