



Description

Space Electronics manufactures precision gas bearings. The following types of bearings are available (the numbers correspond to the picture above):

- Axial bearings (1 & 2)
- Spherical and hemispherical bearings (3 & 8)
- Cylindrical thrust bearings (4)
- Linear sliders (5)
- Special purpose bearings (6 & 7)

Spherical and hemispherical bearings

We specialize in manufacturing large hemispherical and spherical gas bearings. Spherical diameters between 15 and 60 inches with payload weight capacities up to 10,000 kg are typical. We also manufacture custom bearings.

Space Simulators for Testing Attitude Control Systems

Our bearings offer ideal space simulating platforms for testing attitude control systems.



Spherical gas bearings provide a cable pass-through to allow inter-connection between payloads mounted on either end.

Hemispherical gas bearings are provided with a bolt pattern on the flat surface.



Our standard bearings are provided with maximum tilt of 10 degrees. We also make custom bearings with tilt angles as high as 45 degrees.

Advantages of gas bearings

No friction, no wear – Since the bearing is non-contacting, the only friction is the immeasurably small shear force in the air film. Therefore our gas bearings never wear out.

Outstanding stiffness to small deflections – As opposed to what is commonly thought, air bearings are many times stiffer than ball or roller bearings. The thickness of the air gap is very small and hardly closes under heavy loadings.

No bearing instability – Our bearings remain stable over a wide range of loads and pressures.

Operate in dirty environments – Clean air constantly flows out of the bearing preventing dirt from entering the gap. Gas bearings can operate in environments that are too dirty for a ball bearing to survive.

Not damaged by shock loads or loss of air pressure – The Hardcoat finish and self lubricating lining prevent from damage even if the bearing is spun without air pressure.

Technical Information:

Payload Weight Capacities 0 to over 10,000 kg
Tilt angles up to 45 degrees

Gas requirements:

Gas supply Clean Dry Air or nitrogen
Gas Pressure 2 to 8 bars
Gas Flow less than 85 liters per minute