



KOP-FLEX®

**Odyssey™
Elastomer
Resilient
Couplings**



the power of
EPT™


EMERSON
Industrial Automation

EMERSON. CONSIDER IT SOLVED.®



“Odyssey™ has more parallel and angular capacity than our normal alignment practice.”

Mill Maintenance Foreman

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Innovation and Design Excellence

As a proven leader in the coupling industry, Kop-Flex® introduces Odyssey — an innovative coupling product that has evolved from an extensive background in coupling design. Responding to surveyed customers' requests for ease of installation and reduced life cycle cost, Odyssey is one of the only known elastomer type (urethane based) couplings in the world designed from the ground up using finite element analysis (FEA) technology and every size is rigorously tested. The strength of this approach is evident in Odyssey's high torque capacity, reduced weight, increased flexibility and high reliability.

Why Buy Odyssey

The Odyssey coupling was designed as a result of an extensive survey of customers' maintenance, operations and engineering personnel, as well as OEMs. By incorporating the most important features and needs, as well as those not currently found in other coupling products, Kop-Flex engineers designed the unique, patented Odyssey architecture. Unlike competitive couplings that include only one flexible element, Odyssey features a dual flex-point, diaphragm design that provides greater parallel offset capacity and therefore reduced reaction forces on the equipment.

Because of the reduced center weight, the unbalance forces are also less than other types of elastomeric couplings. These reduced forces improve the life of the equipment bearings and seals and prevent unexpected downtime from failure, reducing the cost of equipment operation. For more details about how Odyssey beats the competition, see the comparison chart on page 8. Odyssey is designed primarily for pump users and OEMs with best-in-class balance as manufactured (off-the-shelf) for trouble free use.



Perfect for Liquid Handling Applications

Odyssey is suited for liquid handling applications involving pumps and motors used in the steel, pulp and paper, petrochemical and refinery industries. For other applications, contact Kop-Flex. Odyssey is sold through distributors and also directly to OEMs.

*Odyssey meets balance requirements of
API 610 9th edition and ISO 13709.*

- Ease of installation and inspection
- Reduced life cycle cost
- Flexible design
- Unique design
- Smooth running
- Light weight, high capacity



A close-up photograph of a mechanical coupling. The coupling consists of two main parts: a bright red, polished metal housing and a silver, brushed metal flange. A central shaft is visible, passing through the center of the coupling. The background is a dark, textured surface, possibly a metal plate or floor.

KOP-FLEX[®]

Odyssey Couplings

“This is a slick coupling — easy to install.”

Maintenance Manager

Key Benefits...

Ease of Installation and Inspection

- Odyssey has no external covers or cap so it is easy to install, inspect or remove without having to move the driving or driven end hubs mounted on the shaft.
- Installation or removal is simple and requires no special tools and minimal training.
- Unique, high strength, self-locking fasteners minimize the likelihood that coupling fasteners get over-tightened, minimizing human error for safer, more reliable operation.



Unique Design

- Odyssey features a unique design of urethane bonded to steel and composite spacer.
- Odyssey's unique, simple design results in less weight, making the coupling easier to install and handle. Also the reduced center weight decreases unbalance forces, which puts less load on the bearings and seals – allowing equipment to run longer without premature failure or unexpected downtime, reducing operating costs.
- Zinc phosphate coated hubs and rings are corrosion resistant to minimize the corrosion of critical surfaces, making assembly and disassembly easier and reducing installation, maintenance and costs.
- Withstands exposure to most industrial environments including open air, high humidity, salt spray, sunlight and most chemicals.

Reduced Life Cycle Cost

Odyssey incorporates high performance materials, such as the composite spacer, created with sophisticated design tools like FEA and 3D CAD. In addition, rigorous testing was performed on every size coupling. These design advantages enable Odyssey to operate at torques, expected misalignments, normal equipment operating temperatures and at high speeds with great reliability.

The dual flex concept incorporated into this design reduces the reaction forces back into the equipment, thus decreasing the likelihood of failure and increasing the cycle between required maintenance to reduce operational costs.

- Compared to gear and grid type couplings, Odyssey's non-lubricated design is maintenance free, reducing life cycle cost.
- Odyssey is designed for long life if properly installed and maintained
- Unique, three year warranty*.



Smooth Running

Unlike competitive, AGMA Class 7 couplings, Odyssey couplings meet AGMA Class 8 or better off-the-shelf. Odyssey can meet API 610 balance requirements of AGMA 9 by boring the hubs to Kop-Flex API 610 requirements.

Flexible Design

- Up to a 3.25 degree angular misalignment and up to 0.125 inches (3.2 mm) parallel offset due to unique double flex elements.
- Due to dual flex element design, larger shaft separation allows greater misalignment (parallel offset), unlike any other competitive coupling on the market.
- Axial misalignment up to 0.090 inches (2.3 mm).
- Standard spacer length available from stock. Custom design spacer lengths available on request.



Light Weight, High Capacity

- Standard, jumbo and long hubs are available from stock, ensuring Odyssey offers the industry's largest bore capacity for a variety of applications — see coupling data on page 13 for details.
- For applications where the shaft on one piece of equipment is oversized compared to operating conditions, Kop-Flex can supply jumbo hubs to accommodate these shafts without requiring the next coupling size.
- Odyssey's flexible, lightweight design reduces costs, without sacrificing reliability.

