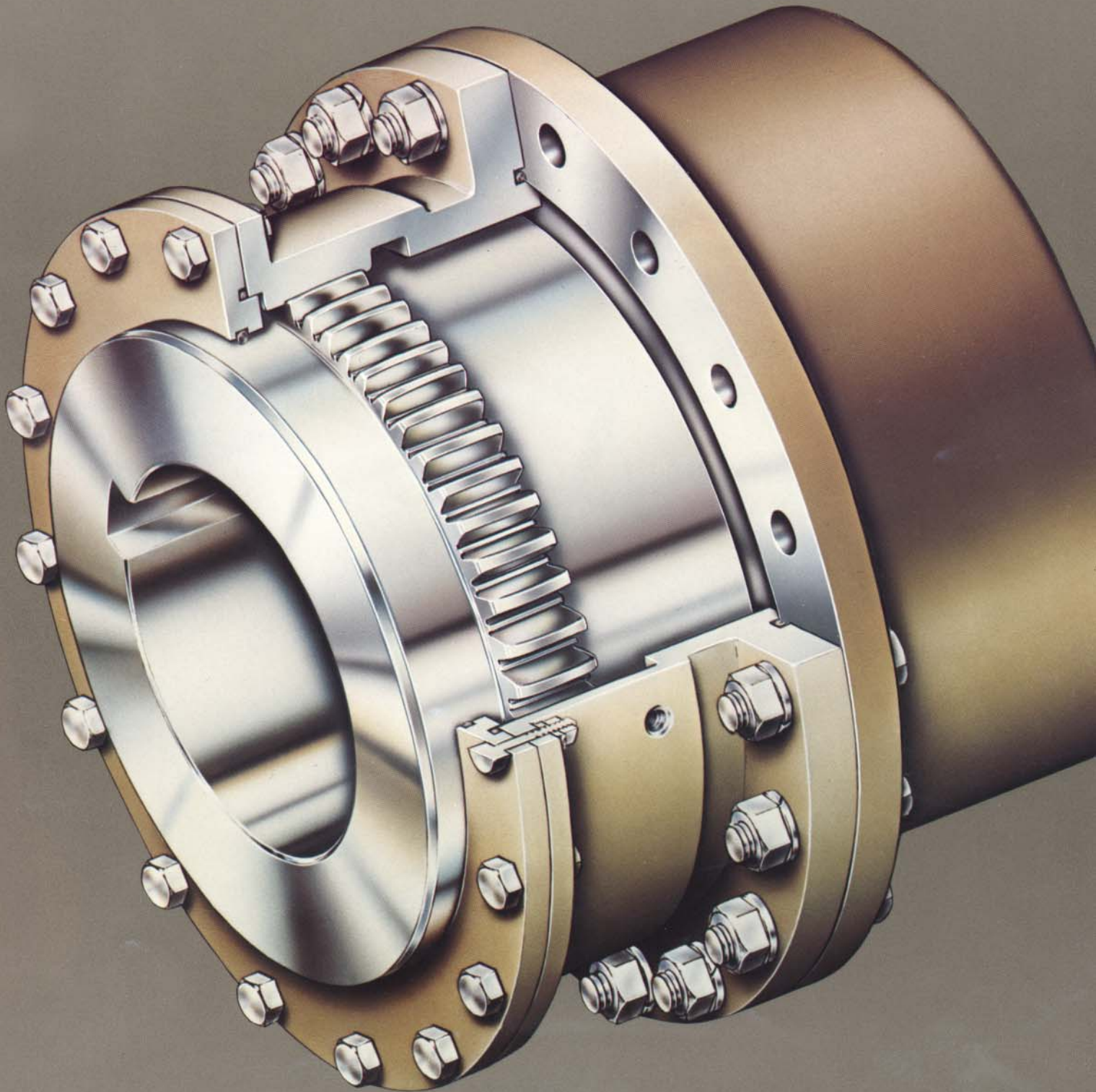


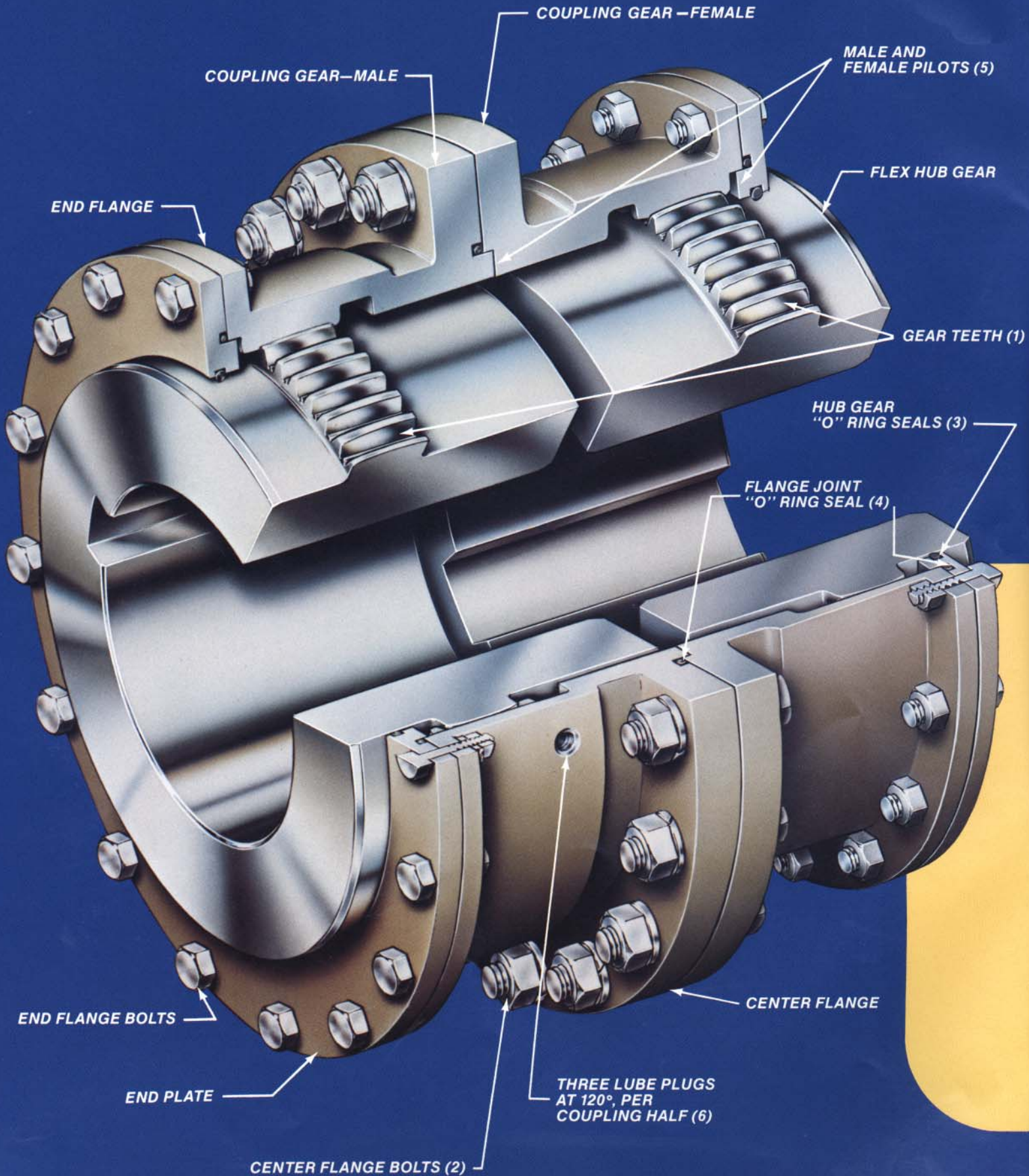
Xtelk

Heavy Duty Couplings



FULL-FLEX COUPLINGS

for closely separated shafts with angular, offset and axial misalignment





Rugged Couplings For Heavy Industry

Throughout heavy industry, Xtek couplings have recorded a history of exceptional strength and long life. Higher load and power ratings, and greater value than ever before are now realized all over the world.

For transmission of high torques at low speeds between shaft ends with minimal misalignment, Xtek offers Heavy Duty Couplings in a choice of 16 different sizes, as well as a variety of arrangements and ratings. These rugged couplings assure less downtime, together with protection against untimely breakdowns.

