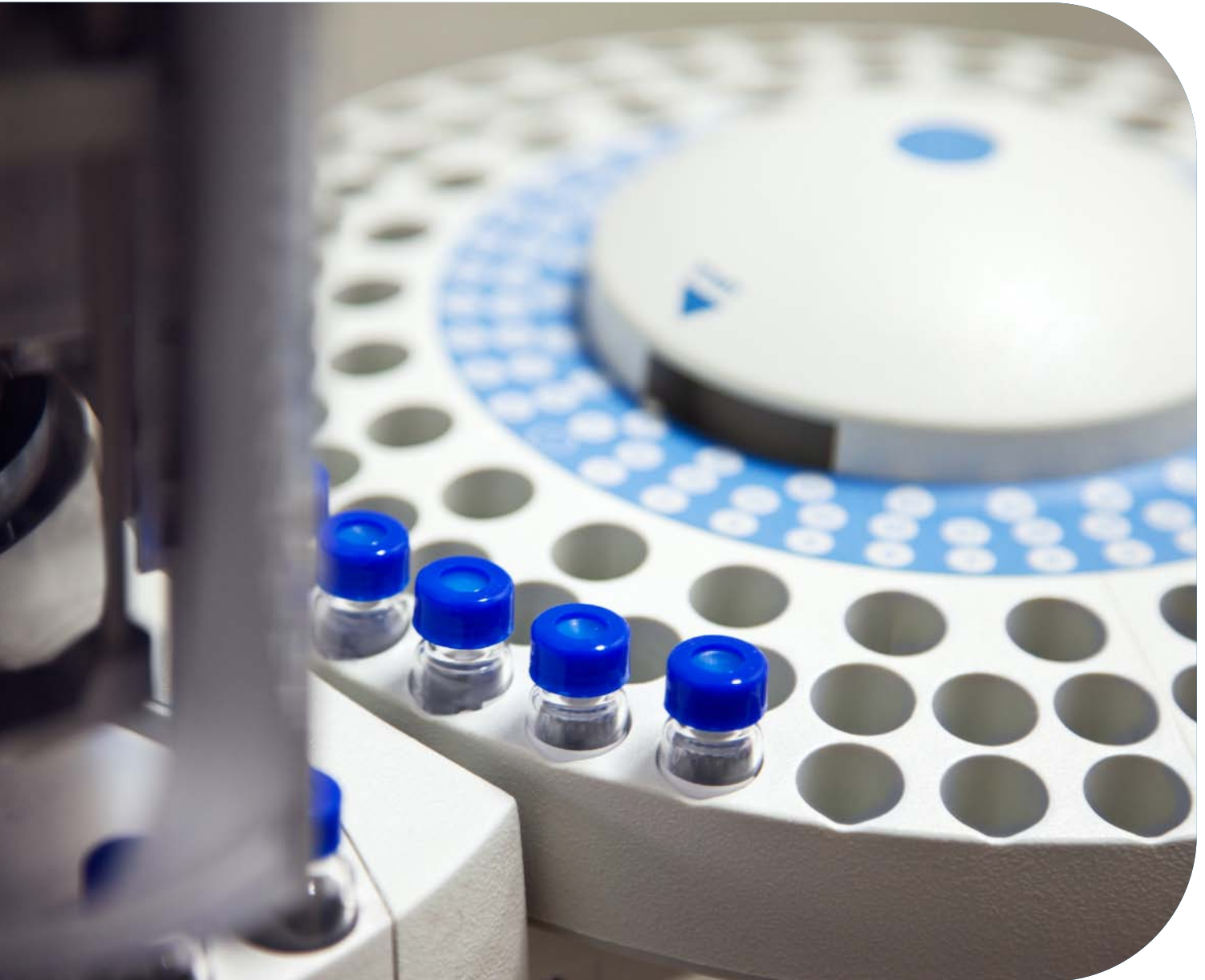




Advancing laboratory automation

Moving technology forward for a range of IVD and clinical applications



The Power of Knowledge Engineering

Better guiding, driving and rotating functionality



Develop unique motion solutions with SKF

Drawing on our deep knowledge in linear and rotary motion, SKF application engineering can support your design team to create customized positioning solutions, including complete mechatronic units with motorization and linear measurement capabilities. We'll help you integrate the linear and radial components to best meet your application demands.

SKF Knowledge Engineering

A high level of application knowledge combined with advanced simulation software and deep product knowledge can help you optimize designs in their early stages. While still in the prototype stage, SKF can help ensure design success from the start, reducing development time. Explore the merits of various options prior to the design freeze and validate your results with our engineers.

In addition, SKF Engineering Consultancy Services can help you outperform the competition. SKF benefits include:

- **Reduced total costs**
- **Reduced time to market**
- **Improved manufacturing and assembly**
- **Faster delivery times**
- **Improved product reliability**
- **Reduced product maintenance**
- **Lighter, more compact designs**

Improving lab efficiency with optimal precision and high reliability

Automation is improving the lab

As global demand for more testing and more test types increases, laboratory equipment automation is rising to meet it. But while automated systems are becoming more popular, they are also becoming more complicated. Diverse applications demand diverse solutions, and multiple instruments are being integrated into single-unit solutions. To meet application as well as production requirements, manufacturers need the right components and sub-assemblies. As a world leader in linear and rotary motion, SKF can help.

SKF is improving automation

SKF offers a complete range of motion systems and components to optimize instrument accuracy, reliability and workflow. From miniature bearings, ball screws and profile rail guides to linear ball bearings and seals, SKF components and sub-systems are optimizing lab automation application performance.