*Warranty as detailed in standard terms and conditions applies for an extended term of three years on the Odyssey product. See Kop-Flex terms and conditions for more details.

Characteristic Comparison of Various Types of Spacer Couplings Used on Pumps

Values	Urethane Dual Diaphragm Kop-Flex Brand Odyssey	Urethane Tire Omega *	Wrap/Jaw Element Atraflex* A	Wrap/Jaw Element Falk* Wrapflex	Wrap/Jaw Element Atraflex* M	Unclamped Donut SureFlex*	Compression Donut Kop-Flex Brand Elastomeric	Jaw in Shear Lovejoy* Jaw InShear	Pump Disc Coupling Kop-Flex KD2	Grid Coupling Falk* Steelflex, Kop-Grid®
No Lubrication	No Lube	No Lube	No Lube	No Lube	No Lube	No Lube	No Lube	No Lube	No Lube	Lube
Ease of Field Installation	Excellent	Excellent	Fair to Good	Fair to Good	Fair to Good	Good	Fair to Good	Good	Good	Fair
Ease of Maintenance	Excellent	Good	Good	Good	Good	Good	Good	Good	Good to Excellent	Fair
Ease of Field Replacement	Excellent	Excellent	Good	Good	Good	Good	Fair to Good	Good	Good	Fair
Warranty	3	1	1	3	1	1	1	1	5	5
Weight	Low	Low	Medium to High	Medium to High	Medium to High	High	Medium	Medium to High	Low to Medium	High
AGMA Balance Class ¹	8-10	7-8	7-8	7-8	7-8	7-8	7-8	7-8	9-10	8
Reaction Forces on Bearing ¹	Low	Medium	Medium to High	Medium to High	Medium to High	Medium to High	Medium to High	Medium to High	Low to Medium	Medium to High
Typical Service Life (years)	6-8	6-8	3-5	3-5	3-5	3-5	3-5	3-5	4-8	2-3
Angular Misalignment Capacity	2-3°	2-4°	1-2°	1°	2°	1°	1°	2°	1/3-1°	1/4°
Parallel Offset Misalignment Capacity	0.060" to 0.160"	0.060" to 0.120"	0.010" to 0.040"	0.040" to 0.120"	0.010" to 0.040"	0.010" to 0.062"	0.030" to 0.085"	0.030" to 0.090"	0.020" to 0.160"	0.012" to 0.040"
Temperature Range	-40 to 200° F	-40 to 200° F	-40 to 200° F	-40 to 200° F	-40 to 200° F	-40 to 200° F	-40 to 200° F	-40 to 200° F	-40 to 450° F	-40 to 200° F
Typical Mode of Failure	Buckling of element	Shear/Buckling of element	Wear	Wear	Wear	Deformation or wear	Deformation of element	Shear of element	Mettalic flex element	Bending fatigue of grid
Torsional Stiffness	Medium	Low to Medium	Medium to High	Medium to High	Medium to High	Low to Medium	Low to Medium	Medium	High	Medium to High
Axial Stiffness	Low	Low	High	High	High	NA	Medium	Medium	Low to Medium	NA
Torsional Damping	Medium to High	Medium to High	Low	Low	Low	Medium	High	Medium	None	Medium

Notes:

*Omega is a trademark of Rexnord Industries. Atraflex is a trademark of ATR Sales, Inc. Wrapflex, Steelflex is a trademark of the Falk Corporation. Jaw in Shear is a trademark of Lovejoy, Inc. Sureflex is a trademark of TB Woods Incorporated.

(1) For single flex designs, the reaction force at the bearing is higher when the flex element is at one end of the coupling versus the center.

Characteristic Comparison...



Values listed are intended only as a general guide and are typical of usual service factors.

Service Factors:

Applications		Service Factors
Pumps	Centrifugal	1.0
	Rotary, Gear, Lobe, Vane	1.5
Compressors	Axial or Centrifugal	1.0
	Lobe, Vane, Screw	1.5
Fans	Axial or Centrifugal	1.5
Blowers	Centrifugal	1.0
	Lobe, Vane	1.5
Mixers	Drum Type	1.5

Note: For all other applications, consult Kop-Flex.

Service Factors Adder (based on ambient operating temperatures)

Ambient Temperatures	Service Factor Adder
up to and including 150°F (66°C)	0
151°F (66°) to 165°F (74°C)	0.50
166° (74°C) to 185°F (85°C)	0.75
186° (86°C) to 200°F (93°C)	1.00

Selection Procedures...

1. Coupling Size:

Step 1: Determine the proper service factor and adder from page 10.

Step 2: Calculate the required HP/100 RPM, using the HP rating of the drive and the coupling speed (RPM) as shown below:

$$\frac{\text{HP} \times (\text{SERVICE FACTOR} + \text{ADDER}) \times 100}{\text{RPM}} = \text{HP}/100 \text{ RPM}$$

Step 3: Using Table 1, select the coupling size having a rating sufficient to handle the required HP/100 RPM at the appropriate service factor.

Step 4: Verify that the actual coupling speed (RPM) is equal to or less than the maximum allowable speed rating of the coupling.

Step 5: Verify that the maximum bore of the coupling selected is equal to or larger than either of the equipment shafts.

Clearance fit bores are acceptable for applications using service factors of 2 or less. For service factors higher than 2, interference fits are recommended.