Designed by Xtek's expert staff

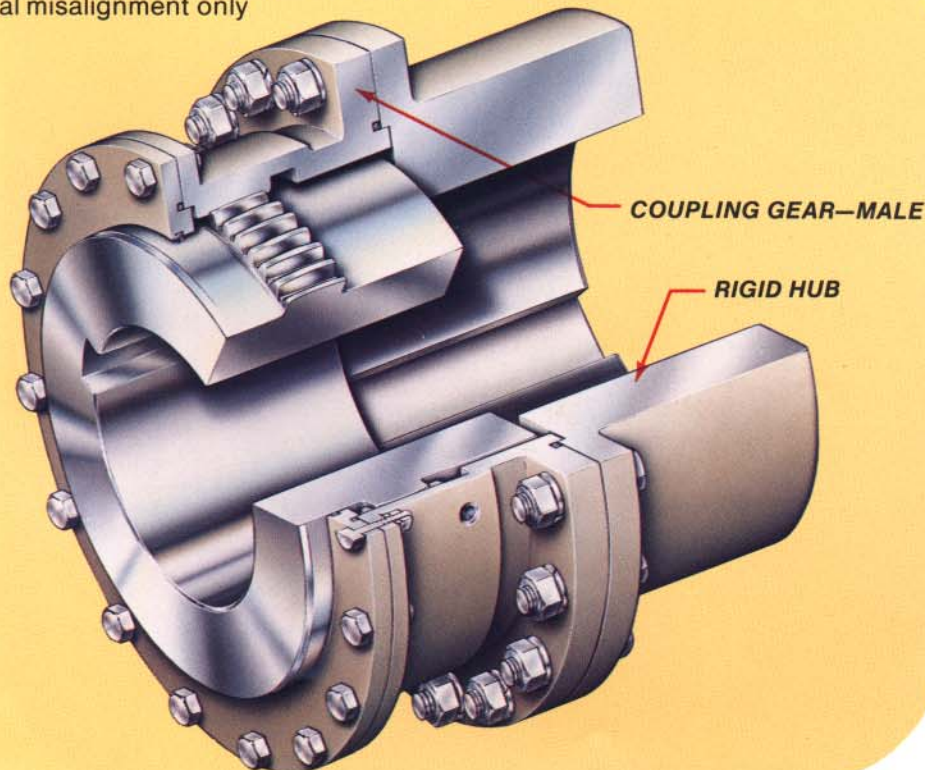
engineers, they are the product of years of practical experience. Accessibility, smoother and quieter operation, ease of maintenance, and efficient power transmission are the result of the features described below and detailed in the cutaway illustrations.

1. **GEAR TEETH** are heavy pitch, crowned on the tooth flank, the outside diameter and the root of the tooth.
2. **CENTER FLANGE BOLTS** are special hex head "Body-Bound" bolts (Material Spec. Grade 5) with helical spring lockwashers and hex nuts.

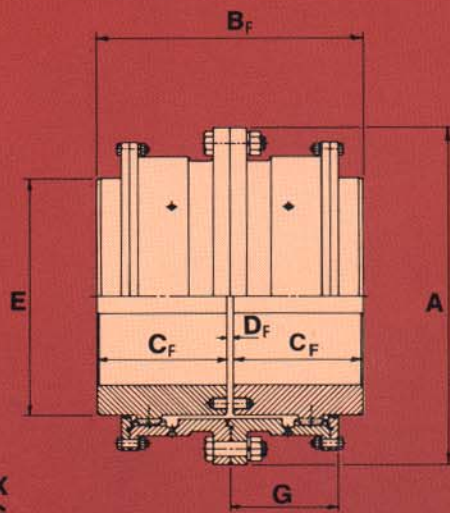
3. **HUB GEAR "O" RING SEALS** are mounted in the bore groove of an extra heavy bolt-on seal retainer ring.
4. **FLANGE JOINT "O" RING SEALS** are mounted in the face groove of the flanges.
5. **MALE AND FEMALE PILOTS** facilitate alignment of center and end flanges at assembly.
6. **THREE LUBE PLUGS** provided in the body of the flanged coupling gear facilitate lubrication. There is ample cavity for lubricant. Plugs are located at 120°.
7. **MAXIMUM BORE** with two keyways ranges from 10½" to 42½" (center flange O.D. from 23¼" to 78").
8. **NORMAL TORQUE CAPABILITY** up to 46,000,000 in./lbs.
9. **ANGULAR MISALIGNMENT** per flex half: $\pm 3/4^\circ$.
10. **STANDARD MATERIAL** is cast or forged medium carbon steel normalized and annealed.
11. **16 DIFFERENT SIZES**, # 8 through # 16, as well as # 18, # 20, # 22, # 24, # 26, # 28 and # 30. Sizes represent the nominal shaft diameter on which coupling can be mounted.
12. **XTEK HALVES INTER-CHANGEABLE** with other standard rigid hub flanges in the industry can be supplied.

On the pages that follow, Xtek Heavy Duty Couplings are detailed, and their many optional arrangements and ratings are described. Since most every application has its individual characteristics, we suggest that you consult with your Xtek sales engineer to determine the coupling that will produce strength and efficiency for your operating conditions.