Integrating SKF solutions into lab equipment designs can enable better throughput in syringe dispensing of tiny volumes of fluids, automatic dispensing and sampling of chemicals, DNA processing, and more. SKF tools, technology and support can help you design and develop next-generation automation equipment that will:

- Increase laboratory uptime
- Streamline lab workflow
- Improve accuracy and optimize reliability
- Maximize operator productivity
- Reduce mechanical sample measurement times
- Minimize sample consumption
- Minimize equipment maintenance
- Operate quietly
- Require smaller footprints



Solutions for clinical laboratory machines

- Chemical analyzers
- Immunoassay analyzers
- Robotic analyzers
- Urine analyzers
- Blood analyzers
- Spectroscopy analyzers
- Chromatography analyzers
- Sample processors
- Centrifuges
- Pathology tissue scanners
- Microscopes
- Liquid dispensers

SKF guidance systems, components and



Miniature profile rail guides and slides

Smooth running SKF miniature profile rail guides offer excellent performance for linear guidance in IVD instruments. Easy to mount and small enough to enable overall assembly size reductions, SKF miniature profile rail guides also deliver robust, reliable performance to minimize maintenance costs. Guides are available in a wide range of rail sizes and carriage styles to meet most space constraints and load-carrying capacities.

- A wide range of carriages and rails are available
- Optimized geometry in the ball recirculation area
- All steel parts are corrosion-resistant
- Factory pre-lubrication
- Both rail sides can function as reference surface
- Customized solutions available



Linear ball bearing LBBR

SKF linear ball bearings offer a flexible, easy-to-integrate way to power up, or downsize equipment designs. Robust, low-maintenance LBBR linear ball bearings combine a plastic cage and hardened stainless steel raceway segments to guide the ball sets. Self-holding in the housing, the bearings are well suited to integrated bearing-housing solutions, even in corrosive environments.

- Enables downsizing up to 3 mm shaft diameter
- Light running with low friction
- Factory pre-lubrication
- Faster product cycles
- Low-noise operation
- Robust design and double-lip sealing



Miniature ball screws

SKF miniature ball screws are key to transforming rotary action into linear motion. Featuring rolling elements, balls, or rollers between the nut and the screw shaft, these high efficiency screws are very compact, with a nominal diameter from 6 to 16 mm and a lead from 2 to 12,7 mm. Back-driving makes them highly efficient for excellent repeatability. Available in stainless steel and oversize balls on request.

- Enables equipment miniaturization
- Compact, lightweight design
- High positioning accuracy
- Mounts easily
- Smooth running and strong back driving
- Eliminates backlash
- Corrosion-resistant
- Internal recirculation with inserts available

engineering support



Miniature ball bearings

Operating in many high-speed, high-precision applications, miniature ball bearings help make reliable, compact instrument design possible. Miniature ball bearings from SKF operate quietly at high speeds, with low friction and virtually no need for maintenance. Available in many types and designs, including stainless steel, with seals or shields, plus various lubricant options.

- Compact, lightweight design
- Faster product cycles
- Improved productivity
- Virtually maintenance-free
- Low-noise operation


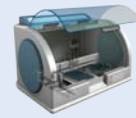

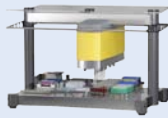
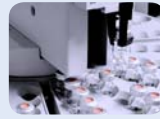



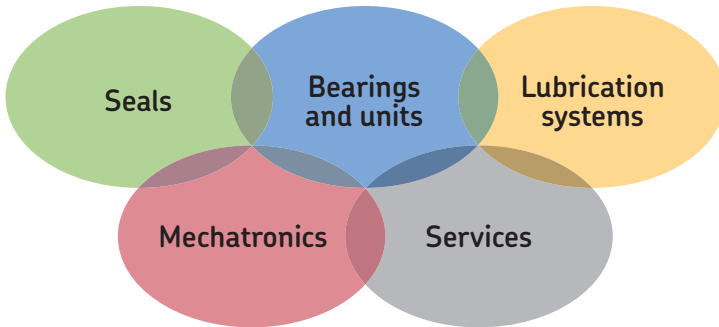
Sealing solutions

SKF has a wide range of engineered plastic materials specifically suited for sealing laboratory equipment, including PTFE-based compounds, UHMWPE, PEEK, PPS, and many other high performance engineered plastics.

SKF engineered plastic seals are CNC machined requiring no tooling and enabling quick response times, as well as custom designed seals to meet demanding applications. Seals can be produced from 2,0 mm to 1,5 meters in diameter. In addition, SKF offers Advanced Engineered Plastic Parts (AEPP) for the IVD industry.

- FDA compliant materials available
- Suitable for extreme temperatures from -268 to 288 °C (-450 to 550 °F)
- Materials capable of high temperature stabilization
- Optimal for low friction, long life and low wear
- Materials with near universal media compatibility
- Suitable for dynamic sealing in non-lubricating and/or abrasive media

| Application offer match | | | | | |
|----------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|--------------------|----------------------|-------------------|
| | Miniature profile rails | Miniature ball screws | Miniature bearings | Linear ball bearings | Sealing solutions |
|  Immunoassay analyzers | ✓ | ✓ | ✓ | ✓ | ✓ |
|  Clinical chemistry analyzers | ✓ | ✓ | ✓ | ✓ | ✓ |
|  Sample processors | ✓ | | ✓ | ✓ | |
|  Liquid-handling robots | ✓ | ✓ | ✓ | | ✓ |
|  Chromatography analyzers | | | ✓ | ✓ | ✓ |
|  Pathology tissue scanners | ✓ | ✓ | ✓ | | |



The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management services. A global presence provides SKF customers uniform quality standards and worldwide product availability.

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