Step 6: Check the overall dimensions to ensure the coupling will not interfere with the coupling guard, piping, or the equipment housings and that it will fit the required shaft separation.

Note:

1. Operating temperature range is -40°F (-40°C) to 200°F (93°C).
2. For reciprocating equipment applications, consult Kop-Flex.
3. For steam turbine applications, exposure of the elements to steam will significantly reduce the life of the elements.
4. Odyssey is designed to operate in most environments. For chemical resistance, contact Kop-Flex.

Table 1:
Selection Data — Kop-Flex Odyssey Couplings

Size	Stock Rough Bore	Max. Bore with Standard Hubs	Max. Bore with Jumbo Hubs	Total Weight*	Continuous Torque Rating	Peak Torque Rating	HP @ 100 RPM	Max. Speed	Max. Angle	Equivalent Parallel Offset**	Axial
	(in)	(in)	(in)	(lbs)	(in-lb)	(in-lb)	(HP)	(RPM)	(deg.)	(in)	(in)
112	0.50	1.13	1.63	2.2	200	400	0.32	7500	3.25	0.066	0.030
138	0.50	1.38	2.13	3.4	365	730	0.58	7500	3.25	0.066	0.040
162	0.50	1.63	2.38	4.7	550	1100	0.87	7000	3.25	0.066	0.045
188	0.63	1.88	3.00	6.8	1085	2170	1.7	6000	3.00	0.093	0.050
212	0.63	2.13	3.38	12.8	1450	2900	2	5500	2.75	0.080	0.050
238	0.75	2.38	4.00	16.6	2300	4600	4	5000	2.75	0.125	0.060
288	0.75	2.88	4.63	23.3	3650	7300	6	4000	2.50	0.112	0.075
338	1.00	3.38	5.50	35.4	5570	11400	8.8	3600	2.00	0.090	0.090
388	1.00	3.88	6.75	54.8	8950	17900	14	1800	2.00	0.090	0.090

Sizes 338 and 388 highlighted in gray will be available early 2005.
Operating temperature range: -40°F to 200°F.
For higher operating temperatures, see "Selection Procedures" on this page or consult factory.

Notes:
* Total weight based on (2) maximum bored standard hubs.
** Equivalent parallel offset based on typical length spacer dimension "C", page 12.

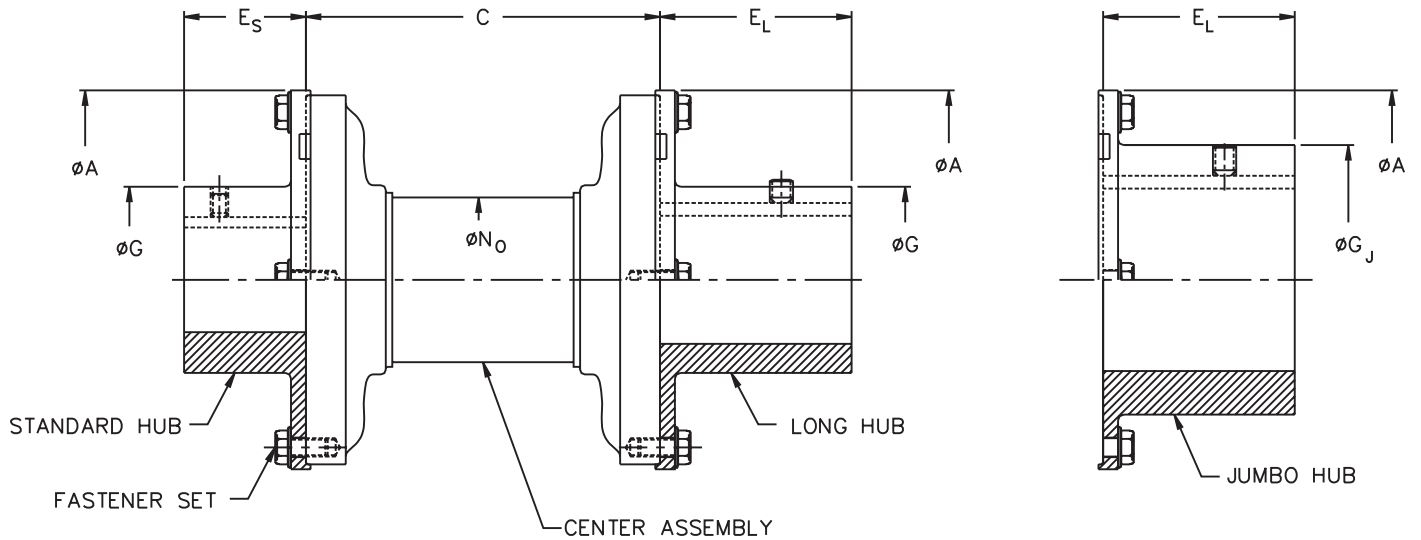
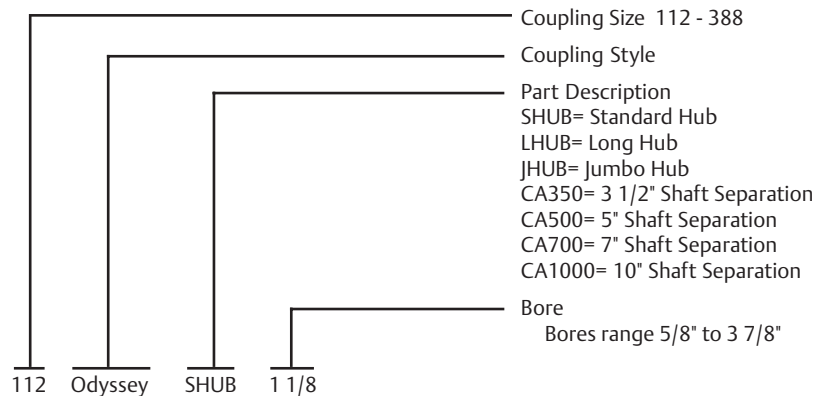


