



**AquaMaKKs™  
Water Cooled  
Clutches  
and Brakes  
with  
Composite  
Water  
Jackets**



An Altra Industrial Motion Company



## **AquaMaKks water cooled clutches and brakes are designed to provide accurate torque control for heavy-duty tensioning applications.**

AquaMaKks™ clutches and brakes are pneumatically or hydraulically controlled and water cooled. They consist of a series of alternating friction discs and water jackets. Torque is transmitted by applying axial force from the pneumatic, hydraulic, or spring set actuator. Copper wear plates are used for excellent heat dissipation. Models are available in 19", 25", and 36" diameter sizes. Torque ranges from 66,500 in.lb. @ 80 PSI to 1,611,000 in.lbs. @ 100 PSI.

### **New engineered composite water jacket improves performance**

Wichita engineers have utilized the latest cutting edge technologies and state-of-the-art materials to develop a revolutionary new breakthrough in water cooled clutch and brake design... composite water jackets (patent pending).

#### **Corrosion resistant, saltwater friendly**

Composite material will not corrode, so salt water and water sources with high PH acidic values can be used for cooling without the need to supply fresh water.

Other composite water jacket benefits include:

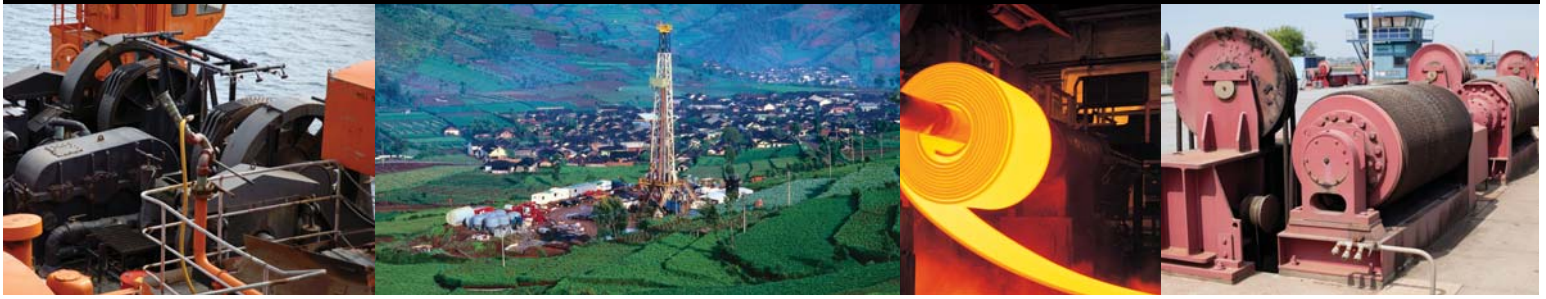
- Improved channeled water flow - achieved via groove designed and molded into jacket providing enhanced cooling capability
- Fast & easy maintenance created from the lightweight composite jacket design that is about 25% the weight of the competitors metal design
- Water jacket design and material allows for longer life, requiring fewer replacements
- Reduced overall clutch weight – critical for weight restricted applications (eg: truck mounted)



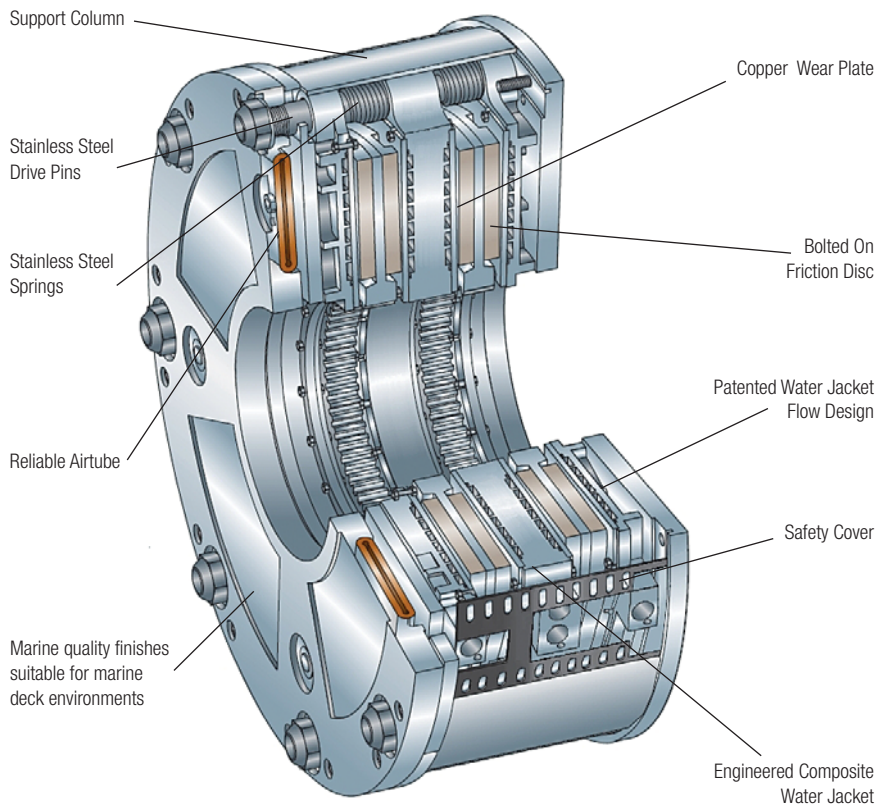
A new 36" composite water jacket (above, left) weighs approx. 95 lbs. A comparable 36" cast iron jacket (above, right) weighs approx. 375 lbs.

