

# G-Flex

## The Original Bibby Grid Coupling



# 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.



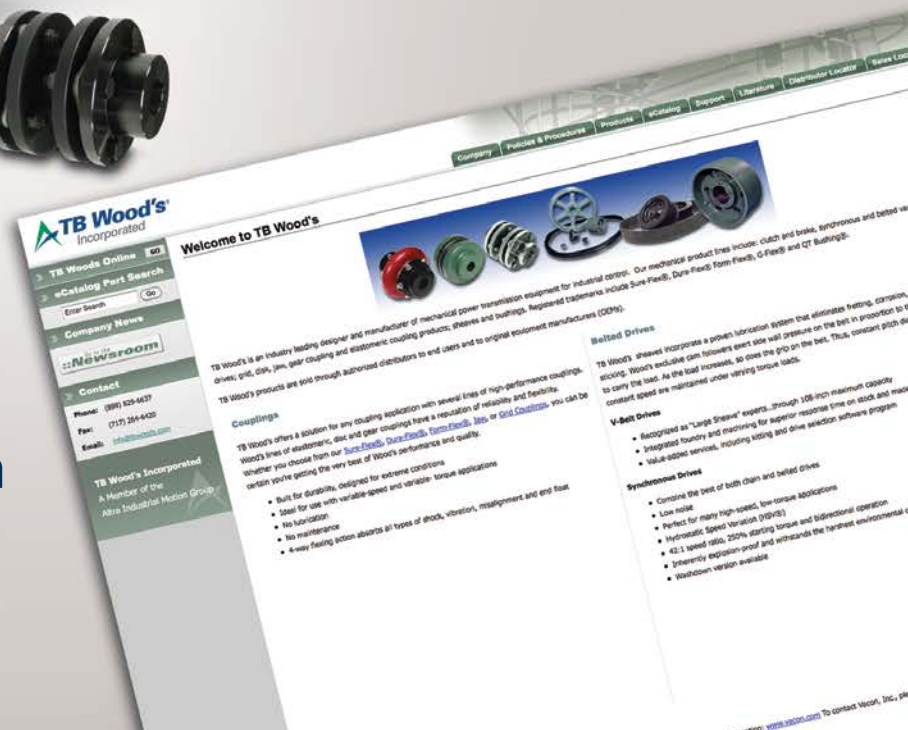
## Altra Industrial Motion

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, Guardian Couplings, Bibby Turboflex, Matrix International, Inertia Dynamics, Delroyd Worm Gear, Warner Linear, Wichita Clutch, Svendborg Brakes 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.

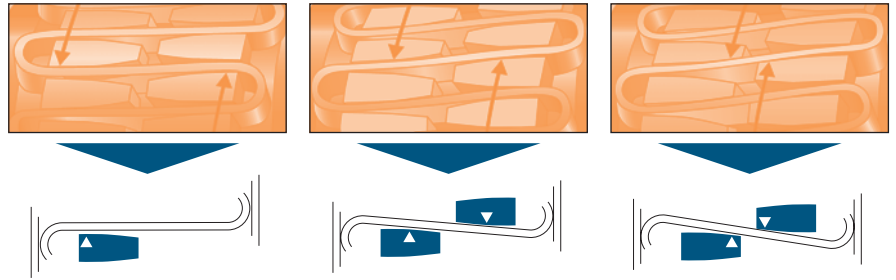
## Long Life

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

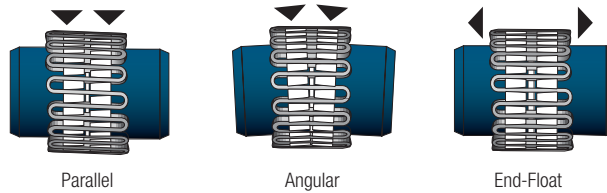
Positive protection against the damaging effects of shock loads, impact loads and vibration.

