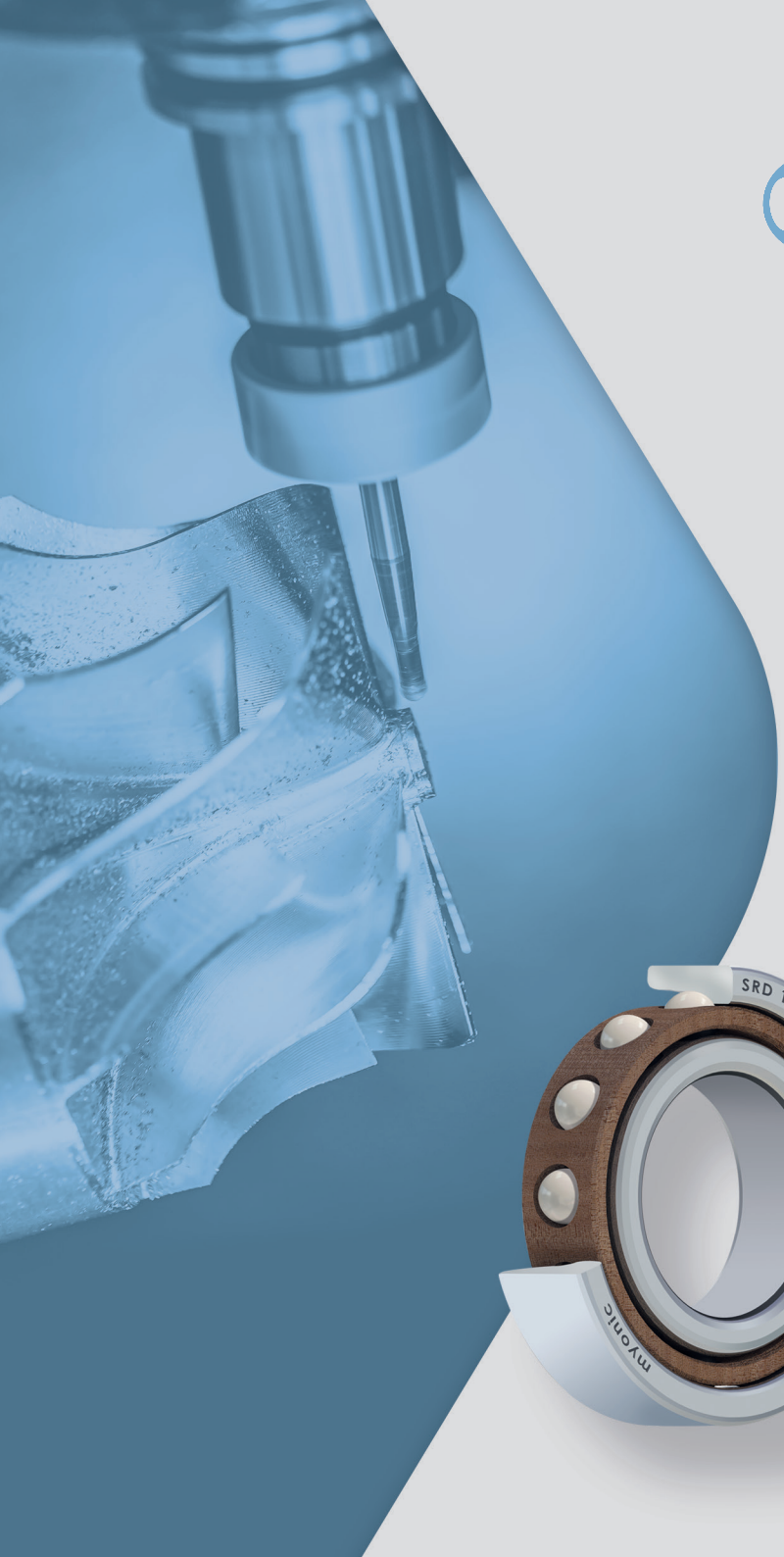
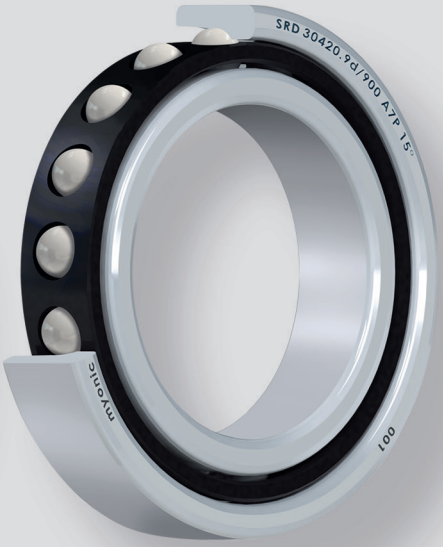
myonic