The reduced weight is a significant maintenance benefit, as well as when equipment is installed in weight restricted applications such as mobile yarders in the forestry industry.

***No optional salt water corrosion protection is required***



## Features



- The standard AquaMaKs design incorporates new composite material water jackets which will not corrode. No optional salt water corrosion protection is required.
- Durable air tube design with high strength reinforced neoprene air-tubes, offering longer service life
- Water channels for balanced water flow for the highest thermal capacity
- Long-lasting friction material with minimal wear on mating copper
- Copper alloy wear plates enable higher heat transfer than any other metals
- Hub spline provides perfect alignment of rotating discs
- External air & water connections
- Release springs ensure complete disengagement
- Adjustment for wear is easily accomplished by removing shims without any unit disassembly
- Unique torque pin column arrangement provides structural integrity of case
- Open case design with covers for safe, simple, visual inspection and easy maintenance

**See Wichita Clutch Catalog (P-1100-WC) for specifications and available options.**

## Design Advantages

- Simplicity of design with fewer parts simplifies installation and maintainability, saving both time and money.
- The standard AquaMaKs design incorporates premium materials and finishes suitable for marine deck environments. No optional salt water corrosion protection is required.
- Shim design makes it easy to maintain and adjust for wear.
- Unique, patent pending water jacket design ensures high heat absorption and torque stability, allowing for greater heat dissipation over similar sized competitive units.
- Unique mounting pattern enables direct replacement to Wichita or competitors' units, requiring no design changes for the customer.
- AquaMaKs is a perfect solution for field retrofits, rebuilds, or new OEM applications.

## Options

- Standard and HICO friction materials available.
- Optional HICO friction material provides up to 50% higher torque.
- Provisions for electronic wear monitoring.
- Customer specific back-plate mounting configurations.
- Custom engineered solutions available for adding accessories such as deck mount assemblies, water kits, shaft assemblies, etc.
- Materials available for operation in low temperature environments.
- Hydraulic piston actuation available.
- Spring Set version with either air or hydraulic release available.
- Arctic packages for operating temperatures to -45°C.

## Air, hydraulic, or spring set actuated and water cooled design, featuring copper wear plates optimized for heavy-duty continuous slip tension applications



### Oil and Gas

The AquaMakks family is ideally suited for superior water cooled tension control for drawworks applications.

#### Features that make AquaMaKkS ideal for oil and gas applications:

- Airtube design has less hysteresis than piston type actuators
- Engineered packaged solutions including shafts, water kits, covers, and deck mounts
- The unit can be easily removed for service if required and/or quickly swapped out for maximum rig availability and rapid serviceability, reducing expensive downtime



### Metal Processing & Metal Forming

AquaMakks clutches and brakes can be used to control tension on the coilers in metal processing plants and to control tension in unwind stands and slitters in metal forming facilities.

#### Features that make AquaMaKkS ideal for metal processing and metal forming applications:

- Compatible with PLC control systems
- Higher thermal capacity than comparable models
- Easy to maintain minimizing downtime
- Open design concept for easy wear inspection
- Safety covers provided for increased operator and plant safety



### Marine Deck Machinery

Positioning and Mooring Winches require high heat dissipation and accurate tension control. That's why AquaMaKkS is ideal for these applications.

