

AVENTICS 

EXCELLENT DESIGN AND
EXCEPTIONALLY TOUGH
AVENTICS BELLOWS CYLINDERS

Rexroth
Pneumatics



Bellows cylinders are an impressive solution

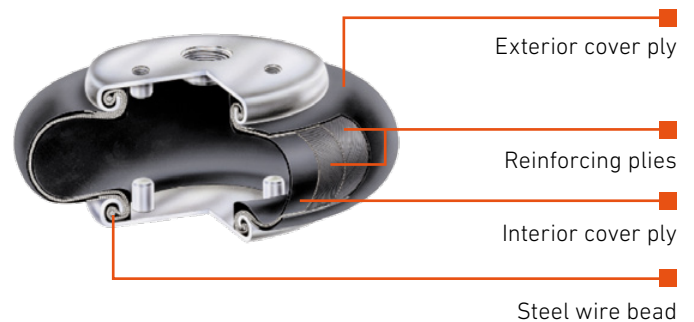
They retain their shape but are still flexible, are powerful yet gentle, require little but can do a lot. They can handle any environment and are reliable over a lifetime – the ideal partner for demanding applications.

Bellows cylinder – powerful, dynamic, and highly resistant

Bellows cylinders are ideal for short strokes and large forces. They work without mechanical friction surfaces that move against each other – rendering seals and lubricants unnecessary. As a result, they are virtually wear and maintenance-free. With their robust design and high-strength materials, bellows cylinders can be used under the toughest operating conditions.

- High forces, low height, simple, and robust
- Enable angular movements and axial offset
- Frictionless movement, no stick-slip effect
- Virtually wear and maintenance-free
- Long service life, even in adverse environments
- High resistance to media and temperatures
- High corrosion and acid resistance

BCP, BCS, BCE series bellows cylinder structure



Complete pneumatic solutions from a single source

Our bellows cylinder program offers the ideal bellows cylinder for any task and operating condition. But that's not all: as a specialist for pneumatic automation solutions, our range also covers the matching components – including expert consultation.

www.aventics.com/bellowactuators

Great under pressure and packs a punch in tight spaces

Wherever robustness is in demand, bellows cylinders have what it takes

Be it high temperatures, dust, dirt, or mud – bellows cylinders are not easily intimidated. They're used to working reliably and persevering even under heavy loads and adverse operating conditions. Their extreme service life, comparatively low investment costs, and nearly maintenance-free continuous operation make application solutions with bellows cylinders particularly cost-efficient. Our bellows cylinders are used in many different industries, mainly for two purposes:

- For short, powerful strokes with limited installation space
- For vibration, shock, and noise isolation

Our wide range of products and equipment features guarantee high machine design flexibility so you can be sure to find the right solution for your application.



- ▲ Plunger weight compensation with eccentric presses
 - Gentle tool storage
 - Smoother running
 - Reduced drive power
 - Longer tool life



- ◀ Pneumatic lever
 - Fast response times
 - Simple implementation of angular movements



- ◀ Stationary agricultural technology
 - Sorting system
 - High power in minimal space
 - Exact response



- ◀ Vibration isolation
 - Food industry
 - Kneading machine
 - High degree of isolation
 - High lateral stability
 - Corrosion-resistant products




- ◀ Vibration isolation
 - Mobile agricultural technology
 - Field sprayers
 - Driver protection
 - Level regulation
 - Resistant to dust and dirt

Six bellows cylinder series cover every option for a wide variety of applications

Single, double, triple – however you'd like

Well-armed: Our bellows cylinders are available in many sizes and version, as single, double, and triple bellows. Different rubber qualities cover a large range of temperatures and ensure the required chemical resistance. And their suitability for use with angular movements and axial offsets opens up additional fields of application. Depending on the series, tilt angles up to 30° and an offset of up to 30 mm are possible.