High Precision Bearings





High Precision Bearings

myonic High Precision Bearings are special, single row angular contact ball bearings.
These bearings comply with highest requirements for precision, maximum permissible speed and lifetime.

Outer and Inner Rings

myonic offers high precision bearings in three application-specific ring materials (details see page 6).
Rings are produced with state of the art manufacturing technology and decades of experience.

Balls

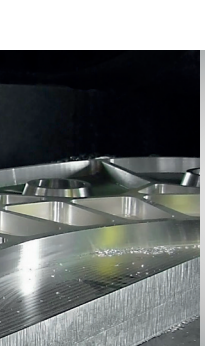
myonic High Precision Bearings are equipped with ceramic balls guaranteeing maximum performance. The lower density compared to steel balls reduces centrifugal forces and friction, hence increasing the lifetime of the bearings.

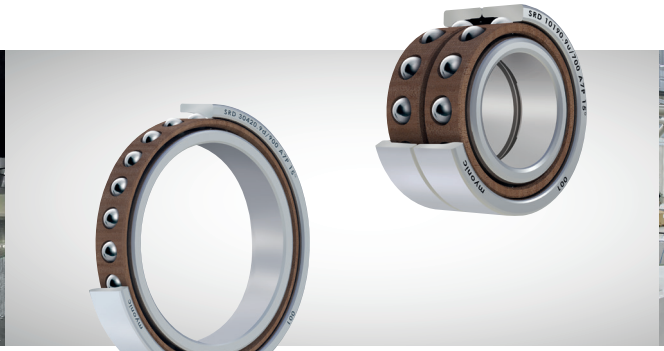
Cage

The cages for myonic High Precision Bearings are made of cotton fibre reinforced Phenolic resin.
This material has excellent tribological capabilities, mechanical strength and ensures highest dimensional accuracy.
Emergency running capability through oil impregnation of cage.
Other cage materials (e.g. PEEK, PAI, PI) are available upon request.

Quality

myonic High Precision Bearings are manufactured in precision class ISO P4 (ABEC 7).
Higher Qualities like ISO P2 (ABEC 9) or myonic GYRO-quality are available upon request.





myonic designation system for High Precision Bearings

SRD 12280 → bearing design & bearing size

VA → ring material
VA = 52100
XA = X30CrMoN15-1

D → ball material
D = Si_3N_4

.9u/2000 → duplex variations – preload in cN

2713HG → cage design & cage material

A7P → quality level
A7P, P4P, A9P, P2P
GYRO = Special myonic

duplex variations – preload in cN	.9u		universal duplex	.9f	 X duplex configuration

