ALTRA INDUSTRIAL MOTION

G-Flex

The Original Bibby Grid Coupling

TB Wood's® Incorporated

An Altra Industrial Motion Company

TB Wood's

TB Wood's is an industry leading designer and manufacturer of mechanical power transmission equipment for industrial control. Our mechanical product lines include: clutch and brake, synchronous and belted variable speed drives; grid, disc, jaw, gear coupling and elastomeric coupling products; sheaves and bushings. Registered trademarks include Sure-Flex®, Dura-Flex®, G-Flex®, and QT Bushings®.

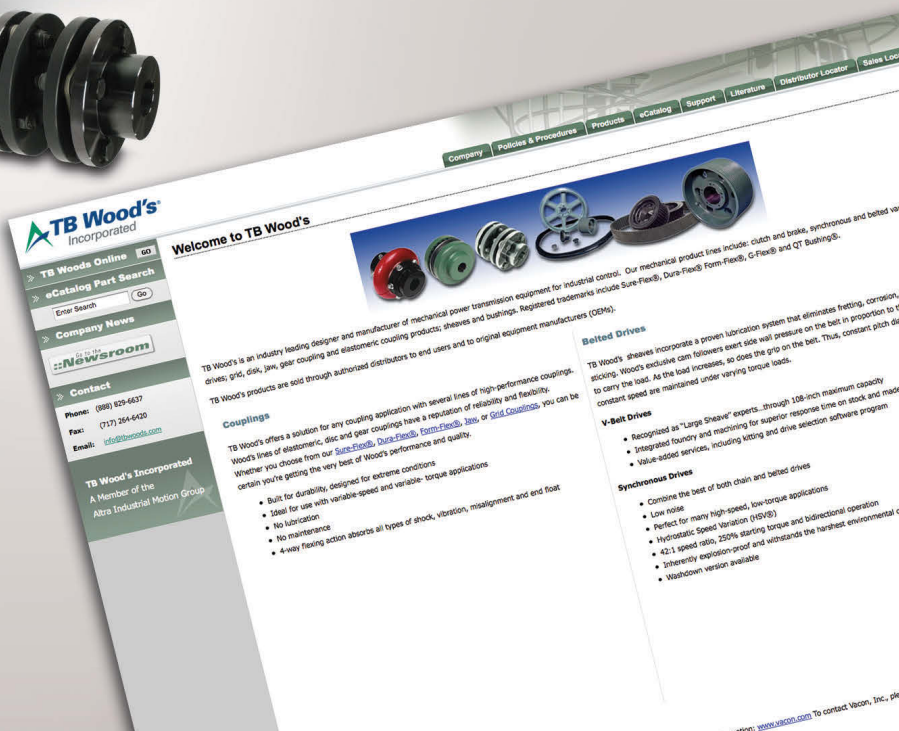
TB Wood's was founded in 1857 and began as a foundry producing wood burning stoves. Our company's tradition of product innovation started early. Wood's entered the power transmission industry at the turn of the century with the introduction of flat belted drives and line shafting.

In April 2007, TB Wood's was purchased by Altra Holdings, Inc. This acquisition placed TB Wood's as part of a larger company with complementary products to help grow the business.

Altra Industrial Motion

Altra is a leading multinational designer, producer and marketer of a wide range of mechanical power transmission products. We sell our products in over 70 countries throughout the world. Our products are frequently used in critical applications, such as fail-safe brakes for elevators, wheelchairs and forklifts, and in high-volume manufacturing processes, where the reliability and accuracy of our products are critical in both avoiding costly down time and enhancing the overall efficiency of manufacturing operations.

Our products are marketed under a variety of well recognized and established manufacturing brand names. These leading brands are Ameridrives, Boston Gear, Warner Electric, Formsprag Clutch, TB Wood's Incorporated, Industrial Clutch, Kilian Manufacturing, Marland Clutch, Nuttall Gear, Stieber Clutch, Twiflex Ltd, Huco Dynatork, Bibby Turboflex, Matrix International, Inertia Dynamics, Delroyd Worm Gear, Warner Linear, Wichita Clutch and Lamiflex Couplings.