Table 2:
Dimensional Data — Kop-Flex Odyssey Couplings

Dimensions in Inches													
Size	A	ES	EL	G	G _J	NO	C		In Stock "C"				Typ. C
							Min.	Max.	3.5	5	7	10	
112	3.48	0.94	1.69	1.63	2.38	1.45	3.5	5.0	x				3.5
138	4.07	1.31	2.06	2.00	2.98	1.77	3.5	5.0	x	x			3.5
162	4.54	1.57	2.31	2.38	3.38	2.03	3.5	5.0	x	x			5.0
188	5.46	1.75	2.75	2.75	4.28	2.54	3.5	9.0	x	x	x		5.0
212	6.31	1.88	2.88	3.06	4.70	2.79	5.0	9.0		x	x		5.0
238	7.16	2.00	3.00	3.44	5.56	3.27	5.0	12.0		x	x	x	7.0
288	8.16	2.31	3.31	4.19	6.50	3.80	5.0	12.0		x	x	x	7.0
338	9.40	2.81	3.81	4.90	7.72	4.41	5.0	12.0		x	x	x	7.0
388	10.87	3.19	4.19	5.63	9.38	5.12	7.0	12.0		x	x	x	7.0

Sizes 338 and 388 highlighted in gray will be available early 2005.

Part Number Explanation



Coupling Data...

Table 3:
Odyssey SHUB — Finished Stock Bore Chart

Size	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2	2 1/8	2 1/4	2 3/8	2 1/2	2 7/8	3	3 1/8	3 1/4	3 3/8	3 1/2	3 5/8	3 3/4	3 7/8	
112	X	X	X	X	X																					
138	X	X	X	X	X	X	X																			
162	X	X	X	X	X	X	X	X	X																	
188			X	X	X	X	X	X	X	X	X															
212				X	X	X	X	X	X	X	X	X	X													
238				X	X	X	X	X	X	X	X	X	X	X	X											
288						X	X	X	X	X	X	X	X	X	X	X	X									
338									X	X	X	X	X	X	X	X	X	X	X	X	X					
388												X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Sizes 338 and 388 highlighted in gray will be available in early 2005.
Clearance fit bores with set screws per AGMA 9002-A86

Table 4:
Odyssey Part Description

Size	Odyssey SHUB (Standard Hub)	Odyssey LHUB (Long Hub)	Odyssey JHUB (Jumbo Hub)	Odyssey Center Assemblies				Odyssey FS (Fastener Sets)
	Rough Bore	Rough Bore	Rough Bore	3.50"	5.00"	7.00"	10.00"	
112	112 Odyssey SHUB	112 Odyssey LHUB	112 Odyssey JHUB	112 Odyssey CA350				112/188 Odyssey FS
138	138 Odyssey SHUB	138 Odyssey LHUB	138 Odyssey JHUB	138 Odyssey CA350	138 Odyssey CA500			112/188 Odyssey FS
162	162 Odyssey SHUB	162 Odyssey LHUB	162 Odyssey JHUB	162 Odyssey CA350	162 Odyssey CA500			112/188 Odyssey FS
188	188 Odyssey SHUB	188 Odyssey LHUB	188 Odyssey JHUB	188 Odyssey CA350	188 Odyssey CA500	188 Odyssey CA700		112/188 Odyssey FS
212	212 Odyssey SHUB	212 Odyssey LHUB	212 Odyssey JHUB		212 Odyssey CA500	212 Odyssey CA700		212/288 Odyssey FS
238	238 Odyssey SHUB	238 Odyssey LHUB	238 Odyssey JHUB		238 Odyssey CA500	238 Odyssey CA700	238 Odyssey CA1000	212/288 Odyssey FS
288	288 Odyssey SHUB	288 Odyssey LHUB	288 Odyssey JHUB		288 Odyssey CA500	288 Odyssey CA700	288 Odyssey CA1000	212/288 Odyssey FS
338	338 Odyssey SHUB	338 Odyssey LHUB	338 Odyssey JHUB		338 Odyssey CA500	338 Odyssey CA700	338 Odyssey CA1000	338 Odyssey FS
388	388 Odyssey SHUB	388 Odyssey LHUB	388 Odyssey JHUB		388 Odyssey CA500	388 Odyssey CA700	388 Odyssey CA1000	388 Odyssey FS

Sizes 338 and 388 highlighted in gray will be available in early 2005.

	<p>⚠ WARNING</p> <p>High voltage and rotating parts may cause serious or fatal injury.</p> <p>Turn off power to install or service.</p> <p>Operate with guards in place.</p> <p>Read and follow all instructions.</p>	
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General

Inspect both the driving and driven shafts for burrs and dirt. Use appropriate measures to clean and dress these areas. Make sure keys fit properly with the shafts and hubs. Make sure equipment shafts are at the proper separation. Clearance bores with setscrews are the standard. For interference fits refer to the “Alternate Installation Procedure” section.

