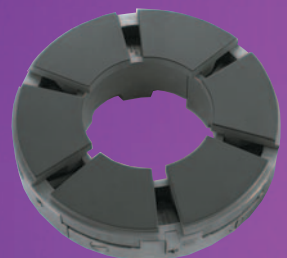
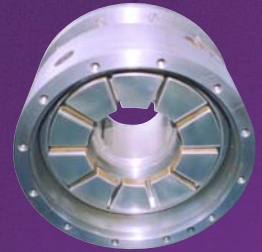


# The Best Support In The Business.

Advanced Bearing  
Technologies For  
Critical Applications



# Industry-Leading Commitment To



At Kingsbury, we understand the critical importance of bearing performance to your operation. Since Albert Kingsbury invented the thrust bearing nearly a century ago, the products that bear his name have earned an unprecedented record of long-term reliability. In fact, Kingsbury's first bearing, installed in 1912 at the Holtwood Hydroelectric Station in Lancaster, PA is *still* in operation today with all the original parts.

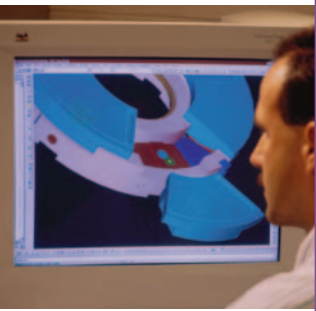
That product, along with our other thrust and journal bearings, have provided a model of excellence for the rest of the industry to follow. But we've never been content to rest on our laurels. That's why over the years we have continually improved our bearing technology to excel at higher speeds and heavier loads.

In addition to the fluid film thrust and journal bearings that we're famous for, we also offer fixed profile, magnetic, process lubricated and rolling element bearings. That means you can get Kingsbury performance and reliability for a wide range of applications.

## EXCEPTIONAL ENGINEERING AND TECHNICAL SUPPORT SET US APART

Kingsbury engineers are known for their success in developing innovative problem-solving technologies that improve power, increase speeds, and deliver optimal efficiency. In fact, no one else rivals our expertise in application engineering and design.

We start by providing a thorough technical review of your needs and follow up with an in-depth solution to ensure that you get the best overall performance from your application. This applies not only to new units, but also to system upgrades and retrofits.



*Our experienced engineers use the most advanced technology to meet customers' needs.*



*Our state-of-the-art R&D lab is dedicated to raising the bar in bearing design.*





# Technology And A Value Since 1912.

## MEETING YOUR NEEDS WITH UNPARALLELED MANUFACTURING VERSATILITY

Kingsbury operates two production facilities for pre-engineered and custom bearings. Whether your application requires a small standard bearing or a complete retrofit, we have the manufacturing flexibility to meet your needs. And our ISO 9001-2000 certified production plants feature state-of-the-art CNC and robotic manufacturing systems to ensure exceptional quality and accuracy. In addition, Kingsbury maintains a separate Repair & Service facility to expedite customer requests and respond to emergencies so that costly downtime is kept to a minimum.

## DEDICATED R&D ENSURES CONTINUOUS PRODUCT IMPROVEMENT

Our Research & Development team is committed to achieving higher standards of bearing design. Whether the goal is greater capacity, higher operating speed, or any special requirement, each improvement we make means more performance for you.

We maintain an on-site laboratory for operational testing. This allows us to fine-tune our designs and verify the performance of our enhancements under all kinds of application conditions.

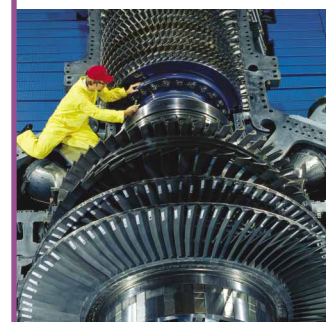
## THE MOST COMPREHENSIVE AFTERMARKET SUPPORT IN THE INDUSTRY

When you purchase a Kingsbury product of any type, you get more than a bearing. We also provide exceptional service and support – before, during and after installation.

Our in-depth service programs are designed to keep your bearing operating at peak performance for the life of your equipment. Add to that our huge spare parts inventory and expert field service anywhere in the world, and you'll see why Kingsbury represents the greatest value for your money.