- Most comprehensive product range on the market
- Forces of 8.2 kN to 390 kN possible
- Stroke lengths from 15 mm to 680 mm
- Bellows diameters from 60 mm to 950 mm
- Tested safety up to 24 bar
- Certified according to REACH and Labs & ROHS
- Configuration for potentially explosive areas (ATEX)
- Extremely long service life, up to 12x longer than competitor products

Designation	BCP	BCC		BCE	BCS	BCR	BRB
		Ø 2" – 6"	Ø 8" – 16"				
Versions							
Force	● ●	●	● ●	●	●	● ● ●	●
Stroke	● ● ●	●	● ● ●	●	●	●	●
Heat-resistant	●	● ●	●	● ● ●	●	●	● ●
Corrosion-resistant	●	● ●	●	●	● ● ●	●	●
Constant force output over the stroke range	●	●	●	●	●	●	● ● ●
Angular movement*	● ● ●	● ● ●	● ● ●	● ●	● ●	●	● ●
Axial offset*	● ● ●	● ● ●	● ● ●	● ●	● ●	●	●

* Cannot be combined; specific strengths of the individual series can sometimes be combined, i.e. resistance to heat and corrosion

Scale: ●●● Very strong ●● Strong ● Normal

BCP – Bellows cylinders with plate

“Standard bellows cylinders” with permanently crimped galvanized steel plates and NR elastomer as standard.

BCC – Bellows cylinders combined (rings & plates)

Bellows cylinders with removable mounting parts. Mounting via internal thread or threaded bolts.

BCC Ø 2-6 inches (internal thread): aluminum mounting parts, CR elastomer bellows.

BCC Ø 8-16 inches (threaded bolts): galvanized steel mounting parts, NR elastomer bellows.

Customers have the option of replacing the rubber bellow themselves.

BCE – Bellows cylinder epichlorohydrin

Heat-resistant products with epichlorohydrin rubber (ECO) bellows. Cover made of galvanized steel.

BCS – Bellows cylinder stainless steel

Corrosion-resistant products with high-alloyed steel plates. NR elastomer bellows.

BCR – Bellows cylinders with ring

Bellows cylinders designed for high forces with aluminum mounting ring (no plate) and NR elastomer bellows. For direct mounting on suitable connection surfaces in the system. Thus, connection geometry is freely selectable

BRB – Bellows rolling lobe actuators

The inexpensive option for light duty. Flexible rolling bellow actuator with plastic mounting parts and CR elastomer bellows. Low weight, nearly constant force output over the stroke range.

Resistance to chemicals

	NR	CR	ECO
Abrasive solids, abrasion resistance	+	A	A
Anti-freeze, ethylene glycol/glycerin, silicone oil, weak lye/soap solution, acids: inorganic < 10% and organic	+	+	+
Fuels, mineral oils, vegetable oils	A	A	+
High ozone concentration	A	+	+
Aqueous saline solutions, water	+	+	A

+ Resistant A Resistance on request*

* Depending on exposure time, concentration, or temperature, for example

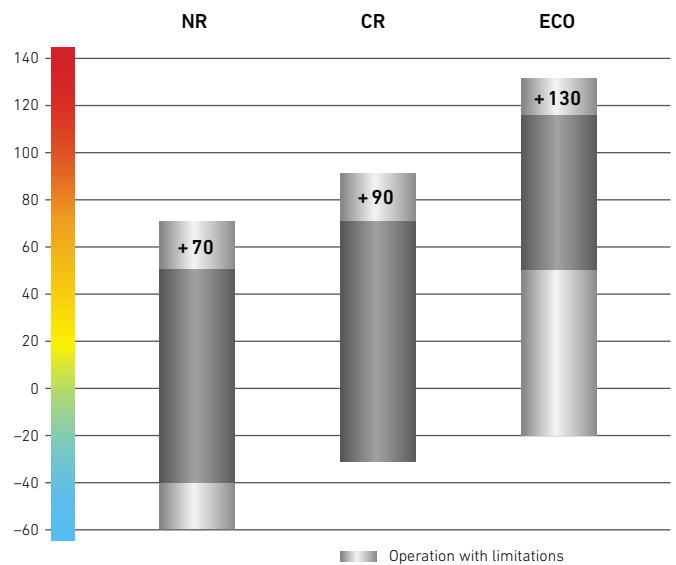
Elastomers used

NR – caoutchouc, natural rubber mix

CR – chloroprene rubber

ECO – epichlorohydrin rubber

Temperature resistance in °C



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Your Contact:

Four L-shaped corner brackets arranged in a square pattern, indicating a space for contact information.

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The data specified only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.