Installation Procedure - Clearance Fit and Bushing Mounted Hubs



1 Mount both hubs on the shafts and secure only one in place with the setscrew or bushing (refer to the bushing manufacturer’s manual for additional instructions). Slide the other hub up the shaft until the shaft end protrudes past the hub face by about 1/8". Do not secure this hub.



2 Insert the spacer between the hubs and pull the unsecured hub up to mate with the spacer flange. Engage the pilot connections and tighten the setscrew, or bushing, to secure the hub on the shaft.



3 Insert a Phillips screwdriver (or similar size rod) in a radial hole in the spacer OD and rotate the spacer until an arrow on the element aligns with a bolt hole in the hub. Use a flat screwdriver inserted in a face slot in the hub to prevent the hub from turning if necessary. Install fasteners hand-tight. Repeat for the other hub. Use a torque wrench to tighten all fasteners (see Table 5).



**Table 5:
Odyssey Flange Bolt Tightening Torque**

Coupling Size	Bolt Size	Tightening Torque-Dry ¹	
		ft-lb	Nm
112	M5	6	8
138			
162			
188			
212	M6	10	14
238			
288			
338	M8	23	31
388			

Sizes 338 and 388 highlighted in gray will be available in early 2005.

(1) “Dry” (or “non-lubed”) refers to fasteners as they are packaged, with a light coating to prevent rust.

Note: Fastener sets contain extra bolts.

Installation and Alignment Instructions

Alternate Installation Procedure - Interference Fit Hubs

Heat the hub to expand the bore; 300 deg. F (150 deg. C) is sufficient for most standard interference fits (0.0005 inch/inch). Contact Kop-Flex for higher interference rates. **CAUTION: DO NOT allow temperature to exceed 600 deg. F (300 deg. C). An oven is recommended.** Place hub in the proper position on shaft and hold in place as it cools. Repeat for the other hub.



1a Slightly insert one end of the spacer between the hubs. For larger sizes (212 and larger), insert a flat screwdriver into the face slot of the hub at the opposite end as shown above. Twist the screwdriver slightly to compress the spacer to allow it to slide past the rigid pilot. Small sizes can be compressed and installed by hand.



2a At this point, the spacer can be “snapped” into the hub pilot connections by pushing on the spacer tube. Small sizes can be assembled with relatively little effort, while larger sizes may require slightly more force.



3a Insert a Phillips screwdriver (or similar size rod) in a radial hole in the spacer OD and rotate the spacer until an arrow on the element aligns with a bolt hole in the hub. Use a flat screwdriver inserted in a face slot in the hub to prevent the hub from turning if necessary. Install fasteners hand-tight. Repeat for the other hub. Use a torque wrench to tighten all fasteners (see Table 5).

Alignment

Exact values and procedures for aligning equipment are normally specified by equipment manufacturers.

The Odyssey coupling is capable of withstanding large amounts of misalignment. However, good initial alignment to the minimum possible values will promote optimum machinery performance and eliminate potential operating problems. After securely tightening the foundation bolts, the hub separation and alignment should be rechecked and adjusted as necessary.

Table 6:
Odyssey Recommended Alignment Tolerances

Coupling Size	C _{typ} Typical Hub Separation (inches)	Offset ¹ Alignment Tolerance based on C _{typ} (inches)	Angular Alignment Tolerance measured at hub pilot dia. (inches)	Axial Alignment Tolerance (inches)
112	3.50	0.020	.060	+/- .015
138		0.020	.070	
162		0.020	.080	
188	5.00	0.030	.090	+/- .015
212		0.030	.100	
238		0.030	.120	
288	7.00	0.040	.140	+/- .030
338		0.040	.160	
388		0.040	.190	

Sizes 338 and 388 highlighted in gray will be available in early 2005.

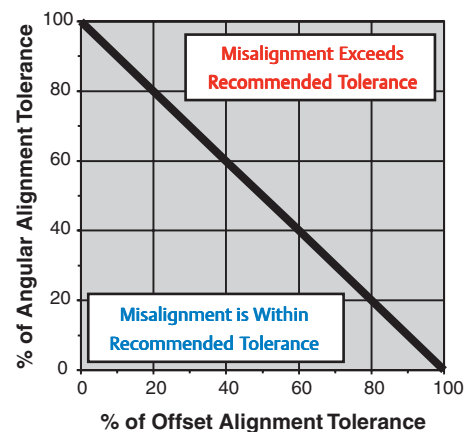
(1) For other hub separations, calculate offset alignment tolerance by:

$$\text{Offset Alignment Tolerance} = \text{Chart Value} \times C_{\text{actual}} / C_{\text{typ}}$$

Total misalignment is the combination of both offset and angular misalignment. Use the chart above to determine whether the combined misalignment conditions fall within the recommended alignment tolerances (left of the line). Coupling alignment should be checked periodically. Even when a coupling is well aligned at installation, subsequent settling of foundations, shifting of equipment, etc., may cause the alignment to deteriorate.

Spacer Removal

The spacer can be removed without disturbing the hubs. Remove all flange fasteners. Insert a flat screwdriver in a hub face slot at each end of the spacer. Twist both screwdrivers slightly and pull until the spacer “pops out” of hub pilots. Grasp the spacer tube and carefully pull until the spacer is completely removed.