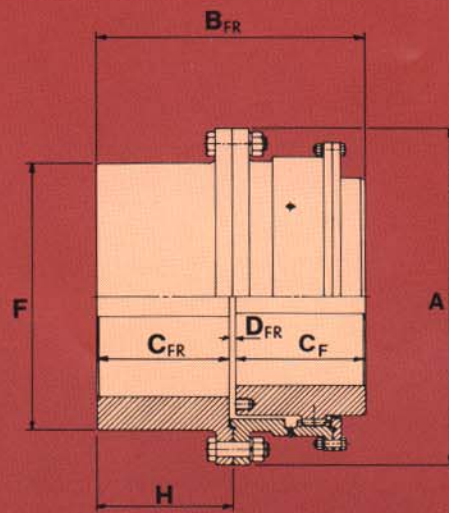
FLEX-RIGID COUPLING
for closely separated shafts with angular and axial misalignment only



ALL OTHER COMPONENTS ARE THE SAME AS FOR THE FULL-FLEX STYLE SHOWN ON PAGE 2.



FULL-FLEX COUPLING

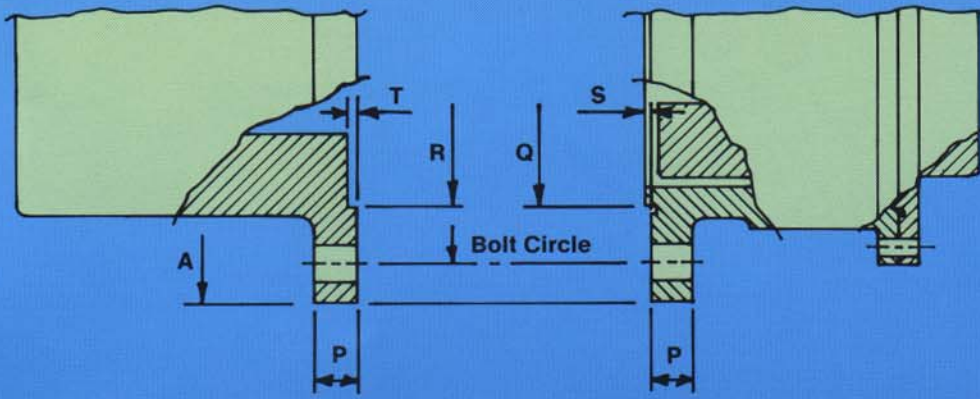


FLEX-RIGID COUPLING

Xtek Coupling Specifications

Coupling Size		8X	9X	10X	11X	12X	13X	14X	15X	16X	18X	20X	22X	24X	26X	28X	30X
Load Rating	H.P./100 R.P.M.	2000	2700	3500	5000	6400	8000	9500	11,500	13,500	18,000	22,800	31,500	41,000	50,000	60,000	74,000
	Torque (In.-Lbsx10 ⁶)	1.260	1.701	2.205	3.150	4.032	5.040	5.985	7.245	8.505	11.340	14.364	19.845	25.830	31.500	37.800	46.620
Maximum Speed (R.P.M.)*		1750	1600	1450	1350	1225	1100	950	825	725	500	400	300	250	225	210	200
Offset Misalignment— ^{Full Flex}		.160	.186	.209	.227	.236	.252	.268	.268	.295	.311	.331	.379	.386	.389	.402	.422
Flex Hub	Max. Bore ^{w/2 Keys}	10.500	11.500	13.000	14.750	16.250	17.500	19.000	20.500	22.500	25.250	28.250	31.000	34.000	36.750	39.750	42.500
	Rect. K.W. Size	2x¾	2½x¾	2½x¾	3x1	3x1	3½x1¼	4x1½	4x1½	4x1½	5x1¾	6x2	6x2	7x2½	7x2½	8x3	8x3
Rigid Hub	Max. Bore ^{w/2 Keys}	13.000	14.500	15.500	17.000	19.000	21.000	22.000	24.000	25.500	28.500	31.500	35.000	37.000	40.500	43.500	47.000
	Rect. K.W. Size	3x1	3½x1¼	4x1½	4x1½	4x1½	5x1¾	5x1¾	6x2	6x2	6x2	6x2	7x2½	7x2½	8x3	8x3	8x3
Max. Interference Fit— ^{Full Flex} †		.0058	.0063	.0072	.0081	.0089	.0096	.0105	.0113	.0120	.0139	.0155	.0171	.0187	.0202	.0219	.0234
DIMENSIONS	A	23.25	26.0	28.0	30.50	33.0	35.75	38.0	40.50	43.0	47.25	53.50	59.0	64.25	68.50	73.75	78.0
	B _F	20.0	22.25	24.50	26.75	28.25	30.0	31.75	33.75	35.75	37.0	43.25	47.0	50.50	54.0	55.25	56.25
	B _{FR}	20.12	22.31	24.62	26.87	28.37	30.0	31.75	33.75	35.75	37.0	43.25	47.12	50.62	54.12	55.37	56.37
	C _F	9.81	10.87	12	13.12	13.87	14.62	15.50	16.50	17.37	18.0	21.12	23.0	24.75	26.50	27.12	27.62
	C _{FR}	9.81	10.87	12	13.12	13.87	14.62	15.50	16.50	17.37	18.0	21.12	23.0	24.75	26.50	27.12	27.62
	D _F	.375	.500	.500	.500	.500	.750	.750	.750	.750	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	D _{FR}	.500	.562	.625	.625	.625	.750	.750	.750	.750	1.0	1.0	1.0	1.125	1.125	1.125	1.125
	E	14.25	16.25	18.25	20.25	22.0	24.0	26.0	28.0	30.0	34.0	38.0	41.50	45.50	49.50	53.50	57.50
	F	17.12	19.37	20.87	23.0	25.50	27.50	29.50	31.75	33.50	37.75	42.87	46.75	51.0	55.25	59.50	63.75
	G	8.87	9.87	11.0	12.06	12.625	13.50	14.37	14.37	15.50	15.50	16.0	19.25	19.75	20.0	20.50	20.75
H	10.12	11.19	12.37	13.50	14.25	15.0	15.87	16.87	17.87	18.50	21.62	23.62	25.37	27.12	27.75	28.25	