*Kingsbury pioneers technology that allows customers to keep pace with today's critical application demands.*



*Kingsbury Repair & Service experts can perform on-site analysis and maintenance.*

# Engineered Fluid The Gold Standard O



We've built our reputation on the performance of our pre-engineered thrust and journal bearings. Based on Dr. Kingsbury's revolutionary tilt-pad design, these bearings deliver outstanding efficiency and reliability in a range of applications from large turbines and air pre-heaters to pumps and compressors.

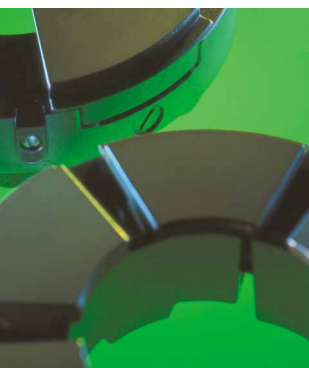
## EQUALIZING FLUID FILM BEARINGS: STANDING THE TEST OF TIME

Kingsbury's fluid film thrust and journal bearings are the products of many years of design refinement and application experience. In addition to standard designs, our flooded tilt-pad bearing shoes can be provided with offset pivots and copper alloy materials to improve thermal performance.

## LEG® TECHNOLOGY: PROVEN PERFORMANCE IN HUNDREDS OF APPLICATIONS

Leading Edge Groove (LEG) lubrication technology revolutionized the bearing industry when it was introduced by Kingsbury in 1984. The LEG bearing has made it possible for the world's leading equipment manufacturers to simultaneously increase bearing load, reduce friction and hold babbitt temperatures within acceptable limits. In comparison to standard bearings, the LEG can operate at oil flow rates as much as 60% lower.

LEG technology is available in thrust and journal bearing designs. Both products have been proven in hundreds of turbine applications over the past two decades. If you're looking to reduce oil flow and power loss, the LEG bearing is the right choice for you.



*Dr. Kingsbury's original flooded bearing design is often imitated, never duplicated.*



*Kingsbury pioneered LEG lubrication technology for thrust and journal bearings.*

# ed Film Bearings: f Bearing Performance



## **KingCole Pivoting Pad LEG Bearings**

In 1994, Kingsbury teamed up with Coleherne, our United Kingdom partner, to create the KingCole bearing – a crowning achievement of technical innovation.

KingCole combines the LEG lubrication system with a well known European bearing style. The result is a high performance thrust bearing that lowers friction losses and lube oil requirements.

**SlimLine Low-Profile Bearings** A relatively new addition to the Kingsbury family, the LEG Slimline is an equalizing thrust bearing that incorporates the attributes of our standard LEG product in a slender design.

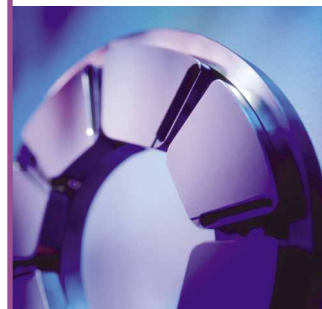
Each pad on the SlimLine carries an equal amount of thrust load. Other important features, such as Kingsbury's 360° pad pivot arrangement, allow you to specify the SlimLine for even the most challenging applications.

## **THE UNIQUE KINGSBURY CH SYSTEM**

Our CH Bearing System is comprised of two separate components – the self-contained CH unit, which combines an equalizing thrust bearing with a self-aligning journal bearing; and the C unit, with a remotely mounted journal bearing.

The CH System is a completely self-contained, self-lubricating unit. Since it eliminates the need for a separate lubrication system, the cost savings are significant.

The Kingsbury CH system is integrated, reliable and cost efficient, making it ideal for installation on larger pumps. Additional benefits include low maintenance and a small footprint.