Visit us on the web at

tbwoods.com

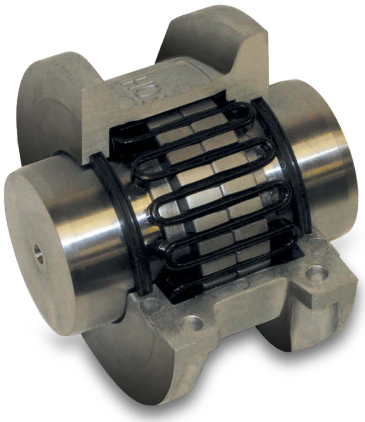
TB Wood's Taper Grid Resilient Couplings

Series 1000T10 and Series 1000T20

Dr James Bibby originally invented the Resilient Coupling in 1917 and the 1000 Series is the latest level of this well accepted product. This Bibby Transmissions product has become universally accepted where reliable protection against shaft misalignment and vibration is desirable.

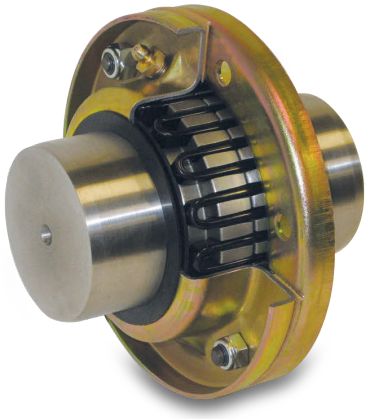
Since those early days refinements in design and material specifications have kept pace with advancing technology, achieving significant improvements in power/weight ratios.

TB Wood's is proud to offer this proven product.



1000T10

- Horizontally Split Cover
- General purpose
- Easy access to grid minimizes downtime
- Ideal for limited space applications
- Stop lug in cover prevents spinning during reversing service



1000T20

- Vertically Split Cover
- General purpose
- Ideal for higher running speeds

High Performance

The TB Wood's Taper Grid Coupling continues that tradition. The tapered grid is made from high tensile alloy steel which is carefully formed to the grid shape before hardening and tempering under controlled conditions. The grid surface is then shot-peened. This process leaves the grid spring with a residually stressed surface layer which is in compression and which impedes the propagation of cracks. Since nearly all fatigue and stress corrosion failures originate at the surface of a part, the layer of compressive stress induced by shot-peening produces a dramatic increase in the working life and fatigue strength of the grid. This technological improvement in manufacturing process coupled with precise monitoring of raw material specification and control of trapezoidal shape, permits TB Wood's to offer state of the art grid springs of high performance and reliability.

Scientific Design

The hub is precision manufactured from high quality materials, with the hub tooth profile scientifically designed to permit progressive loading under torsional shock conditions. The combination of tapered grid and precision manufactured hub provides easy assembly. The excellent shock absorption characteristics, and the ability to accommodate misalignment protects the connected equipment.

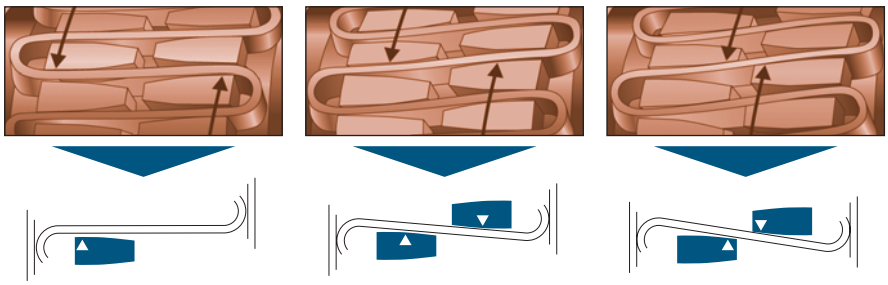
Long Life

While the coupling is designed for long life under tough conditions, maintenance and taper grid replacement can be performed quickly and easily without the need to move and realign connected equipment. Two cover design options are available in the TB Wood's range of couplings. Both designs have been carefully engineered to provide a shaft coupling which is highly reliable and easy to install.

Principle of Operation

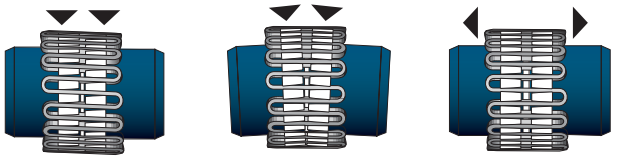
Positive protection against the damaging effects of shock loads, impact loads and vibration.