SEE PG. #5, FOR FLANGE DETAILS, PULLER HOLES, WEIGHTS, WR² AND ADDITIONAL DIMENSIONS
 * CONSULT XTEK FOR HIGHER SPEEDS
 † LARGER SIZES MAY BE AVAILABLE, DEPENDING ON INTERFERENCE FIT & K.W. SIZE, CONSULT XTEK
 ‡ BASED ON .00055" PER INCH OF SHAFT DIA., CONSULT XTEK FOR HEAVIER FITS
 MISALIGNMENT CAPABILITY IS ± ¼° PER FLEX HALF
 ■ COUPLINGS ARE DESIGNED TO WITHSTAND INFREQUENT OVERLOADS OF UP TO 1.7 TIMES RATED TORQUE.



Xtek Flange Details

Coupling Size		8X	9X	10X	11X	12X	13X	14X	15X	16X	18X	20X	22X	24X	26X	28X	30X
Center Flange Bolts	Bolt Circle	20.750	23.250	25.250	27.500	30.000	32.250	34.500	36.750	39.000	43.250	48.750	53.500	58.250	62.500	67.250	71.500
	Quantity	16	18	18	18	18	18	18	20	20	22	22	22	22	24	22	24
	Size and Length	1½x4	1½x4½	1¾x5¾	1½x5½	1½x5½	1¾x6¾	1¾x6¾	1¾x6¾	2x7½	2x7½	2¼x7¾	2½x9¾	2¾x9	2¾x9	3x9¾	3x9¾
FLANGE DIMENSIONS	A	23.25	26.0	28.0	30.50	33.0	35.75	38.0	40.50	43.0	47.25	53.50	59.0	64.25	68.50	73.75	78.0
	P	1.25	1.50	1.75	2.0	2.0	2.12	2.25	2.25	2.50	2.50	2.50	3.0	3.0	3.0	3.25	3.25
	Q	16.496	18.496	20.746	22.746	24.746	26.746	28.746	30.746	32.996	36.996	41.496	45.496	49.496	53.996	57.996	61.996
	R	16.500	18.500	20.750	22.750	24.750	26.750	28.750	30.750	33.000	37.000	41.500	45.500	49.500	54.000	58.000	62.000
	S	.25	.25	.31	.31	.31	.31	.31	.31	.37	.37	.37	.50	.50	.50	.50	.50
	T	.31	.31	.37	.37	.37	.37	.37	.37	.37	.50	.50	.50	.62	.62	.62	.62