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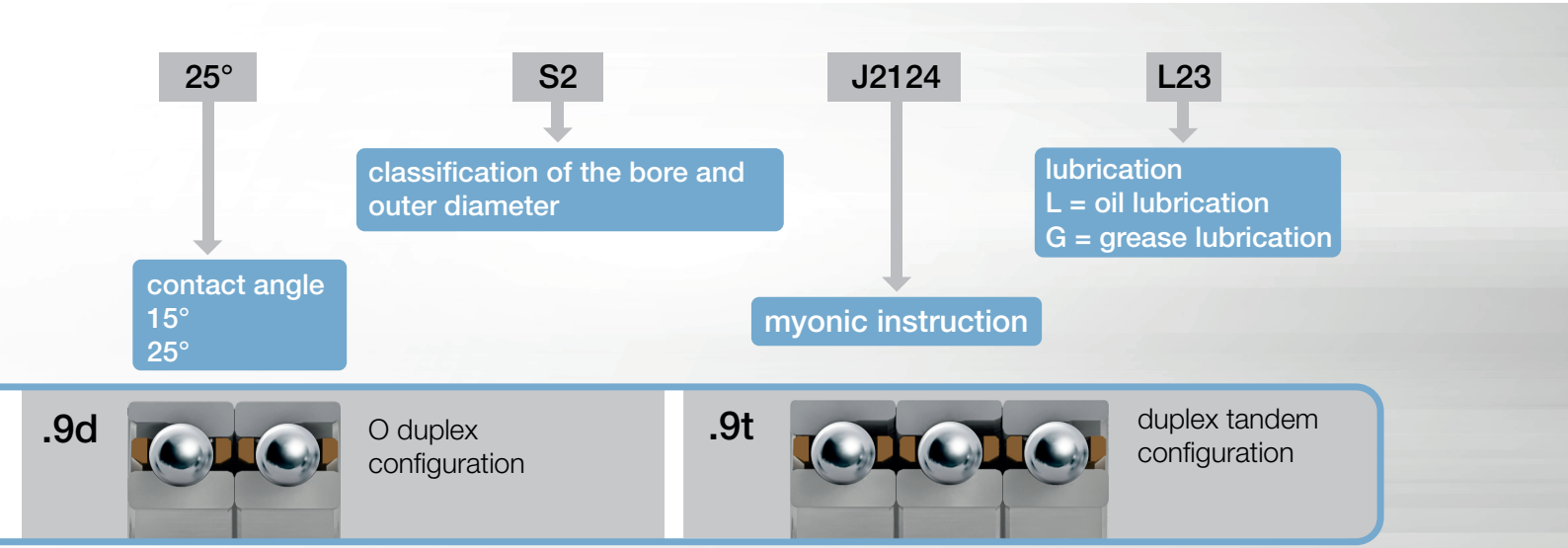
High Precision Bearings

Characteristics of myonic High Precision Bearings:

- Maximum reliability at highest rotational speed
- Low-noise rotation
- Ideal vibration behavior
- Simultaneous high load carrying capacity in both axial and radial direction
- High bearing stiffness
- Long lifetime
- Low wear

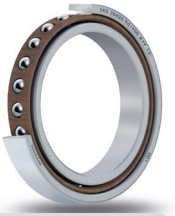
Preferred applications for myonic High Precision Bearings:

- Grinding spindles with runout < 1µm
- Turbo molecular pumps
- Optical instruments
- Exhaust turbochargers
- Systems for waste heat recovery
- Flywheel Energy Storage Systems



Versions

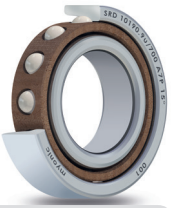
Economic



Customer Benefit

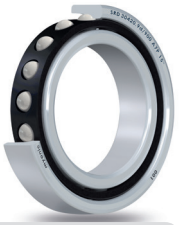
- High performance
- Economic bearing design
- Long service life
- Low effort for service and maintenance

Advanced



- Excellent performance
- Constant, high quality for the entire operation period
- Very long service life and high availability
- Reduced effort for service and maintenance

High-End



- Outstanding performance
- Constant, highest quality for the entire operation period
- Maximum service life and highest availability
- Minimized effort for service and maintenance

Technical Characteristics

- Rings made of proven bearing steel (1.3505)
- Martensite structure with finest carbides and homogeneous distribution
- Typical hardness: > 62 HRC
- Lifetime factor: 5
- Operating temperature: up to 150° C
- Cage made of cotton reinforced Phenolic resin

- Bearing rings made of nitrogen alloyed, corrosion resistant steel (1.4108)
- Homogeneous distribution of hard materials (carbides, nitro carbides)
- Typical hardness: > 60 HRC
- Lifetime factor: 10
- Operating temperature: up to 250° C
- Cage made of cotton reinforced Phenolic resin; PEEK or PAI on request