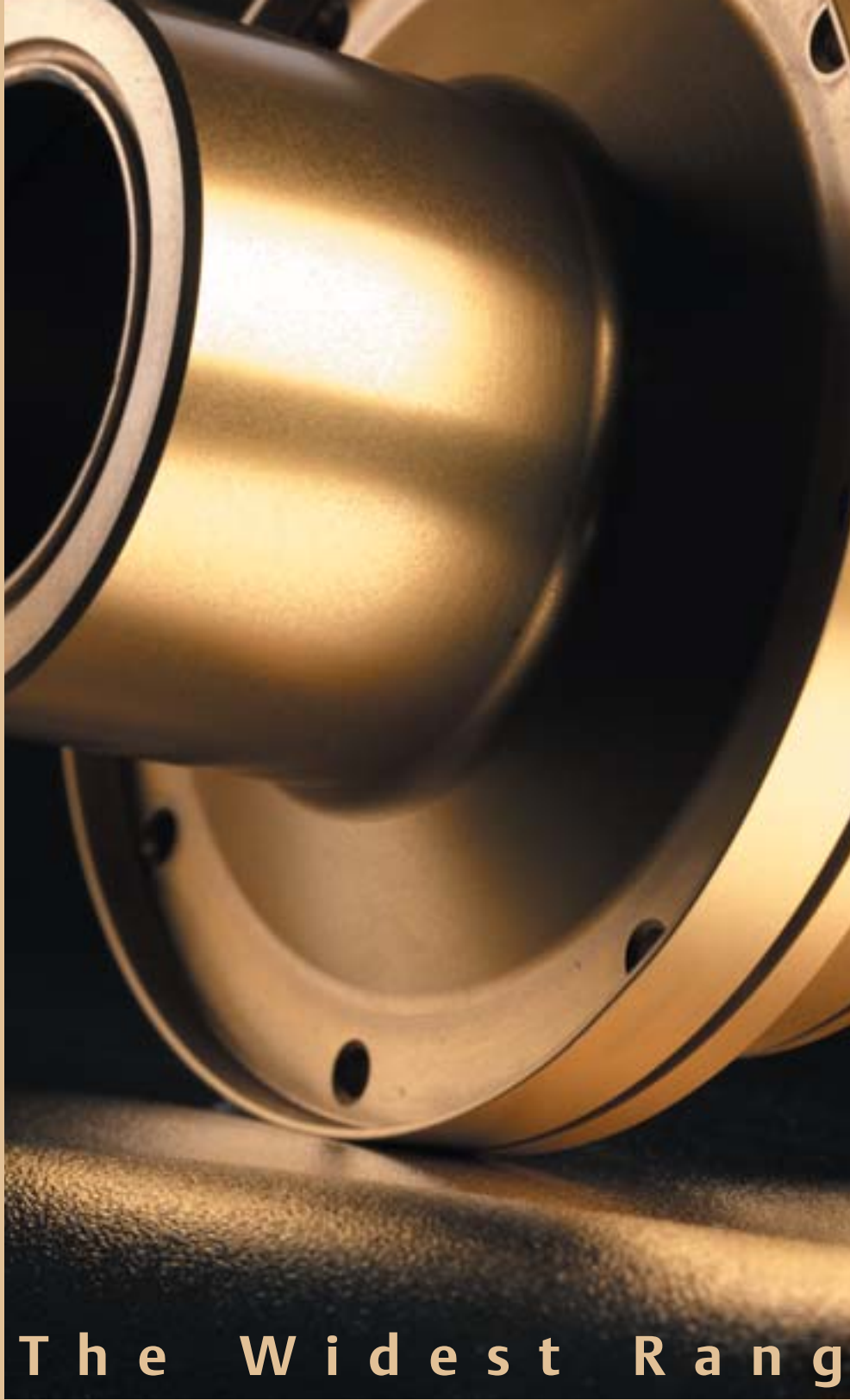
WARNING Disconnect all power before adjusting units.

Kop-Flex offers a range of products that complement Odyssey couplings including Elastomeric™ resilient couplings, jaw couplings and disc couplings. Kop-Flex also offers tapered bushings and bushing mounts (Taper-Lock* and Q-D® styles) to accompany Odyssey couplings. In addition, Kop-Flex will release a close-coupled version of the Odyssey coupling in late 2004.

Kop-Flex offers a wide variety of coupling products for other uses — from high performance, high-speed couplings to mill and standard product couplings. Kop-Flex coupling products fulfill customers' need for demanding turbomachinery applications such as steam or gas turbines; compressor, generator, and special pumps; rolling mills and casters in steel mills; paper machines (both wet and dry ends) and liquid handling pumps and motors (for processing or liquid handling applications).

Kop-Flex is a solution-oriented manufacturer with more customized application designs than any other coupling provider. The Kop-Flex product line is designed to meet API (American Petroleum Institute) 671 (ISO 10441) or API 610 (ISO 13409) or your own specifications.

- Non-lubricated disc couplings — KD® disc coupling series (both off-the-shelf and custom designed to fit your application)
- Lubricated couplings (available off-the-shelf)
 - Gear couplings — Fasto®, Series H, Model B, Waldron®, PM and more*
 - Grid couplings*
- High performance disc diaphragm couplings
- High performance gear couplings
- Powerlign® torque measurement system
- Hybrid couplings
- MAX-C® resilient couplings
- Custom designed couplings of any type
- Elastomeric resilient couplings
- Off-the-shelf couplings like Jaw, Morflex®, chain and others



The Widest Range

*Taper-Lock is a trademark of Reliance Electric Co. Q-D is a trademark of Emerson Electric Co.