#### Features that make AquaMaKkS ideal for marine deck applications:

- The standard AquaMaKkS design incorporates premium materials and finishes suitable for marine deck environments.
- **No optional salt water corrosion protection is required.**
- Compatible with electronic and analog control systems for tension winches
- Long lasting friction material for improved wear life
- Optional designs available for suitability in low temperature environments
- Accessories and packaged engineered solutions available such as deck mounts, manifold kits, water connection kits, covers, and sensor mounting provisions

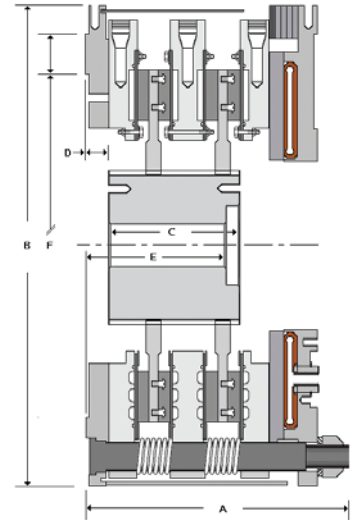


### Forestry

AquaMaKkS water cooled brakes provide precise tension control on winch drives for mobile forestry equipment, such as yarders.

#### Features that make AquaMaKkS ideal for forestry applications:

- Compatible with tension control systems on yarders
- Open case design enables easy wear inspection and serviceability
- Higher thermal capacity than comparable models
- Lighter weight version available for mobile equipment



**Dimensions**

Model Size ATD-	Assembly Number	A Length		B Diameter		C Length		D Length		E Length		F Length			
		in.	(mm.)	in.	(mm.)	in.	(mm.)	in.	(mm.)	in.	(mm.)	in.	(mm.)	in.	(mm.)
KKB119AM	7-119AM-W-1300	12.35	314	28.3	719	3.63	92	1.25	32	3.75	95	23.25	591	18.25	464
KKB219AM	7-219AM-W-1300	16.84	428	28.3	719	6.84	174	1.25	32	6.88	175	23.25	591	18.25	464
KKB319AM	7-319AM-W-1300	21.33	542	28.3	719	11.33	288	1.25	32	10.88	276	23.25	591	18.25	464
KKB125AM	7-125AM-W-1300	13.75	349	34.12	867	4.5	114	1.38	35	4.88	124	30	762	24.38	619
KKB225AM	7-225AM-W-1300	18.86	479	34.12	867	8.63	219	1.38	35	10.01	254	30	762	24.38	619
KKB325AM	7-325AM-W-1300	23.99	609	34.12	867	16.39	416	1.38	35	14.57	370	30	762	24.38	619
KKB136AM	7-136AM-W-1300	15	381	45.51	1156	5	127	2.36	60	7.36	187	44.5	1130	18.38	467
KKB236AM	7-236AM-W-1300	21.28	541	45.51	1156	10	254	2.36	60	11.36	289	44.5	1130	18.38	467
KKB336AM	7-336AM-W-1300	26.76	680	45.51	1156	17.05	433	2.36	60	15.36	390	44.5	1130	18.38	467
KKB436AM	7-436AM-W-1300	32.79	833	45.51	1156	23.16	588	2.36	60	20.36	517	44.5	1130	18.38	467

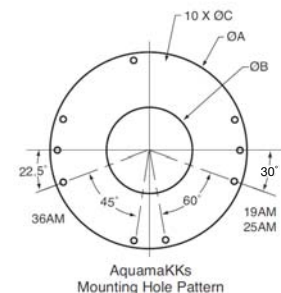
**Specifications**

Model Size ATD-	Assembly Number	Dynamic Torque Capacity with Standard Linings (optional linings available)				Heat Capacity				Max. Bore Rect. Key	
		lb.in.		Nm		Series Water Hosing		Parallel Water Hosing			
		80 psi	100 psi	5.5 bar	7 bar	HP	kW	HP	kW	in.	(mm.)
KKB119AM	7-119AM-W-1300	66,500	91,000	7,508	10,274	93	69	185	138	5.56	141
KKB219AM	7-219AM-W-1300	133,000	181,400	15,016	20,480	185	138	370	276	5.63	143
KKB319AM	7-319AM-W-1300	199,000	249,000	22,467	28,112	278	207	555	414	6.13	156
KKB125AM	7-125AM-W-1300	144,152	180,190	16,275	20,343	175	130	350	261	7.25	184
KKB225AM	7-225AM-W-1300	264,000	360,000	29,806	40,644	350	261	700	522	7.38	187
KKB325AM	7-325AM-W-1300	396,000	495,000	44,708	55,886	600	447	1200	895	9.38	238
KKB136AM	7-136AM-W-1300	322,000	402,000	36,354	45,386	425	317	850	634	11.25	286
KKB236AM	7-236AM-W-1300	644,000	805,000	72,708	90,885	875	652	1750	1305	11.75	298
KKB336AM	7-336AM-W-1300	996,000	1,207,500	112,448	136,327	1275	951	2550	1902	11.75	298
KKB436AM	7-436AM-W-1300	1,288,000	1,610,000	145,415	181,769	1700	1268	3400	2535	11.75	298

