

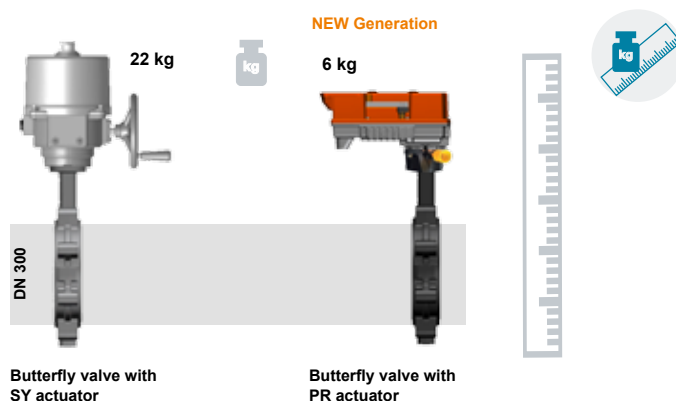
# Specially designed for the HVAC industry.

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.

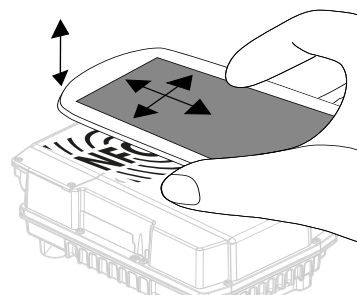
In addition, the easily accessible connection box allows for quick and easy wiring.



## Simple commissioning thanks to NFC

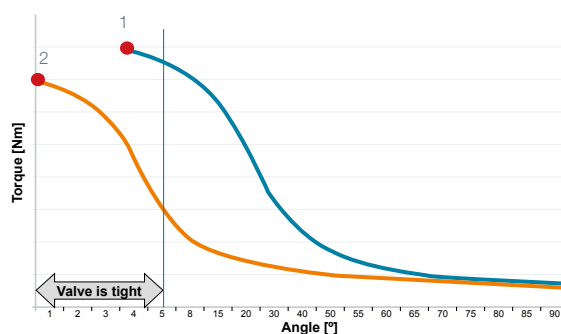
The PR actuator with Near Field Communication (NFC) allows an easy commissioning, parameterisation and maintenance directly from your smartphone. Even if the actuator is not connected to the power supply.

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

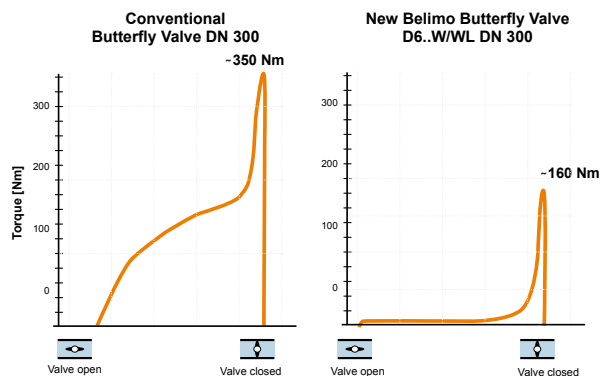
## Good visibility

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.



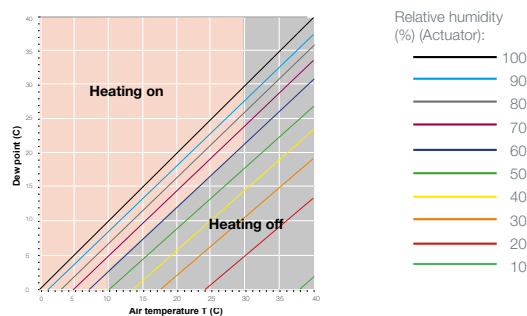
## 80% energy savings

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.



# 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



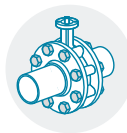
## **Intelligent self-adjusting end stops**

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 require-  
ments of your application



