

Like **New**
for **Less**



KOP-FLEX

**Service Center
Programs**



EMERSON
Industrial Automation

EMERSON. CONSIDER IT SOLVED.

KOP-FLEX, the worldwide leader in coupling design, manufacturing and service

For over 80 years KOP-FLEX has provided the industry's most extensive service and repair facilities in North America. Primary facilities are located in Baltimore, Toronto, and our newest operation in Nove Mesto, Slovakia. Licensed repair facilities are located in Indiana, Texas and California. Each location houses state-of-the art equipment to provide a complete and thorough analysis of your repair needs.

The latest measurement equipment (CMM), inspection tools, non-destructive testing (MPI, Dye-Penetrant, X-Ray), balancing equipment, welding machines, and modern CNC machining centers can address needed repairs, with access to one of the largest engineering staffs in the industry. A dedicated service center team comprised of experienced engineers, customer service representatives, repair coordinators, and functional area experts is available to handle your repair needs.



KOP-FLEX's state-of-the-art Manufacturing and Service Center in Baltimore, MD

The industry's most experienced engineers and technicians are available to you

Representatives can be on site at your operation for:

- Field failure analysis
- Supervision of coupling installation/removal
- Field training maintenance, installation and troubleshooting

Call 1-410-768-2000 for details on rates and to schedule assistance.



Spindle service center in Baltimore, MD

Question: How do you end headaches and save money with preventive maintenance?

Answer: Team-up with KOP-FLEX. You want your couplings to function for as long as possible. KOP-FLEX is

committed to producing a durable product and will help you stay up and running with a predictive, proactive, and preventive maintenance program. Let the leader in couplings design a program to suit your needs. The fact is that you can repair a coupling, gear spindle

or universal joint for about half the cost of buying new. It takes special design, fabrication, quality control and operations know-how. Don't trust your highly engineered product to just any repair shop. Demand KOP-FLEX.



KOP-FLEX service technician inspecting gear coupling

Center Programs

Coupling Program

Repair worn equipment and save 30% to 90% of the cost of buying new

It takes knowledge, experience and the proper facilities to repair a highly engineered product.

KOP-FLEX offers:

- Engineers and field service specialists that work with your maintenance staff to understand the unique parameters of your application
- Inspection reports detailing type of wear and/or damage and recommended action
- Exact price quotations
- Repair services for other manufacturers' couplings and spindles, including recommendations to improve life through design changes and/or material upgrades
- Highly skilled and experienced technicians

Typical savings range from 30% to 90% of the price of a new coupling. Save not only dollars but your precious time as well. KOP-FLEX can often inspect, report, quote, repair and ship back to you within six weeks. KOP-FLEX leads the industry in our ability to respond to your repair needs.



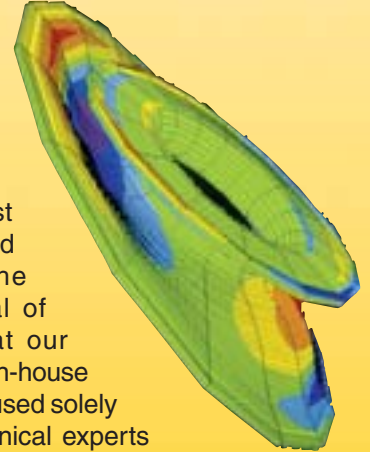
High performance coupling for refurbishment

Let an expert provide you with both an analysis and a recommendation

Unfortunately, no mechanical product can last forever and couplings are no exception.

While KOP-FLEX products are designed and built to last, many applications are so severe that rapid wear and/or coupling damage may occur.

KOP-FLEX has the largest and most experienced engineering staff in the industry, with an arsenal of modern analysis tools at our disposal including FEA, an in-house R&D center, and a staff focused solely on couplings. Let our technical experts go beyond mere failure analysis by providing our recommendations on how to prevent future coupling problems.



Case Study:

At one major Midwest steel plant, our management program has reduced the spindle maintenance cost per ton of rolled steel to less than half of what it once was. When you consider the tangible, direct-cost savings, reduced downtime and extended component life, you can see how coming to KOP-FLEX can reward you with big savings.

KOP-FLEX Service Centers offer:

- Repair and refurbishment
- Expert failure analysis
- Cost savings through consultation
- Field technical support

Visit us at

www.kop-flex.com

Gear Spindle & Universal Joint Coupling Program

Gear spindles, universal joints and couplings are at the heart of steel, paper, cement and many other types of mills. A sound design and solid service support from a world-class manufacturer will help provide the performance you need.

Inspection Process

Depending on the application, a spindle or universal joint should be completely disassembled and inspected annually. KOP-FLEX benefits:

- Saves you time and trouble. As one steel mill maintenance manager puts it: "Mills are in the business of rolling steel - not maintaining spindles"
- A comprehensive expert-prepared condition report including recommendations for repair or replacement and any relevant price quotations
- If your spindle is in satisfactory condition, we will reassemble it with new hardware (as needed)
- We will serialize and maintain record of repair, inventory, and parts usage for periodic future review and evaluation

"Like New" for Less

Gear teeth, cross & bearing and yokes are replaced or repaired/returned to original specifications. Worn pilot areas are plated or welded and machined to their original dimensions. Roll end bores are returned to their original dimensions. If needed, accessories and hardware are replaced. All this in about half the time it takes to manufacture a new spindle and at a much lower price.



A universal joint, as received from a customer, at our service center for inspection and rebuilding



Universal joint after refurbishment, serialized for tracking



Like New

**Repair and Maintenance
Program for Steel,
Paper, Cement,
and Turbomachinery**

for Less...