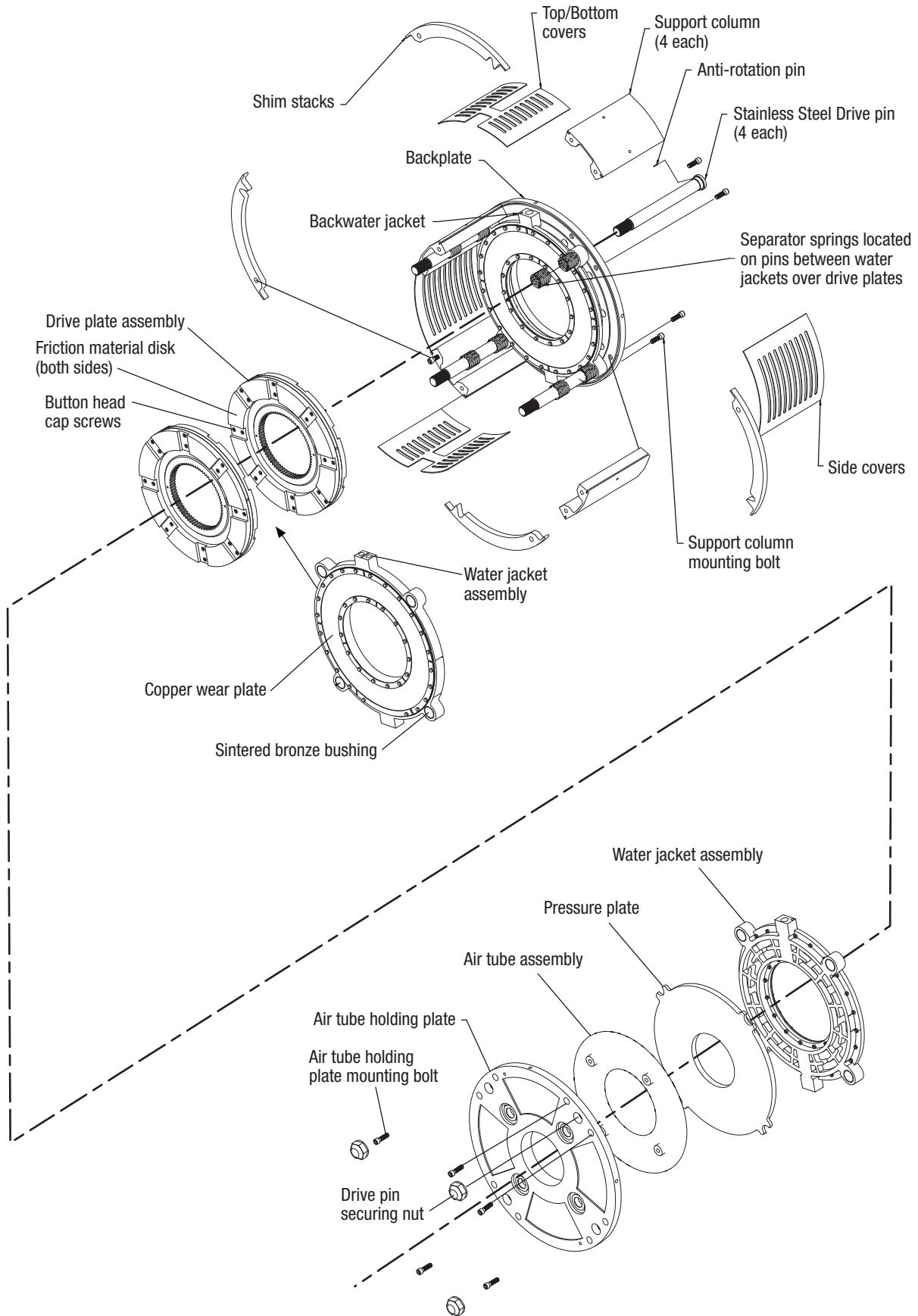
\*Optional HICO friction material provides up to 50% higher torque.