The grid is torsionally flexible. The circumferential flexibility is progressive due to the curved profile of the grooves — 'state-of-the-art' in resilient coupling design.



Accommodating Shaft Misalignment and End-Float

The grid will accommodate combinations of misalignments present at set-up or occurring during machine displacement, settlement etc.

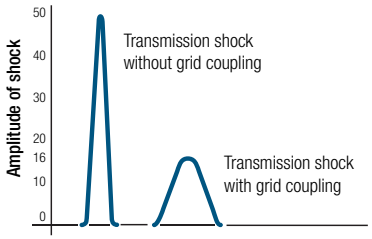


Parallel Angular End-Float

Limited End-Float kits are available on request.

Effectiveness of Torsional Damping

As the grid coupling transmits torque, the flexing of the tapered grid spring damps vibrations and cushions shock loads.



This unique characteristic is due to the torsional flexibility of the coupling being proportionate to the unsupported length of each flexible grid rung. The resultant reduction in peak loading protects and extends the life of the transmission equipment.

Versatile Design

Both 1000T10 and 1000T20 couplings feature identical hubs and grid springs, the different cover styles provide great versatility — one is horizontally split, the other is vertically split.

All coupling components are designed to be interchangeable with other taper grid couplings. The stock coupling can be used vertically or horizontally without modification.

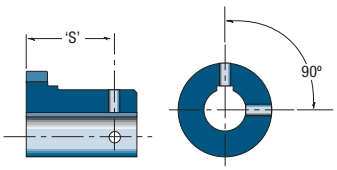
Easy Installation and Maintenance

The grid springs are easily installed by hand or with a soft mallet. The cover fasteners can be tightened with standard wrenches. Every TB Wood's coupling is delivered with detailed installation instructions. Periodic lubrication of the coupling is required and each cover half is supplied with standard plugs which can be easily removed for re-lubrication.

Recommended Fits between Shafts and Hubs

Coupling bore tolerances for sizes up to and including 1090T can be specified to suit a clearance fit with the shaft. In these instances the hub is provided with set screws. Relative positions are given in the following table.

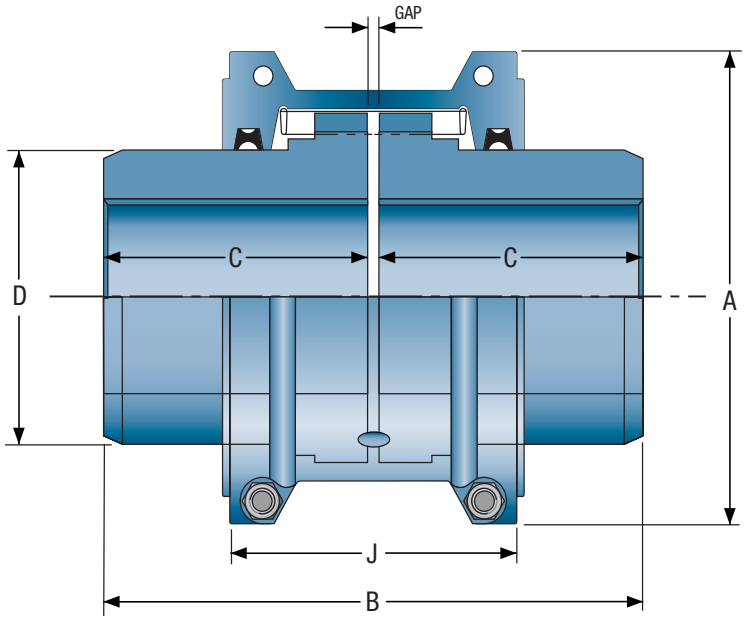
For sizes above 1090T or where interference fits are preferred for smaller coupling sizes, bore tolerances will be consistent with AGMA standards.