Odyssey



KD® Disc



Powerlign Torquemeter



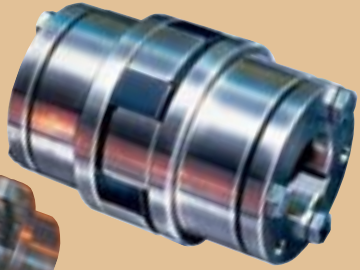
High Performance Disc Coupling



e o f C o u p l i n g P r o d u c t s . . .



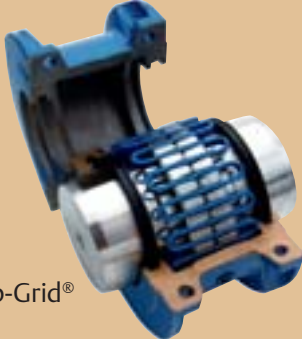
PM Series Gear Spindles



Jaw Type



Fast's Gear



Kop-Grid®

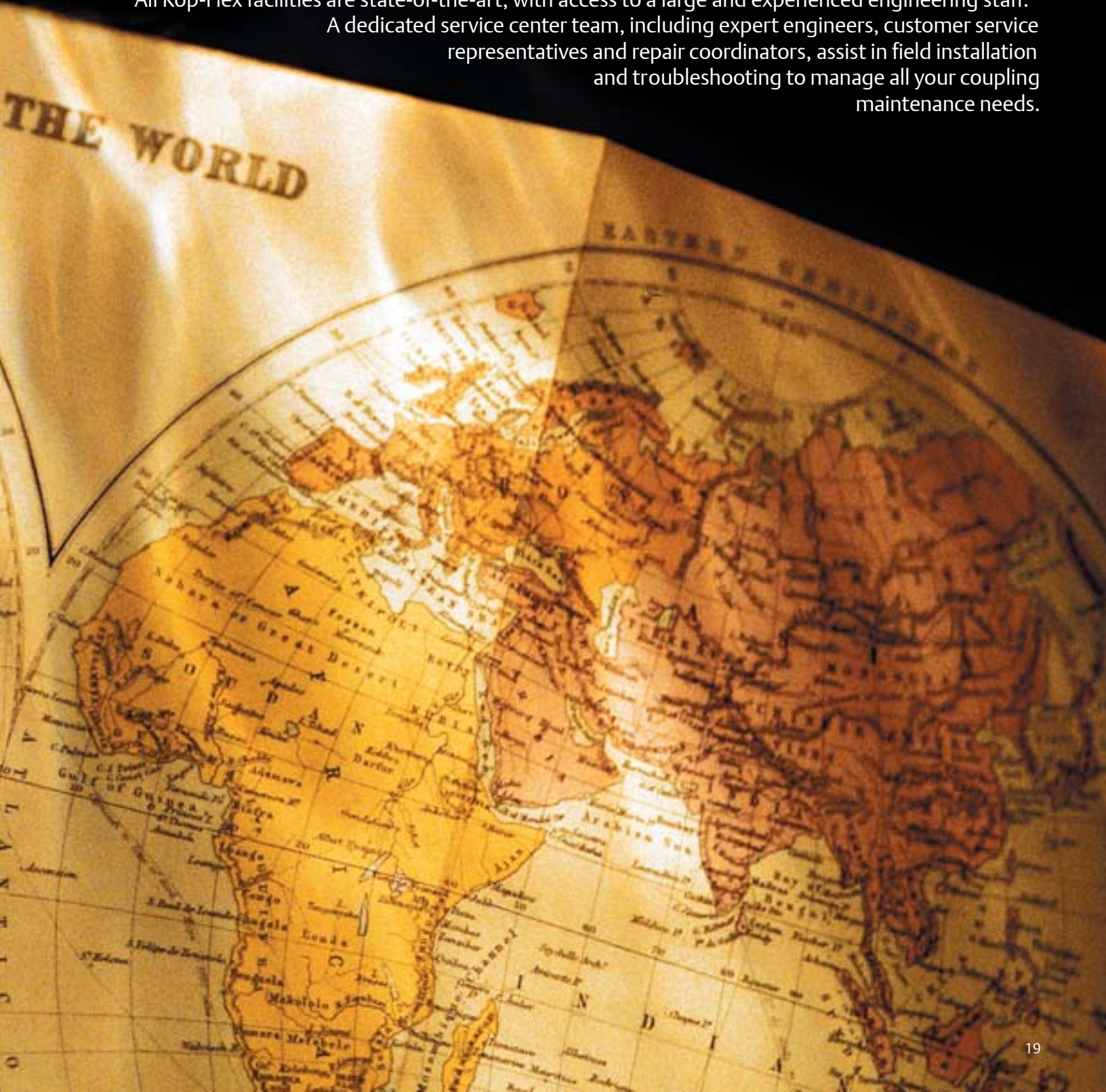


World-Class Facilities and Service Centers

Kop-Flex has the largest facility in the world dedicated to manufacturing coupling products. Kop-Flex also offers extensive service and repair capabilities in Baltimore, Canada and our latest coupling plant in Slovakia. Additional licensed repair facilities are located within partners' locations in Indiana, Texas and California. With manufacturing and service facilities in the U.S. and now in Europe, Kop-Flex can service customers throughout the world.

