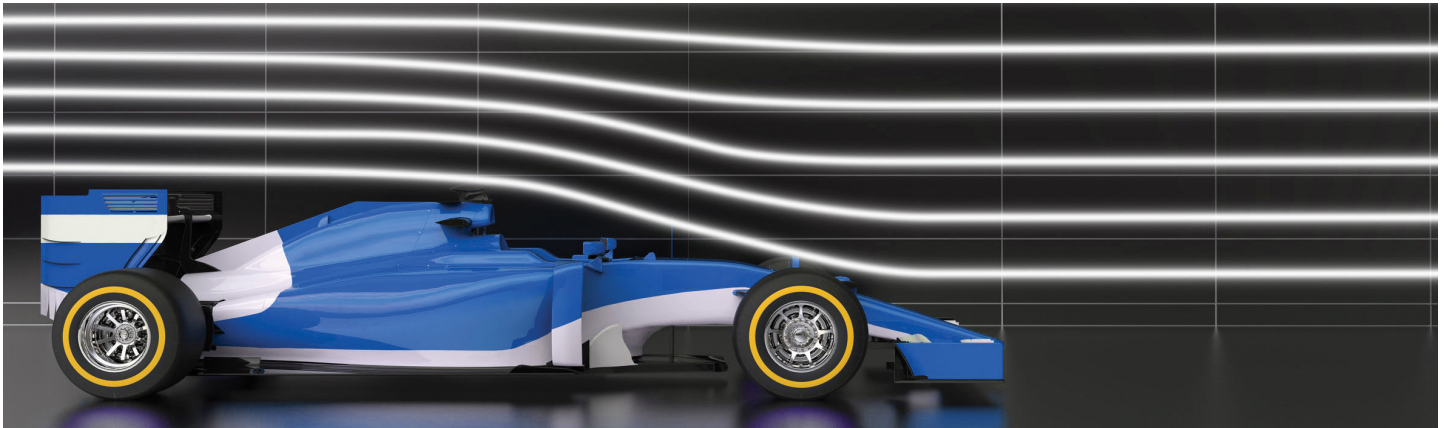


Air bearing solutions for vehicle testing applications



Motorsport & Automotive



The development of new vehicles brings about numerous test and measurement challenges in the process to reduce development time, increase quality and decrease product failures. IBS Precision Engineering is your ideal partner for engineering solutions with non-contact porous media air bearings for test set-ups. The many technical advantages such as near zero friction and wear, high speed and high precision capabilities, and no oil lubrication requirements are powerful features and help test engineers to build perfect test conditions.

Our **ultra-precise air bearing products** have applications in diverse **automotive testing fields**:

Aerodynamic Test Applications

High pressure air bearings for friction free motion of rolling roads

Drive Train Test Applications

Friction free rotational motion for torque test systems and seal measurement

Air bearings are ideal for vehicle testing applications



Tyre Test Applications

Ultra high pressure air bearings for friction free testing under high forces

Acoustic Test Applications

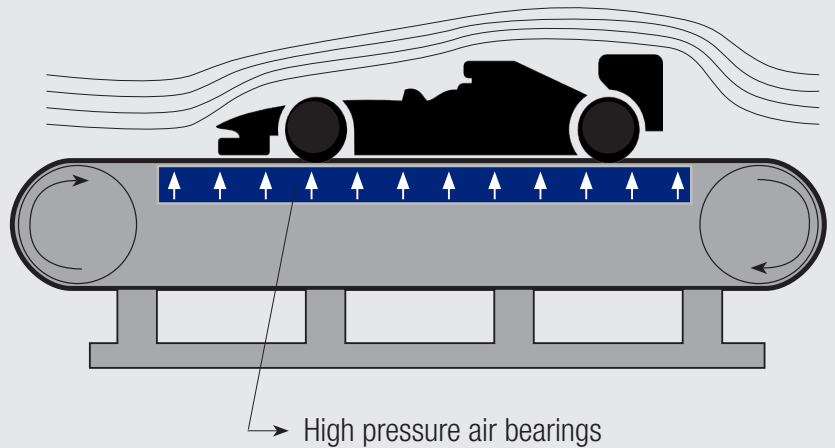
Silent motion systems for noise measurement

Aerodynamic test applications

When testing (race) car aerodynamics in windtunnels, it is essential to simulate on-road conditions. High pressure air bearings in moving ground systems (rolling roads) avoid upward suction of the belt in areas of rapid air movement and guarantee zero friction between belt and bearing. The air film stabilizes and cools the belt and thus reduces the drive power needed for the moving ground system.

Test applications:

- Aerodynamic and wind tunnel testing
- Vehicle dynamics testing
- Vehicle simulation

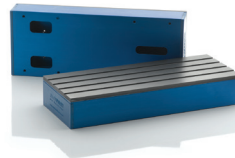


Flat rectangular air bearings



Non-contact air bearing solution for friction free use in linear motion applications.

Conveyor air bearings



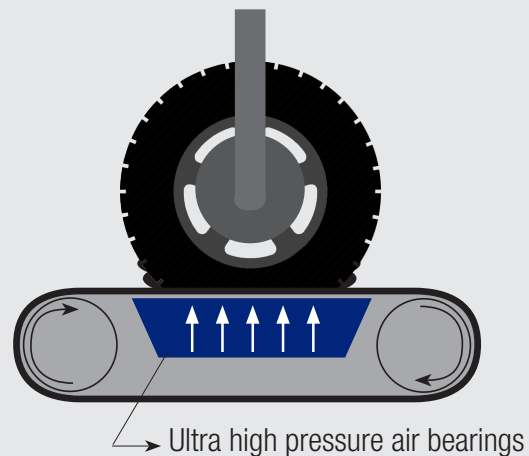
Friction free transport of large substrates, including vacuum to flatten, stabilize and control.