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



**Thermal insulation** avoids conden-  
sation 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

# 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  |
|--|----------------|------------|---------|--------------------|---------------------|----------------------------|-----------------|------------------------|--------------------------|---------------|----------------|
| <br> | <90 Nm         | X          |         |                    |                     | —  —                       | 230 V           | 150s                   | available as accessories | IP54          | DR230A-5       |
|  |                |            | X       | 2-10 V             |                     |                            | 24 V            | 35s                    |                          |               | DRC24A-5       |
|  |                |            |         |                    |                     |                            |                 | 150s                   |                          |               | DR24A-SR-5     |
|  |                |            |         |                    |                     |                            |                 |                        |                          |               | DR24A-MP-5     |
|  |                |            |         |                    |                     |                            |                 |                        |                          |               | DRK24A-5       |
|  |                |            |         |                    |                     |                            |                 | 35s                    |                          |               | DRC24G-5       |
|  |                |            | X       | 2-10 V             |                     | 24 V                       | 150s            | IP54                   |                          | DR230A-7      |                |
|  |                |            |         |                    |                     |                            | 35s             |                        |                          | DR24A-7       |                |
|  |                |            |         |                    |                     |                            | DRC24A-7        |                        |                          |               |                |
|  |                |            |         |                    |                     |                            | DR24A-SR-7      |                        |                          |               |                |
|  |                |            |         |                    |                     |                            | DR24A-MP-7      |                        |                          |               |                |
|  |                |            |         |                    |                     |                            | DRK24A-7        |                        |                          |               |                |
|  |                | —  —       | 24 V    | 35s                | IP66                | DRC24G-7                   |                 |                        |                          |               |                |
|  |                |            |         |                    |                     |                            |                 |                        |                          |               |                |
|   | 160 Nm         | X          | X       | 2-10 V; MP; BACnet | X                   | —  —                       | 24 V - 240 V    | 35s                    | 2                        | IP66/<br>IP67 | PRCA-S2-T      |
|  |                |            |         | 2-10 V; MP; BACnet |                     |                            |                 |                        |                          |               | PRCA-BAC-S2-T  |
|  |                |            |         |                    |                     |                            |                 |                        |                          |               | PRKCA-BAC-S2-T |



Butterfly valve D6..N/W  
with wafer type



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

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

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

| DN 100                      |                   | DN 125                      |                   | DN 150                      |                   | DN 200                      |                   | DN 250                      |                   | DN 300                      |                   |
|-----------------------------|-------------------|-----------------------------|-------------------|-----------------------------|-------------------|-----------------------------|-------------------|-----------------------------|-------------------|-----------------------------|-------------------|
| k <sub>vmax</sub><br>[m³/h] | type              | k <sub>vmax</sub><br>[m³/h] | type              | k <sub>vmax</sub><br>[m³/h] | type              | k <sub>vmax</sub><br>[m³/h] | type              | k <sub>vmax</sub><br>[m³/h] | type              | k <sub>vmax</sub><br>[m³/h] | type              |
| 580                         | D6100N<br>D6100NL | 820                         | D6125N<br>D6125NL | 1600                        | D6150N<br>D6150NL | 2900                        | D6200W<br>D6200WL | 4400                        | D6250W<br>D6250WL | 7300                        | D6300W<br>D6300WL |
| $\Delta p_s^{1)}$           |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
|                             |                   | 1200 kPa                    |                   |                             |                   |                             |                   |                             |                   |                             |                   |
| 1200 kPa                    |                   | 1200 kPa                    |                   | 1200 kPa                    |                   | 1400 kPa                    |                   | 1400 kPa                    |                   | 800 kPa                     |                   |
| 1200 kPa                    |                   | 1200 kPa                    |                   | 1200 kPa                    |                   | 1400 kPa                    |                   | 1400 kPa                    |                   | 800 kPa                     |                   |
| 1200 kPa                    |                   | 1200 kPa                    |                   | 1200 kPa                    |                   | 1400 kPa                    |                   | 1400 kPa                    |                   | 800 kPa                     |                   |

Closing pressure recommended

Closing pressure conditionally recommended

<sup>1)</sup>Δp<sub>s</sub> = closing pressure

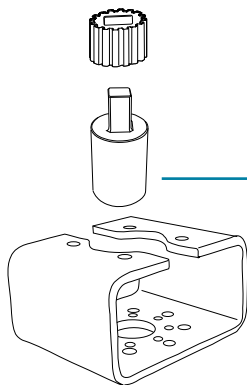
# Retrofit actuators for third-party butterfly valves.

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.



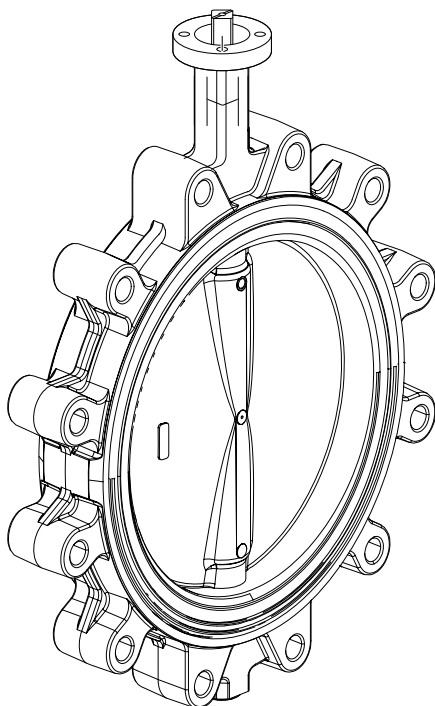
## **New PR actuator from Belimo**

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.

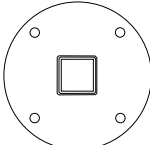
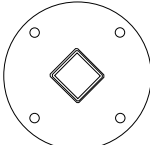
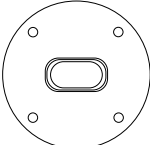


## **Retrofit linkage from Belimo**

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



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