Xtek Flexible Hub Puller Holes

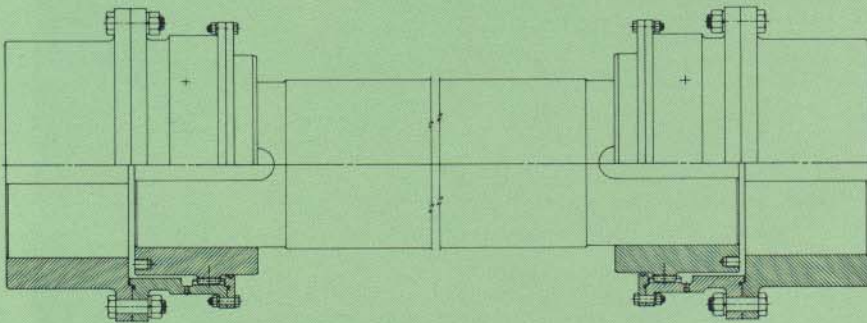


Coupling Size	8X	9X	10X	11X	12X	13X	14X	15X	16X	18X	20X	22X	24X	26X	28X	30X
Puller Hole Bolt Circle	12.25	13.75	15.25	17.25	19.0	21.0	23.0	25.0	27.0	31.0	34.0	37.50	41.50	45.50	49.50	53.50
Tapped Hole Size (UNC)	1-8	1¼-7	1½-6	1½-6	1½-6	1½-6	1½-6	1½-6	1½-6	1½-6	2-4½	2-4½	2-4½	2-4½	2-4½	2-4½

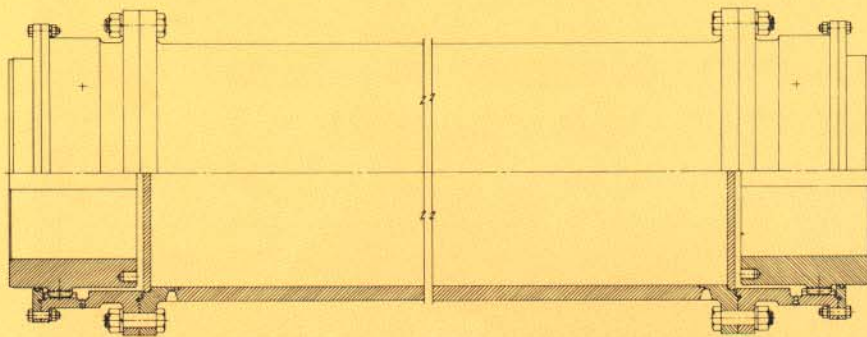
Xtek Additional Coupling Data

Coupling Size		8X	9X	10X	11X	12X	13X	14X	15X	16X	18X	20X	22X	24X	26X	28X	30X
Weight—Solid Hubs (Lbs.)	Full-Flex	1470	2044	2835	3618	4544	5697	6721	8208	9730	12,528	17,528	23,261	29,201	37,223	46,785	54,117
	Flex-Rigid	1443	2017	2661	3507	4456	5529	6645	8084	9557	12,412	17,961	23,668	29,431	37,500	45,732	53,913
WR ² -Solid Hubs (In.-Lbsx10 ³)	Full-Flex	75.8	125.9	207.8	328.5	493.4	710.6	983.7	1317.7	1751.3	2711.3	4799.2	8024.1	11,602.1	16,441.5	22,401.1	28,933.1
	Flex-Rigid	67.4	118.6	187.8	298.7	451.8	650.0	900.5	1228.6	1632.7	2584.6	4419.8	7721.8	11,132.3	16,130.2	22,172.3	28,277.5
Lube Capacity (Lbs.-Ozs.)	Full-Flex	14	18	22	27	37	45	52	56	71	86	108	150	174	195	220	248
	Flex-Rigid	7	9	11	13-8	18-8	22-8	26	28	35-8	43	54	75	87	97.5	110	124

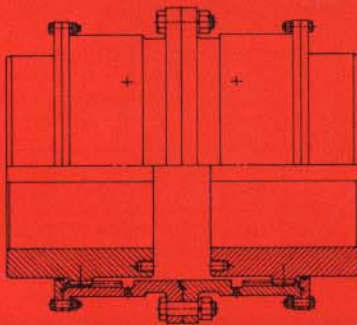
Xtek Couplings Satisfy Wide Range of Applications



- **Floating Shaft** for widely separated shafts; Flex-Rigid ends, larger offset capability.



- **Spacer Tube** for widely separated shafts, offering reduced weight on larger sizes.



- **Extended Slide** for linear flexibility.

OTHER DESIGNS

The range of applications for heavy duty couplings throughout heavy industry is virtually endless. As a result, Xtek offers five basic arrangements with a multitude of options to achieve unusual design flexibility. In addition to the Flex-Rigid and Full-Flex, you can choose from the Xtek design arrangements shown left.