- First class ring material **myg1** (powder metallurgic tool steel)
- Extremely homogeneous structure, smallest carbides (by pulver metallurgic process)
- Ring material according to myonic procurement specification
- Highest hardness: > 65 HRC
- Lifetime factor: 25
- Max. operating temperature: up to 300° C
- Cage made of cotton reinforced Phenolic resin; PEEK, PAI and PI on request

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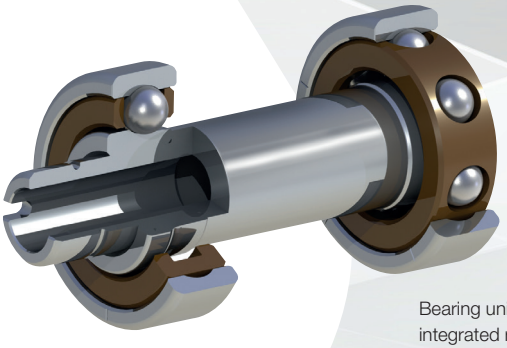
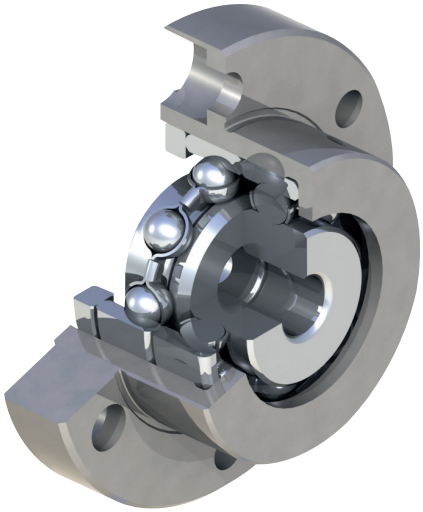
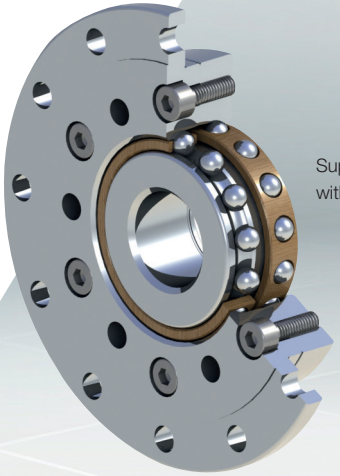
Special Versions



Bearing unit with
integrated raceway



Duplex bearing with housing and
integrated flange



Super duplex bearing
with integrated flange

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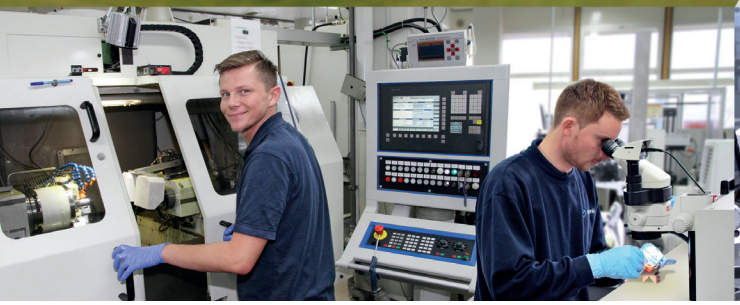
MinebeaMitsumi
Passion to Create Value through Difference



Component Manufacture

Clean Room assembly

Inspection & Measuring Equipment

myonic is at the customer's disposal right from the early developmental stage with a highly qualified engineering team and state-of-the-art equipment – from the laboratory to production and on through to assembly.

First-class and highly flexible prototype production enables development times to be kept short. The components responsible for constantly high quality are manufactured internally by **myonic**.

A stock of bearing components provides for maximum flexibility and very short delivery times.

myonic is constantly evolving as a company thanks to strategic partnerships with other leading firms, making it the partner for both innovations and system solutions at the limits of what is technologically possible – in line with the motto:

myonic – more than a bearing