# Сильфоны

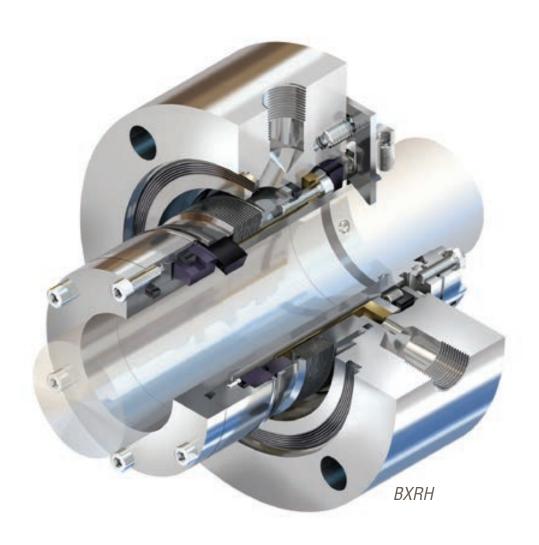
# Технические характеристики

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Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47 Казахстан (772)734-952-31 Таджикистан (992)427-82-92-69

Санкт-Петербург (812)309-46-40





# **METAL BELLOWS**

Flowserve metal bellows seals provide proven reliability and long-term performance in general and critical services, whether you're dealing with hazardous chemicals or refinery processing. Edge-welded, high-alloy bellows get the job done where corrosive chemicals degrade elastomers and other dynamic gaskets. Available with rotating or stationary bellows and in single, dual unpressurized or dual pressurized configurations, our global customers will find a variety of arrangements to meet their toughest sealing requirements, including full API 682 compliance.

# Metal Bellows – Quick Reference

Product	Sub-Type	Pressures to	Temperatures	Speeds to	Sizes
ISC2-BX, ISC2-XB, ISC2-682BX and ISC2-682XB	Industrial Process	13.8 bar (200 psi)	-40°C to 204°C (-40°F to 400°F)	23 m/s (75 fps)	25 to 95 mm (1.000 to 3.750 in)
ISC2-BB	Industrial	13.8 bar	-40°C to 204°C	23 m/s	25 to 95 mm
	Process	(200 psi)	(-40°F to 400°F)	(75 fps)	(1.000 to 3.750 in)
BXLS	Industrial	27.6 bar	-40°C to 204°C	23 m/s	16 to 100 mm
	Process	(400 psi)	(-40°F to 400°F)	(75 fps)	(0.623 to 3.937 in)
BX, BXQ	API	27.6 bar	40°C to 204°C	23 m/s	12.3 to 127 mm
and BXB	Process	(400 psi)	(-40°F to 400°F)	(75 fps)	(0.483 to 5.000 in)
BXRH	API	20.7 bar	-73°C to 427°C	46 m/s	21.8 to 127 mm
	Process	(300 psi)	(-100°F to 800°F)	(150 fps)	(0.857 in to 5.000 in)
BXHHS and	API	20.7 bar	-73°C to 427°C	23 m/s	28.2 to 128.9 mm
BXHHSB	Process	(300 psi)	(-100°F to 800°F)	(75 fps)	(1.110 in to 5.073 in)
BRC	API	20.7 bar	-73°C to 427°C	23 m/s	28.2 to 150 mm
and BRCSH	Process	(300 psi)	(-100°F to 800°F)	(75 fps)	(1.110 to 5.906 in)

## **METAL BELLOWS**



# ISC2-BX, ISC2-XB, ISC2-682BX and ISC2-682XB

Single cartridge metal bellows seals from the versatile ISC2 Series, the ISC2-BX and ISC2-XB are ideal for a wide range of chemical and industrial applications. ISC2-682 versions provide full API 682 compliance.

- Outstanding corrosion resistance with edge-welded Alloy C-276 bellows
- Reduced hang-up due to self-cleaning rotating bellows design that maintains excellent seal face loading
- Improved tolerance to dry running events with exclusive thermal management technology
- Broad application flexibility assured by comprehensive range of pre-engineered configurations with standard flush (BX), Plan 23 cooling (XB) and API 682 compliance
- · Increased safety via throttle bushing with standard quench and drain

### **SPECIFICATIONS**

Press. to: 13.8 bar (200 psi)

Temp: -40°C to 204°C (-40°F to 400°F)

Speeds to: 23 m/s (75 fps)

Sizes: 25 to 95 mm (1.000 to 3.750 in)

Refer to literature FSD243 at /library.

### INDUSTRIAL PROCESS

## ISC2-BB and ISC2-682BB

This dual cartridge metal bellows seal from the versatile ISC2 Series provides a reliable barrier against process leakage in chemical and industrial applications. The ISC2-682 BB provides full API 682 compliance.

- Reliable operation resulting from advanced volute groove design and internal circulating devices that promote cool running
- High uptime with corrosion-resistant, edge-welded Alloy C-276 bellows
- · Reduced hang-up due to self-cleaning rotating bellows design
- Application flexibility with tandem and double-balanced arrangements to allow both pressurized and unpressurized operation
- Meets all major international standards and fits hundreds of pump models from global manufacturers

### **SPECIFICATIONS**

Press. to: 13.8 bar (200 psi)

Temp: -40°C to 204°C (-40°F to 400°F)

Speeds to: 23 m/s (75 fps)

Sizes: 25 to 95 mm (1.000 to 3.750 in)

Refer to literature FSD243 at /library.