OTHER RATING OPTIONS

Load Ratings:

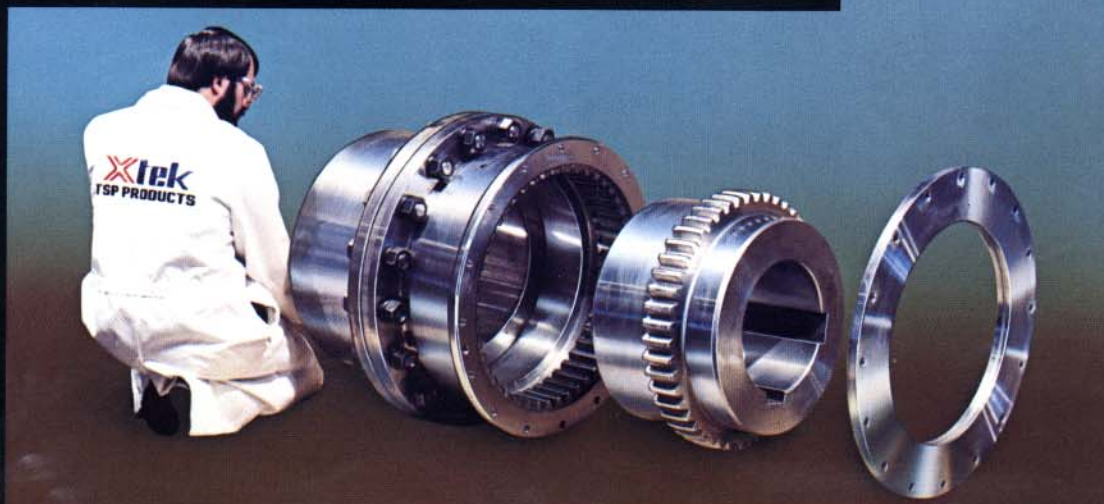
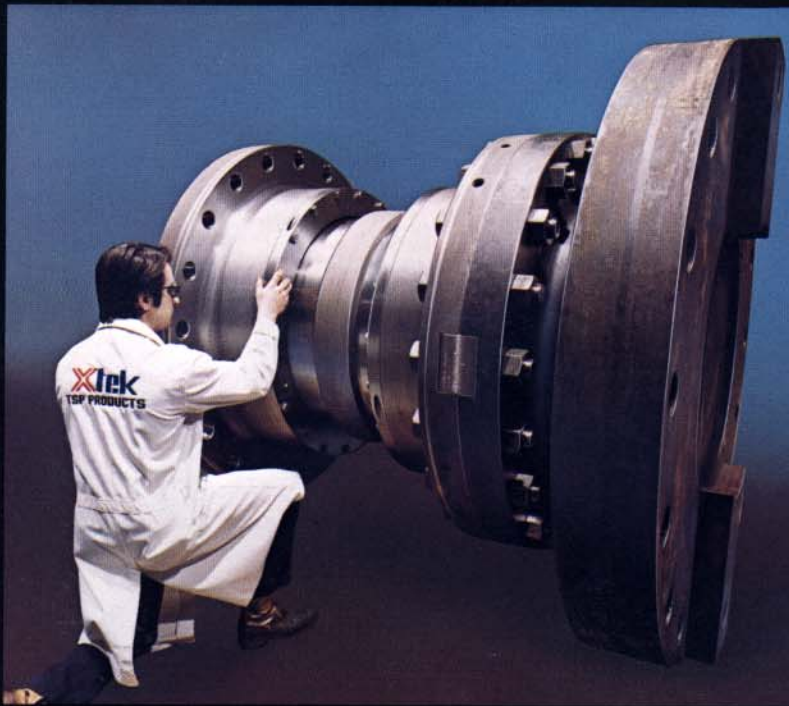
- I—STANDARD—cast or forged plain medium carbon steel, normalized and annealed.
- II—HEAT TREATED—cast or forged alloy steel heat treated to a 280-320 Brinell hardness.
- III—CARBURIZED TSP—cast or forged alloy steel hardened through Xtek's exclusive "Tool Steel Process" to Rockwell C58-62.

Xtek offers Ratings II and III for situations where customer is experiencing strength or wear related failure problems with existing standard gear coupling.

High Angularity

Higher angularity than the standard $\pm 3/4^\circ$ per gear mesh will result in lower torque ratings.

SPECIAL SEALING—Lip sealing and floating carrier are available for high angularity coupling situations where standard "O" Ring sealing might allow intrusion of dirt, scale or moisture.