All Kop-Flex facilities are state-of-the-art, with access to a large and experienced engineering staff.

A dedicated service center team, including expert engineers, customer service representatives and repair coordinators, assist in field installation and troubleshooting to manage all your coupling maintenance needs.



Unparalleled Technology Leadership

Technology leadership can only be maintained through a commitment to highly skilled resources. Kop-Flex employs the largest engineering staff in the industry, which enables rapid new product development. An emphasis on engineering expertise stands behind the Kop-Flex tradition of custom product design and application for our customers.

Kop-Flex engineers are supported with an in-house R&D lab containing an extensive array of test equipment and dedicated R&D engineers, computer aided design (CAD) systems, finite element analysis (FEA), 3-D modeling and other technical tools to respond quickly to customer requests and field installation requirements.

Continuing Innovation

Continuing in the spirit of frequent innovation, Kop-Flex recently introduced:

- Patented urethane-based elastomer coupling — Odyssey
- Patented precision torque Powerlign measurement system with accuracy to within $\pm 1\%$
- Patented CCG™ ground gear spindle used in high load, high impact steel mills
- Patented diaphragm coupling — all metal design with no welds




Unmatched Service and Support

Kop-Flex consistently responds to customer needs for reliable, maintenance-friendly products by demonstrating an attention to precision and detail that is highly valued in the marketplace. Kop-Flex also has the market's largest stock of critical couplings for overnight delivery to support a company-wide priority on helping customers maintain uptime.

Kop-Flex practices an extensive inspection process and can repair or refurbish any coupling – including designs produced by other manufacturers. Customer risk is further reduced with the full Kop-Flex warranty.

Speed–Power–Performance

A large industrial gear is the central focus of the image, positioned in a factory or workshop. The gear is massive, with a circular face and numerous teeth. It is surrounded by various mechanical components, including a metal platform with railings and a vertical support structure. The lighting is dramatic, with strong highlights and deep shadows, emphasizing the metallic textures and the scale of the machinery.

For over 80 years, Kop-Flex has been developing coupling products for the world's most demanding applications. Kop-Flex now offers over 25,000 combinations of type, size and bore offerings encompassing gear, disc, grid, elastomer and diaphragm styles, as well as coupling grease.

From the introduction of the Fast's gear coupling in 1918 to the launch of Odyssey, Kop-Flex remains at the forefront of coupling technology leadership.



Kop-Flex Odyssey



Components



Gearing



Bearings

Backed by Emerson — A Global Market Leader

Kop-Flex is part of Emerson Power Transmission Corp., a manufacturing and marketing subsidiary of Emerson. Emerson is a global leader in uniting technology and engineering to deliver innovative solutions in industrial automation, process control, climate technologies, network power, appliances and tools.

Emerson Power Transmission has a primary objective - to excel as a major producer of power transmission drives, components, gearboxes and bearings for each of the principal markets it serves. The company is composed of four business units, plus two international joint ventures, brought together with complementary product lines into a single, flexible marketing entity. Well-known brands include Kop-Flex, Browning®, Morse®, Sealmaster®, McGill®, USGM™ and Rollway®. The corporation's extensive manufacturing and distribution network supports over 3,000 industrial distributor locations worldwide and also sells directly to OEMs. From the beginning, the corporate mission has been to provide superior quality products and customer service, creating an environment of continuous improvement where outstanding people make a difference.



Helical Speed Reducers & Gearmotors



SEALMASTER

Mounted Ball Bearings



MORSE

Clutches



Browning

Shaft Mount Reducers



SEALMASTER

Mounted Roller Bearings



ROLLWAY

Roller Bearings



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KOP-FLEX

Couplings



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Emerson Power Transmission Customer Service

Telephone 1-800-626-2120

Fax 1-800-262-3292

Emerson Power Transmission

Maysville, KY 41056

Telephone 606-564-2011

Fax 606-564-2052

Emerson Power Transmission

7120 New Buffington Rd.

P.O. Box 728

Florence, KY 41022

Telephone 859-342-7900

Fax 859-342-5652

Emerson Power Transmission – West

3553 Placentia Ct.

Chino, CA 91710

Telephone 909-591-9561

Fax 909-628-1983

Emerson Power Transmission – Export

7120 New Buffington Rd.

Florence, KY 41042

Telephone 859-727-5273

Fax 859-727-0721

Emerson Power Transmission – Canada

16 Main Street

Unionville, ONT L3R 2E4

Telephone 905-294-9330

1-800-268-4149

Fax 1-800-668-9005

Kop-Flex, Inc.

P. O. Box 1696

Baltimore, MD 21203

Telephone Plant 410-768-2000

Fax 410-787-8424

www.kopflex.com

Kop-Flex Canada, Ltd.

19 Meteor Drive

Rexdale, ONT M9W 1A3

Telephone 416-675-7144

Fax 416-675-6764

McGill Manufacturing Co., Inc.

909 North Lafayette St.

Valparaiso, IN 46383

Aerospace Bearings Telephone 219-465-2200

Aerospace Bearings Fax 219-465-2290

Catalog KO-04

Form #8903 • Revised 11/04 • 15M • Printed in U.S.A.

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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