Position from Hub Faces

1020 = 1.2"
1030 = 1.3"
1040 = 1.5"
1050 = 1.7"
1060 = 2.0"
1070 = 2.1"
1080 = 2.5"
1090 = 2.8"

Horizontally Split Cover Couplings



Dimensions

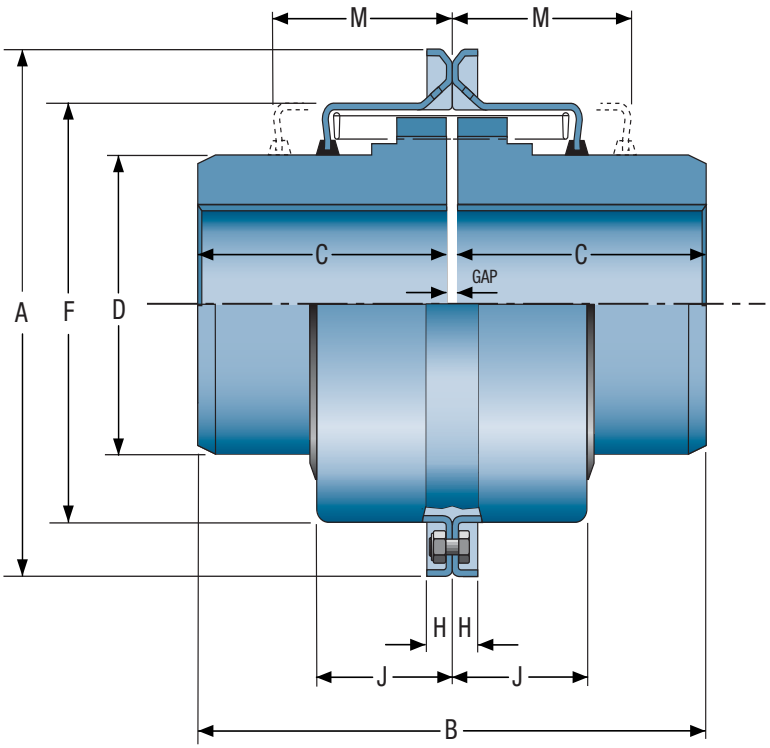
SIZE	COUPLING RATING (IN-LBS)	MAX SPEED	MIN BORE (IN)**	MAX BORE (IN)*	CPLG WT. (LBS)*	WR^2/ (LB/FT^2)	DIMENSIONS IN INCHES					
							A	B	C	D	J	GAP
1020	460	4500	0.50	1.13	4.00	4.80	4.02	3.86	1.87	1.56	2.64	0.13
1030	1,319	4500	0.50	1.38	5.30	7.50	4.37	3.86	1.87	1.94	2.68	0.13
1040	2,204	4500	0.50	1.63	7.10	11.30	4.65	4.13	2.00	2.25	2.76	0.13
1050	3,850	4500	0.50	1.88	11.50	23.90	5.43	4.88	2.37	2.63	3.11	0.13
1060	6,054	4350	0.75	2.13	15.70	41.00	5.94	5.12	2.50	3.00	3.62	0.13
1070	8,798	4125	0.75	2.50	22.30	61.50	6.38	6.14	3.00	3.44	3.74	0.13
1080	18,144	3600	1.06	3.00	39.00	153.80	7.64	7.13	3.50	4.13	4.57	0.13
1090	33,013	3600	1.06	3.50	54.00	268.90	8.39	7.87	3.87	4.87	4.80	0.13
1100	55,582	2440	1.63	4.00	91.00	615.10	9.88	9.69	4.75	5.59	6.14	0.19
1110	82,489	2250	1.63	4.50	118.20	922.60	10.63	10.20	5.00	6.31	6.42	0.19
1120	121,255	2025	2.38	5.00	173.50	1742.70	12.13	12.01	5.87	7.06	7.56	0.25
1130	176,129	1800	2.63	6.00	260.10	3382.90	13.66	12.99	6.37	8.56	7.68	0.25
1140	253,130	1650	2.63	7.25	388.00	6321.60	15.12	14.76	7.25	10.00	7.91	0.25
1150	360,220	1500	4.25	8.00	502.60	11925.70	17.83	14.65	7.20	10.63	10.71	0.25
1160	496,500	1350	4.75	9.00	683.40	19887.50	19.76	15.83	7.80	12.01	10.94	0.25
1170	660,000	1225	5.25	10.00	987.70	35606.20	22.32	17.24	8.50	14.02	12.09	0.25
1180	915,160	1100	6.00	11.00	1364.60	62532.90	24.80	19.06	9.41	15.51	12.64	0.25
1190	1,207,000	1050	6.00	12.00	1710.80	89323.00	26.61	20.63	10.24	17.20	12.80	0.25
1200	1,645,000	900	7.00	13.00	2330.30	148609.70	29.80	22.24	11.02	19.61	14.02	0.25

* Coupling weight and WR^2 with no bore
** Max. bore is for hub with keyway for rectangular key

Other couplings available are spacer and half spacer models.