### **BXLS**

The BXLS is a metric-sized rotating metal bellows seal for corrosive and non-corrosive services, especially those that crystallize. Meets the seal chamber dimensions specified by DIN EN 12 756 L1k.

- Metric seal interface dimensions ideal for pumps conforming to various DIN and ISO standards, including DIN 24960 and ISO 3069
- Installation flexibility afforded by cartridge or non-cartridge seal configurations to fit the seal chamber dimensional requirements
- Reduced maintenance costs due to the absence of springs and dynamic elastomers to lessen clogging vulnerabilities
- Longer service life with 0.20 mm (0.008 in) thick standard welded metal bellows for extended resistance to corrosion, vibration and centrifugal forces

### **SPECIFICATIONS**

Press. to: 27.6 bar (400 psi)

Temp: -40°C to 204°C (-40°F to 400°F)

Speeds to: 23 m/s (75 fps)

Sizes: 16 to 100 mm (0.623 to 3.937 in)

Refer to literature FSD109 at /library.

API PROCESS

# BX, BXQ and BXB

BX Series balanced rotating metal bellows seals provide exceptional reliability in corrosive and non-corrosive fluids, especially those that crystallize. Fully compliant with API 682 Type B, Arrangements 1, 2 and 3.

- Longer service life with 0.20 mm (0.008 in) thick standard welded metal bellows for resistance to corrosion, shaft vibration and centrifugal forces
- Optimal performance ensured by three standard seal face balances; the BXQ seal is high balanced for flashing hydrocarbon applications
- Increased maintenance intervals due to self-cleaning rotating bellows that replace springs and dynamic elastomers
- Performance benefits of metal bellows in dual pressurized Arrangement 3 seals with the BXB seal's unique ID pressurized seal face balance

### **SPECIFICATIONS**

Press. to: 27.6 bar (400 psi) Temp: -40°C to 204°C (-40°F to 400°F) Speeds to: 23 m/s (75 fps) Sizes: 12.3 to 127 mm (0.483 to 5.000 in) Refer to literature FSD109

at /library.

### API PROCESS

## **BXRH**

Built for temperatures beyond the limits of elastomers, the BXRH balanced stationary metal bellows seal offers reliable sealing at high speeds. Meets all API 682 Type C requirements in Arrangements 1, 2 and 3.



- Reliability due to extra-long Alloy 718 bellows that offer superior corrosion resistance, allow more axial travel, and provide consistent spring loading
- Application flexibility arising from single and dual seal configurations as well as pressurized and unpressurized arrangements
- Reduced clogging due to absence of springs and dynamic elastomers, plus standard anti-coke device

### **SPECIFICATIONS**

Press. to: 20.7 bar (300 psi) Temp: -73°C to 427°C (-100°F to 800°F) Speeds to: 46 m/s (150 fps) Sizes: 21.8 to 127 mm (0.857 to 5.000 in)

Refer to literature FSD111 at /library.



# **BXHHS and BXHHSB**

BXHHS and BXHHSB balanced rotating metal bellows seals are designed for refinery and petrochemical services at high- and low-temperature extremes. Meets API 682 Type C requirements in Arrangements 1, 2 and 3.



- Optimal performance resulting from flexible graphite gasketing in lieu of elastomers to improve temperature and chemical compatibility
- High uptime due to corrosion-resistant Alloy 718 bellows construction and a low-stress design
- Compact overall length designed to fit in API 610 pumps without modification
- Reliable operation ensured by extended travel bellows core that allows for extreme linear shaft growth, typical in high-temperature pumping
- · Distortion-free face design maintains flatness throughout operating range

### SPECIFICATIONS

Press. to: 20.7 bar (300 psi) Temp: -73°C to 427°C (-100°F to 800°F) Speeds to: 23 m/s (75 fps) Sizes: 28.2 to 128.9 mm (1.110 to 5.073 in)

Refer to literature FSD111 at /library.

## **METAL BELLOWS**

API PROCESS



# **BRC and BRCSH**

These robust balanced metal bellows seals are designed for high-temperature hydrocarbons, heat transfer fluids and other severe services. Meet all API 682 Type C requirements in Arrangements 1, 2 and 3.

- Longer service life ensured by edge-welded, thick-plate Alloy 718 bellows that comply with NACE MR0103 criteria and withstand long-term chemical exposure
- Reliability resulting from the canned face design that eliminates shrink-fit distortions and allows low-leakage performance
- Prolonged clean operation due to steam purge baffle on stationary configurations that eliminates coking
- Application flexibility accommodates extreme shaft movement in single or dual seal arrangements

### **SPECIFICATIONS**

Press. to: 20.7 bar (300 psi) Temp: -73°C to 427°C (-100°F to 800°F) Speeds to: 23 m/s (75 fps) Sizes: 28.2 to 150 mm (1.110 to 5.906 in)

Refer to literature FSD142 at /library.

# **The Highest Standards of Safety**

Our customers find in Flowserve a partner that is closely aligned with their standards of a safe operating environment. Our overall, industry-recognized performance far exceeds our peers, rivaling that of industry award winners. It's a continuously improving part of our business, where where we've established a safety-first culture with processes that demonstrate reductions in lost time accidents, lower total recordable rates and improvements in near-miss reporting.





## По вопросам продаж и поддержки обращайтесь:

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Санкт-Петербург (812)309-46-40

Единый адрес для всех регионов: fvr@nt-rt.ru || www.flowserve.nt-rt.ru