



## Company Profile.

### History

**1971** Introduced air bearings to the semiconductor dicing industry, making the worlds first dicing machine using air bearings at Semitron Ltd UK, resulting in the foundation of Precision Rotors Dorset UK Ltd.

**1980 to 1985 Precision Rotors Dorset Ltd**, developing world's first successful PCB drilling spindles, several thousand spindles shipped worldwide.

**1986 to 1990 Pope Precision Rotors Ltd**, acquired by the Bramer UK Group, for the PCB market capitalisation and development of industrial spindles. Spindle sales reached thousands across the globe as air bearings penetrated the US and Japanese high tech industries. Specific markets were semiconductor dicing and grinding, automotive car painting, contact lens/optical, machine tools.

**1991 acquired by Loadpoint Ltd UK**, forming Loadpoint Bearings Ltd, a maker of precision machine tools, using air bearings, for accurate grinding and singulation of semi-conductor components [www.loadpoint.co.uk](http://www.loadpoint.co.uk) . Success during this period included growth and domination of ultra precision machining spindles, contact lens turning spindles and semiconductor dicing spindle markets.

**2006 Loadpoint Bearings** successful management buyin of 40%, from Loadpoint Ltd parent company. Strong alliance maintained with the parent company, for market/product development within the semiconductor industry. Average shipments per year 900 spindles, across automotive, semiconductor, optical industries. Annual revenue around 4 million US\$, with 25+ full time staff.

### Manufacturing and Technology



Loadpoint Bearings work closely with leading UK universities and has built air bearing experience into a comprehensive suite of computer models and has made innovations in the application of DC brushless motors to air bearing systems. The company is in the unique position to respond to customer demands for higher performance spindles or completely new air spindle concepts.

Continuous investment in new manufacturing machinery and the latest test equipment ensures all Loadpoint spindles are manufactured to the highest quality standard irrespective of whether the spindle chosen from one of the standard ranges or a completely new prototype. Products are fully supported by a team of design, development and sales staff that maintain direct customer contact at all times.

### Locations

South Coast of the United Kingdom, Wimborne Dorset, address details below.

Regional US Office Camarillo California, more detail at [www.loadpointbearings.com](http://www.loadpointbearings.com)

Asia branch offices opening 2007/2008.

Loadpoint Bearings Ltd, 67 Haviland Road, Ferndown Industrial Estate, Wimborne, Dorset, BH21 7PY, UK..

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Company Registration number : No: 2269205, Loadpoint Ltd, Chelworth Ind Estate, Cricklade, Swindon, Wilts, SN6 6HE, UK

# LOADPOINT BEARINGS LIMITED

## Team.

Ph'D/Masters degree educated design team with 30+ years of accumulated air bearing and application knowledge. Application engineers to assist clients during specification, design and integration phase. Manufacturing team of qualified machinists and engineers working for Loadpoint Bearings over ten years, per person. Full apprenticeship and post graduate training programs in place to ensure long term product development, manufacture and knowledge transfer.

## Product Development

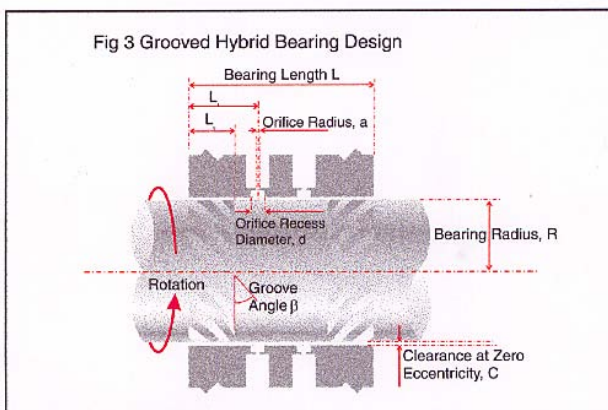
Project engineers work closely with client engineers to ensure products meet or exceed specification, installation and test requirements. Project engineers have air bearing and integration expertise working with both multi-national and SME's for over two decades. All project engineers available for onsite integration of spindles and ongoing technical support.

## Technology Development.

Ph'D/Masters Degree team for product development with combined air bearing experience of over 50 years. Research and development programs have included projects with multinational UK and US based companies, for projects including computer hard disk drives, body scanners, synchrotron beam generators, taking computer modelled designs to delivered working bearings.