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

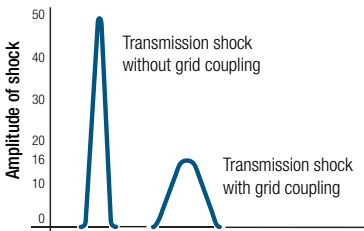
The grid will accommodate combinations of misalignments present at set-up or occurring during machine displacement, settlement etc.



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.

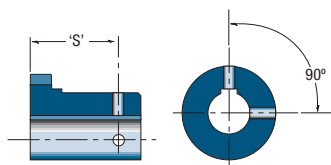
## Recommended Fits between Shafts and Hubs

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.

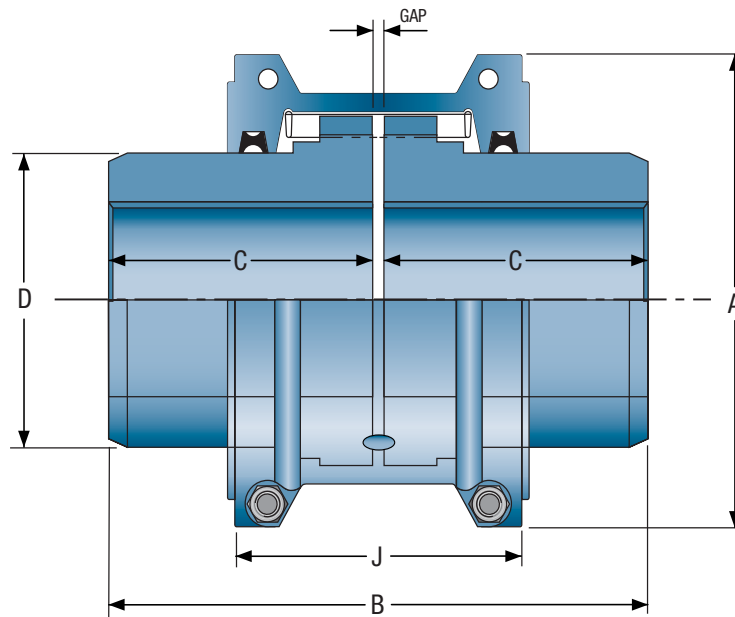
For sizes above 1090T or where interference fits are preferred for smaller coupling sizes, bore tolerances will be consistent with AGMA standards.

### 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 <sup>2</sup> / (LB/FT <sup>2</sup> )	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

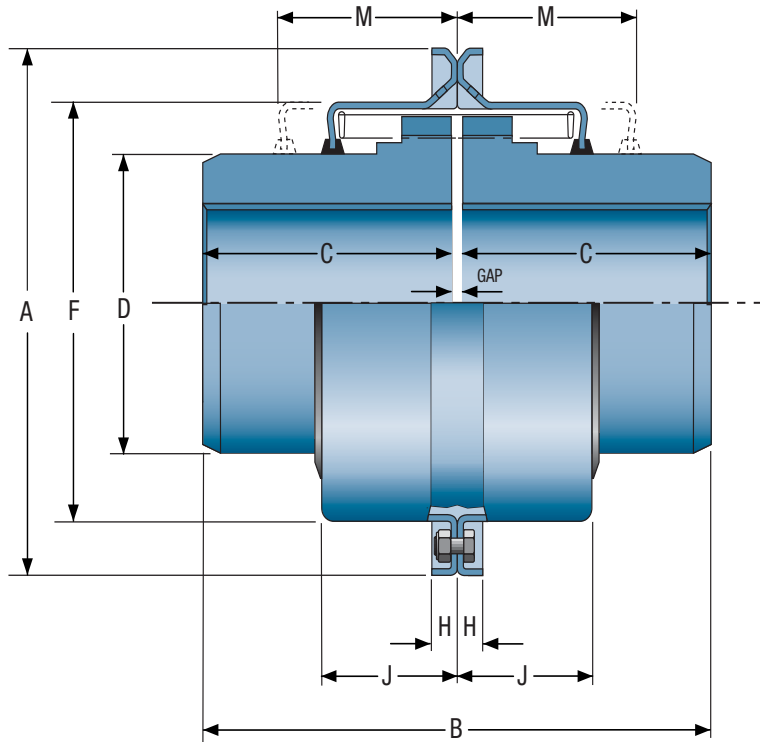
\* Coupling weight and WR<sup>2</sup> with no bore