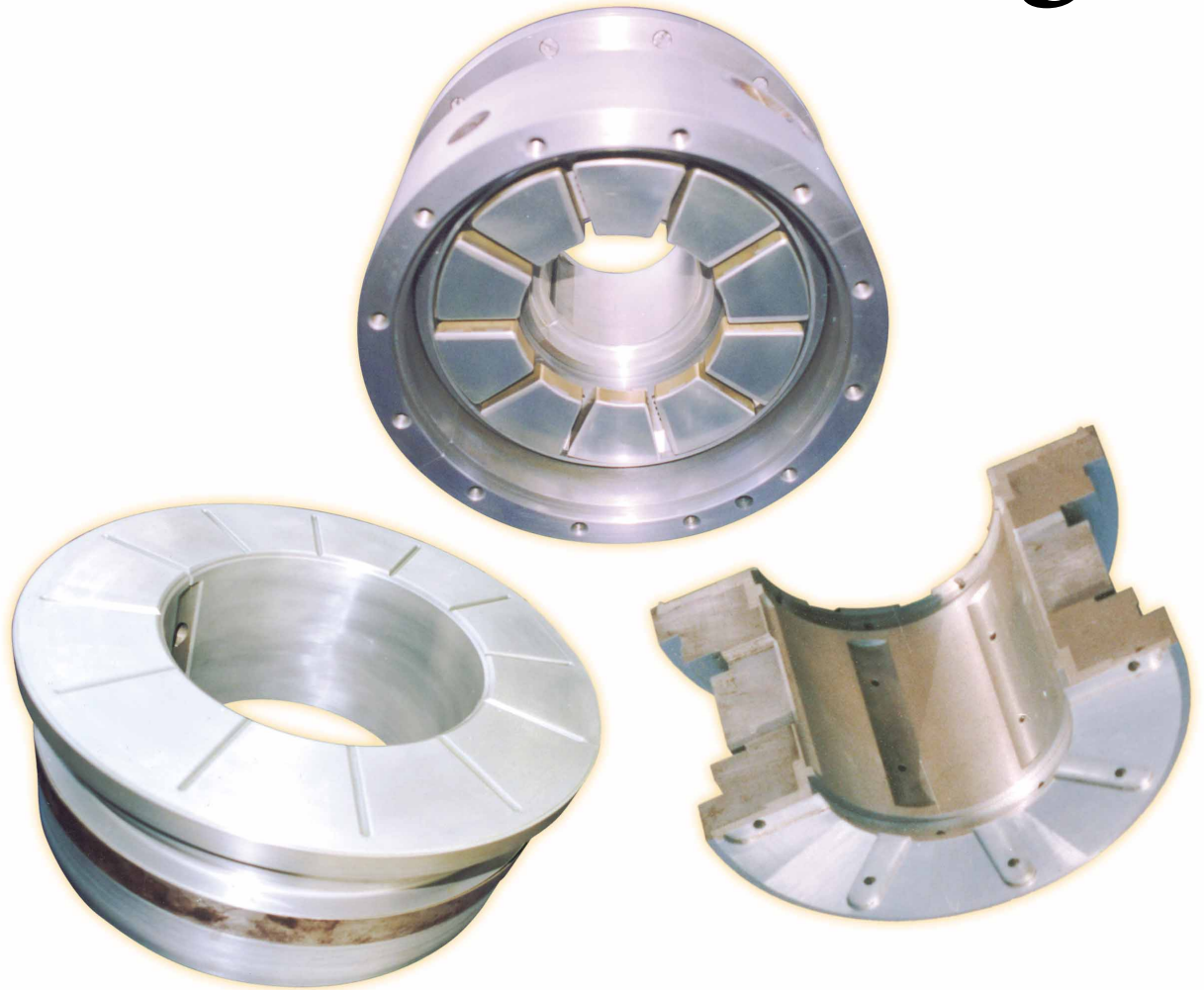
*The KingCole, a successful European design, was the result of a collaboration with Britain's Colherne LTD.*



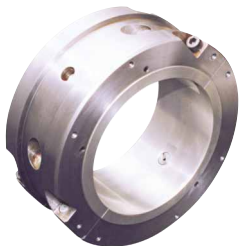
*The CH bearing system eliminates the need for costly external lubrication.*



# Fixed Profile And Multi-Lobe Bearings



*Non-tilt thrust and journal bearings are ideal for high speed turbines, compressors and gearboxes.*



## FOR HIGH SPEED AND LOAD APPLICATIONS

Kingsbury's hydrodynamic fixed profile thrust and journal bearings are ideally suited to rotating machinery in competitive OEM applications.

Their simplicity and compact design allow them to operate reliably for long periods of time. In addition, Kingsbury fixed profile bearings come in many different geometries and offer the stability and dynamic characteristics you need