Series 1000T20

Vertically Split Cover Couplings



Dimensions

SIZE	COUPLING RATING (IN-LBS)	MAX RPM	MIN BORE (IN)	MAX BORE (IN)	CPLG WT LBS	WR²/ (LB/FT²)	DIMENSIONS IN INCHES A	B	C	D	F	H	J	M	GAP
1020	460	6000	0.50	1.25	3.50	3.80	4.37	3.86	1.87	1.56	2.48	0.37	0.96	1.89	0.13
1030	1,319	6000	0.50	1.38	4.90	6.20	4.76	3.86	1.87	1.94	2.83	0.37	0.99	1.89	0.13
1040	2,204	6000	0.50	1.63	6.60	9.20	5.08	4.13	2.00	2.25	3.15	0.37	1.02	2.01	0.13
1050	3,850	6000	0.50	1.88	11.00	21.50	5.83	4.88	2.37	2.63	3.82	0.51	1.24	2.40	0.13
1060	6,054	6000	0.75	2.13	14.80	34.20	6.38	5.12	2.50	3.00	4.33	0.51	1.27	2.52	0.13
1070	8,798	5500	0.75	2.50	21.40	54.70	6.81	6.14	3.00	3.44	4.76	0.51	1.33	2.64	0.13
1080	18,144	4750	1.06	3.00	36.60	133.30	7.87	7.13	3.50	4.13	5.87	0.51	1.74	3.50	0.13
1090	33,013	4000	1.06	3.50	52.00	246.00	9.13	7.87	3.87	4.87	6.61	0.51	1.86	3.78	0.13
1100	55,582	3250	1.63	4.00	87.10	587.70	10.51	9.69	4.75	5.59	7.80	0.63	2.37	4.76	0.19
1110	82,489	3000	1.63	4.50	114.40	891.90	11.26	10.20	5.00	6.31	8.50	0.63	2.49	4.88	0.19
1120	121,255	2700	2.38	5.00	167.10	1708.60	12.56	12.01	5.87	7.06	9.69	0.63	2.91	5.63	0.25
1130	176,129	2400	2.63	6.00	253.50	3690.50	14.88	12.99	6.37	8.56	11.18	0.87	2.97	5.79	0.25
1140	253,130	2200	2.63	7.25	381.40	6475.40	16.38	14.76	7.25	10.00	12.68	0.87	3.09	6.14	0.25

* Coupling weight and WR² with no bore
** Max. bore is for hub with keyway for rectangular key

The power of one, the strength of many.

Other product solutions from

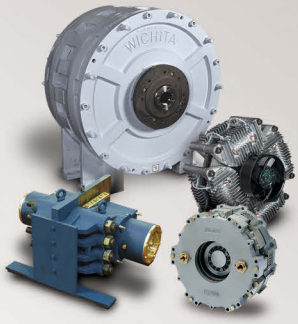
Altra Industrial Motion

www.altramotion.com

Our comprehensive product offering is comprised of nine major categories including electromagnetic clutches and brakes, heavy duty clutches and brakes, overrunning clutches, gearing, engineered couplings, engineered bearing assemblies, linear products and belted drives. With thousands of product solutions available, Altra provides true single source convenience while meeting specific customer requirements. Many major OEM's and end users prefer Altra products as their No.1 choice for performance and reliability.

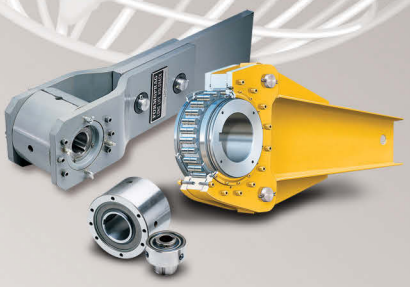
Electromagnetic Clutches and Brakes

Warner Electric
Inertia Dynamics
Matrix International



Heavy Duty Clutches and Brakes

Wichita Clutch
Twiflex Limited
Industrial Clutch



Overrunning Clutches

Formsprag Clutch
Marland Clutch
Stieber Clutch

Engineered Couplings and Universal Joints

TB Wood's
Ameridrives Couplings
Ameridrives Power Transmission
Bibby Turboflex
Lamiflex Couplings