Tyre test applications

Understanding the conduct of tyres and tyre mechanics is key in determining their influence on the ride, handling and safety of sport cars and commercial vehicles. Tyre testing is critical to conform to legislative requirements and to improve the overall tyre performance. Test set-ups with ultra high pressure air bearings (up to 25 bar) ensure friction free testing supporting high forces.

Test applications:

- Tyre force testing
- Tyre torque measurement
- Tyre rolling resistance testing
- Tyre behaviour testing

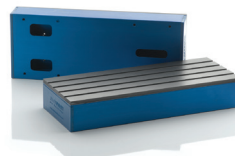


Flat rectangular air bearings



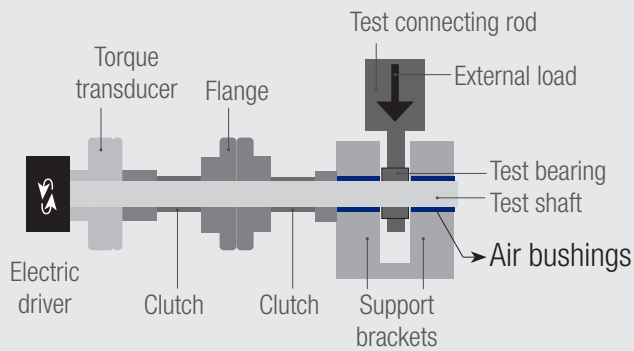
Non-contact air bearing solution for friction free use in linear motion applications.

Conveyor air bearings



Friction free transport of large substrates, including vacuum to flatten, stabilize and control.

Drive train test applications



From R&D to manufacturing and compliance testing, measurement of powertrain not only requires progressively greater accuracies but also consistency in measurement over the specified ranges and conditions. Non-contact air bearings guarantee friction free rotational motion for torque test systems and bearing & seal measurements.

Test applications:

- Torsion and torque testing
- Measurement of bearings and seals
- Roundness measurement of cylinders

Air bushings



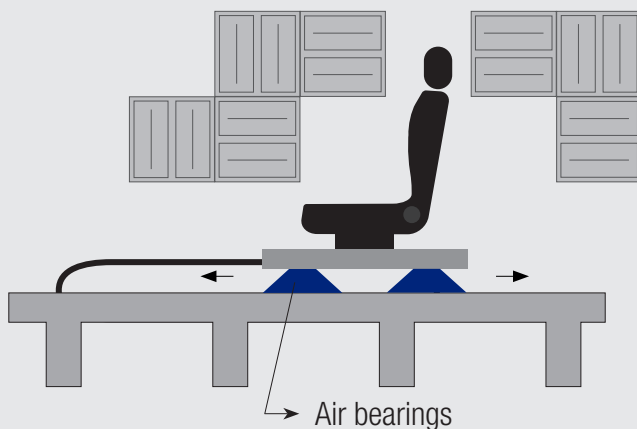
Friction free air bushings for linear or rotary shaft motion applications

Radial air bearings



Friction free concave or convex air bearings for rotary applications

Acoustic test applications

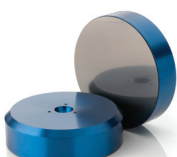


The volume and noises emitted by assembled vehicles are the result of complex interactions. They vary during different movements in different conditions. Tuning out unwanted noise, vibration, and harshness requires sophisticated test equipment. Noise emitted by air bearings is close to zero, making them ideal as silent motion systems in sound-proof chambers set-ups.

Test applications:

- Noise testing of interior parts
- Noise measurement of fuel tanks

Flat round air bearings



Non-contact air bearing solution for friction free use in linear and rotary motion applications.

Flat rectangular air bearings



Non-contact air bearing solution for friction free use in linear motion applications.

Non-contact air bearings are ideal for various **high speed, precision motion and positioning applications** in vehicle testing.

Linear Motion

Flat rectangular air bearings



Non-contact air bearing solution for friction free use in linear motion applications.

[go to product page >](#)

Rotary Motion

Air bushings



Friction free air bushings for linear or rotary shaft motion applications

[go to product page >](#)

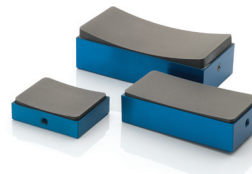
Conveyor air bearings



Friction free transport of large substrates, including vacuum to flatten, stabilize and control.

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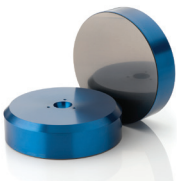
Radial air bearings



Friction free concave or convex air bearings for rotary applications

[go to product page >](#)

Flat round air bearings



Non-contact air bearing solution for friction free use in linear and rotary motion applications.

[go to product page >](#)

Flat round air bearings



Non-contact air bearing solution for friction free use in linear and rotary motion applications.

[go to product page >](#)

*Contact **IBS Precision Engineering** today to find out how non-contact air bearings can improve your test performance. Experience the benefits of friction free motion in your test set-ups.*