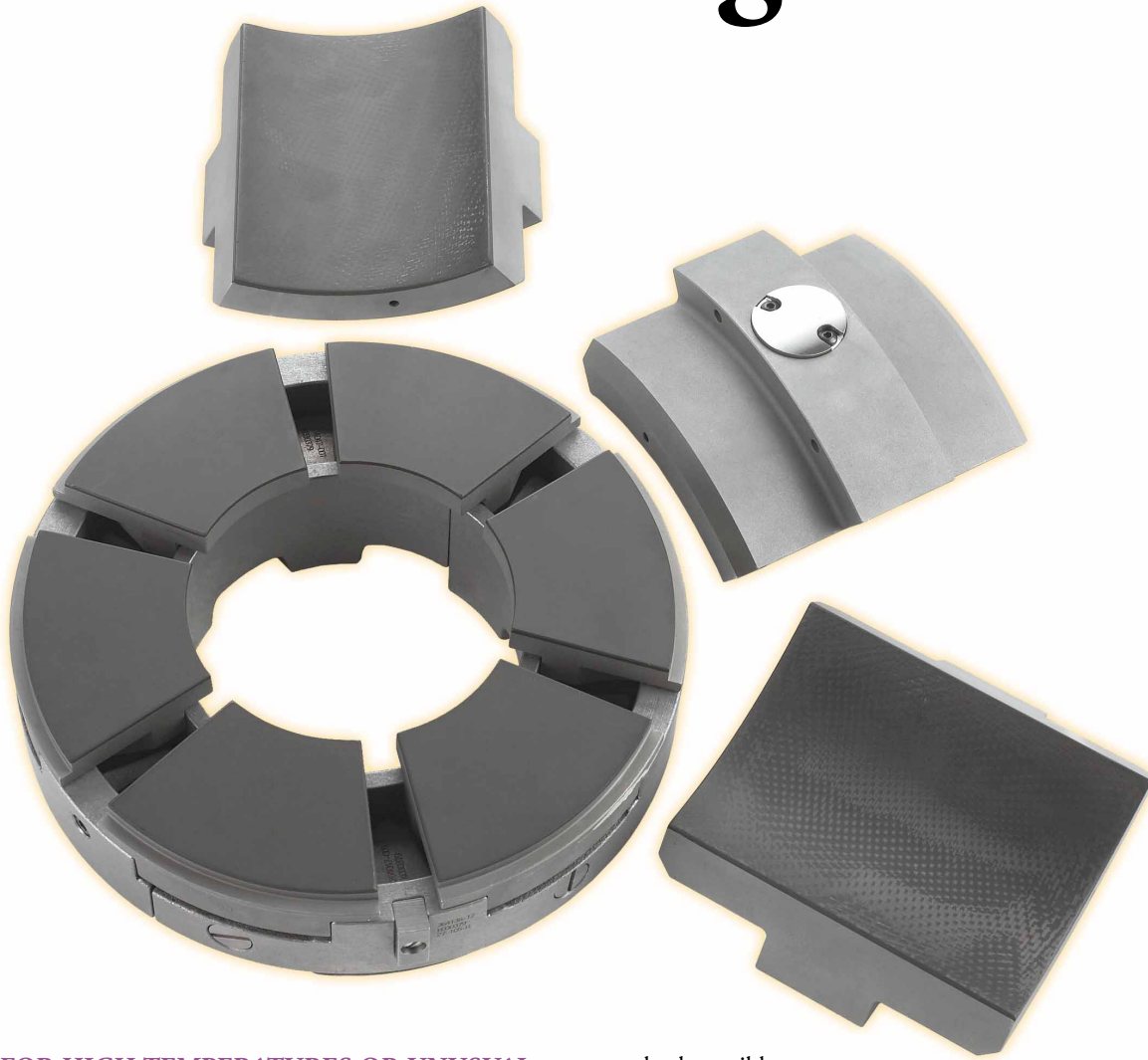
for optimal performance at high speeds.

Kingsbury will "make to print" or expertly engineer a fixed profile bearing to your operating conditions for improved hydrodynamic pressure and better shaft control, which in turn adds up to greater value and cost savings.

Suitable applications for fixed profile bearings include boiler feed pumps, industrial steam and gas turbines, compressors, generators, gear boxes and rotor balancing machines.



# Specialty Bearing Technologies

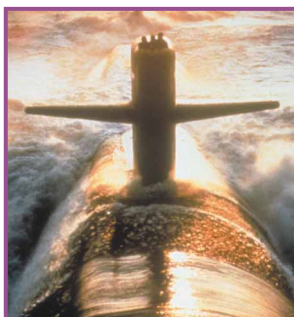


**FOR HIGH TEMPERATURES OR UNUSUAL APPLICATIONS** Kingsbury employs innovative solutions to provide efficient, long-lasting installations in harsh environments.