Belted Drives and Sheaves

TB Wood's

Gearing

Boston Gear
Nuttall Gear
Delroyd Worm Gear
Bauer Gear Motor

Linear Products

Warner Linear

Engineered Bearing Assemblies

Kilian Manufacturing

Precision Couplings and Air Motors

Huco Dynatork

Altra Industrial Motion

All Customer Service phone numbers shown in bold

Electromagnetic Clutches and Brakes

Warner Electric

Electromagnetic Clutches and Brakes

New Hartford, CT - USA
1-800-825-6544

For application assistance: 1-800-825-9050

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Precision Electric Coils and Electromagnetic Clutches and Brakes

Columbia City, IN - USA
1-260-244-6183

Matrix International

Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes

Brechin, Scotland
+44 (0) 1356 602000

New Hartford, CT - USA
1-800-825-6544

Inertia Dynamics

Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes

New Hartford, CT - USA
1-800-800-6445

Linear Products

Warner Linear

Linear Actuators

Belvidere, IL - USA
1-800-825-6544

For application assistance: 1-800-825-9050

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Couplings

Ameridrives Couplings

Mill Spindles, Ameriflex, Ameridisc

Erie, PA - USA
1-814-480-5000

Gear Couplings

San Marcos, TX - USA
1-800-458-0887

Bibby Turboflex

Disc, Gear, Grid Couplings, Overload Clutches

Dewsbury, England
+44 (0) 1924 460801

Boksburg, South Africa
+27 11 918 4270

TB Wood's

Elastomeric Couplings

Chambersburg, PA - USA
1-888-829-6637– Press #5

For application assistance: 1-888-829-6637 – Press #7

General Purpose Disc Couplings

San Marcos, TX - USA
1-888-449-9439

Ameridrives Power Transmission

Universal Joints, Drive Shafts, Mill Gear Couplings

Green Bay, WI - USA
1-920-593-2444

Huco Dynatork

Precision Couplings and Air Motors

Hertford, England
+44 (0) 1992 501900

Chambersburg, PA - USA
1-888-829-6637

Lamiflex Couplings

Flexible Couplings, Bearing Isolators, and Coupling Guards

São Paulo, SP - Brasil
+55-11-5679-6533

Heavy Duty Clutches and Brakes

Wichita Clutch

Pneumatic Clutches and Brakes

Wichita Falls, TX - USA
1-800-964-3262

Bedford, England
+44 (0) 1234 350311

Twiflex Limited

Caliper Brakes and Thrusters

Twickenham, England
+44 (0) 20 8894 1161

Industrial Clutch

Pneumatic and Oil Immersed Clutches and Brakes

Waukesha, WI - USA
1-262-547-3357

Gearing

Boston Gear

Enclosed and Open Gearing, Electrical and Mechanical P.T. Components

Charlotte, NC - USA
1-800-825-6544

For application assistance: 1-800-816-5608

Bauer Gear Motor

Geared Motors

Esslingen, Germany
+49 (711) 3518 0

Somerset, NJ - USA
1-732-469-8770

Nuttall Gear and Delroyd Worm Gear

Worm Gear and Helical Speed Reducers

Niagara Falls, NY - USA
1-716-298-4100

Overrunning Clutches

Formsprag Clutch

Overrunning Clutches and Holdbacks

Warren, MI - USA
1-800-348-0881– Press #1

For application assistance: 1-800-348-0881 – Press #2

Marland Clutch

Roller Ramp and Sprag Type Overrunning Clutches and Backstops

South Beloit, IL - USA
1-800-216-3515

Stieber Clutch

Overrunning Clutches and Holdbacks

Heidelberg, Germany
+49 (0) 6221 30 47 0

Belted Drives and Sheaves

TB Wood's

Belted Drives

Chambersburg, PA - USA
1-888-829-6637 – Press #5

For application assistance: 1-888-829-6637 – Press #7

Engineered Bearing Assemblies

Kilian Manufacturing

Engineered Bearing Assemblies

Syracuse, NY - USA
1-315-432-0700

For information concerning our sales offices in Asia Pacific check our website www.altramotion.com.cn

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