Strong links and projects with Universities such as Brunel University UK, collaborating on aerostatic spindles and slides, for micromachining applications. Project funded by EU Framework FP6 program.

Current development programs focused on customers application requiring stiffness improvements. Static stiffness improvements of 3-5 times using outlet restrictor bearing designs. Dynamic stiffness improvements of sliding and slow rotating air bearings, improved one order of magnitude, patented by a dynamic damping technique. Aerostatic slides and tables have dynamic performance approaching hydrostatic systems, without the control system complexity.



An example of a grooved hybrid bearing design, giving stiffness enhancements at high speed.

The groove design, modelling, machining process and testing within the company location.

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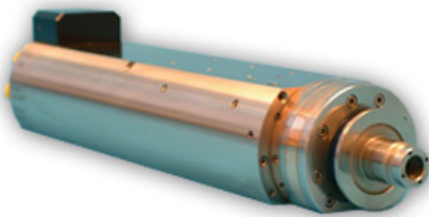
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# LOADPOINT BEARINGS LIMITED

## Product Profile

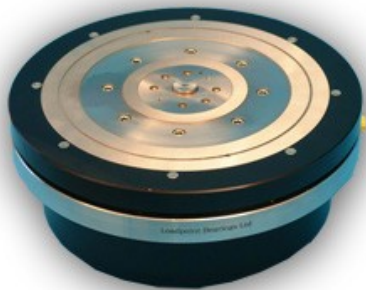
### Semiconductor

**Loadpoint Bearings is the leading manufacturer of Dicing and Grinding spindles supplying all original equipment manufacturers in the world with products that have become accepted as industry standards. Over 400 spindles per year shipped annually into the market place.**



Dicing spindle capable of 60,000-80,000rpm, a range of mounting options, flange or sleeve mounted. Highest stiffness and lowest vibration figures in the industry, ensure these spindles meet the future challenges.

Silicon Wafer backgrinding spindle with highest stiffness figures currently seen in the industry. Less sub surface damage and faster grinding speeds, for next generation thin wafers.



Ultra thin, rotary aerostatic tables to hold and accurately position silicon wafer during grinding or dicing operation. Fitted with integral motor and encoder, plus vacuum coupling to secure wafer

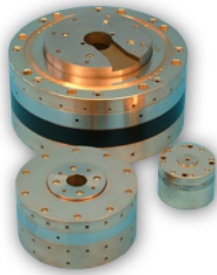
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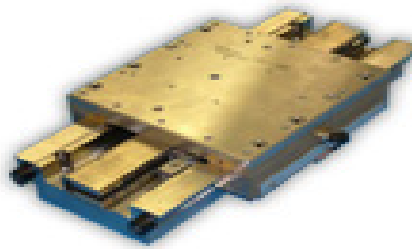
# LOADPOINT BEARINGS LIMITED

## Optical

A range of ultra precision machining spindles, slides and rotary tables, for OEM's worldwide. Technology development has assured the most advanced spindle development, keeping ahead of future demand.



Linear slides and tables fitted with encoders and direct drive motors and patented damping technology



Contact lens turning spindles, with motion errors less than 20nM at full speed 15,000rpm.

## Automotive

A range of paint spraying spindles, first introduced in 1983 with product volumes reaching 400+ per year, Loadpoint Bearings remain a premier supplier to tier one companies worldwide. Products shipped to the largest car makers in the USA, Asia and Europe.



Example of 80,000rpm spindle, air turbine driven. Able to deliver over 600cc's paint per minute of water based paints.

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# LOADPOINT BEARINGS LIMITED

## Manufacturing



Spindle running testing through 24-48 hour constant cycle testing, monitoring durability, water sealing, thermal stability. All spindles calibrated for airflow, water flow, axial and radial stiffness, axial and radial runout, vibration, balance



State of the art UK and Swiss machine tools for manufacture, measurement and test of completed spindles, with geometric tolerances below one micron.



Example, dynamic runout testing at 3000rpm, with motion errors below 20nM radial and axial



Example, roundness/straightness shaft testing, within 1 micron. Surface finish checking within 50nM

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