**Mounting Hole Pattern**

Model	ØA		ØB		ØC		Hole Circle		# Holes	PLT THK	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)		in.	(mm)
KKB 19AM	28.3	719	11	279	0.656	17	22	559	10	1.38	35
KKB 25AM	34.12	867	16.7	424	0.656	17	28.75	730	10	1.63	41
KKB 36AM	45.51	1156	16.5	419	1.06	27	42	1067	10	1.61	41

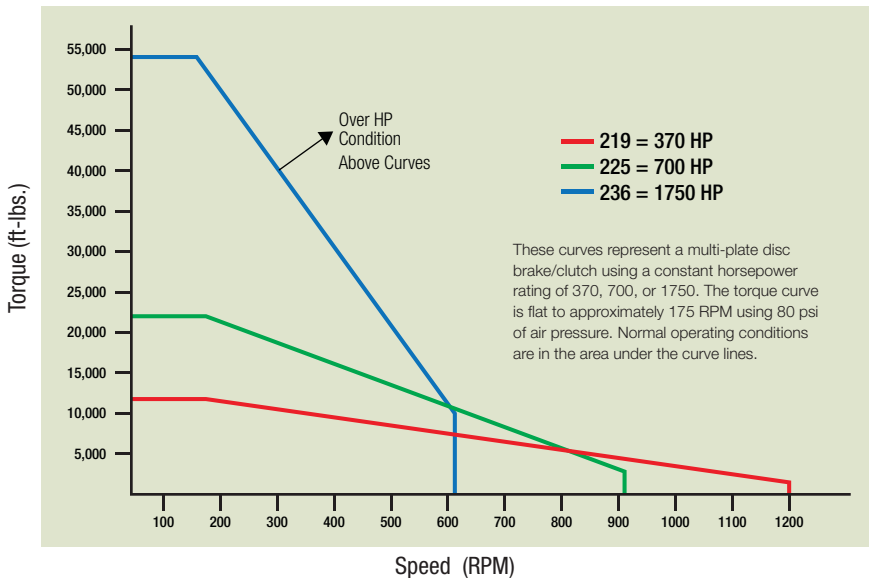


**Exploded View**



## Performance Data

### Horsepower Curves 219, 225, 236 AquaMaKKs (Standard Linings)



Contact Wichita Clutch Engineering for unique HP curve information

## Option packages and custom engineered AquaMaKKs models are available to meet your specific requirements

The versatile AquaMaKKs product platform can be modified to accommodate your application specifications. With AquaMaKKs, you get more than just a water cooled brake, you can get a turnkey solution. Whether you need a brake painted a preferred color, water connection kits, covers, shaft assemblies, or deck mount assemblies, Wichita will provide a custom engineered solution to meet your specific needs. Other variations include LI-SSB models for marine deck use, dual actuator units, and arctic packages for operating temperatures to  $-45^{\circ}\text{C}$ . Call Wichita today for more information.



Dual actuator models provide both a spring-set parking and a precision tension braking capability in one compact unit.

LI-SSB models are designed to withstand highly corrosive offshore deck environments where sea spray and direct seawater splash is prevalent.

## Genuine Wichita Replacement Parts

When you specify genuine replacement parts from Wichita Clutch, you automatically expect more... and get more. Especially better performance, longer life, and the peace of mind that comes with knowing that you are working with the industry's proven leader.

We have years of experience in building value into every Genuine Wichita Replacement Part. Our parts, made with quality materials and leading-edge technology, are long lasting, resulting in lower life cycle costs, they also fit precisely to give you the assurance of trouble-free performance.



We offer a three-year warranty on our line of replacement air tubes, and a two-year warranty on all other non-wear components. That's unmatched by anyone in our industry!

**For assistance, please call  
1-800-964-3262**

**For after hours emergency service,  
call 1-940-631-4595.**

**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

**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*

Burr Ridge, IL - USA  
1-800-216-3515

**Stieber Clutch**

*Overrunning Clutches and Holdbacks*

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

**Engineered 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 Transmissions**

*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*

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+44 (0) 1992 501900

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

**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

**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:*  
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**Nuttall Gear and Delroyd Worm Gear**

*Worm Gear and Helical Speed Reducers*

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

**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

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