- Like New for Less...convert used to almost new
- Savings from 30% to 90%
- Documented inspection process
- Inventory management program
- Maintenance management program



Call 1-410-768-2000 for details.

Universal Joint Coupling & Spindle Program

Custom-Tailored Inventory and Maintenance Management Program Saves Money and Prevents Downtime

Are you currently spending too much money on spare parts inventory?

Is parts storage a hassle?

KOP-FLEX will inventory your spindle, coupling and universal joint stock and develop a usage profile.

KOP-FLEX will work with your staff to develop a usage profile and then we'll inventory parts appropriate to maximizing plant performance. Spindles, couplings and universal joints can then be shipped from our facility to you within 12 to 24 hours. You benefit via added convenience and reduced inventory investment.

KOP-FLEX not only repairs and refurbishes but offers a special program to enable peak plant efficiency:

- Company representatives will meet with you to understand your needs and your current inventory of gear spindles and heavy duty couplings
- A usage profile is developed
- Safety levels for components are established
- KOP-FLEX will inventory components vital to your operations, eliminating the initial capital expenditure and the cost associated with carrying inventory
 - Inventory is managed on an ongoing basis for a nominal fee
 - Regular review of your stock will help you reach your desired inventory levels

Look to KOP-FLEX, the industry leader in couplings, to keep your plant running smoothly and efficiently. Call one of our representatives today about designing a custom program for you.



A damaged gear ring is machined off a spindle roll sleeve; The cost to repair is typically about half the cost of replacement

Following the replacement of internal gear teeth, a refurbished size #30 (78 inches diameter) gear coupling sleeve is ready for shipment



Additional benefits of a KOP-FLEX repair, inventory and maintenance management program:

- Customized to your needs - KOP-FLEX can design a program that accommodates many functional areas: Operations, Maintenance and Procurement
- You save three ways - KOP-FLEX will bear inventory carrying cost, diminish your taxable assets and reduce capital expenditures on the wrong spare parts
- KOP-FLEX will monitor inventory usage and requirements
- KOP-FLEX will reduce unscheduled downtime by optimizing a changeout schedule that takes your needs into consideration
- Pricing can be predetermined to avoid surprises and help you manage your budget

To discuss these and the many other benefits of a KOP-FLEX program, call us today. You're closer than you think to saving money and preventing unanticipated downtime.

High Performance Coupling Program Gear, Disc and Diaphragm

Avoiding downtime is critical in high performance environments

KOP-FLEX can help you recognize significant savings in these applications:

- Petrochemical plants
- Off shore drilling rigs
- Turbomachinery
- Gas/steam turbine-driven compressor drive trains
- Synchronous motor drives
- Boiler feed pumps
- Generator drives in fossil fuel and nuclear power plants

KOP-FLEX is the industry authority in turbomachinery with strong technical representation on API and ISO committees as well as active participation in many technical forums. KOP-FLEX experts will provide you with objective failure analysis, inspections and reports. KOP-FLEX will repair or refurbish any coupling including those manufactured by our competitors and provide you with a warranty and a proactive plan to reduce costs.

Our process of inspecting and repairing high performance couplings is the most extensive in the industry.

High Performance Coupling inspection and repair process

KOP-FLEX provides the most extensive evaluation, inspection and repair service in the industry:

- Each component is photographed as received for thorough engineering inspection
- Couplings are disassembled and all components are tagged
- Non-destructive test on torque carrying components is conducted using Magnetic Particle Inspection (MPI), Dye Penetrant and X-ray as required
- KOP-FLEX engineers analyze the data and prepare an inspection report detailing findings and offer their expert recommendation on how to refurbish, repair or replace based on the amount of wear and damage and provide
- A quotation for performing the work recommended is submitted back to you within two weeks of receiving your coupling in our facility
- Couplings will be assembled to original specifications, skimmed at assembly, dynamically balanced to API 671 (ISO 10441) or API610 (ISO 13709) – component or assembly – as required by the application and your specifications
- Quick Turnaround - our complete inventory of flex elements and nitrided gear components speeds the process

Once we receive your approval and purchase order, we will immediately refurbish or replace parts as required.

With our facilities in Baltimore, Houston, Chicago, Toronto, and Nove Mesto, we can provide prompt service to any of your operations worldwide.



LM 2500 gas turbine coupling before being refurbished



LM 2500 gas turbine coupling after complete refurbishment



High Performance Disc



High Performance Gear



Diaphragm

KOP-FLEX ... The World Leader in Power Transmission Couplings



HIGH PERFORMANCE DISC

- Heat treated alloy components
- Coated stainless steel disc packs
- Custom-designed to application requirements



GEAR SPINDLE

- Alloy steel nitrided and carburized gearing
- Patented CGG™ - carburized and ground gearing
- Custom-designed for your application



HIGH PERFORMANCE GEAR

- Choose from straight or crowned nitrided gear teeth based on your application
- Precision lapped teeth as required
- Custom-designed for your application



UNIVERSAL JOINT

- Industry standard DIN and SAE flanges
- Lubrication and ease of maintenance features unparalleled in the industry
- Major components interchangeable with competitive designs

For Ordering Information, Contact Your Authorized Distributor or Contact Customer Service at:

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General Contact (Emerson Power Transmission) 1-800-626-2120

Visit us at
www.kop-flex.com

APPLICATION CONSIDERATIONS

The proper selection and application of power transmission products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Emerson Power Transmission Corporation and its divisions with respect to the use of products and components is given in good faith and without charge, and Emerson assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

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