\*\* 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	WR <sup>2</sup> / (LB/FT <sup>2</sup> )	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 WR<sup>2</sup> 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

Our comprehensive product offering is comprised of nine major categories including electromagnetic clutches and brakes, heavy duty clutches and brakes, overrunning clutches, gearing, engineered and precision couplings, engineered bearing assemblies, linear products, belted drives and air motors. 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.

[www.altramotion.com](http://www.altramotion.com)



### Electromagnetic Clutches and Brakes

Warner Electric  
Inertia Dynamics  
Matrix International



### Heavy Duty Clutches and Brakes

Wichita Clutch  
Twiflex Limited  
Industrial Clutch  
Svendborg Brakes



### 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  
Guardian 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

All Customer Service phone numbers shown in bold

## 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

## Couplings

### Ameridrives Couplings

*Mill Spindles, Ameriflex, Ameridisc*

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

*Gear Couplings*  
San Marcos, TX - USA  
**1-800-458-0887**

### Ameridrives Power Transmission

*Universal Joints, Drive Shafts, Mill Gear Couplings*

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

### Bibby Turboflex

*Disc, Gear, Grid Couplings, Overload Clutches*

Dewsbury, England  
**+44 (0) 1924 460801**

Boksburg, South Africa  
**+27(0) 11 918 4270**

### Guardian Couplings

*Engineered Flywheel Couplings, Engine Housings and Pump Mounts, Flexible Shaft Couplings*

Michigan City, IN - USA  
**1-219-874-5248**

### Huco Dynatork

*Precision Couplings and Air Motors*

Hertford, England  
**+44 (0) 1992 501900**

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

## Couplings Cont.

### Lamiflex Couplings

*Flexible Couplings, Bearing Isolators, and Coupling Guards*

Cotia, SP - Brasil  
**+55 (11) 4615-6300**

### 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**

## Electromagnetic Clutches and Brakes

### Inertia Dynamics

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

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

### 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**

### Warner Electric

*Electromagnetic Clutches and Brakes*

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

*For application assistance:*  
**1-800-825-9050**

Saint Barthélemy 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**

## Engineered Bearing Assemblies

### Kilian Manufacturing

*Engineered Bearing Assemblies*

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

## Gearing

### Bauer Gear Motor

*Geared Motors*

Esslingen, Germany  
**+49 (711) 3518-0**

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

### 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**

### Nuttall Gear and Delroyd Worm Gear

*Worm Gear and Helical Speed Reducers*

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

## Heavy Duty Clutches and Brakes

### Industrial Clutch

*Pneumatic and Oil Immersed Clutches and Brakes*

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

### Svendborg Brakes

*Industrial Brakes and Brake Systems*

Vejstrup, Denmark  
**+45 63 255 255**

### Twiflex Limited

*Caliper Brakes and Thrusters*

Wichita Falls, TX - USA  
**1-844-723-3483**

Twickenham, England  
**+44 (0) 20 8894 1161**

## Heavy Duty Clutches and Brakes Cont.

### Wichita Clutch

*Pneumatic Clutches and Brakes*

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

Bedford, England  
**+44 (0) 1234 350311**

## Linear Products

### Warner Linear

*Linear Actuators*

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

*For application assistance:*  
**1-800-825-9050**

Saint Barthélemy d'Anjou, France  
**+33 (0)2 41 21 24 24**

## 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) 6221-30470**

For information concerning our sales offices in Asia Pacific check our website [www.altramotion.com.cn](http://www.altramotion.com.cn)



[www.tbwoods.com](http://www.tbwoods.com)

440 North Fifth Avenue  
Chambersburg, PA 17201 - USA  
717-264-7161  
Fax: 717-264-6420