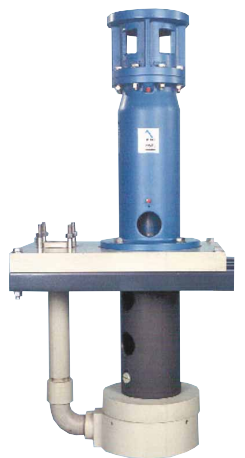
One such technology is a fluid film thrust or journal bearing with an engineered polymer surface for use in process-lubricated applications. Bearings made with this tough, dimensionally stable material were designed specifically to replace the now obsolete asbestos-based bearings found in boiler re-circulation

and submersible pumps.

Kingsbury's advanced bearing pad material is environmentally friendly and can operate directly in water, process fluid or oil. The new material provides excellent resistance to chemical attack and exhibits superior wear characteristics, including the ability to tolerate dry start conditions. Mechanical properties such as strength resistance to creep and thermal/electric characteristics can be varied for improved bearing performance.



*Kingsbury PEEK thrust and journal bearings are suitable for downhole drilling, boiler feed pumps and submerged applications.*



# Rolling Element Bearings



**KINGSBURY'S MESSINGER BRAND OF INDUSTRIAL BEARINGS IS PERFECT FOR OEM AND AFTERMARKET APPLICATIONS** Since 1912, Messinger Bearings, the newest member of the Kingsbury portfolio, has designed bearings to fulfill the specific requirements of a given application, rather than expecting customers to design their machines around stock bearings. As part of Kingsbury, Inc., Messinger now has the resources to provide quick response to inquiries, unparalleled application support, timely delivery for many OEM parts from stock, and excellent aftermarket services to keep you up and running.

There are many resources to choose from for rolling element bearings. But no one will work harder to earn your business than we will. The Messinger brand includes many varieties of rolling element bearings:

**BALL BEARINGS** For applications with radial loads, axial loads, or a combination of the two, these bearings are manufactured to rigid tolerances even in sizes from 2" ID to 216" OD.

**RADIAL ROLLER BEARINGS** These work horses are available in various styles and offer tremendous flexibility in handling applied radial loads.

**THRUST ROLLER BEARINGS** Intended for applications requiring high axial load-carrying capacity, these bearings support the load at right angles to its direction of application.



*Refurbishing rolling elements bearings adds years of reliable service for less than the cost to replace one.*



# Repair & Service

## EXPERT MAINTENANCE, RETROFITS & ON-SITE ANALYSIS – KINGSBURY DOES IT ALL

Our Repair & Service Division is well-equipped to deliver aftermarket service that optimizes the performance of critical application bearings. At our dedicated facility, experienced Kingsbury technicians diagnose, repair and replace worn bearings quickly and efficiently, then return them to you as good as or better than new. If it's not practical to ship your bearing to us, we'll come to you. Our highly trained field service engineers are available across the globe to analyze your problem, resolve it and get your equipment back on-line as fast as possible.

**Consulting** Why wait until a bearing fails to call us? Kingsbury's consultation services can help you prevent future problems. We'll carefully analyze your situation and then make appropriate recommendations which could range from a simple design modification to a complete retrofit. Preventive maintenance contracts are also available.

**Diagnosis and Testing** When a bearing fails, accurate diagnosis is the key to repairing it and getting it back on-line quickly. The bearing experts at Kingsbury will conduct a thorough analysis of your installation to identify the cause of the malfunction. We'll then suggest short- and long-term solutions to get your equipment operating again and to prevent any future problems from arising.

**Rebabbitting** Kingsbury's expert rebabbitting service is unique in that it considers every aspect of bearing performance. First we'll perform non-destructive babbitt-bond testing. Then we'll pour or cast ASTM B23 Grade 2 babbitt. (Other grades are available to suit specific needs.) Kingsbury's Repair & Service Division can rebabbit bearings up to 120" in diameter. After rebabbitting, all babbitt surfaces are machined and lapped. Hand-scraping is also available for very large bearings.

**Repair & Replacement** When a bearing failure occurs, fast service is critical. Count on Kingsbury to diagnose and correct the problem quickly. Our experienced troubleshooters are skilled in all aspects of bearing repair and have the parts and equipment on hand to do the job.

**Expert Field Service** We'll provide expert field service anywhere in the world. Our experienced engineers can repair or replace any type of fluid film thrust or journal bearing on-site. If the job calls for the work to be done at our service facility, we'll carefully disassemble your bearing, ship it, fix it, then re-install it as good as new when it's done.



*A technician meticulously hand scrapes a large babbitted bearing.*



*Diagnostic testing is performed in our dedicated Hatboro, PA facility.*