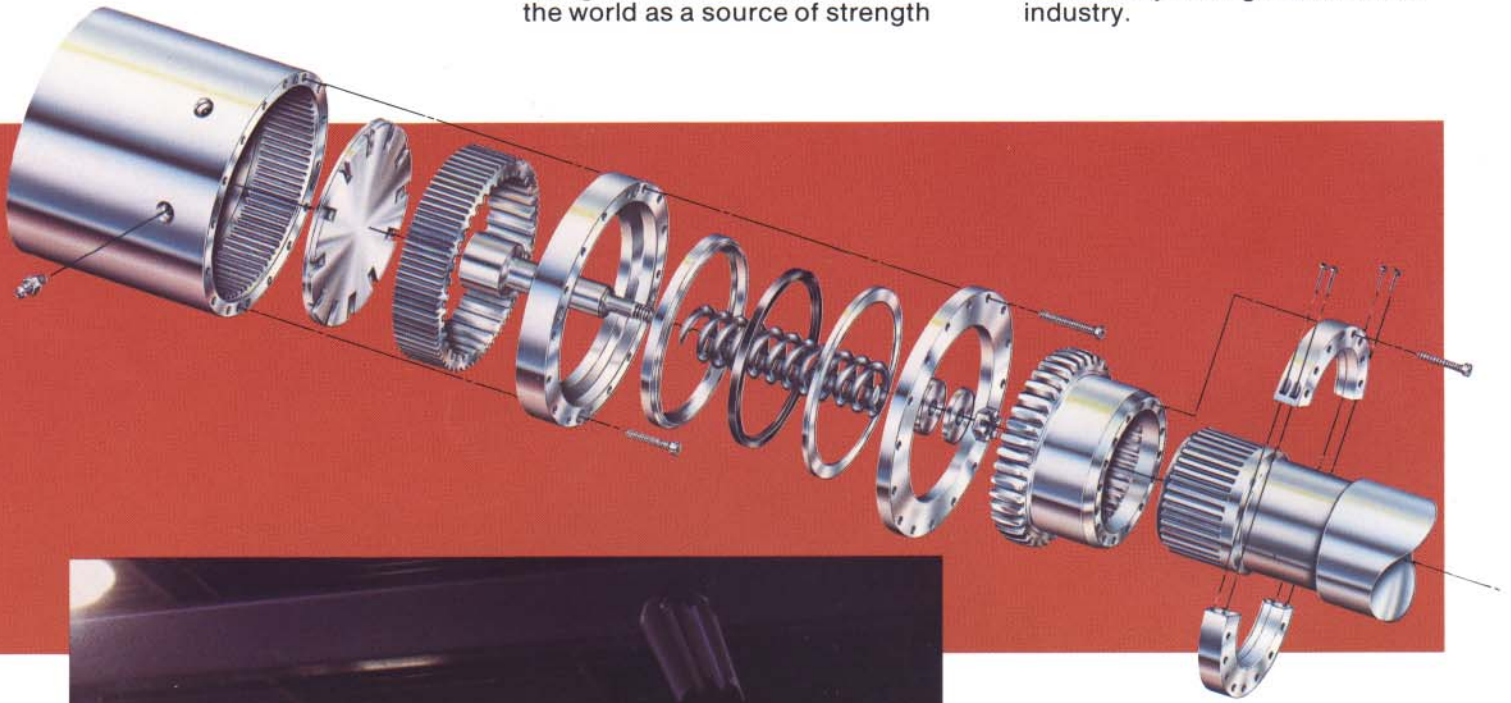


Xtek engineers work with your personnel to determine exactly what couplings best fit your needs, to assure a wise, economical long-term investment. When non-standard conditions are present, every effort is made to meet any reasonable interchangeability requirement with existing components whenever possible to reduce your costs. The Xtek engineering staff offers valuable practical experience in making these decisions.

Other **Xtek** Couplings

From heavy duty reversing and roughing stands to high speed finishing stands, Xtek/TSP Hardened Gear Couplings have recorded a history of unsurpassed performance everywhere in rolling mills. Our exclusive method of carburizing and heat treating, "Tool Steel Process," is recognized in steel mills all over the world as a source of strength

and long life for heavy industry components. These advantages have been further enhanced by design innovations initiated by Xtek engineering, as the result of years of practical experience. Together, they have made Xtek/TSP Hardened Gear Couplings the recognized standard of excellence today throughout the steel industry.



Xtek utilizes modern plant facilities capable of producing and handling large rolling mill couplings. Highly trained machinists, equipped with the latest in machine tools, follow through to produce precisely to specifications. Careful inspection procedures at every step of manufacturing are your further guarantee of strength and quality. Whatever your heavy duty coupling requirements, for reliable power transmission year after year, demand Xtek . . . the recognized standard of excellence.

Xtek

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